



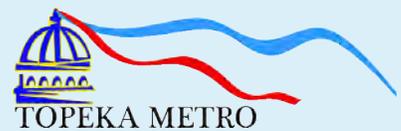
Futures2045
Topeka Metropolitan Transportation Plan

TOPEKA METROPOLITAN PLANNING ORGANIZATION

METROPOLITAN TRANSPORTATION PLAN



In Partnership with:





Approved on June 23, 2022 by the MTPO Policy Board

Metropolitan Topeka Planning Organization

620 SE Madison Street
Topeka, KS 66607

www.TopekaMPO.org

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Futures2045 was a collaborative effort that included community, stakeholder, and staff participation. Those included below and other community members shaped the content of this document.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	XI
Moving Forward	XII
Guiding Principles & Goals	XIII
Existing Conditions	XIII
Roadways	XIV
Walkways	XVII
Bikeways	XIX
Transit	XXI
Project Expenditures & Revenues	XXII
CHAPTER ONE	
INTRODUCTION	1
Future Performance	2
Background	3
Guiding Principles, Goals, & Objectives	4
Planning Process	5
Organization	6
CHAPTER TWO	
COMMUNITY OVERVIEW.....	7
Introduction	8
Population & Households	8
Employment	13
Environmental Justice Populations	18
Land Use & Development	25
Environment	32
CHAPTER THREE	
EXISTING CONDITIONS	41
Roadways	42
Foundation Facts: Roadways, Bridges, & Freight Movement	53
Transit	68
Active Transportation	70
Freight & Intermodal Connectivity	90

CHAPTER FOUR	
FUTURE CONDITIONS	100
Projected Population & Employment Growth	101
Travel Demand Modeling & Baseline Congestion	103
Potential Capacity Expansion Projects	106
CHAPTER FIVE	
FINANCIAL ANALYSIS	112
KDOT Funding Revenue History & Projections	113
City of Topeka Revenue History & Projections	116
Shawnee County Revenue History & Projections	118
Topeka Metro Transit Authority (TMTA) Revenue History & Projections	120
Conclusion	122
CHAPTER SIX	
PUBLIC INVOLVEMENT, GOALS, AND	
OBJECTIVES	124
Public Involvement Process	125
Goals & Objectives	131
Performance Measures	133
Public Input on Goals, Objectives & Performance Measures	135
CHAPTER SEVEN	
RECOMMENDATIONS	137
Making Great Streets in Topeka	140
Recommendations for Roadways	144
Recommendations for Transit	150
Recommendations for Active Transportation	152
Project Expenditures & Revenues Comparison	156
APPENDIX	158

LIST OF FIGURES

FIGURE 0.1 I-70/I-470/US-75 Concept Study.....	XIV
FIGURE 0.2 Pavement Condition 2019	XV
FIGURE 0.3 PASER 1-10 Rating Scale	XVI
FIGURE 0.4 Existing Pedestrian Infrastructure and Priority Areas	XVIII
FIGURE 0.5 Existing Bikeways and Trails.....	XX
FIGURE 0.6 Topeka Metro Transit System Map	XXI
FIGURE 2.1 Shawnee County Population.....	8
FIGURE 2.2 Shawnee County and Topeka Metropolitan Planning Area Map	9
FIGURE 2.3 Topeka MPA Population and Households.....	10
FIGURE 2.4 Population and Population Densities of Largest Cities in Kansas.....	10
FIGURE 2.5 2019 Population Density	11
FIGURE 2.6 2010-2020 Age Distribution in Shawnee County	12
FIGURE 2.7 1975 - 2020 Total Employment in Shawnee County	13
FIGURE 2.8 Total Employment by Type.....	13
FIGURE 2.9 Unemployment Rate and Labor Force in Shawnee County	14
FIGURE 2.10 Change in Employment by Industry	15
FIGURE 2.11 Total MPA Employment	16
FIGURE 2.12 2020 Estimated Employment Density	17
FIGURE 2.13 Race and Ethnicity in Shawnee County and Topeka.....	18
FIGURE 2.14 Household Income for Shawnee County.....	19
FIGURE 2.15 Shawnee County FY2020 Low Income Limits.....	19
FIGURE 2.16 Environmental Justice Areas	20
FIGURE 2.17 City of Topeka Neighborhood Health Indicators	21
FIGURE 2.18 2020 City of Topeka Neighborhood Health Map.....	22
FIGURE 2.19 Ability to Speak English by Language Spoken at Home for Shawnee County and Topeka	24
FIGURE 2.20 Summary of Language Spoken at Home and Ability to Speak English	24
FIGURE 2.21 2020 Land Use in Topeka MPA	26
FIGURE 2.22 2020 Current Land Use	27
FIGURE 2.23 Commercial and Industrial Areas in Shawnee County	28
FIGURE 2.24 City of Topeka Limits, Urban Growth Areas, Extraterritorial Jurisdiction, and MPA Boundaries.....	29

FIGURE 2.25 Topeka's Future Land Use Map	31
FIGURE 2.26 Topeka's Future Land Use Map Sources.....	33
FIGURE 2.27 Topographic Map of MPA.....	34
FIGURE 2.28 Soil Suitability for Farming.....	35
FIGURE 2.29 Flood Plains	36
FIGURE 2.30 Natural Resources.....	37
FIGURE 2.31 Cultural Resources	38
FIGURE 2.32 Hazardous Waste Sites.....	39
FIGURE 2.33 Prime Farmland.....	40
FIGURE 3.1 2017 Mileage and Travel by Roadway Functional Classification within Shawnee County	43
FIGURE 3.2 Functional Classification Map	43
FIGURE 3.3 Bridge Locations	44
FIGURE 3.4 2019 Annual Average Daily Traffic Volumes.....	46
FIGURE 3.5 Commuting Patterns for Primary Jobs in the Metropolitan Planning Area and for Workers who Live in the MPA but Commute to Jobs in Other Areas.....	47
FIGURE 3.6 Workers Commuting to the Metropolitan Planning Area from the County in Which They Live	47
FIGURE 3.7 Metropolitan Planning Area Residents Commuting to Workplace in Other Counties (Chosen by location and number of workers)	47
FIGURE 3.8 Daily Work Based Trips Entering and Exiting Shawnee County.....	48
FIGURE 3.9 Traffic Operation Conditions (LOS)	49
FIGURE 3.10 2020 Estimated Base Year Network Congestion within Topeka MPA	50
FIGURE 3.11 2020 Base Year Network Congestion: Topeka Core	51
FIGURE 3.12 Level of Service by Roadway Type	52
FIGURE 3.13 Level of Service by Roadway Type	52
FIGURE 3.14 Kansas Interstate Pavement in Good Condition	53
FIGURE 3.15 Modeled Pavement Condition for City Streets (\$11M budget vs \$24M budget).....	54
FIGURE 3.16 Pavement Management Program - Work Plan Forecast	55
FIGURE 3.17 PASER 1-10 Rating Scale.....	55
FIGURE 3.18 Percentage of Bridges in Good, Fair, and Poor Condition.....	56
FIGURE 3.19 Top 15 Roadway Segments for Total and Fatal/Serious Injury Crashes 2010-2016	57
FIGURE 3.20 Total Crashes Years 2006-2020	58
FIGURE 3.21 Fatal plus Injury Crashes per 100 million vehicle-miles traveled.....	58
FIGURE 3.22 Fatal Crashes in the City of Topeka Years 2011-2020	59
FIGURE 3.23 Fatal Crashes in Shawnee County 2011-2020 (not including City of Topeka).....	59

FIGURE 3.24 Number of Fatalities.....	60
FIGURE 3.25 Number of Fatalities (5-Year Rolling Averages).....	60
FIGURE 3.26 Fatality Rate (5-Year Rolling Average).....	61
FIGURE 3.27 Number of Injury Crashes (5-Year Rolling Averages).....	61
FIGURE 3.28 Number of Serious Injury Crashes in the City of Topeka.....	62
FIGURE 3.29 Number of Serious Injury Crashes in Shawnee County (outside the City of Topeka).....	62
FIGURE 3.30 Number of Serious Injuries (5-Year Average).....	63
FIGURE 3.31 I-70 Polk-Quincy Viaduct Corridor - MacVicar Avenue to East of Adams Street.....	64
FIGURE 3.32 I-70 Polk-Quincy Viaduct Preliminary Plan.....	64
FIGURE 3.33 I-70 from I-470 to MacVicar Avenue.....	65
FIGURE 3.34 Proposed Southeast Topeka KTA Interchange.....	65
FIGURE 3.35 Family of Sign Types.....	66
FIGURE 3.36 Topeka/Shawnee County Candidate ITS Projects.....	67
FIGURE 3.37 Topeka Metro Transit System Map.....	69
FIGURE 3.38 Means of Transportation to Work.....	70
FIGURE 3.39 Sidewalk Coverage and Growth.....	71
FIGURE 3.40 Heat Map and Inventory Areas.....	72
FIGURE 3.41 Existing Sidewalk Network.....	73
FIGURE 3.42 Number of Pedestrian Fatalities.....	74
FIGURE 3.43 5-Year Average Number of Pedestrian Fatalities (Year noted is the final year of the 5-year period).....	74
FIGURE 3.44 Number of Pedestrian Injuries.....	75
FIGURE 3.45 5-Year Average Number of Pedestrian Injuries (Year noted is the final year of the 5-year period).....	75
FIGURE 3.46 Annual Pedestrian Counts at Select Locations.....	76
FIGURE 3.47 Pedestrian Accidents.....	78
FIGURE 3.48 Existing Bikeways and Trails.....	79
FIGURE 3.49 Number of Bicyclist Fatalities.....	80
FIGURE 3.50 Bikeways and Trails Facilities.....	81
FIGURE 3.51 5-Year Average Number of Bicyclist Fatalities (Year noted is the final year of the 5-year period.).....	82
FIGURE 3.52 Number of Bicyclist Injuries.....	82
FIGURE 3.53 5-Year Average Number of Bicyclist Injuries (Year noted is the final year of the 5-year period).....	83

FIGURE 3.54 5-Year Average Active Transportation Fatalities + Injuries (Year noted is the final year of the 5-year period).....	83
FIGURE 3.55 Annual Bicycle Counts at Select Locations.....	84
FIGURE 3.56 Cyclist Accidents	86
FIGURE 3.57 Existing and Fast-Track Priority Network and Vision Bike Network.....	87
FIGURE 3.58 Average Truck Speeds Along the I-70 Corridor.....	91
FIGURE 3.59 Average Daily Long-Haul Truck Traffic on the National Highway System: 2015	91
FIGURE 3.60 Average Daily Long-Haul Truck Traffic on the National Highway System: 2045	92
FIGURE 3.61 2019 Average Annual Daily Traffic.....	93
FIGURE 3.62 Commercial Vehicle Trips per Day.....	94
FIGURE 3.63 Average Truck Speeds Along the I-70 Corridor.....	94
FIGURE 3.64 Commercial Vehicle Arrivals/Departures per Square Mile.....	95
FIGURE 3.65 Current and Future Industrial Areas.....	96
FIGURE 3.66 Freight Movement on Interstate and Other Highways.....	98
FIGURE 3.67 Class I Railroads in the Metropolitan Topeka Area.....	98
FIGURE 4.1 2045 Topeka MPA Population and Households Estimate	101
FIGURE 4.2 2045 Topeka MPA Employment Estimate	102
FIGURE 4.3 Traffic Operation Conditions (LOS)	103
FIGURE 4.4 2045 E+C Road Network Traffic Conditions.....	104
FIGURE 4.5 Estimated Congestion, Existing + Committed Roadway Network.....	105
FIGURE 4.6 I-70 Polk-Quincy Viaduct Corridor – MacVicar Avenue to California Avenue.....	106
FIGURE 4.7 I-70/I-470/US-75 Concept Study.....	107
FIGURE 4.8 Proposed Southeast Topeka KTA Interchange	107
FIGURE 4.9 Southwest Trafficway Phases	108
FIGURE 4.10 2045 Travel Demand Model Results without the Southwest Trafficway.....	109
FIGURE 4.11 2045 Travel Demand Model Results with the Southwest Trafficway.....	110
FIGURE 5.1 Historic Data for State Highway Preservation, Modernization, & Expansion Projects (1990-2020).....	114
FIGURE 5.2 KDOT Highway Future PM&E Funds Forecast (2021-2045).....	115
FIGURE 5.3 Historic Data for KDOT O&M Activities (2013-2015).....	115
FIGURE 5.4 KDOT O&M Activities Funds Forecast (2021-2045).....	115
FIGURE 5.5 KTA Financial Forecast (2017-2040).....	115
FIGURE 5.6 Topeka Capital Improvement Program Summary	116
FIGURE 5.7 Federal Aid Funds Provided to Topeka	117

FIGURE 5.8 Topeka Financial Forecast.....	117
FIGURE 5.9 Topeka Transportation Funding Forecast 2017-2040.....	117
FIGURE 5.10 Shawnee County Major Projects.....	118
FIGURE 5.11 Kansas Motor Fuels Taxes.....	118
FIGURE 5.12 Federal Aid Funds Provided to Shawnee County	119
FIGURE 5.13 Shawnee County Financial Forecast	119
FIGURE 5.14 Shawnee County Transportation Funding Forecast 2021-2045	119
FIGURE 5.15 TMTA Programmed Funds.....	120
FIGURE 5.16 2014 TMTA Operational Funding Sources	120
FIGURE 5.17 TMTA Total Annual Revenue 2015 - 2020	121
FIGURE 5.18 TMTA Total Annual Operating Costs 2015 - 2020	121
FIGURE 5.19 TMTA Financial Forecast	122
FIGURE 5.20 TMTA Funding Forecast.....	122
FIGURE 5.21 Grand Total Revenues.....	123
FIGURE 6.1 Importance of Transportation Investment Purposes	128
FIGURE 6.2 Importance of Improvements	129
FIGURE 6.3 Importance of Spending Available Money	130
FIGURE 6.4 Futures2045 Federal Planning Factors Matrix.....	132
FIGURE 6.5 Shawnee County 5-Year Average Number of Fatalities	134
FIGURE 6.6 Shawnee County 5-Year Average Number of Serious Injuries	134
FIGURE 6.7 Shawnee County 5-Year Average Serious Injury Rate.....	134
FIGURE 6.8 Shawnee County 5-Year Average Fatality Rate	135
FIGURE 6.9 Shawnee County Bicycle & Pedestrian Fatalities + Serious Injuries.....	135
FIGURE 7.1 Great Streets and Great Street Planning Priorities.....	143
FIGURE 7.2 Highway Costs	145
FIGURE 7.3 Topeka Roadway Project Costs.....	147
FIGURE 7.4 Shawnee County Roadway Project Costs	148
FIGURE 7.5 Planned Roadway and Highway Projects.....	149
FIGURE 7.6 Pedestrian Project Costs	153
FIGURE 7.7 Pedestrian Priority Areas.....	153
FIGURE 7.8 Vision Bike Network	155
FIGURE 7.9 Bicycle Project Costs	156
FIGURE 7.10 Financial Constraints - Expenses and Revenues	157

EXECUTIVE SUMMARY





MOVING FORWARD

Futures2045, the Metropolitan Transportation Plan (MTP) for the Metropolitan Topeka Planning Organization (MTPO), recognizes the continuing progress made from the previous plan, encourages expansion of performance management, and identifies emerging technology that could impact future policy needs.

1 Continue Progress

The previous plan represented a paradigm shift in transportation plans with an intense focus on improving infrastructure condition and expanding active transportation networks. All agencies within the MTPO have focused on improving the condition of pavement resulting in improved pavement conditions.

The City and County have adopted [Complete Street Design guidelines](#) and incorporated those approaches in transportation improvements. Both agencies have actively pursued and secured additional funding for active transportation projects through state grants. The city and county have expanded bike, pedestrian, and trail networks to provide more access to active transportation facilities. This plan recommends continuing that progress.

2 Strengthen Performance Management

The FAST Act required transportation planning organizations to define and include performance measures in their Transportation Improvement Plans.

The intent of these measures is for agencies to set realistic targets to improve condition, congestion, and safety of the transportation system. The MTPO has defined the required measures and made progress on several. This plan recommends the MTPO strengthen its practice of performance management.

An increased emphasis on the safety performance measures is needed to meet desired targets and align with national initiatives. The current trends in safety measures is counter to desired goals. The [local transportation safety plan](#) provides guidance on implementation strategies that can increase safety of the system.

3 Prepare for Transportation Innovations

The pandemic was disruptive in many ways. Changes occurred to the way people work, business processes, and much more will have long term implications for transportation. During development of this plan, the Kansas Legislature discussed policy for autonomous vehicles. The Federal Highway Administration provided states with funds to evaluate placement of electric charging stations, and private industry had supply chain disruptions. All these activities could lead to innovations in the transportation industry not yet recognized within this long-range plan. This plan recommends the MTPO continue to monitor these activities and determine appropriate responses.

GUIDING PRINCIPLES & GOALS

The Futures2045 Plan reviewed and updated the guiding principles and goals originally outlined in the previous 2040 plan. The updated information is presented here and reflects input received from the community to align desired goals with the guiding principles.

EXISTING CONDITIONS

The existing conditions analysis reviews all modes of transportation, including walking, biking, riding transit, driving cars, and trucks. Each section introduces the component system, its use and efficiency, its condition, and safety level. Each section also considers how the existing transportation system explores the relationship between it, land use, and economic development in addition to the impacts of the existing transportation system on low-income and minority persons within the region.

GUIDING PRINCIPLE



SUSTAINABILITY

Meeting present day needs without compromising the ability of future generations to meet their own needs.

Using the triple bottom line framework to consider the economic, social, and environmental impacts of decisions.



HEALTH AND WELLNESS

Encouraging active lifestyles can have a tremendous positive impact on community health and wellness. Complete streets are a major factor in determining whether people will walk or bike for at least some of their daily trips. While transportation also contributes significantly to air pollution, the Topeka region is currently in attainment of the National Ambient Air Quality Standards.



LIVABILITY

Livability is the sum of the factors that add up to a community's quality of life. Increased emphasis on pavement condition, complete streets, and urban design are all key aspects of improving the transportation system for a thriving community. Each of these will enhance the quality of life for people living, working, learning, playing, and shopping in the Topeka region.



TRANSPORTATION LAND-USE CONNECTION

The plan builds on the recommendations of the [Topeka Land Use and Growth Management Plan](#), adopted in 2015, which emphasizes infill development and redevelopment in existing neighborhoods. Land use and density have significant implications for transportation infrastructure.

GOALS

Maintain Existing Infrastructure

- Continue data driven decision making through implementation of best practices in asset management, such as pavement management programs, bridge maintenance, transit fleet, active transportation, and other infrastructure systems.
- Provide fiscal and environmental stewardship through building resilient transportation systems.

Increase Safety for All Modes of Transportation

- Monitor safety performance of transportation systems and utilize performance data to drive safety programs and projects.
- Utilize the Transportation Safety Plan and Complete Streets Design Guidelines to improve safety of transportation network.

Enhance Quality of Life

- Develop transportation projects in a resilient manner reflective of current needs and changing trends in transportation choice.
- Support active transportation projects as a critical component in providing a high quality of life for people living, working, recreating, and visiting the region.

Equity and Access for All

- Improve access for all members of the community to key destinations, trails, and neighborhoods along a safe, connected, and well-maintained transportation network.
- Plan and design a transportation system of all ages and abilities recognizing the diverse needs of low-income users, youth, women, people of color, seniors, and other underrepresented groups.

Leverage Transportation System to Support Economic Development Efforts

- Prepare for emerging technologies such as electric vehicles, micro-transit, and autonomous vehicles.

ROADWAYS

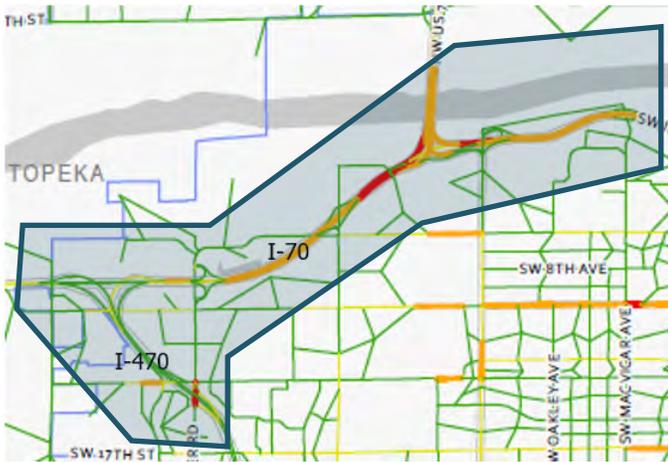
Roadways Today

Review of current and future traffic demand models show little congestion within the MTPO region.

HIGHWAYS

The I-70 corridor between I-470 and MacVicar Avenue is the area of primary congestion in existing and future conditions.

FIGURE 0.1 I-70/I-470/US-75 Concept Study



Source: MTPO 2045 Travel Demand Model

I-70 between MacVicar Avenue and California Avenue is an area identified in the previous MTP, and is under design for improvements to relieve congestion and improve safety. The west segment of this corridor is scheduled for a bid letting in 2024. In addition to this project, the City and KTA have explored a new interchange on the turnpike near SE 29th Street.

CITY STREETS

The primary focus is preservation of existing roadways and continued improvement of pavement condition ratings. The Southwest Trafficway is an “illustrative” project (not currently programmed) that would relieve some of the congestion near SW Fairlawn Road and SW 29th Street/I-470.

COUNTY ROADS

The primary focus is preservation of existing roadways and continued improvement of pavement condition ratings.

Pavement Condition

All agencies in the MTPO region have improved pavement conditions since the previous plan. Each agency has a different process for rating and evaluating roads. State highways are evaluated in accordance with the State [Transportation Asset Management Plans](#), which set performance targets for roadways. The City of Topeka uses a pavement condition index based on rating of roadway distresses, and has set a minimum desired condition along with a higher aspirational target. Figure 0.2 shows the condition of city streets. Shawnee County uses the PASER system described in Figure 0.3 to rate its roads, and set a desired minimum target for all roadways.



FIGURE 0.2 Pavement Condition 2019

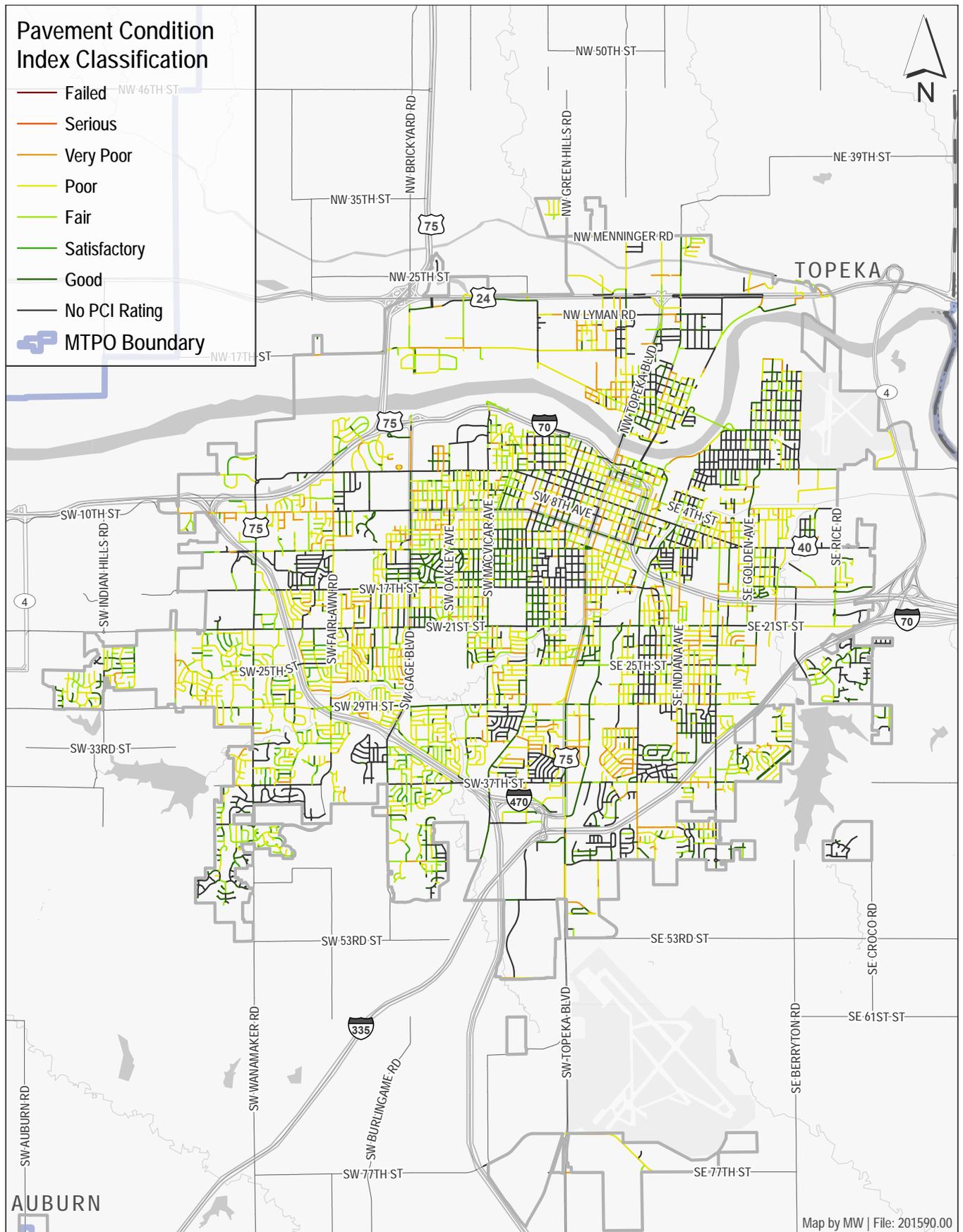
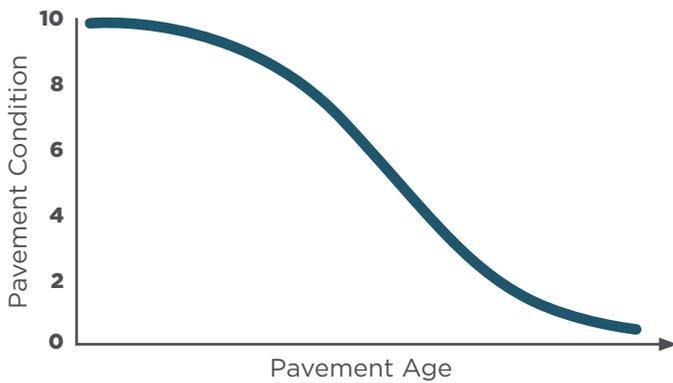


FIGURE 0.3 PASER 1-10 Rating Scale**RATINGS ARE RELATED TO NEEDED MAINTENANCE OR REPAIR:****RATING 9 & 10:** No maintenance required**RATING 8:** Little or no maintenance**RATING 7:** Routine maintenance, crack sealing, and minor patching**RATING 5 & 6:** Preservation treatments (sealcoating)**RATING 3 & 4:** Structural improvement and leveling (overlay or recycling)**RATING 1 & 2:** Reconstruction

Roadways Continued Progress

The previous plan recommended new priorities for roadways in the region including the following:

- Making significant investments over time to improve existing roadways with particular attention paid to pavement conditions, bridge conditions and traffic signals. All agencies have increased focus on infrastructure condition
- Continuing to make investments at key intersections to improve traffic flow and increase traffic safety for all roadway users. The MTPO completed a local road safety plan to guide decision making on types of improvement needed to increase safety.
- Building GREAT STREETS in the region by considering design elements that enhance the roadway, including: streetscape elements, building complete streets, burying overhead power lines, considering where and how to locate utility boxes, designing with nature, and celebrating with public art. The [MTPO adopted complete street design guidelines](#) that defined multiple roadway typologies. These typologies not only address transportation needs, but also provide guidance on design elements that make great streets. These guidelines are being used and reflected in active projects such as the SW 12 Street Corridor Improvements.

12 CHARACTERISTICS OF GREAT STREETS

1. The street provides orientation to its users, and connects well to the larger pattern of ways.
2. The street balances the competing needs of the street — driving, transit, walking, cycling, servicing, parking, drop-offs, etc.
3. The street fits the topography and capitalizes on natural features.
4. The street is lined with a variety of interesting activities and uses that create a varied streetscape.
5. The street has urban design or architectural features that are exemplary in design.
6. The street relates well to its bordering uses— allows for continuous activity, doesn't displace pedestrians to provide access to bordering uses.
7. The street encourages human contact and social activities.
8. The street employs hardscape and/or landscape to great effect.
9. The street promotes safety of pedestrians and vehicles and promotes use over the 24-hour day.
10. The street promotes sustainability through minimizing runoff, reusing water, ensuring groundwater quality, minimizing heat islands, and responding to climatic demands.
11. The street is well maintained, and capable of being maintained without excessive costs.
12. The street has a memorable character.

List courtesy of the American Planning Association.

WALKWAYS

Pedestrian Master Plan

The [Topeka Pedestrian Master Plan](#) has guided actions for the City to become more pedestrian-friendly and increase the pedestrian network. The plan prioritizes a 10-year \$21 million sidewalk, ADA ramp, and crosswalk improvement plan in the City's highest pedestrian demand areas, and the City is currently working on year six of the 10-year plan. These include areas around schools, bus routes, parks, and intensive care/at risk neighborhoods. 18 geographic focus areas, including 13 neighborhoods and 5 corridors, were inventoried for improvements (seen in the map on the next page). The Plan seeks to accomplish 4 goals:

- A complete pedestrian network connecting all neighborhoods
- Maintained sidewalks for safe travel at all times
- A safe and comfortable walking environment
- A culture of walking

Sidewalks Today

The sidewalk system has significantly expanded since the last plan with a current total of approximately 726 miles of sidewalks. In the City, fifty-one percent (51%) of the streets have sidewalks. Most neighborhoods in the City's core were constructed with sidewalks because car ownership was less common at the time. Much of the next ring of development after World War II excluded sidewalks as was the practice in many cities where suburban development was auto-oriented. Sidewalk requirements were reestablished by the 1970s and largely exist in the outer ring of the City. Most developments outside the City were not fitted with pedestrian facilities. The end result is a system in need of both repairs and infill sidewalks to cover gaps in the network and provide safe, comfortable mobility to all ages. To that end, several initiatives are in place to address these deficiencies:

- Funding for pedestrian improvements has maintained a budget of \$600,000 annually in the City of Topeka's CIP, and also includes \$100,000 for the 50/50 program and \$300,000 for ADA ramps to repair and expand the pedestrian network.

- The Pedestrian Masterplan has been ongoing for the last six years. During that time, over 70 miles of new or repaired sidewalks have been completed through the CIP sidewalk and street projects.
- Adoption of complete street guidelines has helped define the types of pedestrian facilities to be included in project scoping.
- The policy for benefit districts in the City has helped installation of sidewalks for the entire subdivision even when lots are left undeveloped.

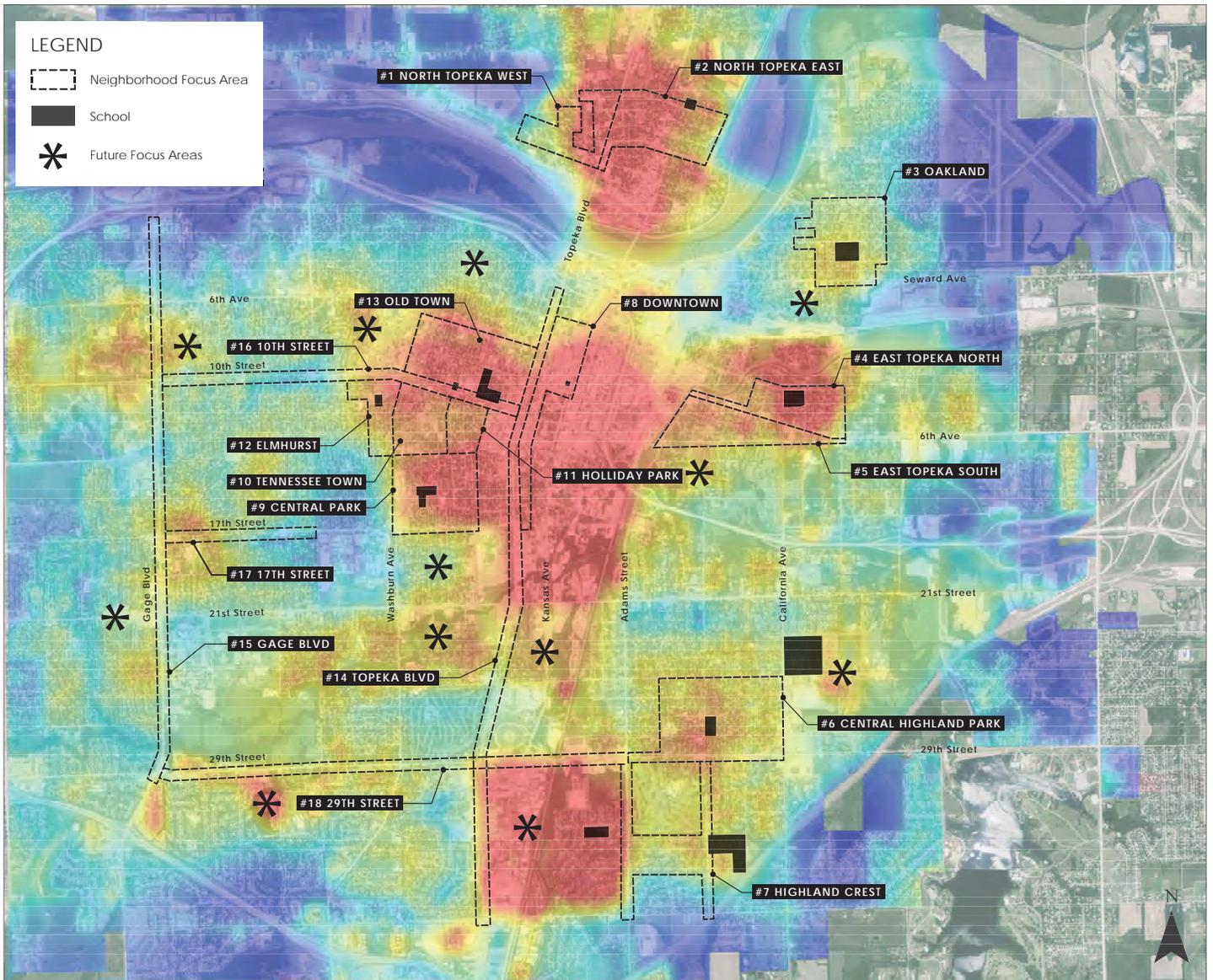
Sidewalks Continued Progress

The pedestrian network is key to providing mobility for those who walk for transportation trips. Safe, reliable, and accessible sidewalks are foundational to ensure that Topeka promotes an equitable transportation system for users of all ages and abilities.

Recommendations for planning, implementing, and measuring pedestrian facilities for Futures2045 include:

- Continue to follow the recommendations and prioritization method outlined in the 2016 Pedestrian Master Plan to fill sidewalk gaps and provide safer crossings, curb ramps and other Improvements.
- Improve pedestrian crossings at key intersections throughout Topeka.
- Prepare for update of Pedestrian Plan in 2025. The current plan will need to be updated, and will provide an opportunity to refresh prioritization criteria for future pedestrian investments.
- Explore "Big Data" sources, including cell phone data, to better understand pedestrian travel patterns and usage.

FIGURE 0.4 Existing Pedestrian Infrastructure and Priority Areas



BIKEWAYS

Bikeways Master Plan

In 2020, the MTPO adopted the [Fast-Track Bike Plan](#). The plan contains a detailed account of the priority recommendations for bike facility planning, design, and implementation. The Fast-Track plan features the current best practices for designing a bike network for all ages and abilities. The Futures2045 active transportation includes the recommendations from the Fast-Track plan. The Fast-Track plan builds on the six goals of the 2012 Bikeways master Plan:

- Increase the number of people who use the bicycle for transportation as well as recreation
- Improve bicycle access to key community destinations
- Improve access to the city's pathway system by connection to trails and neighborhoods
- Use bicycling to make Topeka more sustainable
- Increase roadway safety
- Capitalize on economic development benefits of a destination-based bike system

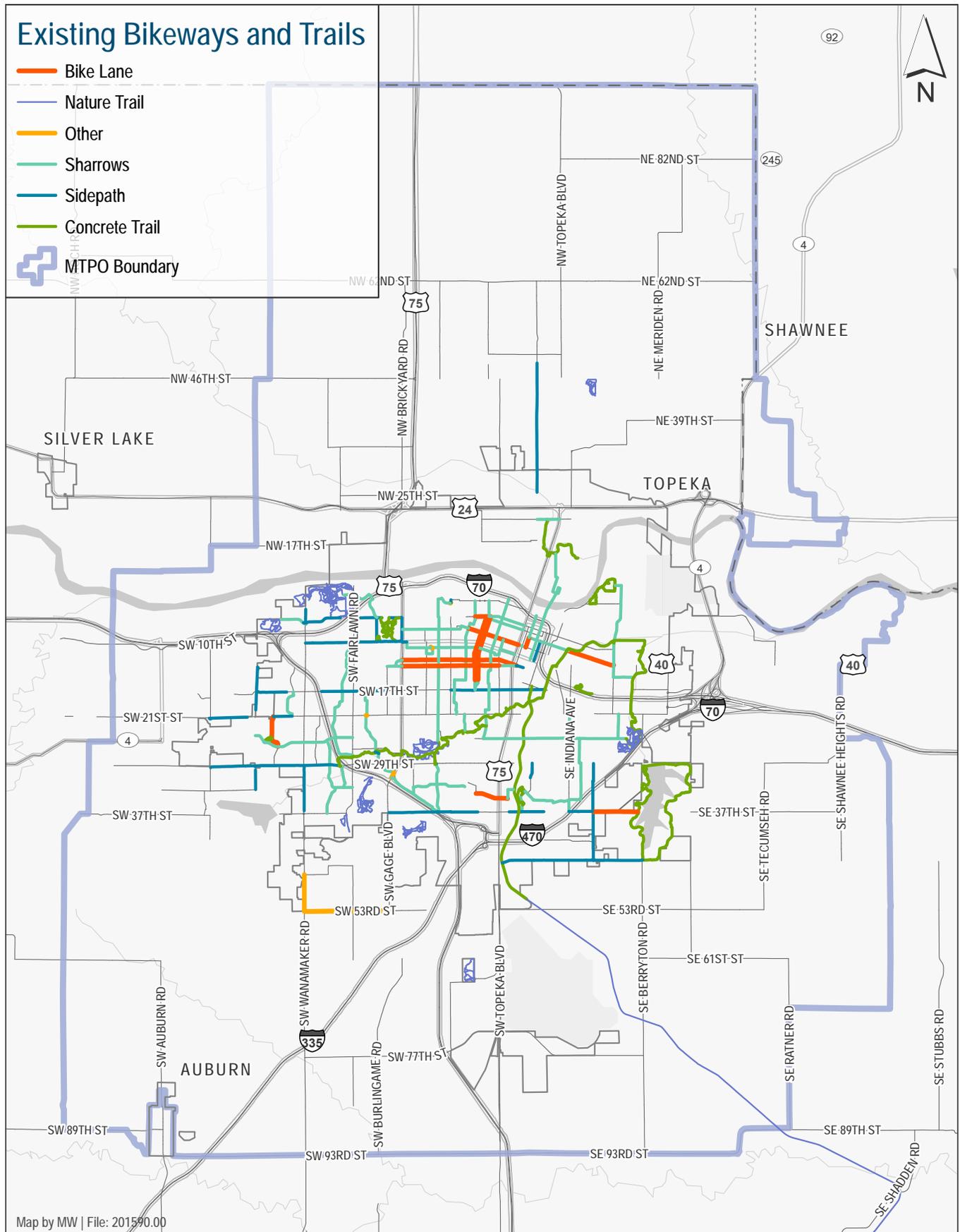
Bikeways Today

Topeka has strong potential for an improved, connected bikeway network. Many activity destinations are spread out to the point where walking is not always feasible, and the City has relatively flat topography which reduces barriers to cycling. The recently adopted Fast-Track Bike Plan outlines a vision of opportunities for all ages, abilities, and backgrounds to have access to convenient bike facilities for transportation and recreation. The City is well positioned to make changes that will attract more cyclists looking for a friendly community and bikeways designed to make them feel safe.

As of 2020, the Topeka bikeway network, shown in Figure 0.5, features 73 miles of on-street bicycle facilities, the majority of which consist of shared lanes with no separation from motor vehicle traffic. The future of bicycle facilities based on the Fast-Track plan will focus on bikeways that provide comfort and safety for people of all ages and abilities. These changes include providing separation between cyclists and vehicles where traffic volumes reach 6,000 vehicles per day or the speed limit is over 35 mph. This direction also overlaps with the safety performance measure of reducing the rate of serious and fatal crashes.



FIGURE 0.5 Existing Bikeways and Trails



TRANSIT

Transit Today

Public transportation in the Topeka MPA is provided by the [Topeka Metropolitan Transit Authority \(TMTA\)](#), also called the Topeka Metro.

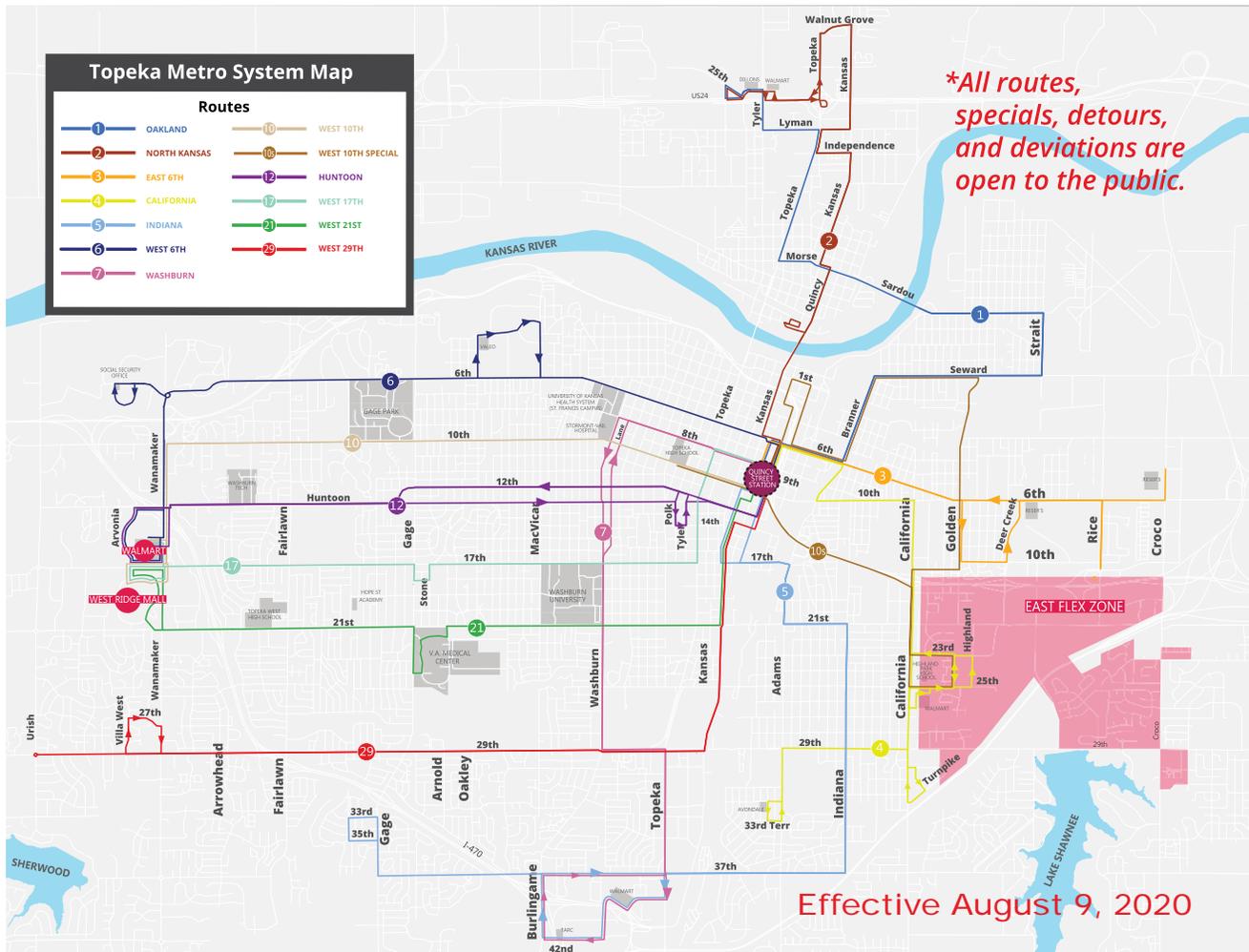
The COVID-19 pandemic significantly impacted all transit operations in the country due to sharp and sudden decreases in ridership and availability of service providers. Many transit agencies made major changes to be sustainable during uncertain times. Topeka Metro saw ridership decrease and had trouble maintaining consistent service due to transit operator concerns of safety. The agency decided to go fare-free, along with frequent cleaning services to protect the health of riders. Though COVID-19 had rippling impacts on Topeka Metro, the agency did not have to cut any service through the duration of the pandemic, and received around \$5 million from the

CARES Act to ensure the agency would still be able to provide service to riders that rely on Metro buses to get to and from essential jobs.

The service area stretches from Urish Road in the west, Croco Road to the east, Walnut Grove to the north and 42nd Street in the south with 13 routes, 26 fixed-route buses, and 10 paratransit vehicles. Currently the agency provides service Monday through Friday 5:35 a.m. to 6:40 p.m. and on Saturday 8:15 a.m. to 6:40 p.m. Most bus lines run with hourly service, with 4 California, 17 West, and 21 West running 30-minute frequency during peak hours (6:00-9:00 am and 2:00-7:00 pm). East 6th, west 6th and 12 Huntoon all run with 30-minute frequency, the highest that the agency offers.

As of this Futures2045 update, a transit visioning process is underway at Topeka Metro, and is expected to be published in 2022 with recommendations of what actions Topeka Metro can take in the coming years to best serve existing ridership and future demand.

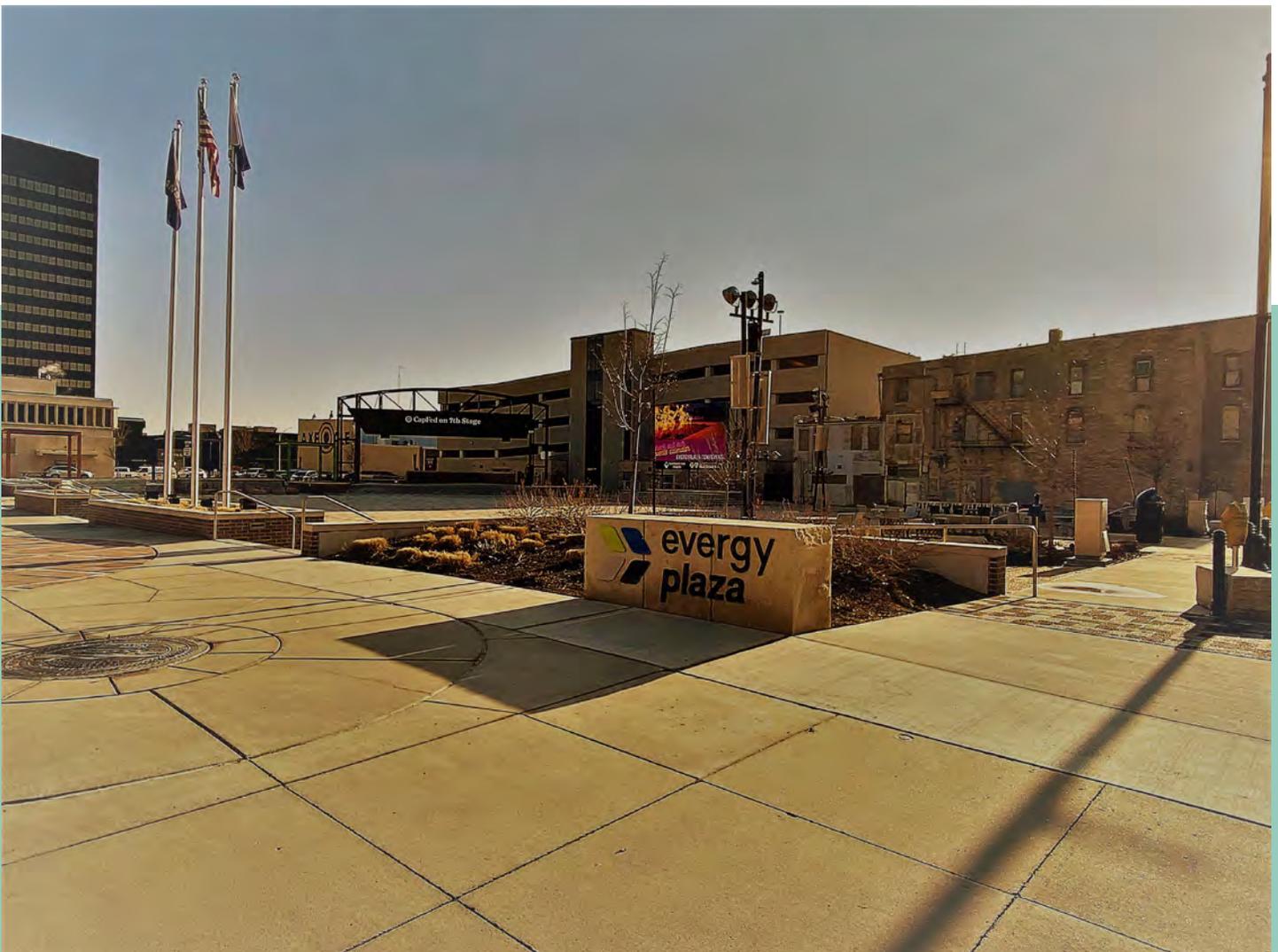
FIGURE 0.6 Topeka Metro Transit System Map



PROJECT EXPENDITURES & REVENUES

The financial analysis projects approximately \$2.561 billion in funds from federal, state and local sources will be available between 2021 and 2045 for surface transportation spending. The programmed budgets for all agencies appears to provide adequate financial resources to implement this plan.

Spending priorities within the Futures2045 Regional Transportation Plan reflect continued progress on the guiding principles and goals of the community. This plan focuses on system preservation as well as other modes of transportation, particularly the active modes of transportation.



CHAPTER ONE

INTRODUCTION



FUTURE PERFORMANCE

Futures2045: Metropolitan Transportation Plan (MTP) for the Topeka Metropolitan Planning Area (MPA) has three major themes:

1 Continue Progress

The plan recognizes the progress made on recommendations from the previous plan by recommending a continued focus on long-term projects that preserve the existing transportation system while also expanding facilities for active transportation.

Since the adoption of the previous plan, pavement conditions in the metropolitan area have improved due to increased performance management. Condition targets have been set for pavements, bridge improvements, and other infrastructure.

Additionally, active transportation activities have increased and expanded the network. The region has adopted complete street guidelines, updated the bike plan, and built more sidewalks, trails, and bike facilities.

Futures2045 recognizes this progress and encourages continuation of these efforts to meet performance targets.

2 Strengthen Performance Management

The MTPO has adopted several performance measures for the transportation system. This plan recommends an increased emphasis on implementation of management systems to define and monitor system performance for these objectives.

With clear targets identified for performance, the MTPO will work with agency partners to develop management strategies to accomplish identified goals. Most importantly, a strong emphasis on transportation safety performance is needed. The [Transportation Safety Plan](#) recommends systemic, low cost safety improvements for corridors/locations and provides guidance to be considered in developing future projects.

3 Prepare for Transportation Innovations

This plan recommends continuous dialogue and preparation for application of technological innovations that are moving forward from electric vehicles to drone delivery systems. The MTPO will monitor available innovations and develop a process

for ensuring the regional transportation system is responsive to future changes.

It is important to note that federal funds are available to states for electric charging stations and other transportation innovations. The MTPO will review these items and determine appropriate roles and policies for agency members.

Purpose

Futures2045 is a guide for transportation and mobility decisions for Topeka and a portion of the surrounding Shawnee County. It explores current demographic, economic, and land use trends. Futures2045 models future growth, identifies needs for roadways, public transit, bicyclists and pedestrians, and freight movement through the year 2045. This plan also recommends future transportation actions for the region. As the Metropolitan Transportation Plan (MTP), it is a necessary requirement for federal fund recipients to maintain identification of key initiatives that will help the region support desired growth.

The MTP addresses the following:

- An overview of the community including population and housing development, employment goals and plans, and regional land use.
- A systems-level analysis that considers roadways, transit, and active transportation, in addition to projected demand for transportation services over 20 years.
- An overview of the public's involvement in deciding their future.
- Cost estimates and reasonably available financial sources for operation, maintenance, and capital investments; and
- Policies, strategies, and projects for the future, in addition to ways to preserve existing roads and facilities and make efficient use of the existing system.

The success and vitality of the transportation system is dependent on sound planning and management of the infrastructure to deliver desired returns on investment of transportation funds. Investments in the transportation system are integral to supporting the desired quality of life, growth, and achievement of regional goals. These goals are defined by collaboration among decision makers in the region who represent multiple groups that include the health of the natural and built environment as well as different needs for access to jobs, housing, and community goods and services. Ultimate success will be achieved through measured progress on the shared goals and vision of this plan.

BACKGROUND

Federal law requires urbanized areas with populations of greater than 50,000 residents to undertake continued, comprehensive, and cooperative long-range transportation planning for Metropolitan Planning Areas (MPAs)¹. These are carried out by Metropolitan Planning Organizations (MPOs) as guided by federal regulations. Plans must meet current and future needs for all modes of transportation, and be updated every five years. The Metropolitan Topeka Planning Organization (MTPO)—a partnership formed in 2004 between the City of Topeka, Shawnee County, the Topeka Metropolitan Transit Authority and the Kansas Department of Transportation—oversees this process.

The previous MTP, titled “Futures2040,” was adopted in 2017. Futures2045 builds on the previous plan by recognizing the implementation of performance-based metrics and progress in delivery of active transportation programs, policies, and projects, through maintaining infrastructure, improving safety, reducing congestion, improving road and freight system efficiency, protecting the environment, reducing delays in project delivery, and creating economic growth. In focusing on performance-based planning, the MTPO increased its use of data and performance measures, including visualization and other tools, to communicate information throughout the planning process. Key performance-based transportation planning elements include:

Performance Measures

Specific measures for plan goals and objectives along with trend data on progress.

Baseline Data

The latest available estimates and assumptions for population, land use, travel, mode share, employment, congestion, economic activity, and transportation and land use conditions and trends.

Applicable Studies, Policies, and Plans

State Strategic Highway Safety Plan, State Asset Management Plan, Transit Asset Management Plan, State Freight Plan, modal plans such as pedestrian, bicycle, and transit plans.

Integrated Multimodal Transportation System

Existing transportation facilities, including major roadways, transit, multimodal and intermodal facilities, pedestrian walkways and bicycle networks, and intermodal connectors.

Analysis and Consideration of Revenue

Revenue projections based on realistic assumptions about funding all capital, operating, and maintenance costs associated with the surface transportation system.



¹ The MTPO planning area includes a small portion of Jefferson County. Jefferson County officials are not active members of the Policy Board, but are kept informed of MTPO activities.

GUIDING PRINCIPLES, GOALS, & OBJECTIVES

In addition to data and performance, the plan includes a review of previous guiding principles, goals, and objectives. These items were part of focused public engagement to determine if changes were needed to these items for this plan update. These discussions led to slight modifications through specific alignment within the plan between the principles, goals, and objectives. The following is a discussion of the **guiding principles**, and their key goals and objectives:

Sustainability

Sustainability means meeting present needs without compromising the ability of future generations to meet their own needs. The triple bottom line framework expands this definition to recognize the core components of sustainability: environmental sustainability, economic sustainability, and social sustainability. Environment speaks to minimizing environmental damage so as not to negatively affect others; in transportation, this is often tied to reducing air pollution (currently Shawnee County meets National Ambient Air Quality Standards) and guiding development to protect vulnerable areas. Economy speaks to strengthening the regional economy and workforce to build resilience; in transportation, this includes providing mobility options to connect workers with jobs and making sure goods can be efficiently shipped to markets. Equity speaks to the fair treatment and meaningful involvement of all people, and actively seeks transportation projects that proportionately benefit minority or low-income communities.

The key plan goal that aligns with this principle is **maintain existing infrastructure**. The key objective for this goal is to continue a data driven approach through implementation of asset management practices.

Health and Wellness

The transportation systems have a direct impact to the overall health of a community, from access to active transportation networks to environmental

quality. Transportation systems that encourage walking and bicycling can help people to increase their levels of physical activity, resulting in significant potential health benefits and disease prevention. Transportation systems can contribute negatively to air quality. The MTPO is currently in attainment of the National Ambient Air Quality standard and should continue that trend. The safety of transportation systems is also critical to community health and wellness. Traffic crashes not only have significant impacts on individuals, but also create indirect impacts beyond the crash such as economic losses. Design decisions of transportation systems can support or inhibit the benefits of health and wellness of the system. Complete streets are a major factor in improving the health and wellness of the system. The goal aligned with this principle is to **increase safety** for all modes of transportation. This goal is achieved through regular monitoring of performance data and implementation of the local safety plan and complete streets design guidelines.

Livability

Livability is the sum of the factors that add up to a community's quality of life—including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities. The changes in the last plan recognize livability through an increased emphasis on infrastructure condition, complete streets, and urban design. The results of this shift are visible with improved crosswalks, connections to transit, bike infrastructure, wider sidewalks with space for outdoor activity, and street trees that provide improved drainage and reduced impervious surface. Collectively, these details support more livable and enjoyable places for all users of the transportation system. The plan goals for this principle include **equity and access for all** and **enhance quality of life**.

Transportation-Land Use Connection

This principle reflects the importance of the transportation system to support a region's desired growth and development. The plan builds on recommendations from the [Land Use and Growth Management Plan](#), which emphasizes infill development and redevelopment over expansion. The plan goal that aligns with this principle is **leverage transportation system to support economic development activities**.

PLANNING PROCESS

The planning process was conducted by the Metropolitan Topeka Planning Organization (MTPO) and JEO Consulting Group, in collaboration with Toole Design Group and HG Consult. As a collaborative effort, the team engaged citizens and stakeholders throughout the planning process to inform decisions and ensure that plan outcomes are meaningful, appropriate, and achievable. It also kept officials, agencies, local governments, the public and interested parties informed of the planning effort and allowed opportunities for input into the plan.

The process kicked off in summer of 2021, through data gathering and engagement activities related to Principles, Goals, and Objectives. With the up and down of the pandemic, many meetings were virtual mixed with in-person meeting when feasible. The pandemic limited opportunities for face-to-face engagement during early parts of the plan development. This issue was overcome through virtual meetings, online surveys, and traditional phone calls to gather input on the plan. Data gathered included current conditions, progress made since the last plan, and review of performance measures. It also took into consideration how the existing transportation system supports land use and economic development and the environmental impacts of the existing transportation system on low-income and minority persons within the region.

Next, the team examined future conditions of the systems. During this phase, the team estimated and forecasted future conditions for all modes of transportation, including walking, biking, riding transit, driving cars, and trucks. It also considered how innovation in transportation should be considered, in addition to the environmental impacts of the proposed transportation system on low-income and minority persons within the region.

Finally, the team developed recommendations for the plan based on review of data, engagement feedback, and progress made since the last plan. This included synthesizing the earlier analysis on existing and future conditions. Specifically, it involved the development of the financial plan, the prioritized project listing, and a review of the proposed projects' consistency with the adopted goals and objectives of the MTP. During this phase, the plan was also reviewed for consistency with federal planning factors.

Throughout the process, public engagement was a critical element in any planning effort, so numerous opportunities and channels of communication were employed for Topeka area citizens, public agencies, transportation agencies, and other stakeholders to review materials and offer their ideas related to the development of Futures2045.



ORGANIZATION

The following document is organized similarly to the way the planning project was carried out. Chapter 1 introduces the project, its background, and its process. This is followed by three sections, each of which has two chapters. The first section examines the region’s existing conditions.

SECTION 1

CHAPTER 2: COMMUNITY OVERVIEW

Chapter 2 provides an overview of the community, including an investigation of population, household, and employment change, distribution, and density, in addition to other related factors such as environmental justice populations, land use patterns, and an environmental baseline analysis.

CHAPTER 3: EXISTING CONDITIONS

Chapter 3 reviews existing conditions for all modes of transportation, including walking, biking, riding transit, driving cars, and trucks. It also took into consideration how the existing transportation system supports land use and economic development and the environmental impacts of the existing transportation system on low- income and minority persons within the region.

SECTION 2

CHAPTER 4: FUTURE CONDITIONS

The next section analyzes future conditions in the region. Chapter 4 considers population, household, and employment projections, future needs for all modes of transportation, including walking, biking, riding transit, driving cars, and trucks, and potential transportation investments. It concludes with several transportation scenarios, their forecasted effects on future land use plans and economic development initiatives, and the environmental impacts that proposed transportation system may have on low-income and minority persons within the region.

CHAPTER 5: FINANCIAL ANALYSIS

Chapter 5 provides the estimated costs of the potential projects proposed in the previous chapter and forecasts future expected revenues. The final section synthesizes the earlier two sections to realistically meet the transportation needs of the region.



SECTION 3

CHAPTER 6: PUBLIC INVOLVEMENT, GOALS, AND OBJECTIVES

Chapter 6 explores public involvement, themes that came out of public involvement, and planning goals and objectives that were developed from there. It concludes by looking at how this plan fits with other planning efforts.

Public comments, displayed materials, detailed methodologies, and other additional information can be found in the document’s appendices.

CHAPTER 7: RECOMMENDATIONS

Chapter 7 contains final recommendations for projects and other recommendations for the MTPO.

CHAPTER TWO

COMMUNITY OVERVIEW



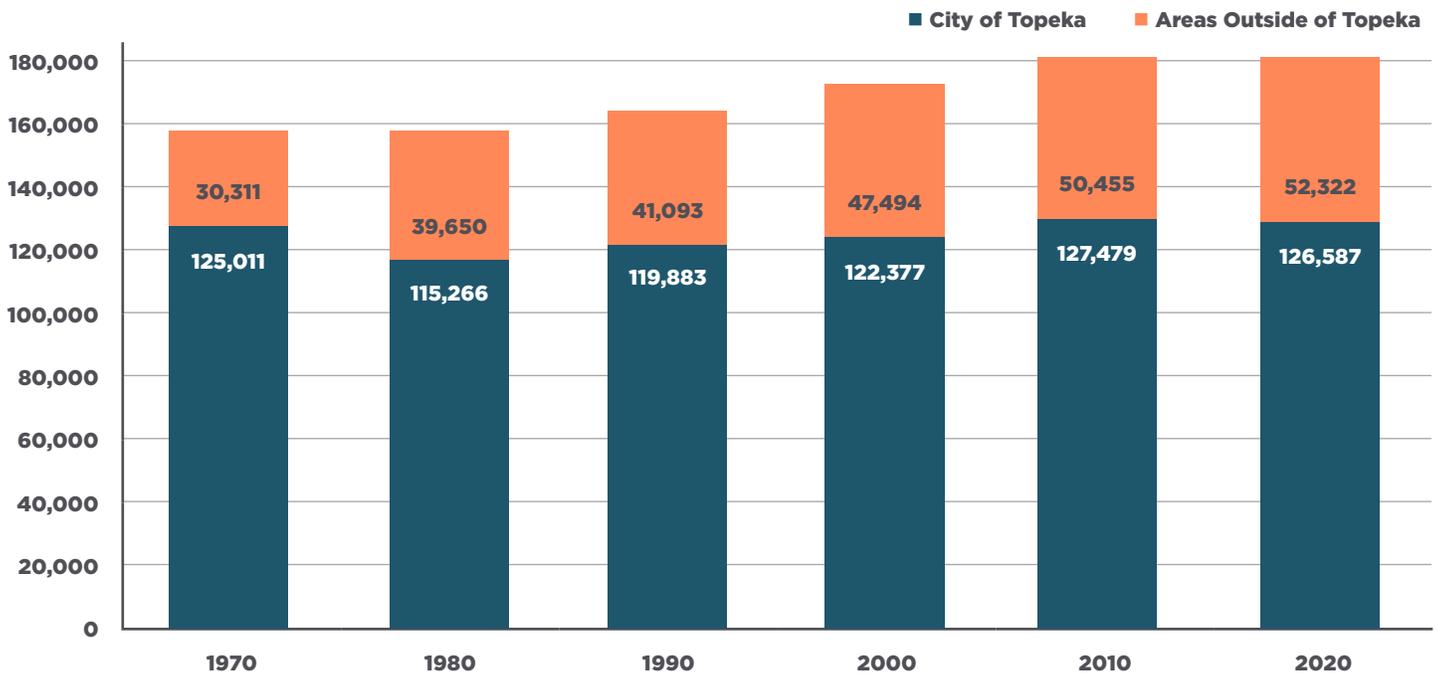
INTRODUCTION

Topeka is the fifth largest city in Kansas, with a population of approximately 126,587 (2020). As the State Capital, it is located in Shawnee County which is roughly 65 miles west of Kansas City. With nearly 178,000 people, Shawnee County is the third most populous county in the state. The population in the County has stayed steady over the past 10 years. There are four other incorporated communities in the County beyond Topeka and the Metropolitan Planning Area (MPA): Auburn, Silver Lake, Rossville, and Willard. Topeka and its MPA covers some 287 square miles of eastern Shawnee and a small portion of Jefferson Counties.

POPULATION & HOUSEHOLDS

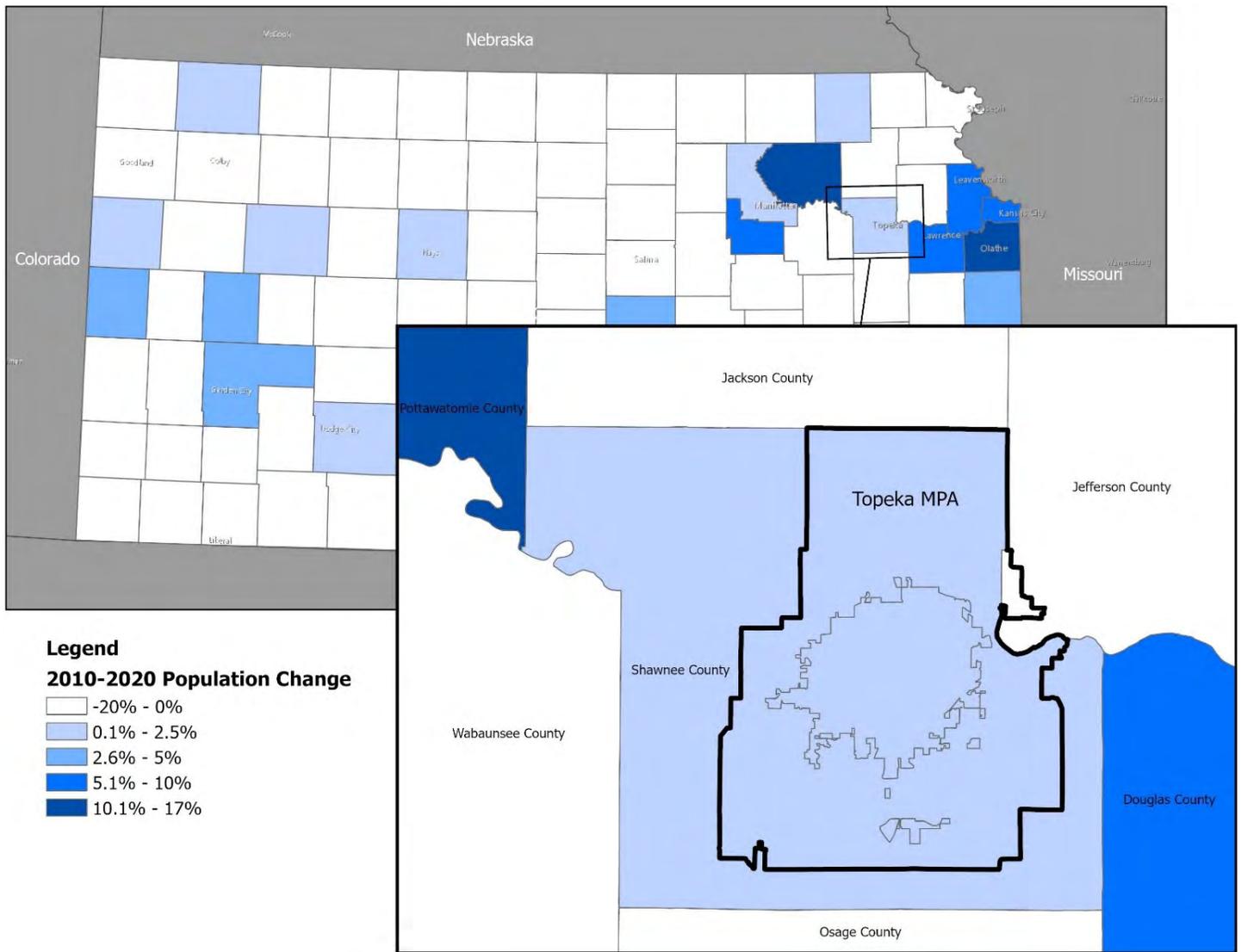
Shawnee County has grown steadily over the last fifty years, whereas Topeka’s population declined in 1980 and only surpassed the previous population numbers in 2010. Shawnee County’s population increased slightly from 2010 to 2020. Topeka’s population has declined slightly in the past 10 years. See Figure 2.1.

FIGURE 2.1 Shawnee County Population



Source: 2019 5-Year American Community Survey

FIGURE 2.2 Shawnee County and Topeka Metropolitan Planning Area Map



Population and Household Density

The population of the Topeka Metropolitan Planning Area (MPA), calculated using Traffic Analysis Zone (TAZ) data, lies between the population of the City and County. In 2020, the MPA’s population was estimated at 167,351, three quarters of whom live in Topeka with an estimated 53,757 households (Figure 2.3). The MPA accounts for over 93 percent of the county’s population. Since 2000, the population has increased by 3.7 percent whereas the number of households has increased by about 5 percent. This is much slower growth than that experienced between 2000 and 2015, which was documented as over 15 percent in the previous MTP. Because household

growth outpaced population growth, the average household size in the MPA decreased from 2.49 to 2.45 since 2000. The area of the MPA has remained constant, both population and household density increased from 2000 to 2020. The City of Topeka contains the most concentrated areas of population as would be expected (76%). This includes areas just west of downtown, northeast of I-470 and SW Gage Boulevard, and southwest of I-470 and SW 21st Street. The population density map (Figure 2.5) displays the distribution of population in the MPA by TAZ. Compared to other major cities in Kansas (Figure 2.4), Topeka has one of the lower population densities.

FIGURE 2.3 Topeka MPA Population and Households

	2000	2020 ESTIMATE	CHANGE	% CHANGE
POPULATION	161,402	167,351	+5,949	+3.7%
POPULATION DENSITY (POP/SQ. MILES)	563.0	583.8		
HOUSEHOLDS	64,917	68,190	+3,273	+5.0%
HOUSEHOLD DENSITY (HH/SQ. MILES)	226.4	237.9		
AVERAGE HOUSEHOLD SIZE (POP/HH)	2.49	2.45	-0.04	

Source: MTPO Estimates by Traffic Analysis Zone

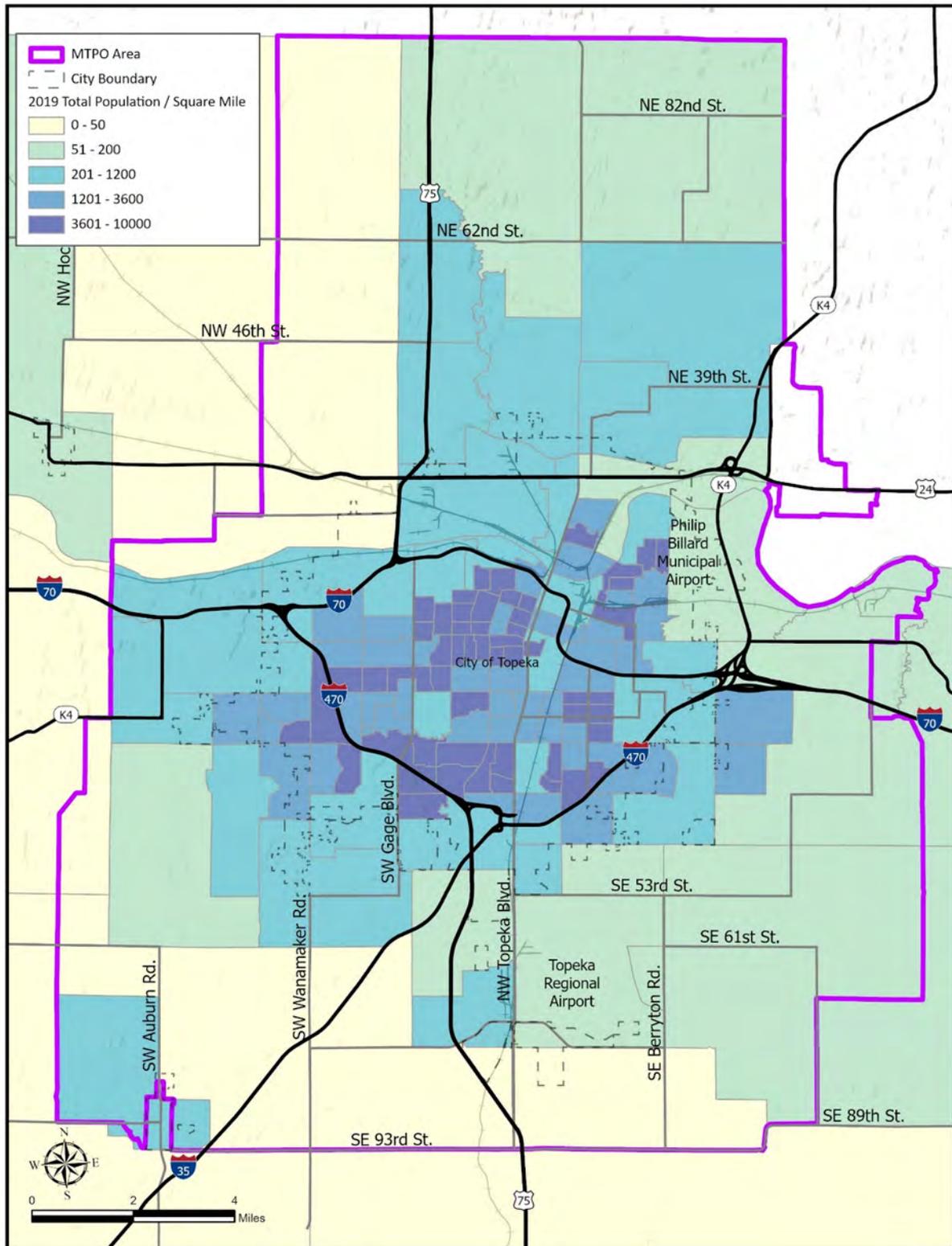
FIGURE 2.4 Population and Population Densities of Largest Cities in Kansas

	WICHITA	OVERLAND PARK	KANSAS CITY	OLATHE	TOPEKA	LAWRENCE
POPULATION	389,877	191,011	152,522	137,618	126,397	96,369
POPULATION DENSITY (PERSONS/SQ. MILE)	2,430	2,553	1,193	2,305	2,099	2,868

Source: 2019 5-Year American Community Survey



FIGURE 2.5 2019 Population Density



Source: MTP Estimates by Traffic Analysis Zone

Age

Age cohorts further identify demographic trends in Shawnee County. The population in Shawnee County is aging as is the rest of the nation. Until recently, the Baby Boomer generation was the largest generation. However, this group has been replaced by the Millennial generation.

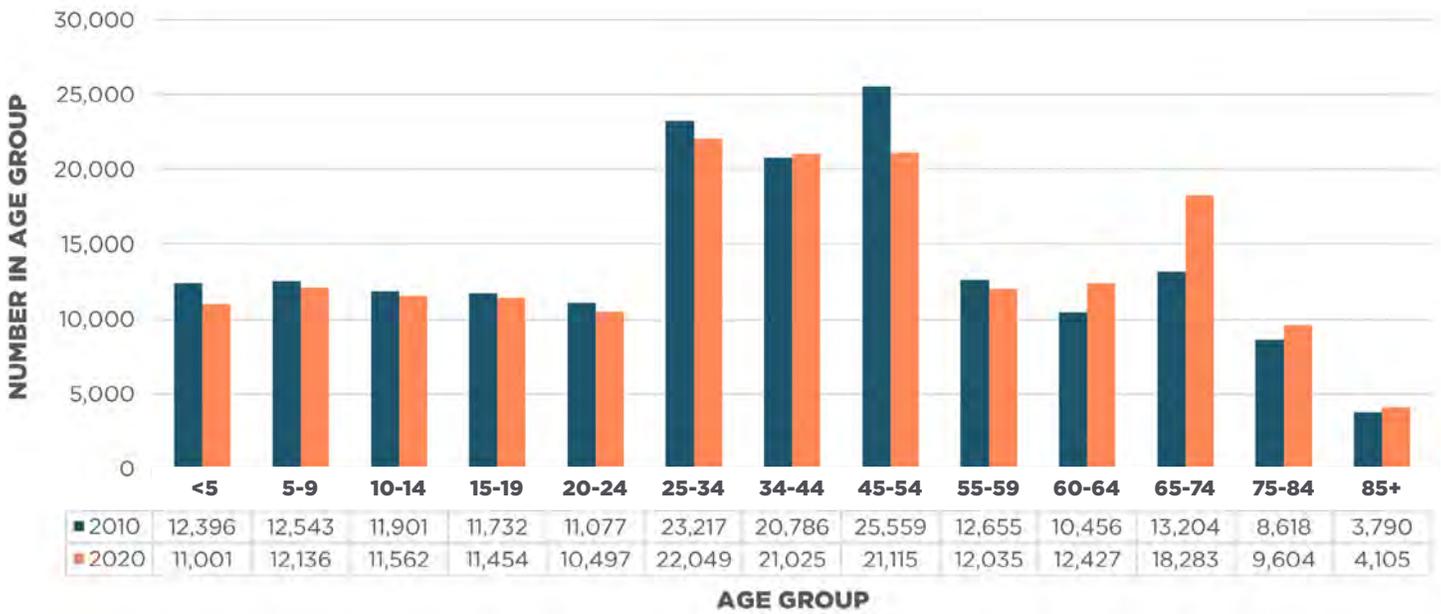
In 2010, Boomers were 45 to 63 years old, reaching the peak of their careers and becoming empty nesters. In 2020, Boomers entered retirement age and are now 55 to 73. Those older than 65 have increased from 14.4 percent of the total population in 2010 to 18 percent in 2020 (Figure 2.6).

From 2000 to 2020, the County’s population age group of 65 and over increased nearly 37 percent from 23,351 to 31,992. The increasing number of seniors affects the types of transportation services and systems needed across the County.

The Millennial generation, the children of the Baby Boomers, are also an important factor to consider. In 2020, Millennials age 24 to 39 overtook the Boomers in population. The Millennial generation has responded to their collective experiences and changes in preferences by delaying marriage and childbearing, resulting in lower fertility rates. This could signify a permanent change towards smaller families, or it could be that starting families is merely deferred. Analysis of what Millennials are looking for in where they live and work include walkability, public transportation and ride sharing as they put off buying cars and homes for longer than previous generations.

The slow but steady growth of the population, the relatively low density of the city, and the consistent development of new areas will significantly impact the regional transportation system. More of these impacts are discussed in the Land Use section, which explores how land use changed over time.

FIGURE 2.6 2010-2020 Age Distribution in Shawnee County



	<5	5-9	10-14	15-19	20-24	25-34	34-44	45-54	55-59	60-64	65-74	75-84	85+	TOTAL POPULATION
2010	7.0%	7.0%	6.7%	6.6%	6.2%	13.0%	11.7%	14.4%	7.1%	5.9%	7.4%	4.8%	2.1%	177,934
2020	6.2%	6.8%	6.5%	6.5%	5.9%	12.4%	11.9%	11.9%	6.8%	7.0%	10.3%	5.4%	2.3%	177,293

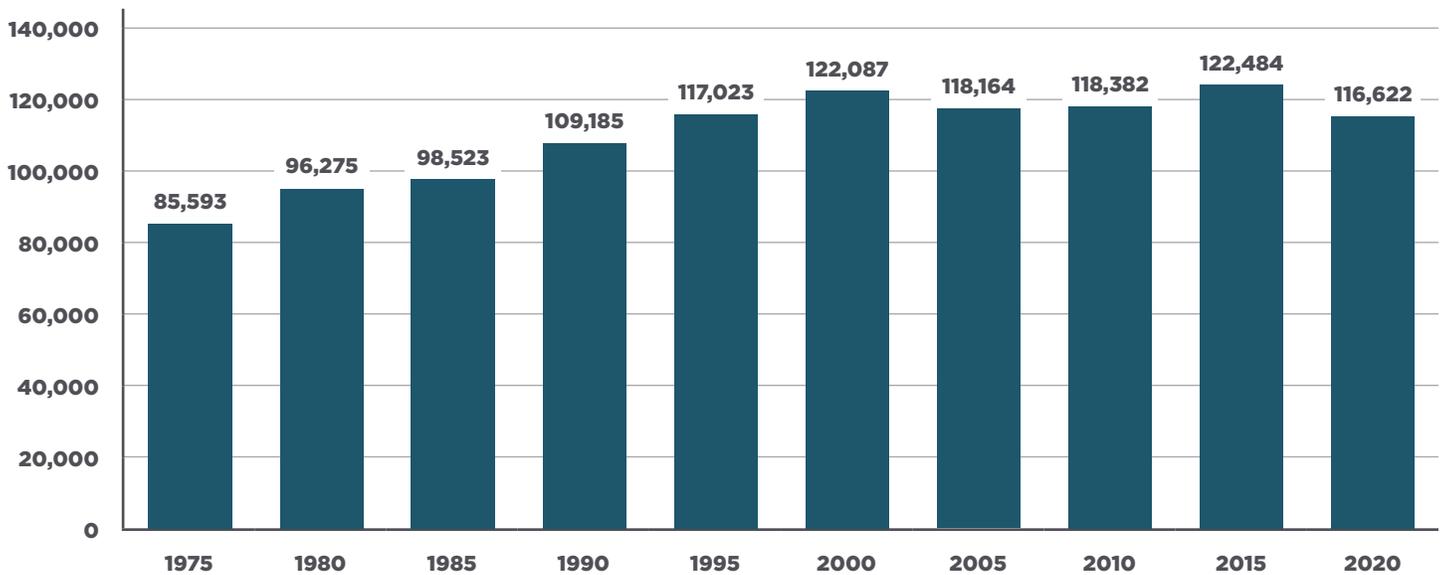
Source: U.S. Census 2010, 2020 5-Year American Community Survey

EMPLOYMENT

Between 1975 and 2000, employment has steadily increased in Shawnee County with a peak of nearly 122,087 jobs in 2000 (Figure 2.7). From 2000 to 2005, employment decreased by about 4,000 or 3.2 percent, and remained flat through 2010. In 2015, employment peaked again at almost 122,900 jobs. These trends reflected the County’s general economic growth, economic recession, and market recovery. However, employment dipped again by 2020 to around 116,622, the lowest since 1990. This is a decrease of around 5,800 or 4.8 percent. The decrease in employment can be attributed to the aging population leading to retirements as well as the COVID-19 pandemic and its effect on the economy.

In 2000, wage and salary employment reached a peak nearing 89 percent (Figure 2.8). However, by 2005, wage and salary jobs fell to around 85 percent, and have stayed at this level since that time. At the same time, proprietor employment increased from 11 percent of jobs in 2000 to 15 percent in 2005, and has remained flat into 2020. Following the recession, much of the job growth was reflected in proprietor employment, i.e., business ownership as opposed to wage and salary employment. Since 2005, neither type of employment has seen measurable change.

FIGURE 2.7 1975 - 2020 Total Employment in Shawnee County



Source: Bureau of Economic Analysis (BEA)

FIGURE 2.8 Total Employment by Type

	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
WAGE AND SALARY	75,269	85,011	86,098	95,740	102,215	108,523	101,085	100,759	104,657	100,042
	87.9%	88.3%	87.4%	87.7%	87.3%	88.9%	85.5%	85.1%	85.4%	85.8%
PROPRIETOR	10,324	11,264	12,425	13,445	14,808	13,564	17,079	17,623	17,827	16,580
	12.1%	11.7%	12.6%	12.3%	12.7%	11.1%	14.5%	14.9%	14.6%	14.2%
TOTAL	85,593	96,275	98,523	109,185	117,023	122,087	118,164	118,382	122,484	116,622

Source: Bureau of Economic Analysis (BEA)

Labor Force

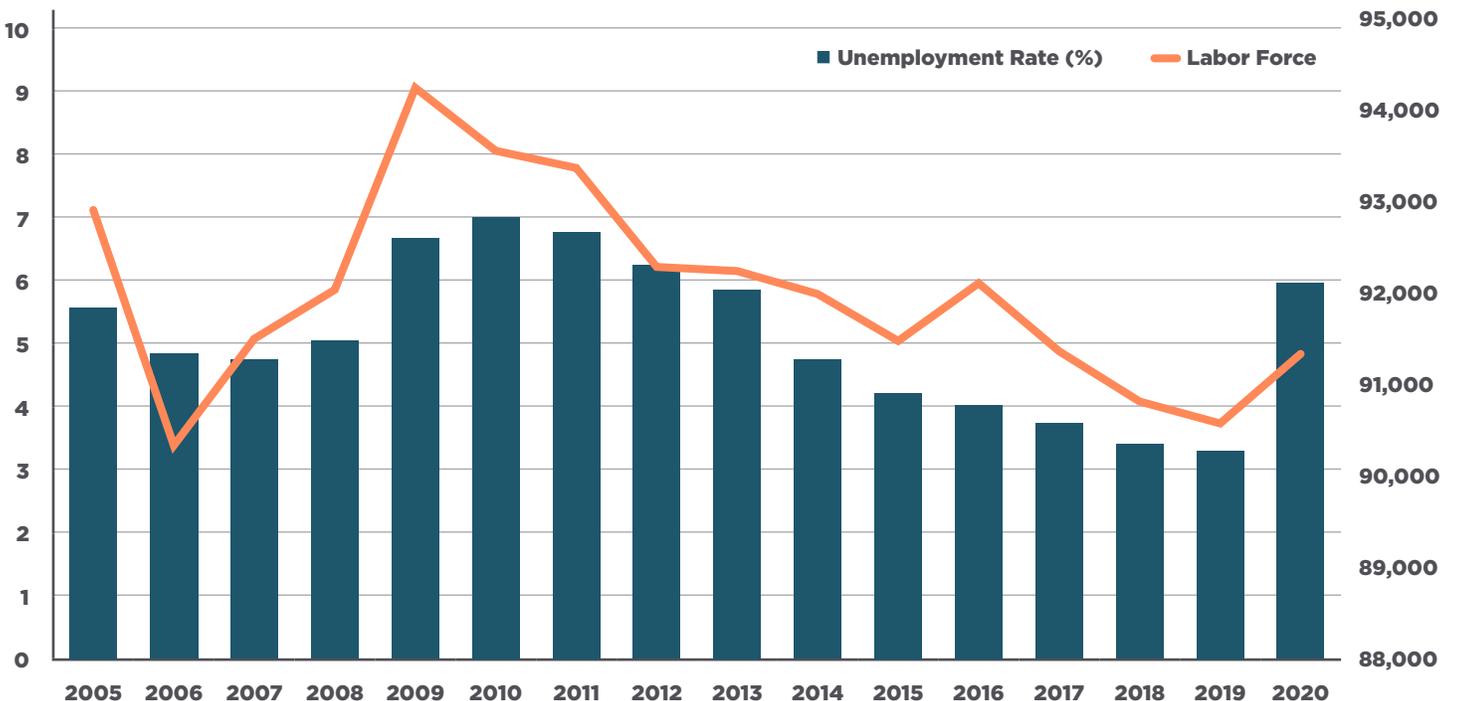
In 2005, Shawnee County’s labor force, which includes active workers living in the area, was estimated at 92,900 (Figure 2.9). This number declined in 2006 to around 90,300. The labor force increased again through 2009 where it peaked at 94,200. Since then, the work force has been in a steady decline to around 90,600 in 2019. In 2020, there was a small increase in the labor force to around 91,300. The unemployment rate has followed a similar pattern with a peak in 2010 at 6.9 percent around the peak of the recession. The employment rate had steadily fallen to 3.3 percent in 2019. As of 2020, the unemployment rate had gone back up to 5.9 percent, which reflects the impact of COVID-19 on the economy.

Shawnee County’s unemployment rate is comparable to that of the State of Kansas. Generally, both Shawnee County and Kansas are below the national unemployment rate. These numbers could reflect that there are many part-time jobs or, more likely, that jobs in the County are being filled by people commuting into the County who are not residents of the county.

Industry

Health care/social assistance, retail trade and local government are the three largest job sectors, comprising one third of total employment in Shawnee County (Figure 2.10). Other strong sectors include finance, state government, and administrative services. This fits with the area since Topeka is the capital of Kansas. Only two of the County’s top industries have grown over the past decade. This includes health care/social assistance and finance. Retail, local government and state government have all seen declines in employment. Other areas of declining employment include accommodation/food service, information, and the wholesale trade. It is difficult to know how much of the decline in some of these areas is reflected in the changes that COVID-19 had on the economy in 2020 and if they will bounce back over time. The strongest job growth has occurred in administrative services, followed by health care/social assistance and finance. Only administrative services have increased by more than 1,000 jobs over the past decade. Overall, the County lost 1,700 jobs in the past decade, despite the growth through 2019. The changes in 2020 appear to have had the greatest impact on that decline.

FIGURE 2.9 Unemployment Rate and Labor Force in Shawnee County



Source: Bureau of Labor Statistics (BLS)

FIGURE 2.10 Change in Employment by Industry

	2010	2015	2020	'10-'20 CHANGE
HEALTH CARE / SOCIAL ASSISTANCE	17,360	17,835	18,330	+970
RETAIL TRADE	11,392	11,891	10,413	-979
LOCAL GOVERNMENT	11,337	10,838	10,017	-1,320
FINANCE / INSURANCE	8,043	8,969	8,669	+626
STATE GOVERNMENT	9,208	8,330	8,334	-874
ADMINISTRATIVE / SUPPORT SERVICES	5,313	8,163	6,976	+1,663
ACCOMMODATION / FOOD SERVICES	7,773	7,718	6,486	-1,287
MANUFACTURING	6,488	6,843	7,264	+776
OTHER SERVICES	6,535	6,476	5,963	-572
PROFESSIONAL / SCIENTIFIC / TECHNICAL	6,170	6,374	6,317	+147
CONSTRUCTION	5,475	6,098	5,491	+16
REAL ESTATE / RENTAL	3,780	3,947	3,672	-108
WHOLESALE TRADE	3,435	3,600	2,882	-553
TRANSPORTATION AND WAREHOUSING	4,137*	3,578	4,557	+420
NON-MILITARY FEDERAL	3,675	3,437	3,362	-313
MANAGEMENT	1,000	1,906	1,745	+745
INFORMATION	2,016	1,646	1,298	-718
ARTS / ENTERTAINMENT / RECREATION	1,699	1,578	1,260	-439
EDUCATIONAL SERVICES	1,016	1,265	1,171	+155
MILITARY	1,045	802	743	-302
FARMING	786	751	735	-51
UTILITIES	186	161	485	+299

* Indicates numbers are estimated using past trends.
Source: 2005, 2010, and 2015 Bureau of Economic Analysis (BEA)

Employment Density

Employment within the MPA was estimated using Traffic Analysis Zones from the Travel Demand Model. The total MPA employment in 2020 was estimated at 103,560, comprising about 89 percent of jobs in the County. From 2000 to 2020, the number of jobs in the MPA increased by 795 or 0.8%. This raises the employment density from 358 to 361 jobs per square mile. Notable between 2000 and 2020 is a decrease from 0.64 to 0.62 jobs per person.

There are several major employment areas within the MPA. The largest of the major employment

areas are downtown or near downtown. These include many of the State of Kansas’ offices and major medical areas like the University of Kansas Health St. Francis campus and Stormont Vail. Another major employment area can be found along Wanamaker Avenue, which includes Westridge Mall and numerous big box and retail stores. Other areas include those near SW Topeka Boulevard, including the Topeka Regional Airport, Target and Home Depot distribution centers, the Mars plant, and a Walmart distribution center. See Figure 2.11.

FIGURE 2.11 Total MPA Employment

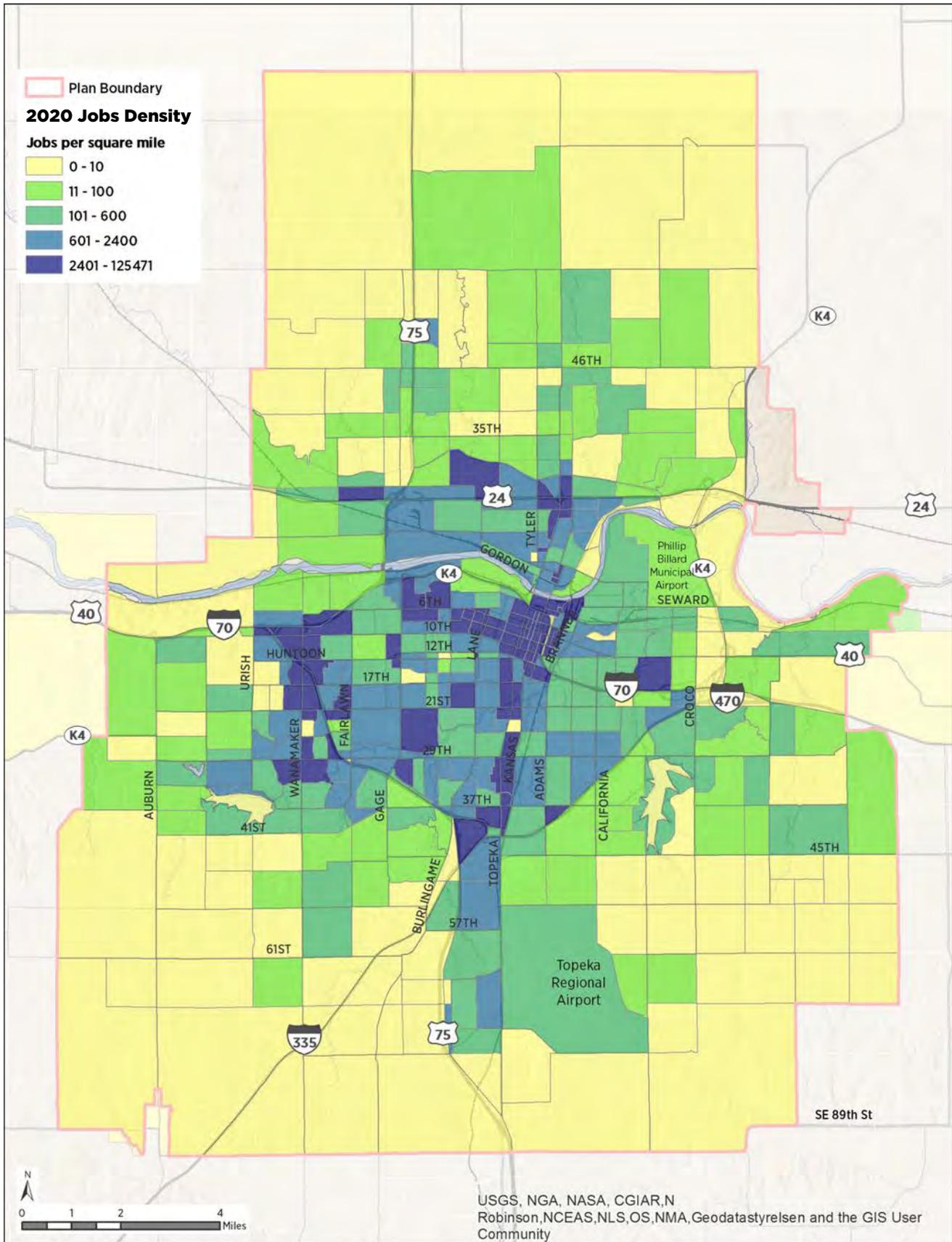
	2000 ESTIMATE	2020 ESTIMATE	CHANGE	% CHANGE
TOTAL JOBS	102,765	103,560	+795	0.8%
RETAIL JOBS	18,750	20,225	+1,475	7.9%
NON-RETAIL JOBS	84,015	83,335	-680	-0.8%
AREA (SQUARE MILES)	286.7	286.7		
DENSITY (JOBS / SQUARE MILE)	358.4	361.2		
JOBS PER PERSON	0.637	0.619		

Source: MTPO Estimates by Traffic Analysis Zone



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FIGURE 2.12 2020 Estimated Employment Density



Source: MTPO Estimates by Traffic Analysis Zone

ENVIRONMENTAL JUSTICE POPULATIONS

Because the MTPO plans for transportation and mobility for all members of the community at the regional level, it is important to consider the natural, cultural, and socio-economic resources to support Environmental Justice (EJ) efforts. This is in addition to the National Environmental Policy Act (NEPA), Executive Order 12898, and the Title VI Civil Rights Legislation. In considering these resources, race, ethnicity, income, national origin, and language ability are all important factors to transportation planning.

Race and Ethnicity

Nearly three quarters of the population of Shawnee County is white and non-Hispanic/Latino (Figure 2.13). Minority groups, including non-white and Hispanic/Latino populations, comprise 26.1 percent of the population. The largest minority group are Hispanics/Latinos, at a little more than 12 percent of the population, followed by Blacks / African Americans at 8.3 percent. Topeka has larger minority populations than the county with approximately 32 percent of Topeka’s population in a minority group. Minority populations are defined as any identifiable minority group(s) who live in a geographic proximity.

Block groups with more than the County average of non-white or Hispanic populations (26.1%) are considered minority populations for further EJ analyses.

Income

Shawnee County’s income distribution is depicted in Figure 2.14. In general, Shawnee County has lower household incomes compared to Kansas at large. The median income in Shawnee in 2019 was \$56,762, compared to \$59,597 for Kansas. Based on the percentage of individuals below poverty, most of the lower income individuals within Shawnee County reside in the City of Topeka.

Low-income populations are considered those whose median household incomes are at or below the US Department of Health and Human Services (HHS) poverty guidelines. Within Shawnee County, approximately 11.4 percent of persons fall below the poverty level in 2019 (2019 5-Year ACS). Block groups with more than twenty percent of families in poverty are considered low-income populations for further EJ analyses for low-income populations (Figure 2.13).

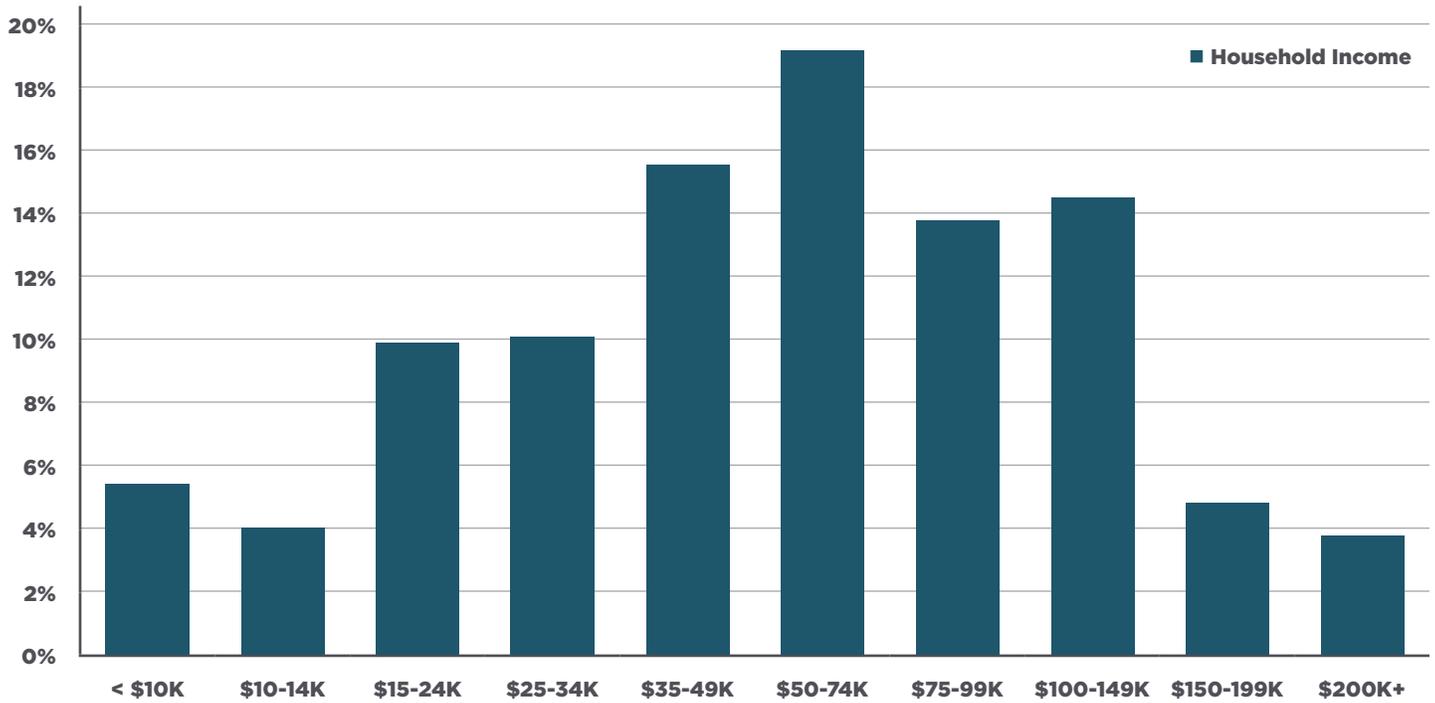
The Department of Housing and Urban Development (HUD) also identifies populations with low/moderate incomes (LMI), as determined by the percentage of the population at or below 80 percent of the area median income depending on the size of the family. In Shawnee County, a family of four is considered LMI if they make less than \$62,150 annually (Figure 2.15).

FIGURE 2.13 Race and Ethnicity in Shawnee County and Topeka

	SHAWNEE COUNTY		TOPEKA	
	NUMBER	PERCENT	NUMBER	PERCENT
NOT HISPANIC OR LATINO	155,891	87.7%	106,936	84.6%
WHITE	131,504	73.9%	85,884	67.9%
BLACK/AFRICAN AMERICAN	14,783	8.3%	12,883	10.2%
AMERICAN INDIAN/ALASKA NATIVE	1,425	0.8%	1,143	0.9%
ASIAN/NATIVE HAWAIIAN/PACIFIC ISLANDER	2,668	1.5%	2,302	1.8%
OTHER/TWO OR MORE RACES	5,511	3.1%	4,724	3.7%
HISPANIC OR LATINO OF ANY RACE	21,961	12.3%	19,461	15.4%
TOTAL	177,852		126,397	

Source: 2019 Five-Year ACS

FIGURE 2.14 Household Income for Shawnee County



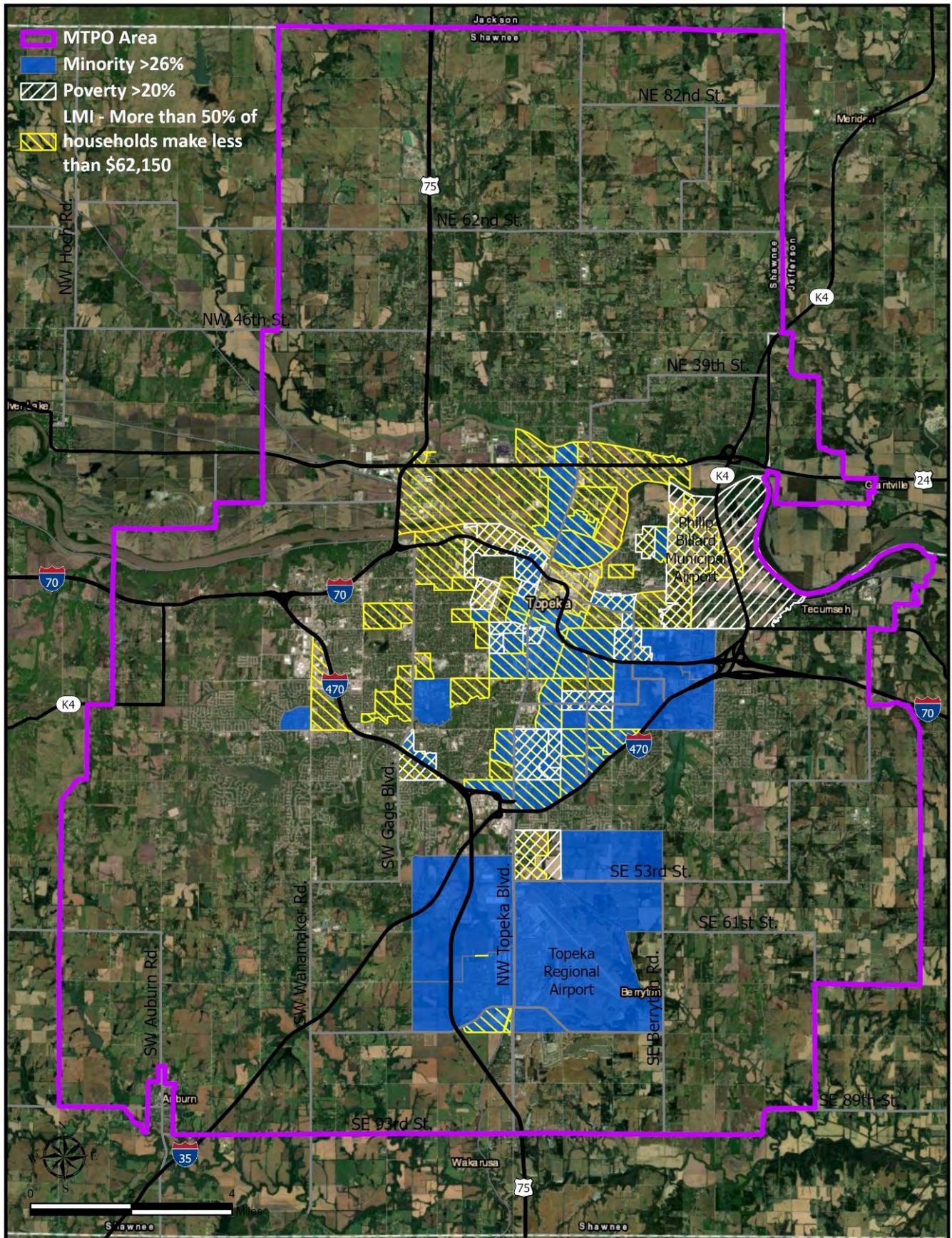
Source: 2019 Five Year ACS

FIGURE 2.15 Shawnee County FY2020 Low Income Limits

	FAMILY SIZE							
	1	2	3	4	5	6	7	8
LOW INCOME LIMIT (80% AMI)	\$43,550	\$49,750	\$55,950	\$62,150	\$67,150	\$72,100	\$77,100	\$82,050
MEDIAN HOUSEHOLD INCOME	\$56,762*							

Source: Department of Housing and Urban Development
*2019 Five-Year ACS

FIGURE 2.16 Environmental Justice Areas



Though any population may be subject to disproportionate impacts from a transportation project or investment, identifying minority and low-income populations is important to understand the effects on various affected populations. As can be seen in Figure 2.16, EJ areas are located more heavily on the eastern side of Topeka. Low-income areas tend to be more concentrated in central Topeka, in and around the downtown area. Areas with non-white and Hispanic/Latino populations are also more prevalent on the eastern portion of Topeka.

Since 2000, the City of Topeka has also measured its neighborhoods’ “health” to determine priorities for planning and funding assistance. Health ratings use five “Vital Signs” to evaluate neighborhood conditions, which, in turn, can be used to improve neighborhoods. Each vital sign was scored from the most desirable (4 points) to the least desirable condition (1 point). Each score is added together to create a composite average score to determine the neighborhood’s overall health. Generally, areas with lower health scores correlate to areas with minority and low-income populations, as seen below.

FIGURE 2.17 City of Topeka Neighborhood Health Indicators

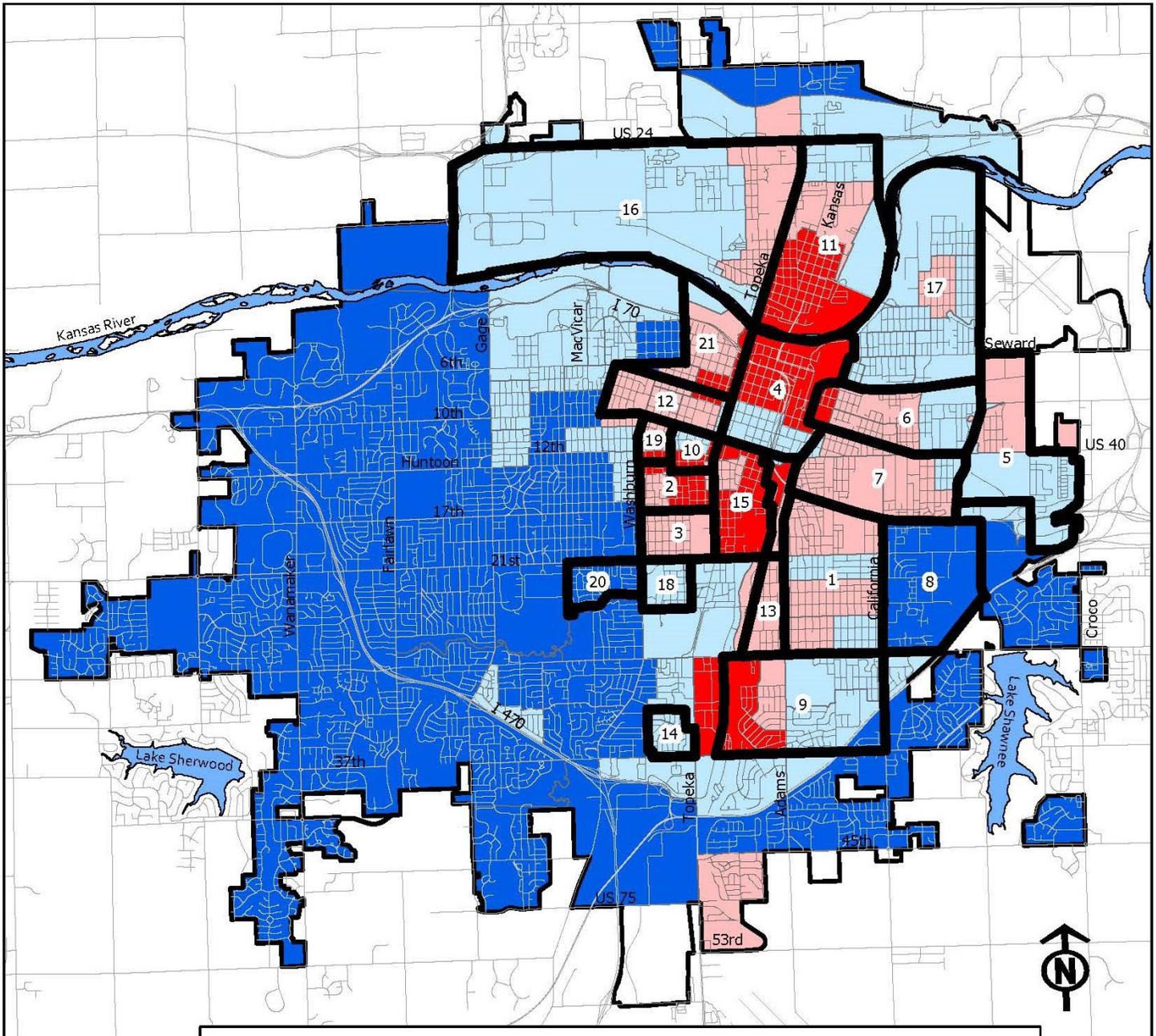
VITAL SIGNS	SOURCES
Poverty Level	2015-2019 U.S. Census Bureau 5-Year American Community Survey
Public Safety (Part 1 Crimes per 100 Persons)	2019-2020 Topeka Police Department and City of Topeka Planning Department
Residential Property Values	2020 Shawnee County Appraiser’s Office
Single Family Homeownership	2020 Shawnee County Appraiser’s Office and City of Topeka Planning Department
Boarded Houses (nuisance securements and unsafe structures)	2020 City of Topeka Property Maintenance Division

Source: City of Topeka Neighborhood Health 2020 MTPO Estimates by Traffic Analysis Zone



Photo courtesy of ArtsConnect

FIGURE 2.18 2020 City of Topeka Neighborhood Health Map



NIAS	1. Central Highland Park	12. Historic Old Town	Health Status	 Healthy
	2. Central Park	13. Jefferson Square		 Out Patient
	3. Chesney Park	14. Likins Foster		 At Risk
	4. Downtown	15. Monroe		 Intensive Care
	5. East End	16. North Topeka West		
	6. East Topeka North	17. Oakland		
	7. East Topeka South	18. Quinton Heights Steele		
	8. Highland Acres	19. Tennessee Town		
	9. Highland Crest	20. Valley Park		
	10. Historic Holiday Park	21. Ward Meade		
	11. Historic North Topeka East			

Limited English Proficiency

Limited English-Proficient (LEP) individuals are another population that needs to have meaningful access to all transportation programs and activities, consistent with Executive Order 13166, Title VI of the Civil Rights Act of 1964, and Section 504 of the Rehabilitation Act of 1973. The MTPO developed a four-factor analysis to provide meaningful access for LEP individuals to all programs and activities in the [LEP Plan](#). The four-factor analysis includes:

1. The number or proportion of LEP persons eligible to be served or likely to be encountered by a program, activity, or service of the recipient or grantee.
2. The frequency with which LEP individuals interact with the program.
3. The nature and importance of the program, activity, or service provided to people's lives.
4. The resources available to the recipient and costs.

The more eligible LEP persons, the more contact they make, and the greater the importance of the program or service more likely means enhanced language services will be needed. The intent is to balance meaningful access by LEP persons to critical services without imposing undue burdens.

Within Shawnee County, approximately 92 percent of individuals over the age of five, spoke only English at home in 2019 (Figures 2.19 and 2.20). The City of Topeka is at almost 90 percent that speak only English at home. In terms of languages spoken at home, Spanish is the next largest group at about 6.5 percent of the county's population. Spanish speakers are nearly nine percent of the population of the City of Topeka. Of other languages spoken at home, 97 percent speak English "very well," leaving three percent of the county's population considered LEP. In Topeka, this is almost four percent of the population.

A little over three-fourths of non-English speakers speak Spanish, and not more than one percent of the population speaks another specific language. This suggests that Spanish is the dominant language spoken by LEP individuals in Shawnee County, and should be the focus of translations or language assistance activities.

Because LEP individuals comprise less than 5 percent of the MPA's population, contact with LEP persons is expected to be infrequent and unpredictable.

While the numbers of LEP persons are low, it is important that they have equal access and input to the MTPO planning processes that determine federal funding priorities for transportation projects and programs. Given the importance of equal participation by LEP persons, the MTPO incorporated an LEP Plan to guide situations where translations of MTPO documents or processes are warranted. The impact of proposed transportation investments on underserved and underrepresented populations are especially important regarding the MTPO's primary planning documents, including the:

- Annual Unified Planning Work Program (UPWP)
- Four-year Transportation Improvement Program (TIP)
- Public Participation Plan (PPP)
- Five-year Metropolitan Transportation Plan (MTP)

If LEP persons request translation or comprehension services, the MTPO has a variety of resource to help, including several community organizations that service LEP populations. These resources are identified in the MTPO's LEP Plan. The City of Topeka and the MTPO also offers bilingual persons that speak and read Spanish software that translates written English documents into Spanish, Title VI brochures available in English and Spanish, and LEP information posted on the MTPO website. Efforts will be made to accommodate LEP requests as presented in the MTPO's LEP Plan because of the important of involving all populations in the transportation planning process.

FIGURE 2.19 Ability to Speak English by Language Spoken at Home for Shawnee County and Topeka

LANGUAGE SPOKEN AT HOME	SHAWNEE COUNTY					TOPEKA				
	TOTAL	SPEAKS ENGLISH ONLY OR "VERY WELL"		SPEAKS ENGLISH LESS THAN "VERY WELL"		TOTAL	SPEAKS ENGLISH ONLY OR "VERY WELL"		SPEAKS ENGLISH ONLY OR "VERY WELL"	
		Number	%	Number	%		Number	%	Number	%
Only English	152,844	-	-	-	-	105,336	-	-	-	-
Spanish	10,804	6,962	4.2%	3,842	2.3%	10,316	6,619	5.6%	3,697	3.1%
Other Indo-European Language	1,292	1,030	0.6%	262	0.2%	997	776	0.7%	211	0.2%
Asian or Pacific Island Language	1,534	705	0.4%	829	0.5%	1,284	615	0.5%	669	0.6%
Other Language	155	133	0.0%	22	0.0%	145	123	0.1%	22	0.0%
TOTAL	166,629	161,674	97.0%	4,955	3.0%	118,078	113,479	96.1%	4,599	3.9%

Source: 2019 Five-Year ACS
* Population 5 years and Over

FIGURE 2.20 Summary of Language Spoken at Home and Ability to Speak English

	SHAWNEE COUNTY	TOPEKA
POPULATION 5 YEARS AND OVER	166,629	118,078
ENGLISH ONLY	91.7%	89.2%
LANGUAGE OTHER THAN ENGLISH	8.3%	10.8%
SPEAKS ENGLISH LESS THAN "VERY WELL"	3.0%	3.9%

PLACE OF BIRTH FOR FOREIGN-BORN POPULATION	SHAWNEE COUNTY	TOPEKA
Foreign-Born Population Excluding Population Born at Sea	7,209	6,443
Europe	9.1%	7.3%
Asia	27.6%	26.0%
Africa	1.9%	1.5%
Oceania	1.0%	0.9%
Latin America	58.3%	62.4%
Northern America	2.1%	1.9%

Source: 2019 Five-Year ACS

LAND USE & DEVELOPMENT

To identify future transportation needs and services, it is important to understand the land use and development of the area. This will guide where transportation infrastructure is needed, but land use policies also provide a framework for the forms of development, including densities, land use mixes, and other important factors impacting transportation. See Figure 2.21 and Figure 2.22.

Residential and Agricultural

The largest land use category in Topeka is residential with around 31 percent of the city's area made up of single-family homes and another 18 percent comprised of higher density housing. Many single-family homes in Topeka are in traditional neighborhoods that began around Downtown, although the neighborhoods have changed over the past fifty or more years. Some single-family homes were converted to multi-family or office uses, often mixing uses on a single block. Others have been demolished. These neighborhoods' ages vary, but most of the housing was constructed pre-1950.

Suburban subdivisions are the dominant residential use in the greater Topeka area, facilitated by the extension of urban infrastructure such as water, sewer, and roads. Land use policies also supported growth on the fringe of this area. Most suburban subdivisions occurred from the 1960s through the 1980s. However, as new development designed to exurban standards engulfed older residential subdivisions, challenges arose. Topeka's more recent land use policies strive to prevent future substandard development near the City.

Exurban residential areas tend to have lots larger than three acres that are not formally subdivided or annexed. This can lead to spotty development with low densities. This type of development is spread relatively evenly around Topeka. Non-single-family residential types make up almost 700 acres of the MPA's area outside of Topeka with 309 acres of manufactured housing.

Aside from residential uses, agriculture is the dominant land use outside of Topeka, making up more than 84,000 acres or 64 percent of the MPA. Agricultural uses closer to the city limits of Topeka tend to have exurban residential uses interspersed among the parcels. The average agricultural parcel

is near 36 acres. There are nearly 4,600 acres of agricultural land uses within Topeka. Many of these have been identified for future development.

The extent of the exurban development has changed the character of land use outside of Topeka and presents challenges to the area's transportation system. These challenges include the increased traffic outside of the city, higher per person infrastructure costs to serve development, greater environmental impacts, a lack of transit, sidewalks, or other active transportation infrastructure, and demands on rural roadways that were not designed for this type of development.

Civic, Parks, and Recreation

Civic land is owned by local, state or federal governments, or by non-profit organizations like churches, hospitals, and schools. In the MPA, civic land equals 6,970 acres or 4 percent of the parcels. Most civic land is held in public or non-taxable ownership. The Metropolitan Topeka Airport Authority (MTAA) has the largest area of public land. Portions of the MTAA property are available for development by private entities. Utility providers cover a significant portion of the County, as do healthcare-related, educational, and religious uses. Park and recreational uses, including golf courses, comprise a little more than three percent (5,916 acres) of the land area. These are often destination locations for many trips.

Commercial and Industrial

Most employees work in one of several zones in Topeka. The largest employment clusters are Downtown Topeka, along Wanamaker Road, along the S Topeka Boulevard/S Kansas Avenue Corridor, near the Topeka Regional Airport, and along the US-24 corridor. See Figure 2.23.

Downtown Topeka remains the major employment center for office workers, and is a government and financial center for the region. While it was once the main retail center, that is no longer the case; Downtown is busy during the daytime but less so in the evenings. There have been efforts to revitalize Downtown to help build more robust usage outside of the normal business hours. Some industrial uses also remain Downtown along the north and east sides near the Kansas River and Burlington Northern Santa Fe Railroad (BNSF). Other concentrations of employment include the medical district along Washburn Avenue and retail along the S Topeka Boulevard and the Wanamaker Road corridor.

The Wanamaker corridor is the regional retail center with large concentrations of businesses and a mix of large and small stores attracting people from surrounding areas. While retail along S Topeka Boulevard has decreased, US-24 has seen interest in commercial development. Secondary commercial centers attract more local customers. Commercial areas make up 4,924 acres in the MPA.

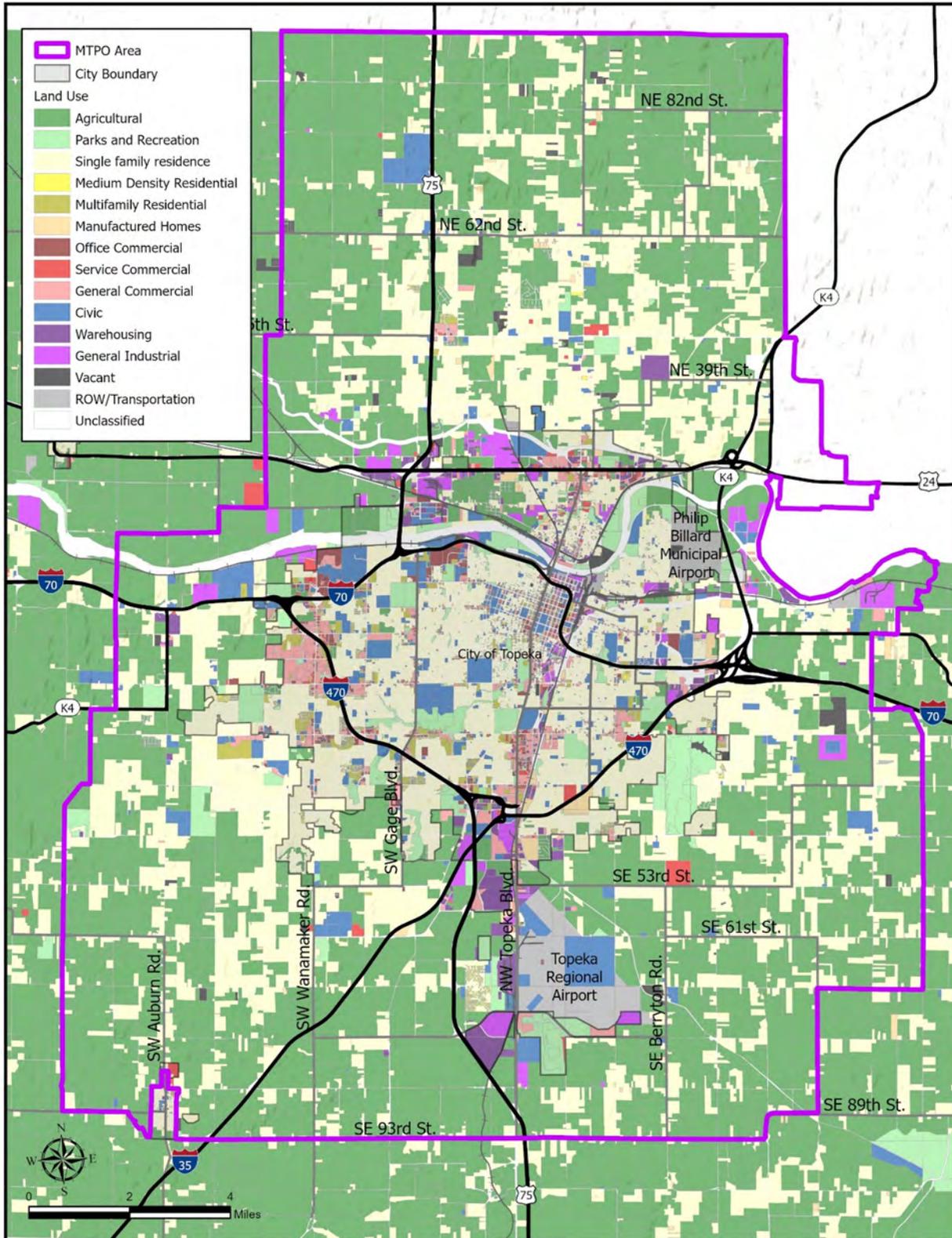
Most industrial uses in the MPA are located within incorporated areas or near the interstate, highways, and railroads. Three primary industrial areas in the MPA are anchored by the Topeka Regional Airport in south Topeka, along US-24 north of Topeka and northeast/east of Downtown which includes the BNSF industrial shops and other light and general industrial uses along the railroad. In the MPA, there are 2,281 acres of light industrial/warehousing and 2,466 of heavier general industrial land.

FIGURE 2.21 2020 Land Use in Topeka MPA

	MPA			CITY OF TOPEKA			MPA REMAINDER		
	PARCELS	ACRES	PERCENT	PARCELS	ACRES	PERCENT	PARCELS	ACRES	PERCENT
AGRICULTURAL	2727	88946.2	51.2%	385	4597.189	11.0%	2342	84349.0	64.0%
PARKS AND RECREATION	376	5916.4	3.4%	328	4004.518	9.6%	48	1911.9	1.4%
SINGLE FAMILY RESIDENTIAL	55832	49753.6	28.6%	41436	13156.77	31.4%	14396	36596.9	27.7%
MEDIUM FAMILY RESIDENTIAL	2905	851.6	0.5%	2011	664.3286	1.6%	894	187.2	0.1%
MULTIFAMILY RESIDENTIAL	1193	7084.7	4.1%	1184	6884.468	16.4%	9	200.2	0.2%
MANUFACTURED HOMES	196	774.5	0.4%	114	464.5765	1.1%	82	309.9	0.2%
OFFICE COMMERCIAL	662	1001.5	0.6%	651	967.5835	2.3%	11	33.9	0.0%
SERVICE COMMERCIAL	585	1138.2	0.7%	544	624.7759	1.5%	41	513.4	0.4%
GENERAL COMMERCIAL	1462	2784.2	1.6%	1378	2434.163	5.8%	84	350.0	0.3%
CIVIC	922	6969.3	4.0%	755	3316.448	7.9%	167	3652.8	2.8%
WAREHOUSING	550	2280.8	1.3%	467	1399.607	3.3%	83	881.2	0.7%
GENERAL INDUSTRIAL	200	2465.9	1.4%	149	1353.273	3.2%	51	1112.7	0.8%
ROW/TRANSPORTATION	70	2850.8	1.6%	57	1865.255	4.4%	13	985.6	0.7%
VACANT	118	1006.9	0.6%	92	195.6505	0.5%	26	811.2	0.6%
TOTAL	67798	173824.7	100.0%	49551	41928.6	100.0%	18247	131896.1	75.9%

Source: Shawnee County

FIGURE 2.22 2020 Current Land Use



Source: Shawnee County

FIGURE 2.23 Commercial and Industrial Areas in Shawnee County

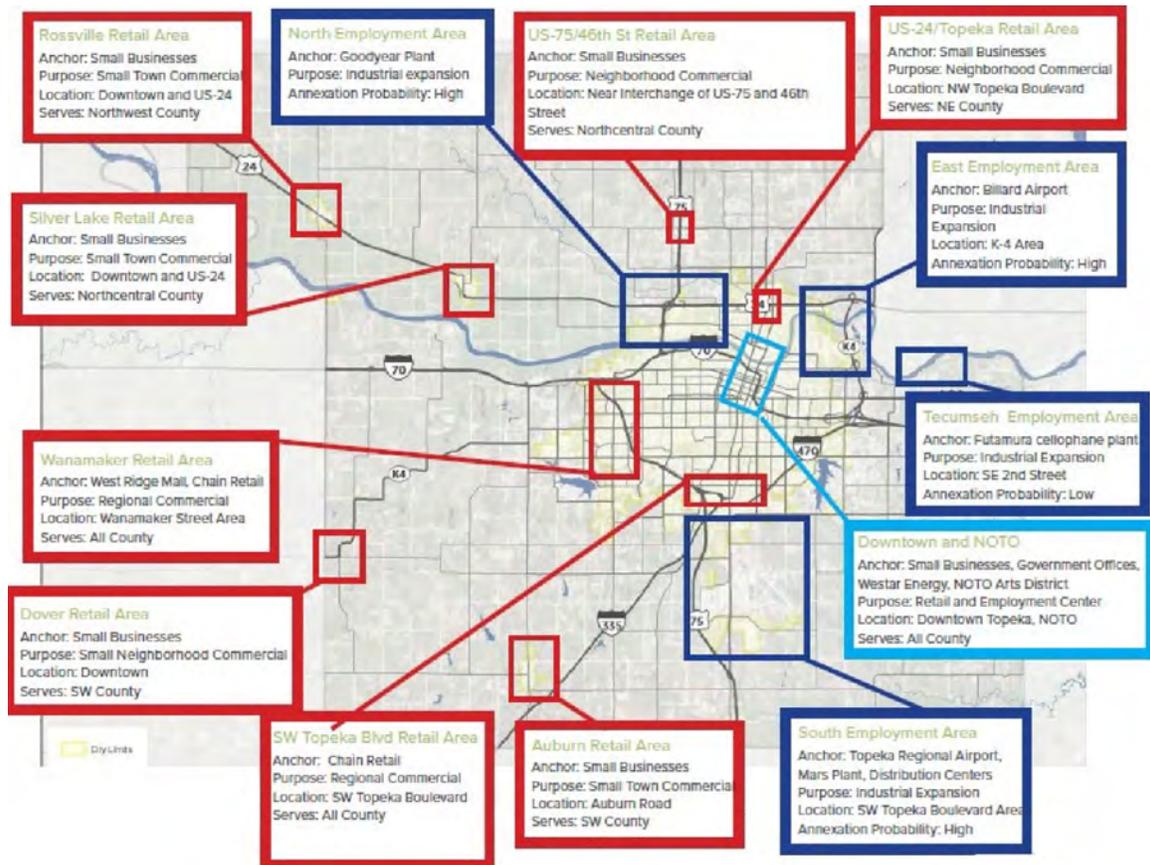
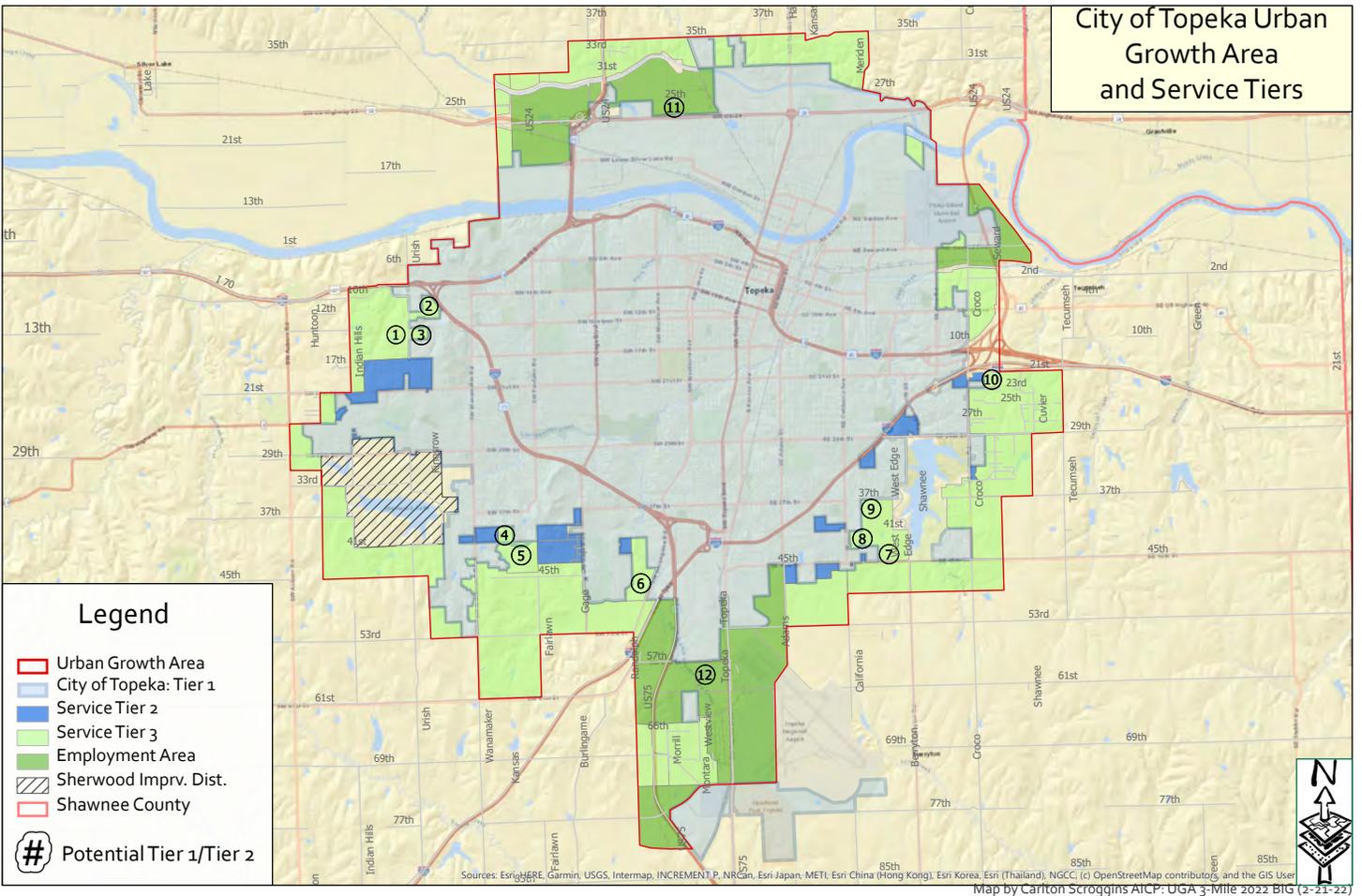


FIGURE 2.24 City of Topeka Limits, Urban Growth Areas, Extraterritorial Jurisdiction, and MPA Boundaries



Service Tier definitions can be found on the following page.

Policy and Future Land Use

In 2015, the City of Topeka approved the Topeka 2040 [Land Use and Growth Management Plan](#) (LUGMP), which recommends policies for the City, the Urban Growth Area (UGA), and Topeka's three-mile extraterritorial jurisdictional (ETJ). In the ETJ, the City of Topeka has the jurisdiction to approve plats and land subdivision, whereas Shawnee County has other jurisdiction to approve zoning and building permits. The LUGMP supports fiscally responsible, sustainable, and planned growth as well as the coordination of growth and city services. This includes encouraging compact, contiguous development; connected, mixed use, walkable neighborhoods; and a variety of transportation options. Many of its goals correlate with those of this MTP.

To prevent previous difficulties with annexing substandard infrastructure and low population densities, the LUGMP created four service tiers in which most of the MPA's growth is expected to occur. Doing so directs future growth to existing areas in Topeka, followed by land in Topeka's UGA that will be annexed when ready for urban development as determined by the requirements of each tier:

- Tier 1 is vacant or under-developed property within the City; it is prioritized first for future growth.
- Tier 2 is contiguous to the City and is the next priority; however, urban development must be cost effective for the City, and growth should only occur where Topeka has made service and infrastructure investments.
- Tier 3 should only be developed after all 5 urban services are provided; sewer, water, streets, police and fire services.
- The Employment Tier contains areas planned for industrial type uses, so extending infrastructure can occur depending on development opportunities.

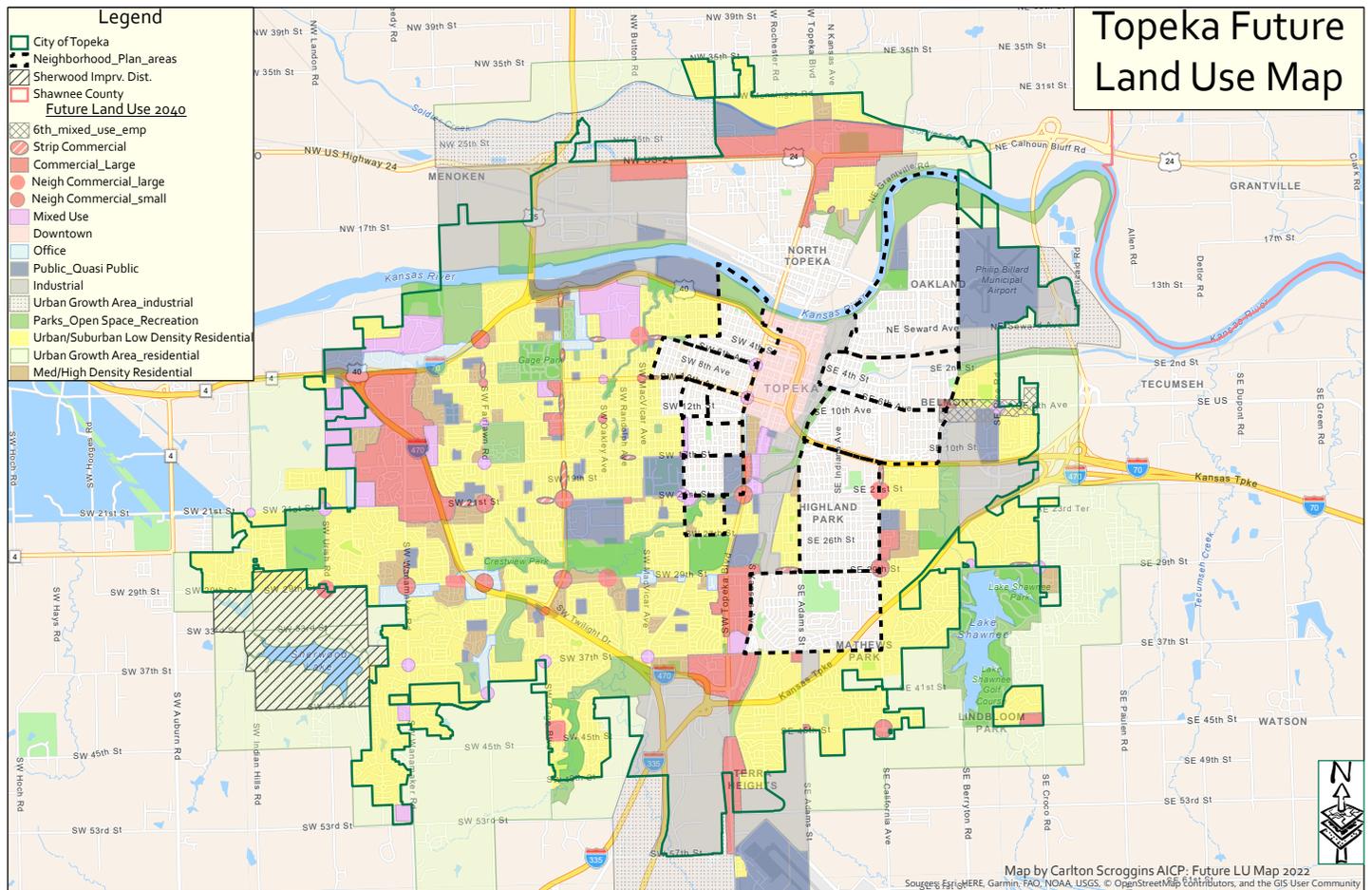
The area outside the UGA but within the ETJ is to remain relatively undeveloped to curb rural residential sprawl. Figure 2.24 shows the development tiers for the City of Topeka and the ETJ boundary. It is expected that the City of Topeka will add 11,000 – 12,000 in population by 2040.

Proposed future land uses within the MPA based on the recently prepared plans including the LUGMP follow. In general, the future land use plan indicates patterns of development and appropriate land use arrangements – addressing the planned development in the existing Topeka City Limits, planned annexation areas, and planned growth zones for urban development. Future land use plans for the MPA support infill and contiguous residential development, the expansion of industrial development near Topeka Regional Airport, along the US Highway 75 Corridor north of the Kansas River, in the US Highway 24 Corridor along the north edge of Topeka, and continued opportunities for mixed uses along major roadways and at major intersections in the Topeka Area.

Shawnee County completed its first [Comprehensive Plan](#) for the unincorporated area in 2018. Efforts were made to coordinate the development of Futures2045 with the County's Comprehensive Plan. There were three main goals related to land use and development in the Plan. One goal is to encourage industrial development in the most suitable locations, directing most of this development to the cities or the employment tier of the Topeka UGA. Where industrial development is considered in unincorporated areas, those developments would be subject to site development and performance standards. A second goal is to encourage responsible rural commercial development, including allowing home occupations with consideration of traffic or other impacts. Commercial and neighborhood commercial developments that support agriculture and the rural population should be allowed in the unincorporated area. Heavy commercial should be directed to the cities and employment tier of the Topeka UGA. Lastly is the goal of encouraging responsible residential development. The County should encourage residential development on the existing parcels of record. New residential development in the unincorporated area should continue to be compatible with existing development nearby.

Future iterations of the MTP should explicitly consider the county's development goals.

FIGURE 2.25 Topeka’s Future Land Use Map



Source: City of Topeka 2040 Land Use and Growth Management

ENVIRONMENT

The transportation system affects and is affected by the natural environment. Beginning with SAFETEA-LU and continuing with the FAST Act, metropolitan transportation plans need to discuss “potential mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain environmental functions affected by the Plan,” in consultation with pertinent wildlife, land management, and regulatory agencies. The purpose of the process is to identify possible impacts of proposed “improve and expand projects” on environmentally sensitive resources, list useful guidelines for mitigating these impacts, and share information with implementing agencies.

The purpose of the analysis is to identify the projects that may have the potential to impact an environmentally sensitive area. Once a potential impact has been identified, general guidelines can be introduced for agency consideration during all phases of project planning, design, construction, and maintenance. Existing Floodplain, Natural/Cultural Resources, Hazardous Materials Sites, and Prime Farmland maps are shown in this section on Figures 2.27 through 2.33.

Existing Conditions

Based on analysis of the information sources described in Figure 2.26, the following resources/features were identified within and near the MPO boundaries:

- 100 and 500-year floodplains associated with the Kansas River and a number of its tributaries;
- 2,378 National Hydrography Dataset (NHD) features (streams) including, but not limited to, Stinson Creek, Deer Creek, Shunganunga Creek, Muddy Creek, Little Muddy Creek, Blacksmith Creek, Messhoss Creek, Tecumseh Creek, Ward Creek, Indian Creek, Halfday Creek, Soldier Creek, Sixmile Creek, and Elm Creek, including those with and without established 100 and 500-year floodplains; totaling approximately 731 miles;
- The IPAC lists three threatened species including one mammal species, the northern long-eared bat (*Myotis septentrionalis*); and two plant species, Mead’s milkweed (*Asclepias meadii*) and the western prairie fringed orchid (*Platanthera praeclara*). It also lists one endangered fish species, the Topeka shiner (*Notropis topeka*);
- and one candidate insect species, the monarch butterfly (*Danaus plexippus*);
- The Kansas Biological Survey lists one state endangered species, the least tern (*Sternula antillarum*). It also includes six candidate species of concern, including four mussel species: Wabash pigtoe (*Fusconaia flava*), fatmucket mussel (*Lampsilis siliquoidea*), yellow sandshell (*Lampsilis teres*), and fawnsfoot (*Truncilla donaciformis*); one mammal species, the southern flying squirrel (*Glaucomys volans*); one reptile species, the smooth earth snake (*Virginia valeriae*);
- 6,409 National Wetland (NWI) Features within the MPO that include 44 unique Cowardin classifications totaling approximately 7,128 acres;
- Large water bodies including, but not limited to, Lake Shawnee, Sherwood Lake, Vasquero Lake, and Lake Javaro;
- Eight Historic districts (e.g., Holliday Park Historic District I, College Avenue Historic District, and Potwin Place Historic District);
- 190 trails or bike paths totaling approximately 182 miles;
- Fifty-two buildings on the National Register of Historic Places (e.g., Jayhawk Hotel, Theater and Walk, Memorial Building, etc.);
- Over 66 public lands that generally include city parks (e.g., Big Shunga Park, Oakland-Billard Park, etc.)
- One U.S. Environmental Protection Agency Superfund sites and 37 Brownfield sites, and 325 active Resource Conservation and Recovery Act sites; and Widespread areas of prime farmland, unique farmland, and farmland of local/statewide importance. Prime farmland is a designation assigned by the U.S. Department of Agriculture defining land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops and is also available for these land uses. Unique farmland is land other than prime farmland that is used for production of specific high value food and fiber crops. In some areas, land that does not meet the criteria for prime or unique farmland considered to be farmland of local or statewide importance for the production of food,

feed, fiber, forage, and oilseed crops. Farmland of local or statewide importance may include tracts of land that have been designated for agriculture by local or state law.

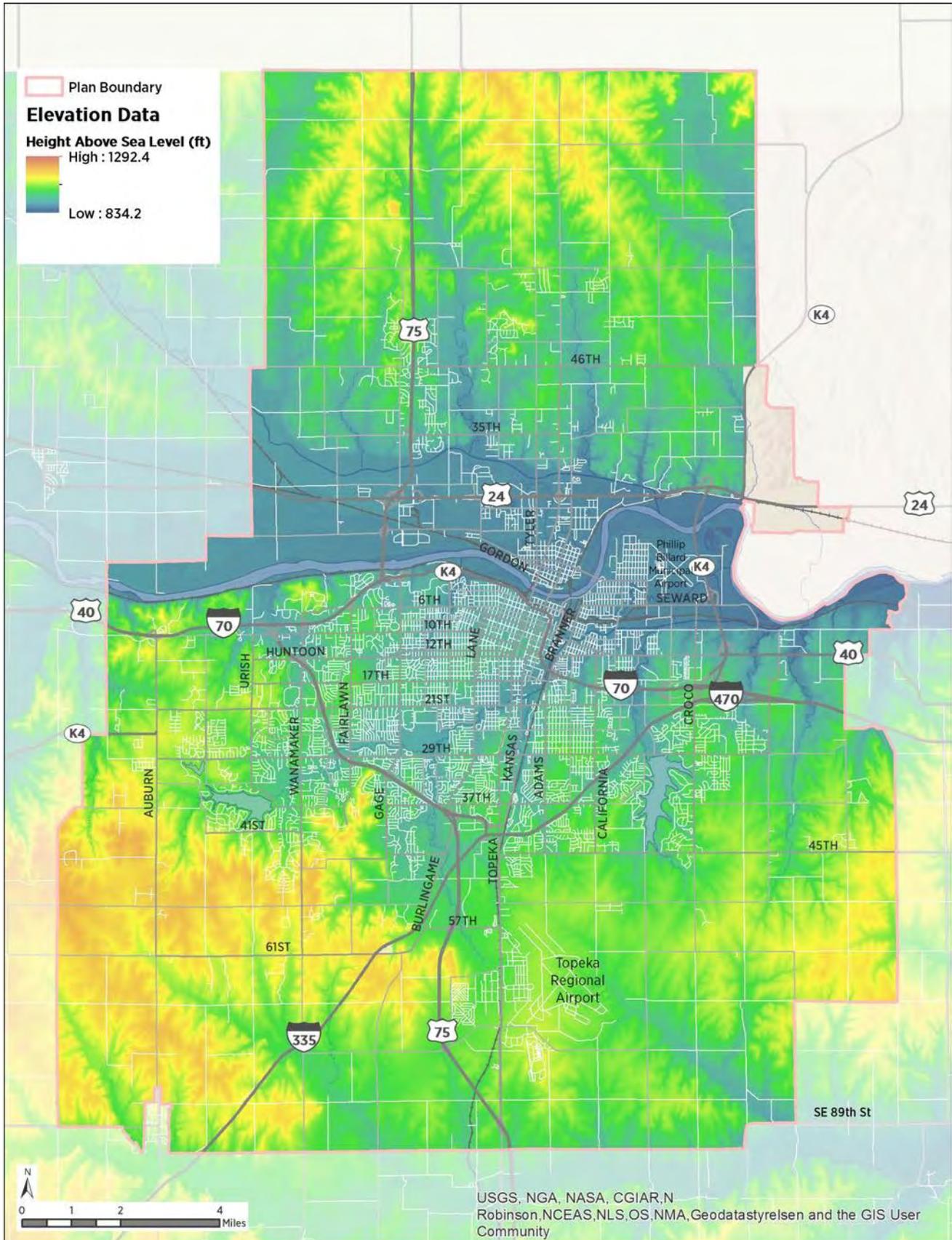
- The Clean Air Act is administered by the Environmental Protection Agency (EPA) and sets the National Ambient Air Quality Standards

(NAAQS), which limit certain kinds of air pollutants. Geographic areas in compliance with standards are “attainment areas,” while areas that do not meet the standards are “nonattainment” areas. Topeka is an attainment area, meaning that its air quality is within acceptable standards.

FIGURE 2.26 Topeka’s Future Land Use Map Sources

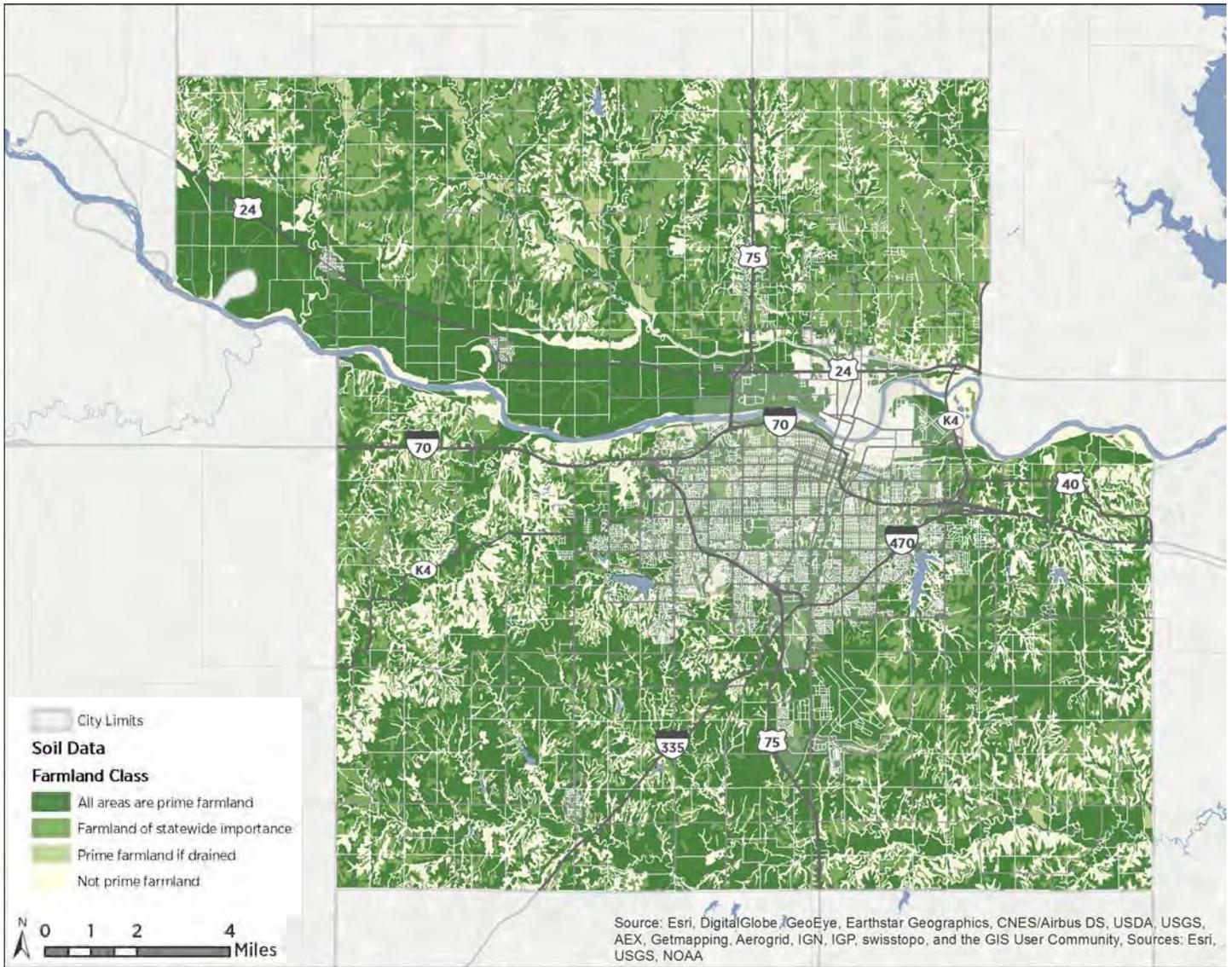
MAP	RESOURCES	DATA SOURCE
FLOODPLAINS	Floodplains	Federal Emergency Management Agency, National Flood Hazard Layer
NATURAL RESOURCES	Streams/Rivers	U.S. Geological Survey, National Hydrography Dataset, Streams
	Wetlands	U.S. Fish & Wildlife Service, National Wetlands Inventory
	Species of Concern	U.S. Fish & Wildlife Service, Information for Planning and Consultation; Kansas Biological Survey, Kansas Natural Heritage Inventory
CULTURAL RESOURCES	Public Lands, Trails, Bike Paths	JEO
	Historic Sites	National Park Service, National Register of Historic Places
	Historic Districts	
HAZARDOUS MATERIALS SITES	Superfund Sites	U.S. Environmental Protection Agency Superfund Sites Listing
	Hazardous Substance Cleanup and Investigation Sites	
PRIME FARMLAND	Prime Farmland	U.S. Department of Agriculture
	Farmland of Local Importance	
	Farmland of Statewide Importance	
	Farmland of Unique Importance	

FIGURE 2.27 Topographic Map of MPA



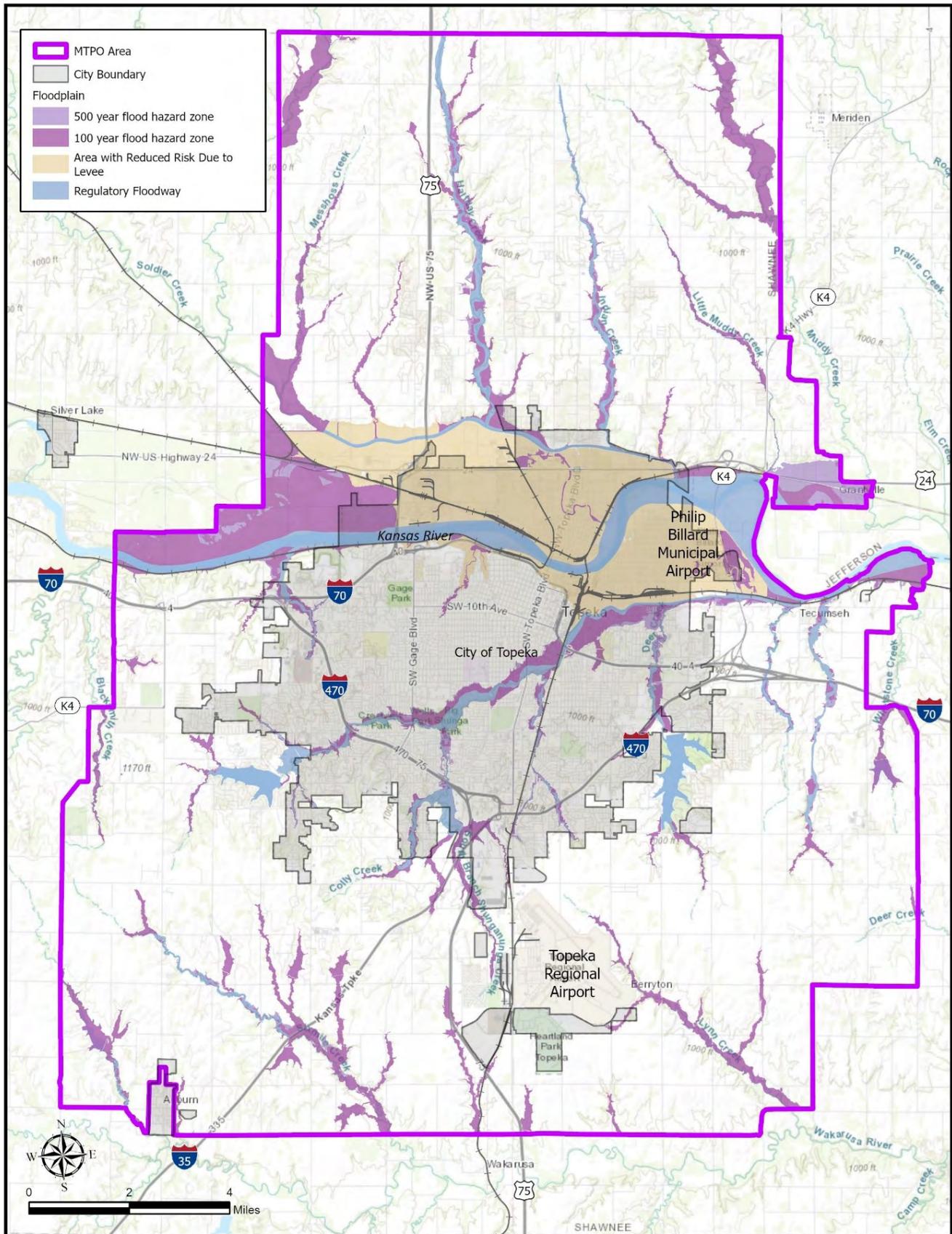
Source: USGS

FIGURE 2.28 Soil Suitability for Farming



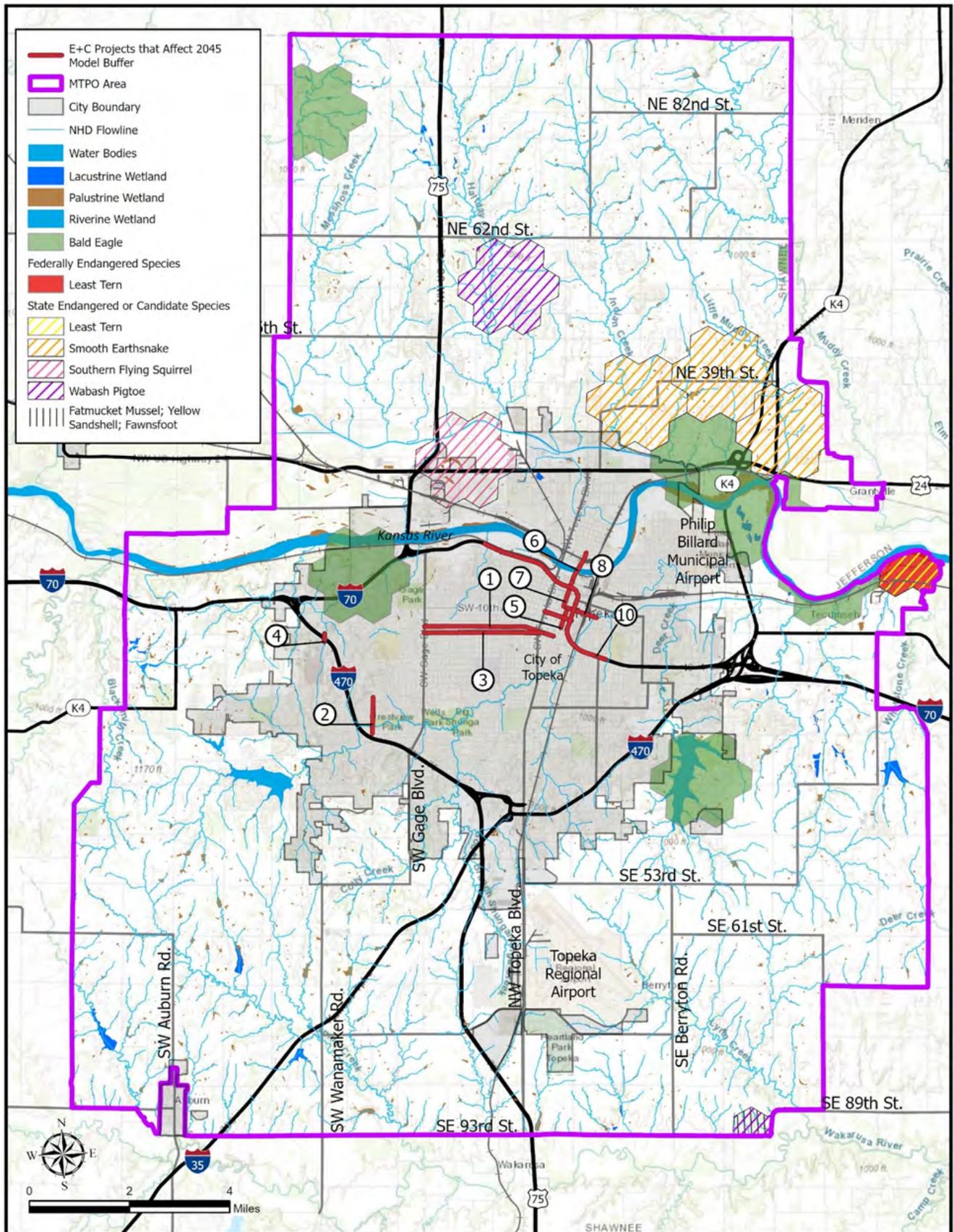
Source: USDA

FIGURE 2.29 Flood Plains



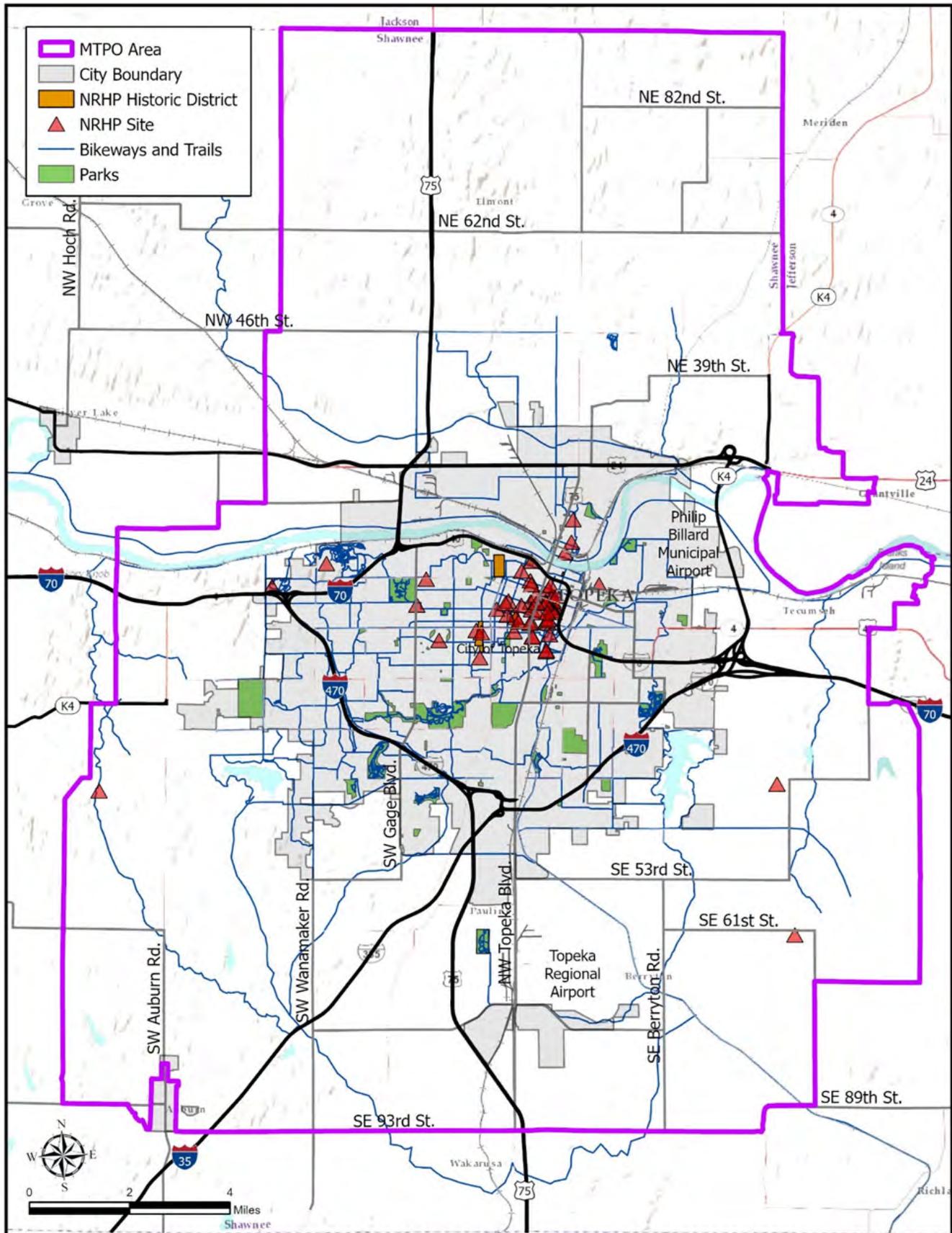
Source: FEMA NFHL; <https://hazards.fema.gov/femaportal/wps/portal/NFHLWMS>

FIGURE 2.30 Natural Resources



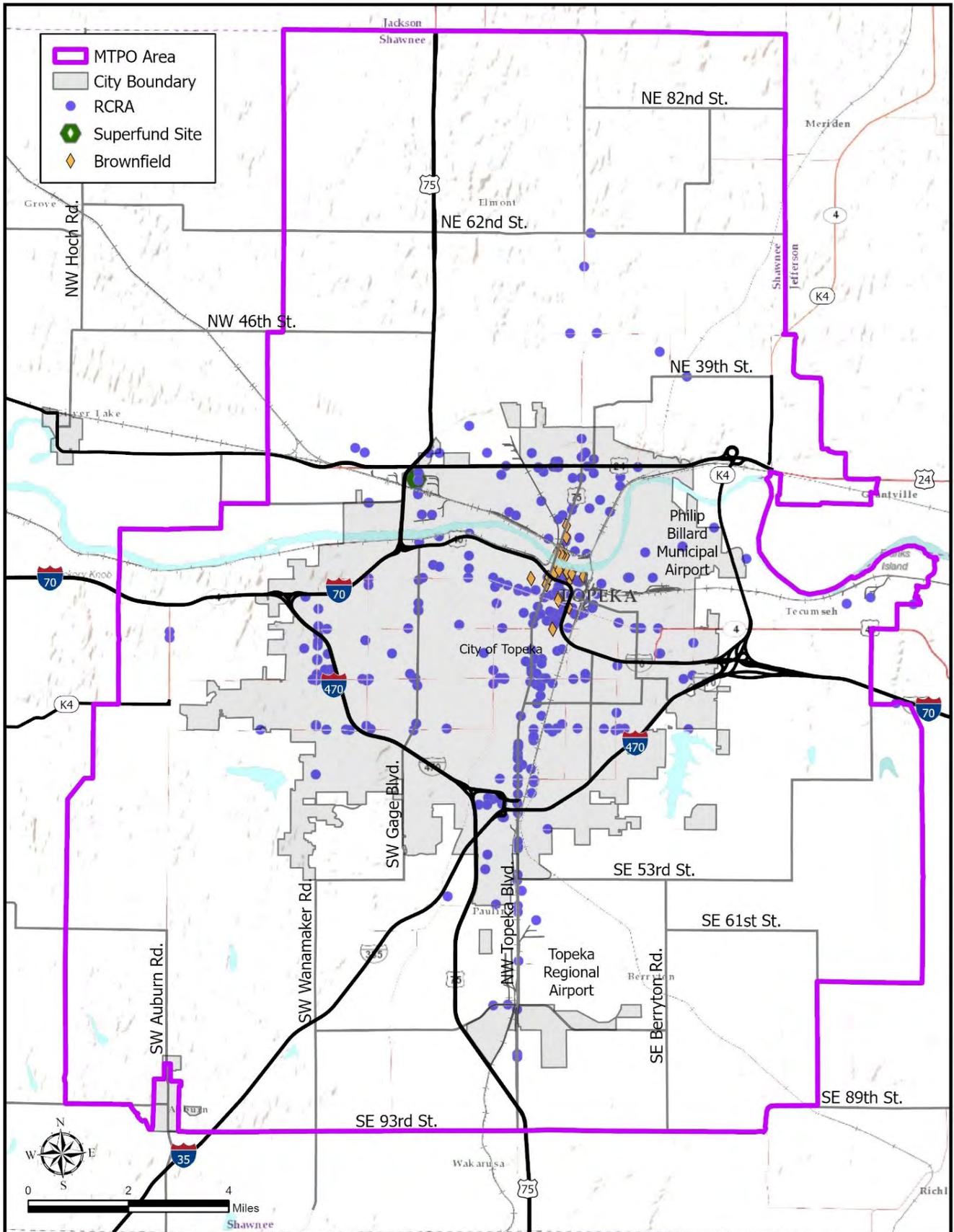
Source: USGS National Hydrography Dataset, <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer>; USFWS NWI, <https://www.fws.gov/wetlandsmapservice/services/Wetlands/MapServer/WMServer?request=GetCapabilities&service=WMS>; Kansas Biological Survey, <https://kbs-geodata-catalog-ku.hub.arcgis.com/pages/kansas-natural-resource-planner>

FIGURE 2.31 Cultural Resources



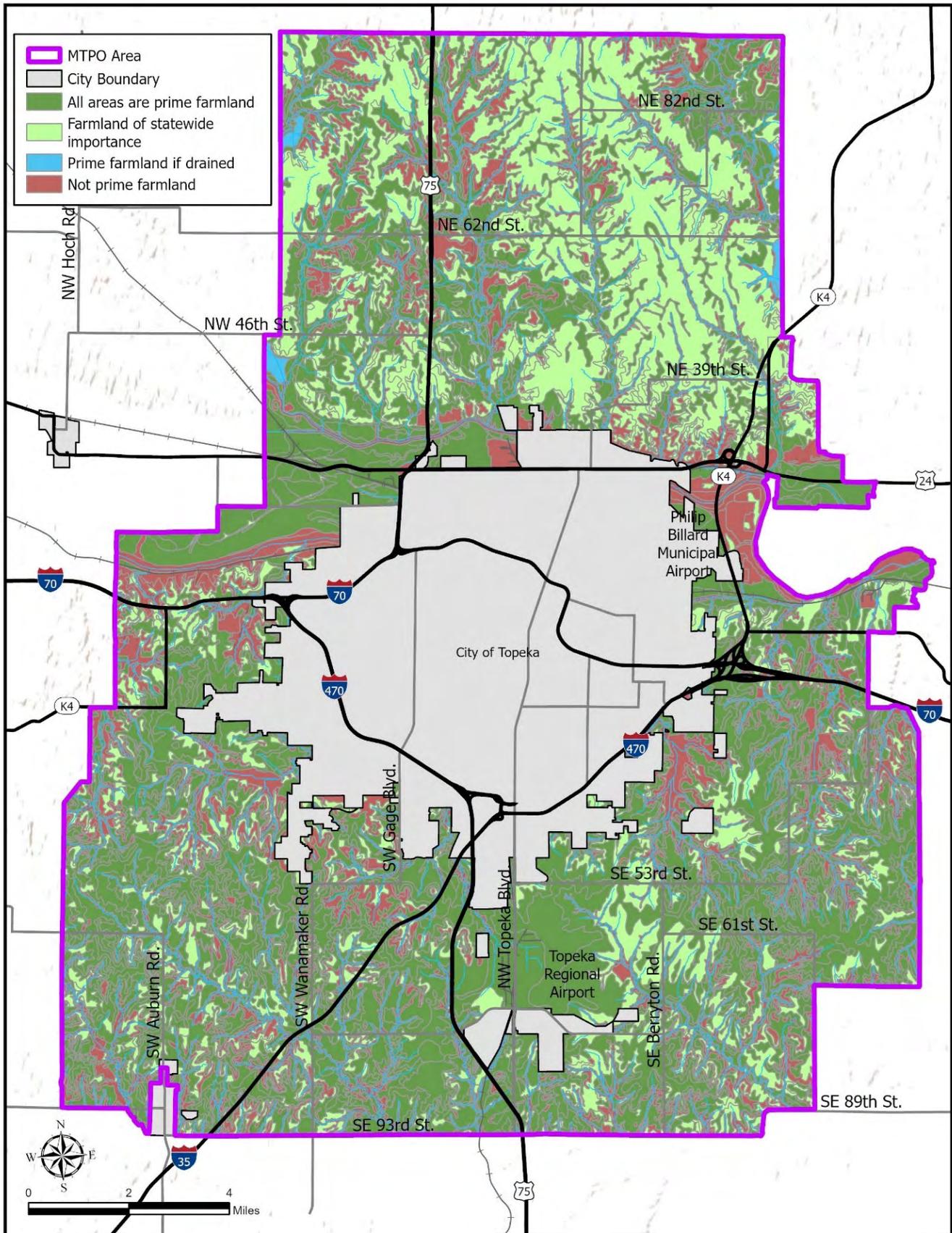
Source: NPS NRHP; <https://irma.nps.gov/DataStore/Reference/Profile/2210280>

FIGURE 2.32 Hazardous Waste Sites



Source: Facility Registry Service (FRS) U.S. EPA

FIGURE 2.33 Prime Farmland



Source: USA SSURGO; <https://www.arcgis.com/home/item.html?id=9708ede640c640aca1de362589e60f46>

CHAPTER THREE

**EXISTING
CONDITIONS**



ROADWAYS

Introduction

A community's economy and quality of life are greatly impacted by its roadway network. Growing regions look for ways to preserve infrastructure and services, reduce vehicle congestion for drivers, facilitate public transit service, provide for non-motorized travel, accommodate freight movement, and improve safety for travelers using all modes of transportation. The City of Topeka, Shawnee County, the Kansas Department of Transportation (KDOT), and the Kansas Turnpike Authority (KTA) all have responsibilities for planning, constructing, and maintaining portions of the region's roadway network.

In this section, Futures2045 investigates the Metropolitan Planning Area's (MPA) existing highways, streets, and roads, exploring their characteristics, traffic flows, condition, and crash histories. The following sections of this Plan analyze the impacts of future land use changes and related traffic growth through the year 2045 as well as develop recommendations for changes to the roadway network that should be implemented over that timeframe.

Roadway System

In developing the MTP, it is important to understand that roadways serve a variety of functions and that the Plan focuses on those highways, streets and county roads that have a regional significance. An understanding of the characteristics and role of each roadway is the basis for the analysis of the current roadway network, predicted future traffic conditions, safety issues, and project recommendations.

REGIONALLY SIGNIFICANT

Regionally significant projects are those on a facility that serves regional transportation needs and would normally be included in the modeling of the metropolitan area's transportation network. Examples include: connections to and from the area outside the region; increased capacity between major activity centers in the region; and transportation facilities or services for major planned development such as new retail malls, sports complexes, or employment centers.

FUNCTIONAL CLASSIFICATION

The Topeka and Shawnee County road network consists of several classifications of roadways. Figure

3.1 on the following page summarizes the total rural and urban miles of roadway in Shawnee County by functional class and the daily vehicle-miles traveled (DVMT) on those roads.

Functional classification is based upon two factors: traffic mobility and property access. Moving from left to right on Figure 3.1, functional classification changes from a mobility focus to an access focus. Interstate highways and freeways carry higher traffic volumes traveling at higher speeds but have no direct access to adjacent properties. At the other end of the scale, local roads provide direct access to adjacent properties and typically have low traffic volumes and speeds. General definitions are:

- Interstate Highways and Freeways are roads meant for the through movement of vehicles at high speeds with access limited to grade-separated interchanges. Examples of Interstate highways include I-70 and I-470. US-75 near Topeka is an example of a freeway.
- Arterial streets and roads serve major activity centers and are meant primarily for the through movement of traffic with some access to adjacent properties. Examples: Wanamaker Road, Fairlawn Avenue, Topeka Boulevard, Adams Street, 21st Street and 29th Street.
- Collectors: Streets that connect local streets to arterial streets; these streets carry a higher volume of traffic than local streets. Examples: SW MacVicar Avenue, River Road, and SE 25th Street.
- Local Streets: Neighborhood and other streets that carry low volumes of traffic; their primary purpose is to provide access to adjoining properties.

As can be seen in Figure 3.1, local roads comprise about two thirds of the transportation system's infrastructure, both in rural and in urban contexts. However, moving from local roads and an access focus towards interstate and a mobility focus, the relative Daily Vehicle-Miles Traveled (DVMT) increases drastically for both rural and urban areas. In the urban context, there are 495 DVMT per mile of local road and 30,754 DVMT per mile of Interstate highway. In rural areas, 117 DVMT per mile of local road and 19,903 DVMT per mile of Interstate.

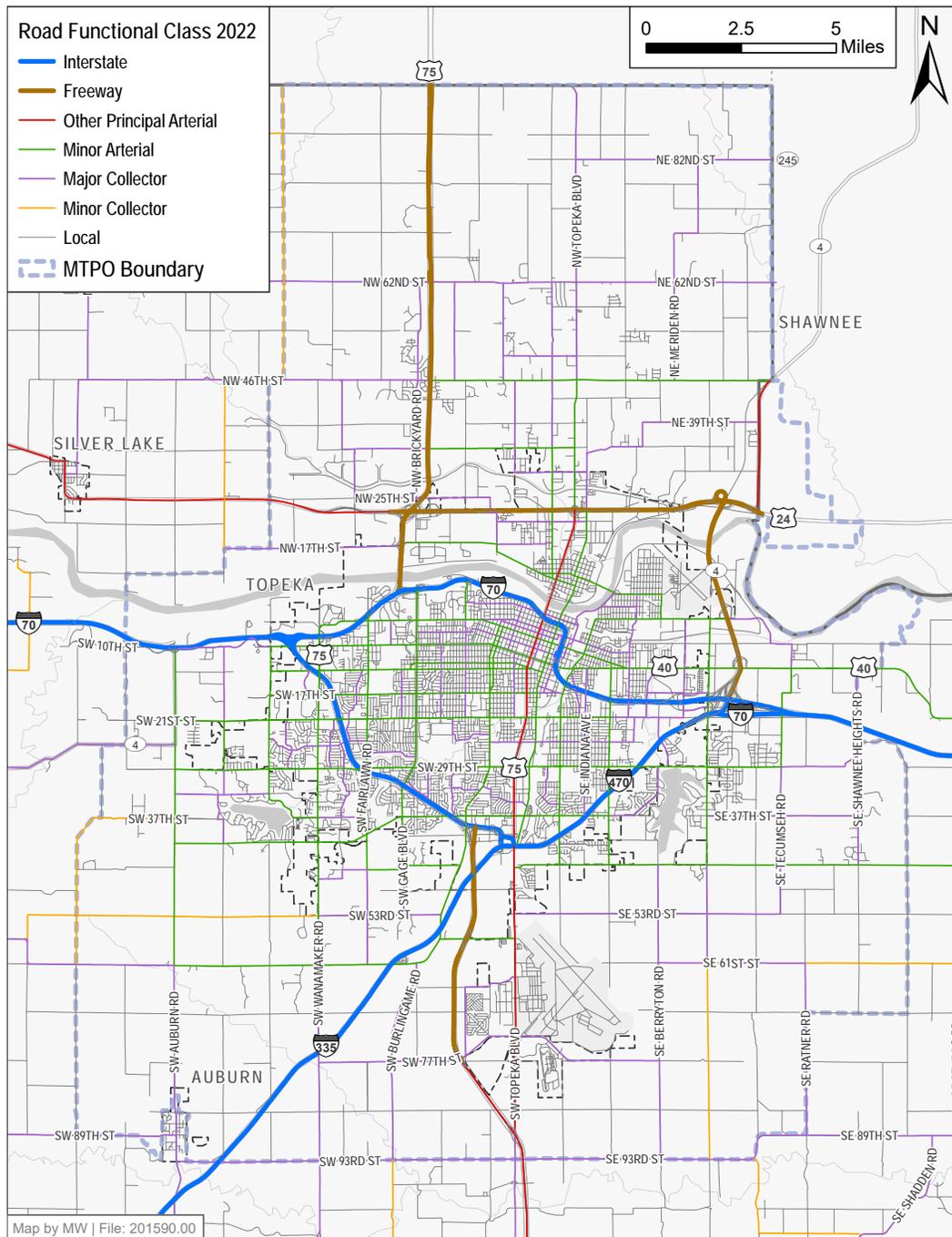
Figure 3.2 on the following page shows the functional classification of roads in and near Topeka.

FIGURE 3.1 2017 Mileage and Travel by Roadway Functional Classification within Shawnee County

		INTERSTATE	FREEWAY	PRINCIPAL ARTERIAL	MINOR ARTERIAL	MAJOR COLLECTOR	MINOR COLLECTOR	LOCAL
RURAL	CENTERLINE MILES	18.3	6.5	17.7	7.7	155.3	48.2	508.4
	DVMT	390,647	85,095	108,937	20,669	140,999	11,517	59,037
URBAN	CENTERLINE MILES	33.1	25.5	15.0	161.4	152.9	3.5	825.6
	DVMT	1,097,672	445,388	208,154	1,200,331	274,465	6,141	397,118

Source: Kansas Department of Transportation

FIGURE 3.2 Functional Classification Map



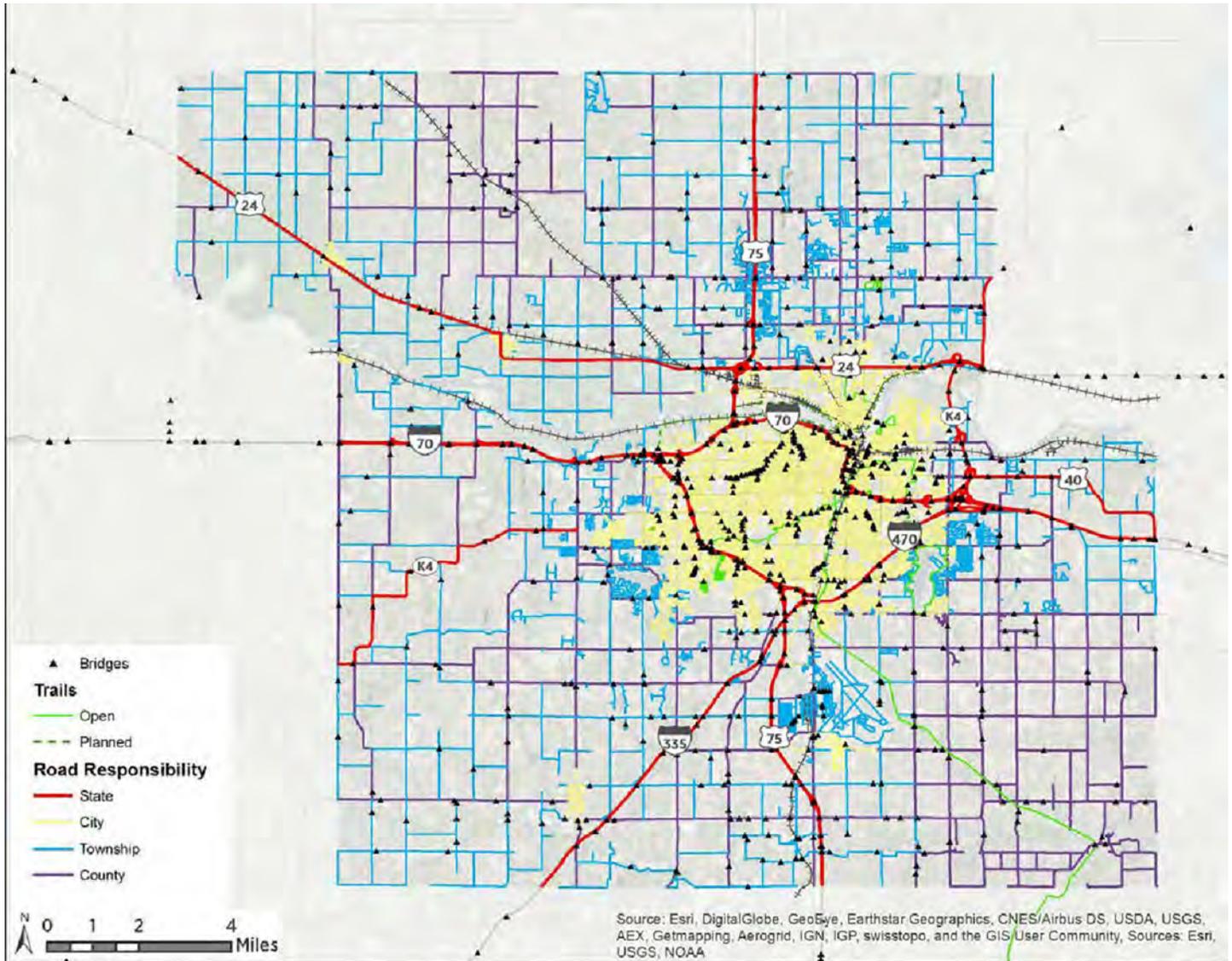
BRIDGES

Within the State of Kansas, there are nearly 26,000 bridges, overpasses and large culverts—about 25 percent of which are located on the state highway system. A bridge is generally defined as any structure over water or a roadway having a span length of 20 feet or greater. Within Shawnee County, there are 554 bridges. 45.8 percent of

these bridges are maintained by Shawnee County, 30.0 percent belongs to KDOT, 17.9 percent are maintained by the City of Topeka, and 6.9 percent are managed by the KTA.

Figure 3.3 displays where bridges are throughout Shawnee County.

FIGURE 3.3 Bridge Locations



Source: Kansas Department of Transportation

Roadway Use and Efficiency

To analyze travel in the MPA beyond descriptive terms, it is important to understand the regional movement of traffic on the roadway system. This includes looking at daily traffic volumes, commuting patterns, and system congestion.

DAILY TRAFFIC VOLUMES

Figure 3.4 shows the annual average daily traffic volumes on highways near Topeka.

I-70 is a major trade and travel corridor in Kansas stretching 424 miles from Colorado to Missouri. The daily traffic volume on I-70 in the MPA varies from 26,100 vehicles per day (VPD) near Topeka's west city limits, to about 33,000 vehicles near downtown, and 36,000 VPD to east of the Kansas Turnpike connection. The highest traffic volume on I-70 is between I-470 and US-75 where it reaches more than 55,200 VPD. I-70 is a key freight corridor as well with trucks making 11 to 18 percent of the total traffic.

Traffic volumes on segments of I-470 between I-70 and the Kansas Turnpike vary between 25,600 and 37,400 VPD. US-75 south of I-470 carries about 13,420 vehicles per day of which 10 percent are trucks. North of Topeka, US-75 carries approximately 13,800 vehicles a day with 10 percent trucks.

Arterial Streets: Wanamaker Road is a major north-south arterial street that serves Topeka's primary commercial area. Traffic volumes on Wanamaker Road are highest from I-70 to 21st Street, varying from 19,800 between I-70 and Huntoon Avenue to almost 21,280 VPD between 17th and 21st Streets. Topeka Boulevard is a major north-south arterial street that connects North Topeka to Downtown to Forbes Regional Airport. Topeka Boulevard traffic volumes are approximately 20,000 VPD. 21st Street is a major east-west arterial street with traffic volumes ranging from 22,285 west of I-470 to 16,355 west of Topeka Boulevard.

River Crossings: The Kansas River forms a natural barrier dividing the metropolitan area and limiting the options for north-south traffic. The metropolitan region has five crossings of the Kansas River. US-75 carries 46,800 VPD over the river, followed by Topeka Boulevard which carries approximately 20,000 vehicles. Three other bridges that carry less traffic includes Kansas Avenue (7,850 VPD), K-4 (8,740 VPD), and Sardou Avenue (8,235 VPD).

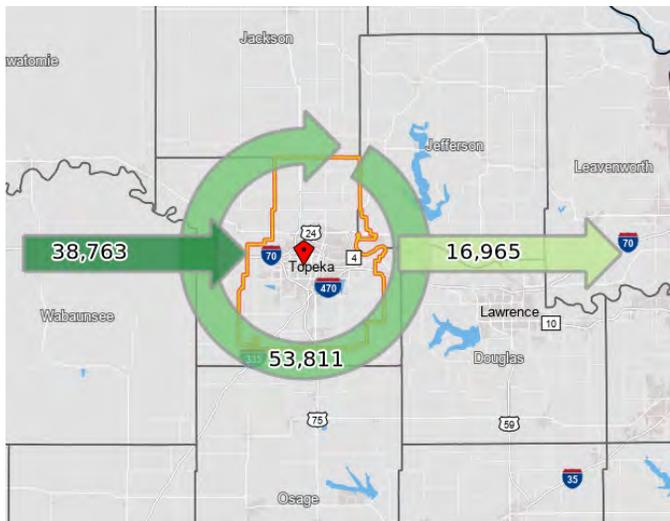


Intersection of Wanamaker & Huntoon

COMMUTING PATTERNS

Commuting patterns indicate how people travel to jobs. Figure 3.5 shows the number of workers each day who commute to work in the Metropolitan Planning Area (MPA) and the number that leave the MPA to commute to jobs in other areas. 38,763 workers commute to jobs in the MPA from other counties including Shawnee County outside the MPA. 53,811 workers both live and work in the MPA. 16,965 live within the MPA and commute to jobs in other counties including Shawnee County outside the MPA.

FIGURE 3.5 Commuting Patterns for Primary Jobs in the Metropolitan Planning Area and for Workers who Live in the MPA but Commute to Jobs in Other Areas



Source: Census Longitudinal Employer-Household Dynamics 2019 Data

Data from the Census’s 2019 Longitudinal Employer-Household Dynamics dataset estimates 38,763 workers enter the MPA from other counties to work. Figure 3.6 shows the number of workers commuting from nearby counties including from Shawnee County outside the MPA. Most commuters who work in the MPA but live elsewhere travel each day from Douglas and Johnson Counties to the east, Jackson County and Jefferson County to the north and northeast, and Osage County to the south.

U.S. Census estimates for the year 2019 indicate over 16,965 workers reside in the MPA but work in other areas. Figure 3.7 shows that most workers who live in the MPA have employment within the MPA. Of those who work elsewhere, the majority travel eastward to Douglas, Johnson, and Wyandotte Counties in Kansas and Jackson County, Missouri. Two lesser patterns are workers traveling to the northwest for jobs in Pottawatomie and Riley Counties and the north/northeast in Jackson and Jefferson Counties.

Figure 3.8 shows an estimate of the work-based trips to and from the Metropolitan Planning Area. It should be noted that these are “trips” and not persons. One person could have more than one work-based trip each day.

FIGURE 3.6 Workers Commuting to the Metropolitan Planning Area from the County in Which They Live

	COMMUTING FROM	PERCENT OF WORKERS
Shawnee County, KS	56,784	61.3%
Douglas County, KS	3,747	4.0%
Johnson County, KS	3,505	3.8%
Jefferson County, KS	2,551	2.8%
Osage County, KS	2,490	2.7%
Jackson County, KS	2,001	2.2%
Leavenworth County, KS	1,375	1.5%
Riley County, KS	1,254	1.4%
Miami County, KS	1,011	1.1%

Source: Census Longitudinal Employer-Household Dynamics 2019 Data

FIGURE 3.7 Metropolitan Planning Area Residents Commuting to Workplace in Other Counties (Chosen by location and number of workers)

	COMMUTING TO	PERCENT OF WORKERS
Staying in Shawnee County, KS	54,282	76.7%
Johnson County, KS	4,102	5.8%
Douglas County, KS	2,855	4.0%
Wyandotte County, KS	854	1.2%
Jackson County, KS	673	1.0%
Riley County, KS	616	0.9%
Jefferson County, KS	534	0.8%
Pottawatomie County, KS	477	0.7%
Jackson County, MO	451	0.6%

Source: Census Longitudinal Employer-Household Dynamics 2019 Data

ROADWAY CONGESTION AND TRAVEL TIMES

To identify congestion in the MPA, a regional travel demand model was developed as an analysis tool. The model includes Topeka and a portion of Shawnee County. The model road network includes highways, arterial streets, and collector streets. Household and employment data are used to estimate the number and type of trips on the road network, as well as the routes used.

Traffic volume data from the travel demand model, along with roadway characteristics such as the number of lanes or functional classification, are used to define the quality of traffic operations or level of service (LOS) along a roadway. For LOS, “A” represents the best rating and “F” the worst.

General descriptions of six traffic operation conditions are provided in Figure 3.9. The table also notes the traffic volume-to-capacity ratios used for the MTP and how they correspond to each LOS. The capacity of a roadway is the maximum volume that can be carried during a defined period.

It should also be noted that many other factors contribute to the quality of a roadway. Roadway congestion needs for the system also must be balanced against other priorities, like safety, ease of use by multiple modes of transportation, economic development opportunities, and the aesthetic quality of roadway, among other considerations. Regardless, LOS reflects one important aspect of Topeka’s system and is used in conjunction with these other factors.

FIGURE 3.9 Traffic Operation Conditions (LOS)

LEVEL OF SERVICE	VOLUME TO CAPACITY	DESCRIPTION
A	0.00-0.60	Represents free flow, the least congested condition. Individual users are virtually unaffected by the presence of others in the traffic stream. Allows users to select desired speeds and to maneuver freely within the traffic stream.
B	0.61-0.70	Within the range of stable flow, but the presence of others in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A.
C	0.71-0.80	Within the range of stable flow, but LOS C marks the beginning of flow in which the operation of individual users becomes affected by interactions with others in the traffic stream.
D	0.81-0.90	LOS D represents high-density, but stable flow. Speed and freedom to maneuver are restricted, and the driver experiences a poor level of comfort and convenience.
E	0.91-1.00	LOS E represents operating conditions at or near capacity (maximum traffic) levels. Freedom to maneuver within the traffic stream is difficult. Comfort and convenience levels are poor and driver frustration is high.
F	>1.00	LOS F is used to define forced or breakdown flow, the most congested condition. It exists when the amount of traffic desiring to use a roadway exceeds the maximum volume that can be accommodated during a given period of time.

FIGURE 3.10 2020 Estimated Base Year Network Congestion within Topeka MPA

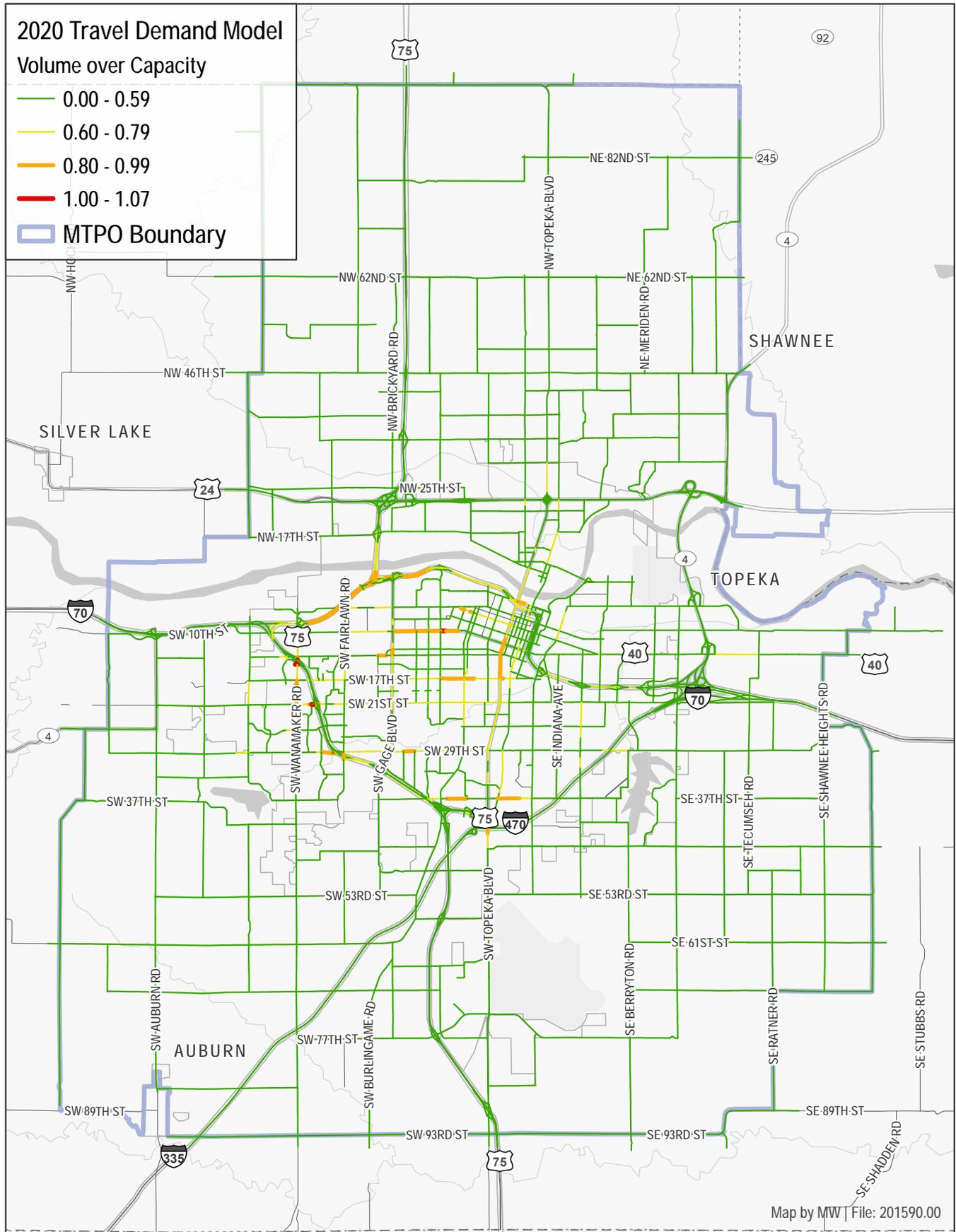
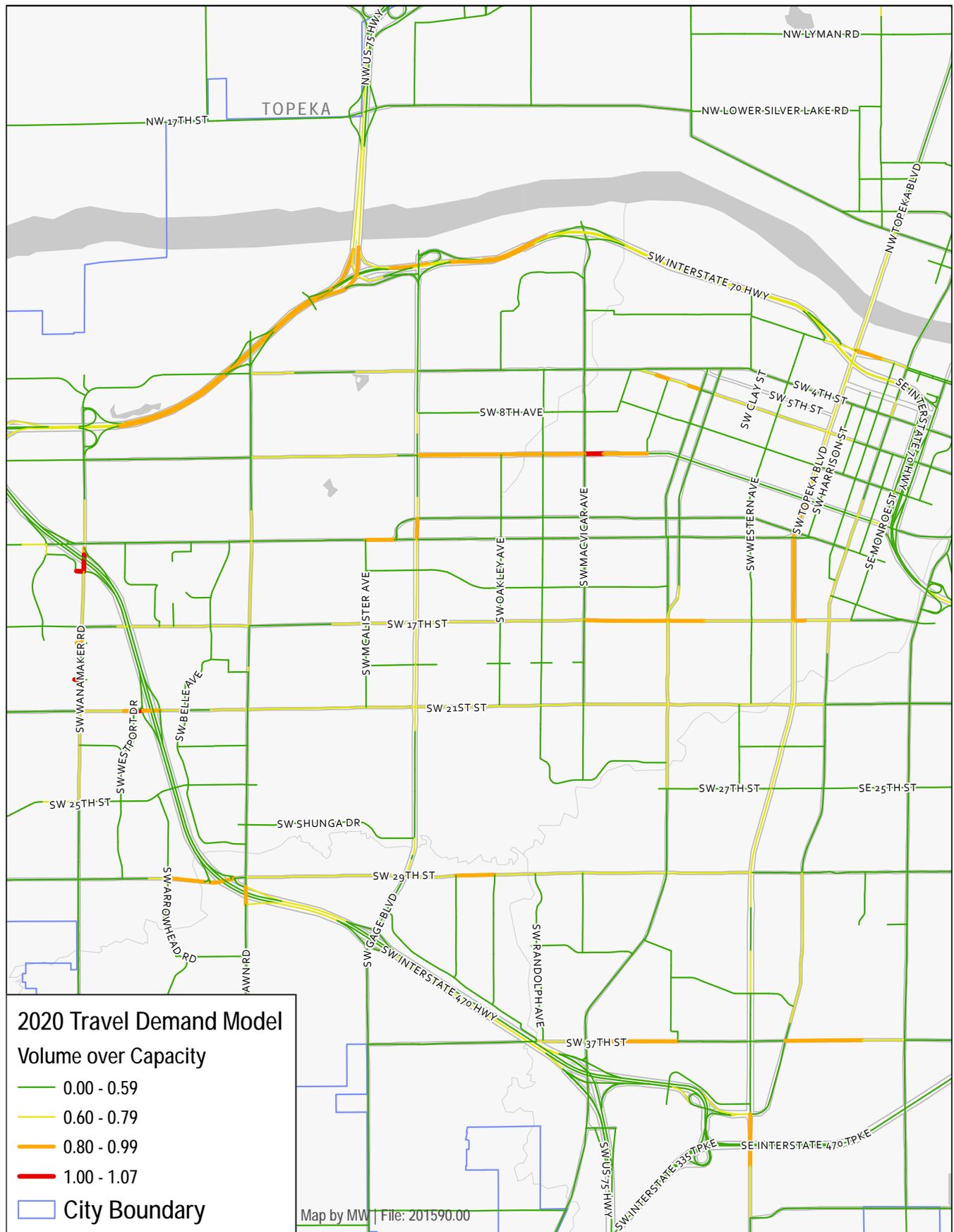


FIGURE 3.11 2020 Base Year Network Congestion: Topeka Core



Figures 3.10 and 3.11 illustrate 2020 base year traffic conditions utilizing base year population and employment estimates by Traffic Analysis Zone. Green and yellow lines represent roads that are not congested, while orange and red lines indicate roads that are congested or severely congested, respectively. Figure 3.12 shows the percent of each roadway type at various LOS.

Figure 3.13 provides baseline data for the year 2020 traffic conditions from the travel demand model. This data will be compared to the expected conditions in 2045. Terms are defined as follows:

- **Vehicle Miles Traveled (VMT):** The measurement of the vehicle-miles traveled each day.
- **Vehicle Hours Traveled (VHT):** The sum of the vehicle-hours traveled each day.

- **Lane Miles:** Lane miles are calculated by multiplying the centerline mileage of a roadway by the number of lanes it has.
- **Delay:** The difference in hours between VHT for the calculated traffic conditions minus the VHT if all roadways were free flowing with no delays.

For the most part, traffic within the Topeka MPA moves smoothly. Areas that are currently experiencing the worst congestion include I-70 between Wanamaker Road and MacVicar Avenue, portions of Wanamaker, 21st Street near I-470, and Gage Blvd to MacVicar Ave. Topeka Boulevard near downtown and the west part of I-70 within Topeka also show signs of moderate levels of congestion.

FIGURE 3.12 Level of Service by Roadway Type

LEVEL OF SERVICE	INTERSTATE	EXPRESSWAY	MAJOR ARTERIAL	MINOR ARTERIAL	COLLECTOR
A	63%	88%	52%	80%	98%
B-C	30%	10%	40%	16%	1%
D-E	6.4%	0.0%	6.7%	2.4%	0.0%
F	0.0%	0.0%	0.4%	0.2%	0.0%

FIGURE 3.13 Level of Service by Roadway Type

ROADWAY TYPE	VMT (MILES)	VHT (HOURS)	LANE MILES	DELAY (HOURS)
INTERSTATE	1,052,351	17,372	169	1149
EXPRESSWAY	463,745	7,498	115	9
MAJOR ARTERIAL	1,038,092	27,194	263	886
MINOR ARTERIAL	669,911	17,137	266	318
COLLECTOR	329,989	8,207	459	22
TOTAL	3,554,088	77,408	1,273	2,384

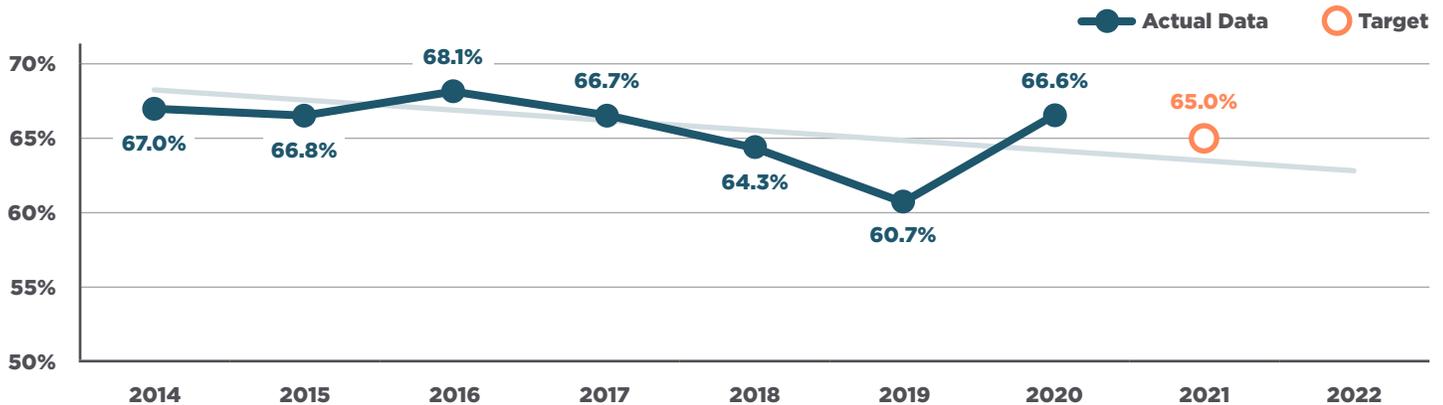
FOUNDATION FACTS: ROADWAYS, BRIDGES, & FREIGHT MOVEMENT

Roadway Pavement Conditions

HIGHWAY PAVEMENT CONDITION

In 2018, KDOT converted to the FHWA method of assessing condition and set performance targets using data up to 2017. Targets have been established by the Kansas Department of Transportation (KDOT) for the percent of pavement in good condition: 65 percent for Interstate highways and 55 percent for non-Interstate highways. Figure 3.14 compares the performance data for the years 2014 to 2020 to these targets.

FIGURE 3.14 Kansas Interstate Pavement in Good Condition



CITY STREETS

The City of Topeka has completed a roadway system inspection and evaluation as the first phases of a pavement management program process. A Pavement Condition Index (PCI) scale provides an objective and rational basis for determining maintenance and repair needs and priorities.

PCI is a rating scale that measures the condition of pavements through systematic measurement of surface distresses, like cracking, rutting, joint failure, roughness, oxidation and other factors. The PCI scale ranges from 0-100 and is an indicator of the maintenance strategy needed. The PCI is grouped

Conclusions:

- The pavement condition for Interstate highways are above the performance measure target.
- Interstate pavements will need to continue the recent trend of improvement to achieve the 2022 goal of 65% in good condition.
- Adequate funding for pavement conditions should continue. If not, conditions will ultimately require replacement rather than rehabilitation – resulting in higher long-term costs to the state.

Recommendations:

- Continue additional funding to maintain improvements in pavement conditions.
- Continue to monitor pavement conditions.

into seven categories corresponding to the most cost-effective maintenance strategies:

- **Good (PCI 85-100):** Pavement has minor or no distresses and requires only routine preventative maintenance.
- **Satisfactory (PCI 70-84):** Pavement has scattered, low-severity distresses that need only routine preventative maintenance.
- **Fair (PCI 55-69):** Pavement has a combination of generally low-and medium-severity distresses. Maintenance needs are minor to major rehabilitation.

- **Poor (PCI 40-54):** Pavement has low-, medium- and high-severity distresses. Near-term maintenance and repair needs may range from rehabilitation up to reconstruction.
- **Very poor (PCI 25-39):** Pavement has predominantly medium- and high-severity distresses that require considerable maintenance. Near-term maintenance and repair needs will be intensive in nature, requiring major rehabilitation and reconstruction.
- **Serious (PCI 11-24):** Pavement has mainly high-severity distresses that result in frequent potholes. Near-term maintenance and repair needs will be intensive in nature, requiring major rehabilitation and reconstruction.
- **Failed (PCI 0-10):** Pavement deterioration and distresses are extensive. Pavement has progressed to the point that complete reconstruction is only applicable maintenance strategy. Note: This does not mean the road is unsafe for travel.

in the past several years. [The pavement management program](#) provides a decision-making tool that looks at best investment of budget to improve pavement conditions over a defined period. The City evaluated different treatment strategies to improve pavement conditions. These strategies are categorized as preventative maintenance, rehabilitation, reconstruction, and deferred maintenance. Figure 3.15 shows how different levels of investment can lead to different outcomes. Figure 3.16 shows a pavement work plan forecast highlighting how much investment should be applied to each type of treatment. The City Council’s Infrastructure Committee meets annually to approve a list of projects.

Conclusions:

- The current average Pavement Condition Index (PCI) for city streets is a 64. This is an increase over previous score of 55 in 2017.
- Continue funding pavement management program at current levels.
- Continue data drive approach to project selection and treatment strategies.
- Continue monitoring pavement condition and trends in PCI values.

The City of Topeka was successful in renewal of the 1/2 cent Citywide Sales Tax –“[Fix Our Streets](#)”. This funding and focus on pavement management program helped the city increase its overall pavement condition

FIGURE 3.15 Modeled Pavement Condition for City Streets (\$11M budget vs \$24M budget)

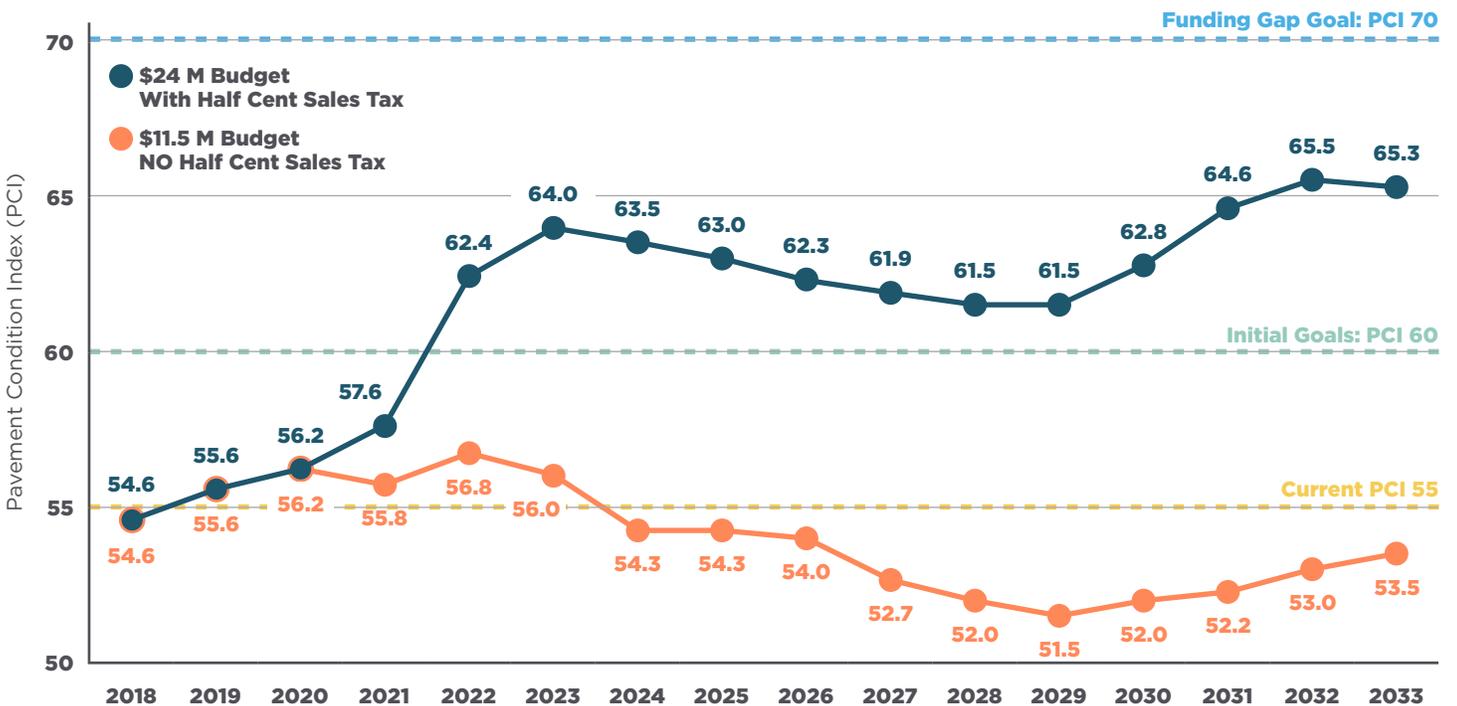
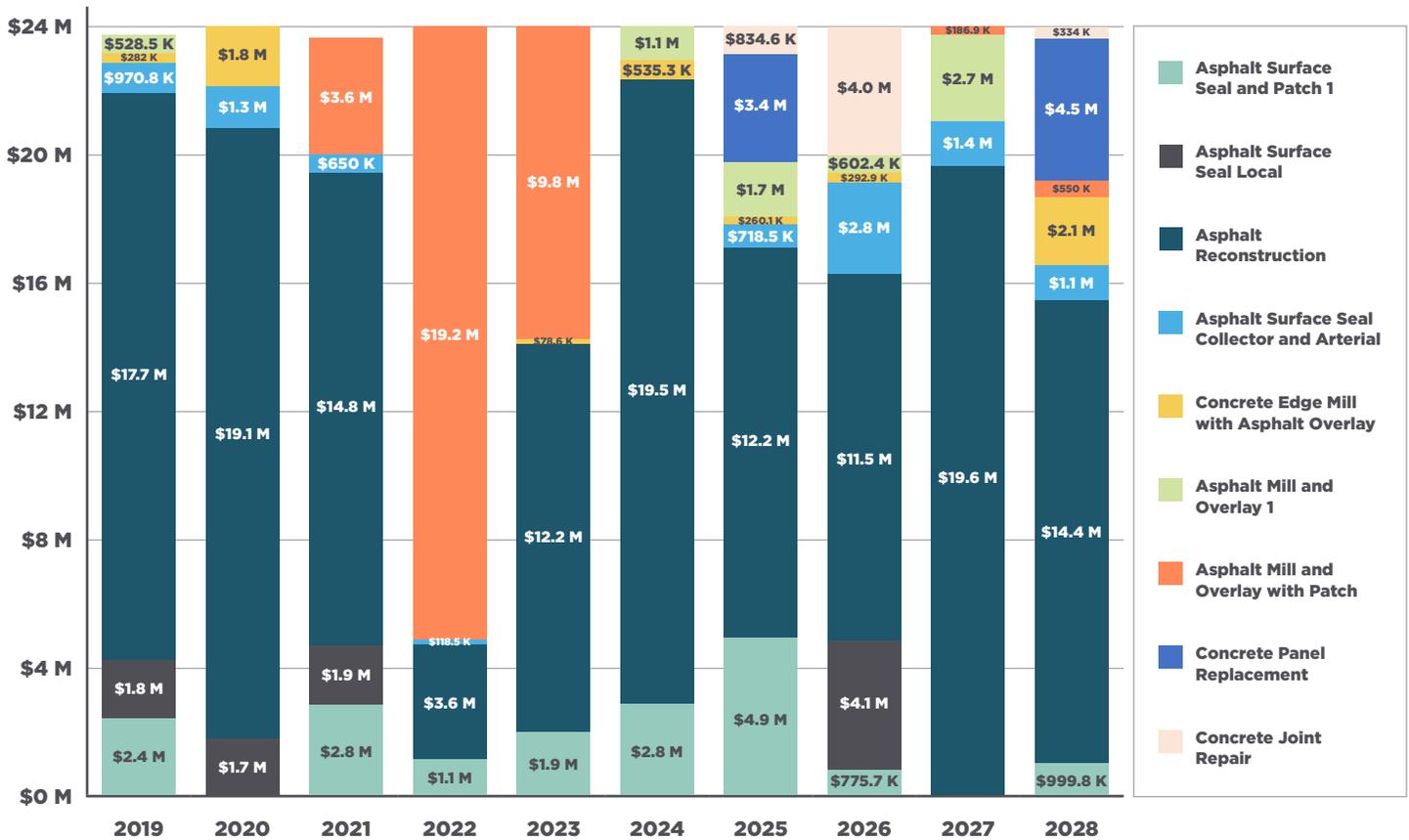


FIGURE 3.16 Pavement Management Program - Work Plan Forecast



COUNTY PAVEMENT CONDITION

The County annually inspects roadway conditions in the spring. The County uses the [Pavement Surface Evaluation and Rating \(PASER\) method](#) developed by the University of Wisconsin. Figure 3.17 shows the PASER 1-10 rating scale and how the ratings are related to needed maintenance.

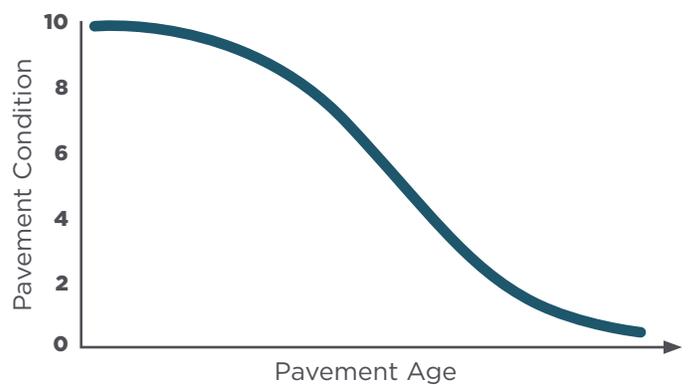
The County’s goal is to maintain all pavements such that a rating of at least 6 (good condition) is achieved. Roads with a rating equal to or less than 5 receive treatment. The County understands that the long-term costs of maintaining pavements in good condition is less than the cost of letting pavements deteriorate to a point where they need replacement.

Conclusions:

- Shawnee County has an effective pavement management process.
- County roads are maintained in good condition.

Due to these findings, recommendations reflect continuing the pavement management program and continue funding to maintain good pavement condition.

FIGURE 3.17 PASER 1-10 Rating Scale



RATINGS ARE RELATED TO NEEDED MAINTENANCE OR REPAIR:

RATING 9 & 10: No maintenance required

RATING 8: Little or no maintenance

RATING 7: Routine maintenance, crack sealing, and minor patching

RATING 5 & 6: Preservation treatments (sealcoating)

RATING 3 & 4: Structural improvement and leveling (overlay or recycling)

RATING 1 & 2: Reconstruction

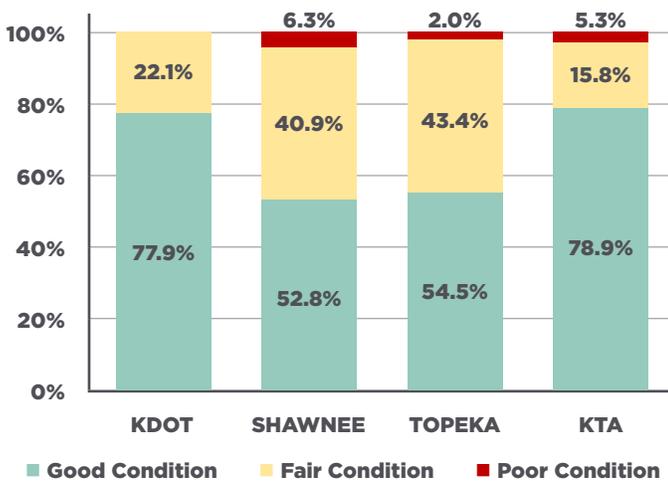
BRIDGE CONDITION

In accordance with state and federal requirements, KDOT, KTA, Shawnee County and the City of Topeka conduct biennial inspections of the bridge inventory for load capacity and maintenance needs. This includes looking at the condition of their deck (riding surface), super structure (supports immediately beneath the driving surface), and substructure (foundation and supporting posts and piers).

Based upon this evaluation, bridges are assigned an overall sufficiency rating and a capital improvement program for new bridge construction and major rehabilitation is developed and administered.

Figure 3.18 shows the percentage of bridges in Good, Fair, and Poor Condition in Topeka, Shawnee County (outside Topeka), on state highways, and on the Kansas Turnpike based on data from MTPo Transportation Improvement Program (FY2021 - 2024).

FIGURE 3.18 Percentage of Bridges in Good, Fair, and Poor Condition



The Metropolitan Transportation Planning Organization has adopted performance goals for bridges of at least 65% of bridges to achieve a good condition and less than 3% of bridges to be in poor condition. All agencies have actively been working to meet these targets.

Roadway Safety

The metropolitan transportation planning process shall provide for consideration and implementation of projects, strategies, and services that will address the safety of the transportation system for motorized and non-motorized users.

REGIONAL SAFETY PLAN

The [MTPo Transportation Safety Plan](#) was completed in August 2019. The purpose of the plan is to identify locations/corridors that may benefit from systemic, low-cost safety improvements and to provide direction in the prioritization of local transportation safety needs within the MTPo Region. The Safety Plan applies to all non-highway roadways in Shawnee County.

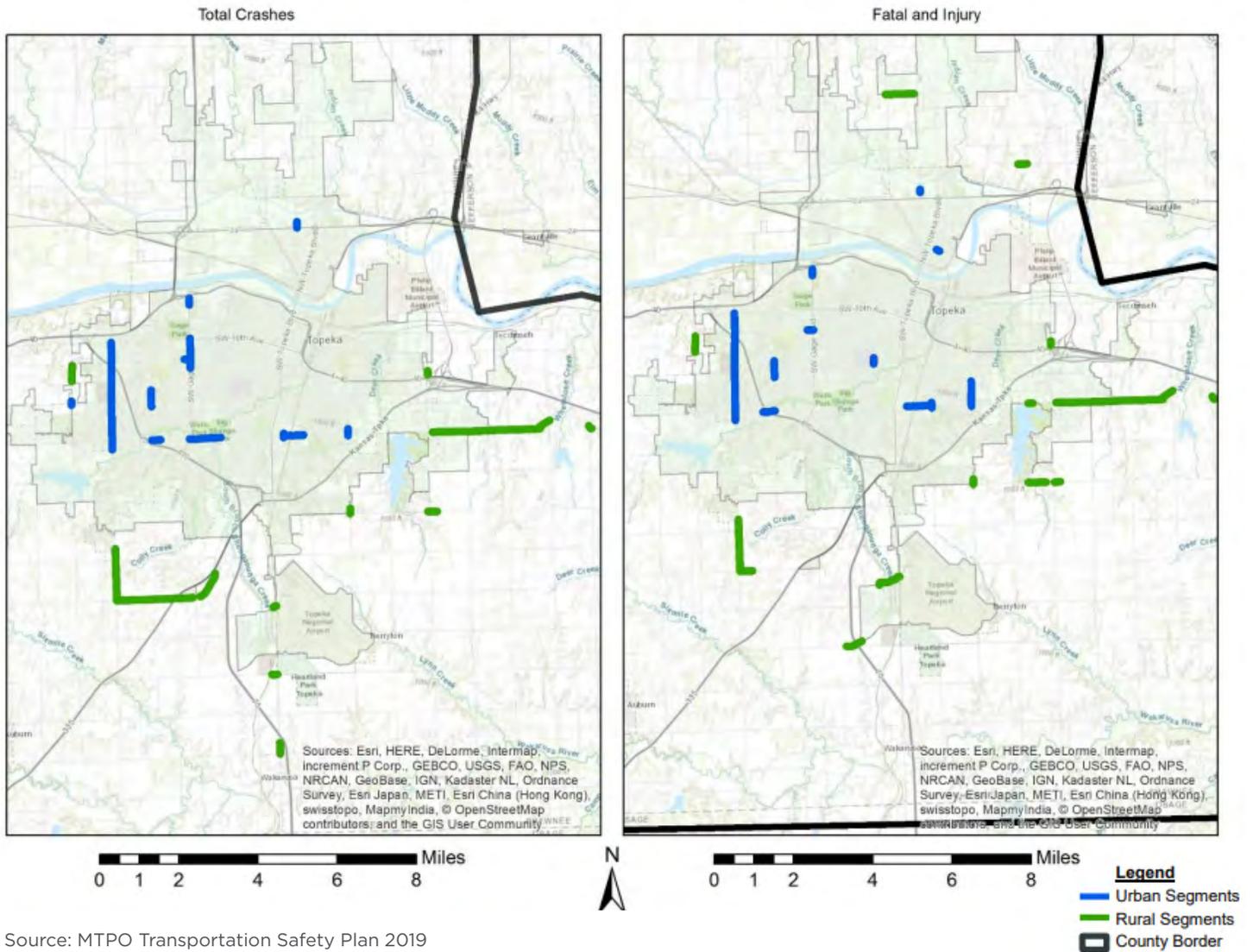
Objectives of the Safety Plan focus on four areas:

1. Reduce the frequency of overall crashes while focusing on reducing crashes involving injuries and fatalities.
2. Provide data-driven recommendations for countermeasures and project locations.
3. Bring key local stakeholders together from each of the “5-E’s” of Safety (Engineering, Education, Enforcement, Emergency Medical Services, and Evaluation) to develop and focus on common transportation safety goals as defined in Objective 1.
4. Provide a strategy for measuring future progress.

Figure 3.19 shows the road segments with the highest frequency of crashes. Many of the segments with the most total crashes are the same segments with the most fatal and serious injury crashes. Generally, these segments are locations that carry higher traffic volumes.



FIGURE 3.19 Top 15 Roadway Segments for Total and Fatal/Serious Injury Crashes 2010-2016



The region’s Safety Plan follows guidance in the [Kansas Strategic Highway Safety Plan \(SHSP\) 2020-2024](#) which is a coordinated and informed approach to reducing fatalities and serious injuries on all public roads. “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.”

SAFETY PERFORMANCE MEASURES

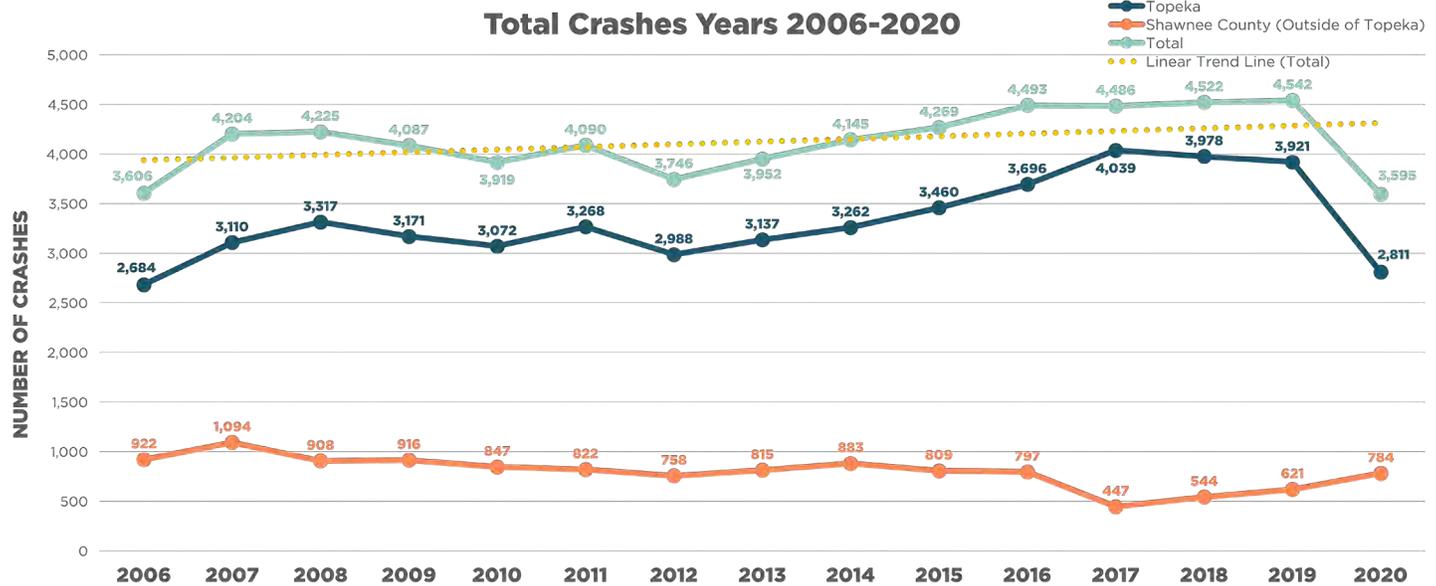
The MTPO will continue to adopt and support the safety goals set forth by the Kansas Department of Transportation (KDOT) until such time that the MTPO is able to work with a consultant on tracking the Safety Performance Measures outlined in the MTPO’s Transportation Safety Plan. See Chapter 6 for a discussion of performance measures.

SAFETY STATISTICS AND TRENDS

Total Crashes: Figure 3.20 shows the total crashes in Shawnee County to be increasing (dashed gold trendline). Crashes in the City of Topeka are

increasing while crashes are decreasing in rural areas. **Due to the pandemic, miles of travel in the region were significantly lower in 2020 and therefore fewer total crashes occurred.**

FIGURE 3.20 Total Crashes Years 2006-2020

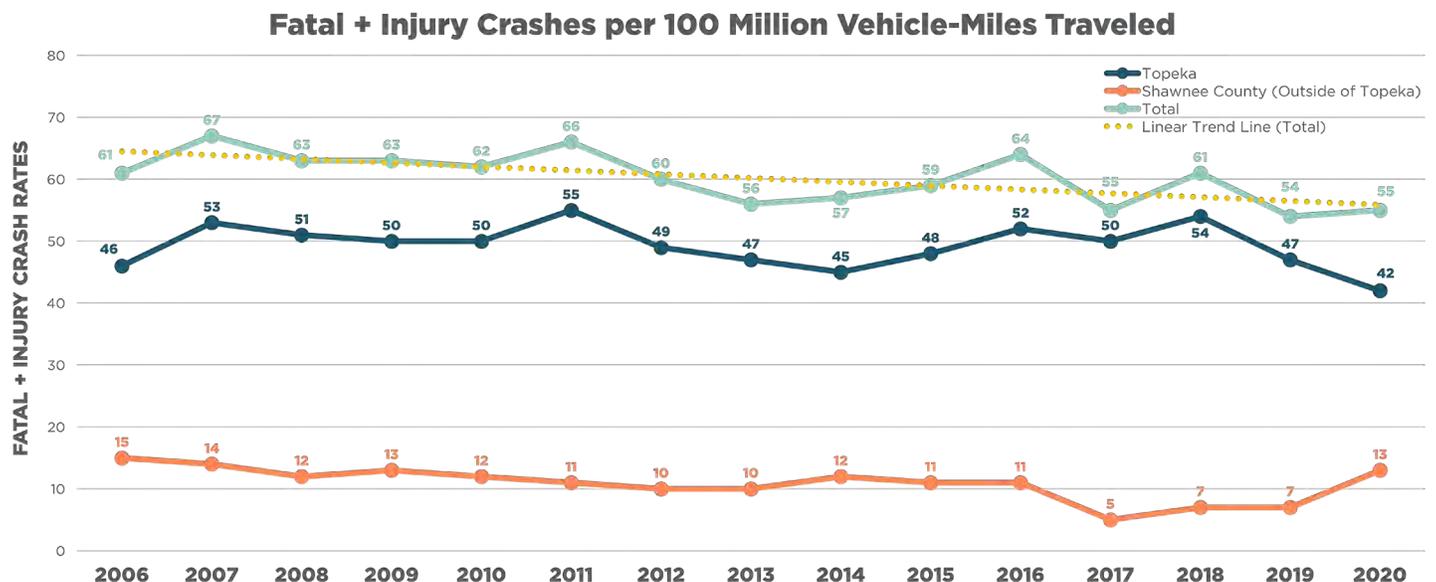


Source: Kansas Department of Transportation

Fatal Plus Injury Crash Rates: The Kansas SHSP notes that the statewide 5-year average fatal plus injury crash rate decreased from 51 crashes per 100 million vehicle-miles in 2010 to 42 crashes in 2018. The SHSP set an overall goal to achieve a fatal and injury crash rate of less than 35 crashes per 100 million vehicle-

miles traveled by 2024. Figure 3.21 shows the fatal plus injury crash rate for Shawnee County is above the statewide average. However, as indicated by the dashed gold trendline, the rates have shown a consistent decline over the years 2006 to 2020. The goal of the region is to continue this downward trend.

FIGURE 3.21 Fatal plus Injury Crashes per 100 million vehicle-miles traveled



Source: Kansas Department of Transportation

Fatal Crashes: Figure 3.22 shows the number of motor vehicle fatal crashes that occurred within the City of Topeka from 2011 through 2020 and the classification of the roadways where they occurred. Fatal crashes occurred on all roadway classifications. The last five years have seen a significant increase in the number of fatalities occurring on local roads.

Figure 3.23 shows the number of fatal crashes that occurred in Shawnee County, outside the city limits of Topeka. Forty-three percent of the fatal crashes in rural areas occurred on Interstate highways or freeway/expressway roadways. An additional 27 percent of fatal crashes occurred on local roads.

FIGURE 3.22 Fatal Crashes in the City of Topeka Years 2011-2020

FUNCTIONAL CLASSIFICATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
LOCAL ROAD	2	1	0	4	0	7	9	3	3	4	33
MINOR COLLECTOR	0	0	0	0	0	0	0	1	0	0	1
MAJOR COLLECTOR	0	2	0	0	0	2	0	7	1	1	13
MINOR ARTERIAL	1	0	1	1	2	0	1	0	0	4	10
PRINCIPAL ARTERIAL	3	2	2	3	1	6	0	0	2	0	19
FREEWAY/EXPRESSWAY	0	2	1	2	1	3	1	0	1	1	12
INTERSTATE HIGHWAY	5	1	1	1	1	2	2	1	1	1	16
TOTAL	11	8	5	11	5	20	13	12	8	11	104

Source: Kansas Department of Transportation

FIGURE 3.23 Fatal Crashes in Shawnee County 2011-2020 (not including City of Topeka)

FUNCTIONAL CLASSIFICATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
LOCAL ROAD	2	4	2	2	2	1	0	1	1	0	15
MINOR COLLECTOR	0	0	0	0	0	0	0	0	0	1	1
MAJOR COLLECTOR	0	1	0	1	0	1	0	0	0	2	5
MINOR ARTERIAL	0	0	0	2	1	1	0	0	1	2	7
PRINCIPAL ARTERIAL	0	0	0	0	1	1	0	0	1	1	4
FREEWAY/EXPRESSWAY	1	1	3	2	1	2	2	1	0	1	14
INTERSTATE HIGHWAY	0	1	2	0	1	0	0	2	2	2	10
TOTAL	3	7	7	7	6	6	2	4	5	9	56

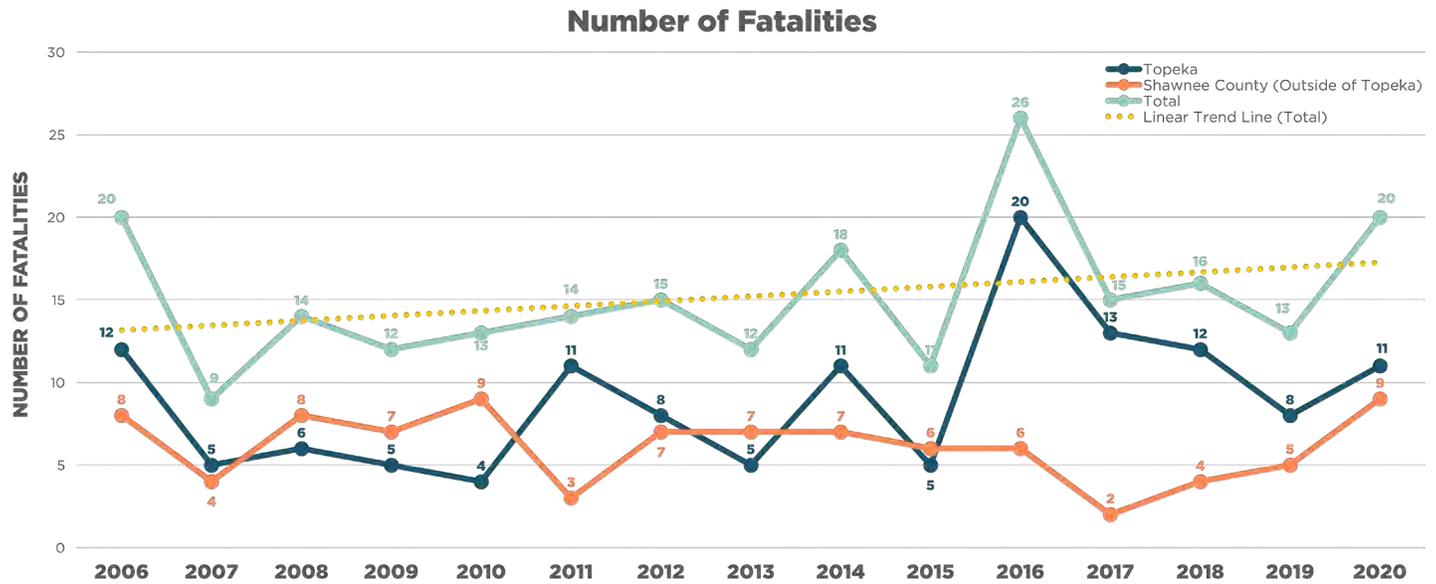
Source: Kansas Department of Transportation

Figure 3.24 shows the variability in the number of fatalities that have occurred during the years 2006 to 2020 in the City of Topeka, Shawnee County (excluding Topeka), and the combined total.

Figure 3.25 shows the “rolling” 5-year averages with the year shown being the final year of the 5-year period. The rolling average method is used to smooth variations in the data and provide a better understanding of how the number of fatalities is changing over time.

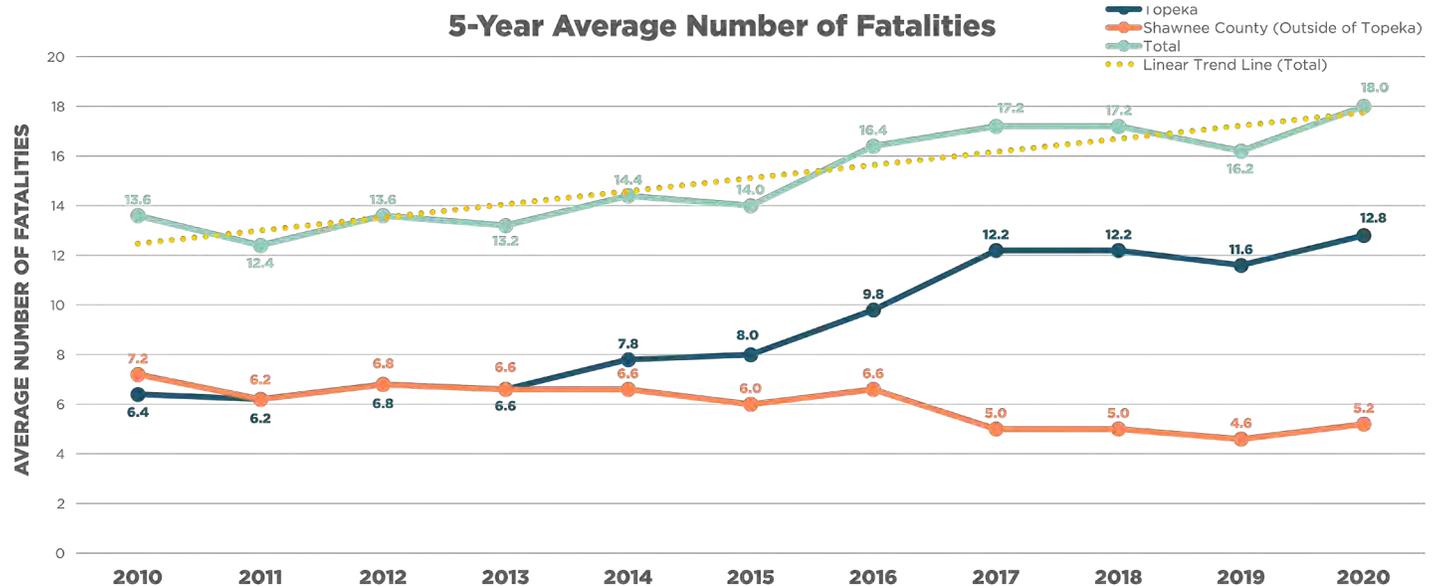
The dashed gold trendlines for the City of Topeka and for Shawnee County as a whole, show the number of fatalities to be slowly increasing. The rolling 5-year average between 2010 and 2020 for the City of Topeka increased from 6.4 fatalities to 12.8, while Shawnee County including the city increased from 13.6 to 18 fatalities. The rolling 5-year average for the county outside the City of Topeka decreased from 7.2 to 5.2 fatalities. The Transportation Safety Plan noted 33.8% of fatal crashes involved a collision with a fixed object, 23.5% an angle collision with another vehicle, and 13.2% a collision with a pedestrian.

FIGURE 3.24 Number of Fatalities



Source: Kansas Department of Transportation

FIGURE 3.25 Number of Fatalities (5-Year Rolling Averages)

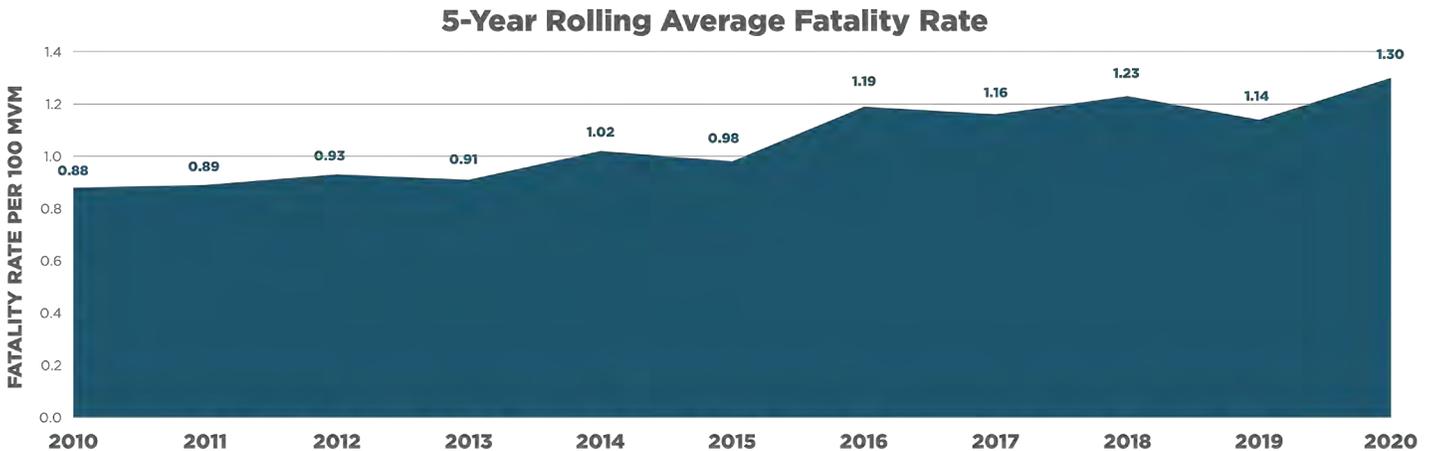


Source: Kansas Department of Transportation

It should be noted that the overall number of fatalities is low, and that the fatality rate may provide a better indication of how the region is performing. Fatality rates are calculated as the number of fatalities that occur per 100 million vehicle-miles traveled. The

values for fatality rate shown in Figure 3.26 are “rolling” 5-year averages with the year shown being the final year of the 5-year period. The past decade has seen a slight but steady increase in the rate of fatalities.

FIGURE 3.26 Fatality Rate (5-Year Rolling Average)



Source: Kansas Department of Transportation

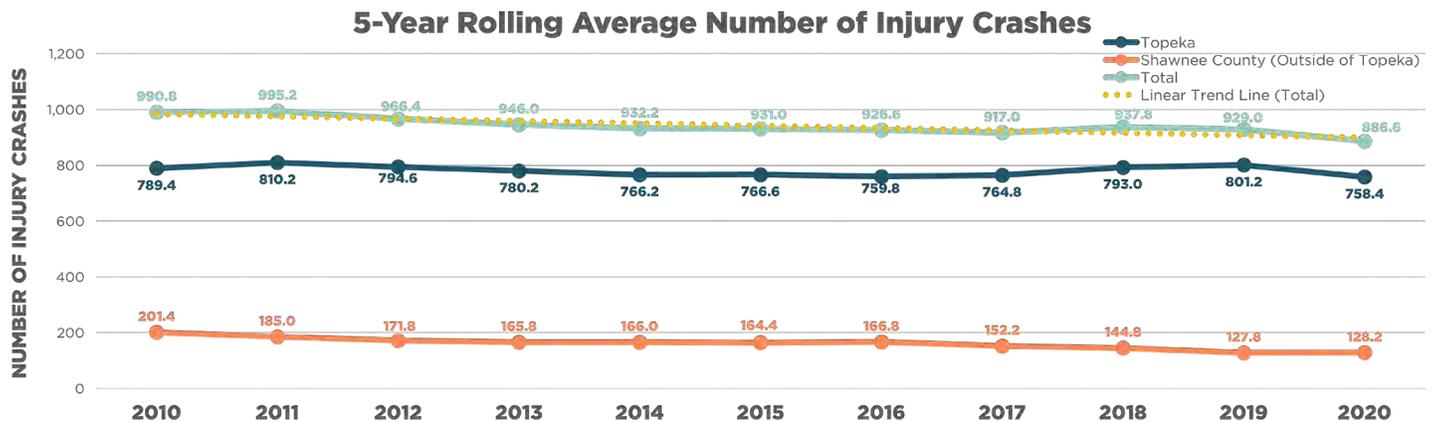
Injury Crashes: There are three categories of non-fatal injuries that are included in the total injury statistics:

- Suspected Serious Injury – is any injury other than fatal which results in one or more of the following: unconsciousness, paralysis, significant burns, broken or distorted extremities, crush injuries, severe lacerations, or skull, chest, or abdominal injuries.
- Suspected Minor Injury – an injury evident at the scene of the crash other than fatal or serious injuries. Examples include abrasions, bruises, and minor lacerations.

- Possible Injury – complaint of pain or nausea, limping, momentary loss of consciousness. Possible injuries are reported by the person, but no wounds or injuries are readily apparent.

Figure 3.27 shows the rolling 5-year average number of injury crashes occurring in the City of Topeka, Shawnee County (excluding Topeka). Over the years 2006 to 2020, the number of injury crashes in Topeka and in Shawnee County has slightly decreased.

FIGURE 3.27 Number of Injury Crashes (5-Year Rolling Averages)



Source: Kansas Department of Transportation

Serious Injury Crashes: Along with fatal crashes, a national goal is to reduce the number of serious injury crashes that occur on roadways. On average, 35 serious injury crashes occur each year in the City of Topeka. Figure 3.28 shows the number of serious injury crashes and the types of roadways where they occurred in the City of Topeka.

Figure 3.29 shows the number of serious injury crashes and the types of roadways where they occurred in Shawnee County outside the city limits of Topeka. On average, 16 serious injury crashes occur each year outside the city within Shawnee County

FIGURE 3.28 Number of Serious Injury Crashes in the City of Topeka

FUNCTIONAL CLASSIFICATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
LOCAL ROAD	9	9	7	5	2	7	9	8	6	15	77
MINOR COLLECTOR	0	0	1	1	0	0	0	0	0	0	2
MAJOR COLLECTOR	5	1	2	0	3	3	5	5	8	10	42
MINOR ARTERIAL	7	6	6	5	3	3	10	11	17	18	86
PRINCIPAL ARTERIAL	17	14	18	7	14	4	3	0	1	1	79
FREEWAY/EXPRESSWAY	2	2	1	1	0	2	5	1	0	4	18
INTERSTATE HIGHWAY	5	4	7	7	0	3	4	5	7	2	44
TOTAL	45	36	42	26	22	22	36	30	39	50	348

Source: Kansas Department of Transportation

FIGURE 3.29 Number of Serious Injury Crashes in Shawnee County (outside the City of Topeka)

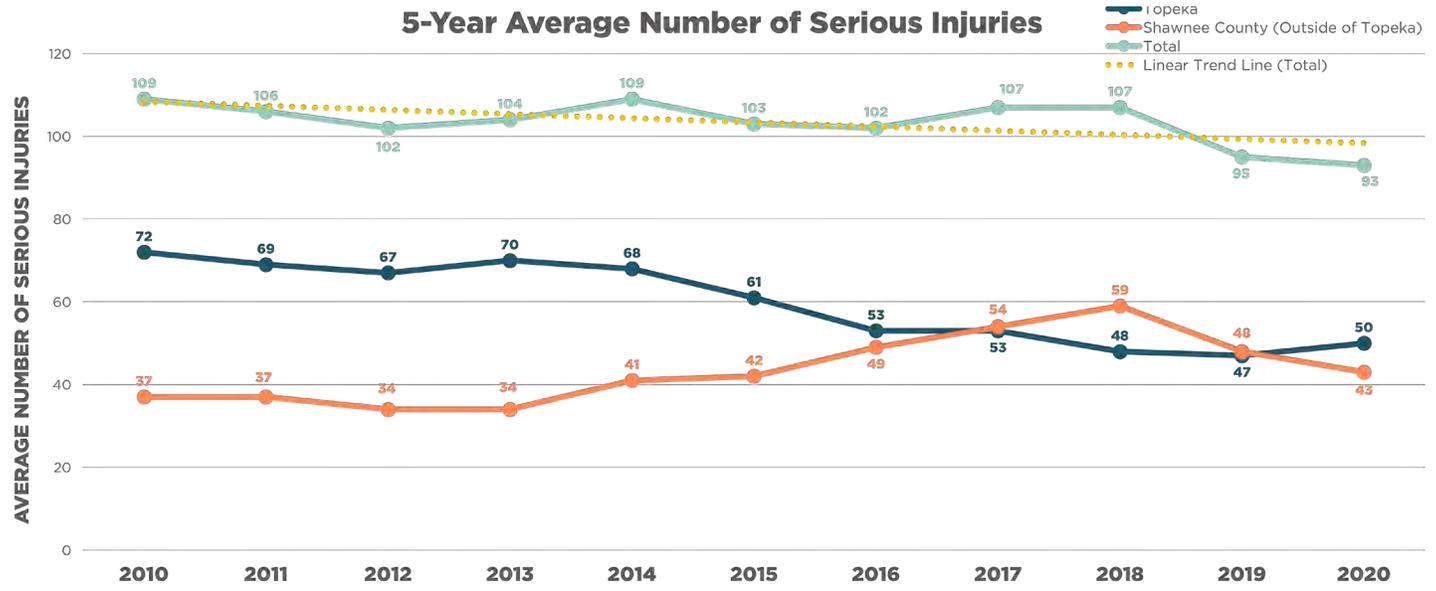
FUNCTIONAL CLASSIFICATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
LOCAL ROAD	5	4	2	5	2	7	4	1	5	5	40
MINOR COLLECTOR	0	0	1	2	0	0	1	0	1	1	6
MAJOR COLLECTOR	6	4	3	6	5	4	1	2	6	6	43
MINOR ARTERIAL	1	1	0	2	0	6	1	1	1	4	17
PRINCIPAL ARTERIAL	1	1	0	2	2	2	1	0	3	2	14
FREEWAY/EXPRESSWAY	0	0	4	3	4	1	3	2	2	2	21
INTERSTATE HIGHWAY	4	5	2	0	3	2	3	2	0	4	25
TOTAL	17	15	12	20	16	22	14	8	18	24	166

Source: Kansas Department of Transportation

Figure 3.30 shows the 5-year average number of serious injuries that have occurred in the City of Topeka, Shawnee County (excluding Topeka), and the combined total. The 5-year rolling averages smooth the variations in the data and provide a better understanding of how the number of injuries

is changing over time. (Data for the years 2018 and before have been adjusted to match new definition of “suspected serious injury” that has been in use since 2019). The dashed gold trendline shows that serious injuries are decreasing in Shawnee County as a whole.

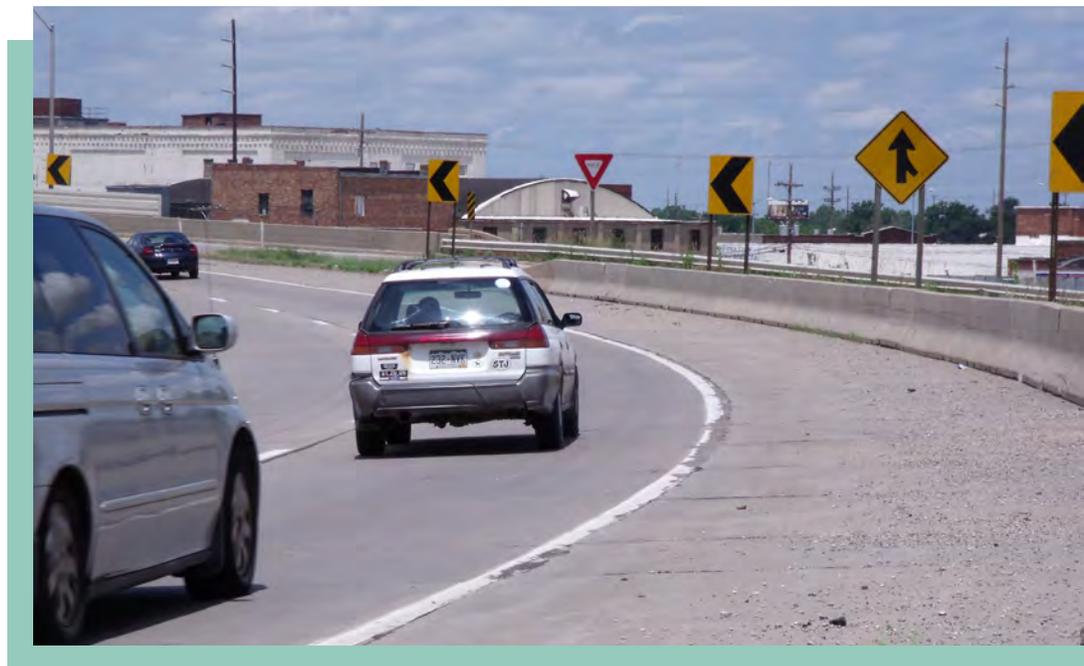
FIGURE 3.30 Number of Serious Injuries (5-Year Average)



Source: Kansas Department of Transportation

SAFETY SUMMARY

While the total number of crashes in Shawnee County is increasing, there are some positive indicators. The rate of combined fatal and injury crashes is decreasing, as is the overall number of injuries and serious injuries. Safety should continue to be a factor in selecting transportation projects in the region.



Roadways Studies and Projects

I-70 POLK-QUINCY VIADUCT CORRIDOR STUDY AND DESIGN

KDOT, the City of Topeka, and the MTPO completed a [concept study](#) that explored options to improve I-70 from MacVicar Avenue, through downtown, to east of the Adams Street interchange. The study and design were initiated to address the age and condition of the viaduct, the number and types of crashes that are occurring, growing congestion during peak periods, and to update the geometric characteristics of the highway. In addition, more logical connections between I-70 and the city street system have been recommended, which will support continued economic development.

The preferred alternative recommended reconstructing I-70 to meet current highway design criteria, improve traffic flow, improve safety, and provide more logical connections to city streets serving Downtown, the Riverfront Area, North Topeka, and East Topeka. The preferred alternative would reconstruct the I-70 Polk-Quincy Viaduct on an offset alignment allowing traffic to maintain usage of the existing viaduct during construction.

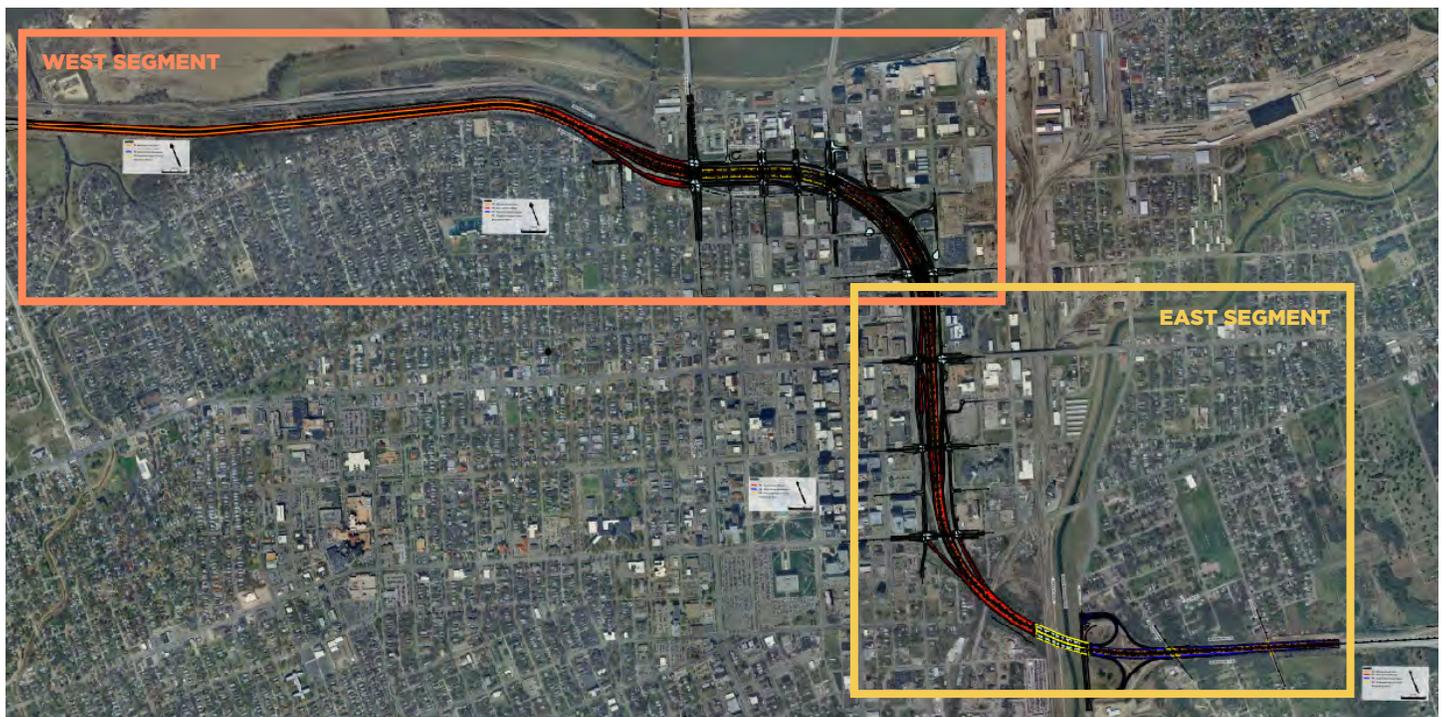
Currently, construction plans are being completed for the west segment MacVicar Avenue to 5th Street shown in the orange box in Figure 3.31 and have been programmed for a 2024 bid letting. The east segment from 5th Street to east of Adams Street, shown in the yellow box, will remain in the preliminary design stage until future funding can be identified.

FIGURE 3.32 I-70 Polk-Quincy Viaduct Preliminary Plan



Source: Environmental Assessment I-70 Polk-Quincy Viaduct

FIGURE 3.31 I-70 Polk-Quincy Viaduct Corridor – MacVicar Avenue to East of Adams Street



Source: Polk-Quincy Viaduct Corridor Study

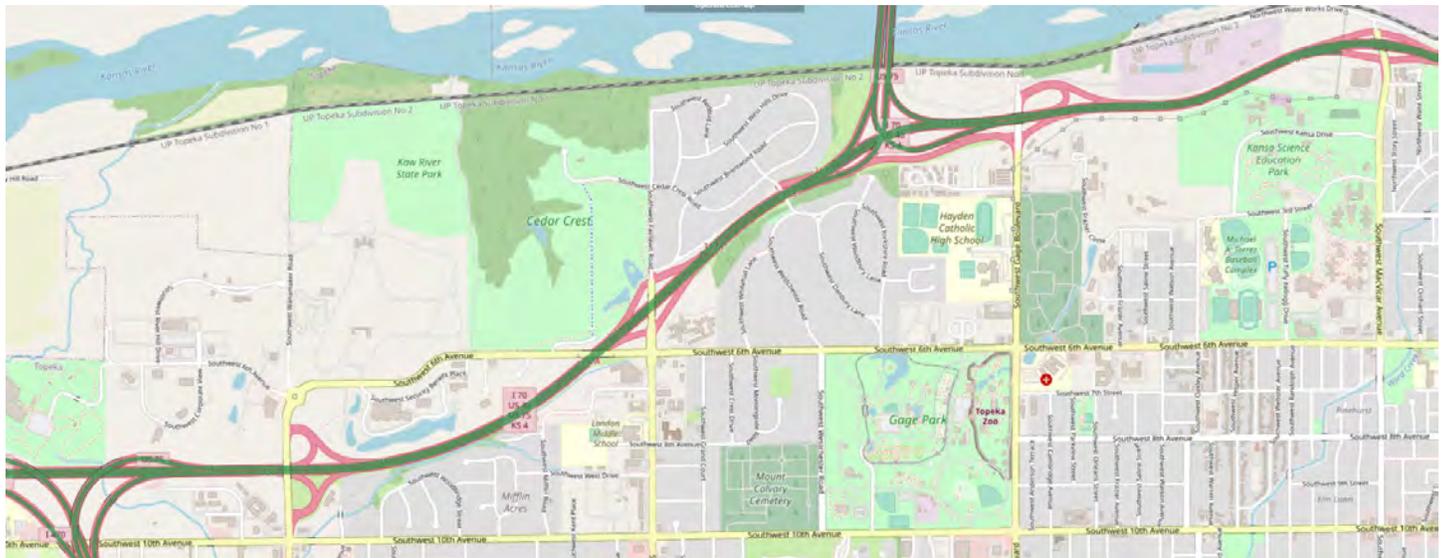
I-70 STUDY, I-470 TO MACVICAR AVENUE - RECOMMENDED

The section of I-70 between the I-470 interchange and MacVicar Avenue has been identified by the base-year and 2045 travel demand models as an area experiencing recurring congestion. I-70 from MacVicar Avenue east to 5th Street is programmed

for reconstruction and will add lanes to the highway. Lane continuity, traffic operations at ramp merge/diverge points, and the crash history of the area should be examined.

A concept study of this area is recommended before the next Metropolitan Plan update.

FIGURE 3.33 I-70 from I-470 to MacVicar Avenue



Source: Street Smart

SOUTHEAST TOPEKA KTA INTERCHANGE STUDY

The City of Topeka has been working with the Kansas Turnpike Authority (KTA) to study the potential of an additional interchange on the southeast side of the city that would provide access to the I-470 Turnpike. The purpose of this access point would be to provide local access to the 29th Street/California Avenue area of Topeka. The preferred concept shown in Figure 3.34 utilizes undeveloped area to provide an offset diamond interchange with a connector road to SE 29th Street. This concept minimizes the impacts to the surrounding residences and businesses. Projected traffic volumes for the year 2045 were based upon anticipated development in the region surrounding the interchange. These projections estimated the total volume on all interchange ramps to be approximately 6,000 vehicles per day. [The study](#) concluded that revenues may cover the costs of toll collection and may contribute some revenue to cover operations and maintenance. However, it will produce little, if any, excess net revenue to offset the cost of the initial capital investment to construct the interchange.

FIGURE 3.34 Proposed Southeast Topeka KTA Interchange



WAYFINDING SIGNAGE

The wayfinding program supports a branding, destination development and marketing plan initiated by [Visit Topeka](#). In addition to the primary goal of improving visitor navigation through the City and its destinations, the program established aesthetic features that celebrate the Topeka brand and unify the entire region as a definitive class one destination. This included specific design, location, and message schedule for vehicular guide signs, gateway signs, public parking signs, and pedestrian guide signs in

the downtown area. The signs were also designed to be more durable and legible than the City’s existing wayfinding signage, while meeting the standards of the Manual on Uniform Traffic Control Devices. The first phase of wayfinding signage is complete. Additional signs are planned for gateway locations and will require coordination with KDOT for final approval. Additional funding is needed to complete all phases of the wayfinding program.

Figure 3.35 shows the final designs for the new signage.

FIGURE 3.35 Family of Sign Types



Source: City of Topeka Wayfinding: Design Intent; December 14, 2016

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Intelligent Transportation Systems (ITS) is a variety of technologies to monitor, evaluate, operate, and manage transportation systems to enhance efficiency, reliability, and safety. ITS encompasses the planning, design, integration and deployment of systems and applications to manage traffic and transit, improve safety, provide environmental benefits, and maximize the efficiency of surface transportation systems.

In 2014, the MTPO updated their [Regional ITS Architecture](#) for Topeka/Shawnee County. The document describes the region’s ITS plans and how future projects will integrate and interoperate with existing systems. The goal of the architecture update project is to use ITS to provide cost-effective and practical technologies that improve the safety, capacity, and efficiency of moving people and goods on the area’s roadways.

Sequenced ITS projects for the Topeka/Shawnee County region can be seen in Figure 3.36, including their timeframes and estimated costs. The architecture was developed with a twelve-year-plus time horizon, as reflected by the project time frames of near- (zero to three years), medium- (three to seven years) and long-term (more than seven years).

The Topeka/Shawnee County Regional ITS Architecture is a living document that should be modified as the region’s plans and priorities change, ITS projects are implemented, and ITS needs and services evolve. When the architecture is updated, the project’s timeframes will be extended further into the future. Maintaining the architecture allows the MTPO to keep an up-to-date Regional ITS Architecture accessible and easily used for deploying ITS in the Topeka/Shawnee County Region.

FIGURE 3.36 Topeka/Shawnee County Candidate ITS Projects

NEAR-TERM: planned to be deployed in the next three years	
City of Topeka Traffic Camera Upgrade	\$60,000 to \$100,000
Regional Incident Coordination	\$100,000
KDOT Dynamic Message Signs and Cameras South Expansion	\$400,000
TMTA Automatic Vehicle Location	\$344,000 to \$645,000
TOTAL ESTIMATED NEAR-TERM COST	\$904,000 TO \$1,245,000
MEDIUM-TERM: planned to be deployed in the next three to seven years	
City of Topeka Traffic Control Upgrade	\$900,000 to \$1,300,000
KDOT Dynamic Message Signs and Cameras North Expansion	\$300,000 to \$500,000
Increased Emergency Signal Preemption - Phase 1	\$81,000 to \$330,000
Regional Data Warehouse	\$800,000 to \$2,000,000
TOTAL ESTIMATED MEDIUM-TERM COST	\$2,281,000 TO \$4,130,000
LONG-TERM: planned to be deployed in more than seven years	
Transit Signal Priority	\$87,000 to \$303,000
Regional Traveler Information	\$500,000 to \$1,500,000
Increased Emergency Signal Preemption - Phase 2	\$60,000 to \$240,000
TOTAL ESTIMATED LONG-TERM COST	\$647,000 TO \$2,043,000
TOTAL COST OF ALL PROJECTS	\$3,832,000 TO \$7,418,000

TRANSIT

Introduction

Public transportation in the Topeka MPA is provided by the [Topeka Metropolitan Transit Authority \(TMTA\)](#), also called the Topeka Metro. Formed in 1972 to plan, operate and maintain public transit services, Topeka Metro's operational area covers the City of Topeka and a 90-mile radius from city limits, allowing the possibility of operating future intra-city commuter bus service to neighboring communities, like Manhattan, Lawrence, Kansas City and other population centers in eastern and north-central Kansas. TMTA is overseen by a seven-member Board of Directors appointed by the Mayor of Topeka and approved by the Topeka City Council. Board members serve four-year terms. TMTA's professional staff of about 80 full time employees, including administrators, maintenance, and bus operators, are responsible for the daily operations of fixed route and paratransit services.

The following section provides an assessment of current transit infrastructure, a review of ridership, on-time performance, and coverage, and a summary of existing plans and efforts.

Transit System

The COVID-19 pandemic significantly impacted all transit operations in the country. Due to sharp and sudden decreases in ridership and availability of service providers, many transit agencies made major changes to be sustainable during uncertain times. Topeka Metro saw ridership decrease and had trouble maintaining consistent service due to

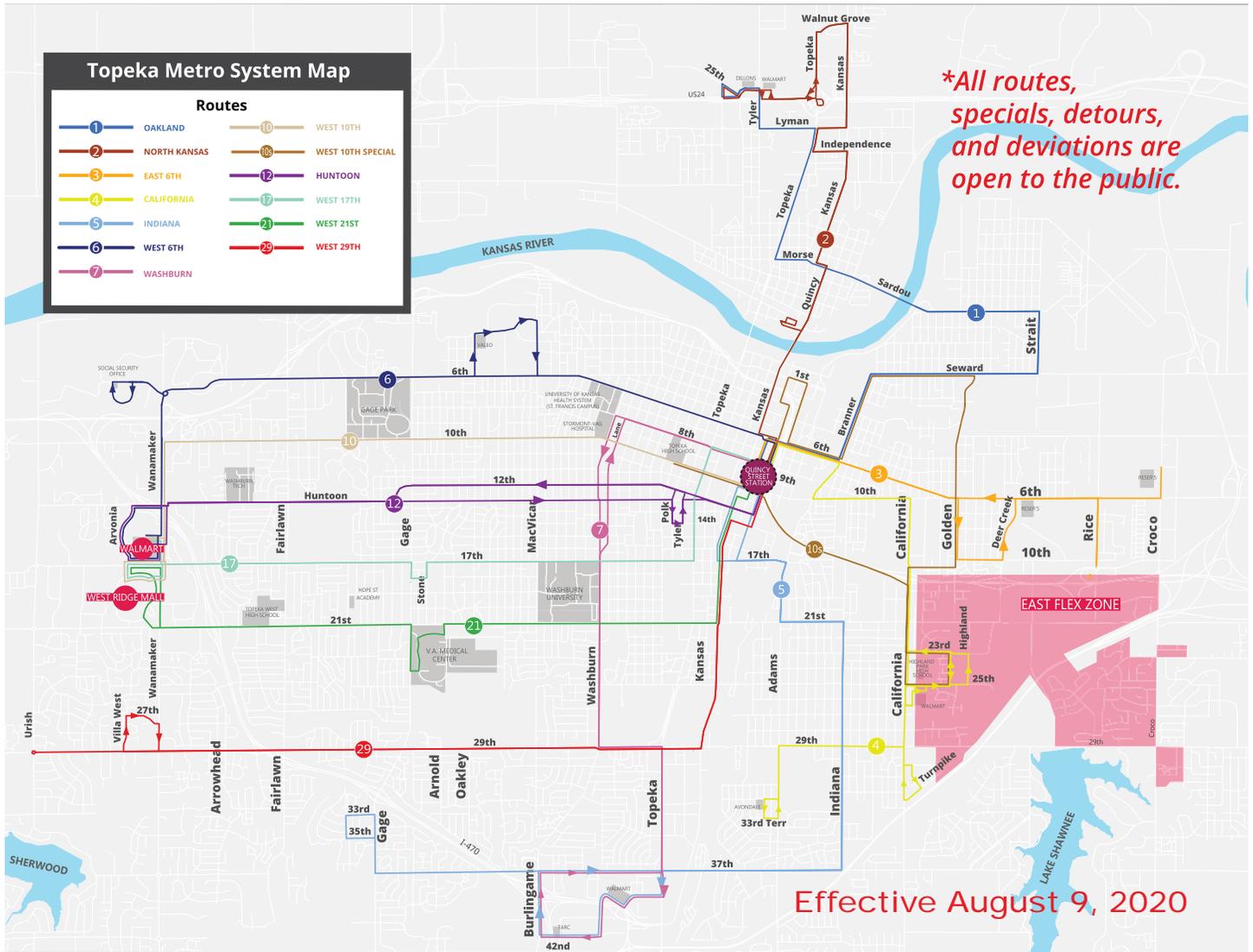
transit operator concerns of safety. The agency decided to go fare-free and implement frequent cleaning services to protect the health of riders and drivers. Though COVID-19 had rippling impacts on Topeka Metro, the agency did not have to cut any service through the duration of the pandemic and received around \$5 million from the CARES Act, which ensured that the agency would still be able to provide service to riders that rely on Metro Buses to get to and from essential jobs and services.

The service area stretches from Urish Rd. in the west, Croco Rd to the east, Walnut Grove to the north and 42nd St. in the south with 13 routes, 26 fixed-route buses, and 10 paratransit vehicles. Currently the agency provides service Monday through Friday (5:35 a.m. to 6:40 p.m.) and on Saturday (8:15 a.m. to 6:40 p.m.). Most bus lines run with hourly service, with 4 California, 17 West, and 21 West running 30-minute frequency during peak hours (6:00-9:00 am and 2:00-7:00 pm). East 6th, west 6th, and 12 Huntoon all run with 30-minute frequency, the highest that the agency offers.

As of this Futures2045 Update, a transit visioning process is underway at Topeka Metro and expected to be published in 2022 with recommendations of what actions Topeka Metro can take in the coming years to best serve existing ridership and future demand. Recommendations include addition of several microtransit zones, addition of several North-South routes, reduction of some route frequency as well as several route changes.



FIGURE 3.37 Topeka Metro Transit System Map



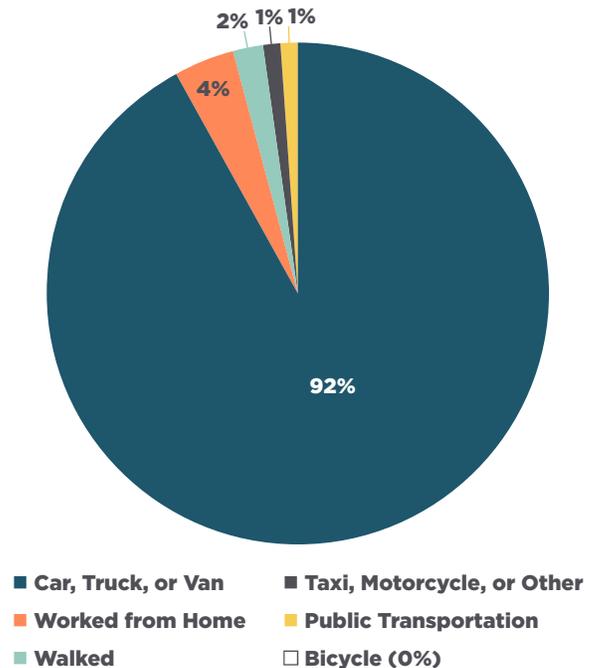
ACTIVE TRANSPORTATION

Active transportation is a critical component of a robust transportation system. Planning and investment in walking, bicycling, and other active modes will help the MTPO meet many of the goals of the Futures2045 Metropolitan Transportation Plan. Active transportation activity and infrastructure has many benefits for a community including increased transportation options, positive impacts on mental and physical health, and economic development. The MTPO, City of Topeka and Shawnee County have all taken steps toward including more active transportation options in recent years through the [complete streets policy](#) and guidelines and detailed plans for walking and bicycling.

According to the 2019 work travel data from the US Census American Community Survey for Topeka, the metro area has the potential to improve accessibility and mobility from a variety of active transportation investments. As shown in Figure 3.38, driving a car, truck or van for work is currently the norm in Topeka, with 92% of the population commuting by personal vehicle and 83% of those people driving to work alone. Less than 3% of the population travels to work by walking, bicycling, or transit. In addition, an estimated 2.7% of the Topeka metro population over 16 years old do not have access to a personal vehicle, and though that is a small percentage, it represents around 3,000 Topekans who must rely on transit and the active transportation infrastructure to get to and from work. In addition, there are over 44,600 residents in Topeka who are too young to drive, and over 44,300 residents aged 65 and older, which is the age range when some drivers begin to experience loss of vision or other complications with driving. Due to the COVID 19 pandemic, more and more people desire multimodal options close to home, further increasing the need for well-connected and well-designed active transportation facilities.

It is also important to note that while journey to work data is the most consistent data available regarding which mode people use, it does not capture how often active transportation trips for non-work activities such as travel to school, parks, errands,

FIGURE 3.38 Means of Transportation to Work



visiting friends and family, etc. are currently used. These trips are often shorter and well-suited to travel by foot or bike. Nationally, we know that one in six Americans (17%) take a walk or a bike ride on a typical day, and most of these trips are for a social or recreational purpose. While walking may not be the most frequently used mode of transportation, more than 70% of respondents to a recent survey conducted as part of the statewide [Kansas Active Transportation Plan](#) said they walk or bike in addition to driving when they travel in their community.

The following section summarizes the existing conditions of the active transportation system in Topeka and provides updated information since writing of the Futures2040 Plan. This section also introduces the safe systems approach to safety and why it is important to active transportation. Recommendations for improved active transportation can be found in Chapter 7.

Pedestrian Conditions in Topeka and Shawnee County

Walking is essential to many types of transportation trips. Almost every person who lives in or visits Topeka and Shawnee County will likely incorporate walking into some aspect of their trip. Whether it's from a parking spot to a shop, from home to school, or from one's house to a neighbor's, walking (or using a wheelchair or mobility device) is a critical way to get around. As such, Topeka's pedestrian network should be designed for all users. It should be accessible, intuitive, and attractive.

PEDESTRIAN FACILITIES

Topeka and Shawnee County feature a range of contexts for walking, from dense urban areas in downtown Topeka to expansive rural space outside of the city. The city must balance the needs and access of pedestrians in both urban and rural areas in ways that are practical given the context. In the Topeka metro area, about 40% of city streets and most rural subdivisions do not have sidewalks ([2016 Pedestrian Master Plan](#)). This lack of a continuous sidewalk network makes trips difficult, and sometimes impossible, especially for those who are young, elderly, disabled, and without access to a personal vehicle. Previous survey responses to the Futures2040 and Futures2045 community surveys indicated that accessible curbs and better pedestrian signal timing at intersections were top priorities.

Topeka's older neighborhoods and commercial areas have more complete sidewalk networks because they were largely built before the popularization of the automobile. Many residential and commercial areas built after the 1940s do not have sidewalks at all. Some new developments feature sidewalks, but they often do not lead to any destinations within a reasonable walking distance. 71 miles of sidewalk have been added to the sidewalk network since the development of the 2016 Topeka Pedestrian Master Plan. The network has been expanded through the focused efforts of the Pedestrian Master Plan as well as incorporating pedestrian facilities into roadway projects such as the SE 29th and SE California improvement projects.

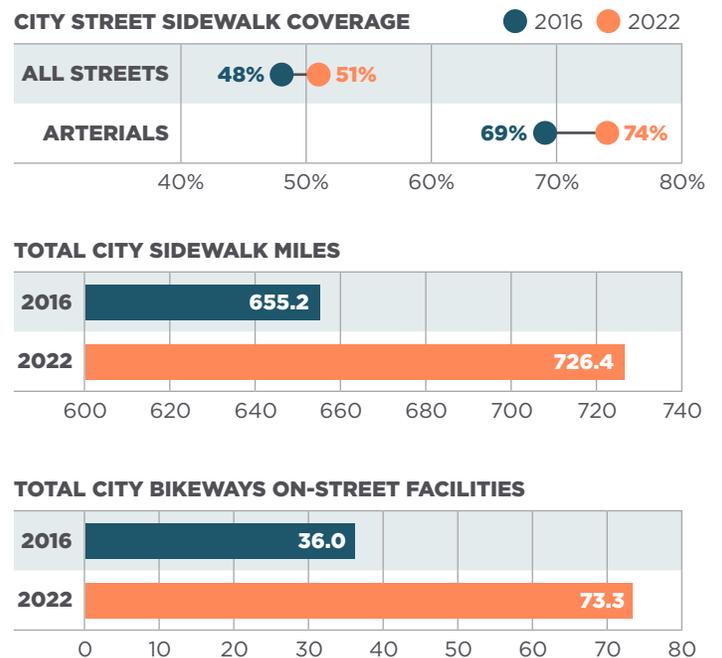
Despite suburban residential development, many roads outside the Topeka City limits are currently without sidewalks. As these patterns continue, the County will need to investigate solutions to provide pedestrian connectivity.

Recent Improvements: Pedestrian Network

Since the adoption of the Pedestrian Plan, the City has completed pedestrian improvements in several neighborhoods and continues to do so on an annual basis. The improvements being implemented include new sidewalks, curbs, and crossings. Focus areas were all identified as having high rates of pedestrian demand, high concentrations of people without access to a motor vehicle, and high need for infrastructure investment. To date, the projects have been completed or planned for in the following neighborhoods and corridors:

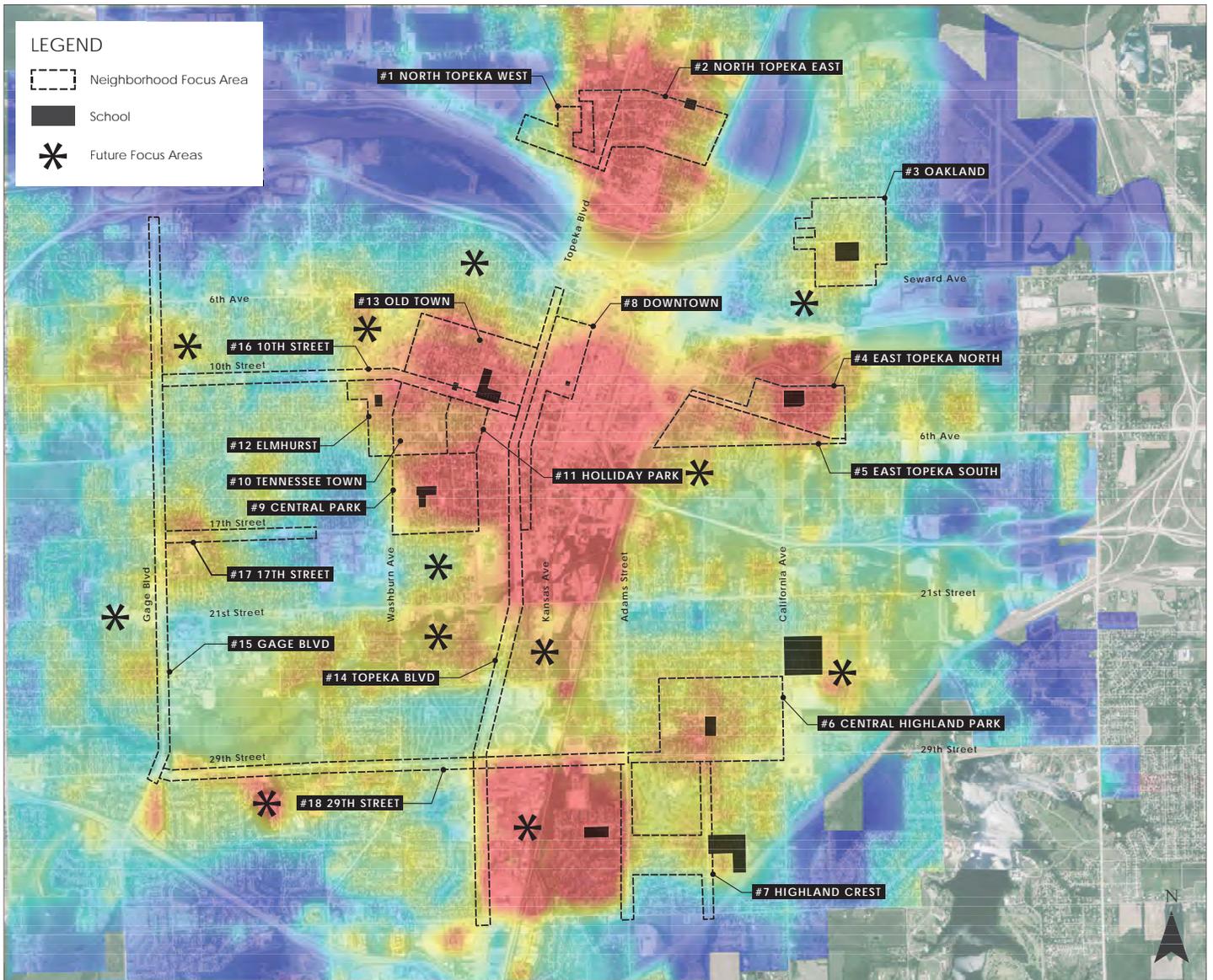
- 2016-North Topeka East,
- 2017-Central Park,
- 2018-East Topeka North,
- 2019-Elmhurst; SE 29th St., California Ave. to Adams St.
- 2020-Old Town; S. Topeka Blvd., 29th St. to 37th St.
- 2021-North Topeka West,
- 2022 (Planned)-Historic Holliday Park, Tennessee Town, and Monroe.

FIGURE 3.39 Sidewalk Coverage and Growth



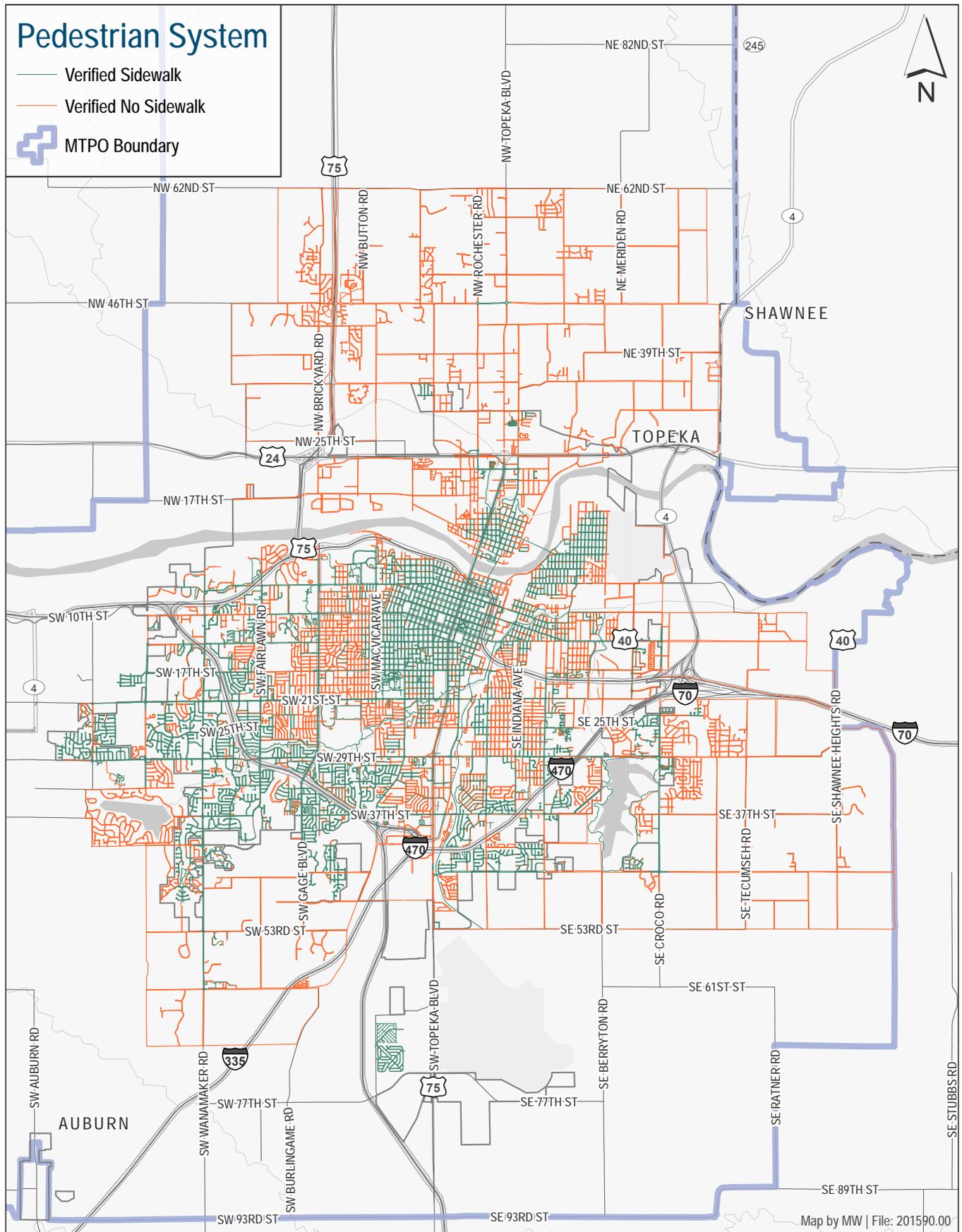
Source: City of Topeka Planning Staff

FIGURE 3.40 Heat Map and Inventory Areas



Red indicates the highest level of pedestrian activity and blue the least.

FIGURE 3.41 Existing Sidewalk Network



PEDESTRIAN SAFETY

The Pedestrian and Bicycle Information Center reported that nationally, pedestrian fatality crashes accounted for about 17% of total traffic related deaths in 2019 with non-motorist fatalities increasing 43.6% between 2010 and 2019. Most pedestrian fatalities (81%) occurred in an urban area with two-thirds occurring at non-intersection locations. In all Shawnee County, pedestrian fatalities accounted for approximately 12% of total traffic-related deaths

during the years 2010 to 2020. Shawnee County statistics also show an increase in pedestrian fatalities during this time.

Figure 3.42 shows the number of pedestrian fatalities for the years 2010 through 2020 occurring in the City of Topeka, Shawnee County outside of Topeka, and the total. Shawnee County as a whole, averages approximately two pedestrian fatalities per year.

FIGURE 3.42 Number of Pedestrian Fatalities

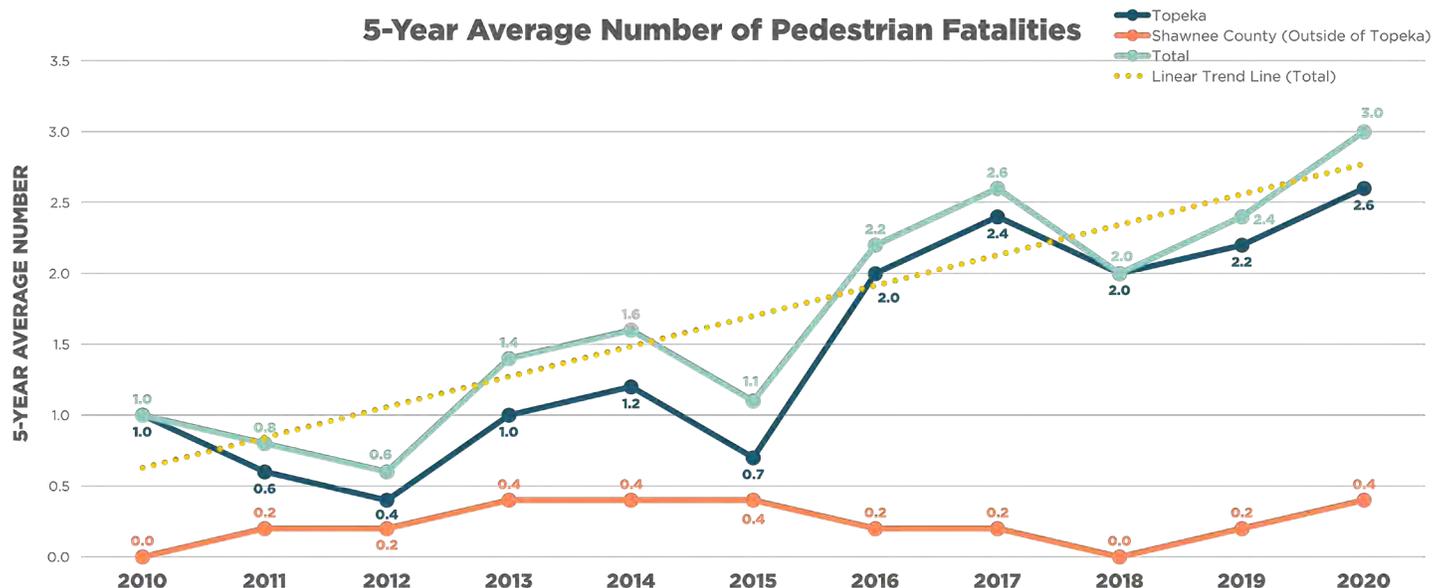
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOPEKA	2	0	0	3	1	0	6	2	1	2	2
SHAWNEE COUNTY (EXCLUDING TOPEKA)	0	1	0	1	0	0	0	0	0	1	1
TOTAL	2	1	0	4	1	0	6	2	1	3	3

Source: Kansas Department of Transportation

The “rolling” 5-year average number of fatalities is a method to smooth the variability of the data and to better understand whether numbers are increasing or decreasing. Figure 3.43 shows the 5-year averages,

2010 to 2020 (year shown is the final year of the period). The dashed gold trendline indicates the total number of fatalities has been increasing over the past decade from an average of one to an average of three.

FIGURE 3.43 5-Year Average Number of Pedestrian Fatalities (Year noted is the final year of the 5-year period)



Source: Kansas Department of Transportation

Figure 3.44 shows the total number of pedestrian injuries occurring in the City of Topeka, Shawnee County (excluding Topeka), and total. During 2010

to 2020, the City of Topeka averaged 40 injuries per year. Shawnee County, outside of Topeka, averaged 2.6 injuries per year.

FIGURE 3.44 Number of Pedestrian Injuries

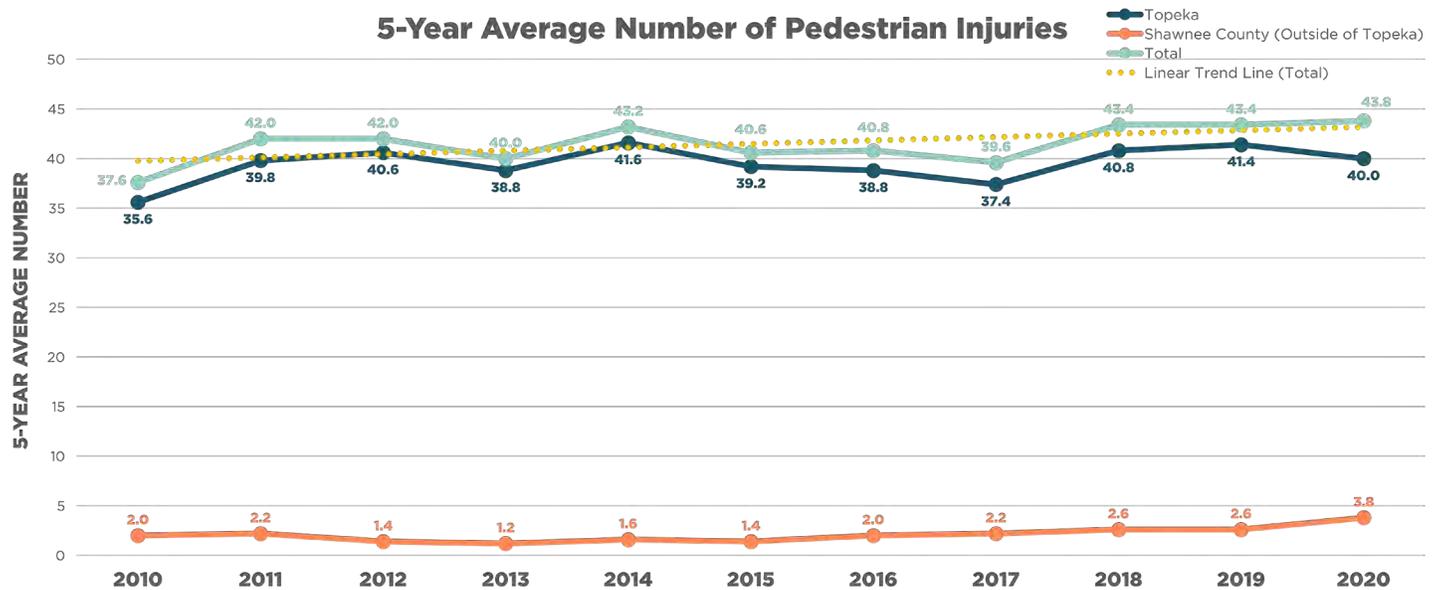
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOPEKA	47	51	39	30	41	35	49	32	47	44	28
SHAWNEE COUNTY (EXCLUDING TOPEKA)	3	2	0	0	3	2	5	1	2	3	8
TOTAL	50	53	39	30	44	37	54	33	49	47	36

Source: Kansas Department of Transportation

Figure 3.45 shows the 5-year averages for 2010 to 2020 (year shown is the final year of the period). The dashed gold trendline indicates the total number of injuries has been increasing slightly over the past

decade from an average of about 38 injuries to an average of almost 44 in Shawnee County including Topeka.

FIGURE 3.45 5-Year Average Number of Pedestrian Injuries (Year noted is the final year of the 5-year period)



Source: Kansas Department of Transportation

Overall, from 2010 to 2020, the number of pedestrian fatalities and injuries has increased in Shawnee County (including Topeka). Approximately 90 percent of crashes involving pedestrians happened within Topeka City limits.

These trends point to an increased need to provide safe pedestrian infrastructure, both within the City of Topeka and within other areas of Shawnee County where these facilities are appropriate.

PEDESTRIAN TRIPS

Limited data is currently available regarding pedestrian trips in the Topeka Metro area. According to the 2019 American Community Survey, only approximately 1.5% of Topekans walk to work, however this data does not capture non-work travel by foot for a variety of trip purposes. In a recent survey conducted as part of the Kansas Statewide Active Transportation Plan, more than 70% of respondents said they walk or bike in addition to driving when they travel in their community.

The City has been collecting annual pedestrian counts from 2013-2021 to gauge general walking and biking activity. These counts provide a snapshot of walking activity, but as data samples of only

one day of walking activity, they are limited in the ability to truly represent how many people walk in the community on a regular basis. Walking can be greatly impacted by time of day, day of the week, and season. The table below shows pedestrian counts from 2013 to 2021.

The City is currently undergoing a process to update and improve their counting system for bikes and pedestrians. In the future, more variation of count collection periods and count locations will help identify other patterns of active transportation users as well as additional areas in need of prioritization.

The count methodology was amended with new counting locations after 2021, and the result of those pedestrian counts is in the table below.

FIGURE 3.46 Annual Pedestrian Counts at Select Locations

	2013	2014	2015	2016	2017	2018	2019	2020		2021
#1 North Topeka, Central Avenue	10,596	19,301	6,235	18,378	6,234	7,497	3,118	11,362	#1 Tyler & Lyman	33
#2 East 6th St	31,072	54,289	51,122	71,819	51,123	41,754	30,622	29,946	#2 6th & Golden	39
#3 East 25th & Landon	7,829	3,035	11,326	2,674	11,325	7,878	10,504	8,618	#3 37th & Landon	35
#4 10th & Topeka	138,799	-	135,122	170,608	135,122	174,763	83,136	70,130	#4 8th & Topeka	51
#5 Gage Park	25,125	13,412	7,119	25,523	7,118	16,062	40,216	51,627	#5 6th & Westchester	11
#6 Clay St/Central Park	27,150	11,981	16,816	9,628	16,817	19,200	10,107	42,206	#6 Clay & Huntton	112
#7 19th & Washburn U	26,348	38,761	32,141	19,454	32,141	11,473	14,071	7,944	#7 17th & MacVicar	69
#8 Randolph	4,947	2,114	9,508	20,482	9,508	6,917	11,386	23,320	#8 15th & Randolph	10
#9 Belle	6,739	11,715	6,897	9,202	6,897	3,824	7,820	23,320	#9 28th & Fairlawn	57
#10 29th & Fairlawn	1,805	1,409	14,627	13,807	14,627	15,365	3,008	13,295	#10 33rd & Randolph	72
#11 Shunga Trail	72,523	59,602	111,354	106,497	111,353	79,525	61,978	81,798	#11 Shunga & Landon	4
#12 Landon Trail	6,891	-	6,826	5,427	6,826	3,686	6,870	9,090	#12 8th & Randolph	15
#13 8th St	9,752	8,659	13,970	15,159	13,970	14,972	19,250	10,313		
#14 East 37th/Lake Shawnee	5,053	4,933	4,679	-	4,679	12,272	2,406	7,700		
#15 West 37th	-	704	-	-	-	-	-	-		

Pedestrian Plans and Policies

Several plans and policies are important to understanding current pedestrian conditions, improvements, and the policy context including the Pedestrian Master Plan, Complete Streets Guide and the MTPO Transportation Safety Plan briefly summarized below.

TOPEKA PEDESTRIAN MASTER PLAN (2016)

The [Pedestrian Master Plan](#) includes best practices to better balance the transportation system, specifically looking at ways that the city can improve its pedestrian network. The plan includes the following key recommendations:

- Ensure that all geographic sectors of the city are connected with a continuous sidewalk network along and near major thoroughfares.
- Expand the sidewalk network with a focus on connections to schools, bus routes, community centers, senior centers, business districts, and parks/trails.
- Continue the citywide compliance-based program for sidewalk surface repair and expand its affordability for people in need of assistance.
- Initiate a Proactive Sidewalk Repair Program for the highest priority areas. (The city is currently piloting a new approach to sidewalk repair.)
- Continue to add and maintain warranted crosswalks, street lighting, refuge medians, and bump-outs at pedestrian street crossings.
- Establish a [complete streets advisory committee](#). (This has now been established and meets regularly.)
- Promote walking in neighborhoods through mixed use development and redevelopment along neighborhood corridors.

TOPEKA AND SHAWNEE COUNTY COMPLETE STREETS GUIDELINES (2019)

The [Complete Streets Guidelines](#) feature detailed guidelines for balancing the needs of all street users in Topeka and Shawnee County.

The guidelines include best practices for many design aspects that are important to pedestrian safety and comfort including:

- Sidewalk width
- Pedestrian zone recommendations
- Transit stops
- Streetlights and street trees
- Safe intersection design

The complete streets policy is a step toward a more walkable Topeka, and, along with the Complete Streets Guidelines, the City will be implementing more walkable development moving forward. These investments into pedestrian facilities will help to promote a culture of walking, provide a multitude of benefits for residents, and help attract new families and those looking to retire in an active community.

MTPO TRANSPORTATION SAFETY PLAN (2017)

Topeka and Shawnee County created the [MTPO Transportation Safety Plan](#) to assess the safety conditions and suggest improvements for local roads of all types in the metro area. The plan emphasizes that crashes are not a natural side effect of modern transportation, and it is possible to make policy and planning decisions to create a safer transportation system for all. The safety plan includes the following conclusions regarding pedestrian safety:

- Over 98% of all pedestrian crashes from 2010 to 2016 resulted in either an injury or a fatality, and nine pedestrians have died in Shawnee County during the seven-year study period.
- The total number of pedestrian crashes has remained relatively flat from 2010 to 2020, but the trend in fatal and serious injuries is increasing.
- Pedestrian crashes occur more often in the urban area of Topeka where there is greater pedestrian activity.

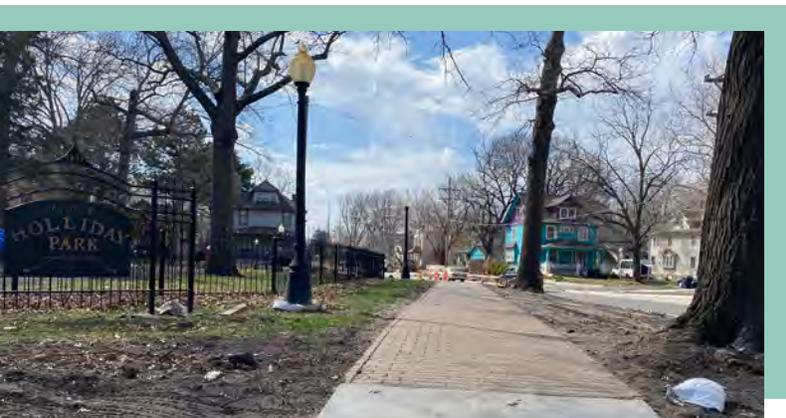
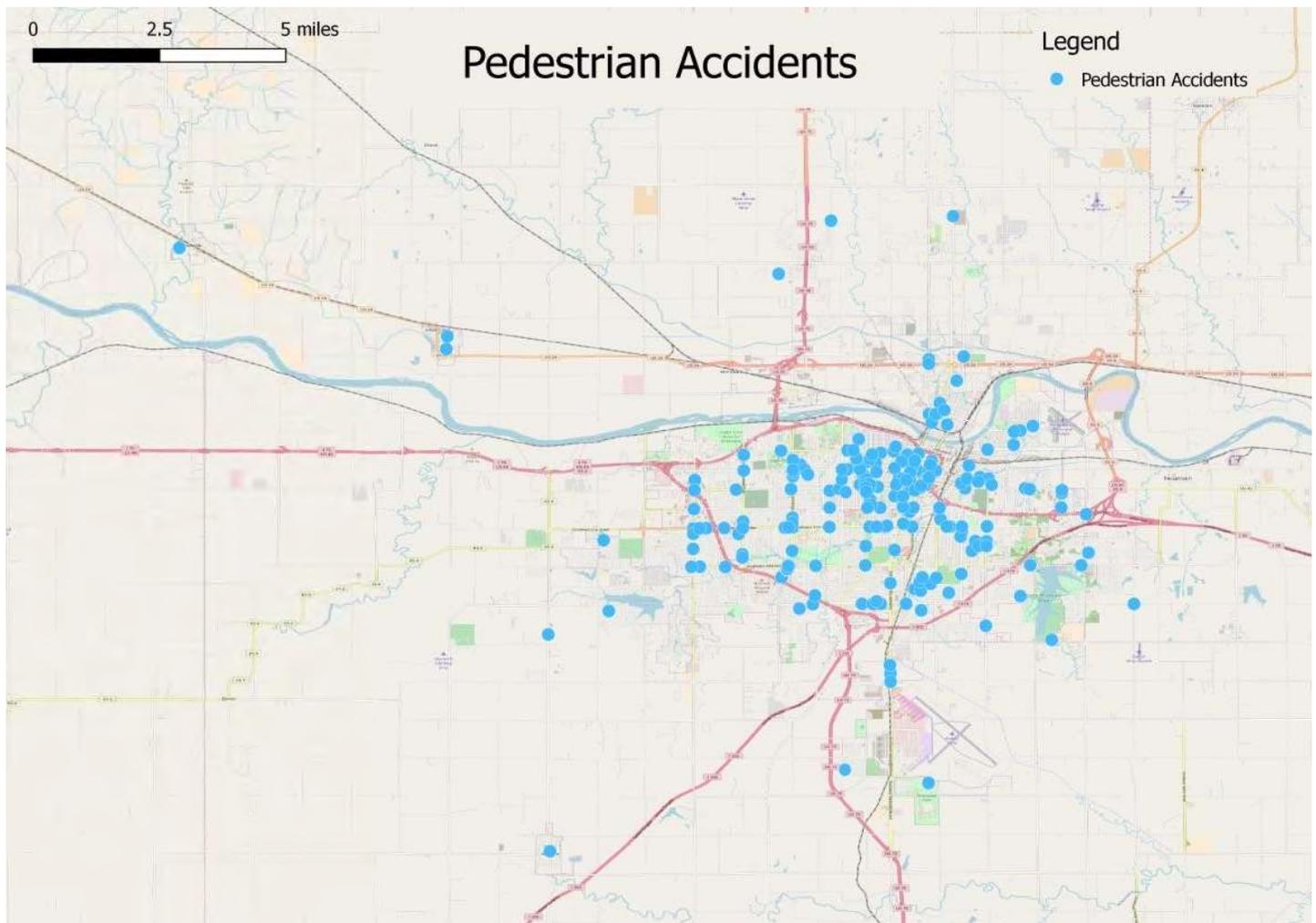


FIGURE 3.47 Pedestrian Accidents



Bicycle Conditions in Topeka and Shawnee County

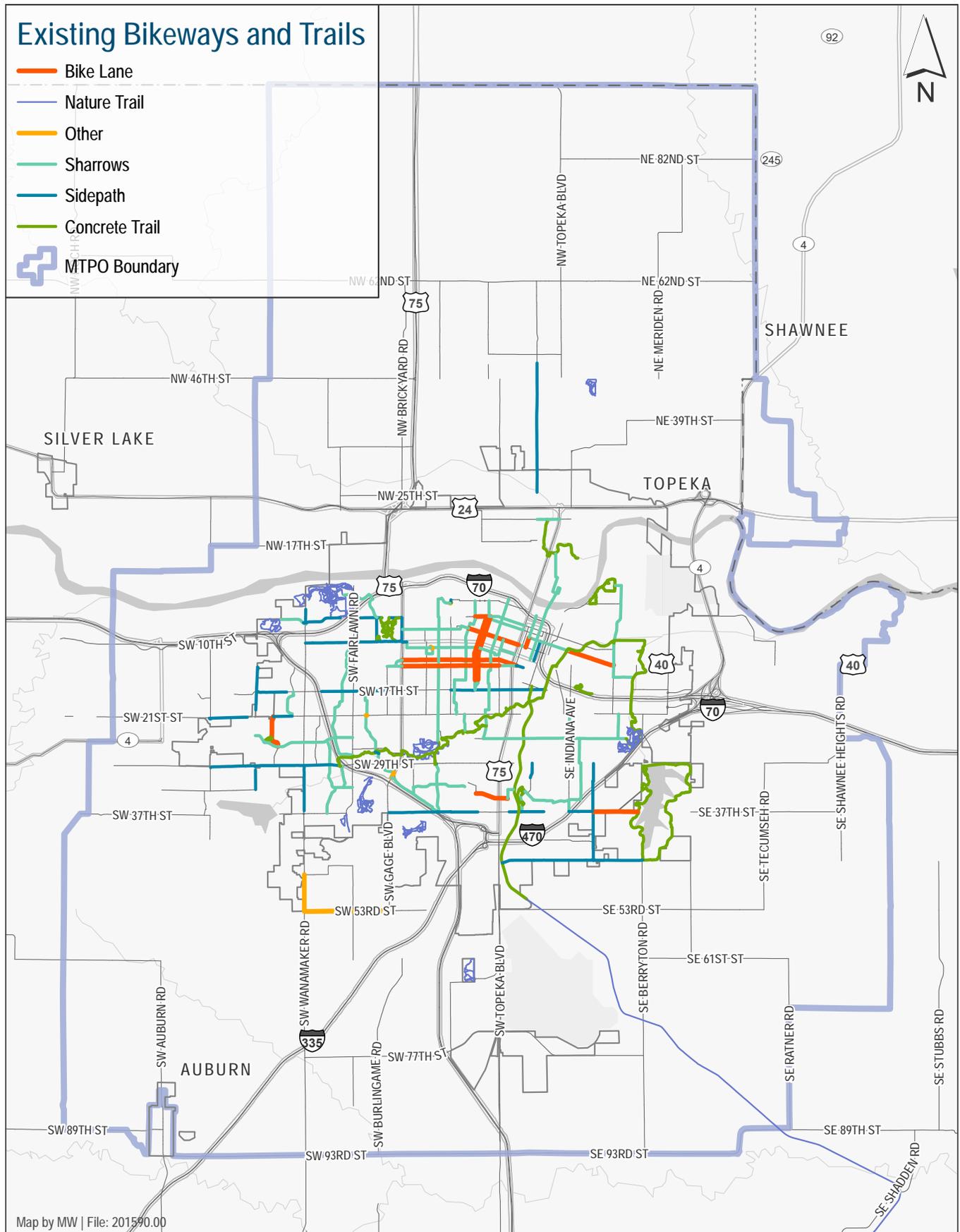
Topeka has strong potential for an improved, connected bikeway network. Many activity destinations are spread out to the point where walking is not always feasible, and the City has relatively flat topography which reduces barriers to cycling. The recently adopted [Fast-Track Bike Plan](#) outlines a vision of opportunities for all ages, abilities, and backgrounds to have access to convenient bike facilities for transportation and recreation. The City is well positioned to make changes that will attract more cyclists looking for a friendly community and bikeways designed to make them feel safe.

BICYCLE FACILITIES

As of 2020, the Topeka bikeway network features 73 miles of on-street bicycle facilities, the majority of which consist of shared lanes with no separation from motor traffic. The future of bicycle facilities

is well outlined by the 2020 Fast-Track Plan, which guides Topeka toward a more inclusive and equitable approach to bike facility planning and implementation. Future bikeways in both rural and urban contexts around Topeka will focus on providing comfort and safety for people of all ages and abilities. In the past, bikeways for transportation have been designed for the most confident and experienced users, with more “interested but concerned” users being limited to more recreational bike facilities. There is great interest in bicycling in Topeka as indicated by the previous success of the bike share program and community input from the Fast-Track plan indicating that biking conditions have gotten better since the adoption of the [Bikeways Master Plan in 2012](#). Given this level of interest, the Fast-Track Plan calls upon the City to implement bike facilities that have some level of separation between cyclists and motor vehicles on roadways where traffic volumes reach 6,000 vehicles per day or the speed limit is over 35 mph.

FIGURE 3.48 Existing Bikeways and Trails



The Complete Streets Guidelines along with the Bicycle Facility Toolkit in the Fast-Track Plan will be instrumental when planning active transportation infrastructure moving forward. Both guides provide detailed information and parameters to assist planning and public works officials in deciding what type of bike facility is best suited for a particular roadway, and how to design it with balance for all road users in mind. The Fast-Track Plan is a practical guide to implementing a truly connected bikeway network that is accessible and desirable for all those who are interested in cycling regardless of experience, confidence level, or context.

RECENT IMPROVEMENTS: BICYCLE NETWORK

As of late 2021, the City had received Transportation Alternatives (TA) or KDOT Cost-Share grants for the following project identified in the Fast-Track Plan. Design for these projects is currently underway:

Downtown Connections:

- Kansas Bridge – Laurent to 1st street: Reduction of vehicle lanes and separated bike lanes
- Landon to downtown connection – Reduction of travel lanes on Monroe and Quincy, separated/ buffered bike lanes on Monroe, Quincy, 11th and 12th, and pedestrian lane on Monroe from 15th-17th
- 8th Street from Topeka Blvd to Madison: Reduction of travel lanes, buffered bike lanes and mill & overlay
- 15th street from Kansas Ave to Shunga: Sharrows and signage
- 6th and Branner connecting to the Shunga: 10’ Trail connection and signage
- North Levee Trail loop: Along the levee Along the levee from Tyler St. to Topeka Blvd. – Trail surface enhancements, signage, access

Trail Connections:

- 20th and Kansas connecting to the Shunga: 10’ Trail connection and signage
- 21st and Western connecting to the Shunga: 10’ Trail connection and signage
- Shunga Trail connection near MacVicar and Shunga Dr: 10’ Trail connection, signage and curb ramps
- Waddell to Soldier Creek Trail: 10’ Trail Connection, signage and curb ramps
- Landon Trail to Fremont on 29th: 10’ Shared use path and retaining wall
- Liberty and California to the Shunga: 10’ Trail Connection

North Topeka:

- Tyler-Lyman to Paramore: 10’ side path on East side

BICYCLIST SAFETY

The Pedestrian and Bicycle Information Center reported that nationally, bicyclist fatality crashes accounted for about 2.3% of total traffic related deaths in 2019 with non-motorist fatalities increasing 43.6% between 2010 and 2019. Most bicyclist fatalities (78%) occurred in an urban area. Like the national average, bicyclist fatalities in Shawnee County including Topeka, accounted for approximately 2% of total traffic related deaths during the years 2010 to 2020. Shawnee County statistics show no increase in bicyclist fatalities during this time.

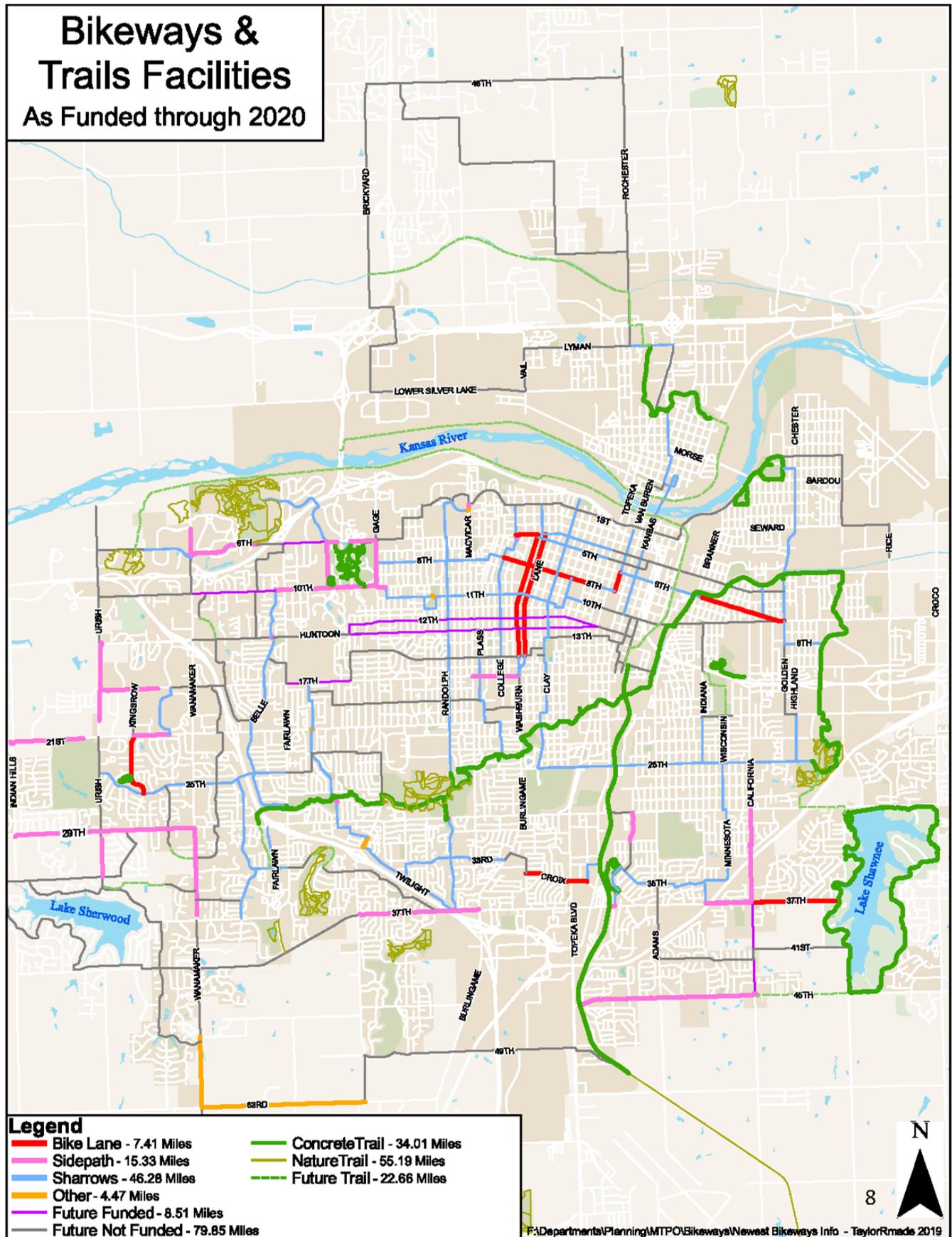
Figure 3.49 shows the number of bicyclist fatalities for the years 2010 through 2020 occurring in the City of Topeka, Shawnee County outside of Topeka, and the total. Shawnee County as a whole, averages one bicyclist fatality every three years.

FIGURE 3.49 Number of Bicyclist Fatalities

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOPEKA	0	0	0	1	0	0	1	0	0	1	0
SHAWNEE COUNTY (EXCLUDING TOPEKA)	1	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	0	1	0	0	1	0	0	1	0

Source: Kansas Department of Transportation

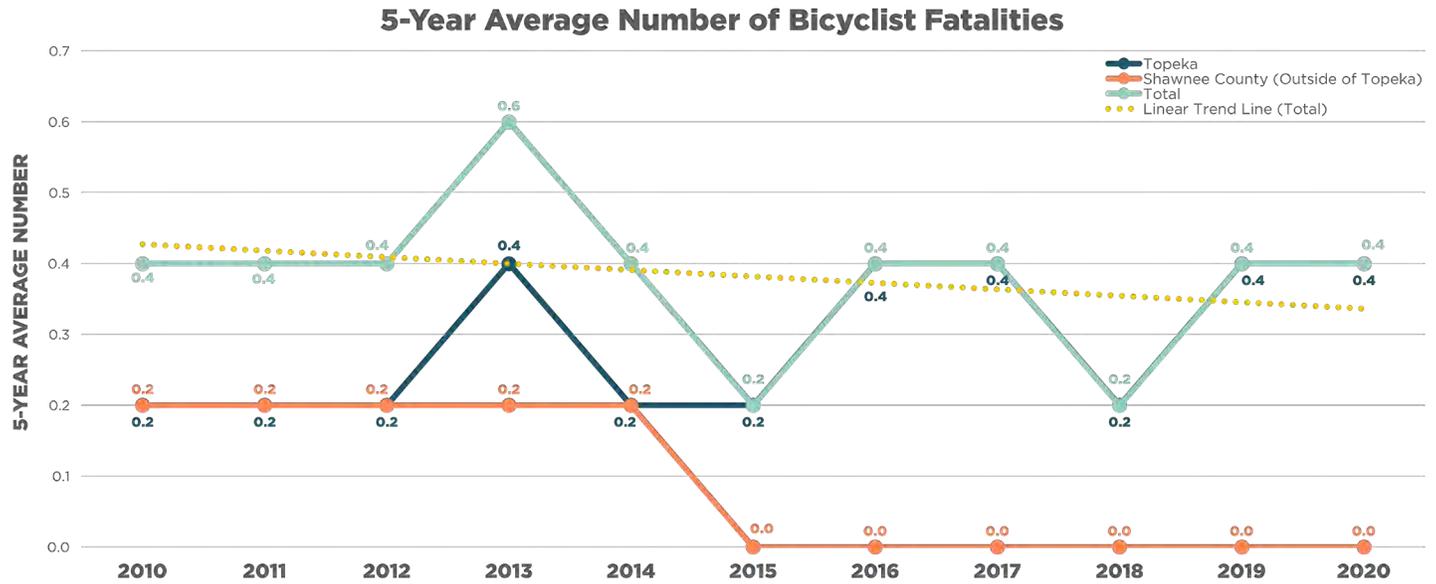
FIGURE 3.50 Bikeways and Trails Facilities



The “rolling” 5-year average number of fatalities is a method to smooth the variability of the data and to better understand whether numbers are increasing or decreasing. Figure 3.51 shows the 5-year

averages, 2010 to 2020 (year shown is the final year of the period). The average number of fatalities has remained relatively consistent during the past decade. The gold dashed line is the trendline of the data.

FIGURE 3.51 5-Year Average Number of Bicyclist Fatalities (Year noted is the final year of the 5-year period.)



Source: Kansas Department of Transportation

Figure 3.52 shows the total number of bicyclist injuries occurring in the City of Topeka, Shawnee County (excluding Topeka), and total. During 2010

to 2020, the City of Topeka averaged 29 injuries per year. Shawnee County, outside of Topeka, averaged 43 injuries per year.

FIGURE 3.52 Number of Bicyclist Injuries

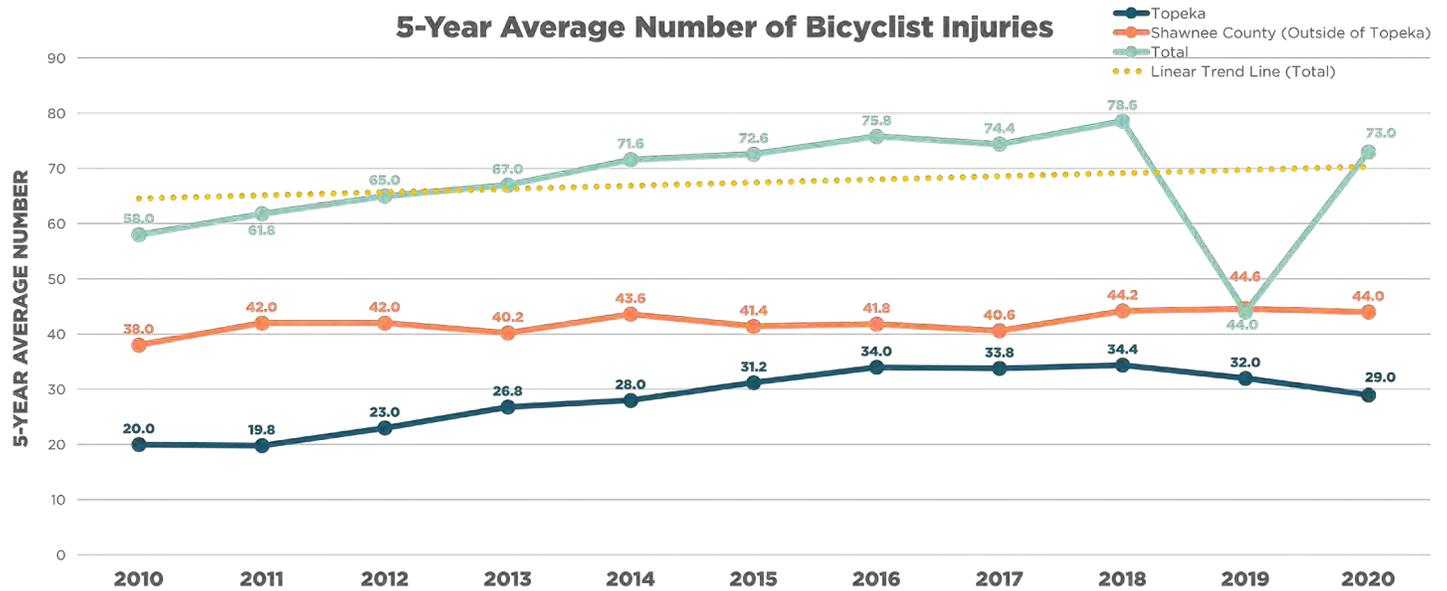
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOPEKA	16	21	34	39	30	32	35	33	42	18	17
SHAWNEE COUNTY (EXCLUDING TOPEKA)	50	53	39	31	45	39	55	33	49	47	36
TOTAL	66	74	73	70	75	71	90	66	91	65	53

Source: Kansas Department of Transportation

Figure 3.53 shows the 5-year averages of bicyclist injuries for 2010 to 2020 (year shown is the final year of the period). The number of injuries has remained reasonably consistent in areas outside of Topeka, but the numbers inside the city have seen

an increase. The dashed gold trendline indicates the total number of injuries has been increasing in Shawnee County (including Topeka) over the past decade from an average of 58 injuries in 2010 to an average of 73 in 2020.

FIGURE 3.53 5-Year Average Number of Bicyclist Injuries (Year noted is the final year of the 5-year period)

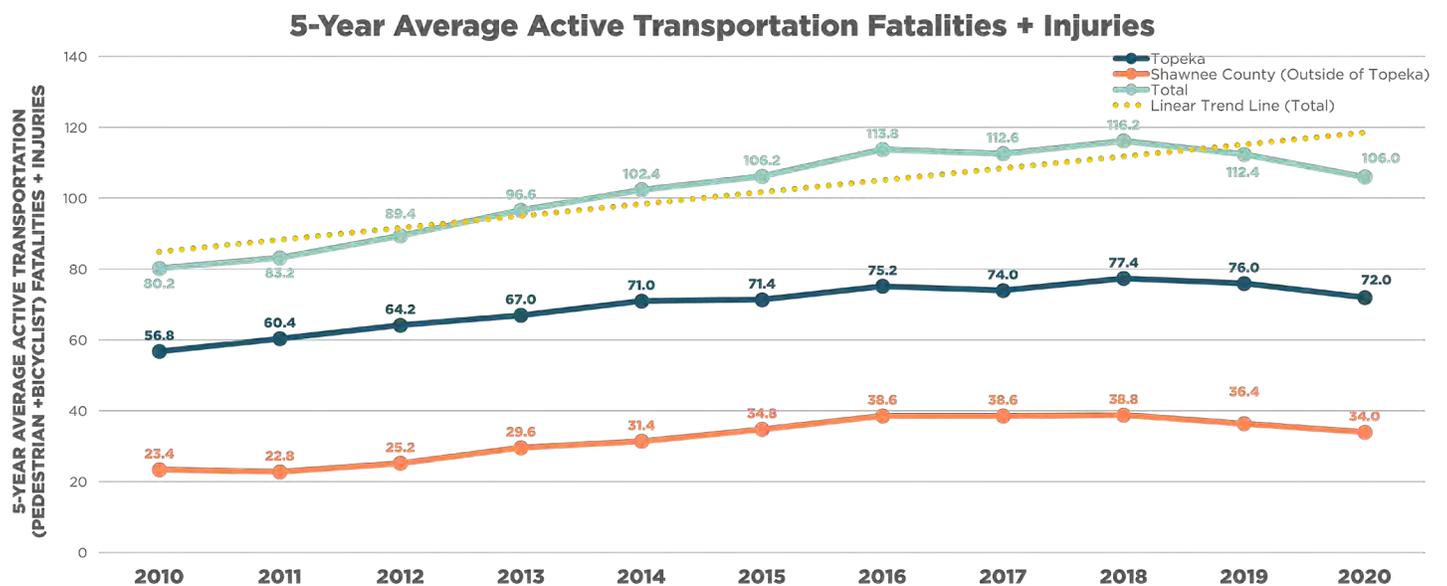


Source: Kansas Department of Transportation

Active Transportation fatalities and injuries are totaled for bicyclists and pedestrians involved in a collision with a motor vehicle. The values shown in Figure 3.54 are “rolling” 5-year averages with the year shown being the final year of the 5-year period.

The rolling average method is used to smooth variations in the number of combined fatalities and injuries and provide a better understanding of how this number is changing over time.

FIGURE 3.54 5-Year Average Active Transportation Fatalities + Injuries (Year noted is the final year of the 5-year period)



Source: Kansas Department of Transportation

Approximately 8% of all traffic related fatalities and injuries in Shawnee County involve pedestrians and bicyclists. This trend points to an increased need to consider pedestrian and bicycle infrastructure in the scope of roadway improvements, both within the City of Topeka and within other areas of Shawnee County where these facilities are appropriate.

BICYCLE TRIPS

Without additional data beyond journey to work data from the census and the bike count data cited below, it is unclear how many bicycle trips are currently made for transportation versus recreational purposes; however, the recreational trails are popular and well used. Less than 1% of Topekans counted in the 2019 American Community Survey bike to work. This is likely because a combination of work destinations being far from residential areas and a general lack of bicycling culture and connected, comfortable facilities. However, we know from national data that there is great potential for functional non-work trips

to be completed by bicycle in the form of short trips to school, for errands, visiting friends, etc.

As with pedestrian counts, bicycle counts from 2013 to 2020 have been collected once a year. This data is helpful to gauge a snapshot of biking in the community, but it is an extremely limited sample making it difficult to assess trends or patterns. Weather, time of year, and land use can have great impacts on bike count data, and these factors should be considered when conducting, analyzing, and archiving counts. Better counting methodology will open the possibility to conduct more analysis on count data such as if more utilitarian trips are happening some days and more recreational trips taken on other days as well as the levels of use of new bicycling infrastructure. The table below shows bike counts from 2013-2020.

The count methodology was amended with new counting locations after 2021, and the result for cyclist counts is in the table below.

FIGURE 3.55 Annual Bicycle Counts at Select Locations

	2013	2014	2015	2016	2017	2018	2019	2020		2021
#1 North Topeka, Central Avenue	9,972	15,440	1,385	12,674	18,535	15,620	4,989	6,943	#1 Tyler & Lyman	20
#2 East 6th St	10,780	5,949	30,805	23,085	20,183	25,306	25,410	24,738	#2 6th & Golden	15
#3 East 25th & Landon	12,395	18,211	43,302	7,352	6,493	31,510	38,309	28,507	#3 37th & Landon	47
#4 10th & Topeka	13,310	-	30,594	34,381	18,770	23,094	13,430	11,798	#4 8th & Topeka	35
#5 Gage Park	6,128	5,216	7,118	8,508	9,981	6,425	3,956	9,561	#5 6th & Westchester	5
#6 Clay St/Central Park	18,511	2,819	7,762	10,911	11,963	7,040	13,898	20,500	#6 Clay & Hunttoon	26
#7 19th & Washburn U	5,019	705	5,672	7,903	2,587	6,374	3,059	1,222	#7 17th & MacVicar	13
#8 Randolph	5,566	1,410	6,791	7,448	8,164	6,288	2,679	16,842	#8 15th & Randolph	11
#9 Belle	1,225	5,125	2,069	2,629	1,389	1,275	2,406	5,069	#9 28th & Fairlawn	47
#10 29th & Fairlawn	8,422	12,686	13,962	13,149	6,374	4,917	4,813	9,307	#10 33rd & Randolph	25
#11 Shunga Trail	122,383	43,493	105,209	75,175	73,454	93,725	89,616	119,124	#11 Shunga & Landon	94
#12 Landon Trail	68,906	-	62,955	58,339	86,720	39,626	30,426	31,816	#12 8th & Randolph	25
#13 8th St	7,092	9,524	12,499	10,106	15,469	10,293	4,813	13,750		
#14 East 37th/Lake Shawnee	3,369	705	1,337	-	4,813	8,181	3,609	6,738		
#15 West 37th	-	1,410	-	-	-	-	-	-		

Bicycle Plans and Policies

Several plans and policies are important to understanding bicyclist conditions, policies, and planned improvements. These include the MTPO Transportation Safety Plan, Topeka and Shawnee County Complete Streets Guidelines, and the Topeka Fast-Track Bike Plan.

MTPO TRANSPORTATION SAFETY PLAN (2017)

The Transportation Safety plan maps crashes involving bicyclists from 2010-2016 and makes projections for future crash trends out to 2020. The crash analysis revealed the following:

- Over 95% of all bicycle crashes with vehicles result in an injury or fatality, and three cyclists have died in Shawnee County during the seven-year study period.
- For both total as well as fatal and serious injury crashes, there is an upward trend in crash frequency. This upward trend may be due to an increase in cyclist activity in the City of Topeka, however there is insufficient exposure data to make a clear connection.
- In general, crashes are more likely to occur along segments of the roadway than at intersections. Most of the bicycle crashes within the City are along urban arterial roadways.

TOPEKA AND SHAWNEE COUNTY COMPLETE STREETS GUIDELINES (2019)

Along with best practices for pedestrian realm design, the complete streets guide includes best practice recommendations for bike facilities. The guidelines feature recommendations on where and how to design the following bikeways:

- Shared Use Paths/Side paths
- Separated Bike Lane
- Buffered Bike Lane
- Shared Lane Markings
- Bike Boulevard Treatments

It is important to decide what type of cyclist the facility will be designed for when choosing which type of bikeway facility is needed. The complete street guide serves as a go-to resource for designing bike facilities on any new or retrofit roads.

TOPEKA FAST-TRACK BIKE PLAN (2020)

The Fast-Track Plan provides an update to the Bikeways Master Plan, it outlines actionable processes to ensure that the goals and overall vision for accessible bikeways becomes a reality. The Fast-Track Plan serves as an action plan that supplements the 2012 plan with updated language on bike facilities and reflects updated community concerns and desires. The following Guiding Principles are outlined in the Fast-Track Plan:

- **Equity and Access for all:** Improve access for all members of the community to key destinations, trails, and neighborhoods along a safe, connected, and well-maintained bicycle network. Plan and design for bicyclists of all ages and abilities recognizing the diverse needs of low-income users, youth, women, people of color, seniors, and other underrepresented groups.
- **Health, Wellness and Safety:** Provide opportunities for active transportation choices through the planning, design, and promotion of the bicycle system. Increase roadway safety for bicyclists.

FIGURE 3.56 Cyclist Accidents

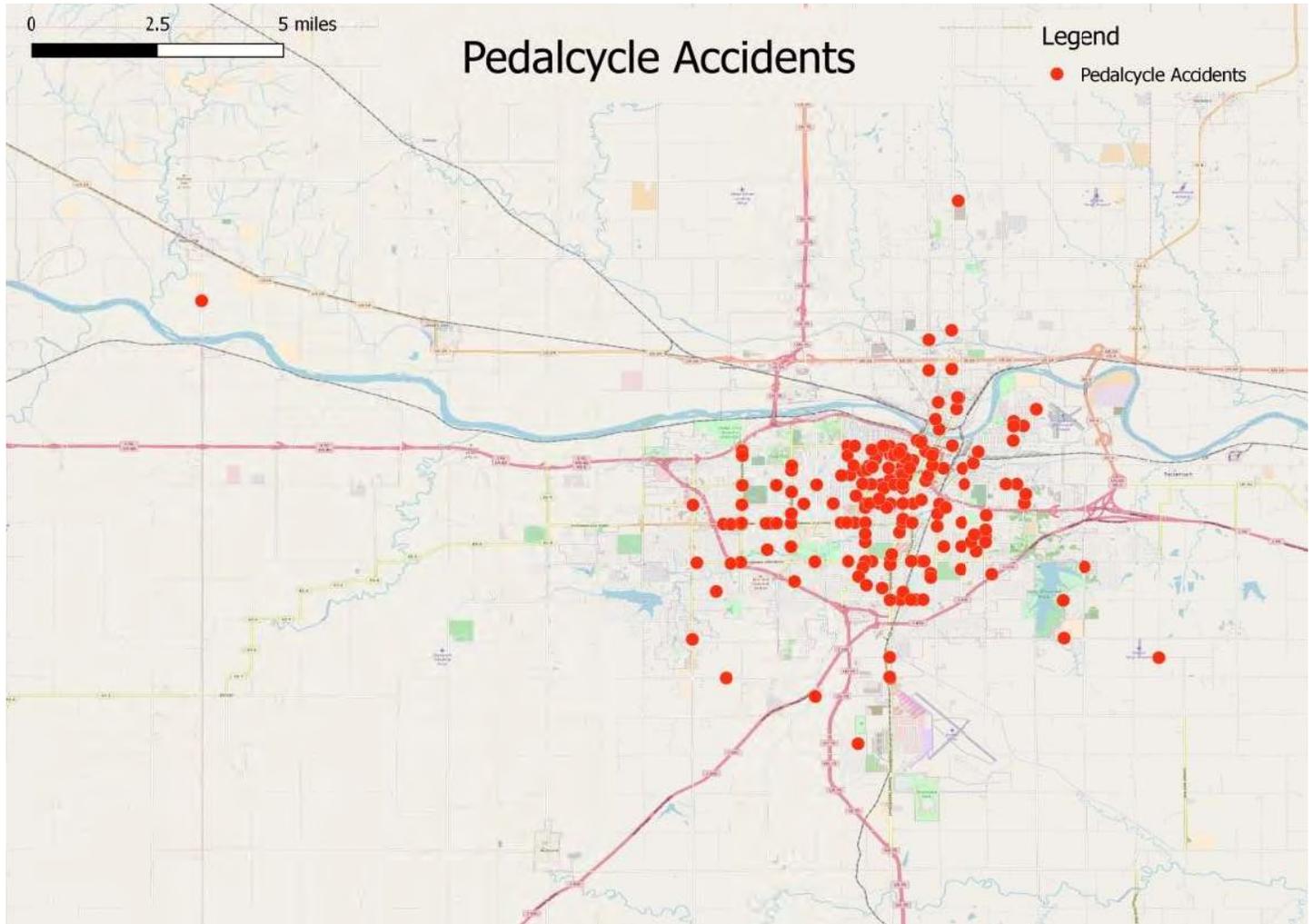
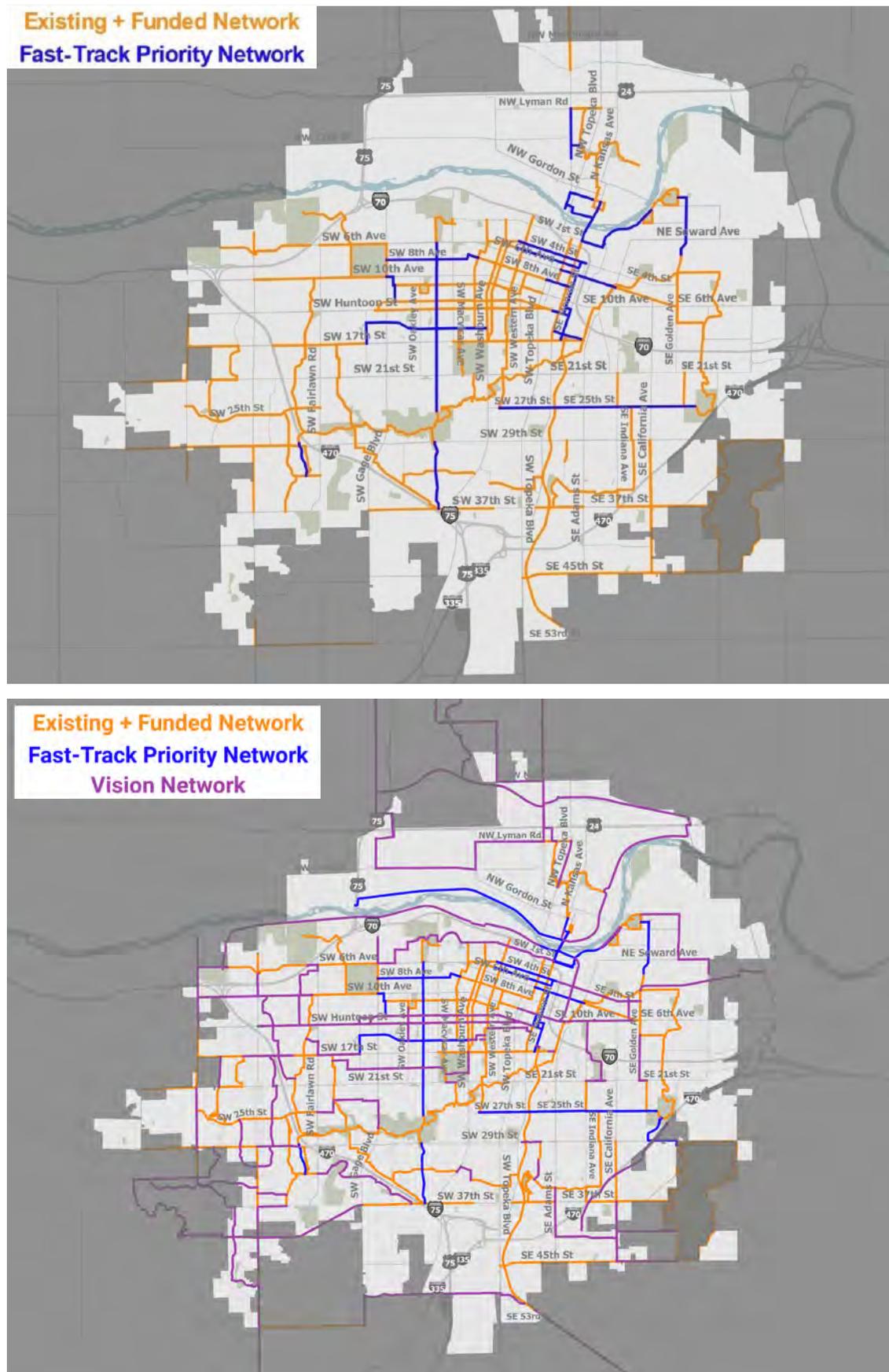


FIGURE 3.57 Existing and Fast-Track Priority Network and Vision Bike Network



- **Sustainability and Economic Development:** Reduce the environmental impacts and infrastructure costs of the community’s transportation system through greater opportunities for active transportation. Capitalize on the potential of an all ages and all abilities bicycle network to attract tourists, residents, and businesses.
- **Livability:** Support bicycling and active transportation as critical components in providing a high quality of life for people living, working, recreating, and visiting Topeka.
- **Land Use and Transportation Connections:** Prioritize a destination-based bicycle network with end-of-trip facilities to support active transportation.

The priority project network identified in the Fast-Track Bike Plan include:

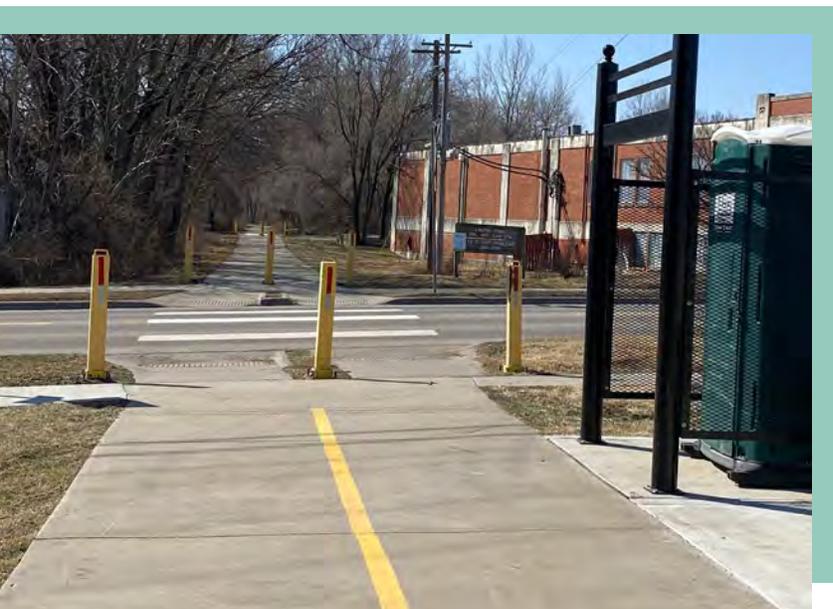
- 18 on-street routes and provides concept designs for the following:
 - » SW 6th Avenue from SW Van Buren to SE Branner Trafficway
 - » Kansas Avenue Bridge. 1st Street to NOTO District (funded)
 - » 4th and/or 5th Avenue from SE Monroe to SW Buchanan
 - » Landon Trail Connector via Monroe, 15th Street to 12th Street (funded)
 - » SW 8th Avenue, MacVicar Avenue to Gage Park
- 5 trails (See Multi-Use Trail section below for more details)

Multi-Use Facilities

Multi-use trails combine and balance the needs and desires of both pedestrians and bicyclists. These are trails and greenways separated from streets and exclusively for active transportation users. In Topeka, nearly all the 49.3 miles of multi-use facilities are trails, most of which are independent from the roadway with few exceptions for street crossings. These trails often run parallel to waterways or are repurposed railways and connect parks through greenways. The existing trail network connects Topeka for both transportation and recreation options. Trails connect the city from the East to the West and stretch South out into Shawnee County. There are some trails that are not connected to the greater network, but the Fast-Track Plan outlines plans to connect these trails to the greater network using side paths, repurposing drainageways, and levees.

Topeka’s core trail network is made up of the following:

- **Shunga Trail:** Concrete multi use trail that connects North and East Topeka, this trail will eventually stretch across the city.
- **Landon Trail:** Regional trail built on abandoned railroad right of way, connects to the Shunga Trail and is an important link to downtown.
- **Lake Shawnee Trail:** 7-mile recreational trail circling Lake Shawnee, not currently connected to greater trail network.
- **Deer Creek Trail:** 2-mile local trail that connects East Topeka to the Shunga Trail in the North.
- **Soldier Creek Trail:** 2-mile trail in North Topeka that connects Garfield Park to NE Lyman Road.



Micromobility

Micromobility devices, including eScooters and eBikes, are an emerging development that has the potential to provide more active transportation opportunities to some segments of the population. Development of best practices for micromobility is ongoing, as new technology is being refined and these devices become more mainstream. Topeka should be implementing best practices on micromobility regulations as they develop to ensure safety for both micromobility users and other vulnerable road users. The City recently began a pilot program for eScooters that includes an agreement that defines what Topeka will allow from an eScooter company. In 2017, The City introduced [code regulations](#) for micromobility devices. They cover regulations prohibiting certain areas for bicycles, electric scooters, roller skates and skateboards. The regulations also cover operating requirements for electric scooters, and parking regulations for these micromobility devices.

Prior to eScooters, Topeka had bike share program to provide micromobility. Topeka Metro Bikes (TMB) began operations in 2015 under the Topeka Metro Transportation Authority and saw over 50,000 trips within the lifetime of the program. At its peak, the TMB program featured 200 bikes, with 17 main stations and more than 120 community bike parking hubs. The hubs were located at college campuses and recreational destinations such as Gage Park and Lake Shawnee. The TMB system was well designed, with a coverage area greater than 60 square miles that filled in gaps in first- and last-mile connections to transit.

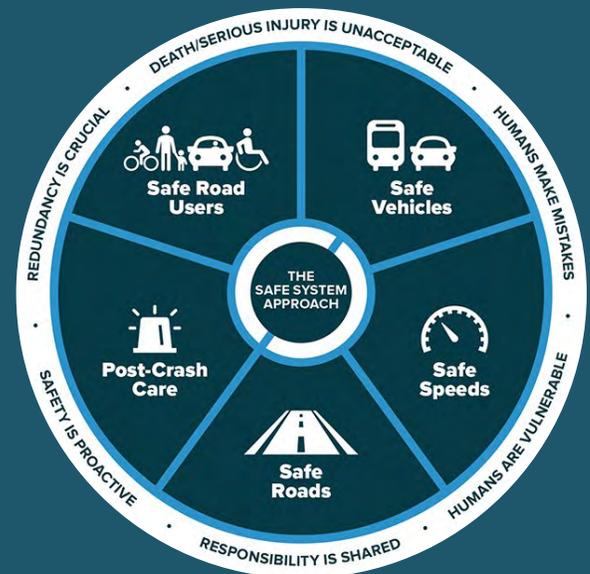
Unfortunately, due to funding restrictions, the transportation authority was no longer able to continue hosting the TMB program. TMTA is open to having a third party host the micromobility service in the future.

Active Transportation Safety

Planning a safe active transportation system is one of the most critical elements to ensure the system is effective and attractive. Perceived and actual safety is oftentimes the most important factor when someone is deciding to choose between transportation modes. Implementing pedestrian and bikeways that provide both safety and comfort by having high degrees of separation from motor traffic and safe crossings will encourage those who are interested in walking or biking in their community but have safety concerns.

Safe Systems Approach

The Safe System Approach is a data-driven, holistic, and equitable method to roadway safety that fully integrates the needs of all users, anticipates the possibility of errors by drivers and other road users, and manages crash impact forces to levels tolerated by the human body. The Safe System Approach includes five elements: safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. The approach incorporates the 5 Es of traffic safety—equity, engineering, education, enforcement, and emergency medical services (EMS)—but goes beyond the traditional approach to enlist designers, operators, and users of the transportation system to prevent fatal crashes and reduce crash severity.



Source: FHWA

Through the adoption of many of the recommendations in the Complete Streets, Pedestrian and Bike Plans, Topeka has been taking more of a safe systems approach to safety. Applying the Safe System approach involves anticipating human mistakes by designing and managing road infrastructure to keep the risk of a mistake low; and when a mistake leads to a crash, the impact on the human body doesn't result in a fatality or serious injury. Road design and management should encourage safe speeds and manipulate appropriate crash angles to reduce injury severity. This approach considers the safety of vulnerable users in every part of the planning and design process.

FREIGHT & INTERMODAL CONNECTIVITY

The ongoing pandemic has exposed the vulnerability of supply chain amidst increasing demand for delivery of goods. Growth of distribution centers in metropolitan Topeka is a result of the increased demand to meet changing nature of business practices, with an emphasis on reliable, just-in-time delivery.

The 2017 Freight Facts and Figure Report indicated Kansas has 39.7 % of all goods shipped from within the state, while the remaining 60.3% are shipments received from out of state. Safe and efficient movement of goods increases the burden on the regional infrastructure making maintenance and safety a continued priority for the metropolitan area.

Comments from local businesses suggest their primary concern is maintaining the existing transportation infrastructure to support the safe and efficient movement of goods within and through the region. The following subsections highlight the current freight transportation environment within the region.

There is increasing economic competitiveness among regions of the United States, and globalization of the economy has made freight transportation infrastructure even more important to economic success. There has been a shift towards an emphasis in reliable, just-in-time delivery that makes an efficient freight transportation system critical. Safe and efficient goods movement increases the burden on regional infrastructure making maintenance and safety a priority. The November 2021 passing of the Infrastructure Investment and Jobs Act is anticipated to spur investment beyond basic maintenance of facilities.

While manufacturers can serve global markets, this requires greater reliance on, and greater efficiencies in, the transportation system. The disruptions created by the COVID-19 pandemic illustrate how key the transportation system is, particularly when there is increased demand for items like food and medicines. The following subsections highlight the current freight transportation network within the region.

Waterways

Topeka is in the Kansas/Lower Republican Basin on the banks of the Kansas River. While the Kansas/Lower Republican Basin discharges into the Missouri River Basin, only the Missouri River is barge navigable for freight transport in Kansas.

Truck Flows

I-70 is the major freight highway in the Metropolitan Topeka Region. The [2011 FHWA Freight Performance Measurement: Travel Time in Freight-Significant Corridors report](#) notes that I-70 runs a total of 2,153 miles connecting ten states through the midsection of the continental United States from Cove Fort, Utah to Baltimore, Maryland. I-70 passes through Denver, CO; Topeka, KS; Kansas City and St. Louis, MO; Indianapolis, IN; Dayton and Columbus, OH; Wheeling, WV; and Hagerstown and Frederick, MD. The western half of I-70, including Topeka, is overwhelmingly rural except for Denver. By contrast, the eastern half, stretching from Kansas City to Baltimore has more closely spaced urban areas, and is part of a relatively dense network of Interstates and other major highways. Here traffic volumes and problems caused by intersecting highways are more likely to slow trucks. The stretch of I-70 between Denver and Kansas City, including Topeka, has none of these problems and, therefore, relatively high average truck speeds as seen in Figure 3.58. The [2019 National List of Major Freight Highway Bottlenecks and Congested Corridors Federal Highway Administration \(FHWA\) Freight Mobility Trends: Truck Hours of Delay](#) does not identify any sections within the Topeka MTPo as a major bottleneck.

Figures 3.59 and 3.60 illustrate the recent (2015) and future year (2045) average daily long-haul freight truck traffic on the National Highway System. Long-haul freight trucks typically serve locations at least 50 miles apart, excluding trucks that are used in movement by multiple modes and mail. While I-70 plays a major role in moving freight across the country, generally truck traffic volumes on I-70 are significantly lower compared to parallel interstate facilities located in Nebraska (I-80) and Oklahoma (I-40).

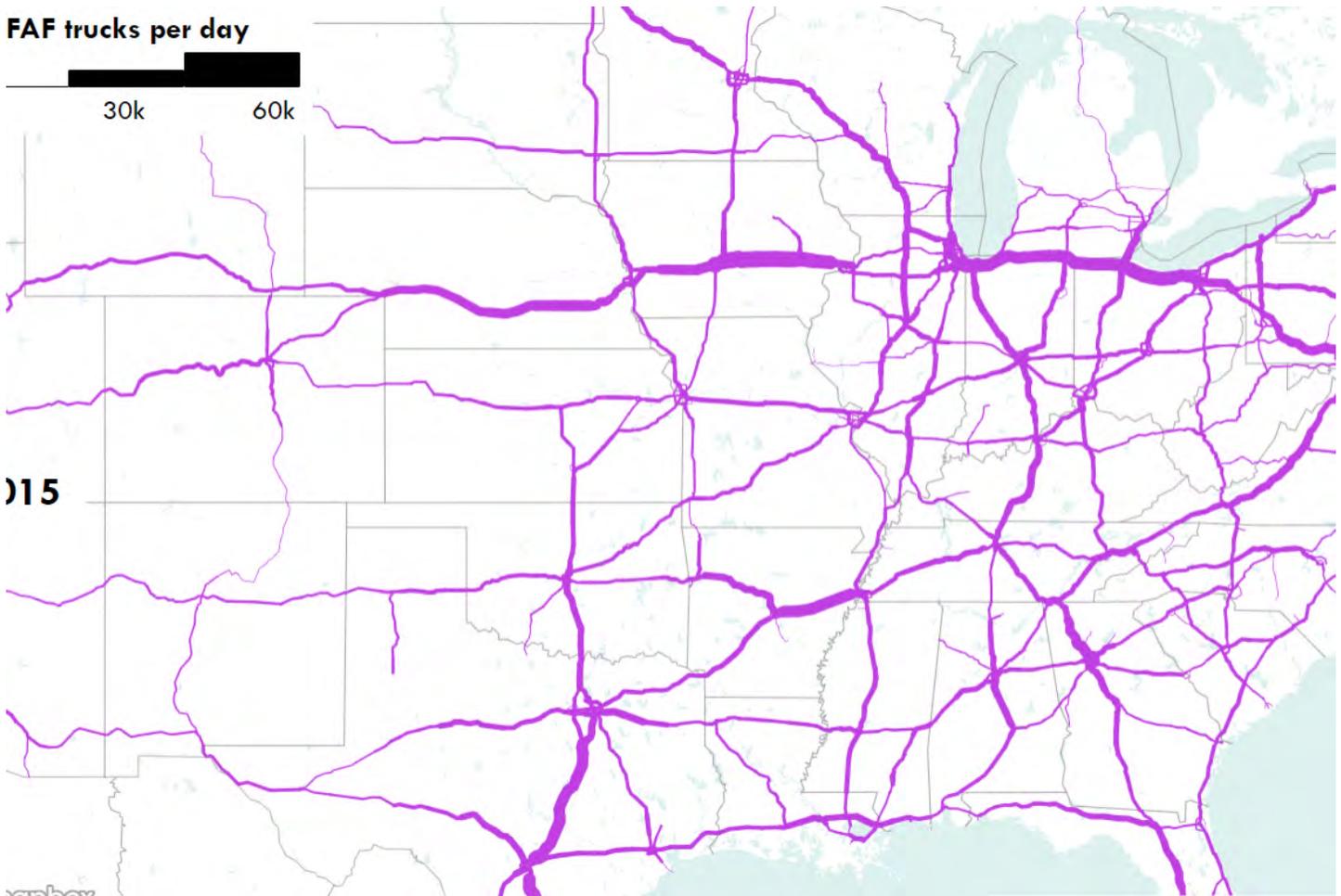
The 2045 projections anticipate growth in the I-80 and I-40 corridors while I-70 is projected to see a slightly lower growth. Furthermore, I-70 west of Topeka toward Denver is not anticipated to see as significant increase in truck volumes as most of the growth in east-west freight movement is accommodated in the I-80 corridor.

FIGURE 3.58 Average Truck Speeds Along the I-70 Corridor



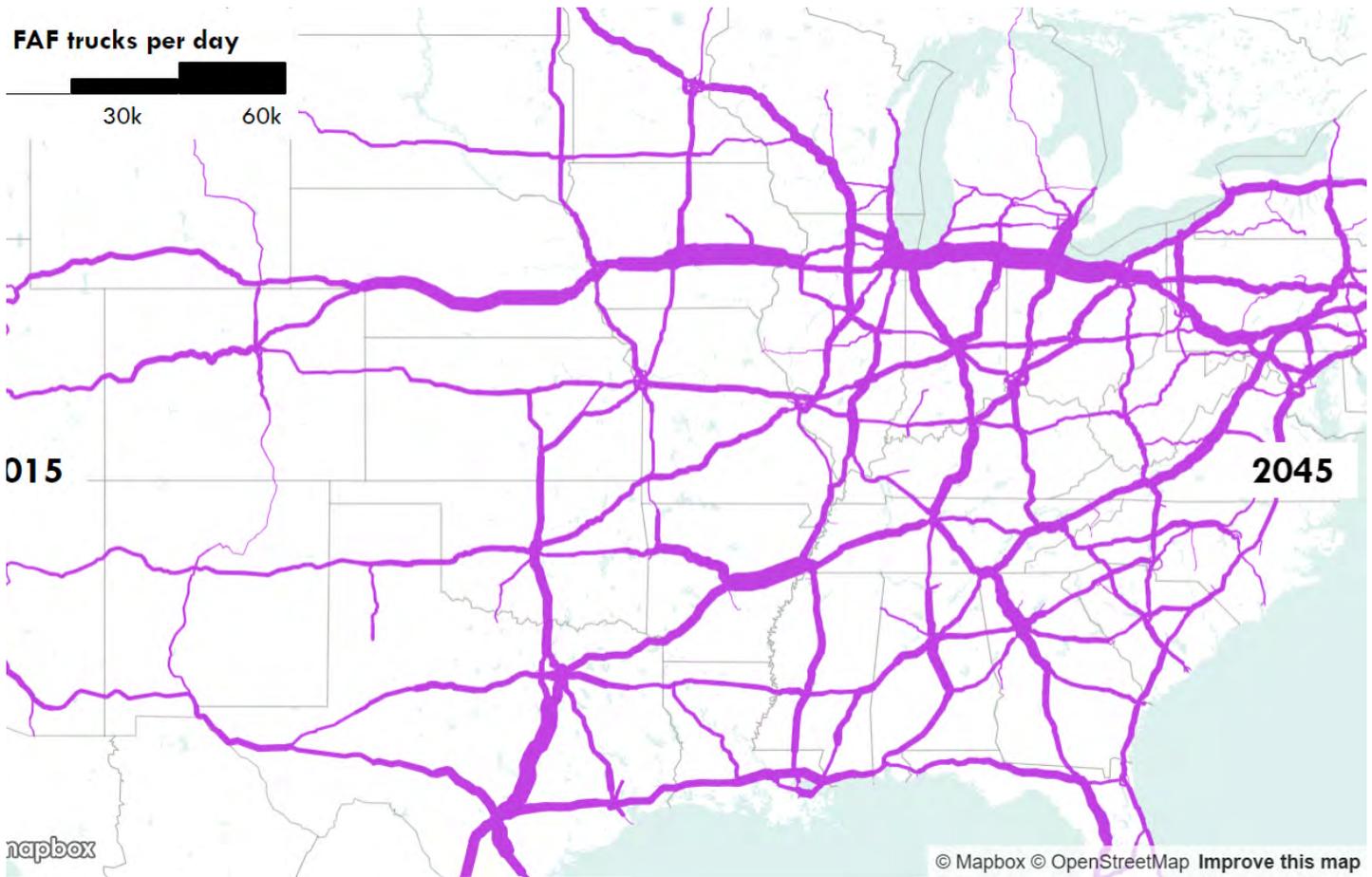
Source: FHWA Freight Performance Measurement: Travel Time in Freight-Significant Corridors (2006)

FIGURE 3.59 Average Daily Long-Haul Truck Traffic on the National Highway System: 2015



Source: U.S. Department of Transportation, FHWA Office of Freight Management and Operations, Freight Analysis Framework

FIGURE 3.60 Average Daily Long-Haul Truck Traffic on the National Highway System: 2045



Source: U.S. Department of Transportation, FHWA Office of Freight Management and Operations, Freight Analysis Framework

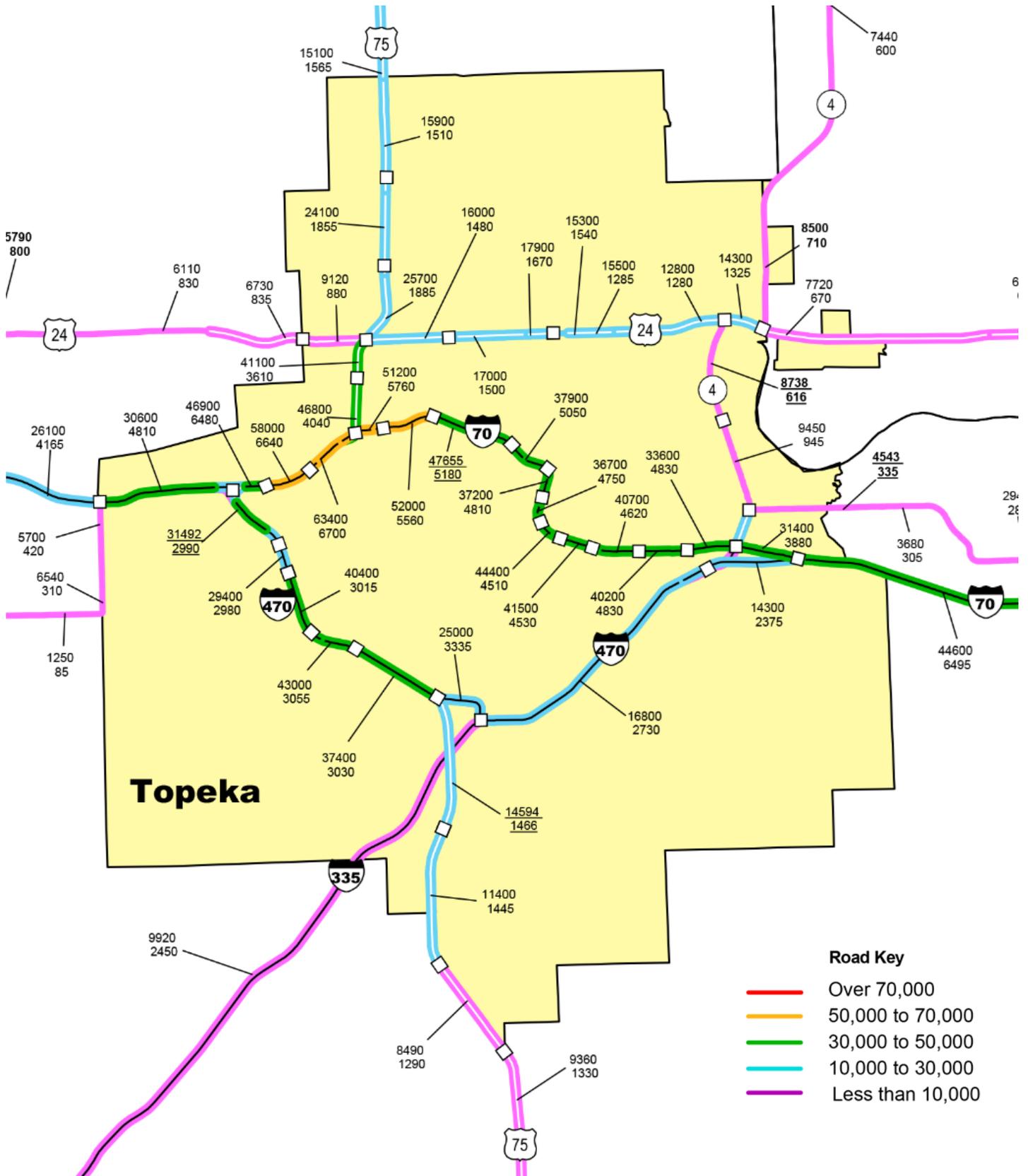
Figure 3.61 shows the average annual daily traffic volumes (AADT) on state highways in the region. The top number in each set is the total daily traffic and the bottom number represents commercial truck traffic.

Within Topeka and Shawnee County, I-70 carries the heaviest truck volumes. The highest truck volumes on I-70 occur between I-470 and US-75 with over

6200 heavy commercial vehicles per day. Through downtown Topeka, over 4400 trucks per day travel I-70; similar truck volumes are seen on

I-70 east and west of Topeka. The Kansas Turnpike (I-335) south of Topeka carries 1570 commercial vehicles per day while 1720 trucks per day travel US-75 north of Topeka.

FIGURE 3.61 2019 Average Annual Daily Traffic



Source: Kansas Department of Transportation

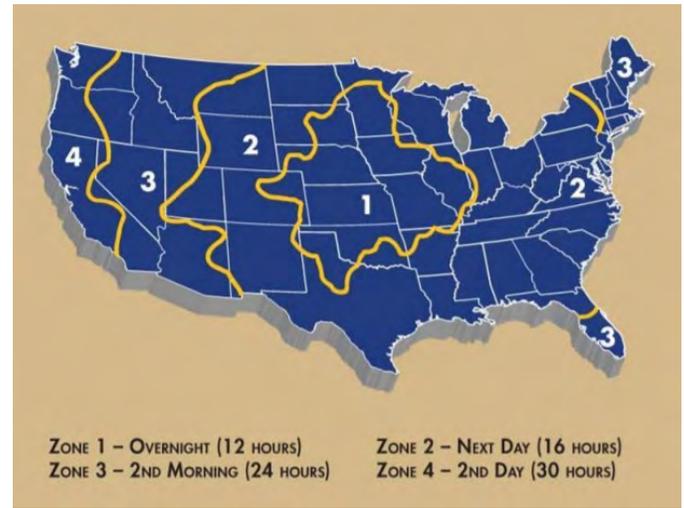
Approximately 60 miles east of Topeka, the Kansas City area serves as one of the nation’s leading centers for freight distribution; located at the crossroads of I-70, I-35, and I-29. Figure 3.63 shows the freight delivery times from the region and the importance of the Kansas City/Topeka area.

Major delivery zone cities in Zone 1 include Chicago, Memphis, Omaha, Denver, Des Moines, Minneapolis/St. Paul, Dallas/Fort Worth, and Indianapolis.

New data sources use anonymized location records from smartphones and navigation devices in connected cars and trucks. This data can be combined with census and sociodemographic information. Modeling and optimization algorithms transform this data into normalized and aggregated travel patterns. Figure 3.62 shows the commercial vehicle trips for a typical day in 2019 (pre-pandemic) based on mobile location data. Data is shown for trip

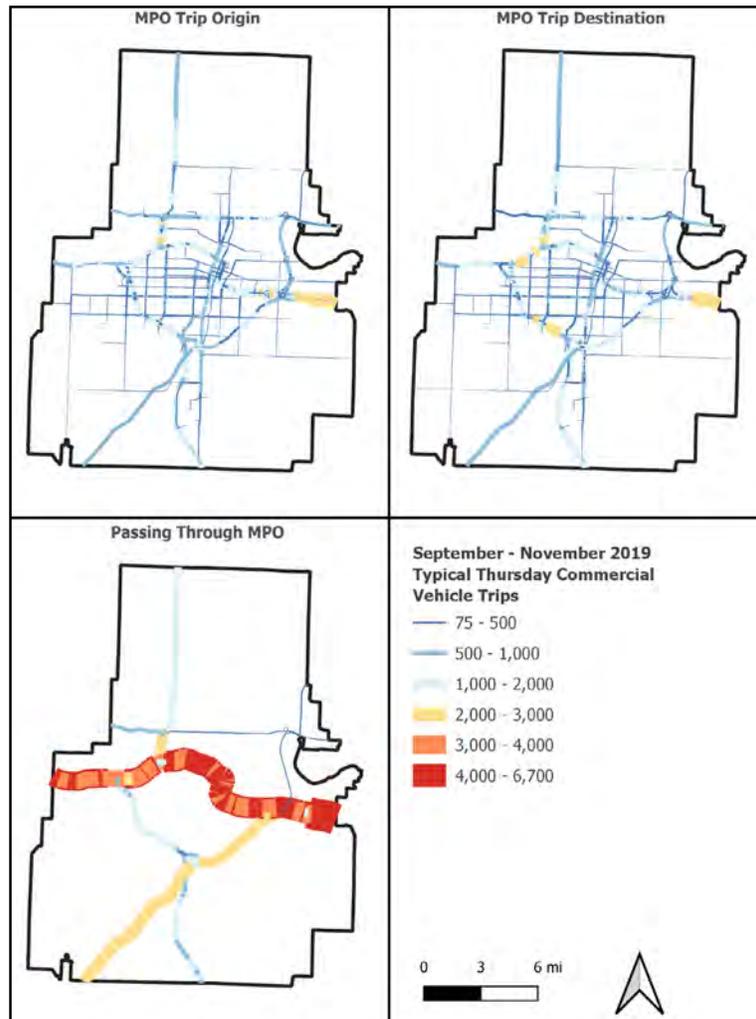
origins, destinations, and pass-through traffic in the metropolitan planning area.

FIGURE 3.63 Average Truck Speeds Along the I-70 Corridor



Source: Kansas Department of Commerce

FIGURE 3.62 Commercial Vehicle Trips per Day



Source: Replica

FIGURE 3.64 Commercial Vehicle Arrivals/Departures per Square Mile

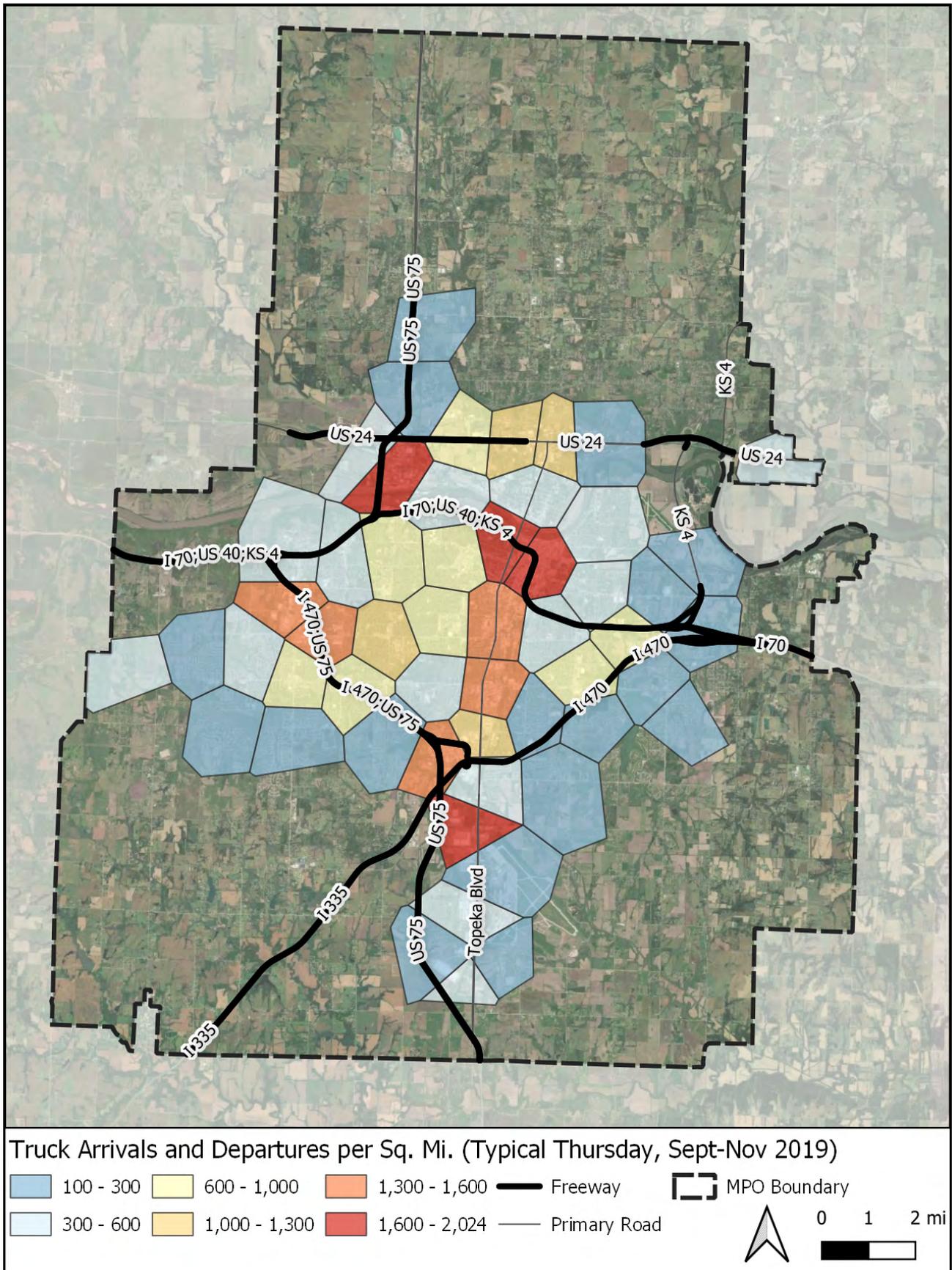


FIGURE 3.65 Current and Future Industrial Areas

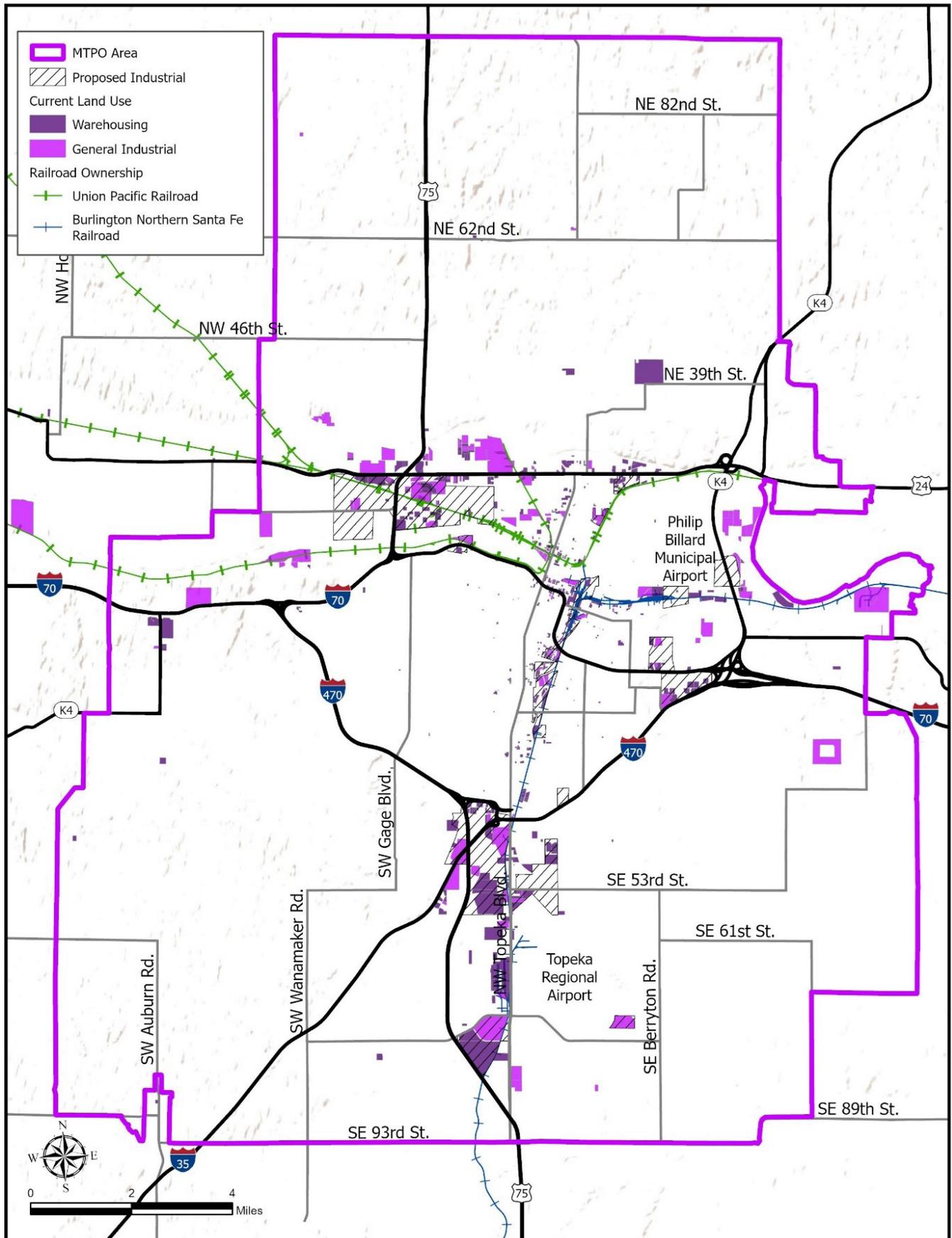


Figure 3.65 illustrates current and planned industrial land uses with the Topeka Metropolitan Area. The map highlights the important link between current and future freight generators in relationship to the transportation system. As the region grows, achieving greater efficiency in freight movement will support both existing and future economic activity within the region.

As noted in the earlier section on Mobility, congestion on the highway routes used by commercial vehicles is minor and limited to the peak hour (commuting) periods of the day. Travel time reliability is not an issue for the Topeka Metropolitan Area. To see congestion within Topeka’s highways, view Figures 3.10 and 3.11

In the future, more significant congestion will begin to develop along I-70, especially between I-470 and US-75, as well as near downtown. A more detailed study for the area along I-70 between I-470 and US-75, including US-75 north across the Kansas River, is needed to determine recommended actions. The I-70 Polk-Quincy Viaduct Corridor project, when constructed, will address future congestion near downtown.



BNSF Railyard - East Topeka

Rail Freight

The Surface Transportation Board (STB) separates commercial railroad companies into three classes based on adjusted annual operating revenues for three consecutive years:

1. The largest railroad systems are classified as Class I railroads which are the major, main, and branch line operators that have revenues of \$250 million or more per year.
2. Class II railroads average between \$20 and \$250 million in revenue per year.
3. Class III railroads, also known as short-line railroads, have average revenues less than \$20 million per year.

Kansas ranks in the top ten in the United States in railroad mileage, despite the loss of track miles due to abandonments each year. The state’s line-haul railroads totaled 4,776 miles. This total excludes double trackage, spur and business tracks, sidings and yards, and privately owned “not-for-hire” railroads. Railroad miles owned and operated by Class I carriers totaled 2,790 miles, while Class III carriers own and operate 1,986 miles in Kansas.

The region has long been a railroad center, and at one time had four different railroad stations in Topeka (Union Pacific, Santa Fe, Missouri-Pacific, and Rock Island). Currently, the region is crisscrossed with mainline track belonging to the Union Pacific (UP) and the Burlington Northern-Santa Fe (BNSF) systems. UP operates a transcontinental corridor through the northeastern corner of the state with as many as 60 trains per day between Topeka and Kansas City. Rail freight services are provided by both railroads operating in the region, and service is provided to most industrial sites in the area including the grain elevators in North Topeka and the industrial sites near Topeka Regional Airport. The active railroad lines in the region are displayed in Figure 3.67, along with the track mileage in Kansas for the BNSF and UP railroads. The BNSF rail yard is located adjacent to the passenger station. The UP rail yard is in North Topeka along Gordon Street.

FIGURE 3.66 Freight Movement on Interstate and Other Highways

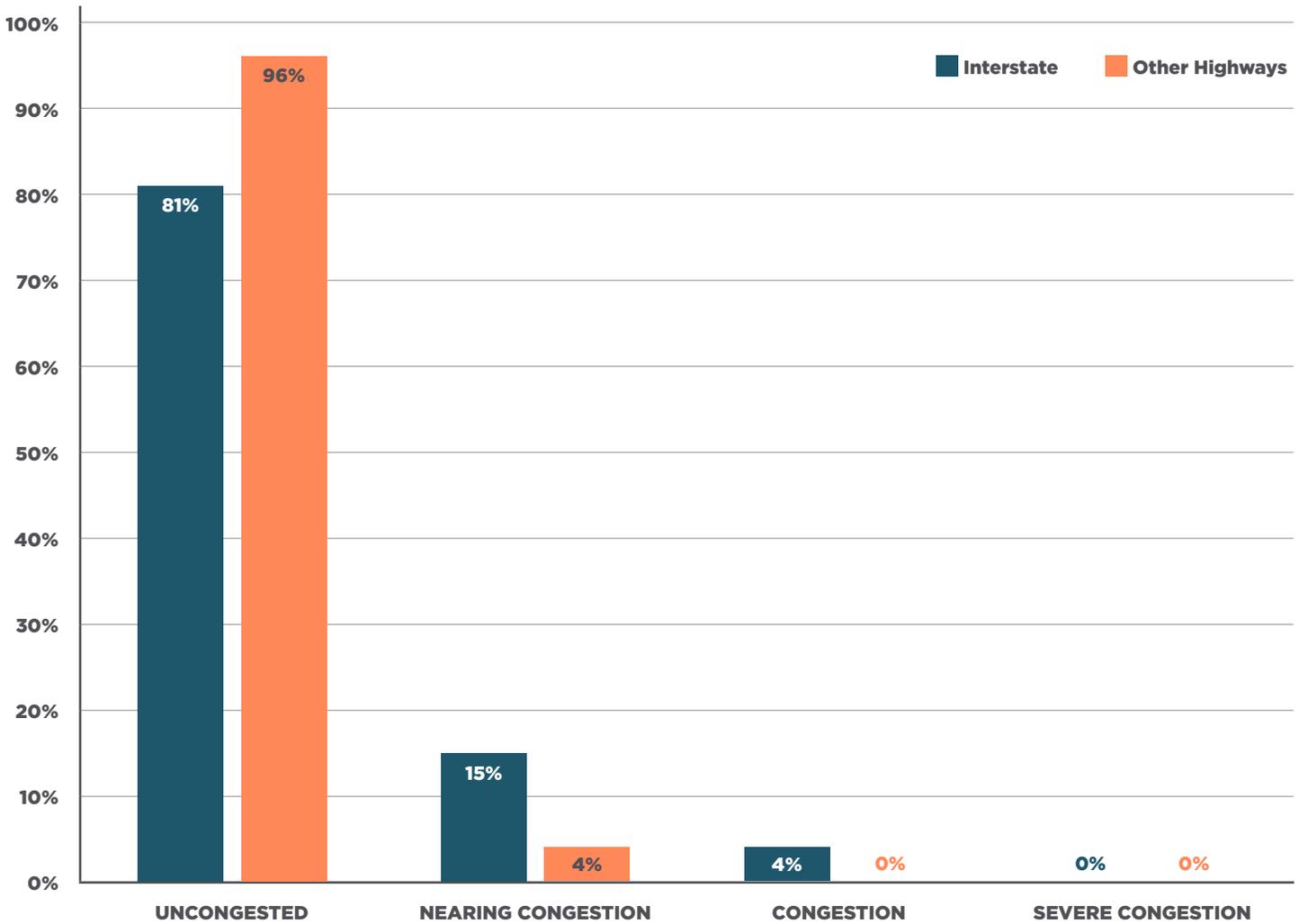
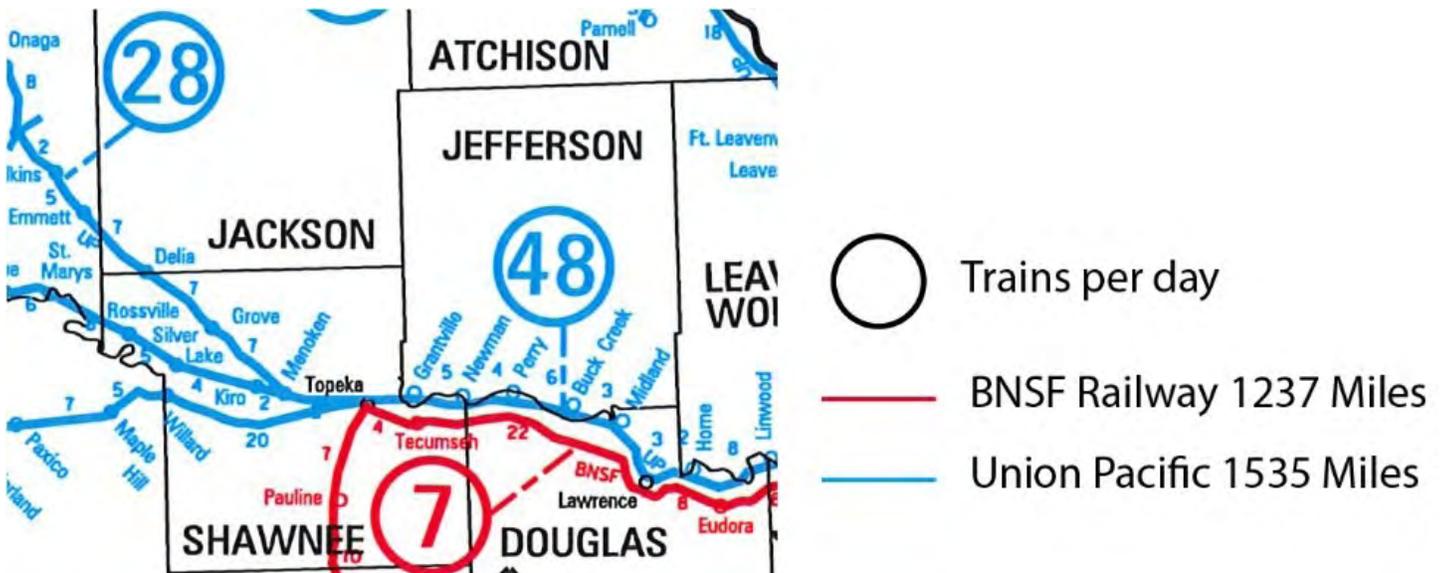


FIGURE 3.67 Class I Railroads in the Metropolitan Topeka Area



Airport Facilities

Topeka Regional Airport (formerly Forbes Field) is located south of Topeka and east of Topeka Boulevard. The airport has two runways: Runway 13-31 which is 12,802 feet in length and the crosswind runway, which is 7,000 feet in length. The main runway can accommodate virtually any U.S. military or civilian aircraft. A full range of Fixed Base Operator (FBO) services and other services including fuel, maintenance, charter, flight instruction, air ambulance, and freight services are available at Topeka Regional Airport.

Ground transportation to and from Topeka Regional Airport is provided by way of South Topeka Boulevard and the nearby Kansas Turnpike and US-75. Topeka Boulevard is the road that provides direct access to the airport.

Topeka Boulevard is a four-lane divided and is classified as a principal arterial street. It provides access to the terminal, civilian aviation areas, and the industrial areas via the airport's local street network. Currently, there is no transit service to the airport. The airport is actively investigating potential for passenger services. If this service is provided consideration should be given to transit connections.



CHAPTER FOUR

FUTURE CONDITIONS



PROJECTED POPULATION & EMPLOYMENT GROWTH

To make decisions related to future needs, the MTPO projected the MPA’s population through 2045. The estimated 2045 population within the MPA is 183,132, representing a 15,781 person or 9.4 percent increase from 2020. This shows slower projected growth than Futures2040, reflecting the population changes in the last five years. According to Topeka’s 2040 LUGMP, 11,000 of that population growth is supposed to happen within Topeka’s existing boundaries and UGA. Even though these numbers may be projected to be less in the 2045 plan, this trend is in keeping with the infill policy established by the City’s Land Use and Growth Management Plan (LUGMP) resulting in higher population growth within the existing/future city limits served by municipal services.

Regional Transportation Plan projections may differ from official City population estimates in their comprehensive planning efforts, but they do align with their overall adopted policies at a macro level. It is recommended that future population models for transportation purposes be further fine-tuned

so that policy implications of the LUGMP can be a substantial influence on population outcomes at the TAZ level as compared to the influence of past population trends, property values, income values, and availability of land.

The MTPO also projected the MPA’s household growth through 2045, which is estimated to reach 70,833 households. This represents a 2,643 household or 3.9 percent increase from 2020. Because population is projected to increase at a higher rate than the number of households, the average person per household is expected to increase.

Figure 4-1 displays projected population change from 2020 to 2045. Assuming the MPA boundaries remain consistent, the population increase will cause the MPA’s population density to go from 583 to 638 persons per square mile. Some growth areas fall outside the current designated MPA, and as these areas develop, additional transportation improvements may be needed to accommodate the growth.

FIGURE 4.1 2045 Topeka MPA Population and Households Estimate

	2020 ESTIMATE	2045 TDM PROJECTION	CHANGE	% CHANGE	ANNUAL RATE OF GROWTH
POPULATION	167,351	183,132	+15,781	+9.4%	0.38%
POPULATION DENSITY (POP/SQ. MILES)	583.8	638.8			
HOUSEHOLDS	68,190	70,833	+2,643	+3.9%	0.16%
HOUSEHOLD DENSITY (HH/SQ. MILES)	237.9	247.1			
AVERAGE HOUSEHOLD SIZE (POP/HH)	2.45	2.59	0.14		

Source: MTPO Estimates by Traffic Analysis Zone

The MTPO also projected the MPA’s employment through 2045, showing an estimated 137,047 jobs in the 2045 MPA. This represents a 33,487 job or 32.3 percent increase from 2020 to 2045. The number of jobs per person is expected to increase through 2045.

Figure 4-2 displays the projected change in employment from 2020 to 2045. The number of retail jobs is expected to increase over 46 percent. The growth in employment, like growth in population is expected to occur along the city’s fringe.

The trend of fringe development in Topeka has several implications for the transportation system. It is more expensive to service lower density development on the edge or past that of current development. There are fewer taxpayers with the lower density development to cover the cost of system maintenance. Lower density development also makes it difficult to provide for multiple modes of transportation, including transit and active transportation infrastructure. With focused growth some of these issues can be avoided and addressed over time.

FIGURE 4.2 2045 Topeka MPA Employment Estimate

	2020 ESTIMATE	2045 TDM PROJECTION	CHANGE	% CHANGE	ANNUAL RATE OF GROWTH
TOTAL JOBS	103,560	137,047	+33,487	+32.3%	1.3%
RETAIL JOBS	20,225	29,548	+9,323	+46.1%	1.8%
NON-RETAIL JOBS	83,335	107,499	+24,164	+29.0%	1.2%
AREA (SQUARE MILES)	286.7	286.7			
DENSITY (JOBS / SQUARE MILE)	361.2	478.0			
JOBS PER PERSON	0.619	0.748			

Source: MTPO Estimates by Traffic Analysis Zone

TRAVEL DEMAND MODELING & BASELINE CONGESTION

A regional travel demand model (TDM) was developed as an analysis tool to identify where congestion is likely to occur or increase. The model includes all of Topeka and a portion of Shawnee County. The model road network includes highways, arterial streets/roads, and collector streets/roads. Projected household and employment data shown previously are used to estimate the number and type of trips on the road network, as well as the routes used.

Traffic volume data from the travel demand model, along with roadway characteristics, such as the

number of lanes or functional classifications, are used in defining the quality of traffic operations or level of service (LOS) along a roadway. For LOS, an “A” represents the best rating and “F” the worst.

General descriptions of six traffic operation conditions are provided in Figure 4.3. The table also notes the traffic volume-to-capacity ratios used for this MTP and how they correspond to each LOS. The capacity of a roadway is the maximum traffic volume that can be carried during a defined period.

FIGURE 4.3 Traffic Operation Conditions (LOS)

LEVEL OF SERVICE	VOLUME TO CAPACITY	DESCRIPTION
A	0.00-0.60	Represents free flow, the least congested condition. Individual users are virtually unaffected by the presence of others in the traffic stream. Allows users to select desired speeds and to maneuver freely within the traffic stream.
B	0.61-0.70	Within the range of stable flow, but the presence of others in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A.
C	0.71-0.80	Within the range of stable flow, but LOS C marks the beginning of flow in which the operation of individual users becomes affected by interactions with others in the traffic stream.
D	0.81-0.90	LOS D represents high-density, but stable flow. Speed and freedom to maneuver are restricted, and the driver experiences a poor level of comfort and convenience.
E	0.91-1.00	LOS E represents operating conditions at or near capacity (maximum traffic) levels. Freedom to maneuver within the traffic stream is difficult. Comfort and convenience levels are poor and driver frustration is high.
F	>1.00	LOS F is used to define forced or breakdown flow, the most congested condition. It exists when the amount of traffic desiring to use a roadway exceeds the maximum volume that can be accommodated during a given period of time.

2045 Baseline: Existing Road Network Plus Committed Projects

Future traffic conditions were determined using the regions year 2045 travel demand model. The 2045 “Existing + Committed Projects” (E+C) model incorporated the forecasted socioeconomic data for 2045 and the following changes to the roadway network:

- 12th Street from Kansas Avenue to Gage Boulevard – change from 2 lanes to 1 lane plus an auxiliary lane
- SW Huntoon from Harrison Street to Gage Boulevard – change from 2 lanes to 1 lane plus an auxiliary lane
- SW Fairlawn from 23rd Street to 29th Street – widening at the 25th Street intersection
- SW Wanamaker Road from Huntoon to I-470 ramps – geometric and intersection improvements
- SE Quincy Street from 6th Avenue to 10th Avenue – reduce from 5 lanes to 3 lanes
- Kansas Avenue Bridge – reduce southbound from 2 lanes to 1 lane plus bicycle lane
- SE 6th Avenue from Branner to Quincy Street – reduce from 5/4 lanes to 3/2 lanes
- 8th Avenue from Topeka Boulevard to Madison Street – reduce from 5 lanes to 3 lanes
- I-70 Polk-Quincy Viaduct Corridor – revise geometry, change ramps, add lanes

Figure 4.4 notes the following output from the 2045 travel demand model: vehicle-miles traveled (VMT) each day, hours traveled (VHT), and the expected delays to motorists that can be expected each day for the E+C roadway network.

The 2045 travel demand model indicates that traffic conditions will change significantly between the years 2015 and 2045. I-70 and many of the region’s arterial streets will become more congested. Of particular concern, is I-70 between I-470 and MacVicar Avenue.

- The total VMT for roads in the region is expected to increase by 27% with most of that increase on area highways where miles of travel will increase by 42%.
- VHT on all roads will see a total increase of 26% with highways seeing a 47% increase in the hours of travel.
- Delay on area roads is expected to more than double, growing from 2,384 hours of delay per day in 2015 to 5,032 hours of delay in 2045.
- Congestion is increasing as indicated by the percentage of roadways shifting into lower Levels of Service categories.

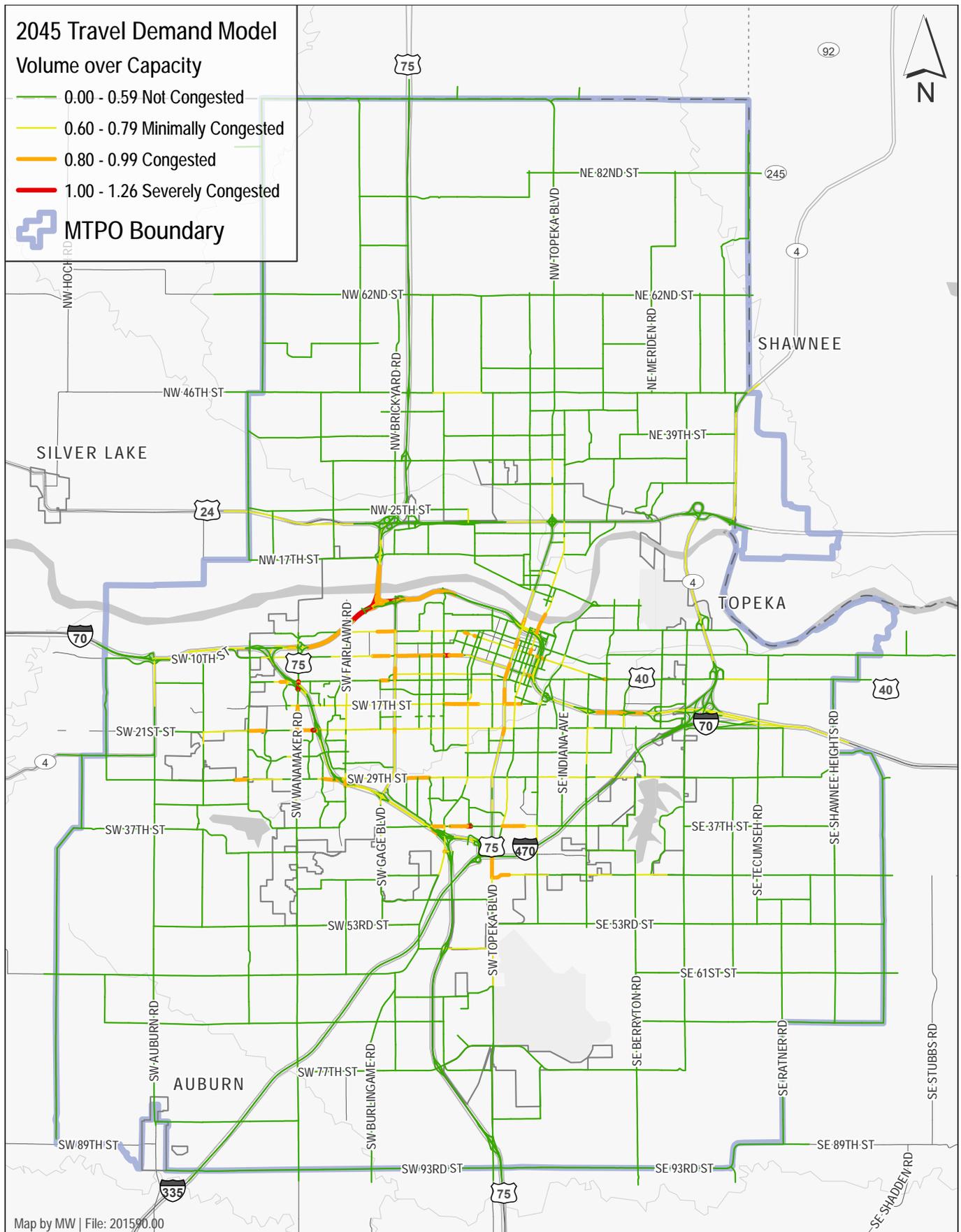
Figure 4.5 shows the year 2045 traffic conditions for the existing roadway network plus any roadway capacity improvements for which funding is currently committed. It also uses the projected 2045 population and employment estimates. The 2045 E+C road network indicates worsening congestion on I-70, portions of I-470, and several arterial streets including Wanamaker Road, Gage Boulevard, Topeka Boulevard, 6th Street, 10th Street, 17th Street, 21st Street, and 29th Street.

FIGURE 4.4 2045 E+C Road Network Traffic Conditions

ROADWAY TYPE	VMT (MILES)	VHT (HOURS)	LANE MILES	DELAY (HOURS)	LOS A	LOS B-C	LOS D-E	LOS F
Interstate	1,462,473	25,261	169	2995	51%	36%	11%	2%
Expressway	688,065	11,174	104	64	85%	14%	2%	0%
Major Arterial	1,179,148	30,999	278	1,370	47%	43%	9%	1%
Minor Arterial	780,442	19,914	266	572	71%	24%	5%	0%
Collector	414,094	9,967	479	31	98%	2%	0%	0%
TOTAL	4,524,221	97,316	1,297	5,032	-	-	-	-

Source: Regional Travel Demand Model

FIGURE 4.5 Estimated Congestion, Existing + Committed Roadway Network



POTENTIAL CAPACITY EXPANSION PROJECTS

Projects have been identified as potential improvements to the Topeka MPA’s streets and highways to relieve traffic congestion. Projects were chosen based upon existing projects lists, projected congestion, the region’s Transportation Safety Plan, KDOT’s Local Consult meeting, and other factors.

State Highways

There are several KDOT highway segments that should be addressed during the planning horizon.

I-70 POLK-QUINCY VIADUCT CORRIDOR:

KDOT, the City of Topeka, and the MTPO completed a [concept study](#) in August 2011 that explored options to improve I-70 from MacVicar Avenue, through downtown, to east of the Adams Street interchange. The study was initiated to address the age and condition of the viaduct, the number and types of crashes that are occurring, growing congestion during peak periods, and to update the geometric characteristics of the highway. In addition, more logical connections between I-70 and the city street system were recommended, which will support continued economic development. The project will be constructed in two phases as shown in Figure 4.6.

FIGURE 4.6 I-70 Polk-Quincy Viaduct Corridor - MacVicar Avenue to California Avenue



Source: Polk-Quincy Viaduct Corridor Study

The 2045 travel demand model assumes that the I-70 Polk-Quincy Viaduct Corridor project is complete, and therefore doesn’t show congestion in the downtown area. Without these projects,

congestion is growing on both the east and west I-70 approaches to downtown.

The “west segment” of the I-70 Polk-Quincy Viaduct Corridor is programmed for a construction letting in 2024. This project expands I-70 from 4 lanes to 6 lanes between MacVicar Avenue and Topeka Boulevard and replaces the Polk-Quincy Viaduct and roadway to 4th Street, including a larger radius curve near 3rd Street.

The “east segment” would reconstruct I-70 from 4th Street to near California Avenue, replacing the pavement and bridges as well as improving the entrance and exit ramps. This was one of three projects in the MTPO region that were discussed during the 2021 round of KDOT “Local Consult” meetings – part of developing the [IKE transportation program](#). This project had a High Need/Score for truck traffic, and a Medium Need/Score for current and future congestion as well as safety.

US-24, CITY OF SILVER LAKE TO THE CITY OF TOPEKA:

This project was also discussed during KDOT’s 2021 Local Consult meeting for Northeast Kansas. This 7-mile project would expand US-24 from a 2-lane highway to a 4-lane, divided expressway. The proposed project had a Medium Need/Score for safety and a Low Need/Score for current and future congestion as well as for truck traffic.

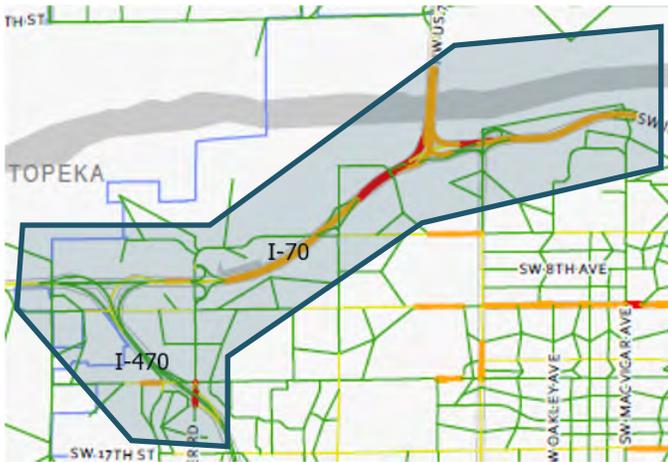
K-4, KANSAS RIVER BRIDGE NORTH TO THE JEFFERSON COUNTY LINE:

This was the third project discussed during KDOT’s 2021 Local Consult meeting for Northeast Kansas. This 3-mile project would upgrade this segment of K-4 to a 4-lane freeway. The proposed project had a Medium Need/Score for current and future congestion, and for truck traffic as well as a Low Need/Score for safety.

I-70, I-470 TO MACVICAR AVENUE:

The 2045 travel demand model identifies this segment of I-70 as the most congested highway in the metropolitan planning area. It is recommended that KDOT, the City of Topeka, and the MTPO initiate a concept study for I-70 between I-470 and MacVicar Avenue including the interchanges with I-470, Wanamaker Road, Fairlawn Road, Danbury Lane exit, US-75, Gage Boulevard, MacVicar Avenue, and I-470/Huntoon/Wanamaker Road. Figure 4.7 shows the area of the proposed study.

FIGURE 4.7 I-70/I-470/US-75 Concept Study



Source: MTPO 2045 Travel Demand Model

Several potential projects could result from this study and be included in future Metropolitan Transportation Plans and Local Consultation meetings, including:

- Widen I-70 from 4 lanes to 6 lanes from I-470 to MacVicar Avenue
- Widen the WB I-70 ramp to EB I-470 to 2 lanes and the WB I-470 ramp to EB I-70 to 2 lanes
- Remove the Danbury Lane exit and provide alternative access to this area
- Widen the SB US-75 ramp to WB I-70 to 2 lanes and the EB I-70 ramp to NB US-75 to 2 lanes
- Widen US-75 from 4 lanes to 6 lanes between I-70 and US-24

Kansas Turnpike

SOUTHEAST TOPEKA INTERCHANGE:

In 2015, the City of Topeka began working with the KTA to evaluate the feasibility of constructing a new interchange along I-470 between 29th Street and California Avenue in Topeka (near Mile Marker 179.8). The purpose of this access point would be to provide local access to the 29th Street/California Avenue area of Topeka. The preferred concept shown in Figure 4.8 utilizes undeveloped area to provide an offset diamond interchange with a connector road to SE 29th Street.

FIGURE 4.8 Proposed Southeast Topeka KTA Interchange



Topeka Streets

The following funded/planned projects impact the capacity of the city's arterial streets:

- Construct the Southwest Trafficway - from SW 41st Street/ SW Wanamaker Road to SW 37th Street/SW Gage Boulevard - new 2-lane arterial, with SW Fairlawn Road extended from SW 37th Street to SW 45th Street
- SW 10th Avenue from Wanamaker Road to Gerald Lane - Expand 2 lanes to 3 lanes
- Reconstruct SW Wanamaker Road from Huntoon through the I-470 ramps.
- 17th Street from MacVicar Avenue to I-470 - Expand from 2 lanes to 3 lanes
- SW Huntoon Street from Executive Drive to Urish Road - Expand from 2 lanes to 3 lanes
- SW Urish Road from 21st to 29th Streets - Expand from 2 lanes to 3 lanes

- SE Quincy Street from 6th Avenue to 10th Avenue - reduce from 5 lanes to 3 lanes
- Kansas Avenue Bridge - reduce southbound from 2 lanes to 1 lane plus bicycle lane
- SE 6th Avenue from Branner to Quincy Street - reduce from 5/4 lanes to 3/2 lanes
- 8th Avenue from Topeka Boulevard to Madison Street - reduce from 5 lanes to 3 lanes
- 12th Street from Kansas Avenue to Gage Boulevard - change from 2 lanes to 1 lane plus an auxiliary lane
- SW Huntoon from Harrison Street to Gage Boulevard - change from 2 lanes to 1 lane plus an auxiliary lane

The region’s travel demand model for the year 2045 shows the impacts of a project like the Southwest Trafficway. The Trafficway would reduce the level of congestion near the I-470 interchange with SW Fairlawn Road and SW 29th Street by lowering the traffic volumes. The Trafficway eliminates a gap in the City’s arterial street network.

In 2015, the City of Topeka began working with the KTA. [A KTA - New Topeka Interchange Concept Study, Concept Memo](#) (completed in February 2016) determined that the anticipated gross revenue does not support the capital costs associated with initial construction. This interchange would not be financially feasible for the KTA unless the City of Topeka and/or other parties are willing to share the construction costs estimated between \$18 and \$20 million.

FIGURE 4.9 Southwest Trafficway Phases

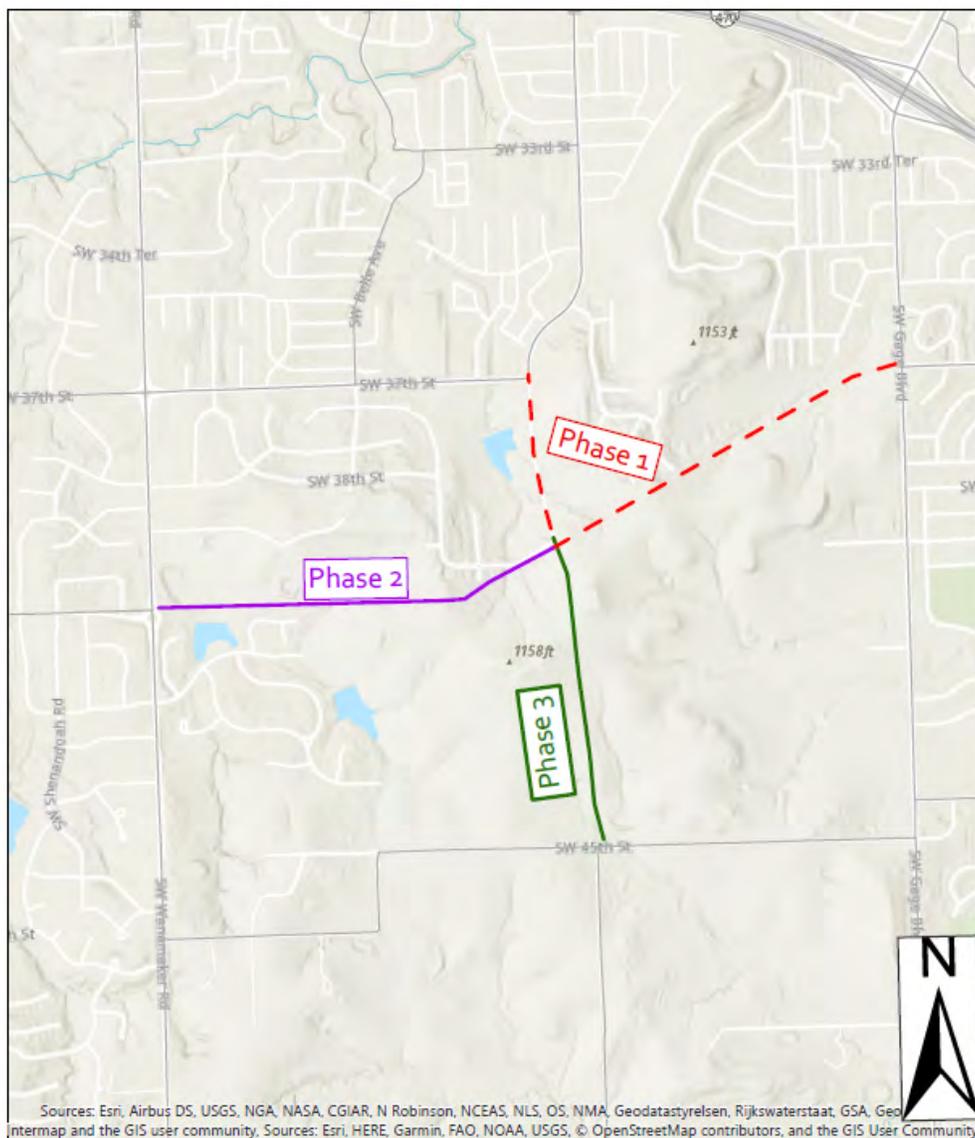


FIGURE 4.10 2045 Travel Demand Model Results without the Southwest Trafficway

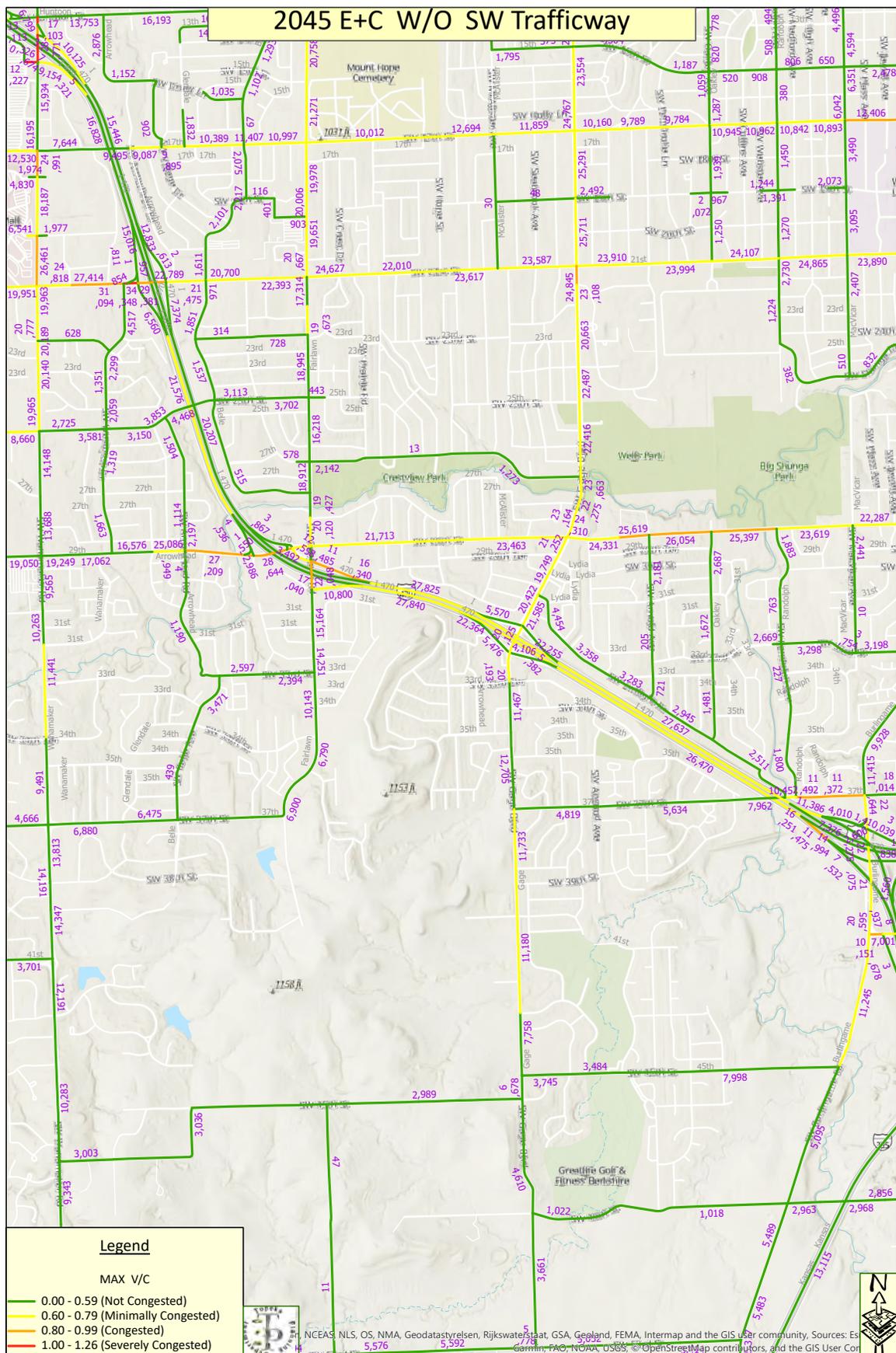
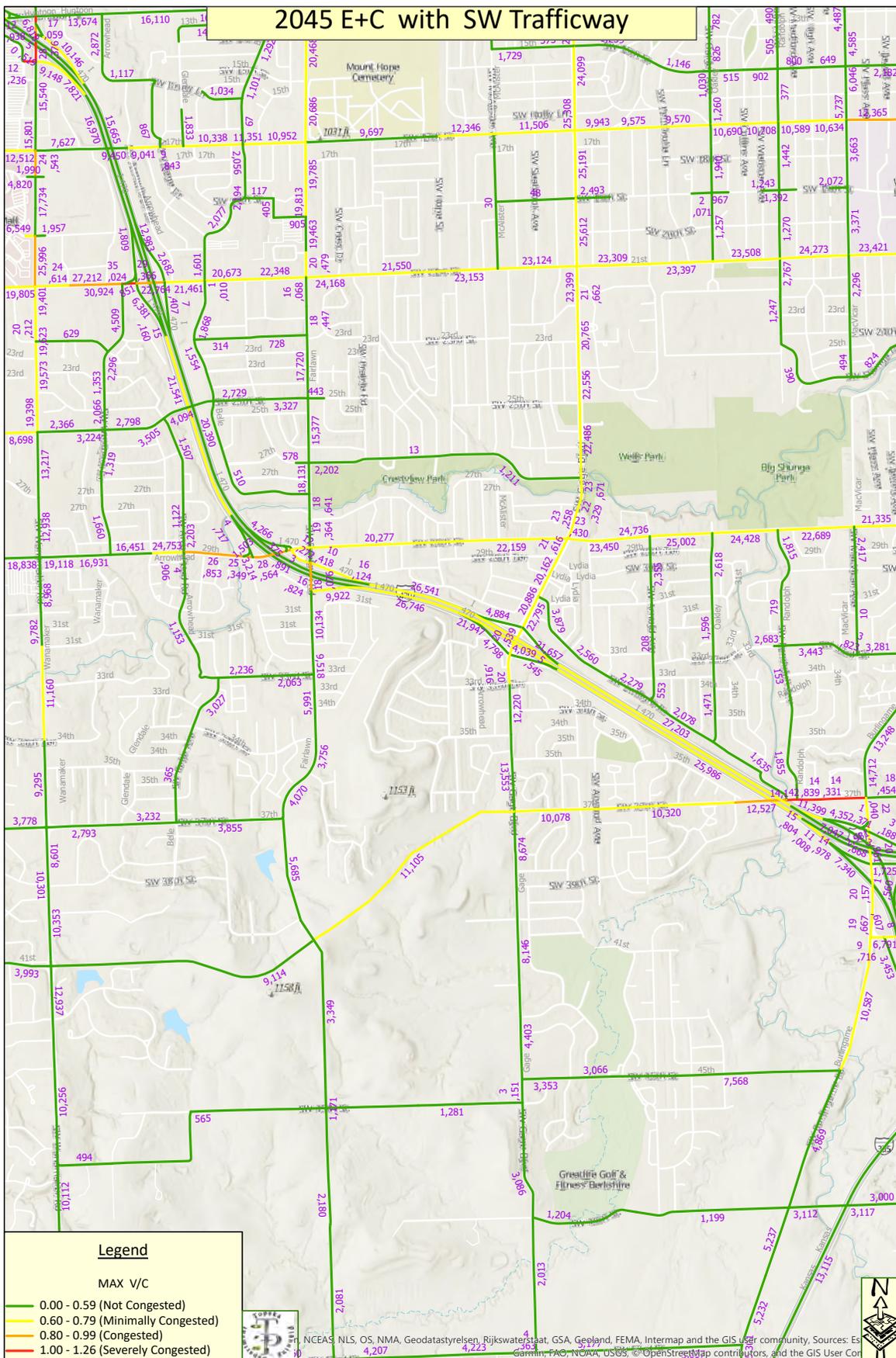


FIGURE 4.11 2045 Travel Demand Model Results with the Southwest Trafficway



Scenario Impacts

The MTPO planning area is fortunate in that roadways with significant congestion are limited in number. A scenario of continuing to focus on preservation plus improvements to key highways, city streets, and county road segments results in the most efficient expenditure of available transportation funds.

In support of linking planning and NEPA, the MTPO evaluated each of the roadway projects included in the MTP for potential impacts to the environment and community. The broad environmental categories considered for each of the projects are listed below:

- Environmental Factors
- Economic Factors
- Quality of Life Factors
- Effect on EJ Populations

For this broad environmental evaluation, the MTPO identifies potential impacts only using data from the Travel Demand Model and related studies. This analysis is general, and project sponsors are still responsible for environmental clearance documentation to comply with appropriate environmental regulations where applicable.

These factors are described in more detail below. In addition, the temporary slowing or removal of traffic from construction areas are not considered as they are not permanent effects. In the futures, projects could be rated on a project-by-project basis.

Environmental factors include:

- **Air Quality:** For transportation systems, automobile emissions have the largest impact on air quality. Street and highway improvements are not expected impact air quality.
- **Water Quality:** No projects are expected to have a substantial impact on water quality. Impacts on flood plains should be examined as projects move forward.
- **Soil Quality:** Highway and street improvements are unlikely to have substantial impact on soil quality as most projects are within previously developed areas, except that the SW Connector will be constructed on previously undeveloped ground. This will likely have a slight impact on soil quality in the area.

Economic Factors include:

- **Economic Vitality:** Most projects have the potential to improve economic vitality by increasing mobility. Improvements to I-70 and I-470 would also improve important truck routes.
- **Land Use Impacts:** Improving high speed roadways like highways may induce sprawl further from the city. This is a possible impact of the highway projects. Meanwhile, the arterial street projects improve access within the city which is unlikely to induce sprawl. However, the SW Trafficway will likely allow the conversion of agricultural transition land to residential land. This is likely a positive impact as it is contiguous with existing residential land uses, utilities, and municipal services. However, improvements are located within the developed area and do not fundamentally change any land uses.

Quality of Life Factors include:

- **Aesthetic Value:** Improvements to I-70 have the potential to improve aesthetics of the highway in downtown. Arterial improvements should consider the characteristics of Great Streets where appropriate.
- **Noise pollution/Vibration:** Noise pollution and vibration can be approximated by expected speeds and VMT. Since area highways already have high traffic volumes and high speeds, no additional impact is expected. Arterial street improvements can be expected to have a minor negative impact.
- **Displacement:** The only expected displacement impacts expected are for the Polk Quincy Viaduct Corridor project. According to the I-70 Polk-Quincy Viaduct Concept Design Study, 45 properties and 9 residences may be impacted by the project. Most other projects should have limited affect. The proposed I-470 (KTA) interchange at SE 29th Street should have a minor displacement impact as would the proposed SW Connector.
- **Community Cohesion:** No recommended projects are expected to impact community cohesion as most are either reconstructing existing facilities or improve the connectivity of the region's roadway system.
- **Traffic Congestion:** All recommended projects are expected to reduce congestion and delays.

CHAPTER FIVE
**FINANCIAL
ANALYSIS**



KDOT FUNDING REVENUE HISTORY & PROJECTIONS

In April 2020, the Kansas Governor signed legislation creating the [Eisenhower Legacy Transportation Program \(IKE\)](#). IKE is a 10-year program that addresses highways, bridges, public transit, aviation, short-line rail and bike/pedestrian needs across Kansas. The program and associated projects are focused on making roads safer, supporting economic growth, and creating more options and resources for Kansans and their communities.

Key elements of the IKE program legislation include:

- **Promises kept.** All remaining T-WORKS projects will be let to construction by July 1, 2023.
- **Highway preservation is prioritized.** The IKE program requires KDOT to establish metrics making sure highway preservation needs are fully funded before adding onto the highway system.
- **Rolling program ensures emerging needs can be met.** Instead of a once-a-decade, 10-year set list of projects, new modernization and expansion projects will be selected for the development pipeline every two years.
- **Every region of the state will see modernization and expansion work.** The bill requires KDOT to develop minimum spending ranges for KDOT districts using a metric-driven process.
- **Every Kansas county** will receive at least \$8 million in transportation improvements.
- **Broadband and new technology investments** are included to facilitate internet expansion and prepare Kansas infrastructure for improved safety and communication.

Under IKE construction projects are categorized into four core programs:

- **Preservation:** The Preservation program protects the public’s investment in its highway system by maintaining the “as built” condition of roads and bridges. This is a diverse group that includes both larger scale projects like roadway surfacing rehabilitations, major bridge repairs, full pavement and bridge replacements, to smaller set-aside projects like minor bridge repairs, resurfacing, patching and seals.
- **Modernization:** Modernization, focuses on improvements to the existing system. Projects under this program are designed to enhance safety and/or improve roadways by adding shoulders, flattening hills, straightening curves, and upgrading intersections on already existing roadways.
- **Expansion:** The Expansion program is intended for projects that expand and enhance the transportation system. Projects in this program concentrate on improving capacity by adding new lanes or interchanges, reducing commute time, and improving air quality by relieving congestion and enhancing economic development in a region by selecting projects with high economic impact.
- **Local Construction:** The Local Construction program focuses on improvements to city or county roads. The work encompassed by this program is varied in nature ranging from safety oriented, to maintenance of existing roadway, to small-scale expansion type projects. Cities and counties work in partnership with KDOT to utilize state and federal funds.

KDOT MAJOR PROJECT CATEGORIES:

PRESERVATION

Projects that maintain the existing infrastructure.

MODERNIZATION

Projects that address vertical and horizontal alignment issues.

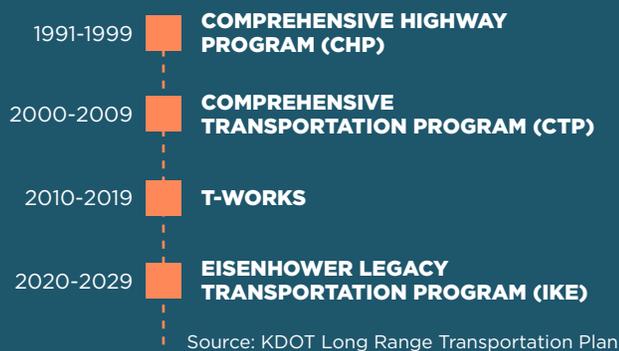
EXPANSION

Projects that add lanes or new interchanges.

LOCAL CONSTRUCTION

Projects that focus on city or county roads.

Kansas has a history of 10-year transportation programs to ensure these lifelines are in good working order, and that ongoing commitment has served the state well. Each program under IKE is focused on strengthening our transportation system and addressing both current and emerging needs.



Historic Data for Preservation, Modernization & Expansion (PM&E)

Revenue projections for the Kansas Department of Transportation (KDOT) are based on historic and estimated data provided by KDOT for the years 1979 through 2020 for all Shawnee County. From 1979 through 2020, KDOT invested \$553.1 million in preserving, modernizing, and expanding the state highway system throughout Shawnee County, including its several cities.

Figure 5.1 displays the total actual dollars spent on the state highway system in Shawnee County from 1990 through 2020. Historic spending levels are reported as to which state program they were part of without differentiating between federal and state funding for projects. Average annual funding for state highway projects varies greatly between programs with the fluctuation in total dollars attributed to funding large scale projects on an as needed basis. In T-WORKS, the program from 2010 to 2020, KDOT committed to spending \$144.9 million on projects in Shawnee County, averaging to \$13.2 million annually.

Revenue Forecast

Between 2021 and 2045, KDOT is projected to receive \$35.2 billion in revenues (2020 constant dollars) under current law. Of this amount, about 18 percent, or \$6.4 billion, will come from federal formula apportionments for highways and transit, and about 80 percent, or \$28.8 billion, will come from state sources. With the passage of the federal Bipartisan Infrastructure Legislation, Kansas will receive approximately \$145 million additional dollars for highways and bridges annually for five years.

Three main sources of state revenue come to KDOT through the State Highway Fund: motor fuel taxes, fees on vehicle registrations and driver’s licenses, and a portion of the state’s sales and compensating use taxes specified in Kansas statutes.

From 2021 through 2045, KDOT is committed to \$2.3 billion in debt service on highway construction bonds and expects to transfer \$4.3 billion, leaving \$28.6 billion available for investments in the Kansas transportation system.

Revenue Projection for Preservation, Modernization & Expansion (PM&E) Projects

Projections for the MTP use \$12,000,000 per year as a base for preservation projects the average annual historic spending by KDOT in Shawnee County during the Comprehensive Transportation Program and T-Works when no major modernization or expansion projects took place. Modernization and expansion projects, such as the I-70 Polk-Quincy Corridor (West Segment), typically occur when specific funding is identified as part of the state’s 10-year transportation programs and will be included in the projections for the current and following program. The financial forecast summarized in Figure 5.2 was aggregated into 5-year blocks using the base amount for preservation adjusted by 1% inflation per year plus funding for specific modernization/expansion projects.

FIGURE 5.1 Historic Data for State Highway Preservation, Modernization, & Expansion Projects (1990-2020)

STATE PROGRAM	FISCAL YEARS	PROGRAM TOTAL	ANNUAL AVERAGE
Comprehensive Highway Program	1990-1997	\$196,800,000	\$24,600,000
Interim Program	1998-1999	\$57,000,000	\$28,500,000
Comprehensive Transportation Program	2000-2009	\$106,000,000	\$10,600,000
T-Works	2010-2020	\$144,900,000	\$13,200,000
TOTAL AMOUNT INVESTED	1990-2020	\$504,700,000	\$16,280,000

Source: Kansas Department of Transportation

FIGURE 5.2 KDOT Highway Future PM&E Funds Forecast (2021-2045)

2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
\$296,300,000*	\$65,000,000	\$215,300,000**	\$71,800,000	\$75,400,000	\$723,800,000

* Includes funding programmed in the IKE transportation Program for the I-70 Polk-Quincy West Segment (2024 bid letting)

** Assumes funding is programmed for the I-70 Polk-Quincy East Segment in a transportation program following the IKE program.

Source: Kansas Department of Transportation

Historic Data for Operations and Maintenance (O&M)

KDOT provided historical operating and maintenance (O&M) costs which are summarized in Figure 5.3. KDOT spent an annual average of \$1,639,337 on normal O&M activities, including pavement work, shoulder work, drainage improvements, roadside maintenance, bridge maintenance, snow and ice removal, and traffic guidance. It is important to note that KDOT includes significant system preservation projects with other major projects, not with Operations & Maintenance Activities.

Revenue Projection for Operations and Maintenance (O&M)

As previously mentioned, KDOT spent an annual average of \$1.64 million from 2013 through 2015 on operations and routine maintenance activities.

These activities, and costs, will continue to be covered by KDOT as part of future year routine maintenance work.

Projections inflate the historic 3-year average spending by KDOT in Shawnee County by 1% per year. For convenience, the financial forecast summarized in Figure 5.4 was aggregated into 5-year blocks.

Kansas Turnpike Authority

The Kansas Turnpike Authority (KTA) is also responsible for maintaining the turnpike segments through the Topeka MPA. This includes sections of I-335, I-470, and I-70 (KTA mile marker 167 to mile marker 184) within the MPA. As part of Futures2045, the KTA identified revenues for projects through the year 2045 summarized in Figure 5.5.

FIGURE 5.3 Historic Data for KDOT O&M Activities (2013-2015)

ACTIVITY	2013	2014	2015	3-YEAR AVERAGE
Pavement	\$146,020	\$166,286	\$242,532	\$184,946
Shoulders	\$95,981	\$55,499	\$48,391	\$66,624
Drainage	\$144,871	\$10,064	\$75,812	\$76,916
Roadside	\$499,994	\$415,433	\$424,917	\$446,781
Bridge	\$47,134	\$61,045	\$16,952	\$41,710
Snow & Ice	\$361,029	\$648,200	\$625,622	\$544,950
Traffic Guidance	\$296,265	\$283,552	\$252,412	\$277,410
TOTAL	\$1,591,294	\$1,640,079	\$1,686,638	\$1,639,337

Source: Kansas Department of Transportation

FIGURE 5.4 KDOT O&M Activities Funds Forecast (2021-2045)

2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
\$9,300,000	\$9,800,000	\$10,300,000	\$10,800,000	\$11,300,000	\$51,500,000

Source: Kansas Department of Transportation

FIGURE 5.5 KTA Financial Forecast (2017-2040)

	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
KTA Programs	\$5,450,000	\$9,950,000	\$16,500,000	\$71,400,000	\$117,450,000	\$220,750,000

Source: Kansas Turnpike Authority

CITY OF TOPEKA REVENUE HISTORY & PROJECTIONS

The City of Topeka uses multiple funding sources to fund local transportation projects.

Funds Programmed in the City's Capital Improvements Program 2017 through 2021

Revenue projections for the City of Topeka are based on data included in the city's capital improvements program for the fiscal years 2023 through 2027. Figure 5.6 below identifies dollar amounts by year and funding source from the city's current capital improvements program.

KANSAS MOTOR FUELS TAXES

Kansas motor fuels tax revenue received through the Special City and County Highway Fund (SCCHF) is a source of transportation funds for local units of government. On average, about 35.6 percent of the statewide Motor Fuels Tax receipts go to the SCCHF. It provides about \$160 million per year to local units of government. The SCCHF is distributed directly to cities and counties quarterly by the State Treasurer. The City of Topeka uses SCCHF to fund operation costs (labor, equipment, and supplies) of its streets maintenance division and does not use it for specific capital improvement projects. Information on this fund was not included as part of this plan.

LOCAL FEDERAL AID PROJECTS

Local units of government are provided federal aid for surface transportation project. All federal aid projects in the City of Topeka must be programmed in the Transportation Improvement Program (TIP) developed by the Metropolitan Topeka Planning Organization (MTPO).

Revenue Projections for Topeka

Available historic funding data for federal aid, GO Bonds, City Half-Cent Sales Tax, and County Half-Cent Sales Tax projects were reviewed. Projections were developed by averaging available historic data and inflating the averages by one percent (1%) annually through 2045. It was assumed that both the City Half-Cent Sales Tax and the County Half-Cent Sales Tax will be renewed. It was assumed that KDOT would continue to share federal aid with Topeka at the same rate as the historic average and that federal funding would continue at the same levels. For convenience, the financial forecast summarized in Figure 5.8 was aggregated into 5-year blocks. Projects have already been selected for the County Half-Cent Sales Tax through 2031.

FIGURE 5.6 Topeka Capital Improvement Program Summary

	2023	2024	2025	2026	2027	TOTAL
Countywide half cent sales tax	\$8,030,000	\$5,450,000	\$4,650,000	\$4,530,000	\$5,130,000	\$27,790,000
Citywide half cent sales tax	\$14,494,790	\$18,918,975	\$18,432,977	\$21,266,478	\$10,950,000	\$84,063,220
General Obligation (GO) Bond	\$5,562,000	\$5,320,817	\$8,820,187	\$7,248,375	\$6,040,250	\$32,991,629
TOTAL	\$28,086,790	\$29,689,792	\$31,903,164	\$33,044,853	\$22,120,250	\$144,844,849

Source: City of Topeka

FIGURE 5.7 Federal Aid Funds Provided to Topeka

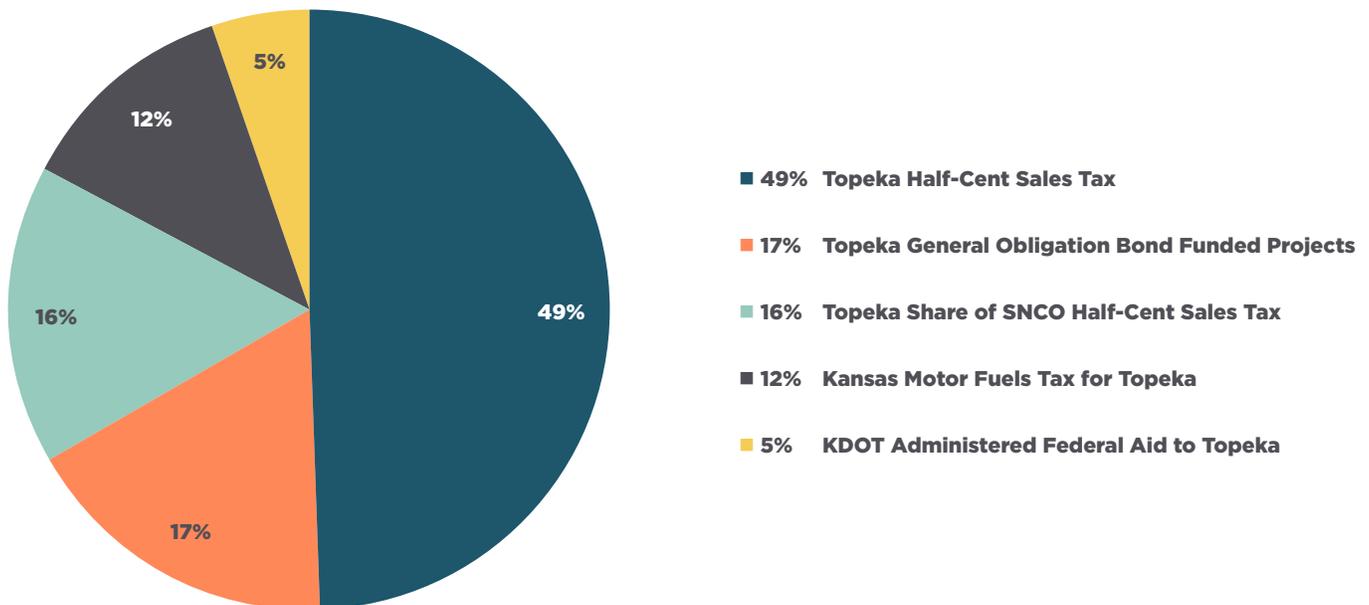
FEDERAL PROGRAM	FISCAL YEARS	PROGRAM TOTAL	ANNUAL AVERAGE
ISTEA	1992-1997	\$7,000,000	\$1,166,667
TEA-21	1998-2003	\$ 8,600,000	\$1,433,333
SAFETEA-LU	2004-2012	\$17,900,000	\$1,988,889
MAP-21	2013-2014	\$2,700,000	\$1,350,000
FAST Act	2015-2020	\$9,000,000	\$1,500,000
TOTAL		\$45,200,000	\$1,614,286

Source: Kansas Department of Transportation

FIGURE 5.8 Topeka Financial Forecast

TOPEKA FUNDS	2021-2025	2026-2030	2031-2035	2036-2040	2040 -2045	TOTAL
Kansas Motor Fuels Tax for Topeka	\$17,938,300	\$18,776,500	\$19,614,800	\$20,453,000	\$21,250,000	\$98,032,600
KDOT Administered Federal Aid to Topeka	\$7,725,000	\$8,100,000	\$8,475,000	\$8,850,000	\$9,204,000	\$42,354,000
KDOT Administered Competitive Grants	\$600,000	\$624,000	\$649,000	\$674,900	\$701,900	\$3,249,800
Topeka General Obligation Bonds	\$24,501,700	\$25,610,450	\$26,807,200	\$28,003,950	\$29,124,108	\$134,047,408
Topeka Half Cent Sales Tax	\$70,904,340	\$74,313,203	\$77,722,065	\$81,130,928	\$84,376,165	\$388,446,701
Topeka Share of SNCO Half Cent Sales Tax	\$23,372,800	\$21,442,800	\$22,444,800	\$23,446,800	\$24,384,672	\$115,091,872
SUBTOTAL	\$145,042,140	\$148,866,953	\$155,712,865	\$162,559,578	\$169,040,845	\$781,222,381

FIGURE 5.9 Topeka Transportation Funding Forecast 2017-2040



SHAWNEE COUNTY REVENUE HISTORY & PROJECTIONS

Shawnee County has a variety of funding sources available to be spent on road and bridge projects.

Funds Programmed in County Capital Improvements Program 2017 through 2021

Revenue projections for the Shawnee County are based on data included in the County’s capital improvements program for the years 2017 through 2021. Figure 5.10 below identifies dollar amounts by year from the county’s current capital improvements program. These funds are limited to those projects located within the Metropolitan Planning Area (MPA).

KANSAS MOTOR FUELS TAXES

Kansas motor fuels tax revenue received through the Special City and County Highway Fund (SCCHF) is a source of transportation funds for local units of government. On average, about 35.6 percent of the statewide Motor Fuels Tax receipts go to the SCCHF. It provides about \$160 million per year to local units of government. The SCCHF is distributed directly to cities and counties quarterly by the State Treasurer. These funds are for all Shawnee County, not just the portion of the county located within the Metropolitan Planning Area (MPA).

LOCAL FEDERAL AID PROJECTS

Local units of government are provided federal aid for surface transportation project. Some, but not all, federal aid projects in Shawnee County must be programmed in the Transportation Improvement

Program (TIP) developed by the Metropolitan Topeka Planning Organization (MTPO). These funds are for all Shawnee County, not just the portion of the county located within the Metropolitan Planning Area (MPA).

SHAWNEE COUNTY MAJOR PROJECTS FUNDING

Countywide Half-Cent Sales Tax: This is funded by a voter approved half-cent sales tax initiative. Funding has already been committed to specific projects through 2031. This revenue forecast assumes that the half-cent sales tax will be renewed after 2031.

Revenue Projections for Shawnee County

Available historic funding data for federal aid and County half cent sales tax projects were reviewed. Projections were developed by averaging available historic data and inflating the averages by one percent (1%) using linear growth through 2045. It was assumed that the County Half-Cent Sales Tax will be renewed. It was assumed that KDOT would continue to share federal aid with Shawnee County at the same rate as the historic average and that federal funding would continue at the same levels. For convenience, the financial forecast summarized in Figure 5.13 has been aggregated into 5-year blocks.

FIGURE 5.10 Shawnee County Major Projects

2017	2018	2019	2020	2021	TOTAL	5-YEAR AVG.
\$673,000	\$2,969,000	\$3,230,000	\$ -	\$ -	\$6,872,000	\$1,374,400

Source: Shawnee County

FIGURE 5.11 Kansas Motor Fuels Taxes

	2012	2013	2014	2015	2016	5-YEAR AVG.
Shawnee County	\$4,713,790	\$4,612,921	\$4,699,777	\$4,661,237	\$4,692,842	\$4,676,113

Source: Shawnee County

FIGURE 5.12 Federal Aid Funds Provided to Shawnee County

FEDERAL PROGRAM	FISCAL YEARS	PROGRAM TOTAL	ANNUAL AVERAGE
ISTEA	1992-1997	\$4,400,000	\$733,333
TEA-21	1998-2003	\$7,600,000	\$1,266,667
SAFETEA-LU	2004-2012	\$12,800,000	\$1,422,222
MAP-21	2013-2014	\$2,700,000	\$1,350,000
FAST Act	2015-2020	\$7,800,000	\$1,300,000
TOTAL		\$35,300,000	\$1,260,714

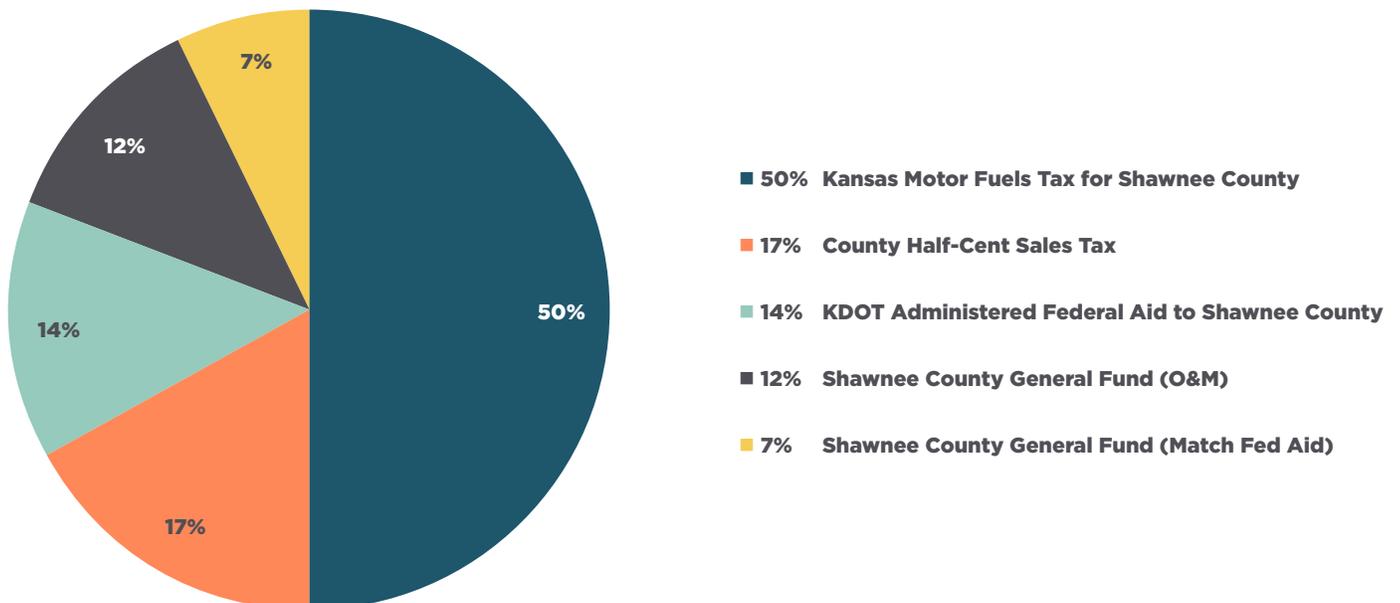
Source: Kansas Department of Transportation

FIGURE 5.13 Shawnee County Financial Forecast

	2021-2025	2025-2030	2030-2035	2035-2040	2041-2045	TOTAL
Kansas Motor Fuels Tax for Shawnee County	\$25,100,000	\$26,300,000	\$27,500,000	\$28,600,000	\$29,900,000	\$137,400,000
Federal Aid to Shawnee County & County Match	\$14,250,000	\$14,250,000	\$15,700,000	\$16,000,000	\$16,000,000	\$76,200,000
County Half Cent Sales Tax	\$10,600,000	\$13,900,000	\$18,400,000	\$21,400,000	\$22,400,000	\$86,700,000
Shawnee County General Fund	\$16,550,000	\$50,150,000	\$39,900,000	\$44,600,000	\$48,700,000	\$199,900,000
TOTAL	\$66,500,000	\$104,600,000	\$101,500,000	\$110,600,000	\$117,000,000	\$500,200,000

Source: Kansas Department of Transportation and Shawnee County

FIGURE 5.14 Shawnee County Transportation Funding Forecast 2021-2045



TOPEKA METRO TRANSIT AUTHORITY (TMTA) REVENUE HISTORY & PROJECTIONS

TMTA receives annual funding from a number of sources that fund the agency and transit initiatives in Topeka. The COVID-19 pandemic significantly impacted revenues for the Metropolitan Topeka Transit Authority. Impacts to ridership and lost revenue required specific focus on current service levels. The revenue trends and projections listed in this document are based on data prior to the pandemic.

Topeka Metro Transit Authority (TMTA) Revenue History and Projections

Annual funding for TMTA comes from several sources including fares, local mill levy, State of Kansas, and federal government. According to the National Transit Database (NTD) 2014 TMTA agency profile, the largest source of operational funds came from the local mill levy (42 percent of operational funds) as shown in Figure 5.15 and 5.16.

Following 2009 funding for Topeka Metro began a decline through 2011. It must be noted that, in 2011, TMTA was awarded an approximate \$4.5 million grant through the American Reinvestment and Recovery Act (ARRA) for bus fleet vehicle replacement. This infusion of capital funds was greatly needed to help TMTA replace several buses that had exceeded their useful life, but also skewed the downward annual funding trend in 2011. The historic annual revenue trend can be seen in Figure 5.17. Since 2011, annual revenues for transit in Topeka have begun to increase, but not at the same rate as operational cost have risen over the same time. Annual operating cost trends can be shown in Figure 5.18.

FIGURE 5.16 2014 TMTA Operational Funding Sources

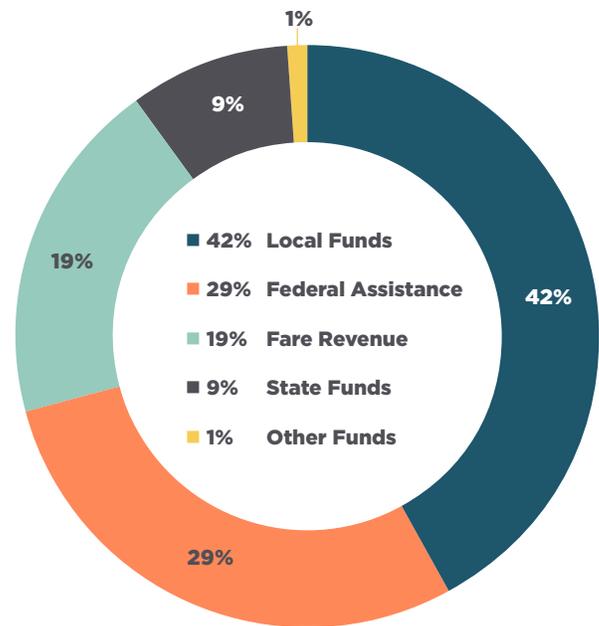
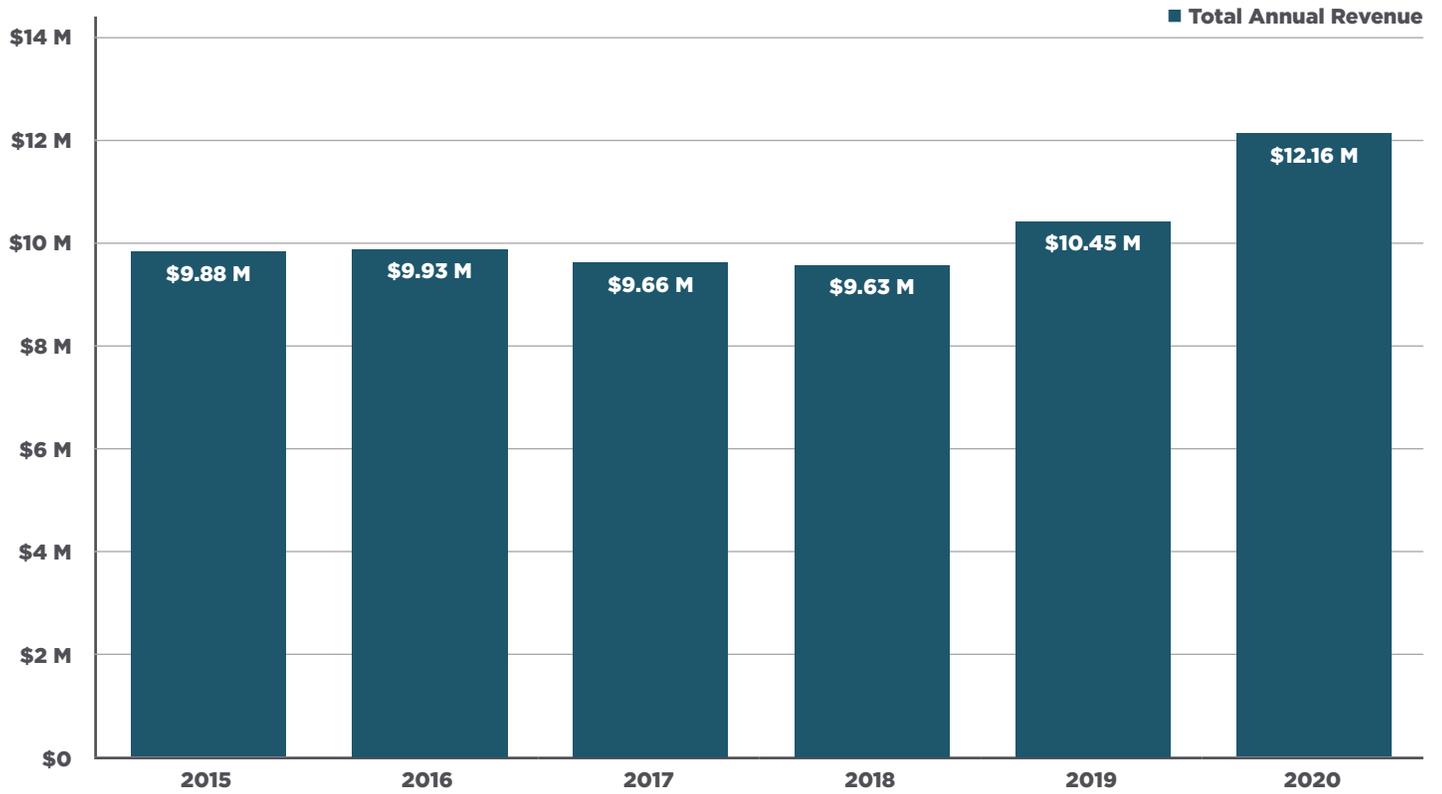


FIGURE 5.15 TMTA Programmed Funds

	2017	2018	2019	2020
Mill Levy	4,754,835	4,800,000	4,850,000	4,900,000
Federal 5307	2,200,000	2,250,000	2,300,000	2,350,000
State	728,074	730,000	740,000	750,000
Fares	1,287,180	1,200,000	1,200,000	1,250,000
All Other	486,407	500,000	500,000	500,000
TOTAL	9,456,496	9,480,000	9,590,000	9,750,000

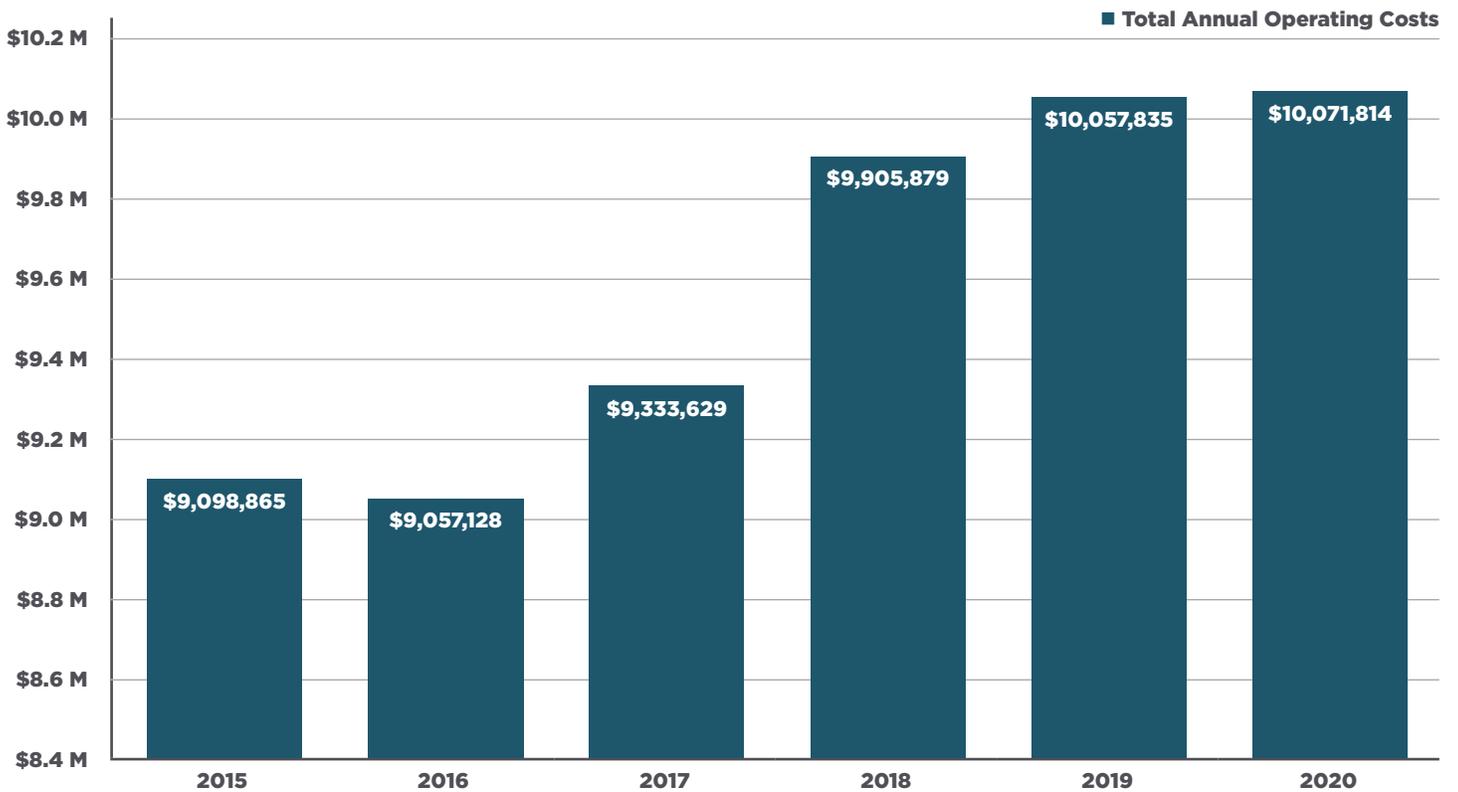
Source: TMTA

FIGURE 5.17 TMTA Total Annual Revenue 2015 - 2020



Source: TMTA

FIGURE 5.18 TMTA Total Annual Operating Costs 2015 - 2020



Source: TMTA

SECTION 5307 FORMULA GRANT

The Section 5307 (49 U.S.C. § 5307) formula grant provides capital, operating, and planning assistance for mass transportation in urbanized areas. Initiated by the Surface Transportation Act of 1982, it became FTA’s primary transit assistance program in FY1984. Funds are apportioned based on population, population density, and other factors associated with transit service and ridership. Section 5307 is funded from General Revenues and Trust Funds. Section 5307 funds transit improvements for 34 urbanized areas over 1 million population, 91 urbanized areas with populations between 200,000 and 1 million, and 283 urbanized areas between 50,000 and 200,000 population. For urbanized areas over 200,000 in population, funds flow directly to the recipient. For areas under 200,000, the funds are apportioned to the Governor of each state for distribution.

FIGURE 5.20 TMTA Funding Forecast

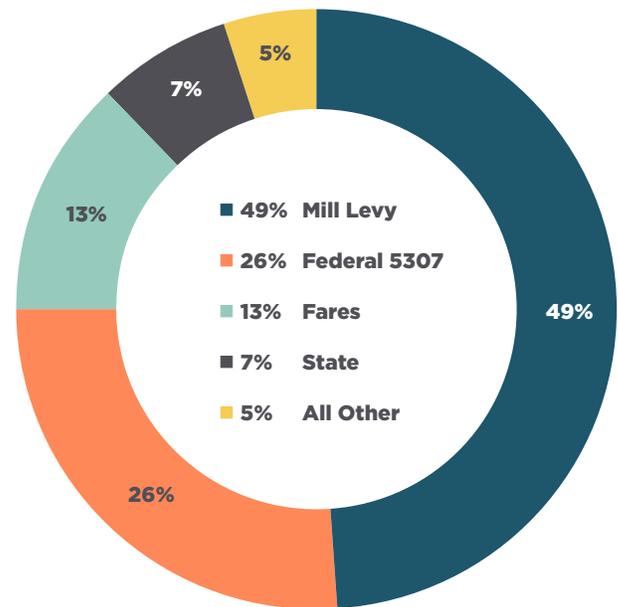


FIGURE 5.19 TMTA Financial Forecast

	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
Mill Levy	\$25,249,309	\$26,486,186	\$27,718,918	\$28,951,650	\$30,399,200	\$138,805,263
Federal 5307	\$12,500,000	\$13,750,000	\$15,000,000	\$16,250,000	\$17,062,500	\$74,562,500
State	\$3,898,847	\$4,126,931	\$4,348,096	\$4,569,260	\$4,797,700	\$21,740,834
Fares	\$6,558,974	\$6,929,486	\$7,153,843	\$7,378,200	\$7,747,100	\$35,767,603
All Other	\$2,501,942	\$2,538,837	\$2,587,384	\$2,635,930	\$2,767,700	\$13,031,793
TOTAL	\$50,709,072	\$53,831,440	\$56,808,241	\$59,785,040	\$62,774,200	\$283,907,993

Source: Topeka Metropolitan Transit Authority

CONCLUSION

STATE TRANSIT FUNDING

The total amount of KDOT transit funding assistance increased substantially with the passage of T-WORKS. The Eisenhower Legacy Transportation Program (IKE) maintains the increased annual funding levels, a more regional approach to rural transit service provision, and a revision to the urban funding formula that places an increased emphasis on ridership, revenue miles and population.

Revenue Projections for TMTA

Projections for all sources of funding for TMTA were developed using the average annual funds programmed by the County from 2017 through 2024, and inflating those average numbers by one percent (1%) using linear growth.

For convenience, the financial forecast summarized in Figure 5.19 has been aggregated into 5-year blocks.

The financial analyses projects that \$2.56 billion in funds from federal, state and local sources will be available between 2021 and 2045 for surface transportation spending. This assumes that the county and city-wide voter initiative sales tax continues. The fiscally constrained list of projects included in Chapter 7 identifies just under \$2.27 billion in transportation projects by all project sponsors between 2021 and 2045. Thus, there appears to be adequate financial resources available to implement this plan.

It is important to note that spending priorities with the Futures2045 Metropolitan Transportation Plan continue to place much greater emphasis on system preservation and on other modes of transportation, particularly the active modes of transportation. The City of Topeka should continue to devote funding resources to improve pavement conditions over time.

FIGURE 5.21 Grand Total Revenues

KDOT FUNDS	2021-2025	2026-2030	2030-2035	2036-2040	2041-2045	TOTAL
Highway Construction	\$296,300,000	\$65,000,000	\$215,300,000	\$71,800,000	\$75,400,000	\$723,800,000
Operations and Maintenance	\$9,300,000	\$9,800,000	\$10,300,000	\$10,800,000	\$11,300,000	\$51,500,000
Subtotal	\$305,600,000	\$74,800,000	\$225,600,000	\$82,600,000	\$86,700,000	\$775,300,000
KTA FUNDS						
Pavement Projects	\$5,450,000	\$9,950,000	\$16,500,000	\$21,400,000	\$67,450,000	\$120,750,000
Interchange Enhancements	\$0	\$0	\$0	\$50,000,000	\$50,000,000	\$100,000,000
Subtotal	\$5,450,000	\$9,950,000	\$16,500,000	\$71,400,000	\$117,450,000	\$220,750,000
TOPEKA FUNDS						
Kansas Motor Fuels Tax for Topeka	\$17,938,300	\$18,776,500	\$19,614,800	\$20,453,000	\$21,250,000	\$98,032,600
KDOT Administered Federal Aid to Topeka	\$7,725,000	\$8,100,000	\$8,475,000	\$8,850,000	\$9,204,000	\$42,354,000
KDOT Administered Competitive Grants	\$600,000	\$624,000	\$649,000	\$674,900	\$701,900	\$3,249,800
Topeka General Obligation Bonds	\$24,501,700	\$25,610,450	\$26,807,200	\$28,003,950	\$29,124,108	\$134,047,408
Topeka Half Cent Sales Tax	\$70,904,340	\$74,313,203	\$77,722,065	\$81,130,928	\$84,376,165	\$388,446,701
Topeka Share of SNCO Half Cent Sales Tax	\$23,372,800	\$21,442,800	\$22,444,800	\$23,446,800	\$24,384,672	\$115,091,872
Subtotal	\$145,042,140	\$148,866,953	\$155,712,865	\$162,559,578	\$169,040,845	\$781,222,381
SHAWNEE COUNTY FUNDS						
Kansas Motor Fuels Tax for Shawnee County	\$25,100,000	\$26,300,000	\$27,500,000	\$28,600,000	\$29,900,000	\$137,400,000
Federal Aid to Shawnee County & County Match	\$14,250,000	\$14,250,000	\$15,700,000	\$16,000,000	\$16,000,000	\$76,200,000
County Half Cent Sales Tax	\$10,600,000	\$13,900,000	\$18,400,000	\$21,400,000	\$22,400,000	\$86,700,000
Shawnee County General Fund (O&M)	\$16,550,000	\$50,150,000	\$39,900,000	\$44,600,000	\$48,700,000	\$199,900,000
Subtotal	\$66,500,000	\$104,600,000	\$101,500,000	\$110,600,000	\$117,000,000	\$500,200,000
TMTA FUNDS						
Mill Levy	\$25,249,309	\$26,486,186	\$27,718,918	\$28,951,650	\$30,399,200	\$138,805,263
Federal 5307	\$12,500,000	\$13,750,000	\$15,000,000	\$16,250,000	\$17,062,500	\$74,562,500
State	\$3,898,847	\$4,126,931	\$4,348,096	\$4,569,260	\$4,797,700	\$21,740,834
Fares	\$6,558,974	\$6,929,486	\$7,153,843	\$7,378,200	\$7,747,100	\$35,767,603
All Other	\$2,501,942	\$2,538,837	\$2,587,384	\$2,635,930	\$2,767,700	\$13,031,793
Subtotal	\$50,709,072	\$53,831,440	\$56,808,241	\$59,785,040	\$62,774,200	\$283,907,993
GRAND TOTAL	\$573,301,212	\$392,048,393	\$556,121,106	\$486,944,618	\$552,965,045	\$2,561,380,374

CHAPTER SIX

**PUBLIC
INVOLVEMENT,
GOALS, AND
OBJECTIVES**



PUBLIC INVOLVEMENT PROCESS

Pandemic conditions were ongoing during the plan update process. These conditions required different approaches to encourage public involvement in the plan. MTPO staff and the project team incorporated some new engagement tactics and processes in response to the unusual conditions that impacted the team's ability to engage with the public and stakeholders in-person. To ensure that public input would still play an integral role in the development of the plan, the time frame for public comment was extended and community stakeholder groups became an integral part of helping to collect community input.

A Public Involvement Plan (PIP) was prepared at the beginning of the plan update development process to identify the outreach efforts and techniques that would be appropriate to use to ensure officials, agencies, local government, the public and interested parties would have adequate opportunities to provide their input into the development of the Metropolitan Transportation Plan. A copy of the PIP is available at the [MTPO website](#) and a hard copy is available from the MTPO upon request.

Steering committee meetings and public engagement efforts began in September of 2021 and continued through plan adoption. The following summarizes the Futures2045 public engagement efforts.

Level of Public Participation

The targeted level of participation is **involve** as described in the International Association of Public Participation's (IAP2) Public Participation Spectrum:

- **Goal:** Work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.
- **Promise:** We will work with project stakeholders to ensure concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public involvement influences the decision.

At the **involve** level, the project team will strive to balance the priorities of the MTPO and project stakeholders, however, final decision-making authority resides with the planning organization.

Community engagement goals included:

- Provide all stakeholders with reasonable opportunities to be involved in the metropolitan transportation planning process.
- Ensure outreach tactics are easily accessible to all stakeholder groups and ensure equitable opportunities through community partnerships and resources.
- Improve relationships between private and public groups and promote cooperative working groups.

Media Outreach

Key components of the public engagement effort were typically advertised through traditional media sources, including:

- Local newspaper
- Television
- Extensive promotion on the City's website
- City Social Media Outlets including NextDoor,

An interactive website was created using ArcGIS StoryMap which allows direct community input and can be found on the MPO website here: <https://topekampo.org/>. A survey was included with the StoryMap and citizens were able to place comments directly on the transportation system map found on the StoryMap. The site also provided up-to-date information about progress on the plan. The full results of all public input activities are included in the Appendix.

Public Outreach

Key components of this outreach included:

- Steering Committee (MTPO Technical Advisory Committee)
- Stakeholder Interviews
- Traditional and Social Media Outreach
- Interactive Project Website
- Community Survey

- Pop-up events
- Public Meetings
- Public Comment

Environmental Justice

Because the MTPO plan for transportation and mobility is for all members of the community at the regional level, the team actively engaged Environmental Justice (EJ) populations in accordance with the National Environmental Policy Act (NEPA) of 1969, Executive Order 12898, and the Title VI Civil Rights Legislation. This ensured the full and fair participation by all potentially affected communities in the transportation decision-making process regardless of race, color, national origin, or income to avoid disproportionately high and adverse human health or environmental effects.

To do so, the MTPO reached out to underserved communities through Topeka JUMP, the Citizen Advisory Committee, Topeka's Neighborhood Improvement Associations, Topeka Area Agency on Aging, and the Topeka Independent Living Resource Center. EJ planning was also applied throughout the process.

Steering Committee and Technical Advisory Committee

The MTPO Technical Advisory Committee served as the steering committee to provide overall direction to the consultant team and MTPO staff in the process to develop the MTP. The consultant team met with the steering committee/TAC on the following dates:

- August 12, 2021
- March 24, 2022
- October 14, 2021
- April 14, 2022
- January 13, 2022

MTPO Policy Board

The consultant team met with the MTPO policy board August 26, 2021 during early plan development. The meeting included a discussion about the previous plan and review of guiding principles, goals, and objectives. The board provided feedback that the guiding principles, goals, and objectives were still valid for the current plan update.

- August 26, 2021
- March 24, 2022

Public Meetings and Engagements

Virtual public meetings were held on October 4, 2021, at 6PM and October 7, 2021, at 11AM. These meetings kicked-off the project, outlined the project process and shared information on the project storymap and options for public comment and feedback. The final Public Open House was hosted May 25, 2022, and shared the recommendations of the plan to jump start the public comment period. In total, more than 45 members of the public and local officials attended these public open houses.

A public engagement pop-up event was held December 21, 2022, at the Topeka Shawnee County Public Library in the rotunda at the entrance. The project team provided updates on the planning process and project to date, provided information on how the community could provide public comment and feedback on the plan and answered questions from attendees regarding the project.

In addition to the public meetings and events held, the project team met with a total of seven stakeholder groups from across the community, comprised of over 79 community members. In total, nearly 100 community members were directly engaged through the various public and stakeholder meetings. Hundreds more were engaged through the storymap and public comment and feedback sections on the storymap, as well as the City's Metropolitan Transportation Planning Organization's website. A summary of all the engagements is provided in the Appendix.

October 2021 Virtual Public Meetings

Each meeting began with a brief presentation about the project and an overview of the storymap project website and interactive commenting feature of the storymap. The October 2021 virtual meetings focused on overview of the plan update process as well as soliciting feedback on the current plan goals. The Guiding Principles and Goals of the current Futures2040 were reviewed with the groups and feedback was solicited regarding the goals and their continued applicability to the plan update.

December 2021 Pop Up Event

The project team held a pop-up informational meeting at the Topeka Shawnee County Public Library. The event was held December 21, 2021 from 3:30p - 5:30p and was a drop in information session. The project team promoted the online survey and answered questions from the public regarding the plan update. The survey was also available in paper form for residents to complete in person at the event.

Spring 2022 Open House

The project team held a Public Open House May 25, 2022, at the Topeka Shawnee County Public Library, 1515 SW 10th Street, Topeka, KS from 4p.m. to 6p.m. The open house was intended to inform the community of the completion of the draft Metropolitan Transportation Plan (MTP), Futures2045, announce the commencement of the 30-day public-comment period, and solicit input from the public on the updates.

Display boards with information on the plan update were placed in the rotunda of the entrance to the public library and were arranged in a counterclockwise – circular format for attendees to sequentially visit stations and ask questions of the project team. Display boards included information on submission of public comment through the storymap, and the URL and a QR code were provided for attendees to view the draft Futures2045 MTP and complete the public comment section on the storymap.

A total of 21 people visited the project information display stations and engaged with project team members. A summary of the public comments received is provided in the Appendix.

Stakeholder Interviews

Stakeholder interviews were conducted during December 2021 and the draft plan document was sent electronically to the stakeholders for comments during the final plan recommendation period in spring 2022. The MTPO staff identified 7 stakeholder groups comprising a diverse group of individual stakeholders to participate. The focus group format consisted of attendees being asked to consider the five primary goals and objectives from the current Metropolitan Transportation Plan and provide feedback regarding including these same goals in the plan update or revising the goals and objectives. Goals and objectives include:

- Maintain Existing Infrastructure
- Improve Mobility and Access
- Increase Safety for All Modes of Transportation
- Enhance Quality of Life
- Promote Economic Development

The stakeholder responses were summarized and are included as an appendix to this report. The responses were utilized by the project team to help identify existing and future year issues to address in developing the 2045 MTP update.

Additional informal discussions with MTPO staff, local agencies, transit providers, KDOT, KTA, FHWA, FTA and other necessary local, state, and federal agencies also occurred throughout the process. These further added to information collected during stakeholder interviews.

Community Survey

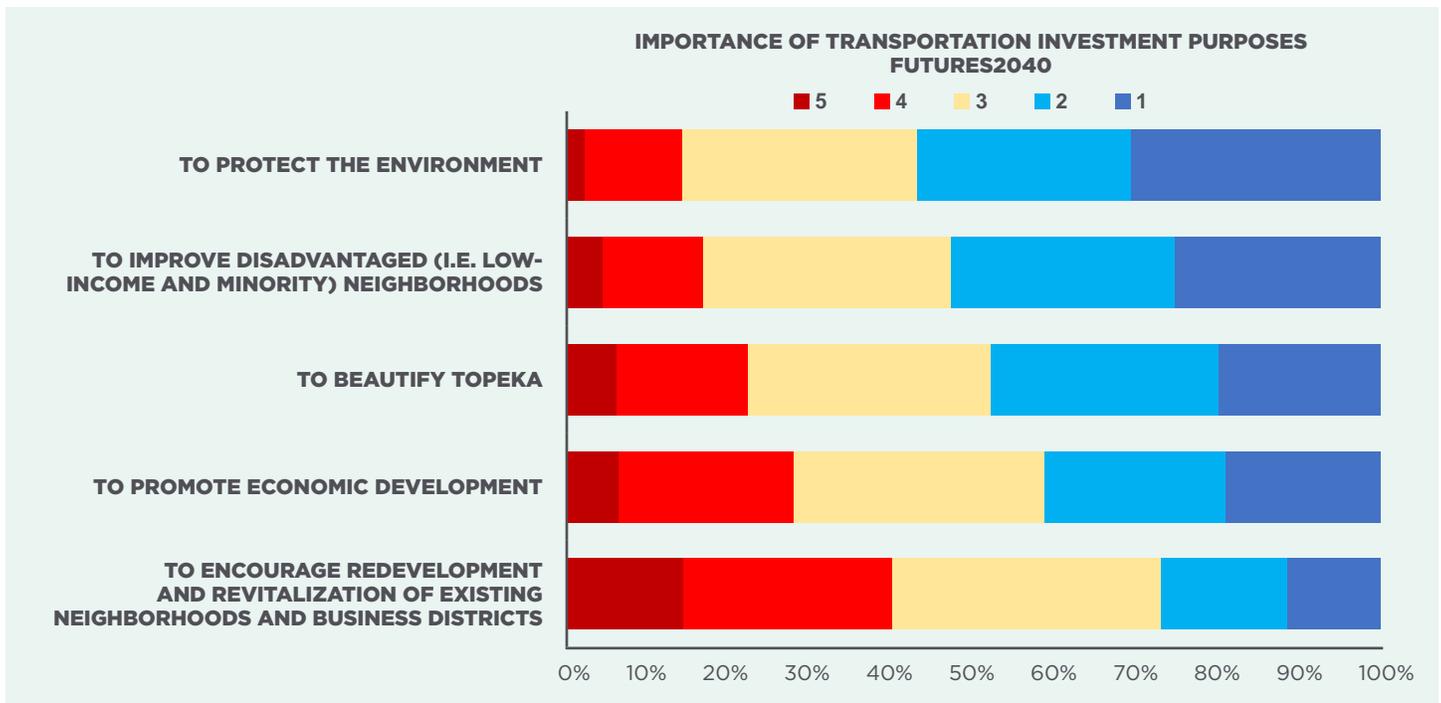
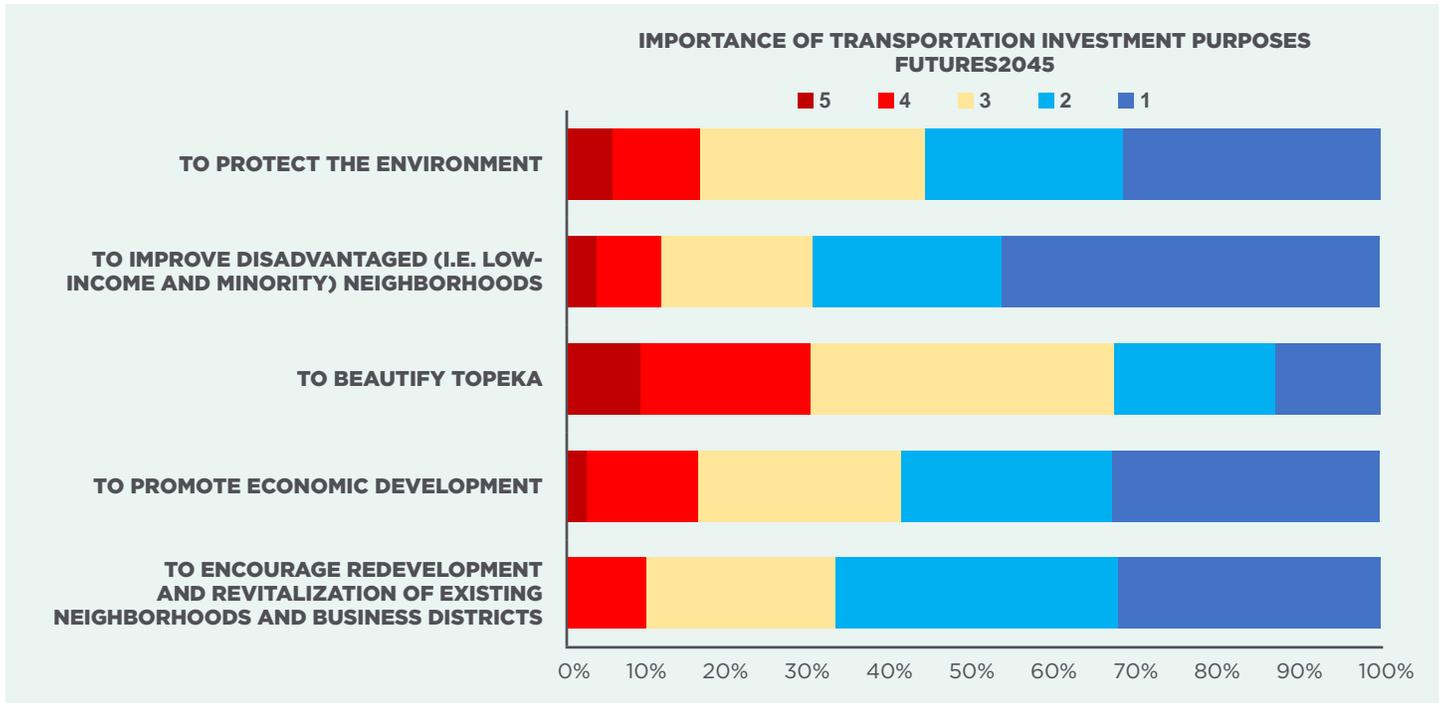
A public survey was conducted from July 10 through December 31, 2021. The purpose of the survey was to gather public input regarding general transportation and mobility issues within the region. In total, 181 surveys were completed online and in hard copy form. The response rate was lower than the previous survey in 2016. This result is likely due to pandemic impacts. The survey results were used by the project team to help identify existing transportation concerns within the Topeka Metropolitan Planning Area and to help prioritize goals for the plan. Survey results are presented throughout the remaining chapters of the MTP. It should be noted that the survey was intended to gather information and was not a statistically valid survey. The survey was open to anyone that wanted to respond and should be considered as general pulse of respondents as opposed to representative of all views in the community. These differences in survey respondents is discussed in the results.

Public Comment

As part of the MTP update process, the MTPO is required to make a draft of the MTP available for a 30-day public review period. The draft Futures2045 Plan was made available for review and public comment through the online project storymap and through the Metropolitan Planning Organization's (MTPO) website. During the public review period, the draft Futures2045 Plan was viewed 241 times via the project storymap. Information was not available regarding the number of views through the MTPO website. No public surveys were completed and submitted via the project storymap during the public review period and no written public comment was received during this time by the MTPO. Information on the project and the draft Futures2045 Plan were also made available to the public at the City of Topeka's Service Center located in the atrium of the Holliday Building in Topeka. It is estimated that approximately 50-100 members of the public had access to the project and plan information each day during the twelve days the materials were on display.

FIGURE 6.1 Importance of Transportation Investment Purposes

We asked: please rank the importance of spending money available to the region on the following items (1 being most important, 5 being least important)



The survey results collected for this plan show an increased emphasis on Importance of Transportation Investment in improving disadvantaged neighborhoods over the results from Futures2040 results. This change is reflective of a smaller survey response with higher participation from

neighborhood groups. The region has increased transportation investment in disadvantage neighborhoods through the SORT Program, Pavement Management Program, Pedestrian Masterplan, and other activities.

FIGURE 6.2 Importance of Improvements

We asked: how important are the following improvements? (1 being most important, 5 being least important)

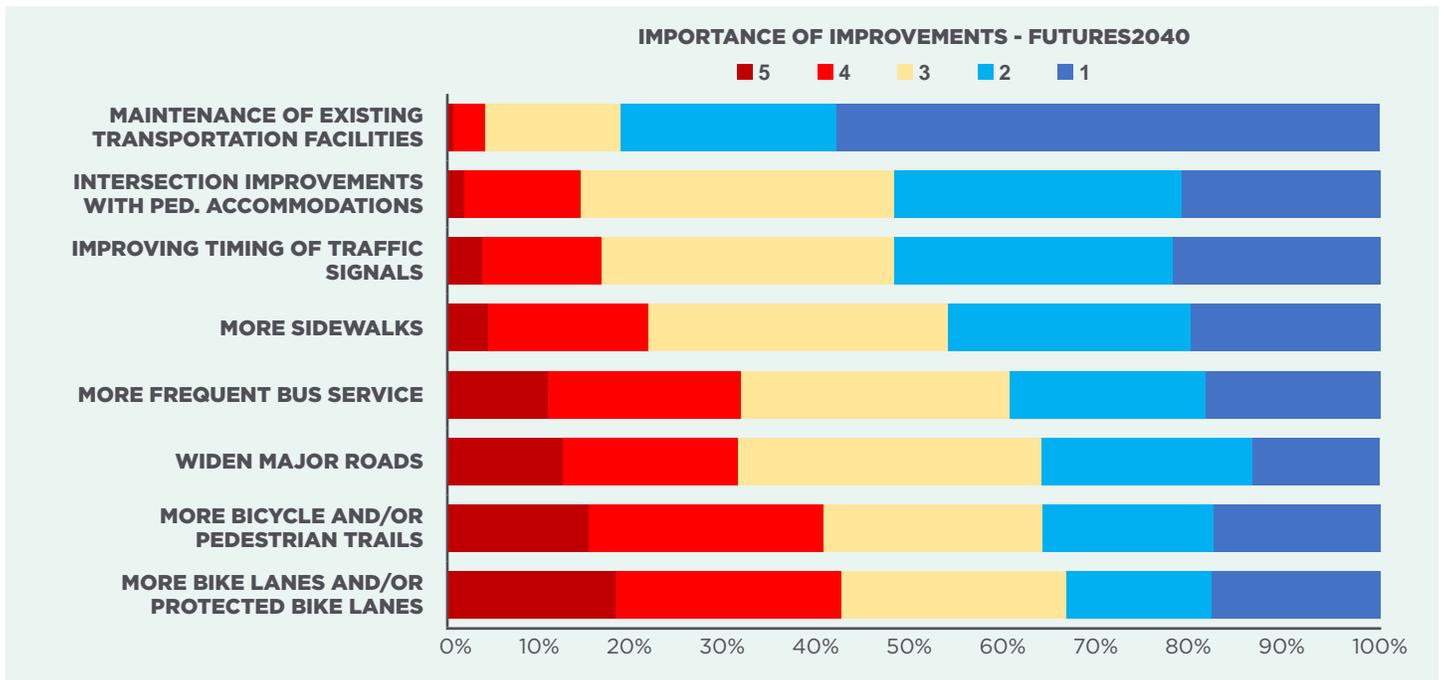
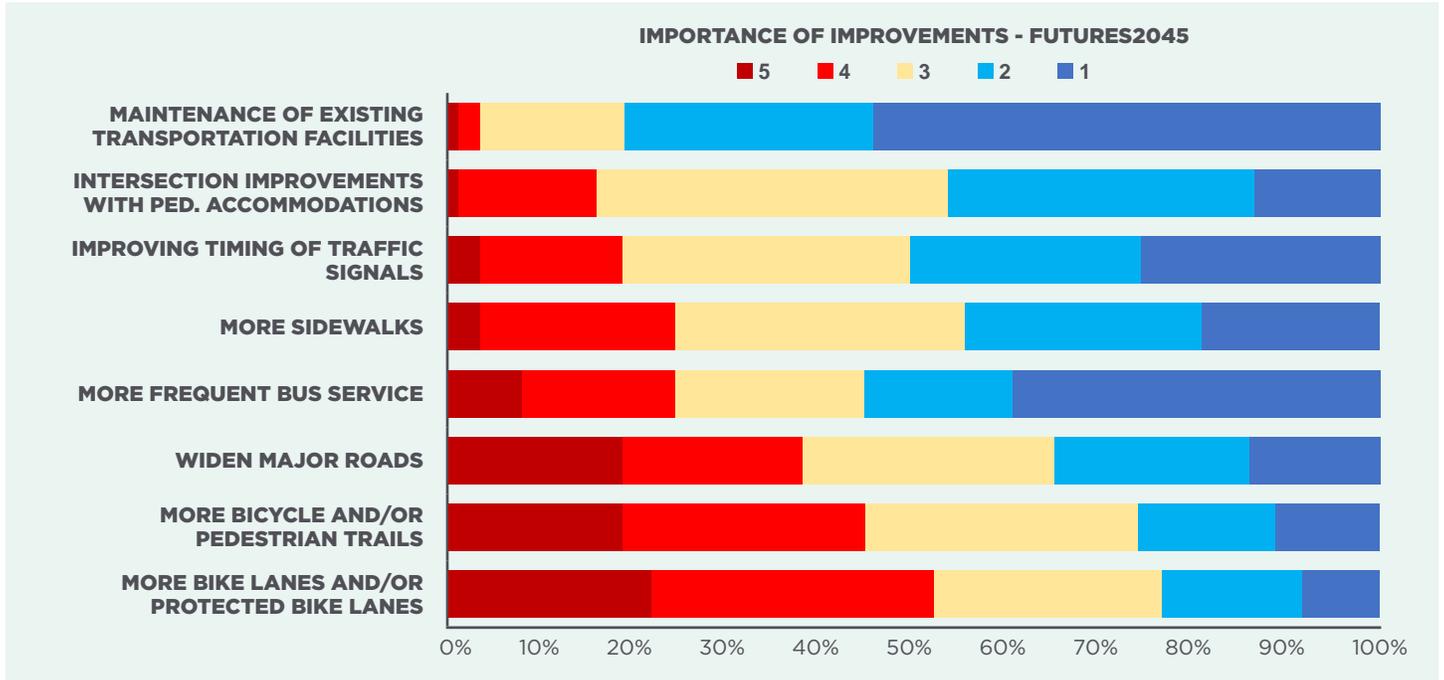
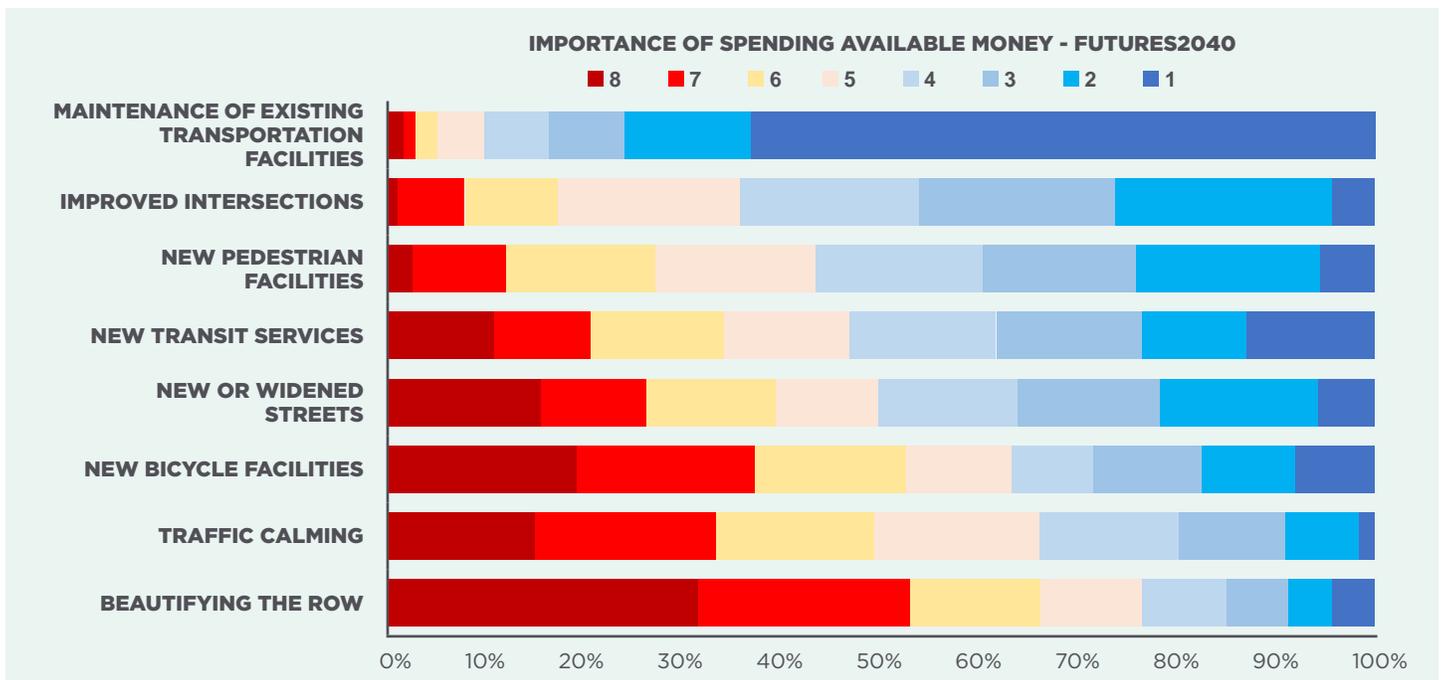
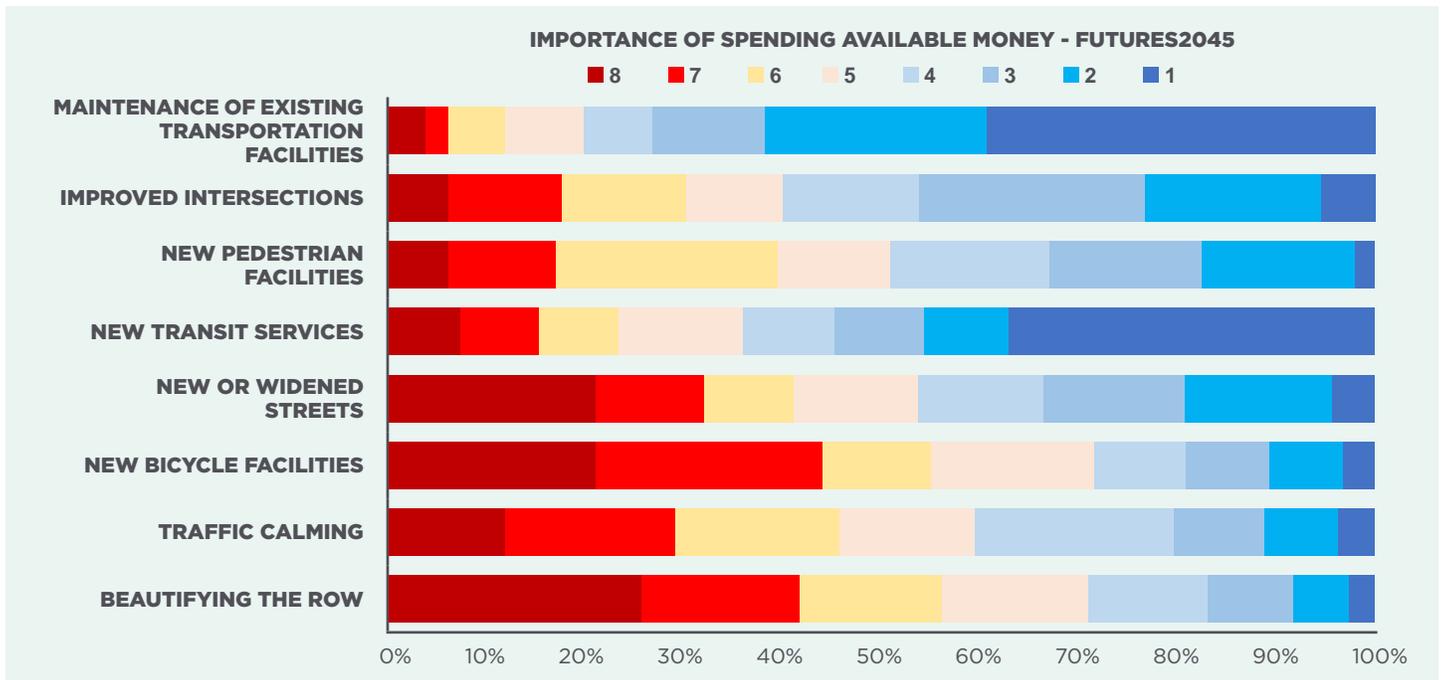


FIGURE 6.3 Importance of Spending Available Money

We asked: how important is it to use transportation investments for the following purposes? (1 being most important, 8 being least important)



With respect to investment of Improvements, the Futures2045 respondents listed maintenance of existing facilities as its highest investment priority. This priority was less than the Futures2040 results, likely due to the increased improvements in pavement condition and other infrastructure investments.

Investment in new transit services was the second highest priority for Futures2045 respondents. This metric saw a large increase from the Futures2040 results and is attributed to different sample population responding. Topeka Metro is working on a revised plan regarding ways to improve services.

GOALS & OBJECTIVES

For the Futures2045 Plan, goals and objectives were updated through public feedback and review with the steering committee. The past goals for the region were also considered important. This ensures consistency between the current and updated MTP, in addition to providing continuity. The process to update the goals was to first ensure consistency with Federal Transportation Planning Factors, review the previous Futures2040 plan, and update with input from the community and key stakeholders.

FAST ACT - Federal Transportation Planning Factors

In December 2015, the Fixing America's Surface Transportation Act or "FAST Act" strengthened the focus on performance-based approaches in transportation planning. The law established the scope for metropolitan transportation planning support. The FAST Act's ten planning factors to be considered are listed below:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
2. Increase the safety of the transportation system for motorized and nonmotorized users
3. Increase the security of the transportation system for motorized and nonmotorized users
4. Increase the accessibility and mobility of people and for freight
5. 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
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
7. Promote efficient system management and operation

8. Emphasize the preservation of the existing transportation system
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
10. Enhance travel and tourism

MTPO 2040 MTP Goals - Previous Goals

This section summarizes the past Futures2040 Metropolitan Transportation Plan goals and objectives. This set of goals was meant to be simple, making the plan easier to communicate with the public, and to better resonate with the public's general concerns. In order of importance, this plan's goals were as follows:

1. Maintain Existing Infrastructure
2. Improve Mobility and Access
3. Increase Safety for All Modes of Transportation
4. Enhance Quality of Life
5. Promote Economic Development

Updated Principles and Goals

As part of the Futures2045 plan update, a robust community engagement process was undertaken to solicit feedback on the existing principles and goals. This process included presentations to diverse stakeholders, public meetings, an interactive project website, online survey and focus group discussions. A summary of community engagement is provided in the Appendix. The result of this process indicated that the current principles and goals are still the top priorities for the Metropolitan Transportation Plan.

For this plan the Guiding Principles and Goals are linked to build alignment within the plan vision and implementation.

GUIDING PRINCIPLE

GOALS

 **SUSTAINABILITY**

Meeting present day needs without compromising the ability of future generations to meet their own needs.

Using the triple bottom line framework to consider the economic, social, and environmental impacts of decisions.

Maintain Existing Infrastructure

- Continue data driven decision making through implementation of best practices in asset management, such as pavement management programs, bridge maintenance, transit, fleet, active transportation, and other infrastructure systems.
- Provide fiscal and environmental stewardship through building resilient transportation systems.

 **HEALTH AND WELLNESS**

Encouraging active lifestyles can have a tremendous positive impact on community health and wellness. Complete streets are a major factor in determining whether people will walk or bike for at least some of their daily trips. While transportation also contributes significantly to air pollution, the Topeka region is currently in attainment of the National Ambient Air Quality Standards.

Increase Safety for All Modes of Transportation

- Monitor safety performance of transportation systems and utilize performance data to drive safety programs and projects.
- Utilize Traffic Safety Plan and Complete Streets Design Guidelines to improve safety of transportation network.

 **LIVABILITY**

Livability is the sum of the factors that add up to a community's quality of life. Increased emphasis on pavement condition, complete streets, and urban design are all key aspects of improving the transportation system for a thriving community. Each of these will enhance the quality of life for people living, working, learning, playing, and shopping in the Topeka region.

Enhance Quality of Life

- Develop transportation projects in a resilient manner reflective of current needs and changing trends in transportation choice.
- Support active transportation projects as a critical component in providing a high quality of life for people living, working, recreating, and visiting the region.

Equity and Access for All

- Improve access for all members of the community to key destinations, trails, and neighborhoods along a safe, connected, and well-maintained transportation network.
- Plan and design a transportation system of all ages and abilities recognizing the diverse needs of low-income users, youth, women, people of color, seniors, and other underrepresented groups.

 **TRANSPORTATION LAND-USE CONNECTION**

The plan builds on the recommendations of the Topeka Land Use and Growth Management Plan adopted in 2015 which emphasizes infill development and redevelopment in existing neighborhoods. Land use and density have significant implications for transportation infrastructure.

Leverage Transportation System to Support Economic Development Efforts

- Prepare for emerging technologies such as electric vehicles, micro-transit, and autonomous vehicles.

The ways in which these principles and goals correspond to the federal planning factors can be seen in the matrix in Figure 6.4.

FIGURE 6.4 Futures2045 Federal Planning Factors Matrix

PRINCIPLE	GOAL	ECONOMIC VITALITY	SAFETY	SECURITY	ACCESSIBILITY & MOBILITY	QUALITY OF LIFE	INTEGRATION & CONNECTIVITY	SYSTEM MANAGEMENT	PRESERVATION	RESILIENCY & RELIABILITY	TRAVEL & TOURISM
SUSTAINABILITY	Maintain Infrastructure	■	■			■		■	■	■	
HEALTH & WELLNESS	Increase Safety for All Modes of Transportation	■	■	■		■	■				■
LIVABILITY	Enhance Quality of Life	■			■	■				■	■
	Equity and Access for All			■	■		■	■			
TRANSPORTATION LAND-USE CONNECTION	Leverage Transportation to Support Economic Development	■			■	■	■	■		■	■

PERFORMANCE MEASURES

MAP-21 and the FAST Act directed agencies to measure performance of its transportation system to monitor progress and improve decision making and develop a coordinated effort toward achievement of national transportation goals. The federal legislation required development of transportation performance goals in the following areas: Infrastructure Condition, System Performance, Freight, Transit, and Safety. The MTPO has adopted performance measures and begun the process of performance management. The following is a list of adopted performance measures from the MTPO:

Infrastructure Condition

PAVEMENT CONDITION

KDOT: interstate highways 65% in good condition, non-Interstate highways 55% in good condition. The baseline for State Fiscal Year 2018 was 66.7 for interstates and 62.7% for non-interstate highways.

City of Topeka: Topeka has a Pavement Condition Index (PCI) target of 60 with aspirational goal of 70. Currently, the city has improved from a PCI of 55 in 2016 to a current PCI of 64 in 2022.

County: Shawnee county has a total of 287.5 lane miles of which 142 are within the MTPO boundary. Shawnee County uses the PASER scale to rate condition of roads. The scale ranges from 1-10 with 1 indicating total reconstruction needed and 10 being a new road. The performance goal for roads is to be maintained to rating of at least 6 is achieved for 90% of the County network.

BRIDGE CONDITION

The MTPO has adopted one performance measure for all bridge owners. The Performance goal is for 65% of bridges to be rated good and no more than 3% of bridges to be in poor condition based on the results of the biennial bridge inspections. Based on the FY2021 -2024 TIP, 62.3% of the total bridges are in Good Condition, 34.1% are in Fair Condition, and 3.6% are in poor condition.

System Performance/Congestion Reduction

The MTPO has adopted several measures in this category.

SYSTEM RELIABILITY

The goal for travel time reliability is to maintain a level of travel time reliability (LOTTR) index of 95th percentile for person-miles traveled on both interstate and non-interstate system. Current measures indicate a LOTTR of 99.6 percentile for interstate miles traveled and 97.8 percentile for non-interstate miles traveled. Both of these measures are above desired performance goal.

FREIGHT RELIABILITY

The goal for freight performance is a travel time reliability index (TTRI) of 1.16. Current measures indicate a TTRI of 1.16 which is on target with the performance measure.

CONGESTION REDUCTION/ACTIVE TRANSPORTATION

The goal for active transportation is 5% increase (from 69% to 74%) in total MPA population having access to sidewalks and a 5% increase (from 42.3% to 47.3%) to total population having access (within a 1/4 mile) to the bike network.

Safety Performance

The MTPO recognizes the need to reduce traffic fatalities and serious injuries within the MPO area. The MTPO will continue researching safety strategies which will encompass education, enforcement, engineering, and emergency response.

The MTPO adopted a [Transportation Safety Plan](#) in 2019. The purpose of this plan is to identify locations/corridors that may benefit from systemic, low-cost safety improvements and to provide direction in the prioritization of local transportation safety needs within the MTPO region. The plan focuses on four safety emphasis areas: intersections, speed, distracted driving, and pedestrians/bicyclists.

The MTPO has delayed implementation of the suggested performance measures detailed in the plan due to the onset of pandemic but continues to adopt and support safety goals set forth by Kansas Department of Transportation. Data shown in the following section represents all Shawnee County including Topeka. Data was not available for the MPO region.

KDOT has set performance targets related to a base year 2018. Targets have been set for: number of fatalities, rate of fatalities per vehicle-miles traveled, number of serious injuries, serious injury rate, and the number of fatalities plus serious injuries involving bicyclists and pedestrians. It should be noted that the definition of “suspected serious injury” changed in 2019, increasing the numbers in this category. Data from 2018 noted in this section has been inflated using KDOT’s conversion factor of 1.46 to account for this change in definition and to allow analysis of trends.

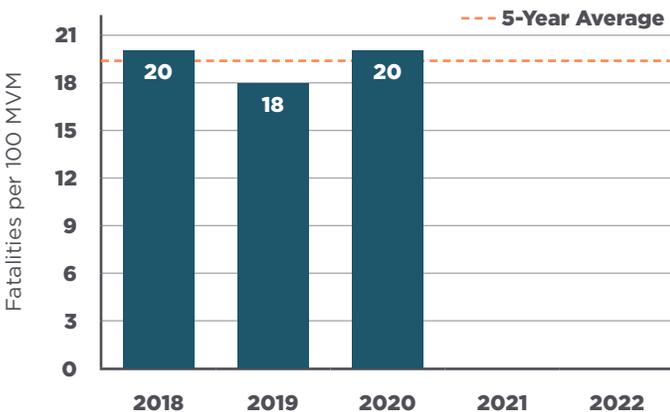
The current safety performance measures adopted by the MTPO are:

MEASURE	2018	2019	2020	2022 TARGET
Number of Fatalities	20	18	20	20
Number of Serious Injuries	73	69	74	73
Serious Injury Rate	4.54	4.27	4.74	4.54
Fatalities Rate	1.23	1.14	1.30	1.23
Non-Motorized Fatalities plus Serious Injuries	10.0	10.6	11.4	10.0

Number of Fatalities

The “rolling” five-year average number of fatalities in Shawnee County for the periods ending in 2018, 2019, and 2020 shows the number of fatalities to be relatively stable over this 3-year period.

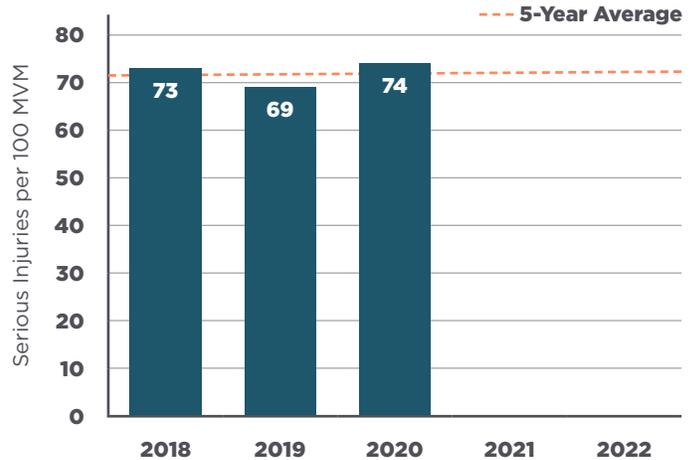
FIGURE 6.5 Shawnee County 5-Year Average Number of Fatalities



Number of Serious Injuries

The “rolling” five-year average number of serious injuries in Shawnee County for the periods ending in 2018, 2019, and 2020 shows the number of injuries to be relatively stable over this 3-year period.

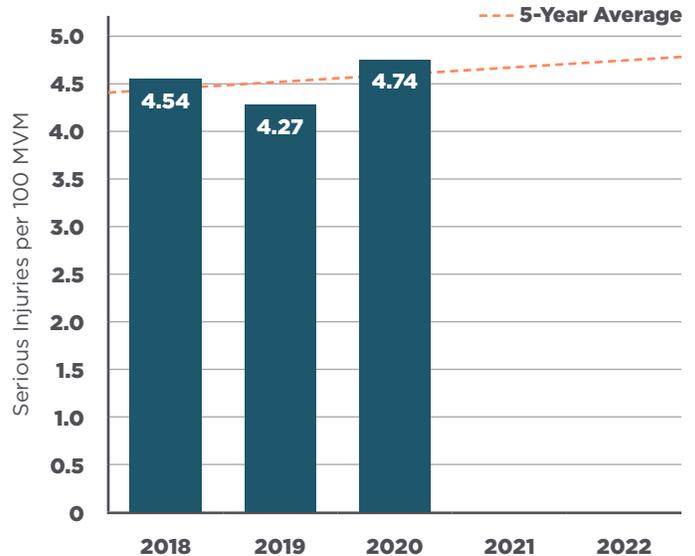
FIGURE 6.6 Shawnee County 5-Year Average Number of Serious Injuries



Serious Injury Rate

The “rolling” five-year average rate of serious injuries in Shawnee County for the periods ending in 2018, 2019, and 2020 shows an increasing trend.

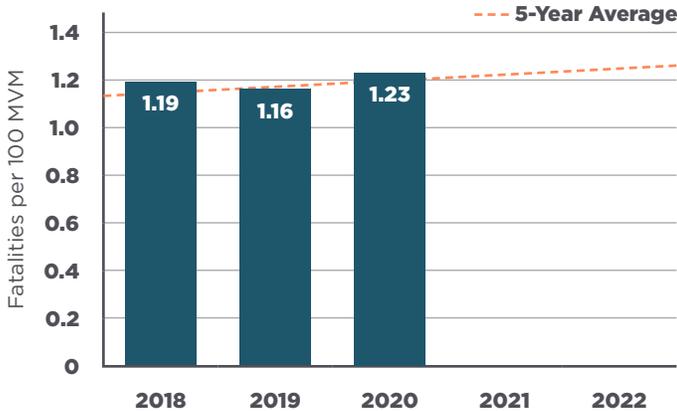
FIGURE 6.7 Shawnee County 5-Year Average Serious Injury Rate



Fatalities per Vehicle Mile Traveled (VMT)

The “rolling” five-year average rate of fatalities in Shawnee County for the periods ending in 2018, 2019, and 2020 shows an increasing trend. The trend is due to miles of travel decreasing rather than an increase in the number of fatalities.

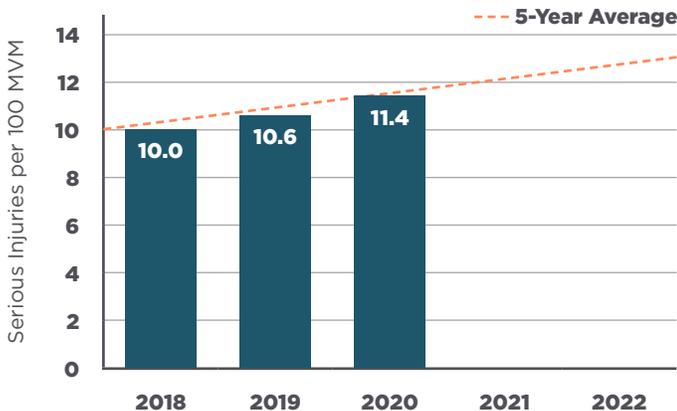
FIGURE 6.8 Shawnee County 5-Year Average Fatality Rate



Non-motorized Fatalities

The “rolling” five-year average number of fatalities and serious injuries for bicyclists and pedestrians in Shawnee County for the periods ending in 2018, 2019, and 2020 shows a slightly increasing trend.

FIGURE 6.9 Shawnee County Bicycle & Pedestrian Fatalities + Serious Injuries



Continued study to fine-tune safety performance measures for the region is recommended. The MTPO will monitor data for the years 2021 and 2022 to determine any changes in trends as travel returns to normal following the pandemic.

Transit Performance

The Topeka Metro Transit Authority has set two performance measures. The first measure is on-time performance of its bus system of 90% or greater. The second measure is a target for Transit Service Availability (within a 1/4 mile of a fixed route) of 70% for all residents within the City of Topeka.

PUBLIC INPUT ON GOALS, OBJECTIVES & PERFORMANCE MEASURES

What We Heard

Public input and community feedback helped drive the recommendations of Futures2045. Early in the process, the community survey gave the public a voice in the process. One on one discussions were also held with key stakeholders in the community and at the State level. This section discusses the overall results of the survey, followed by general themes which emerged during the public involvement process.

Community Survey Results

Residents prioritized infrastructure maintenance and new and increased transit services over the development of new infrastructure, including existing streets, bridges, sidewalks, and trails. In total, more than 96 percent of respondents stated that infrastructure maintenance and new and increased transit services were extremely important, very important or important in the 2021 public survey. Nearly 75 percent of respondents indicated that increased bus service was extremely important, very important or important in the priority of transportation improvements.

Although the community’s priorities remained largely the same from the previous plan, there were minor variations of interest provided in the responses.

IMPORTANCE OF IMPROVEMENTS

For Futures2040, the community clearly prioritized ‘Maintenance of Existing Transportation Facilities’ as a top priority for the MTPO and future investments in

transportation infrastructure. According to feedback from the Futures2045 survey, respondents still highly value the ongoing maintenance of existing transportation facilities. However, 'More Frequent Bus Service' came in as a close second according to the community's response, and 'Improving Timing of Traffic Signals' was the third highest priority for future improvements.

IMPORTANCE OF TRANSPORTATION INVESTMENT PURPOSES

This section of the survey saw the most change from 2016 to 2021. Feedback from the 2016 survey prioritized protecting the environment slightly more than improving disadvantaged neighborhoods. Responses from 2021 prioritized improving disadvantaged neighborhoods as the top priority for future transportation investments, with protecting the environment, promoting economic development, and encouraging redevelopment and revitalization of existing neighborhoods and businesses tying for the second most important priority for future transportation investment in the area.

IMPORTANCE OF SPENDING AVAILABLE MONEY

Maintenance of existing transportation facilities again rose to the top as a community priority in response to this question. New transit services were also ranked high in this question, as did improved intersections, new pedestrian facilities and new or widened streets. Based on community feedback, well maintained transportation facilities remain a top priority, however maintenance efforts and tools, such as the Pavement Condition Index created by the City to help manage street maintenance projects, is beginning to pay off with more respondents able to see other priority areas in the community than was reflected in responses from 2016.

GOALS AND OBJECTIVES

Several stakeholder meetings were held throughout the process to gain firsthand feedback regarding the local transportation system. These meetings were focused on discussing the priorities from the Futures2040 plan and finding out if they are still applicable and valuable to the community today. The Futures2040 Goals include:

1. Maintain Existing Infrastructure
2. Improve Mobility and Access
3. Increase Safety for All Modes of Transportation
4. Enhance Quality of Life
5. Promote Economic Development

Feedback received from stakeholders indicated that the goals are still applicable and a priority to the community. More emphasis was given to maintaining existing infrastructure and promoting economic development in the conversations with community members and stakeholders. Many mentioned the need for reliable transportation systems to the employment centers in southeast Topeka and nearly all indicated that maintenance of existing infrastructure was improving in the local transportation system.

Respondents encouraged the continued data driven decision making processes adopted by the MTPO. In addition, implementation of best practices in asset management, such as pavement management programs, bridge maintenance, transit, fleet, active transportation, and other infrastructure systems, were praised and encouraged by stakeholders and community members alike.

CHAPTER SEVEN

RECOMMENDATIONS



The three themes identified during this planning process align well with the goals of the MTPO Metropolitan Transportation Plan. The three themes and focus areas used to develop recommendations for this plan are:



CONTINUE PROGRESS

- Infrastructure Condition improvement
- Active Transportation Emphasis



STRENGTHEN PERFORMANCE MANAGEMENT

- Monitor progress
- Implement local safety plan



PREPARE FOR TRANSPORTATION INNOVATIONS

- Monitor implementation
- Develop policy, programs, projects



CONTINUE PROGRESS

The plan recognizes the progress made on recommendations from the previous plan. This plan recommends a continued focus on projects that preserve the existing transportation system, while also expanding facilities for active transportation. Since the previous plan, pavement management performance has increased. Condition targets have been set for bridge improvements and other infrastructure. Additional work is needed to improve the bridge conditions within the metropolitan area. KDOT, the City of Topeka, and Shawnee County are making concerted efforts to regularly repair, replace, and maintain existing bridges

Active Transportation activities have increased, and the network has expanded. The region has adopted complete street guidelines, updated the bike plan, and built more sidewalks, trails, and bike facilities. Specific recommendations are included for active transportation later in this chapter.



STRENGTHEN PERFORMANCE MANAGEMENT

The MTPO has adopted several performance measures for the transportation system. The plan recommends an increased emphasis on development of management systems to define and monitor system performance for these objectives.

With clear targets identified for performance, the MTPO needs to work with agency partners to develop management strategies to reach the goals. Most importantly, a strong focus on transportation safety performance measures is needed. Some of the performance measures for improved safety are trending away from desired performance goals. Intentional efforts should be made to implement recommendations in the MTPO Transportation Safety Plan. The safety plan identified the following as top priority transportation safety concerns: distracted driving, intersection safety, speed, and pedestrian/bike safety.

The MTPO Transportation Safety Plan included the following recommendations for improving safety performance:

Implement safety countermeasures at specific locations based upon:

1. **Review high crash areas against current Capital Improvement Program (CIP) projects:** compare the list of high crash intersections and roadway segments with current CIP projects. Include the appropriate safety countermeasures within those projects that will directly address specific identified crash patterns.
2. **Crash frequency versus crash rates:** crash frequency is focused on the number and severity of crashes during a certain time period. The safety plan focused on crashes between 2010 and 2016 (seven-year period). Crash rates measure the number of crashes per million vehicle miles (MVM) traveled for roadway sections and number of crashes per ten million entering vehicles (TMEV) for intersections. The number of crashes at intersections or along roadway segments is a function of exposure – the volume of pedestrians, bicycles, and vehicle traffic traveling through the area. When volumes of pedestrians, bicycles or vehicles is unavailable or inconsistent throughout the transportation network, crash frequencies are an acceptable method of performing crash analysis.

3. **Develop lists of priority locations for future CIPs:** compare the list of high crash intersections and roadway segments with future planned CIP projects. Consider initiating safety projects in the future CIP that will address specific crash patterns at an intersection or along a roadway segment.
4. **Include the appropriate safety countermeasures:** include the appropriate safety countermeasures within those projects that will directly address specific identified crash patterns in support of the plan.

In addition to the focus on safety counter measures, the safety plan recommended the following actions:

SHORT TERM (1 – 5 YEARS)

- » Develop a “Vision Zero” Policy towards becoming a Vision Zero City **(Executive Policy)**
- » Implement a “Distracted Driving” ordinance **(Executive Policy)**
- » Support the Kansas Negligent Driving bill **(Executive Policy)**
- » Update “Topeka Bikeways Master Plan” **(Executive Policy)**
- » Safe driving awareness through public service announcements **(Education)**
- » Support the S.A.F.E. (Seatbelts Are For Everyone) Program in local high/middle schools **(Education)**
- » Develop education material for new intersection types and new traffic control devices **(Education)**
- » Bike helmet giveaways and educational campaigns **(Education)**
- » Initiate roadway configuration reviews **(Engineering)**
- » Initiate a Road Safety Audit program **(Engineering)**
- » Enhance City “Traffic Calming” program from 2005 **(Engineering)**
- » Dynamic Message Signage (“Put Phone Down” Message) **(Education)**
- » Friendly school competition programs **(Education)**
- » Simulators in a safe environment **(Education)**
- » Implement a data collection program that includes pedestrian and cyclists in traffic counts **(Executive Policy)**
- » Implement systemic low-cost countermeasures for reducing crashes at traffic signal controlled intersections **(Engineering)**

- » Implement lead pedestrian intervals at signalized intersections as a system-wide low-cost safety improvement where pedestrian signals are present

MEDIUM TERM (5 – 7 YEARS)

- » Implement Safety Performance Evaluation & Planning **(Policy)** as it relates to reduction of angle crashes at intersections **(Engineering)**
- » Perform strategic enforcement at intersections with safety issues by working with local law enforcement agencies **(Enforcement)**
- » Work with emergency services to identify potential “bottlenecks” in the transportation system

LONG TERM (7 – 10 YEARS)

- » Implement countermeasures at stop sign controlled intersections that are focused on Speed Differential Management **(Engineering)**
- » Rumble strips (centerline/shoulder)
- » Rural intersection conflict warning system
- » Construct traditional and alternative intersection types which reduce the number of conflict points **(Engineering)**
- » Construct dedicated pedestrian and bicycle infrastructure per the Topeka Bikeways Master Plan **(Engineering)**
- » Install rectangular rapid flashing beacons (RRFB’s) and high visibility crosswalks at unsignalized pedestrian crossings **(Engineering)**

All of these activities will serve the MTPO in meeting performance targets within the long-range transportation plan.



PREPARE FOR TRANSPORTATION INNOVATIONS

This plan recommends dialogue and preparation for technology innovations that are moving forward from electric vehicles to drone delivery systems. The MTPO needs to monitor innovations and develop a process for ensuring the transportation system is responsive to future changes.

Federal funds are available to states for electric charging stations and other transportation innovations. The MTPO should review these items and determine appropriate roles and policies for agency members.

MAKING GREAT STREETS IN TOPEKA

Agencies within the MPO have embraced the recommendations from the last plan regarding great streets. Current examples include the work on SW 12th Street from Kansas Avenue to Gage Boulevard, SW 10th Street from Gage Boulevard to Wanamaker Road, the bridge on SE 29th Street over Deer Creek, and other locations.

The American Planning Association has developed a list of the characteristics of Great Streets. The twelve characteristics of great streets are an excellent guide for the City of Topeka, Shawnee County, and the Kansas Department of Transportation to consider during project development for roadway projects inside the Topeka Metropolitan Planning Area.

Planned improvements for the Polk-Quincy Viaduct will include several of these characteristics. Citizens groups such as the “Bring Back the Boulevard” are advocating for implementation of aesthetic improvements to Topeka Boulevard. The complete streets guidelines adopted by City of Topeka and Shawnee County provide street typologies that support APA’s guidelines for great streets.



12 CHARACTERISTICS OF GREAT STREETS

1. The street provides orientation to its users, and connects well to the larger pattern of ways.
2. The street balances the competing needs of the street — driving, transit, walking, cycling, servicing, parking, drop-offs, etc.
3. The street fits the topography and capitalizes on natural features.
4. The street is lined with a variety of interesting activities and uses that create a varied streetscape.
5. The street has urban design or architectural features that are exemplary in design.
6. The street relates well to its bordering uses— allows for continuous activity, doesn’t displace pedestrians to provide access to bordering uses.
7. The street encourages human contact and social activities.
8. The street employs hardscape and/or landscape to great effect.
9. The street promotes safety of pedestrians and vehicles and promotes use over the 24-hour day.
10. The street promotes sustainability through minimizing runoff, reusing water, ensuring groundwater quality, minimizing heat islands, and responding to climatic demands.
11. The street is well maintained, and capable of being maintained without excessive costs
12. The street has a memorable character.

List courtesy of the American Planning Association.



Kansas Avenue

There are several factors that should be considered in designing Great Streets in MTPO area. These include considering design elements that can either enhance or detract from the roadway.

Streetscape Elements. Streetscape features, such as streetlights, trees and landscaping, and street furniture can contribute to the unique character of key corridors around Topeka. Additionally, streetscapes have been proven to calm traffic and encourage bicycle and pedestrian traffic by creating safe spaces. Enhancements to the streetscape such as special paving treatments and street furnishings can contribute to the experience for pedestrians and help define neighborhood character. Well-designed streetscapes can support activities in neighborhood business districts and make walking an attractive choice for getting around the city.

Complete Streets. As previously mentioned, Topeka, Shawnee County and MTPO have adopted Complete Streets policies. Over time, these policies will make the region safer and more enjoyable by all roadway users, including pedestrians, cyclists, transit riders and people driving passenger vehicles.

Burying Overhead Power Lines. Many of the major streets in the region have overhead power lines that significantly contribute to the visual blight along these corridors. Often these power lines are located inside the publicly owned rights-of-way or in utility easements adjacent to the rights-of-way. The major challenge is the high cost of converting existing facilities to underground electrical systems.

Underground power lines can be between five to 10 times more expensive than systems using overhead power lines and wood poles or steel towers. However, it may be possible when road construction projects require utilities to be relocated to work with the utility provider to bury overhead power lines in strategic locations.

Designing with Nature. Even in a highly urban context like downtown Topeka, it is possible to introduce nature into the streetscape. Several years ago, a project on Jackson Street north of 7th Street removed a traffic lane to improve storm drainage and mitigate run-off. Another benefit can be achieved by properly locating street trees along the roadside and in medians to enhance safety for both pedestrians and motorists by creating well-defined roadside edges that encourage motorists to pay more attention while driving.

Celebrating with Public Art. Public art is a means of beautifying the streetscape and expressing the identity of places. Topeka has done a fantastic job integrating public art on Kansas Avenue, in NOTO, and at Washburn University.

One advantage of this streetscape element is that it presents opportunities for public and private partnerships. The public can provide the space in which to display the art. The private sector can raise the funds needed to purchase the art.

Together, the public and private sectors can craft the themes that will be addressed by the public art in high profile public locations.



Overhead Power Lines on Wanamaker Avenue



Stormwater Mitigation on Jackson Street

This plan continues the recommendation that Great Streets Plans be developed for several key corridors in the Topeka region including:

- Topeka Boulevard from US-24 Highway south to US-75 Highway.
- Kansas Avenue from Gordon Street south to Topeka Boulevard.
- SE 29th Street from Topeka Boulevard east to SE Adams Street.
- SE 6th Street from I-70 east to SE 10th Street.
- SW Wanamaker Road from I-70 south to SW 21st Street.
- US-24 Highway from K-4 Highway west to US-75 highway.
- SW Huntoon Street from Gage Boulevard to Topeka Boulevard
- North Kansas Avenue Bridge over the Kansas River

The plan recommends agencies include budget in the design of future roadway improvements on selected corridors.

Funding for this work will help Topeka, Shawnee County, and KDOT include streetscape elements and determine which Great Streets characteristics should be incorporated into the design of other roadways in the MPA as projects are selected and preliminary engineering commences.

FIGURE 7.1 Great Streets and Great Street Planning Priorities



RECOMMENDATIONS FOR ROADWAYS

The recommended roadway plan focuses on preservation of the existing transportation infrastructure, reconstruction of a portion of I-70, and a continued focus on providing a safe and efficient roadway network to meet the current and future year needs of area residents and the regional economy.

During the issues identification and data collection stage of developing the Metropolitan Transportation Plan, the project team confirmed that the top priority of residents and transportation stakeholders was to maintain and repair existing roads, bridges, sidewalks, and trails. The second highest roadway priority was to improve traffic operations at intersections by improving the timing of traffic signals and by providing additional turn lanes, traffic signals, or other improvements that benefited motorists, transit users, bicyclists, and pedestrians.

The analysis of existing and expected future traffic operations showed that the region does not experience high levels of severe traffic congestion. Congestion that does occur on city streets is primarily due to the design and operation of the intersections rather than the need for additional lanes along a corridor. Analysis does show congestion occurring and increasing along sections of I-70 that will need to be addressed.

The existence of two local sales taxes, a half-cent City sales tax and a half-cent County sales tax, demonstrates that local government agencies and the public understand the importance of continuing to improve the current roadway infrastructure within the region. The Futures2045 Plan supports the on-going efforts of local agencies to improve the overall safety and efficiency of traffic operations within the region.

Highways

In reviewing the current and expected future traffic conditions, it is apparent that I-70 should be the focus of the recommended highway reconstruction. The interstate highway system in the region is aging, and system preservation of existing highways is a priority.

The I-70 Polk-Quincy Viaduct Corridor Concept Study has identified needed improvements to I-70 from the MacVicar Avenue interchange east through downtown to a point between the Adams Street and California Avenue interchanges. Plans have been developed and the west segment of this overall project will be

let for construction in 2024. Preliminary design has been completed for the east segment from 4th Street to California Avenue. Due to the age and condition of the pavement and bridges, final plans for the east segment should be prepared and the project scheduled for reconstruction before 2045.

Travel forecasting and modeling for I-70 have identified an additional need. The travel demand model for the year 2045 shows the segment of I-70 between I-470 and MacVicar Avenue as the most congested highway segment in the MTP region. This includes the section of roadway where highways I-70 and US-75 overlap, a key connection for motorists as well as freight movement.

The Plan Recommendations:

- Construct the west segment of the I-70 Polk-Quincy Viaduct Corridor project. This phase would replace the Polk-Quincy Viaduct, realign, and replace the I-70 pavement from the MacVicar Avenue interchange to approximately 4th Street, relocate several ramps to provide connections to city streets that better support current and future land uses, and increase the design speed of the curve near 3rd Street. This project would be included on the list of funded projects.
- Finalize plans for the east segment of the I-70 Polk-Quincy Viaduct Corridor project. This phase improves I-70 from 4th Street to east of the Adams Street interchange, replaces the I-70 pavement, replaces bridges over I-70, relocates several ramps, and improves the curve near 10th Street. This project is assumed to be constructed in a state transportation program following the IKE program.
- Study the section of I-70 from I-470 to MacVicar Avenue and the segment of US-75 from I-70 to US-24 to determine appropriate improvements that will address the expected growth in traffic. This study is included on the list of funded projects.
- Illustrative project: Expand US-24 from the City of Silver Lake to the City of Topeka from a 2-lane highway to a 4-lane, divided expressway. A study of this highway segment would be an initial phase to examine access, land use, intersection types, and other issues that may impact the design. This

project was discussed during KDOT’s 2021 Local Consult meeting for northeast Kansas.

- Illustrative project: Reconstruct K-4 from the Kansas River Bridge north to the Shawnee/ Jefferson County line as a 4-lane freeway. This project was discussed during KDOT’s 2021 Local Consult meeting for northeast Kansas.
- Pavement condition is also a critical focus area for state highways. The Plan recommends continued pavement rehabilitation and replacement for existing highways.

The Kansas Turnpike Authority has recent projects that improved traffic operations and safety at the South Topeka and East Topeka toll plazas. Planning will continue for a potential new KTA interchange at SE 29th Street if this connection becomes a priority for the City of Topeka.

The Plan Includes:

- Resurfacing of the turnpike will take place periodically and is included on the funded list.
- The plan includes the reconstruction of the I-470 and I-335 interchange (the south Topeka exit). Reconstruction is recommended to accommodate changing traffic demands.

FIGURE 7.2 Highway Costs

HIGHWAY PROJECTS	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
I-70 Polk-Quincy Viaduct Corridor West Segment	\$234,000,000					\$234,000,000
I-70 Polk-Quincy Viaduct Corridor East Segment			\$147,000,000			\$147,000,000
I-70/I-470/US-75 Corridor Study	\$500,000					\$500,000
I-70/I-470/US-75 Corridor Improvements						Illustrative
US-24, Silver Lake to Topeka (\$44 million)						Illustrative
K-4, Kansas River Bridge to Jefferson County Line (\$31 million)						Illustrative
System Preservation I-70, I-470, US-24, US-40, US-75, K-4	\$61,800,000	\$65,000,000	\$68,300,000	\$71,800,000	\$75,400,000	\$342,300,000
KDOT Operations & Maintenance	\$9,300,000	\$9,800,000	\$10,300,000	\$10,800,000	\$11,300,000	\$51,500,000
KTA Resurfacing Program	\$0	\$8,300,000	\$16,200,000	\$7,500,000	\$35,200,000	\$67,200,000
KTA Bridges - Repair and Reconstruction	\$1,250,000	\$900,000	\$0	\$13,500,000	\$31,750,000	\$47,400,000
KTA Infrastructure For Transition to Cashless Tolling	\$4,000,000	\$500,000	\$0	\$0	\$0	\$4,500,000
KTA Misc. Infrastructure Improvements	\$200,000	\$250,000	\$300,000	\$400,000	\$500,000	\$1,650,000
KTA South Topeka Interchange Reconstruction (I-470/I-335)	\$0	\$0	\$0	\$50,000,000	\$50,000,000	\$100,000,000
TOTAL PROJECT COSTS	\$311,050,000	\$84,750,000	\$242,100,000	\$154,000,000	\$204,150,000	\$996,050,000
PROJECTED REVENUES	\$311,050,000	\$84,750,000	\$242,100,000	\$154,000,000	\$204,150,000	\$996,050,000
FISCALLY CONSTRAINED						YES

Topeka Streets and Bridges

During the time period covered by this Plan, projects should focus primarily on system preservation (pavement rehabilitation or replacement) rather than expansion (new streets or street widening). The City is taking an in-depth look at the condition of street pavements with a goal of maintaining or improving existing conditions. In addition, the City's Complete Streets Policy will address the needs of transit, bicyclists, and pedestrians as well as that of motorists.

The Plan Recommends:

- Pavement reconstruction projects based upon the outcome of the City's analysis of pavement conditions on city streets. These projects are included on the funded projects list.
- Traffic signal replacement projects as determined by the City. These projects are included on the funded projects list.
- Intersection capacity improvement projects as determined by the City. These projects are included on the funded projects list.
- Traffic safety projects as determined by the City. These projects are included on the funded projects list.
- Bridge rehabilitation and replacement projects as determined by the City. These projects are included on the funded projects list.
- Convert SW Huntoon and SW 12th Street to one traffic lane plus a protected bicycle lane between Gage Boulevard and Topeka Boulevard. These projects are included on the funded projects list.
- New road: Southwest Parkway from Wanamaker Road to Gage Boulevard/37th Street. This project is included on the illustrative list of projects and could be constructed if additional funds become available to the region.
- New interchange on I-470 (Kansas Turnpike) at SE 29th Street. This project is included on the illustrative list of projects and could be constructed if additional funds become available to the region. This interchange would provide access to the Turnpike on the City's east/southeast side primarily serving a large EJ population. Study has shown the revenues generated by this interchange are not sufficient to cover the cost to construct, therefore this is the type of project where the Kansas Turnpike Authority typically partners with a city, county, or the state.

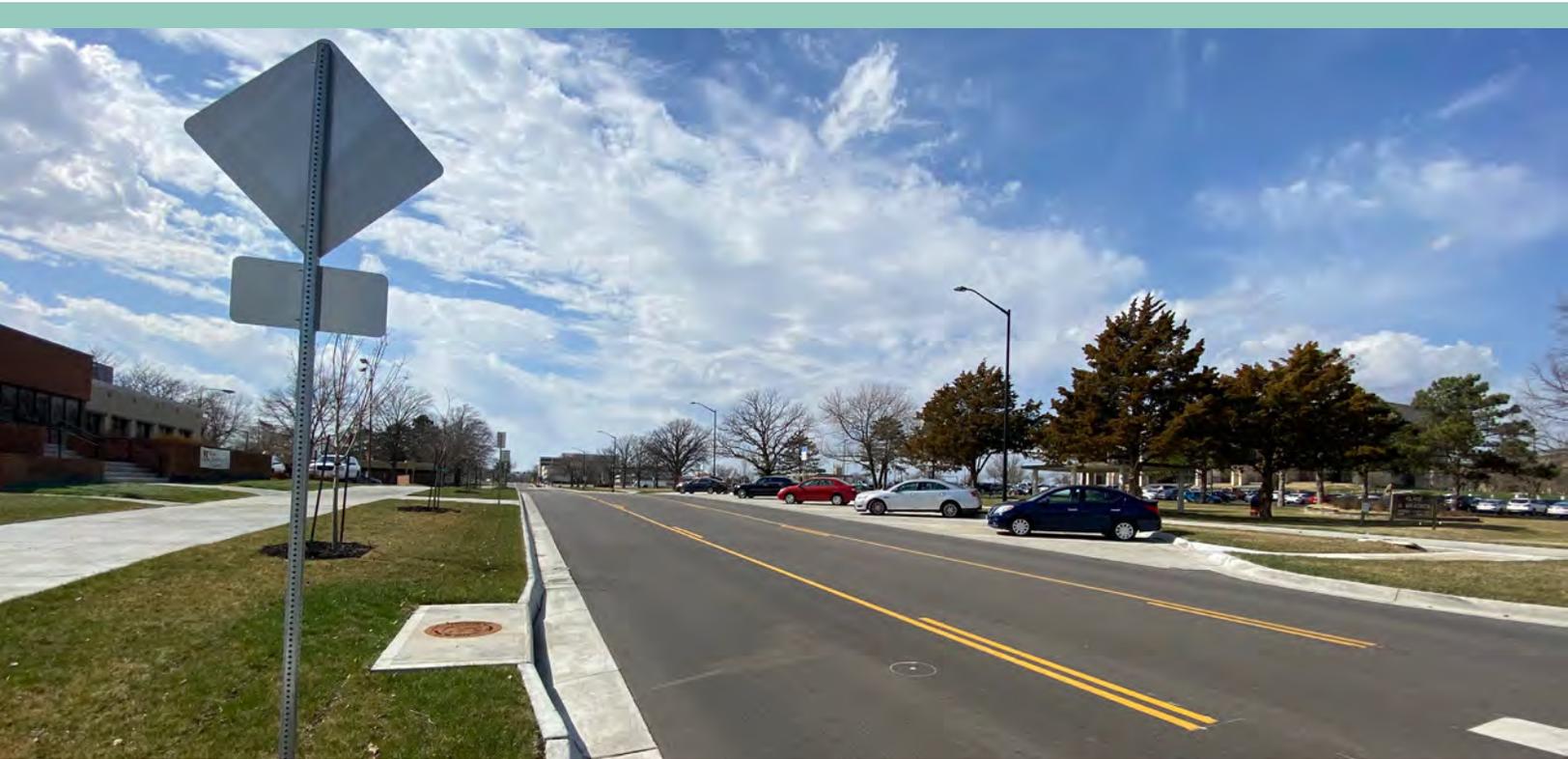


FIGURE 7.3 Topeka Roadway Project Costs

STREET PROJECTS	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
I-70 Polk-Quincy Corridor Support	\$13,000,000					
Southwest Parkway						Illustrative
New Interchange I-470 (KTA) & SE 29th Street (\$16-\$23 million)						Illustrative
Neighborhood Infrastructure Program	\$8,300,000	\$3,000,000				
Complete Streets	\$1,800,000					
Traffic Safety Program	\$444,000	\$1,000,000	\$1,000,000	\$1,500,000	\$1,500,000	
Traffic Signal Replacement Program	\$4,425,000	\$4,425,000	\$4,425,000	\$4,425,000	\$4,425,000	
Curb & Gutter Replacement Program	\$6,500,000	\$6,500,000	\$6,500,000	\$6,500,000	\$6,500,000	
Pavement Rehabilitation & Reconstruction Program	\$32,000,000	\$32,000,000	\$32,000,000	\$32,000,000	\$32,000,000	
Topeka Boulevard, 37th to 49th						Illustrative
Downtown Street Improvements	\$2,250,000	\$1,500,000				
SW Huntoon, SW Executive Drive to SW Urish Road		\$4,295,000				
Huntoon, Gage to SW Harrison	\$1,000,000	\$7,260,000				
SW Wanamaker Road/SW Huntoon/I-470 Ramps	\$2,400,000	\$2,000,000				
SW 17th Street, MacVicar to I-470	\$13,150,000					
SW Urish Road, SW 21st to SW 29th		\$4,100,000				
4th/5th, Kansas Avenue to Topeka Boulevard, 2-way Conversion	\$2,300,000	\$1,700,000				
Jackson Street 2-way Conversion	\$7,250,000	\$3,397,000				
Bridge Rehabilitation and Replacement	\$17,500,000	\$17,500,000	\$17,500,000	\$17,500,000	\$17,500,000	
TOTAL PROJECT COSTS	\$112,319,000	\$88,677,000	\$61,425,000	\$61,925,000	\$61,925,000	\$386,271,000
PROJECTED REVENUES	\$145,042,133	\$148,866,984	\$155,712,794	\$162,559,603	\$169,040,860	\$781,222,381
FISCALLY CONSTRAINED						YES

County Roads and Bridges

During the time period covered by this Plan, projects will focus primarily on system preservation (pavement rehabilitation or replacement) rather than expansion (new roads or road widening to add through lanes). The County has an effective pavement maintenance and rehabilitation process that has maintained county roads in good condition.

The projects listed on Figure 7.4 are pavement reconstruction projects. These projects also add a center turn-lane, which primarily increases safety for users while provided some improvements in flow.

Most are two-lane to three-lane projects. One project is four-lane to five-lane.

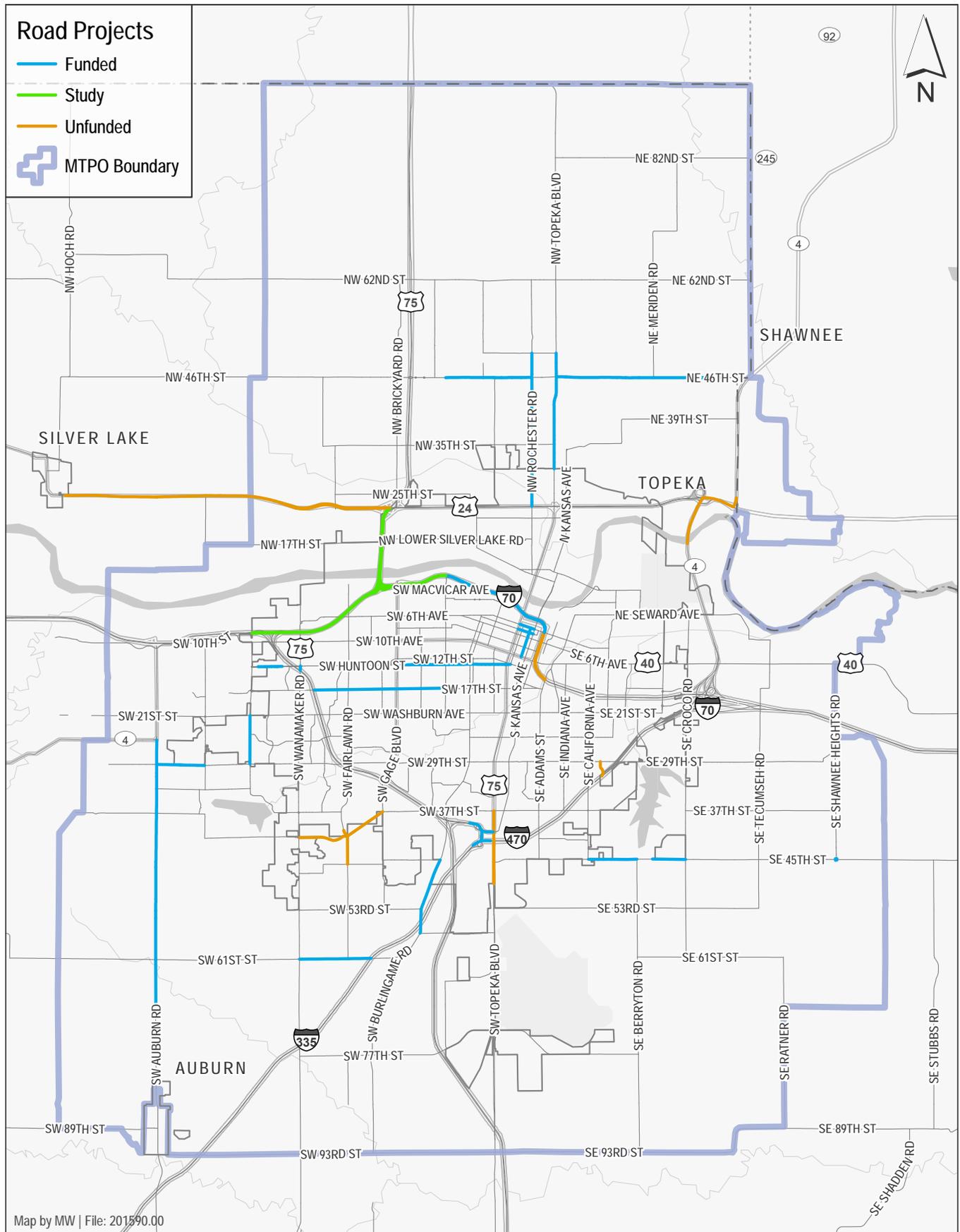
The Plan Recommends:

- Pavement replacement projects as noted in Figure 7.4.
- Pavement resurfacing and rehabilitation projects recommended by the County’s pavement management process.
- Bridge rehabilitation and replacement projects as determined by the County. These projects are included on the funded projects list.

FIGURE 7.4 Shawnee County Roadway Project Costs

COUNTY ROAD PROJECTS	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
NW 46th Street, Button to Rochester	\$1,000,000	\$8,300,000				\$9,300,000
NW Rochester, N of NW 25th to 50th Street		\$9,700,000	\$4,000,000			\$13,700,000
SE 45th Street, California Avenue to Berryton Road	\$3,400,000					\$3,400,000
SE 45th Street, East Edge Road to Croco Road	\$3,800,000					\$3,800,000
SE 45th Street and Shawnee Heights Road Intersection			\$1,700,000			\$1,700,000
SW 29th Street, Indian Hills Road to Auburn Road		\$7,800,000				\$7,800,000
SW Auburn Road, K-4 to 37th Street	\$3,700,000	\$8,000,000				\$11,700,000
SW Auburn Road, 37th Street to 45th Street		\$6,700,000				\$6,700,000
SW Auburn Road, 45th Street to 53rd Street			\$6,000,000			\$6,000,000
SW Auburn Road, 53rd Street to 61st Street				\$6,000,000		\$6,000,000
SW Auburn Road, 61st Street to 69th Street					\$6,400,000	\$6,400,000
NE 46th Street, Topeka Blvd to Indian Creek Road				\$5,100,000		\$5,100,000
SW 61st Street, Wanamaker Road to KTA			\$6,000,000			\$6,000,000
NE 46th Street, Indian Creek Road to Meriden Road			\$3,800,000			\$3,800,000
SW Burlingame Road, 57th to KTA				\$6,000,000		\$6,000,000
SW Burlingame Road, 45th to KTA					\$6,000,000	\$6,000,000
NE 46th Street, Meriden Road to Kincaid Road				\$3,000,000	\$5,100,000	\$8,100,000
Topeka Boulevard, Menninger Road to 50th Road				\$9,000,000	\$9,000,000	\$18,000,000
SW 21st Street, Auburn Road to Indian Hills Road			\$4,800,000			\$4,800,000
Bridge Rehabilitation and Replacement	\$6,600,000	\$9,100,000	\$12,200,000	\$10,500,000	\$10,500,000	\$48,900,000
Operations and Maintenance	\$48,000,000	\$55,000,000	\$63,000,000	\$71,000,000	\$80,000,000	\$317,000,000
TOTAL PROJECT COSTS	\$66,500,000	\$104,600,000	\$101,500,000	\$110,600,000	\$117,000,000	\$500,200,000
PROJECTED REVENUES	\$66,500,000	\$104,600,000	\$101,500,000	\$110,600,000	\$117,000,000	\$500,200,000
FISCALLY CONSTRAINED						YES

FIGURE 7.5 Planned Roadway and Highway Projects



RECOMMENDATIONS FOR TRANSIT

Public transportation in the Topeka MPA is vital to connecting thousands of citizens to education, employment, health care, and many other needs. The Topeka Metropolitan Transit Authority (TMTA) provides an efficient and effective means of linking people and destinations with a service coverage area reaching over 80% of Topeka's population.

Looking to the future, public transit will face several challenges and have many opportunities to improve services for its riders and the community.

The primary challenge facing TMTA, and its ability to provide mobility within the MPA, will be constrained operational funding. It is unlikely that TMTA will see a significant increase in its operational revenue for the foreseeable future to allow for an expansion of fixed route bus service to new areas, extended hours of service, or improved headways. The pandemic has significantly impacted TMTA operations from both a revenue and staffing capacity.

TMTA is working on an update to its long-range plan. The planning process has been finalized and the results are scheduled to be released in 2022. Once the plan is released, its recommendations should be incorporated into this planning document. The following recommendations reflect previous plans discussions and were developed using public and stakeholder input, along with input from TMTA staff.

Policy Recommendations

CONTINUE IMPROVED COORDINATION WITH CITY OF TOPEKA

TMTA should continue collaborating with the City of Topeka to coordinate planning and development efforts and better integrate public transit needs into future adopted plans and requirements for new development or reconstruction projects. Connectivity to bus stops and meeting Americans with Disabilities Act requirements remain a challenge for transit riders. Sidewalks do not exist along all transit routes, and where sidewalks have been constructed, they may not connect to the curb where transit boarding and alighting take place. TMTA should coordinate with the City of Topeka to construct these connections between sidewalks and transit stops as street repairs, mill and overlay projects are conducted. Incorporating these connectivity improvements when construction crews are

mobilized make improvements more cost efficient. In the plan review process for new developments, accommodations for sidewalks and where necessary, connections for public transit, should be considered. City Planning and TMTA staff should establish a formalized plan review process that addresses public transit needs as new development is considered.

CONTINUED AND IMPROVED COORDINATION WITH RURAL TRANSIT PROVIDERS AND KDOT

The City of Topeka and Shawnee County are currently in Coordinated Transit District (CTD) 1, known as the 'Urban Corridor' along with Douglas, Johnson, and Wyandotte Counties. Currently their Coordinated Transit Plans are being updated. TMTA should continue its efforts to efficiently and effectively coordinate with rural transportation providers the CTD and assist KDOT in the development of the revised plan.

PURSUE GRANT OPPORTUNITIES FOR CAPITAL IMPROVEMENTS

To help meet the needs for improvement of TMTA's capital assets, the agency should continue to aggressively pursue grant opportunities from federal and other sources. TMTA should seek projects and opportunities that align with these and future competitive grant programs as they change over the coming years.

FOCUS ON EDUCATIONAL AND WORKFORCE CONNECTIONS

Transit services in the Topeka MPA should provide effective transportation services that connect citizens to educational and employment opportunities. TMTA should build on existing successful partnerships with USD 501 and Washburn University and develop similar partnerships with other community colleges or technical training institutions in the metro to provide transit passes to students at those institutions. Similar programs and partnerships could be developed with large employers in the region such as hospitals, Blue Cross/Blue Shield, and the City of Topeka among others.

Transit Recommendations

As of this Futures2045 Update, a transit visioning process is underway at Topeka Metro and expected to be published later in 2022 with recommendations of what actions Topeka Metro can take in the coming years to best serve existing ridership and future demand. The following recommendations should work in tandem with the findings of the transit study underway:

SHORT TERM (1-4 YEARS):

- Consolidate Existing Routes and Right-Size Fleet:** Consolidating the existing system could help to provide more efficient service on the most frequented routes. Reducing winding, or redundant routes where ridership is low may help to free up funds to provide more flexible service and amenities to attract new riders. Because Topeka Metro provides service to a broad area, the agency can be spread thin especially in unprecedented circumstances. Consolidating the service area would allow Topeka Metro to provide more frequent, and reliable service to its core ridership. The existing Topeka Metro fleet contains 26 fixed-route buses and 10 paratransit vehicles. Instead of continuously growing the fleet, it is recommended that the agency focus on providing a small and high-quality fleet. A smaller fleet will be more manageable, and the agency can be sure they are running the highest quality vehicles possible. Consolidation, along with implementing electric vehicles will ensure the sustainability of Topeka Metro for decades to come.
- Provide Evening and Sunday Service:** Currently due to funding and service provider shortages the agency is only able to provide service Monday through Friday 5:35 a.m. to 6:40 p.m. and on Saturday 8:15 a.m. to 6:40 p.m. Providing service later in the evening, and on Sunday would better serve riders with non-traditional work hours, and those who want to use the bus to run errands in the evening or on Sundays. Extending these hours should be possible if the agency is able to consolidate existing routes and right size the fleet.
- Invest in New Mobility and Micromobility:** This recommendation works with the consolidation and right sizing of Topeka Metro's service. Investing in new mobility, such as e-bikes and e-scooters and on-demand ride technology can provide lower cost amenities for short trips around downtown, as well as first and last mile connections to transit.

LONG TERM (5+ YEARS):

- Begin Transition to Electric Fleet:** Topeka Metro is expecting to have its first electric buses providing service in 2023. The agency should continue to invest in sustainable options to provide service into the future, eventually possibly replacing the entire diesel fleet with electric vehicles.
- Implement Traffic Signal Priority on Key Corridors:** Certain roadways such as Wanamaker Rd, and the central downtown area could benefit from traffic signal priority to increase frequency and improve overall flow of transit on busy roadways. With improved and faster service, more residents and visitors may be interested in taking transit because of the added convenience. Changes in state law will be necessary to facilitate traffic signal priority technology. Current state law only allows signal priority for Public Safety vehicles.
- Addition of Funding and Grants focused Staff Member:** Currently, Topeka Metro has a small staff, and staff members wear multiple hats. Adding staff to focus on obtaining grants for both infrastructure and non-infrastructure projects will pay off in seeing more grants won for the agency in the future.
- Improve Frequency to Attract New Riders:** While the existing weekday service hours serve many riders well, the LRTP process identified an opportunity to increase the hours to provide later service in the evening (some also expressed an interest in adding earlier morning hours). This improvement would increase people's transportation options and provide more flexibility in how they organize their days. For example, having transit options later in the evening provides people a safety net in case work runs late or they wish to make non-work related trips such as errands or attending evening social events.

RECOMMENDATIONS FOR ACTIVE TRANSPORTATION

Active Transportation Recommendations

Through the public engagement survey and meetings for the Futures2045 Plan, the Topeka community voiced the desire for a more complete active transportation network with sidewalk improvements, safer intersections, and greater separation between bicycle facilities and motor vehicles. Though the majority of active transportation trips are pedestrian trips, increased investment in connected networks for all modes of human powered transportation (walking, bicycling, wheeling, scootering) will encourage more people of all ages and abilities to use these modes for transportation and recreation.

The Futures2045 Plan builds on the Complete Streets Policy and Guidelines, Pedestrian Plan, and Fast-Track Bike Plan, and outlines strategies to:

- Provide safe, comfortable, and attractive active transportation infrastructure
- Create strong transportation and land use connections
- Identify important first and last mile connections between transit stops
- Prioritize financial assistance for repairs to the sidewalk network in economic justice areas that are in older parts of Topeka

Pedestrian Recommendations

The pedestrian network is key to providing mobility for those who choose to walk for transportation trips. Safe, reliable, and accessible sidewalks are foundational to ensure that Topeka promotes an equitable transportation system for users of all ages and abilities.

Recommendations for planning, implementing, and measuring pedestrian facilities for Futures2045 include:

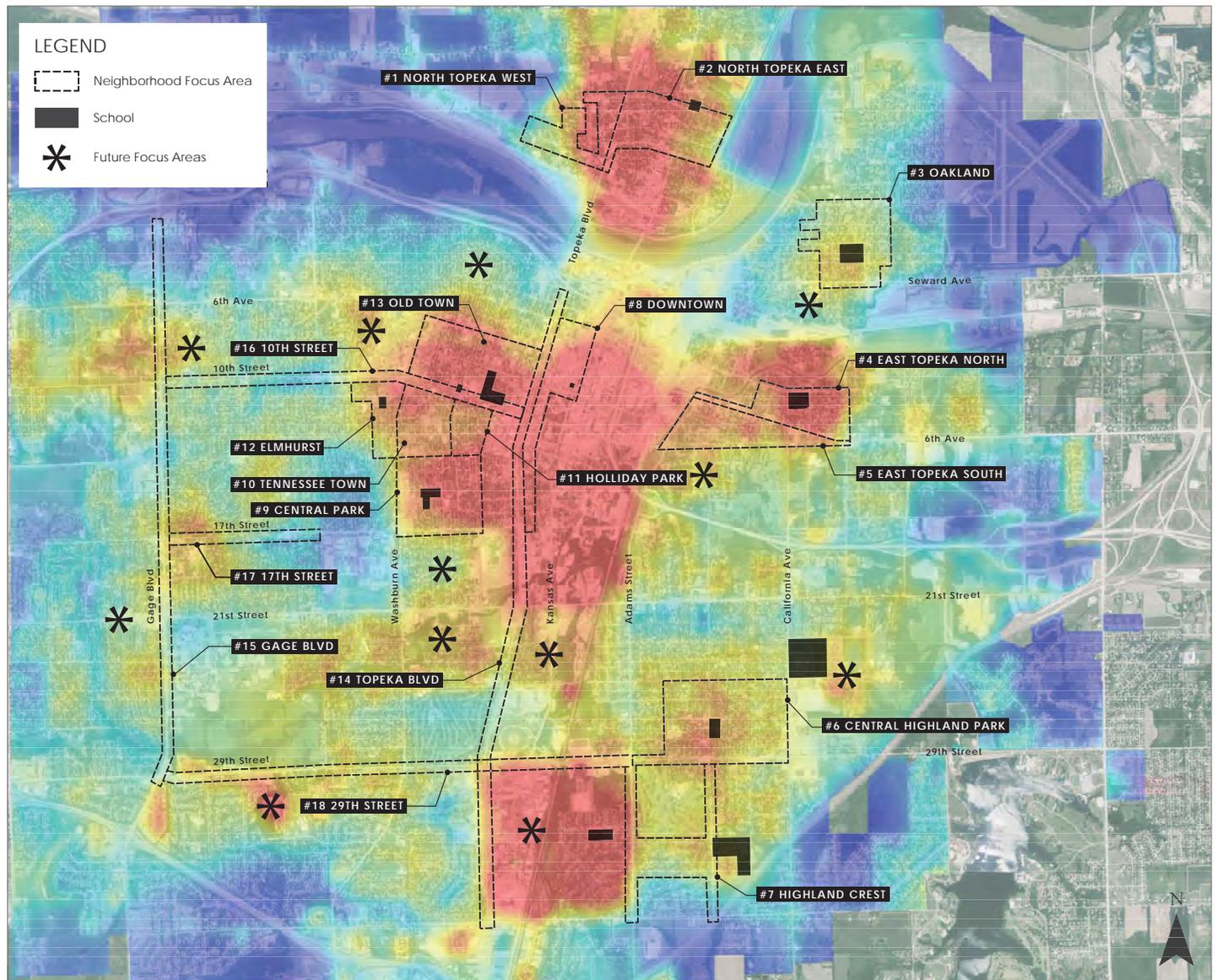
- Continue to follow the recommendations and prioritization method outlined in the 2016 Pedestrian Master Plan to fill sidewalk gaps and provide safer crossings, curb ramps and other improvements

- Improve pedestrian crossings at key intersections throughout Topeka
- Prepare for update of Pedestrian Plan in 2025. The current plan will need to be updated and will provide an opportunity to refresh prioritization criteria for future pedestrian investments. Possible criteria include:
 - » Equity score based on a more detailed demographic analysis and discussion of any groups of concern in need of targeted improvements. For example, prioritize investments in low-income areas and areas where a significant amount of the population relies on transit and other criteria that could be fine-tuned as part of an updated Pedestrian Plan.
 - » Connectivity scores and maps related to connections to schools, bus routes, community centers, senior centers, business districts, and parks/trails and other destinations. This also could be determined as part of an updated plan.
 - » Consider differences in the needs in more urban and rural settings within the metro area and how these might be addressed with different facilities including trails.
 - » Tackle key barrier issues such as bridges, overpasses, and railroad crossings.
- Explore and test options for equitable sidewalk maintenance program. The 2012 Pedestrian Master Plan acknowledges that the complaint-based system of completing sidewalk maintenance does not allow for areas to be prioritized before the sidewalk becomes completely unusable. The City's 50/50 sidewalk replacement program needs to be amended to allow for more flexibility, and it needs increased funding sources.
- Explore "Big Data" sources including cell phone data to better understand pedestrian travel patterns and usage.

FIGURE 7.6 Pedestrian Project Costs

PEDESTRIAN PROJECTS	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
Sidewalk Construction & Repair	\$3,375,000					\$3,375,000
Sidewalk Construction & Repair		\$3,375,000				\$3,375,000
Sidewalk Construction & Repair			\$5,125,000			\$5,125,000
Sidewalk Construction & Repair				\$5,500,000		\$5,500,000
Sidewalk Construction & Repair					\$6,000,000	\$6,000,000
TOTAL PROJECT COSTS	\$3,375,000	\$3,375,000	\$5,125,000	\$5,500,000	\$6,000,000	\$23,375,000
PROJECTED REVENUES	\$3,375,000	\$3,375,000	\$5,125,000	\$5,500,000	\$6,000,000	\$23,375,000
FISCALLY CONSTRAINED						YES

FIGURE 7.7 Pedestrian Priority Areas



Bicycling Recommendations

The recently adopted Fast Track Bike Plan (2020) contains a detailed account of the priority recommendations for bike facility planning, design, and implementation. This plan features the current best practices for designing a bike network for all ages and abilities. The Futures2045 active transportation recommendations should follow the recommendations from the Fast-Track Plan.

Key recommendations include:

- Implement network improvements starting with the fast-track network.
- Continue to utilize the Complete Streets Guidelines and process to incorporate bike projects from the Vision Network in scheduled street projects.
- Develop a consistent public engagement process for bikeway projects that includes consideration of design concepts and evaluation of trade-offs early in the process.
- Maximize potential ridership and safety by designing high-quality bike facilities in line with the latest best-practices.
- Develop and implement a promotional campaign that uses both social media and traditional outreach methods to educate the public about the transportation and health benefits of bicycling, the safety benefits of various bike facility types, and the location and design concepts under consideration for any upcoming projects.
- Continue to work with community partners to implement and sustain the educational and promotional recommendations included in the 2012 Plan.
- Revisit the long-term Vision Network every 7-8 years through a bike plan update process that includes refreshing goals and priorities, an examination of the Vision Network, and a prioritization of new projects based on current state of the practice.
- In addition, formally adopt a safe systems approach to understanding safety issues and implementing safety improvements.
- Explore “Big Data” sources including cell phone data to better understand bicycle travel patterns and usage.

For this reason, the plan recommends encouraging the use of bicycles by continuing to construct facilities that foster a safe and comfortable bicycling environment, as well as expanding participation in bicycle transportation through events, competitions, and education of people of all ages. Doing so can foster a culture of bicycling, which improves safety; national research indicates a strong relationship between the number of cyclists and bicycle crash rates, though it must be supported by education, enforcement, and encouragement programs.

PROMOTE ECONOMIC DEVELOPMENT THROUGH BICYCLE TRANSPORTATION

Topeka has many great features that appeal to visitors: the Brown v. Board of Education historical site, Gage Park with its zoo and the Discovery Center, the Kansas History Center, the State Capitol, distinctive commercial districts, and many other attractions. As a bronze level bicycle-friendly community, Topeka can add to the visitor experience and attract investment by encouraging the more intimate experience of exploring a city by bicycle.

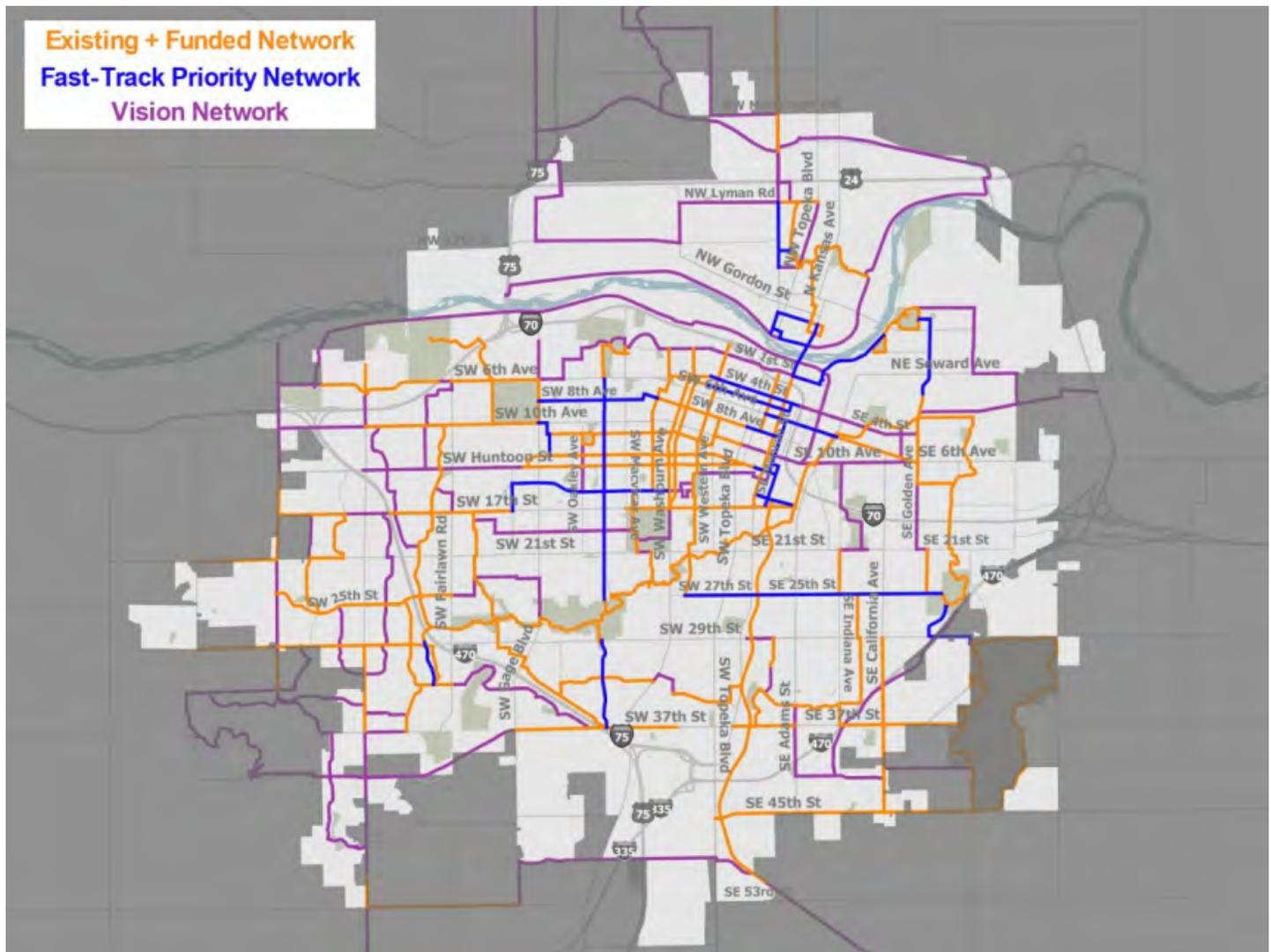
Exploring the need for a unified wayfinding system for bicyclists may further improve the bikeway network in the future. Carefully designed identification and directional graphics can increase users’ comfort and ease of navigating the bikeways system. If pursued, sign clutter should be minimized, and the system should generally follow the guidelines of the Manual of Uniform Traffic Control Devices. Types, including:

- Route identifier with a system logo and route number and name. These signs reassure users that they are on the right path.
- Intersection signs, indicating the intersection of two or more routes.
- Destination way finders, indicating the direction, distance, and time (using a standard speed, typically 9 miles per hour), to destinations along the route.
- Directional changes, signaling turns along a route.

The graphic system should be modular to provide maximum flexibility and efficiency in fabrication. Signs should also use reflective material for night visibility.

Many of these signs could be integrated into the City of Topeka Wayfinding Program or through other sources such as public-private partnerships.

FIGURE 7.8 Vision Bike Network



Source: The Topeka Fast-Track Bike Plan, An Action Plan and Supplement to the Bikeways Master Plan

Trail Recommendations

While many trail improvements are recommended as part of the Topeka Bikeways Master plan, several specific additional recommendations can be provided to the provision of trails. These recommendations are likely to be funded by budgets unrelated to transportation, such as Parks and Recreation. Some potential trails outside of those in the bicycle master plan include trails to Shawnee County’s other communities, in addition to trails taking advantage of unique natural features like the river. Another possibility are the two abandoned rail lines extending north from Topeka: one to Hoyt and the other to Meriden. These should be investigated to see if trail development is possible. It would also provide an excellent connection to exurban development in Soldier Township within the MPA, a generally undeserved area for active transportation infrastructure.

ADD AMENITIES AND LOOP TRAILS

In the 2014 Topeka/Shawnee County Parks and Recreation Master Plan, one frequent response among focus groups was the need for additional trail development, specifically to add amenities along some of the longer trail system. These include resting points such as restroom facilities and benches, in addition to security measures such as the installation of additional quality lighting and emergency call boxes. Another frequent request was for loop trails in regional and community parks to encourage safe walking and running exercise opportunities for youth and adults.

FIGURE 7.9 Bicycle Project Costs

BICYCLE PROJECTS	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	TOTAL
Topeka Bicycle Master Plan - Phase 3 Projects	\$1,666,667					\$1,666,667
Topeka Bicycle Master Plan - Phase 4 Projects		\$2,500,000				\$2,500,000
Topeka Bicycle Master Plan - Phase 5 Projects			\$1,150,000			\$1,150,000
Maintenance of Bicycle Facilities & Future Projects				\$2,400,000	\$2,400,000	\$4,800,000
TOTAL PROJECT COSTS	\$1,666,667	\$2,500,000	\$1,150,000	\$2,400,000	\$2,400,000	\$10,116,667
PROJECTED REVENUES	\$1,666,667	\$2,500,000	\$1,150,000	\$2,400,000	\$2,400,000	\$10,116,667
FISCALLY CONSTRAINED						YES

General Recommendations

MASTER PLAN BOUNDARY AND MPA

2014 Topeka/Shawnee County Parks and Recreation Master Plan sets a goal of providing 150 miles of trails throughout Shawnee County. While much of this will occur within the boundaries of the Topeka Bikeways Master Plan, much of it should also occur outside this area. This includes the completion of the Landon Trail to the southeast, in addition to potential connections between the smaller communities of Shawnee County. Emphasis should be made on tying the disparate parts of the county together for an integrated system. This includes development along the river which is considered a valuable resource that is not currently being utilized.

MAINTAIN ADEQUATE ACTIVE TRANSPORTATION FACILITIES FOR EJ POPULATION

EJ populations are currently well-served by active transportation facilities. A high level of services should be maintained for EJ populations, especially as they are often more reliant on active transportation facilities than other groups. As downtown Topeka continues to be redeveloped, a focus on complete streets will help maintain these facilities. Additionally, the prevalence of 50/50 sidewalk projects outside of the EJ area suggests that many EJ areas are not receiving the same number of sidewalk upgrades, even though they receive similar amounts of money. A special emphasis should be placed on city-led repairs in the EJ area, or additional policies that could help lessen the financial burden for EJ populations to repair their sidewalks.

PROJECT EXPENDITURES & REVENUES COMPARISON

Total Projected Costs vs. Revenues

The plan is fiscally constrained. Projects recommended for funding are estimated to cost less than the revenue that is estimated to be available. It is important to note that any excess revenue from the prior time period is carried over into the next time period. Thus, there is always an estimate of positive cash flow of revenues relative to expenditures. This can be seen in “Previous Period Difference” line in Figure 7.10.



FIGURE 7.10 Financial Constraints - Expenses and Revenues

	2021-2025	2026-2030	2030-2035	2036-2040	2041-2045	TOTAL
ESTIMATED REVENUES						
Roads and Bridges	\$517,550,473	\$332,341,953	\$493,037,865	\$419,259,578	\$481,790,845	\$2,243,980,714
Transit	\$50,709,072	\$53,831,440	\$56,808,241	\$59,785,040	\$62,774,200	\$283,907,993
Active Transportation	\$5,041,667	\$5,875,000	\$6,275,000	\$7,900,000	\$8,400,000	\$33,491,667
TOTAL ESTIMATED REVENUES	\$573,301,212	\$392,048,393	\$556,121,106	\$486,944,618	\$552,965,045	\$2,561,380,374
PROPOSED EXPENDITURES						
Roads and Bridges	\$489,869,000	\$278,027,000	\$405,025,000	\$326,525,000	\$383,075,000	\$1,882,521,000
Transit	\$50,709,072	\$53,831,440	\$56,808,241	\$59,785,040	\$62,170,000	\$283,303,793
Active Transportation	\$5,041,667	\$5,875,000	\$6,275,000	\$7,900,000	\$8,400,000	\$33,491,667
TOTAL PROPOSED EXPENDITURES	\$545,619,739	\$337,733,440	\$468,108,241	\$394,210,040	\$453,645,000	\$2,199,316,460
DIFFERENCE BETWEEN REVENUES & EXPENDITURES	\$27,681,473	\$54,314,953	\$88,012,865	\$92,734,578	\$99,320,045	\$362,063,914