

## **Summary of TIP Amendment 4 Changes**

Below is a summary of the 2019-2022 TIP Amendment #4 changes, which include the addition of newly required Performance Measures set forth in the previous FAST-Act. Transportation Bill.

### **Performance Measures Included:**

- 1) Infrastructure: Pavement and Bridge Conditions
- 2) Freight and Economic Vitality, Intermodal Connectivity
- 3) Congestion Reduction/Modes: Active Transportation Projects, Bike-Ped.
- 4) System Reliability/Congestion Reduction: Transit

**Also an Index of Road/Bridge and Transit Projects was added that now denotes which projects satisfy which of the Performance measures.**

## **Performance Management**

The FAST Act continues the performance- and outcome-based program established under MAP-21. The objective of this program is to invest resources in projects that collectively make progress toward the achievement of national goals. The legislation requires the U.S. Department of Transportation (USDOT), in consultation with states, MPOs and other stakeholders, to establish performance measures in these areas:

- Safety
- Congestion reduction
- Freight movement and economic vitality
- Infrastructure condition
- System reliability

### **Relationship to the Futures 2040 Plan Goals**

The TIP and other plans are required to include information regarding these performance measures. Performance measures and targets have now been set at the state level, and are now required to be carried out at the metropolitan planning levels. The MTPO's MTP, Futures 2040, which was completed in 2017 addresses performance measures and goals in the required emphasis areas described above. Targets set forth in this TIP will serve as the gauge for measuring the MTPO's progress toward fulfilling those goals.

### **Futures 2040 Goals and Objectives**

Based on federal goals, public input, and an analysis of other transportation plans in the region, including the last MTPO MTP, five general goals emerged to guide decision-making for the Futures 2040 Plan. Generally, the goals match or include all eight federal goal areas and follow the general themes heard throughout the public engagement process. In order to assure that these goals are being met, several performance measures were also selected to determine progress. These goals are deliberately simpler than goals in past plans, making them easier to communicate with the public and better resonates with the public's general concerns. In order of importance, the Future 2040 goals are 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

### **1- SAFETY: Performance Measure & Target (Goal-Increase Safety for All Modes.)**

**MAP-21 Provisions:** Requires states to have a safety data system for analyses that support the Strategic Highway Safety Plan and the Highway Safety Improvement Program and to use the safety data systems to identify fatalities and serious injuries on all public roads by location and to identify location and roadway elements that pose dangers to all road users, including vehicle occupants and non-occupant roadway users (e.g. pedestrians and bicyclists) [23 U.S.C. 148 (c) (2)(B)(i) and (iii)]. Each MPO is required to establish performance targets for each of the federally required performance measures to use in tracking progress toward attainment of critical outcomes for the region for the MPO. [23CFR 450.306(d)(2)(i).

To this end, it is the long-range goal of the MTPO to reduce traffic fatalities within the MPO area. The MTPO will be researching safety strategies which will encompass education, enforcement, engineering and emergency response. Our actions will include targeted intersection safety improvements and varied

education and enforcement efforts. The MTPO will also explore avenues to coordinate with its MPO planning partners, to incorporate methods of improving safety for bicyclists, pedestrians, and motorcyclists, through a combination of education, engineering and enforcement.

At present, the MTPO will adopt and support the safety goals set forth by the Kansas Department of Transportation (KDOT) until such time that the MTPO is able to research and set its own baseline and goals (Target Setting). The MTPO is currently working on a Transportation Safety Plan the will help address these issues. The process will generally be a 5-step process that work as follows:

- 5-Step process**
- 1) Goal/Objectives
  - 2) Performance Measures
  - 3) Target Setting (evaluate programs and projects)
  - 4) Allocate Resources (Budget & staff)
  - 5) Measure & Report Results (Actual Performance achieved)

Achieving the best level of performance with this process depends on several factors:

- Consistency in, and understanding of, goals, objectives, performance measures, and targets;
- High-quality data to support performance management decisions;
- The ability of managers and the availability of analytic tools, to identify performance impacts of projects realistically and efficiently; and
- The ability to use performance information to make viable improvements in the transportation project selection and evaluation

The State's Safety targets that the MTPO will adhere to as well are as follows:

| Measure                            | 2018 Projection | Initial % below Projection | 2022 HSP/HSIP Target<br> |
|------------------------------------|-----------------|----------------------------|---------------------------------------------------------------------------------------------------------------|
| Number of Fatalities (FARS)        | 364             | 0%                         | 364                                                                                                           |
| Number of Serious Injuries (KCARS) | 1202            | 1%                         | 1190                                                                                                          |
| Serious Injury Rate (KCARS/FHWA)   | 3.851           | 2%                         | 3.774                                                                                                         |
| Fatalities/VMT (FARS/FHWA)         | 1.17            | 1%                         | 1.16                                                                                                          |
| Non-Motorized (FARS/KCARS)         | 139             | 1%                         | 138                                                                                                           |

The MTPO will plan and program projects to assist in achieving these State numeric targets, coordinating with both the State and public transportation providers to ensure that the targets set are consistent as much as is practical. The information contained in the above table represents 5-year averages.

***All Potential Safety Factors to be considered with respect to TIP project evaluations to improve the safety of the transportation system component networks:***

- Number of fatalities on roadways.



- Rate of fatalities on roadways.
- Number of serious injuries on roadways.
- Rate of serious injuries on roadways.
- Number of bicycle fatalities.
- Number of railroad fatalities.
- Number of pedestrian fatalities.
- Number of drivers under the age of 21 involved in fatal crashes.
- Number of drivers over the age of 75 involved in fatal crashes.
- Number of fatalities in crashes involving blood alcohol levels of .08 or higher.

## 2- Infrastructure : Pavement and Bridge Conditions (Goal- Maintain Existing Infrastructure)

A quality transportation network ensures efficient performance and reliability in moving users from place to place. A system that is not well maintained can pose barriers to performance and safety. The Futures 2040 Plan supports maintaining the good condition of the region's transportation infrastructure in order to improve performance and avoid higher maintenance costs associated with deterioration.

In 2012, the MTPO adopted the 2040 Long Range Transportation Plan which continued the long-standing practice of identifying roadways needing additional mainline capacity and new major thoroughfares that needed to be built. Much of the region's transportation dollars were allocated to building new roads and widening existing roads.

The classification of this performance measure is based on National Bridge Inventory (NBI) condition ratings for their deck (riding surface-item 58), superstructure (supports immediately beneath the driving surface- item 59), substructure (foundation and supporting posts and piers-item 60) and culvert (item 62). Condition is determined by the lowest rating of deck, superstructure, substructure or culvert. If the lowest rating is greater than or equal to 7, the bridge is classified as good; if it is less than or equal to 4, the classification is poor. Bridges rated below 7 but above 4 will be classified as fair; there is no related performance measure.

**State Highways:** Highway pavement conditions are monitored in the spring of each year, for both Interstate Highways, and Non-Interstate Highways. Targets have been established by the Kansas Department of Transportation (KDOT) for the percent of pavement in good condition: 65% for interstate highways and 55% for non-interstate highways. Figures 2-1 thru 2-4 display the performance data and targets chosen for the Metropolitan Planning Area (MTP) for the years 2016 and 2017. Both "Good" and "Poor" pavement conditions are recorded and monitored. The State Highway uses the International Roughness Index (IRI) standards for rating the condition of Interstate and Non-Interstate Highways: <file:///E:/Performanc%20Measures/Acceptable%20International%20Roughness%20Index%20Thresholds%20based%20on%20Present%20Serviceability%20Rating.html>



Figure 2-1

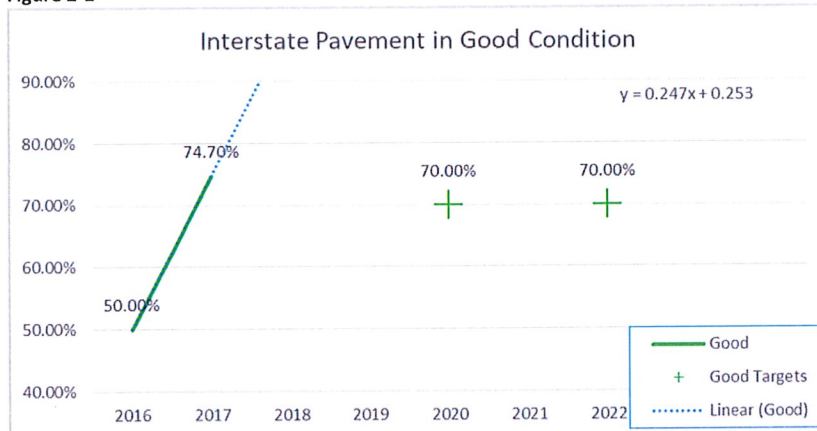


Figure 2-2

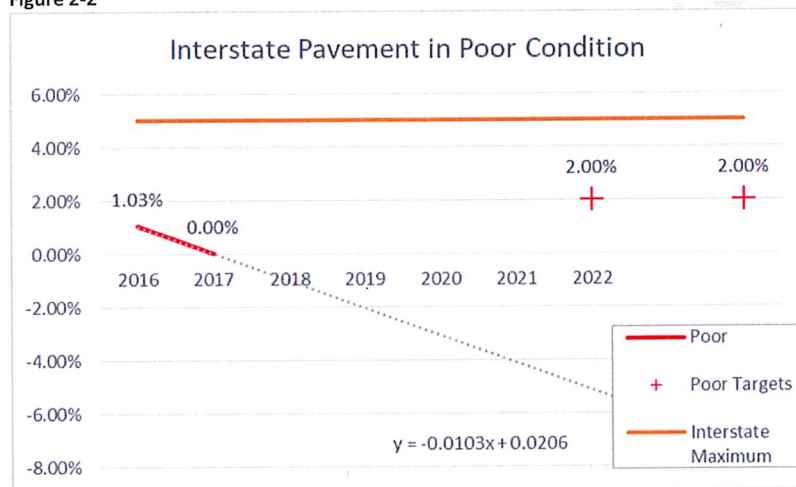


Figure 2-3

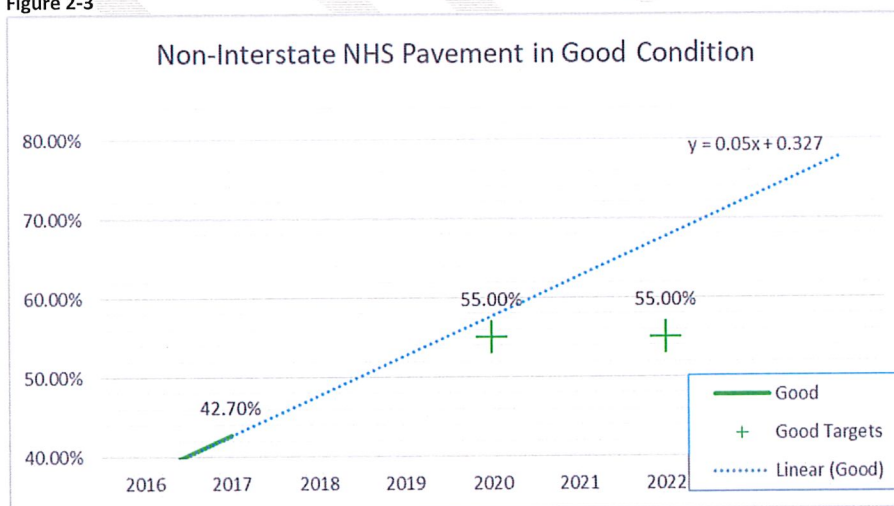
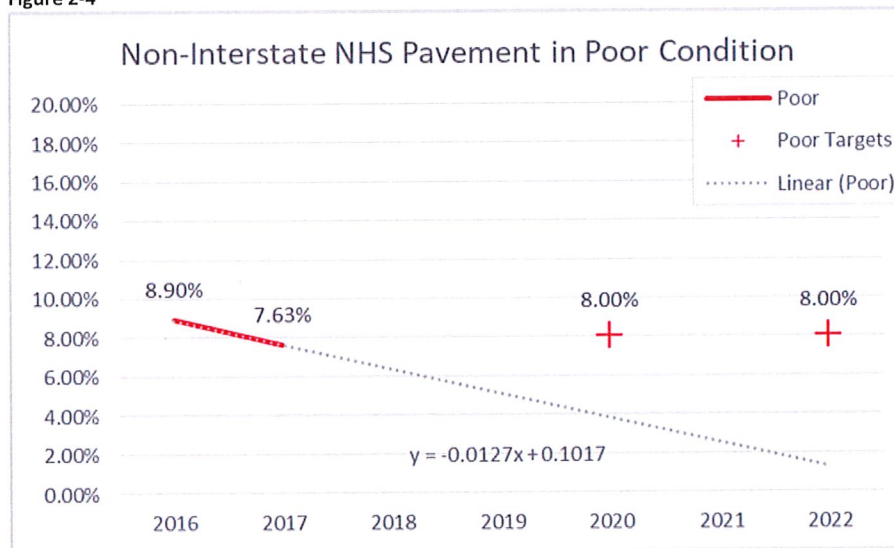


Figure 2-4



**City Streets:** In 2016, Topeka completed the inspection and evaluation of all city streets as the first phases of a pavement management program process. A Pavement Condition Index (PCI) score (rating scale 0-100) was determined for each street's condition based on surface condition distresses. The PCI scale provides an objective and rational basis for determining maintenance and repair needs and priorities.

Accurate and timely data on pavement condition is used to assess system performance and deterioration, identify maintenance and reconstruction needs and determine financial needs.

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, much the same as the State Highway process. The PCI scale ranges from 0-100 and is an indicator of the maintenance strategy needed. The PCI is grouped 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.

Currently, the 2018 PCI data reveals that the average PCI score for functionally classified streets in Topeka is approximately 60, about the mid-range of the "Fair" category. The PCI for all city streets is 57.7. Topeka has committed to investing an average of \$24 million annually over the next 10 years to improve this score of all streets. Figure 2.5 shows the current PCI scores and lane miles for the City of Topeka's functionally classified (FC) streets.

FIGURE 2-5: Pavement Condition for City Streets

| <u>Street Type</u>  | <u>Average PCI</u> | <u>Lane Miles</u> | <u>% of FC Street Network</u> | <u>Weighted Avg. PCI</u> |
|---------------------|--------------------|-------------------|-------------------------------|--------------------------|
| Principal Arterials | 65.5               | 38.8              | 6.7%                          | 4.38                     |
| Minor Arterials     | 62.7               | 368.2             | 63.4%                         | 39.75                    |
| Collectors          | 51.5               | <u>173.8</u>      | 29.9%                         | <u>15.41</u>             |
| <b>Total:</b>       |                    | <b>570.8</b>      |                               | <b>59.54</b>             |

**County Pavement Condition:** There are 142 miles of functionally classified roads in the MPA for which performance measures are applied (there are 287.5 county lane miles in total). Based on KDOT's pavement ratings, 121 miles (85%) are in "Good" condition, with 21 miles (15%) rated as "Fair". The County annually inspects roadway conditions in the spring.

The County relies on an in-house pavement evaluation process known as the Pavement Surface Evaluation and Rating (PASER) method. This method was developed by the University of Wisconsin-Madison Transportation Information Center and is used in conjunction with an internal spreadsheet/database. This pavement management system is simple and expedient in its method of evaluation and, since it has been developed internally, can be implemented at no cost (with the exception of labor and travel costs to conduct the inspections).

Figure 2-6 shows the PASER 1-10 rating scale and how the ratings are related to needed maintenance. This rating is separate from the KDOT attributed ratings used for performance measure purposes. 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.

**Figure 2-6: PASER ratings related to needed maintenance or repair:**

- **1 (Failed)** Total Reconstruction
- **2 (Very Poor)** Reconstruct
- **3 (Poor)** Patching, Mill & Overlay
- **4 (Fair)** Overlay
- **5 (Fair)** Thin Overlay or Chip/Seal
- **6 (Good)** Chip/Seal
- **7 (Very Good)** Crack Sealing
- **8 (Very Good)** Little Maintenance Required
- **9 (Excellent)** Like New – No Maintenance Required
- **10 (Excellent)** New Construction – No Maintenance Required

**The Process:** On an annual basis, typically during the February-April timeframe, Shawnee County Department of Public Works (SCDPW) staff will drive all of Shawnee County's roads and assign each roadway segment a PCI rating of 1-10, as listed above. The individual PCI ratings for each roadway segment will be integrated into a spreadsheet and depicted graphically on a roadway system map.

Depending upon the PCI rating and the roadway surface type, a Remaining Service Life (RSL) value, in years, will be assigned for each roadway segment. A sum of all of the roadway segment RSL values will be tabulated and then divided by the total number of roadway miles (287.5) to determine an overall



“Roadway Network Health” number (e.g., if the sum of all of the individual roadway segment RSL values was 2,160 years, the resulting Roadway Network Health number would be 7.5 years, i.e., 2,160/287.5)

An estimated cost of maintenance/repair per mile will be assigned to each rating value listed above. For example, a roadway having a condition of 8 may have an estimated cost of maintenance of \$1,000/mile while a roadway segment having a condition rating of 1-2 may have a cost of repair totaling \$125,000-\$500,000/mile, or more, depending on the type of roadway (i.e., rural section or urban section, and surface type).

It is the current goal of SCDPW to maintain a minimum PCI rating of 6 for each mile of Shawnee County’s roadway system, as well as work toward and maintain a minimum average Roadway Network Health number of 7.75 annually (average RSL of 10 for asphalt-paved roads and average RSL of 5 for chip/seal roads).

By utilizing the Pavement Management System, the MTPO will be able to easily identify and compare each roadway segment’s condition. This will assist SCDPW in planning where and how to spend its budgeted allotment for road maintenance in the most cost-effective manner to maintain or increase the overall health of the roadway network.

#### **Strategy:**

- Continue current levels of funding to maintain highway, City and County functionally classed road pavements beyond 2019, with frequent monitoring of the process.



#### **Target Pavement Conditions:**

**2022 Target for Interstate Highways 70% (Good): 2% (Poor)**

**2022 Target for Non-Interstate Highways 55% (Good): 8% (Poor)**

**2022 City Streets Target: Average PCI Target for all roads: 60**

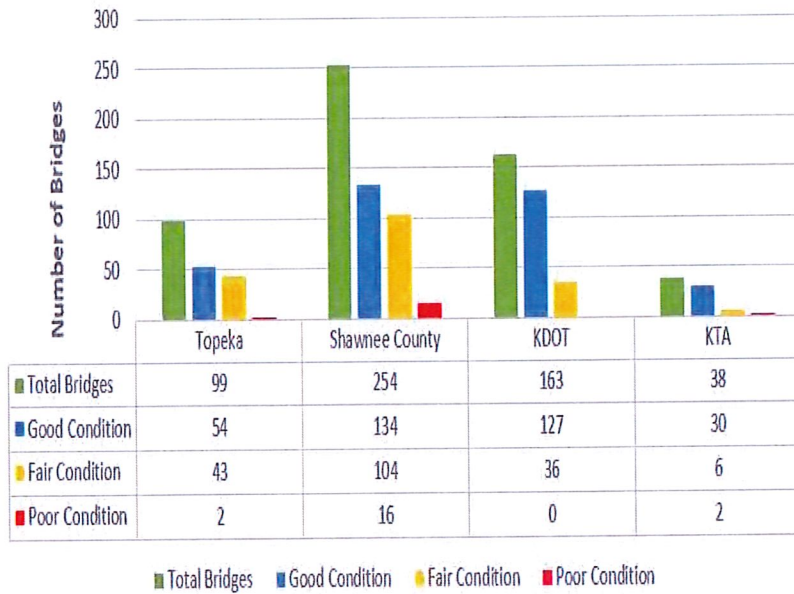
**2022 County Roads Target: Increase “Good” roads in the MPA to 90%**

#### **Bridge Conditions**

In accordance with state and federal requirements, KDOT, Kansas Turnpike Authority (KTA), Shawnee County and the City of Topeka conducts 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 2-7 shows the number of bridges in Good, Fair, and Poor Condition in Topeka, Shawnee County (outside Topeka), on state highways, and on the Kansas Turnpike.

Figure 2-7: Bridge Conditions



Source: Kansas Dept. of Transportation

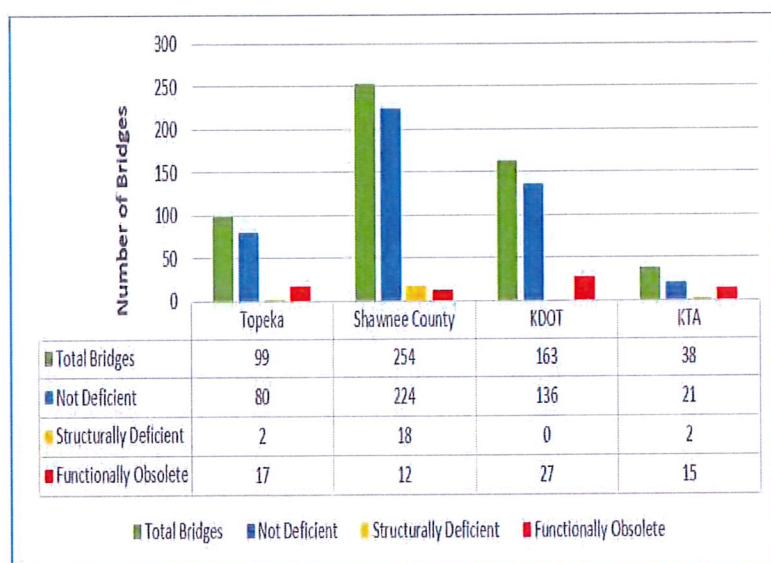
Overall, 62.3% of the total bridges are in Good Condition, 34.1% are in Fair Condition, and 3.6% are in poor condition. Shawnee County has the lowest percentage of bridges in good condition (52.8 percent), followed by Topeka (54.5 percent). Meanwhile, KDOT and KTA have 77.9 percent and 78.9 percent bridges in good condition, respectively. Shawnee County also has the highest percent of bridges in poor condition (6.3 percent), followed by KTA (5.3 percent) and Topeka (2.0 percent).

Figure 2-8 shows the number of Structurally Deficient, Functionally Obsolete, and Not Deficient bridges in Topeka, Shawnee County (outside Topeka), on state highways (KDOT), and on the Kansas Turnpike. Definitions for these are as follows:

- **Structurally Deficient:** Means there are elements of the bridge that need to be monitored and/or repaired. The fact that a bridge is “structurally deficient” does not imply that it is likely to collapse or that it is unsafe. A “deficient” bridge typically requires maintenance and repair and eventual rehabilitation or replacement to address deficiencies.
- **Functionally Obsolete:** Means a bridge was built to standards that are not used today. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe. Functionally obsolete bridges are those that do not meet current standards for lane widths, shoulder widths, or vertical clearances to serve current traffic demand, or those that may be occasionally flooded.
- **Not Deficient:** Means that a bridge meets current safety standards.

For the 2040 Metropolitan Transportation Plan update, ratings were available for state highway and non-state bridges. Of the 554 bridges, 71 (12.8%) were functionally obsolete and 22 (4.0%) were structurally deficient. Progress is being made to improve the overall condition of bridges in the region, as 44 bridges were noted as structurally deficient the previous plan.

Figure 2-8: Bridge Deficiency



Source: Kansas Dept. of Transportation

The MTPO will be adopting the state the following targets, with consideration of the current status of Shawnee County Bridges:



**Target 2022 Bridge MTPO Area Conditions: -Overall Target: 65% (Good) 3% (Poor)**

### **3- Freight and Economic Vitality, Intermodal Connectivity (Goal- Improve Mobility)**

The increasing economic competitiveness among regions within the United States and globalization of the economy has amplified the importance of a metropolitan freight transportation infrastructure. The deregulation of freight transportation dramatically changed business practices and created new competitive opportunities across modes. The changing nature of business practices, with an emphasis on reliable, just-in-time delivery, places a premium on the efficient operation of the freight transportation system. At the same time, the safe and efficient movement of goods increases the burden on the regional infrastructure making maintenance and safety a priority.

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.

Globalization of the economy has also changed the transportation and service requirements of shippers, and receivers. Manufacturers can serve markets globally, but this requires a greater reliance on, and greater efficiencies in, the transportation system. The following section highlights the current trucking freight transportation environment within the region.



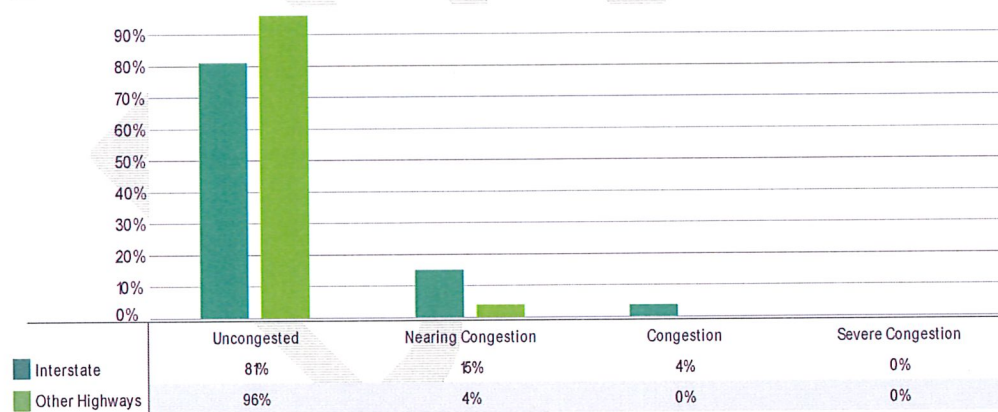
**Truck Flows** I-70 is the major freight highway in the Metropolitan Topeka Region. The FHWA Freight Performance Measurement, Travel Time in Freight-Significant Corridors report, notes that I-70 runs a total of 2,153 miles connecting ten states through the midsection of the continental United States 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, averaging between 55 and 60 mph.

The Futures 2040 projections anticipate growth in the I-80 and I-40 corridors while I-70 is projected to see a slightly slower growth. Furthermore, I-70 west of Topeka toward Denver is not anticipated to see as significant an increase in truck volumes, as most of the growth in east-west freight movement is accommodated in the I-80 corridor.

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 6,200 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 1,570 commercial vehicles per day while 1,720 trucks per day travel US-75 north of Topeka.

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. See Figure 3-1 for congestion within Topeka's highways.

**Figure 3-1: Freight Movement on Topeka's Interstate and other Highways**



Freight movement will be assessed by the Travel Time Reliability Index (TTTR). Reporting is divided into five periods: morning peak (6-10 a.m.), midday (10 a.m.-4 p.m.) and afternoon peak (4-8 p.m.) Mondays through Fridays; weekends 6 a.m.-8 p.m.); and overnights for all days (8 p.m.-6 a.m.). The TTTR ratio will be generated by dividing the 95th percentile time by the normal time (50th percentile) for each segment. The TTTR Index is generated by multiplying each segment's largest ratio of the five periods by its length, then dividing the sum of all length-weighted segments by the total length of Interstate.

In addition to TTTR for freight, utilized for Interstate/Non-Interstate measures, the State also measures a general Level of Travel Time Reliability (LOTTR). LOTTR represents the percent of person-miles traveled



that are reliable, irrespective of mode of transportation utilized. In short, it is the level of travel time reliability for each time period and reporting segment on the Interstate System, and on the Non-Interstate Highway System. Whereas the TTTR uses the 50<sup>th</sup> and 95<sup>th</sup> percentile times, the LOTTR utilizes the 80<sup>th</sup> and 50<sup>th</sup> percentile times. The time periods for LOTTR are: Mon-Fri.: (6-10am; 10am-4pm; 4pm-8pm and 6am-8pm on weekends)

The thresholds for the LOTTR ratio is 1.5. Any ratios that are above 1.5 are considered “Not Reliable”. While there is no threshold for the TTTRI, the sum of all segments in each time frame must not exceed 1.5. The Target percentage for the LOTTR represents the % of the Interstate/non-Interstate system person-miles that ARE reliable. State DOTs and MPOs will have the data they need in FHWA’s National Performance Management Research Data Set (NPMRDS) which includes truck travel times for the full Interstate System. State DOTs and MPOs may use an equivalent data set if they prefer. Figures 3-2; 3-3; and 3-4 show the 2016 and 2017 State TTTRI and LOTTR numbers and future targets. The MTPO will be supporting these targets.

Figure 3-2: State Travel Time Reliability Index and Targets

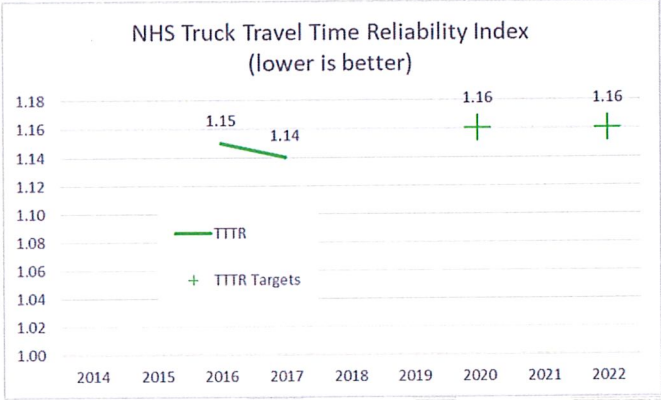


Figure 3-3

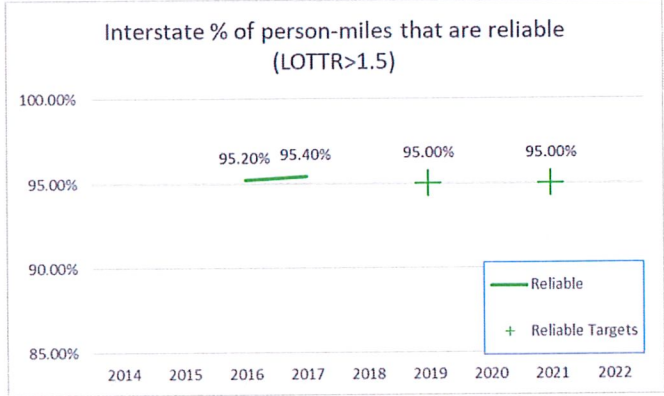
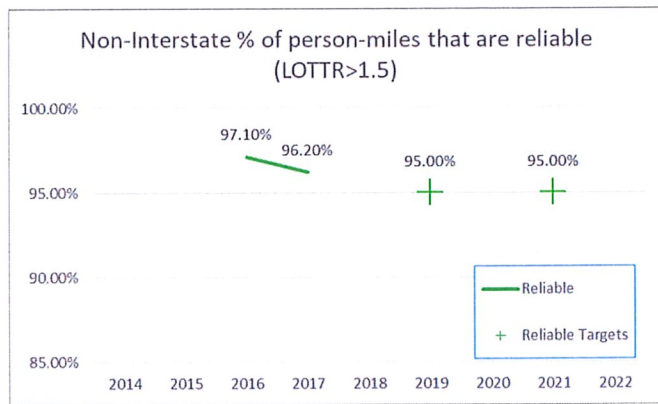


Figure 3-4



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.



**2022 Travel time & Congestion Target: Adopting State Target: TTTRI 1.16: LOTTR 95% for both Interstate and Non-Interstate**

#### **4- Congestion Reduction\Modes: Active Transportation Projects, Bike-Ped. (Goal-Community Health & Wellness-Enhance Quality of Life)**

##### **Topeka Bikeways Master Plan**

In 2012 the MPTO adopted the Topeka Bikeways Master Plan which outlines a five-phase plan for the city to establish bike lanes on specific routes and develop a Topeka Bikeway System over a 15-year period. Built of eight trails and 25 “routes,”

##### **Topeka’s Bikeways Plan sought to accomplish six goals:**

1. Increase the number of people who use the bicycle for transportation as well as recreation. Topeka’s multi-use trails are well-utilized and provide transportation, but they are largely used for recreation. Increasing the percentage of trips for other purposes would indicate success.
2. Improve bicycle access to key community destinations. A bicycle transportation system should get people comfortably and safely to where they want to go, so Topeka’s system is destination-based, providing clear and direct connections to key community features.
3. Improve access to the city’s pathway system by connecting trails to neighborhoods. Topeka’s trails serve most bicycle trips, but the city’s emerging trail system can connect to more neighborhoods using streets and other development opportunities as linkages.

4. Use bicycling to make Topeka more sustainable. Bicycling promotes sustainability at three levels. Globally, bicycle travel reduces fossil fuel use and greenhouse gas emissions. Community-wide, bicycle transportation systems can decrease road maintenance costs, promote a healthier environment, and build community. Individually, physical activity as a daily routine makes people healthier, reducing obesity, improving wellness, and lowering health care costs.

5. Increase roadway safety for motorists, bicyclists, and pedestrians. Good infrastructure reduces crashes and increases comfort for all users of the transportation network with research indicating that more cyclists leads to fewer bicycle crash rates. Infrastructure must be supported by education, enforcement, and encouragement, as measured by regular evaluation.

6. Capitalize on economic development benefits of a destination-based bicycle transportation system. Topeka has many attractive features: Brown v. Board of Education historical site, Gage Park with its zoo and Discovery Center, the Kansas History Center, the State Capitol, and distinctive commercial districts, among others. As a bicycle-friendly community, Topeka can add to visitors' experiences, attracting new residents and investment.

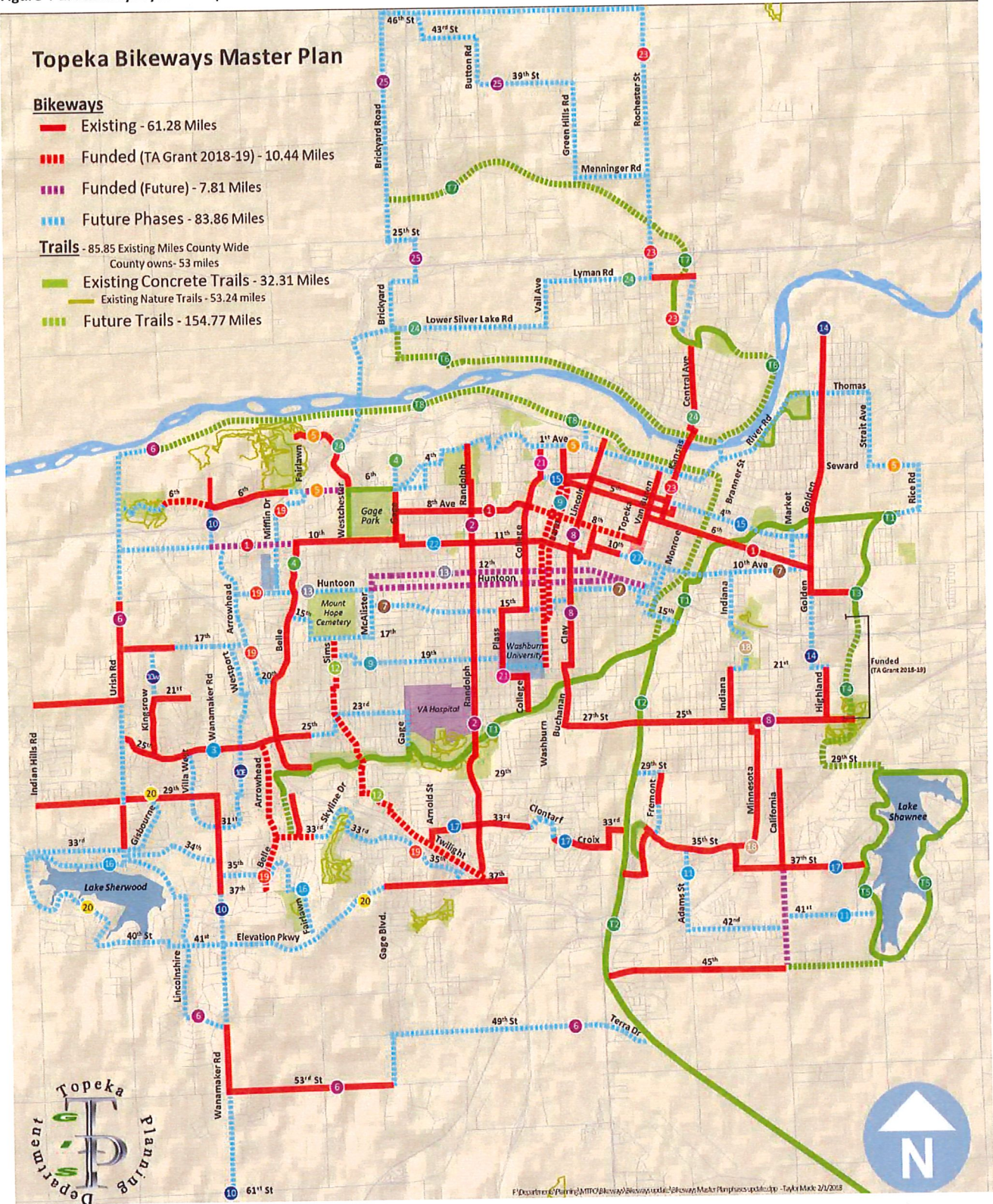
To measure the success of its goals and evaluate the components and effectiveness of the network, criteria were developed by the Netherlands' Centre for Research and Contract Standardization in Civil and Traffic Engineering, one of the world's leading authorities in the design of bicycle-friendly infrastructure. Using these standards, Topeka's bicycle network should generally fulfill six requirements:

- Integrity: Topeka's bikeway network should form a coherent system throughout its evolution, linking starting points with destinations, being understandable to its users, and fulfilling a responsibility to convey them continuously on their paths.
- Directness: Topeka's bikeway network should offer cyclists as direct a route as possible with minimum detours or misdirection.
- Safety: Topeka's bikeway network should maximize bicycle safety, minimize or improve hazardous conditions and barriers, and improve safety for pedestrians and motorists.
- Comfort: Most bicyclists should view the network as within their capabilities without mental or physical stress. As the system grows, it will comfortably meet more types of users' needs.
- Experience: The Topeka bicycle network should offer its users a pleasant and positive experience that capitalizes on the city's built and natural environments.
- Feasibility: The Topeka bicycle network should provide more benefits than costs and should be a wise investment of resources, capable of developing in phases and growing over time.

A phased plan was developed to ensure that it could be carried out as funding became available. A pilot system comprised of approximately 30 miles of adapted streets, 2.7 miles of route-related pathways, and 1.8 miles of trails could be developed for \$2.5 million. Phase I and Phase II are complete and Phase III is in the process of being completed. These phases were funded from the Countywide ½ Cent Sales Tax, allocated every other year, three Transportation Alternative Grants, and locally raised funds. Together, these three phases have produced approximately 71.7 miles of bicycle infrastructure. Funding is programmed at \$500,000 in FY 2020 and every other year until 2030. Adding another bicycle connection across the Kansas River will require partnering with KDOT on the US-75 bridge including connections on both sides of the river. Figure 4-1 is a map of the current bicycle and trail system.



Figure 4-1: Bikeways System Map



## Topeka Pedestrian Master Plan

In 2016 the City adopted the Topeka Pedestrian Master Plan to make “Topeka...a walkable city where people of all ages and abilities can safely and comfortably travel on foot.” The plan outlines the development of the area’s pedestrian network that was not planned consistently despite being part of the city since its inception. Following public involvement efforts, the plan recommended **four goals**:

- **A Complete Pedestrian Network Connecting All Neighborhoods.** Sidewalks improve the safety and comfort of Topekans who walk, and a complete pedestrian network connecting all parts of the city will better facilitate the ability of people to travel by foot, especially to schools, bus stops, community centers, senior centers, parks and trails;
- **Maintained Sidewalks.** Sidewalks are a major infrastructure investment and maintenance can prevent expensive reconstructions. Maintained sidewalks also safely facilitate the mobility of pedestrians including children, the elderly, and people using assistive devices to travel;
- **Safety and Comfort.** Sidewalks are enhanced by features that improve the safety and comfort of pedestrians. Whether it’s a crosswalk, a bench, or a curb ramp, the details matter, allowing sidewalks to be friendly to everyone who uses the system; and
- **A Culture of Walking.** The value that a community places on walking plays a role in determining how likely it is someone will travel as a pedestrian. The more perceptions and the physical environment supports and allows walking, the more walking becomes a part of everyday life.

To focus resources on the most important areas for pedestrians, projects were prioritized based on community input. Eighteen focus areas received field inventories to examine the presence and condition of sidewalks, the quality of corner curb ramps, and the need for crosswalks. Proximity to bus routes, “Intensive Care” neighborhoods, parks and trails, public and private elementary and middle schools, and streets without sidewalks were most important. Factors considered less important included proximity to arterial and collector streets, commercial areas, community and senior centers, high density residential areas, major destinations, and “At Risk” neighborhoods. These several “high pedestrian demand” neighborhoods were delineated and their improvement costs were compared with available funding. These neighborhoods were further sorted by whether they contained schools. Groups included:

**Group A:** High pedestrian demand with schools funding from 2016-2020

**Group B:** High pedestrian demand without schools funding from 2021-2023

**Group C:** Low pedestrian demand with schools funding from 2024-2025

**Group D:** Low pedestrian demand without schools funding beyond 2025

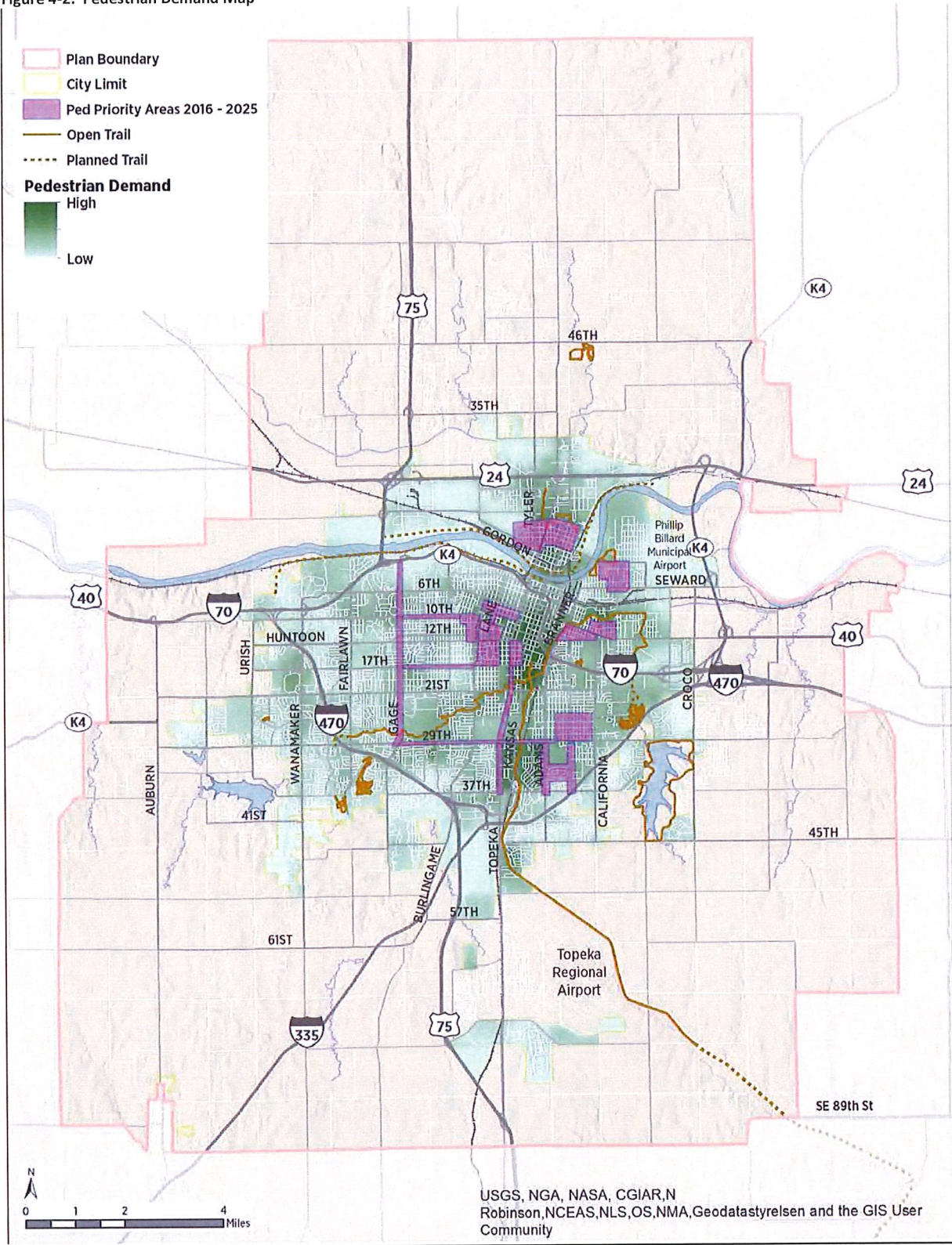
A fifth group (Group E) also consisted of corridors, complete street linkages, and future areas to complete the network to be improved throughout the process connecting different neighborhoods. The overall pedestrian plan funding goal is 10 years from adoption, or 2025, including approximately 47 miles of sidewalks, 1,800 curb ramps, and 350 crossings. Funding for pedestrian improvements is expected to come from \$7.7 million in the Capital Improvement Program funds, \$9 million in ½ cent sales tax funds starting in 2020, and \$4.5 million in other local and State grant funds. Upon the complete of the Pedestrian Master Plan, Topeka has begun funding proactive sidewalk repair in the highest priority areas of the city.

The city’s focus on implementing the Pedestrian Master Plan includes a goal of lining arterials with sidewalks to promote transportation between areas of the City and into the county which will space sidewalks at approximately 1-mile distances across the City. This includes the reconstruction of some arterials that extend into the county which has begun creating the backbone of an MPA-wide active transportation network, as seen south on Wanamaker Street.

Overall, the hope is to provide a bicycle and pedestrian system that provides safe routes to schools, parks, jobs, shopping, and service. Figure 4-2 illustrates the Pedestrian Demand areas of the MPA.



Figure 4-2: Pedestrian Demand Map





**Coverage Pedestrian Infrastructure:** Overall, about 40 percent of city streets and most rural subdivisions lack sidewalks. Within the City itself, approximately 70 percent of major thoroughfares have sidewalks on both sides of the street, which will increase to 78 percent by 2031 as current road reconstruction projects add sidewalks. The goal for major thoroughfares is to have 95% built with sidewalks on both sides. Meanwhile, approximately 48 percent of all streets have sidewalks on both sides, which should increase to 51 percent with currently planned projects by 2025.

Regarding the number of people with access to sidewalks, about 116,353 people or 69.2 percent of the population has access to sidewalks on their block. Within Environmental Justice (EJ) areas (explained further on page 39), 72,073 or 83.4% have a sidewalk on their block. While these numbers do not speak to the coherency, distribution, or ease of use of the sidewalk system, it does indicate that many people can reach sidewalks.

**Bicycle Infrastructure:** The MPA contains approximately 62.7 miles of bicycle infrastructure and 49.3 miles of trails. To determine access to the bicycle system, buffers of ¼ and ½ miles are used to determine proximity to the on-street bicycle system and to trails. For the purposes of this section, trails are considered part of the bicycle system. Within the MPA, approximately 71,200 residents are within ¼ mile or 3-4 minute bike ride from the bicycle system.

This amounts to 42 percent of the MPA's population. When the distance is increased to ½ mile or a 6-8 minute bike ride, approximately 105,100 people are within range of bicycle facilities. This amounts to 63 percent of the MPA's population. EJ areas tend to have better access to the bicycle system. 58% of EJ areas are within ¼ mile of a bike route or trail and 82% of EJ areas are within a ½ mile.

Because of the large number of people who bicycle recreationally, the trails have also been separated from the general bicycle system in order to understand their coverage. Within the MPA, approximately 27,200 residents are within ¼ mile or 3-4 minute bike ride from a trail. This amounts to 16 percent of the MPA's population. When the distance is increased to ½ mile or a 6-8 minute bike ride, approximately 54,400 people are within range of a trail. This amounts to 32% of the MPA's population. EJ areas tend to have better access to trails. 23% of EJ areas are within ¼ mile of a bike route or trail and 45% of EJ areas are within a ½ mile.

This analysis suggests that there are no outstanding EJ issues regarding sidewalks, trail, or the bicycle system as many EJ areas tend to be older and denser. That means on one hand, they were built with sidewalks, and on the other, that providing bicycle and trails is often easier to reach more people. While sidewalk facilities in historic areas tend to be older, and therefore require more improvements, they have better overall coverage. Overall, the current pedestrian and bikeways growth rate will continue to have a positive effect on EJ populations. Figures 4-3, 4-4 and 4-5 are tables from the Topeka Pedestrian Master Plan that show the current percentage of the population which has access to pedestrian and/or bikeways facilities within the Metropolitan Planning Area with Figure 4-6 displaying a map of the current bikeways system with a ¼ -mile buffer:

**Figure 4-3: Sidewalk Coverage**

|                                          | No.     | Pct.  |
|------------------------------------------|---------|-------|
| Total Population with Sidewalks on Block | 116,353 | 69.2% |
| EJ Population with Sidewalks on Block    | 72,073  | 83.4% |

**Figure 4-4: Distance from the Bicycle System**

|                          | Total Population |       | EJ Population |       |
|--------------------------|------------------|-------|---------------|-------|
|                          | No.              | Pct.  | No.           | Pct.  |
| ¼ mile of bicycle System | 71,184           | 42.3% | 50,406        | 58.4% |
| ½ mile of bicycle system | 105,076          | 62.5% | 71,110        | 82.3% |

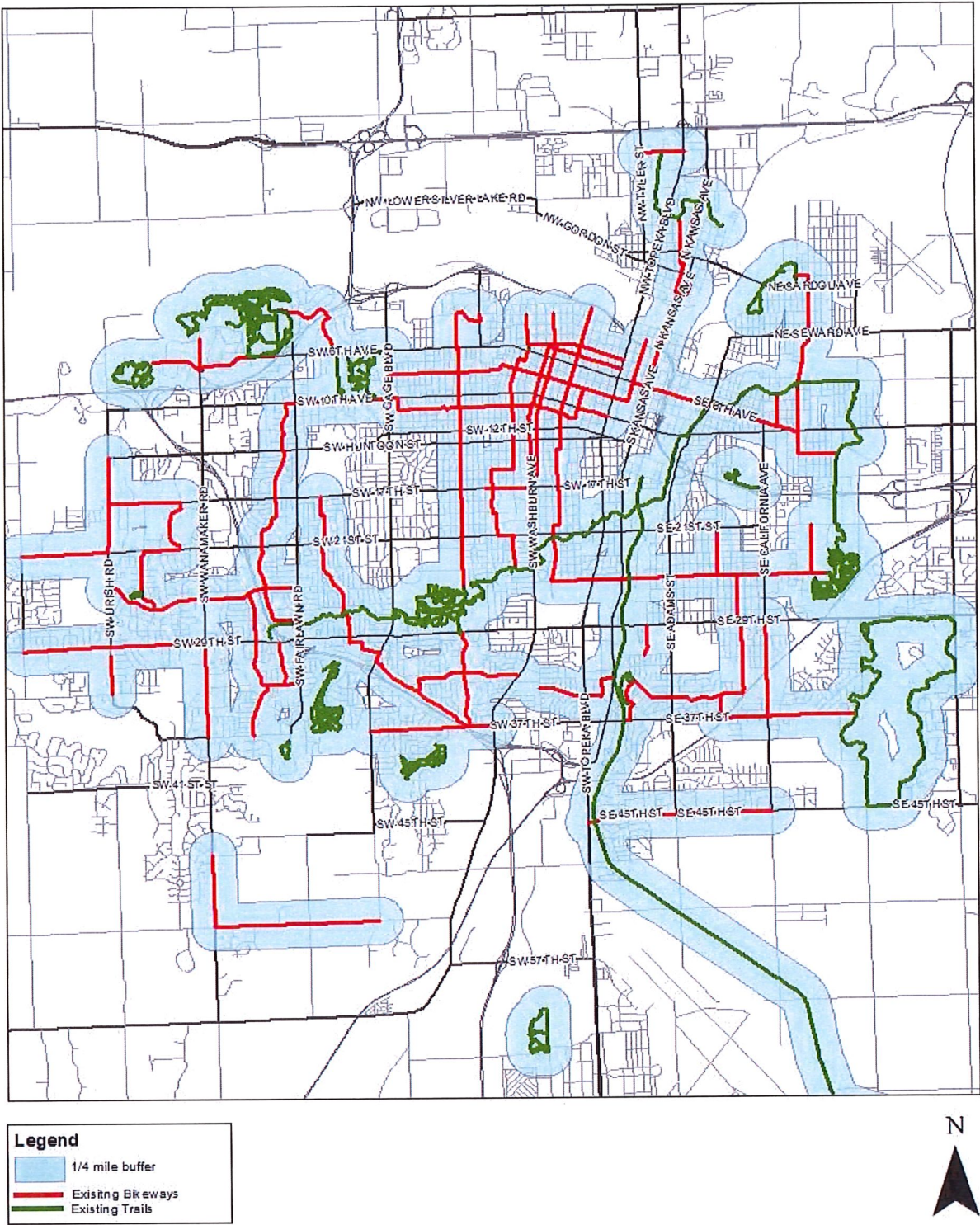
**Figure 4-5: Distance from Trails**

|                 | Total Population |       | EJ Population |       |
|-----------------|------------------|-------|---------------|-------|
|                 | No.              | Pct.  | No.           | Pct.  |
| ¼ mile of trail | 27,168           | 16.1% | 19,815        | 22.9% |
| ½ mile of trail | 54,353           | 32.3% | 39,231        | 45.4% |

Topeka Pedestrian Master Plan, adopted 2016

Figure 4-6: Current Bikeways System Access Map (1/4-mile access area)

# 1/4 Mile Buffer around Existing Bikeways & Trails







**Target 2022 Bicycle and Pedestrian Infrastructure additions: 5% Increase in Total MPA population have access to sidewalks (from 69%-74%): 5% Increase in Total MPA population have access (within ¼ -mile) to Bike System (from 42.3% to 47.3%)**

## **5- SYSTEM Reliability/Congestion Reduction: Transit (Goal-Maintain Existing Infrastructure)**

### **Transit Use and Efficiency**

#### **Annual Ridership**

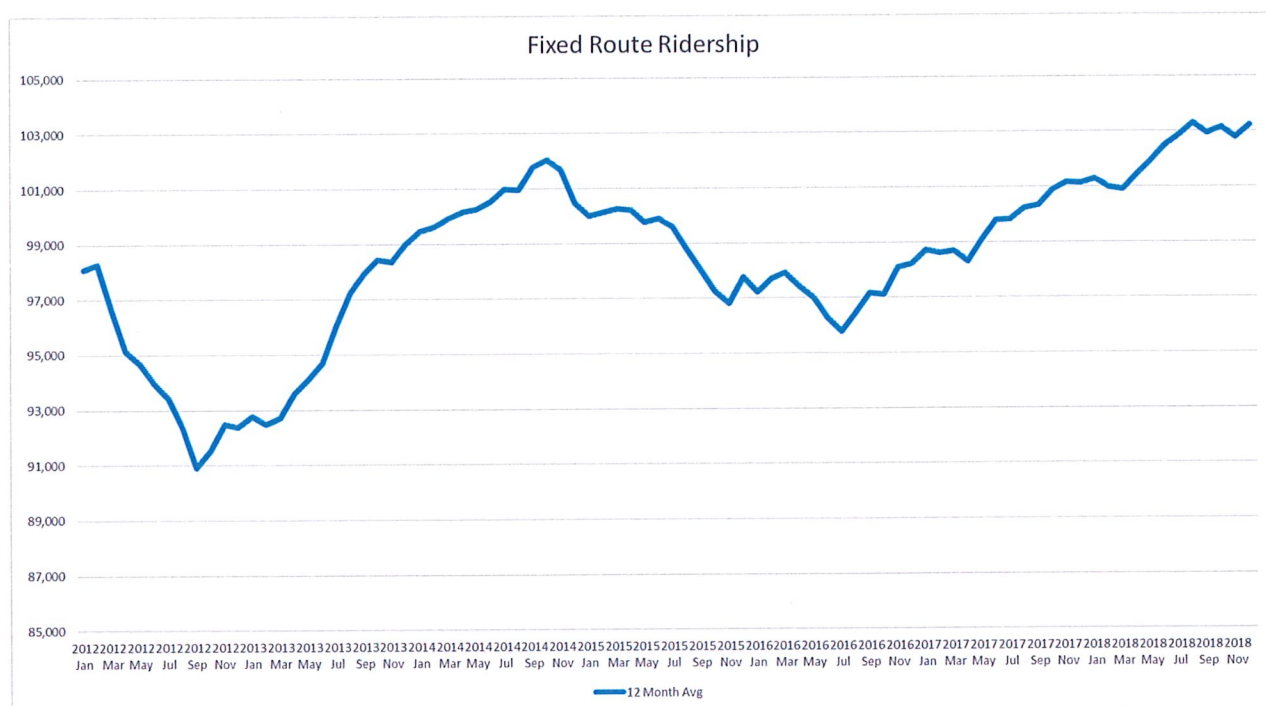
In 2008, transit ridership reached a record annual total for Topeka Metro with almost 1.8 million trips. 2008 coincided with fuel costs in the United State near, or above \$4.00 per gallon. Much like Topeka Metro, transit systems across the United States experienced similar increased ridership trends in 2008 as citizens looked for ways to save money and limit their personal transportation costs. As the Great Recession began in late 2008 and into 2009, two events happened to Topeka Metro that led to a steep drop in annual transit ridership.

1. Operational budget cuts for Topeka Metro caused significant transit service reductions. These service cuts had the greatest impact on Topeka residents that had limited means of transportation other than public transit.
2. Unemployment grew because of the recession.

Since transit service reductions in 2009 and 2010, annual ridership totals have generally stabilized and have begun to grow again after 2012. In 2018, TMTA provided 1,280,610 trips on public transit. Figure 5-1 shows the upward trend in ridership over the last seven years for TMTA fixed route services.

Topeka Metro's Reduced Income pass has been highly successful. In 2018, the Reduced Passes (based on income, age, and disability) accounted for nearly 460,000 trips on the system. Another program called the 'Freedom Pass' is used by ambulatory ADA passengers who can ride on the fixed route TMTA system at no cost.

**Figure 5-1: TMTA Monthly ridership trends 2012-2018**



The Freedom Pass was used for nearly 8,900 trips in 2018. TMTA has established pass programs with both USD 501 and Washburn University to allow students access to bus routes using their student identification cards. These two partnerships saw over 185,000 trips taken on TMTA routes in 2018. TMTA also provides a free summer transit pass for kids, which has been very successful in providing mobility for kids in the Topeka area. The Kids Ride Free program was used to make over 41,000 trips in the summer of 2018.

Unlike fixed route services, Paratransit Ridership has continued to decline dramatically since the cuts in 2009. Declining every year, paratransit ridership has dropped by some 37 percent. The ridership decline is attributable to many coinciding issues. In October 2011, TMTA raised the fare for paratransit service to \$4.00, and in November they reduced the paratransit area to the required  $\frac{3}{4}$  mile area around a fixed transit route, excluding route 29S. In October 2012, they expanded paratransit coverage to the city limits for a \$15 premium fee. A final issue decreasing paratransit ridership was the provision of Medicaid trips provided by the State of Kansas to reach medical services and new paratransit service providers in the region. Fortunately, as fixed route stops continue to become more handicap accessible, those who previously used paratransit services can shift to fixed-route bus service.

### **On-Time Performance (OTP)**

TMTA will soon be purchasing and installing Automatic Vehicle Location (AVL) devices to track OTP on a regular basis. The AVL devices will be on all fixed route buses in its fleet giving the agency the ability to monitor OTP down to the route level of detail.

Since September 2016, TMTA has conducted a quarterly OTP sampling to check and measure schedule adherence. Over the course of five operational days of fixed route service a TMTA staff member recorded the arrivals and departures of buses/routes at the Quincy Street Station transit center. The

survey arrivals and departures found over 95% of trips were considered 'on time'. For a trip to be considered 'on time' the bus cannot arrive more than five minutes late and must depart at the scheduled time or at most one minute later. Through this survey of arrivals and departures, TMTA showed that the fixed route system has excellent service reliability for its riders. In future years, TMTA will have this accuracy validated through the new AVL devices.

### **Service Coverage**

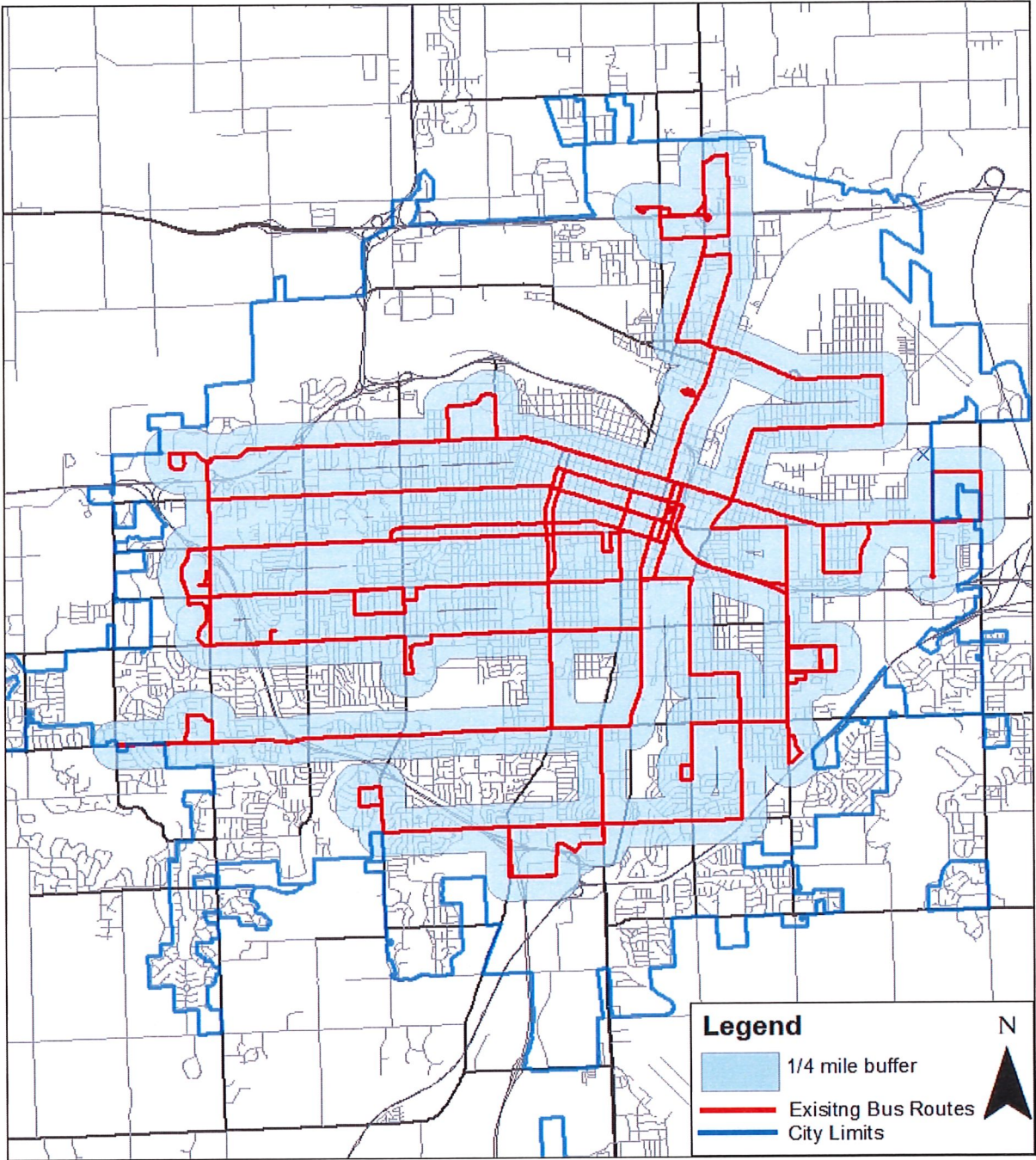
The City of Topeka has good coverage from fixed route public transit services. The 2010 US Census places the total population of the City of Topeka at 127,473. Studies have shown that most people are willing to walk 5 minutes or  $\frac{1}{4}$  mile to reach a bus stop. Overall, approximately 93,510 residents live within a  $\frac{1}{4}$  mile from a bus route, or about 73.4% of Topeka's 2010 population. Figure 5-2 shows the  $\frac{1}{4}$  mile buffer distance from the current bus route system.

While most people will walk 5 minutes, 10 minutes or a  $\frac{1}{2}$  mile is typically the furthest most people will walk to access a transit route. Approximately 108,673 of Topeka's residents live within a  $\frac{1}{2}$  mile of a fixed transit route. This means that TMTA's current fixed route transit network's  $\frac{1}{2}$  mile transit-shed includes about 85.3% of Topeka's population.



Figure 5-2: TMTA current bus routes with ¼ mile access buffer

# 1/4 Mile Buffer around Existing Bus Routes



## Environmental Justice Populations

Because the MTPO plans for transportation and mobility for all members of the region, it is important to assess the proximity of the current transit system to Environmental Justice (EJ) populations. For EJ analyses, block groups with the following characteristics are considered EJ areas:

1. With more than the County average of non-white/Hispanic population (25.2%) – 2015 American Community Survey (ACS)
2. With more than twenty percent of families in poverty –2015 ACS
3. With more than 50 percent of the population in LMI households – 2015 HUD standards

Using 2010 Census block data, the number and percentage of people living within  $\frac{1}{4}$  and within  $\frac{1}{2}$  mile of bus routes could be identified for the entire MPA. This was compared to the number and percentage of people living within  $\frac{1}{4}$  and within  $\frac{1}{2}$  mile of bus routes for EJ areas further evaluate transit coverage (Figure 5-2).

**Figure 5-2:** Percentage of Population Within  $\frac{1}{4}$  and  $\frac{1}{2}$  mile of Fixed Bus Routes

|                                                          |         |        |
|----------------------------------------------------------|---------|--------|
| Persons Within $\frac{1}{4}$ mile of bus routes          | 93,510  | 68,974 |
| Persons Within $\frac{1}{2}$ mile of bus routes          | 108,673 | 76,929 |
| Total Population within Areas                            | 168,235 | 86,371 |
| Percent of Population within $\frac{1}{4}$ of Bus Routes | 55.6%   | 79.9%  |
| Percent of Population within $\frac{1}{2}$ of Bus Routes | 64.6%   | 89.1%  |

Source: 2010 Census Block Data

Within the MPA, approximately 57 percent of the population can walk 5 minutes to reach a fixed bus route. Meanwhile, approximately 80 percent of those living within EJ areas can reach a bus route in 5 minutes. When the range is increased to a 10-minute walk, approximately 66 percent of the population can reach a bus route, compared to 89 percent of those living within EJ areas.

The better coverage of bus routes in EJ areas represents the fact that EJ areas tend to be in older parts of the City. In addition, many higher income individuals tend to live further from the City center. The fact that transit routes serve EJ areas better than non-EJ areas is fitting as transit drastically improves mobility for low income populations who may not be able to afford a car. EJ areas that do not have access to fixed-route bus service within a 10-minute walk include areas to the south (such as Montara), areas to the northwest (primarily industrial land), areas to the northeast, and around Lake Shawnee.



**Target for Transit On-Time Performance: 90% or greater**

**Target for Transit Service Availability: 70% of all residents of the City of Topeka live within  $\frac{1}{4}$  mile of a fixed route.**



## Index of Highway and Bridge Projects by TIP# & Relationship to Performance Measures (PM)

| TIP #              | KDOT#        | Juris. | Location                                     | Project Type                |
|--------------------|--------------|--------|----------------------------------------------|-----------------------------|
| 3-18-01-6          | T-141024.00  | Topeka | Various                                      | Traffic Signal Replacement  |
| Project Total Cost | \$3,292,000  |        |                                              |                             |
| 1-19-04-7          | T-141025.00  | Topeka | Downtown Topeka                              | Traffic Signal Coordination |
| Project Total Cost | \$290,000    |        |                                              |                             |
| 3-11-01-6          | T-241049.00  | Topeka | Street/Curb improvements (various locations) | ADA Street Curb Program     |
| Project Total      | \$1,200,000  |        |                                              |                             |
| 3-19-02-7          | T-601095.00  | Topeka | Traffic Safety Projects                      | Roadway Projects            |
| Project Total      | \$880,000    |        |                                              |                             |
| 3-17-03-1          | T-601096.00  | Topeka | Complete Streets Components                  | Complete Streets Components |
| Project Total      | \$400,000    |        |                                              |                             |
| 3-17-06-1          | T-701015.00  | Topeka | SW 10th Ave Fairlawn to SW Wanamaker Rd.     | Roadway/Street Widening     |
| Project Total      | \$3,377,652  |        |                                              |                             |
| 3-19-02-1          | T-701016.00  | Topeka | 12th Street; Gage to Kansas                  | Roadway/repair/replace      |
| Project Total      | \$13,580,000 |        |                                              |                             |
| 3-20-01-1          | T-701019.00  | Topeka | NW Tyler St.; Lyman to Beverly               | Roadway/Street Widening     |
| Project Total      | \$1,800,000  |        |                                              |                             |
| 3-18-03-1          | T-701021.00  | Topeka | SE California Ave.; 37th to 45th             | Roadway/Street Widening     |
| Project Total      | \$5,600,000  |        |                                              |                             |
| 3-21-01-1          | T-701023.00  | Topeka | SW 10th St. from Wanamaker Rd. to Gerald Ln. | Roadway/Street Widening     |
| Project Total      | \$1,565,000  |        |                                              |                             |
| 3-20-02-1          | T-701024.00  | Topeka | S. Kansas Ave. from 1st to 6th St.           | Roadway/Street Widening     |
| Project Total      | \$7,685,000  |        |                                              |                             |



# Index of Highway and Bridge Projects by TIP# & Relationship to Performance Measures (PM)

| TIP #                                                         | KDOT#                       | Juris. | Location                                                                           | Project Type                                     |
|---------------------------------------------------------------|-----------------------------|--------|------------------------------------------------------------------------------------|--------------------------------------------------|
| 3-19-03-1<br>PM2 Pavement/Bridge<br>Project Total             | T-701025.00<br>\$7,685,000  | Topeka | SW 17th St. from MacVicar to I-470 Int.                                            | Roadway/Street Widening                          |
| 3-19-04-1<br>PM2 Pavement/Bridge<br>Project Total             | T-701033.00<br>\$1,445,000  | Topeka | SW29th St. from Fairlawn thru I-470                                                | Roadway/Street Widening                          |
| 3-19-05-1<br>PM2 Pavement/Bridge<br>Project Total             | T-861017.00<br>\$1,000,000  | Topeka | Bikeways Master Plan Implementation projects 1/2-cent sales tax                    | Bikeways Master Plan Implementation              |
| 3-19-05-6<br>PM3 System Delivery/Bikeways<br>Project Total    | TE-0465-01<br>\$1,821,735   | Topeka | Bikeways Phase III Implementation                                                  | Transportation Alternatives Grant                |
| 3-18-04-6<br>PM3 System Delivery/SRTS<br>Project Total        | TA-U2338-01<br>\$350,000    | Topeka | Quincy Elementary School Veicinity SRTS Phase II                                   | Pedestrian/ADA enhancements and crossing improv. |
| 2-16-02-1<br>PM2 Pavement/Bridge<br>Project Total             | T-121005.00<br>\$8,621,000  | County | SE 29th Bridge over Butcher Creek                                                  | Bridge Replacement and Grading                   |
| 2-18-01-6<br>PM3 System Delivery SRTS<br>Project Total        | TE-0464-01<br>\$2,722,000   | County | Deer Creek Trail Extension                                                         | Transportation Alternatives Grant                |
| 2-19-01-1<br>PM1 Safety Intersection Improv.<br>Project Total | S-701006.00<br>\$12,028,000 | County | SE 45th St. at Berryton Rd. widen to 3-lanes and construct a roundabout and Bridge | Intersection/Roadway/Bridge                      |
| 1-19-08-1<br>PM2 Pavement/Bridge<br>Project Total             | KA-3235-01<br>\$2,682,306   | KDOT   | US-24 from E. City lim. Of Silv. Lk. E. to 400ft.E of US24/Countryside Rd. Int.    | Mill & Overlay Roadway                           |
| 1-16-01-1<br>PM2 Pavement/Bridge<br>Project Total             | KA-3236-01<br>\$17,740,507  | KDOT   | US-24 from Topeka Blvd E. to SN.Co. Line                                           | Roadway Resurfacing/Bridge Replacements          |

## Index of Highway and Bridge Projects by TIP# & Relationship to Performance Measures (PM)

| TIP #                                  | KDOT#       | Juris. | Location                                                              | Project Type                       |
|----------------------------------------|-------------|--------|-----------------------------------------------------------------------|------------------------------------|
| 1-18-01-1                              | KA-4118-02  | Topeka | SW Arvonita Place/Huntoon St./I-470 Ramps                             | Roadway/Repair/Replace             |
| <b>PM1</b> Safety/Intersection Improv. |             |        |                                                                       |                                    |
| Project Total                          | \$3,831,500 |        |                                                                       |                                    |
| 1-17-02-1                              | KA-4697-01  | KDOT   | I-470 from I-70 to KTA                                                | Roadway Resurfacing                |
| <b>PM2</b> Pavement/Bridge             |             |        |                                                                       |                                    |
| Project Total                          | \$9,383,204 |        |                                                                       |                                    |
| 1-17-05-1                              | KA-4697-02  | KDOT   | I-470 from I-70 to KTA                                                | Guardrail Safety Improvements      |
| <b>PM1</b> Safety/Guardrails Improv.   |             |        |                                                                       |                                    |
| Project Total                          | \$1,895,875 |        |                                                                       |                                    |
| 1-18-05-1                              | KA-4729-01  | KDOT   | Bridge Resurfacing: US-75 Begin. .45 mi. S. of NW 46th St.            | Roadway/Bridge                     |
| <b>PM2</b> Pavement/Bridge             |             |        |                                                                       |                                    |
| Project Total                          | \$748,020   |        |                                                                       |                                    |
| 1-18-03-1                              | KA-4730-01  | KDOT   | US75 Begin. 7mi. S. of NW 62nd St. Thence N. to SN./Jax Co.           | Roadway resurfacing                |
| <b>PM2</b> Pavement/Bridge             |             |        |                                                                       |                                    |
| Project Total                          | \$1,951,155 |        |                                                                       |                                    |
| 1-19-07-1                              | KA-4730-02  | KDOT   | Roadways, Guardrail Upgrades (Safety)                                 | Upgrade guardrails along US75 Hwy. |
| <b>PM1</b> Safety/Guardrails Improv.   |             |        |                                                                       |                                    |
| Project Total                          | \$60,349    |        |                                                                       |                                    |
| 1-18-04-1                              | KA-4754-01  | KDOT   | US-75 Bridges 279 & 280 (NB) ovr. 46th St. SN CO.                     | Bridge Resurfacing                 |
| <b>PM2</b> Pavement/Bridge             |             |        |                                                                       |                                    |
| Project Total                          | \$363,785   |        |                                                                       |                                    |
| 1-19-01-3                              | KA-4879-01  | KDOT   | Bridge Repair: Bridge #111 &112 (Wakaruse River) on US75              | Bridge Repair                      |
| <b>PM2</b> Pavement/Bridge             |             |        |                                                                       |                                    |
| Project Total                          | \$695,000   |        |                                                                       |                                    |
| 1-19-02-3                              | KA-4880-01  | KDOT   | Bridge Repair: Bridge #240 (KTA) located 8.3miles N. of the Osage CO. | Bridge Repair                      |
| <b>PM2</b> Pavement/Bridge             |             |        |                                                                       |                                    |
| Project Total                          | \$219,000   |        |                                                                       |                                    |
| 1-19-04-3                              | KA-4942-01  | KDOT   | Bridge Repair: Bridge # 046 located 0.21 mi. NW of 10th St.           | Applying 3-inch asphalt overlay    |
| <b>PM2</b> Pavement/Bridge             |             |        |                                                                       |                                    |
| Project Total                          | \$225,000   |        |                                                                       |                                    |

## Index of Highway and Bridge Projects by TIP# & Relationship to Performance Measures (PM)

| TIP #                                                         | KDOT#                     | Juris. | Location                                                                                                                                                                                          | Project Type                                          |
|---------------------------------------------------------------|---------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 1-19-03-3<br>PM2 Pavement/Bridge<br>Project Total             | KA-4943-01<br>\$354,998   | KDOT   | Bridge Repair: Bridge #161 Located at<br>E. Junction I-70/US-75 in Sn Co.                                                                                                                         | Patch Deck, replace expansion joints & approach joint |
| 1-19-05-1<br>PM2 Pavement/Bridge<br>Project Total             | KA-5047-01<br>\$1,156,000 | KDOT   | US-40 begin. .44mi. E. of junc. US-40/K4<br>thence E. to SN/DG Co. Line.                                                                                                                          | Mill & Overlay Roadway                                |
| 1-19-06-3<br>PM2 Pavement/Bridge<br>Project Total             | KA-5077-01<br>\$235,000   | KDOT   | Bridge Repair: Bridge #275                                                                                                                                                                        | Bridge Repair                                         |
| 1-19-07-3<br>PM2 Pavement/Bridge<br>Project Total             | KA-5164-01<br>\$774,700   | KDOT   | Bridge Path and Polymer Overlay Bridge #014 located<br>2.01 Mi. E. of K-4 (Urish Rd.)                                                                                                             | Bridge Repair                                         |
| 1-17-03-1<br>PM1 Safety/Intersection Improv.<br>Project Total | U-2316-01<br>\$501,600    | KDOT   | Gage St. from Emland Dr. to I-70 EB Exit ramp                                                                                                                                                     | Extend two-way left turn lanes                        |
| 1-17-04-2<br>PM1 Safety/Intersection Improv.<br>Project Total | U-2317-01<br>\$1,412,514  | KDOT   | Intersection of 29th & McClure                                                                                                                                                                    | Intersection Improvements                             |
| 1-16-1-3<br>PM2 Pavement/Bridge<br>Project Total              | T-121001.00<br>\$850,000  | KDOT   | SW Cherokee St. over Ward Creek                                                                                                                                                                   | Bridge Replacement                                    |
| 1-17-01-3<br>PM2 Pavement/Bridge<br>Project Total             | T-121003.00<br>\$875,000  | KDOT   | SW 3rd St. over Ward Creek                                                                                                                                                                        | Bridge Replacement                                    |
| 1-19-08-1<br>PM1 Safety/Intersection Improv.<br>Project Total | X-3066-01<br>\$381,000    | KDOT   | RR Crossing Project @ Union Pacific RR at<br>Winter St. (Crossing #605296A)                                                                                                                       | RR-Hwy Signals Flashing light straight post s /Gates  |
| PM3 Transit Projects                                          |                           |        | 5339 Paratransit Vehicles.....Service Vehicles<br>Mill Levy New Mini-Transfer Station, New Bus Technology<br>5307 Construction of Bikeshare stations<br>at various high-traffic bicycle locations |                                                       |