



Transportation Performance Measures Update

June 2019

Performance Based Planning Approach

The federal transportation legislation, Moving Ahead for Progress in the 21st Century Act (MAP-21), placed a large emphasis on performance based planning, an emphasis which has been carried over into the Fixing America's Surface Transportation Act (FAST Act) – the current federal transportation legislation. The United States Department of Transportation released final regulations implementing this aspect of the act in May 2016 and new Transportation Improvement Plans (TIPs) adopted after May 27, 2018 are required to comply with the updated rule.

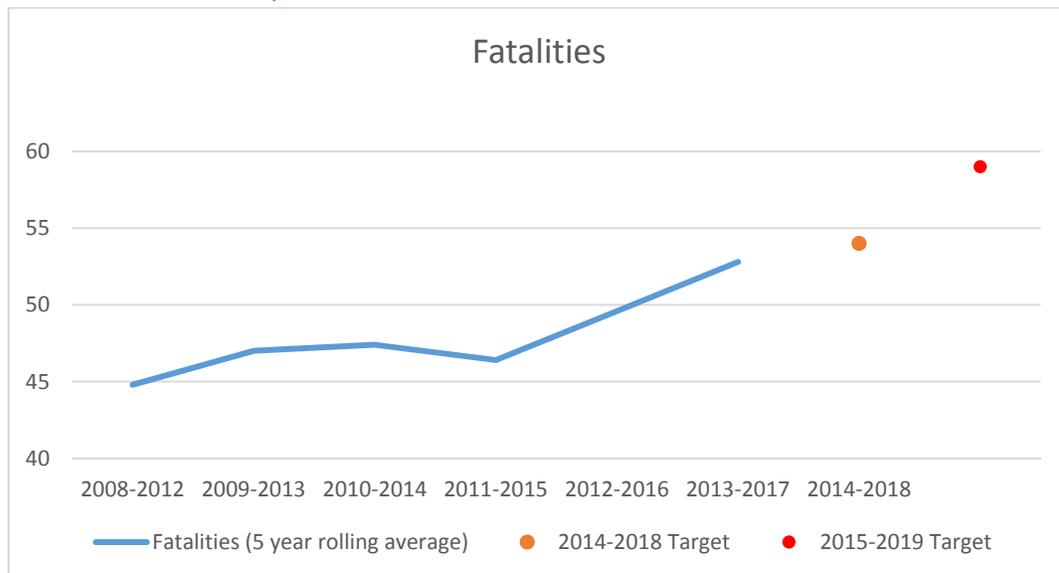
WAMPO has adopted targets for the federally mandated performance measures for safety, transit asset management, system performance and pavement and bridge condition.

Safety Performance Measures

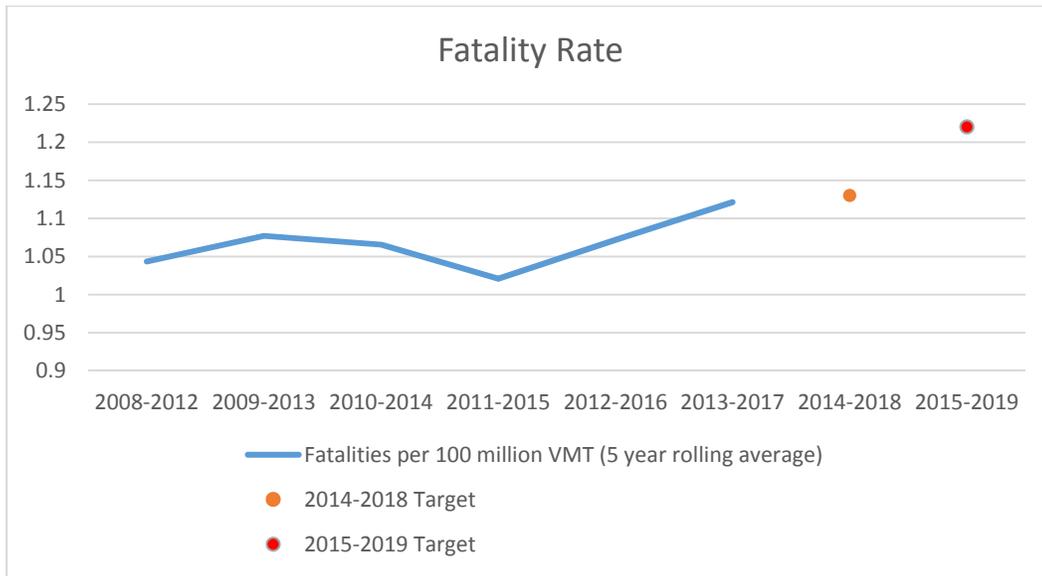
The Federal Highway Administration (FHWA) has established five safety performance measures based on the Moving Ahead for Progress in the 21st Century Act (MAP-21). These are fatalities, fatality rate, serious injuries, serious injury rate, and non-motorized fatalities and serious injuries.

Each of these performance measures are tracked using a five-year rolling average. Based on safety trends in our region, the WAMPO Transportation Policy Body has adopted targets for these five measures for the five-year periods from 2014-2018 and 2015-2019.

Fatalities and Fatality Rate

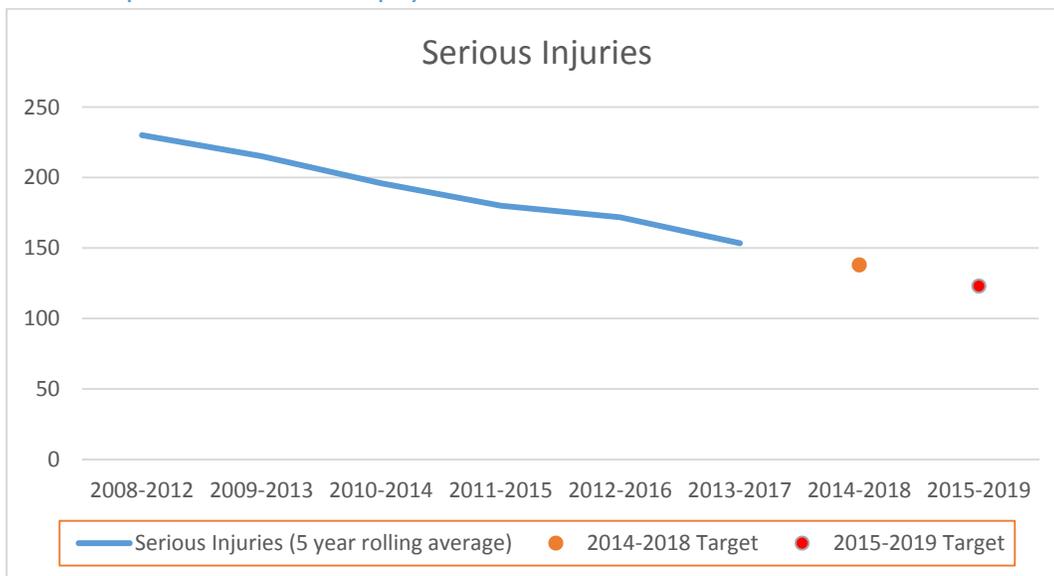


The number of fatalities in the WAMPO region has been climbing, from a low of 45.2 fatalities per year for the 2008-2012 period up to 52.8 fatalities per year for 2013-2017 (the most recent period for which data are available). The WAMPO target for the 2014-2018 period is no more than 59 fatalities per year.

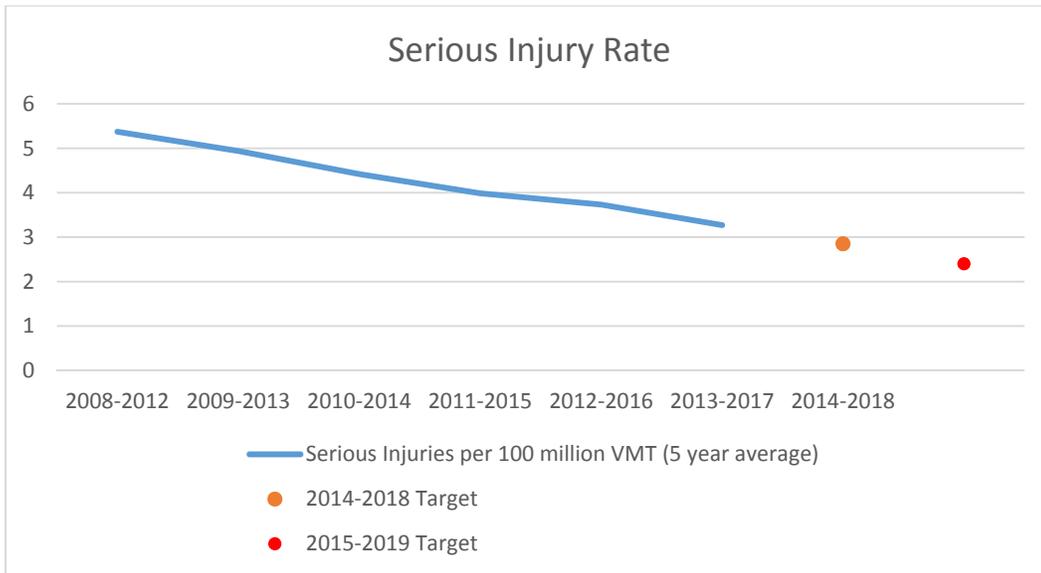


The fatality rate per 100 million vehicle miles traveled has also been on the rise, though the increase has been less consistent. From 2013 to 2017 there were 1.12 fatalities per 100 million VMT per year. The WAMPO target for the 2015-2019 period is no more than 1.22 fatalities per 100 million VMT per year.

Serious Injuries and Serious Injury Rate

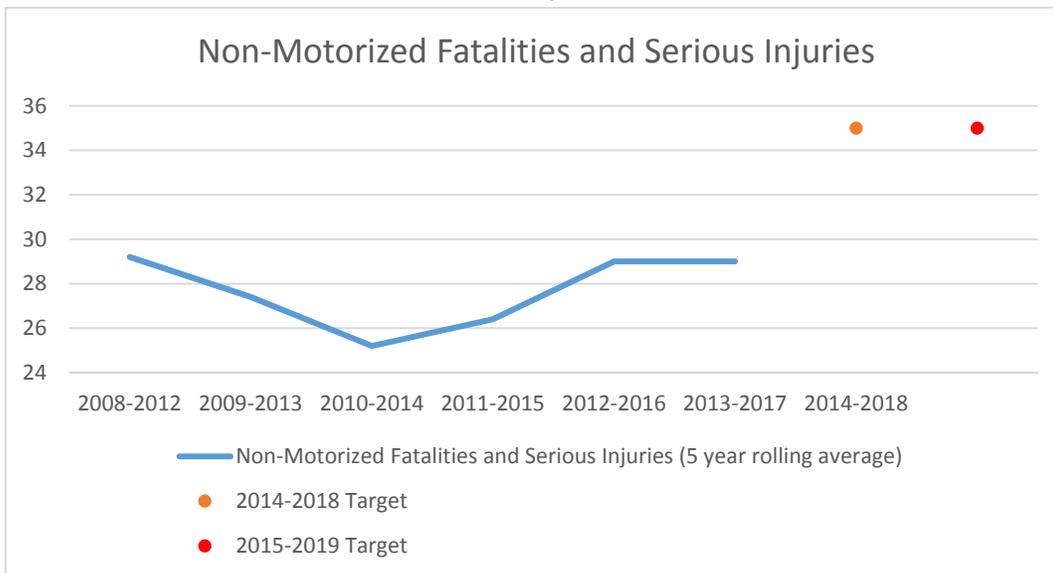


In contrast to fatalities, the number of serious injuries in the WAMPO region has been consistently declining in recent years, dropping from 230 per year in the 2008-2012 period to 153.4 per year for 2013-2017. The WAMPO target for the 2015-2019 period is no more than 123 serious injuries per year.



The serious injury rate per 100 million VMT has declined as well, dropping from 5.37 per 100 million VMT per year in the 2008-2012 period to 3.27 per 100 million VMT per year for 2013-2017. The WAMPO target for the 2015-2019 period is no more than 2.40 serious injuries per 100 million VMT per year.

Non-Motorized Fatalities and Serious Injuries



Non-motorized (bicycle and pedestrian) fatalities and serious injuries declined over the 2008-2012, 2009-2013, and 2010-2014 periods, but began to climb in 2011-2015, reaching 29 per year in 2012-2016. The WAMPO target for the 2014-2018 period is no more than 35 non-motorized fatalities and serious injuries per year. Based on the most recent data available WAMPO is on track to meet the target for this measure.

The Effect of the TIP on Safety Performance Measures

The TIP supports the achievement of WAMPO's safety performance measure targets through projects that provide safety benefits. These projects, and the benefits they provide, can be grouped into several broad categories. Projects marked with a single asterisk (*) received "Good" rating on our safety project selection criteria during the 2019-2022 TIP project selection process. Projects marked with a double asterisk (**) received

an “Excellent” rating, which mean these projects will incorporate meaningful safety improvements at locations where accidents have happened.

Safety Projects

We have one dedicated safety project in the current TIP:

- Railroad Safety Crossing Improvements program
This program provides three railroad-related safety improvements in the WAMPO region per year.

Intersection Reconstructions

Several projects will reconstruct intersections to make them safer, potentially lessening the chance of collisions:

- SW Butler Rd/SW 150th St Intersection (conversion to roundabout)**
- Oliver and Kechi Road Intersection*
- 45th St and Hillside
- Patriot Ave: WB Right Turn Lane to K-15 NB in Derby
- Mt. Vernon and Hillside
- Pawnee and 127th St E
- US-54/400 and Barber Dr.

Bicycle Facilities

Many project include bike lanes or multi-use paths to get bicyclists out of the stream of traffic and make accidents involving bicyclists less likely. These include projects dedicated solely to bike/ped infrastructure:

- Andover Rd Bicycle Pedestrian Path, from 13th St - 21st St.
- Aviation Pathway Phase 2
- Andover Road Bicycle/Pedestrian Path from Central to US-54*
- Meridian Pedestrian Bridge*
- Redbud Path, K96 to 159th St E
- Derby to Mulvane Pathway
- Wichita Bike Enhancements Program – An on-going program carried out by City of Wichita to implement the Wichita Bicycle Master Plan

Many of our roadway projects also include multi-use paths or bike lanes, including:

- SW Butler Rd/SW 150th St Intersection (conversion to roundabout)**
- Bridge and road improvements on 159th St E. over the Kansas Turnpike*
- Woodlawn: 45th St to 37th St. N
- Bridge over Chisholm Creek on 61st St North
- Mt. Vernon, Broadway to S.E. Blvd**
- 17th Street, I-135 to Broadway**
- 143rd St. E.: Kellogg to Central
- 143rd St. E.: Kellogg to Harry
- 159th St East (US54/400 to Central Ave in Andover)*
- North Main Street Reconstruction in Haysville*
- 61st St North (Broadway to the Wichita-Valley Center Floodway)**
- Meridian, from Ford to Seward in Valley Center
- Pawnee, Webb to Greenwich*
- Andover Road.: Four Mile Creek Bridge to SW 120th St.
- Pawnee: Hydraulic to I-135
- 127th St. E.: 13th St. N. to 21st St. N.
- Greenwich: Pawnee to Harry

- 37th St, Oliver to Woodlawn

Technology / Intelligent Transportation System (ITS) Projects

Several Intelligent Transportation Systems projects will improve safety by decreasing clearance times and reducing secondary accidents:

- US-54 Fiber to Traffic Management Center and Downtown Wichita Signal Upgrades
- K15 Corridor ITS Deployment
- Wichita TMC Phase 4
- East Side Dynamic Messaging Signs (DMS)
- Wichita Intelligent Transportation System - An on-going program carried out by City of Wichita to update traffic signals and install other related ITS equipment.

Interchange Reconstruction

The reconstruction of a major interchange in the Wichita region will increase merge distances and eliminate tight ramps with low advisory speed limits:

1. I-235/US-54 & I-235 & Central - Phase I

Reliability Performance Measures

The Federal Highway Administration has established three reliability-related performance measures based on the Moving Ahead for Progress in the 21st Century Act (MAP-21) that are applicable to WAMPO. These are the percentage of person-miles traveled on the Interstate system that are reliable, the percentage of person-miles traveled on the non-Interstate National Highway System (NHS) that are reliable, and a truck travel time reliability index. Data for these measures is gathered by INRIX using cellphone apps and in-vehicle navigation systems and analyzed by the University of Maryland CATT Lab under a contract with FHWA.

MPOs are required to set 4-year targets for these measures covering the 2018-2022 period. Based on system performance in our region the WAMPO Transportation Policy Body (TPB) has adopted 2022 targets for these three measures.

Interstate and non-Interstate National Highway System (NHS) Reliability

The Interstate and non-Interstate NHS reliability measures compare the average travel time on each segment of road with the 80th percentile travel time. This is basically comparing the travel time on the average day with the travel time on the worst day of the week. If the travel time on the worst day of the week takes more than 50% longer than the average day, the segment is unreliable. If it is less than 50% longer, the segment is reliable.

This comparison is made for four different time periods: weekday mornings, weekday middays, weekday evenings, and weekends. If even one of these are unreliable, the segment is considered unreliable. The segments are weighted by person-miles of travel on that segment to produce the final measure.

WAMPO's target for Interstate reliability is 98%.

During 2018 the Interstate system in the WAMPO region was 100% reliable.

KS - Wichita Area MPO, Wichita (WAMPO)

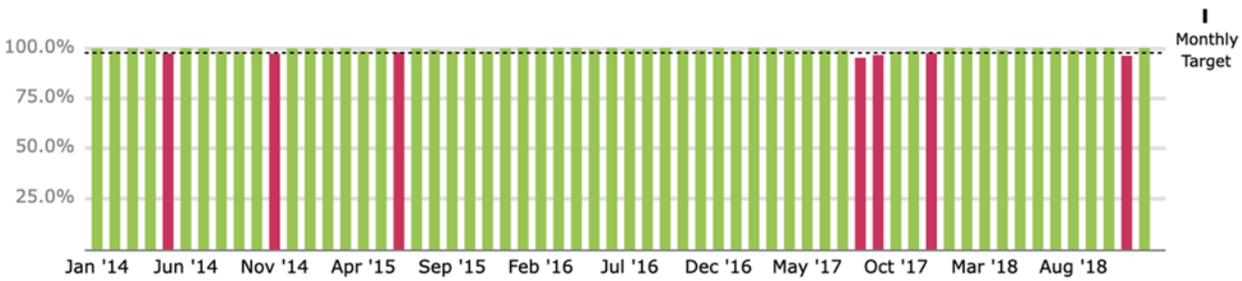
MAP-21 Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)

Target
at least
98.0%

Year's Performance

2014	99.9%
2015	99.8%
2016	100.0%
2017	98.9%
2018	100.0%

Target: At least 98% of the system should have a LOTTR less than 1.50



WAMPO's target for non-Interstate NHS reliability is 98%.

During 2017 the Interstate system in the WAMPO region was 99.3% reliable.

KS - Wichita Area MPO, Wichita (WAMPO)

MAP-21 Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure)

Year's Performance

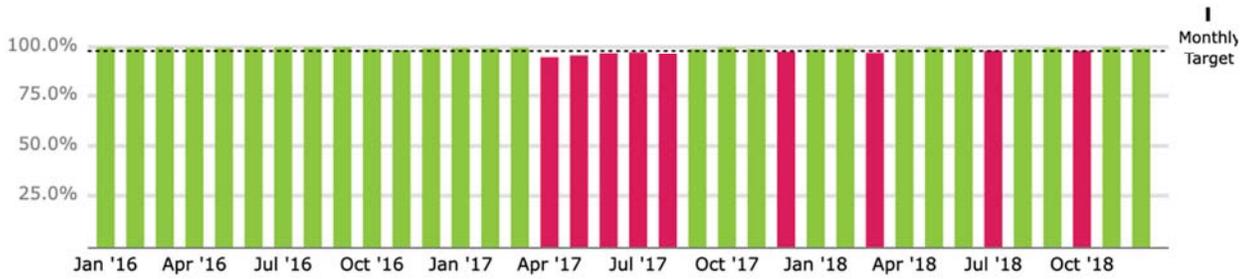
Target
at least
98.0%

2016 **99.6%**

2017 **99.4%**

2018 **99.3%**

Target: At least 98% of the system should have a LOTTR less than 1.50



Truck Travel Time Reliability Index

The Truck Travel Time Reliability Index measure compares the average truck travel time on each segment of the Interstate system, with the 95th percentile travel time. This is basically comparing the travel time on the average day with the worst day of the month. The index is the 95th percentile travel time divided by the average travel time, so an index of 1.2 indicates that on the worst day of the month it would take 20% longer for a truck to travel that segment.

This comparison is made for five different time periods: weekday mornings, weekday middays, weekday afternoons, overnights, and weekend days. The Truck Travel Time Reliability Index for the segment is the value for the worst of these five time periods. The index for each segment is weighted by length and averaged across the entire WAMPO region to get the Truck Travel Time Reliability Index for the region.

WAMPO's target for the Truck Travel Time Reliability Index is 1.25.

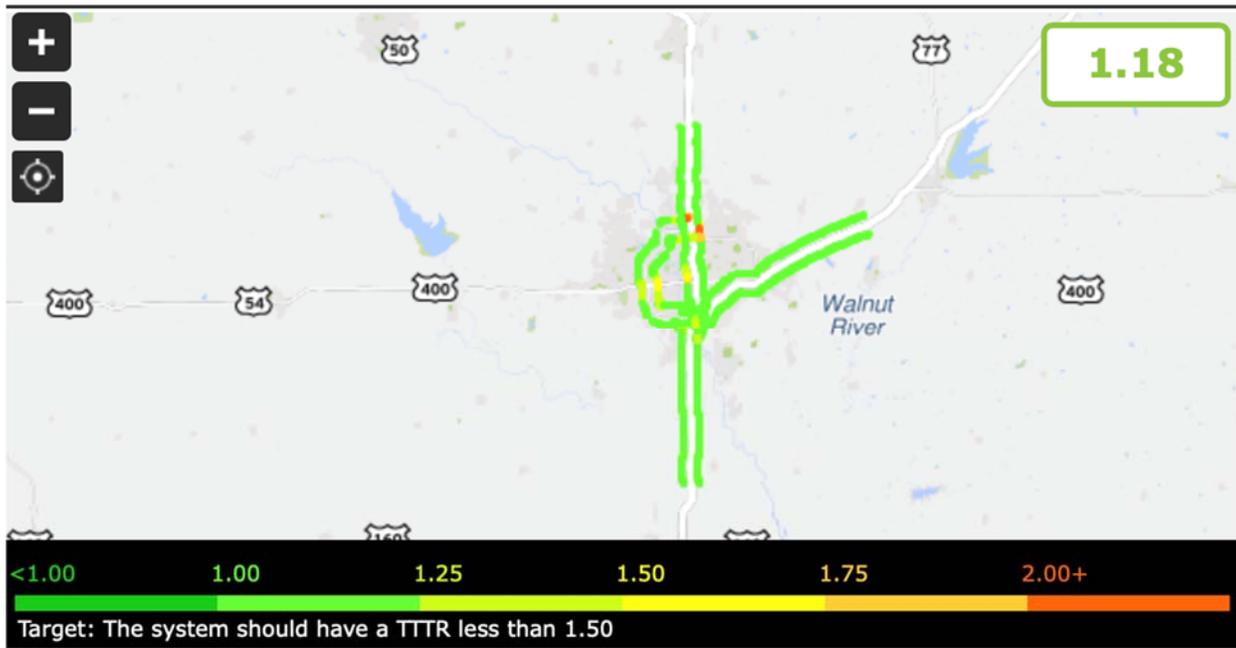
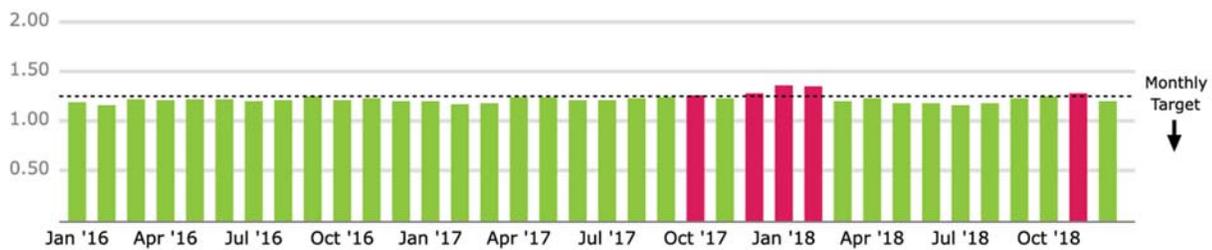
During 2018 the Truck Travel Time Reliability Index in the WAMPO region was 1.18.

KS - Wichita Area MPO, Wichita (WAMPO)

MAP-21 Truck Travel Time Reliability Index

	Year's Performance
Target less than 1.25	2016 1.21
	2017 1.20
	2018 1.18

Target: The system should have a TTTR less than 1.25



The Effect of the TIP on Reliability Performance Measures

The TIP supports the achievement of WAMPO's system performance measure targets through projects that enhance the reliability of the Interstate and non-Interstate NHS. This includes technology projects and projects intended to improve traffic flow on this system.

Technology / Intelligent Transportation System (ITS) Projects

These include technology projects that expand the intelligent transportation system in the region because it provides information to drivers to re-route during non-recurring congestion events, such as accidents or weather.

The current technology projects in the TIP include:

- US-54 Fiber to Traffic Management Center and Downtown Wichita Signal Upgrades
- K15 Corridor ITS Deployment
- Wichita TMC Phase 4
- East Side Dynamic Messaging Signs (DMS)
- Wichita Intelligent Transportation System - An on-going program carried out by City of Wichita to update traffic signals and install other related ITS equipment.

Traffic Flow Projects

These projects are intended to improve traffic flow.

- North Junction Gold Phase pre-construction activities
- North Junction Green Phase construction
- US-54/400/Kellogg and Greenwich interchange
- US-54/400/Kellogg and Webb interchange
- I-235/US-54 & I-235 & Central - Phase I

Pavement Condition Performance Measures

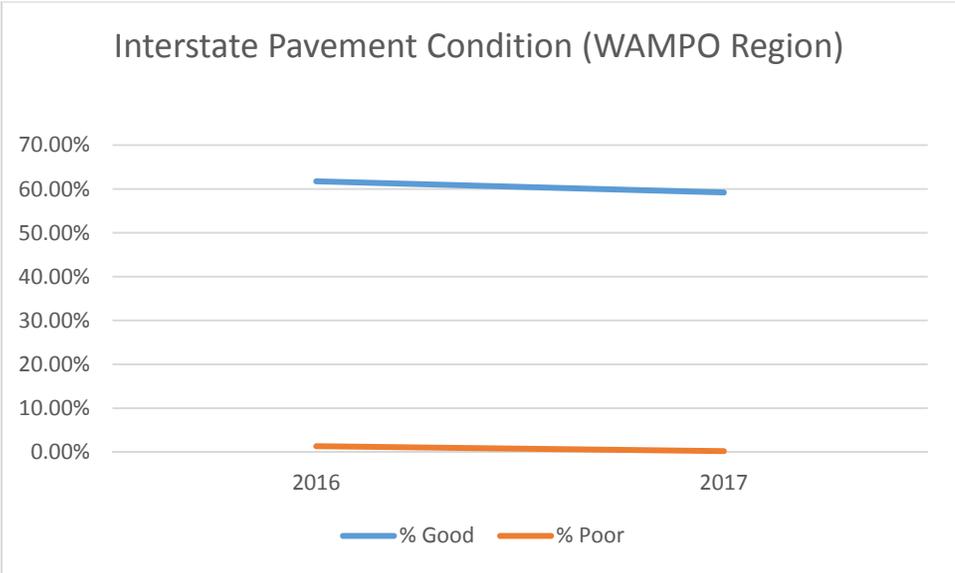
The Federal Highway Administration has established four pavement condition performance measures based on the Moving Ahead for Progress in the 21st Century Act (MAP-21). These are the percentage of Interstate pavement in good condition, the percentage of Interstate pavement in poor condition, the percentage of non-Interstate National Highway System (NHS) pavement in good condition, and the percentage of non-Interstate NHS pavement in poor condition.

MPOs are required to set 4-year (2022) targets for these performance measures. Based on pavement condition in our region the WAMPO Transportation Policy Body (TPB) has adopted 2022 targets for these four measures.

Interstate Pavement Condition

WAMPO's target for the percentage of Interstate pavement in good condition is 65%. The target for the percentage of Interstate pavement in poor condition is 0.5%.

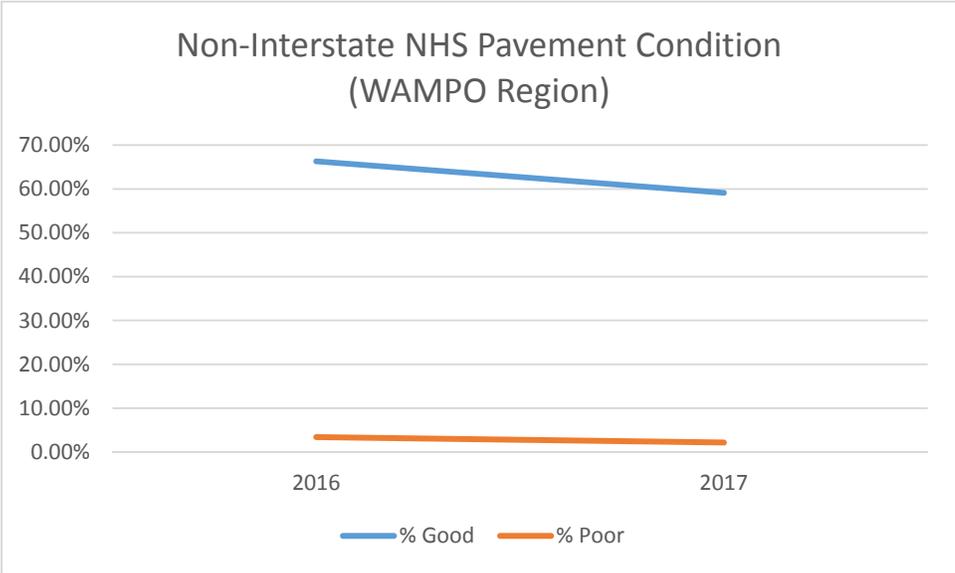
The percentage of Interstate pavement in good condition in 2017 was 59.17%, a slight decline from 61.71% in 2016. The percentage of Interstate pavement in poor condition in 2017 was just 0.17%, a sizable decline from 1.30% in 2016.



Non-Interstate NHS Pavement Condition

WAMPO's target for the percentage of non-Interstate NHS pavement in good condition is 55%. The target for the percentage of non-Interstate NHS pavement in poor condition is 1.5%.

The percentage of non-Interstate NHS pavement in good condition in 2017 was 59.13. This is a significant decline from 66.29% in 2016. The percentage of non- Interstate NHS pavement in poor condition was 2.16%, a decrease from 3.37% in 2016.



The Effect of the TIP on Pavement Condition Performance Measures

The TIP supports the achievement of WAMPO's pavement condition performance measure targets through projects that improve the condition of pavement on the Interstate and non-Interstate NHS.

- Surfacing on I-135 in Sedgwick County (47th St to Pawnee)
- Surfacing on I-135 in Sedgwick County (Pawnee to 1st)
- Patching on I-135 in Sedgwick County (37th St to 17th)

- Surfacing on K-96 in Sedgwick County (K-96 to Ark River Bridge)
- Surfacing on US-54 (Washington St. to Hillside)
- Surfacing on US-81 in Sedgwick County (Haysville to Sedgwick/Sumner Co line)

Bridge Condition Performance Measures

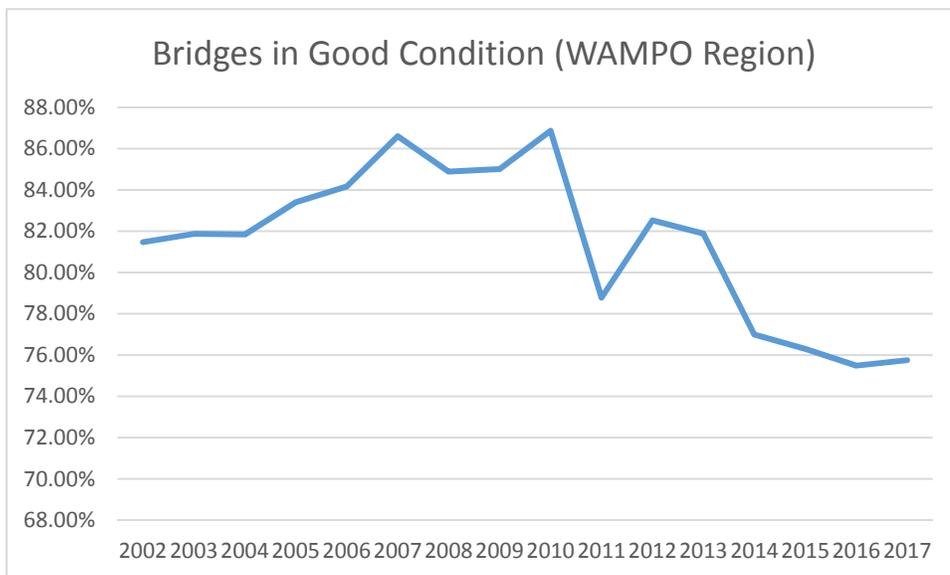
The Federal Highway Administration has established two bridge condition performance measures based on the Moving Ahead for Progress in the 21st Century Act (MAP-21). These are the percentage of NHS bridges in good condition, weighted by deck area; and the percentage of NHS bridges in poor condition, weighted by deck area.

MPOs are required to set 4-year (2022) targets for these performance measures. Based on pavement condition in our region the WAMPO Transportation Policy Body (TPB) has adopted 2022 targets for these measures.

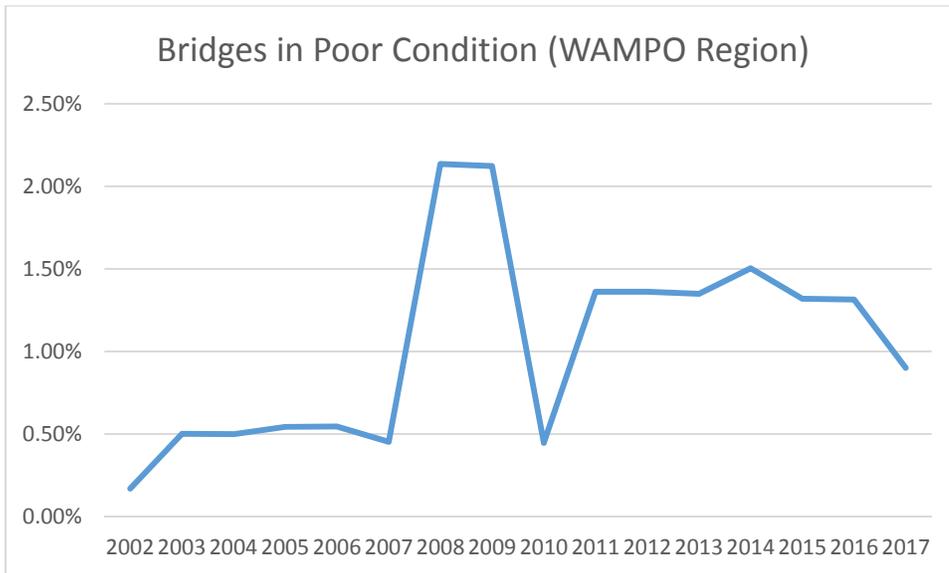
Bridge Condition

WAMPO's target for the percentage of NHS bridges in good condition is 75%. The target for the percentage of NHS bridges in poor condition is 3%.

The percentage of NHS bridges in good condition, weighted by deck area in 2017 was 75.75%.



The percentage of NHS bridges in poor condition in 2017 was 0.90%. This represents a fairly sharp decrease from the 1.35% to 1.50% range that this measure occupied from 2011 to 2016.



The Effect of the TIP on Bridge Condition Performance Measures

The TIP supports the achievement of WAMPO's bridge condition performance measure targets through projects that fix deteriorating bridges on the Interstate and non-Interstate NHS.

- North Junction Green Phase construction
- Bridge #012 on I-135
- Bridge #290 on I-135
- Bridge #321 & #323 Repair on K-96
- Bridge #496 & Bridge #497 on US-54
- Bridge Repair (#291) on I-135
- Bridge Replacement of bridges #079 & #080 on I-235
- Bridge Replacements on I-235
- I-235/US-54 & I-235/Central - Phase I

Transit Asset Management Performance Measures

The Federal Transit Administration has established three transit asset management performance measures based on the Moving Ahead for Progress in the 21st Century Act (MAP-21). These are the percentage of revenue vehicles (by type) that exceed the useful life benchmark (ULB), the percentage of non-revenue service vehicles (by type) that exceed the ULB, and the percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) scale.

MPOs are required to set targets for these measures. WAMPO has chosen to adopt Wichita Transit's targets with respect to their fleet and facilities and adopt KDOT's targets with respect to the fleets of all other paratransit operations in the Wichita region. Please refer to the attached Wichita Transit Asset Management Plan for additional data and reporting.

The Effect of the TIP on Transit Asset Management Performance Measures

The TIP supports the achievement of WAMPO's transit asset management targets through projects that replace transit vehicles.

- Low No Electric Bus Purchase Section 5339(c)
- FTA 5310 (FFY17 and FFY18) program

- Wichita Transit 5339 Capital program
- Wichita Transit Replacement Paratransit Vehicles
- 5310 Capital (2017)
- Transit Vehicle Replacement
- Transit: Bus Purchase (2017, 2018)