Flint Hills Metropolitan Planning Organization
206 Southwind Place, Suite 2B | Manhattan, KS | 66503
785.620.3070 | FHMPO@FlintHillsMPO.org
www.FlintHillsMPO.org

Technical Advisory Committee Meeting

Wednesday, January 4, 2023
1:00 pm

In Person:
City Commission Room
City Hall
1101 Poyntz Ave
Manhattan, KS 66502

Virtual:
Zoom meeting
Meeting ID: 919 154 6755

1. Welcome & Introductions
2. Public Comment Opportunity (for items not on the agenda)
3. Staff Updates
4. KDOT Update: Available on KDOT's website, here.
5. **ACTION ITEM:** Election of Chair and Vice-Chair
6. **ACTION ITEM**: Approve December 7, 2022 Meeting Minutes
7. **ACTION ITEM:** Recommend approval of 2023 Safety Performance Measures Report and Targets
8. **ACTION ITEM:** Recommend approval of 2023 Pavement & Bridge Condition Performance Measures Report and Targets
9. **ACTION ITEM:** Recommend approval of 2023 System Reliability Performance Measures Report and Targets
10. **Adjournment by Chair**

Next meeting scheduled for February 1, 2023

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Technical Advisory Committee
Meeting Minutes

Wednesday, December 7, 2022 at 1:00 pm

In Person:
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1101 Poyntz Ave
Manhattan, KS 66502

Virtual:
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Meeting ID: 919 154 6755

Voting Members Present		
x	Corey Trumpp	Geary Co. Public Works
x	Ray Ibarra (Vice-Chair)	Junction City Public Works
	Troy Livingston	Junction City/Geary County Zoning
x	Stephan Metzger	Pottawatomie Co. Public Works
	Casey Frisbie	Wamego Public Works
x	Gregg Webster	Pottawatomie County Zoning
x	Ken Stein	Wamego Zoning
	Amanda Webb	Riley County Planning
	Rob Ott (Chair)	Manhattan Public Works
x	John Ellerman	Riley County Public Works
x	John Adam (Alt)	Manhattan Community Development
x	Ryne Dowling	Kansas Dept. of Transportation
x	Anne Smith	Flint Hills aTa Bus
x	Jeff Barnes	K-State Transportation Services

Non-Voting Members Present		
x	Cecelie Cochran	Federal Highway Admin.
	Kelley Paskow	Fort Riley
	Eva Steinman	Federal Transit Admin.
	Angela Schnee	City of Ogden
	Vacant	City of Grandview Plaza
	Ben Wheeler	City of St. George

Staff Present	
x	Jared Tremblay

Members of the Public Present	
Matt Messina - KDOT	

1. Welcome & Introductions

- Ray Ibarra, Vice Chairperson, called the meeting to order at 1:01pm.

2. Public Comment Opportunity

- There were no public comments.

3. **Staff Updates**

4. **KDOT Update**
   - Ryne Dowling noted the 2023 UPWP has been signed and approved by FHWA.
   - Ryne Dowling noted KDOT Secretary Julie Lorenz has given her resignation & Calvin Reed will be stepping in as Interim Secretary.
   - Matt Messina, the new division chief of Multimodal Transportation, discussed the State's NEVI (National Electric Vehicle Infrastructure) program & future application process. He shared the existing alternative corridor map and website, as well as some requirements for the program: Must provide 4 simultaneous charging station, 150kw per vehicle with CCS connection (other connections are optional as well).
   - Jared Tremblay asked about Tesla proprietary connections.
   - Matt Messina noted Tesla vehicles come with a CCS adapter, but Tesla stations are not eligible under the NEVI program. He noted Tesla is considering allowing non-Tesla charging at their stations to take advantage of the program.
   - Matt Messina stated KDOT is required to make investments along these corridors and KDOT has a plan to access $14 million of federal funding to build out the infrastructure. However, there has been delay due to final federal regulations. He believes funds will be available in early 2023.
   - Jared Tremblay asked about how we can access funds as a region? Is it open only to private corporations or can local governments access funds?
   - Matt Messina stated this is not specific to private companies. There are options to join into partnerships with utilities, private, and public organizations to access funding to build EV infrastructure.
   - Ryne Dowling shared several links for members to explore:
     i. https://driveelectric.gov/
     ii. https://www.ksdotike.org/charge-up-kansas

5. **ACTION ITEM – Approval of the November 2, 2022 Meeting Minutes**
   - Motioned Anne Smith, and Stephan Metzger seconded. Motion passed unanimously.

6. **ACTION ITEM – Recommend Approval of Amendment #4 of the Transportation Improvement Program (TIP)**
   - Jared Tremblay gave an overview of the TIP and noted the Summary of Changes. In addition, he detailed the Funding tables, and the map for each area of the region.
   - Stephan Metzger asked a question in regards to why there was a project on the map but not in the Summary of Changes. Jared Tremblay replied that the maps show all projects listed in the TIP, not just those in the Summary of Changes.
   - Motioned Stephan Metzger. Seconded by Ryne Dowling. Motion passed unanimously.

7. Adjournment by Chair

- Meeting was adjourned at 1:23pm

Next meeting scheduled for January 4, 2023

SAFETY PERFORMANCE MEASURES

2023

Flint Hills MPO

FHWA'S **5** SAFETY PERFORMANCE MEASURES

Regional 5-Year Rolling Averages of:

1. Number of Fatalities
2. Rate of Fatalities per 100 million VMT (Vehicle Miles Traveled)
3. Number of Serious Injuries
4. Rate of Serious Injuries per 100 million VMT
5. Number of Non-motorized Fatalities & Serious Injuries

SAFETY PERFORMANCE MEASURES: **SUMMARY**

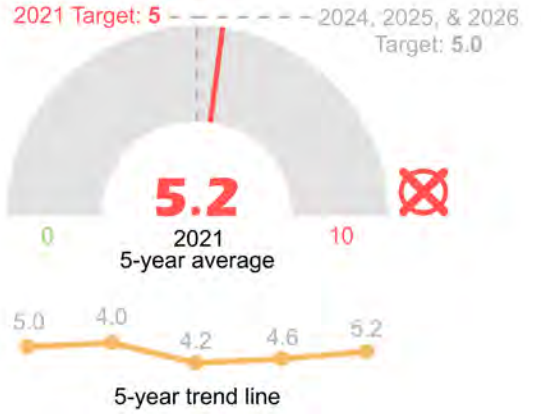
PM 1: Number of Vehicle Fatalities

PM 2: Rate of Vehicular Fatalities per 100 Million Vehicle Miles Traveled

PM 3: Number of Serious Injuries

PM 4: Rate of Serious Injuries per 100 Million Vehicle Miles Traveled

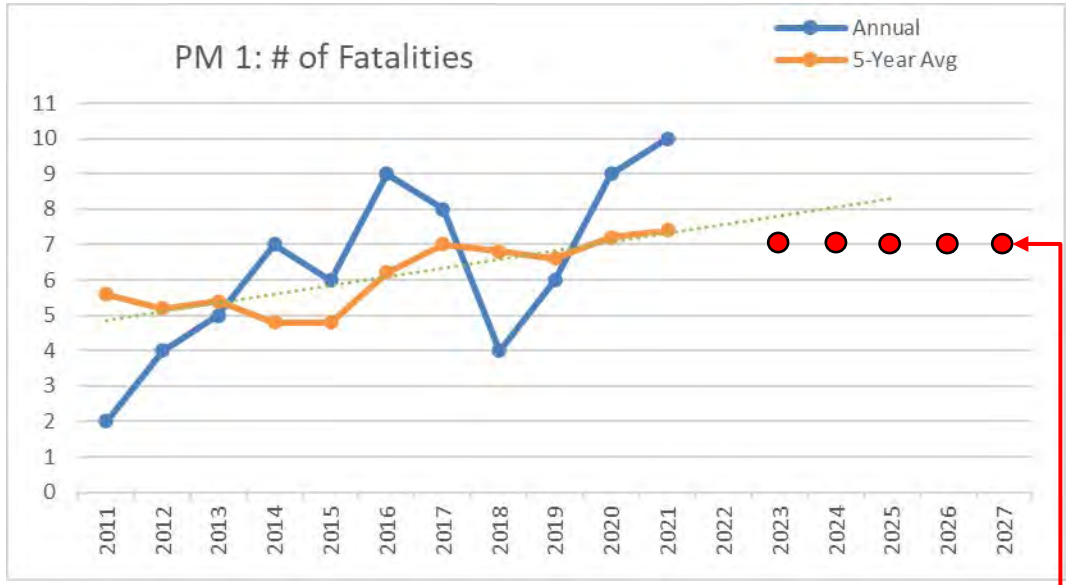
PM 5: Non-Motorized Fatalities & Serious Injuries



TARGET 1: # OF VEHICLE FATALITIES

Year	Annual Fatalities	5-Year Avg	Target
2011	2		-
2012	4		-
2013	5		-
2014	7		-
2015	6	4.8	-
2016	9	6.2	-
2017	8	7.0	-
2018	4	6.8	5
2019	6	6.6	5
2020	9	7.2	4
2021	10	7.4	5
2022			-
2023	-	-	**7**
2024	-	-	**7**
2025	-	-	**7**
2026	-	-	**7**
2027			**7**

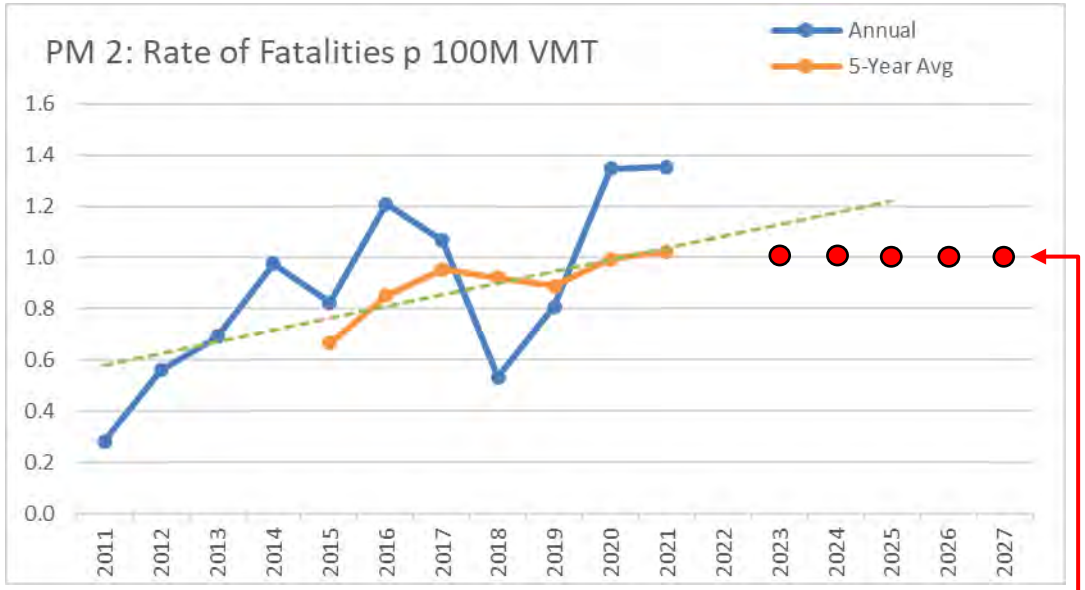
Off Target



TARGET 2: RATE OF VEHICLE FATALITIES P. 100M VMT

Year	Annual Fatalities	100M VMT	Fatality Rate p/100M VMT	5-Year Avg	Target
2011	2	7.10	0.28		-
2012	4	7.13	0.56		-
2013	5	7.24	0.69		-
2014	7	7.17	0.98		-
2015	6	7.29	0.82	0.67	-
2016	9	7.45	1.21	0.85	-
2017	8	7.50	1.07	0.95	-
2018	4	7.49	0.53	0.92	0.70
2019	6	7.41	0.81	0.89	0.65
2020	9	6.68	1.35	0.99	0.60
2021	10	7.38	1.35	1.02	0.65
2022					-
2023	-	-	-	-	**1.00**
2024	-	-	-	-	**1.00**
2025	-	-	-	-	**1.00**
2026	-	-	-	-	**1.00**
2027					**1.00**

Off Target

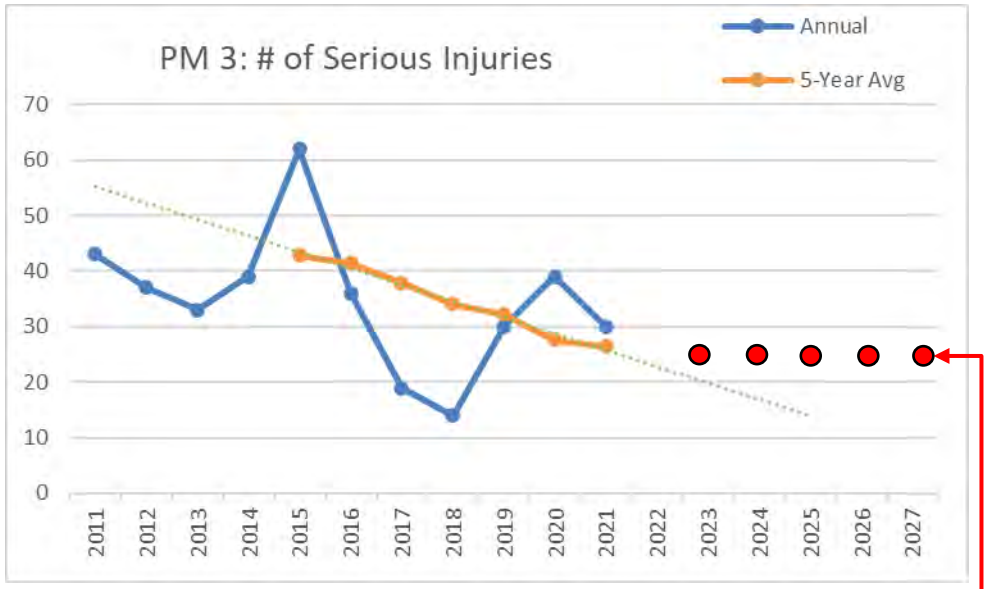


* VMT details found in Appendix A

TARGET 3: # OF SERIOUS INJURIES

Year	Annual Serious Injuries	5-Year Avg	Target
2011	43		-
2012	37		-
2013	33		-
2014	39		-
2015	62	42.8	-
2016	36	41.4	-
2017	19	37.8	-
2018	14	34	32
2019	30	32.2	32
2020	39	27.6	32
2021	30	26.4	18
2022			-
2023	-	-	**25**
2024	-	-	**25**
2025	-	-	**25**
2026	-	-	**25**
2027			**25**

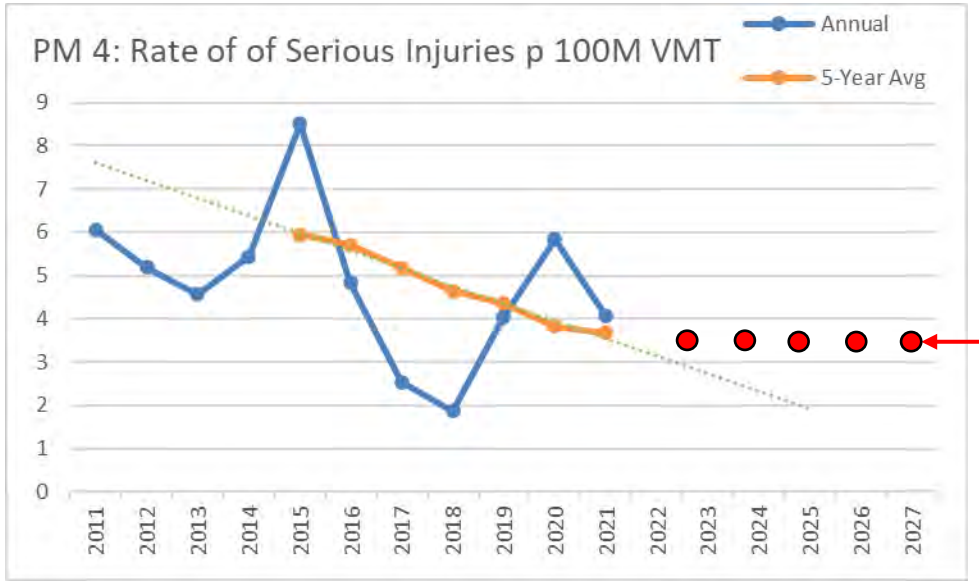
Off Target



TARGET 4: RATE OF SERIOUS INJURIES P. 100M VMT

Year	Annual Serious Injuries	100M VMT	SI Rate p/100M VMT	5-Year Avg	Target
2011	43	7.10	6.06		-
2012	37	7.13	5.19		-
2013	33	7.24	4.56		-
2014	39	7.17	5.44	-	-
2015	62	7.29	8.50	5.95	-
2016	36	7.45	4.83	5.71	-
2017	19	7.50	2.53	5.17	-
2018	14	7.49	1.87	4.64	4.4
2019	30	7.41	4.05	4.36	4.3
2020	39	6.68	5.84	3.82	4.2
2021	30	7.38	4.06	3.67	3
2022					-
2023	-	-	-	-	**3.5**
2024	-	-	-	-	**3.5**
2025	-	-	-	-	**3.5**
2026	-	-	-	-	**3.5**
2027					**3.5**

Off Target

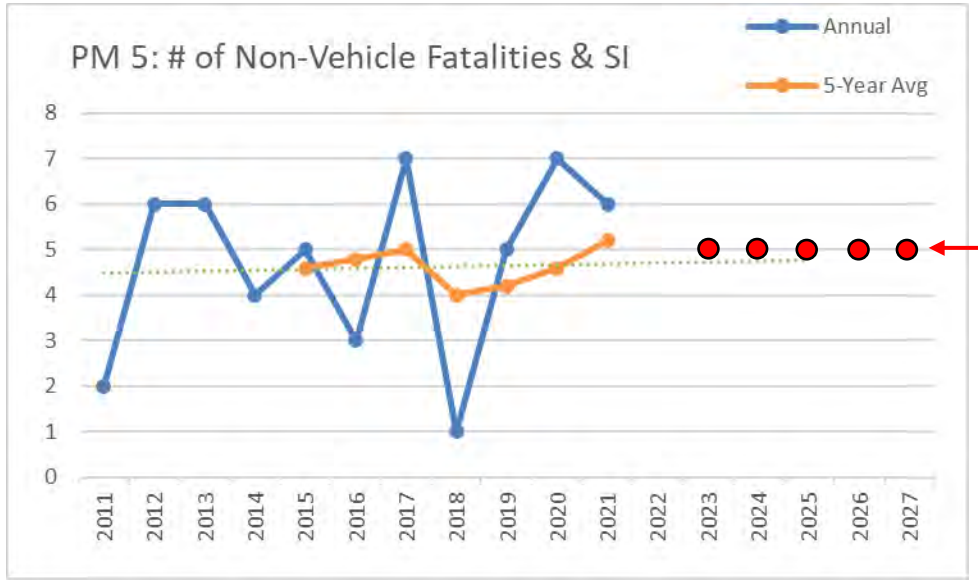


* VMT details found in Appendix A

TARGET 5: # OF NON-VEHICULAR FATALITIES & SERIOUS INJURIES

Year	Annual Fatalities	5-Year Avg	Target
2011	3		-
2012	6		-
2013	7		-
2014	4		-
2015	6	4.6	-
2016	3	4.8	-
2017	8	5	-
2018	2	4	1
2019	5	4.2	0
2020	7	4.6	0
2021	5	5.2	5
2022			-
2023	-	-	**5**
2024	-	-	**5**
2025	-	-	**5**
2026	-	-	**5**
2027			**5**

Off Target



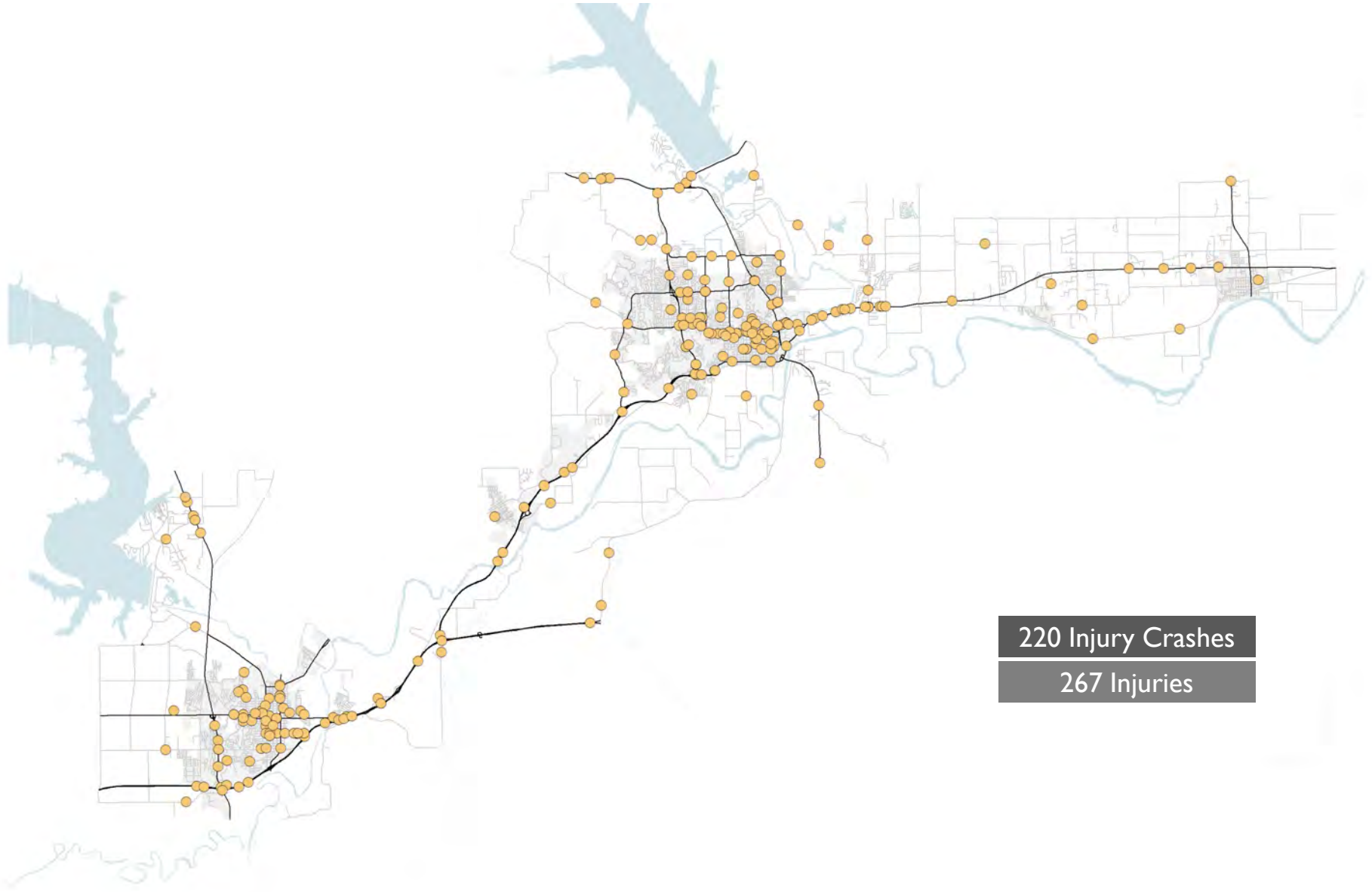
TARGET SUMMARY

	Performance Measure	2021 5-Year Avg	2021 Targets (set in 2018)	Future Targets
1	# of Fatalities	**7.4**	**5** ✗ Off Target	2024: **7** 2025: **7** 2026: **7**
2	Rate of Fatalities per 100 million VMT	**1.02**	**0.65** ✗ Off Target	2024: **1.00** 2025: **1.00** 2026: **1.00**
3	# of Serious Injuries	**26.4**	**18** ✗ Off Target	2024: **25** 2025: **25** 2026: **25**
4	Rate of Serious Injuries per 100 million VMT	**3.7**	**3.0** ✗ Off Target	2024: **3.5** 2025: **3.5** 2026: **3.5**
5	# of Non-Vehicular Fatalities & Serious Injuries	**5.2**	**5** ✗ Off Target	2024: **5** 2025: **5** 2026: **5**

CRASH MAPS: FATALITIES

CRASH MAPS: SERIOUS INJURIES

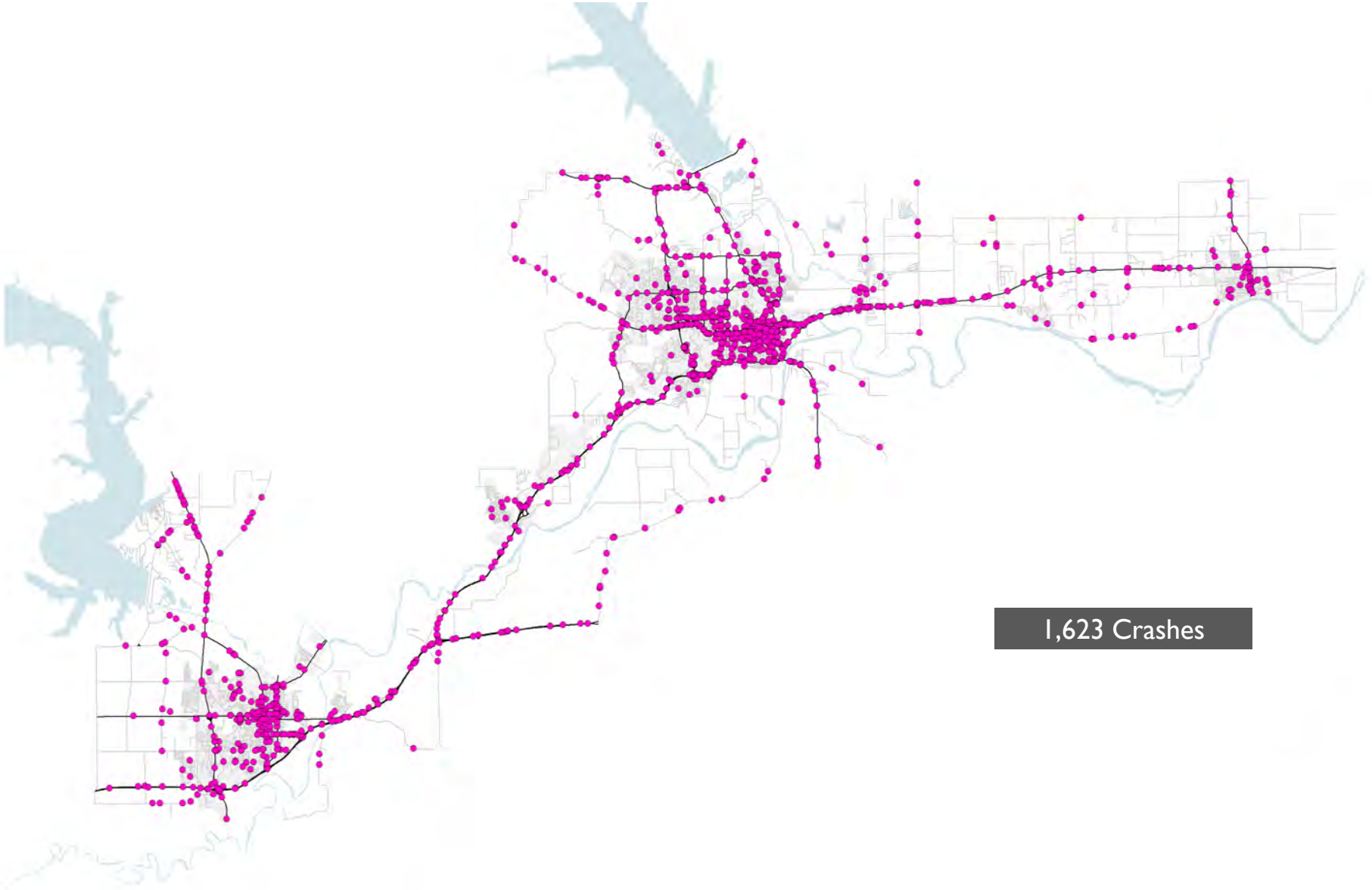
CRASH MAPS: ALL INJURIES



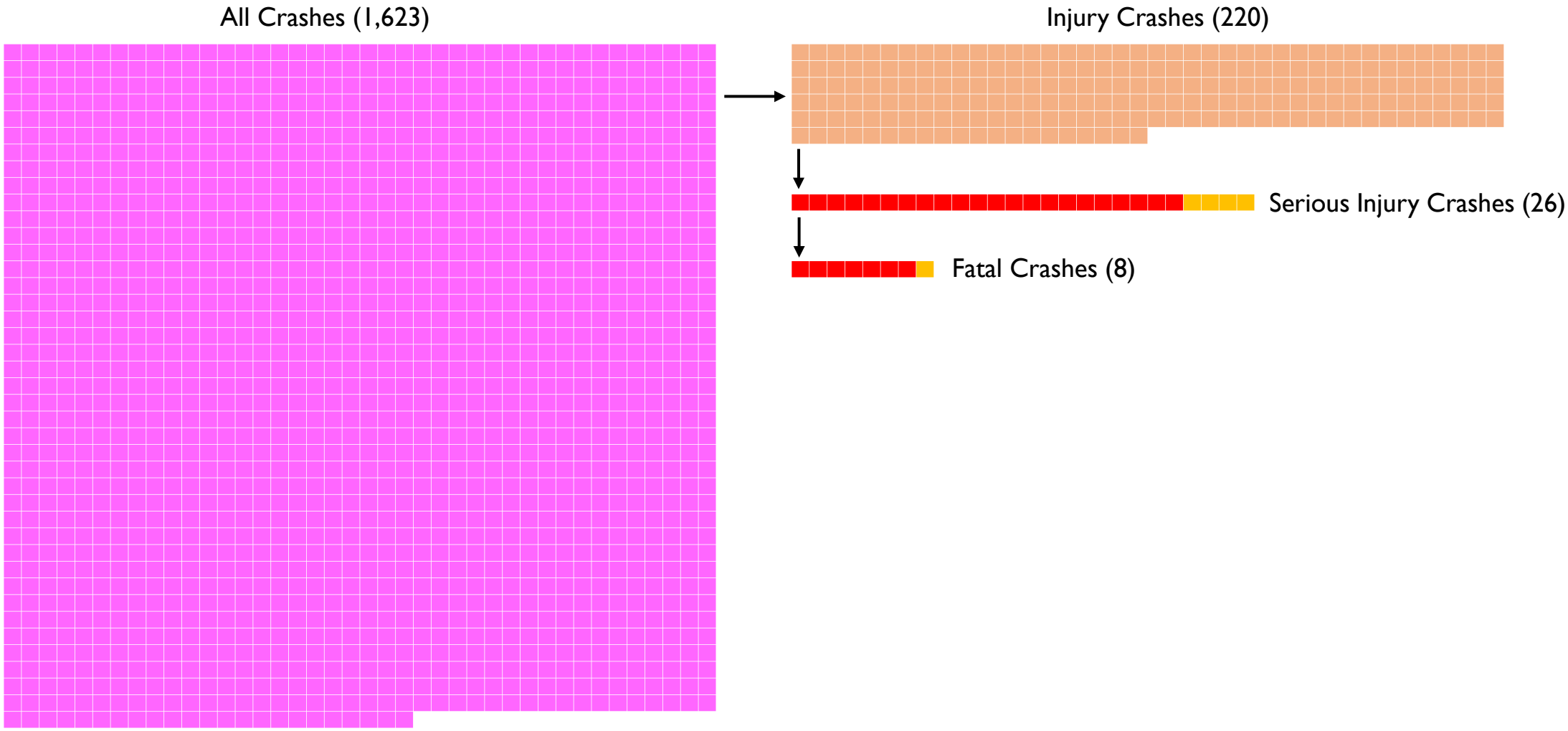
220 Injury Crashes

267 Injuries

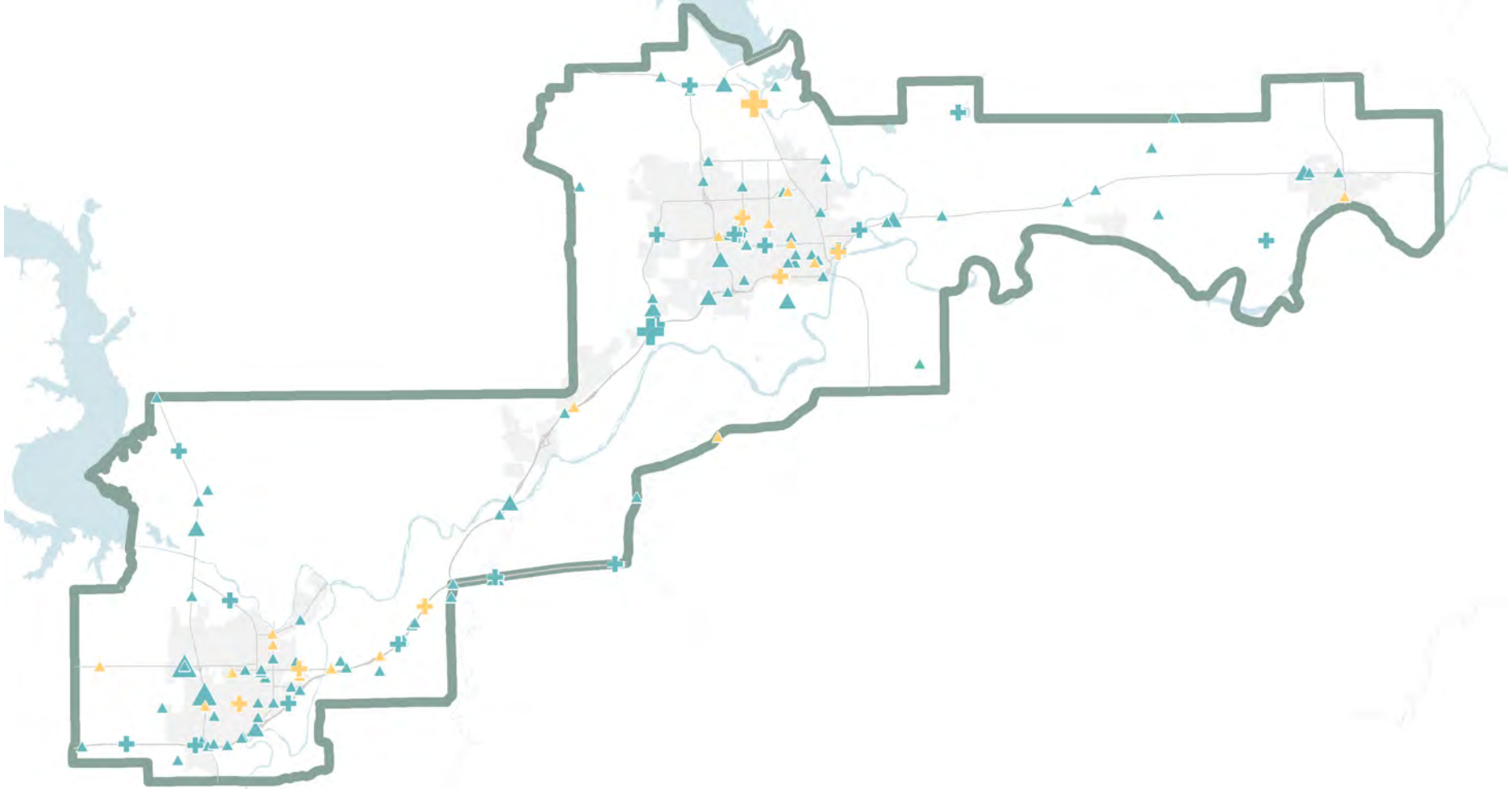
CRASH MAPS: ALL CRASHES



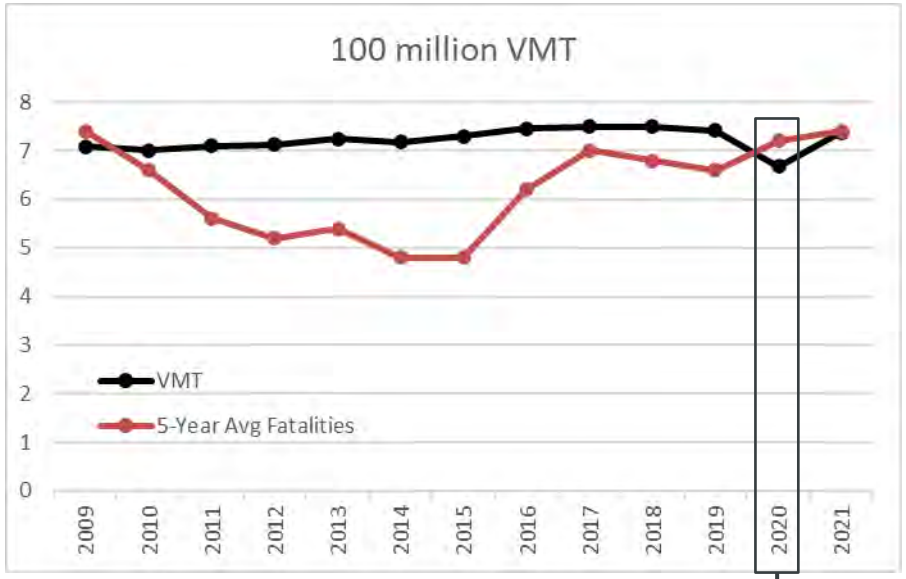
CRASHES


All Crashes (1,623)
Injury Crashes (220)
Serious Injury Crashes (26)
Fatal Crashes (8)

CRASHES: 2017-2021



TRENDS & CONCERNS



- Minimal VMT growth
- Since 2016, Fatalities p 100M VMT have risen: more people dying in same amount of miles driven

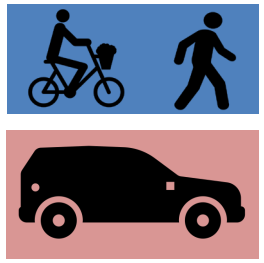
9.9% Drop in VMT

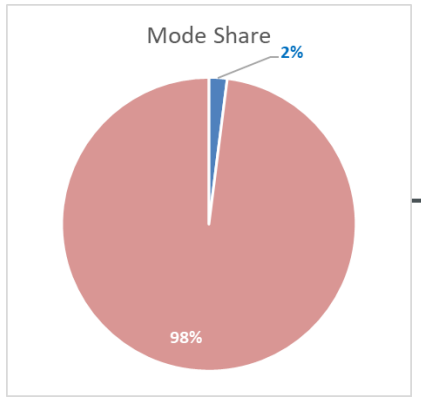
Major reduction due to Covid 19 pandemic.

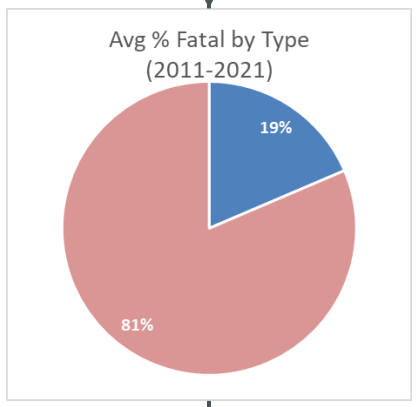
Rise in Fatalities: **9**

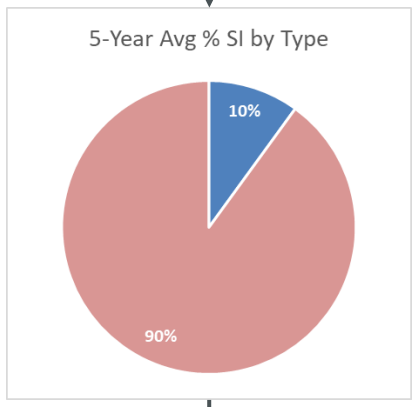
Highest total in 11 years. In 2018 & 2019 there were 4 & 6 respectively.
2021 had 10 fatalities.

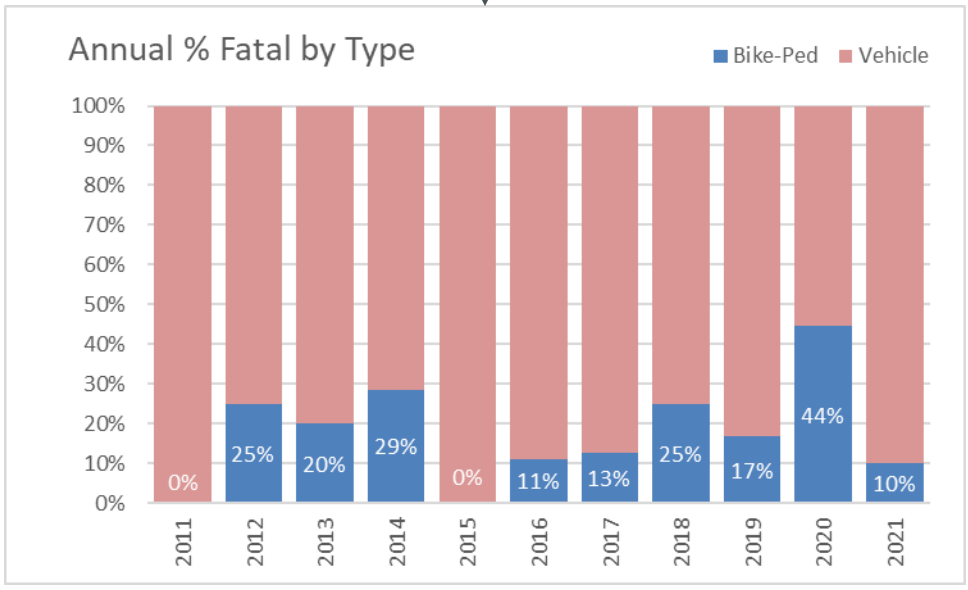
TRENDS & CONCERNS

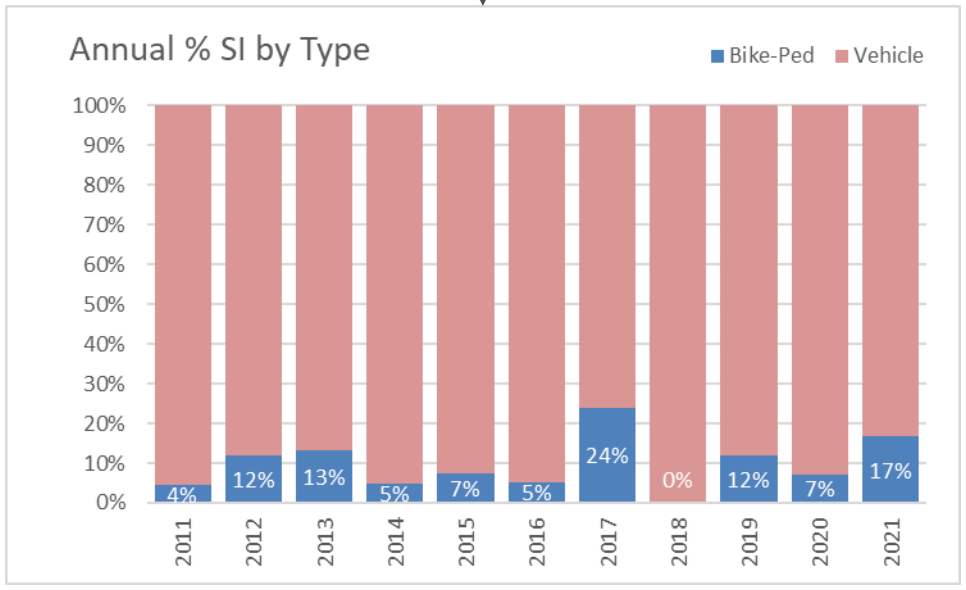












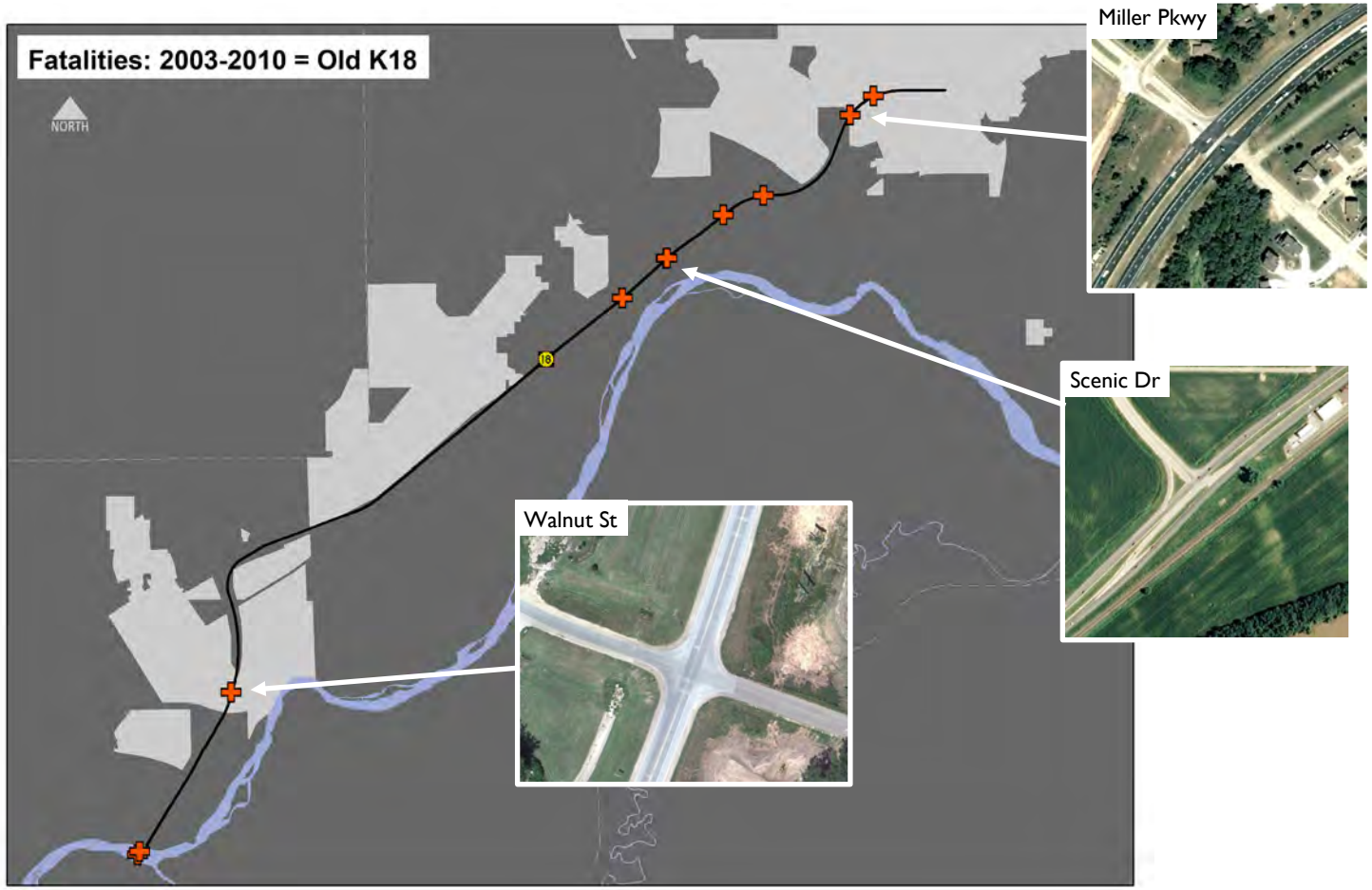
Fatalities

13	57

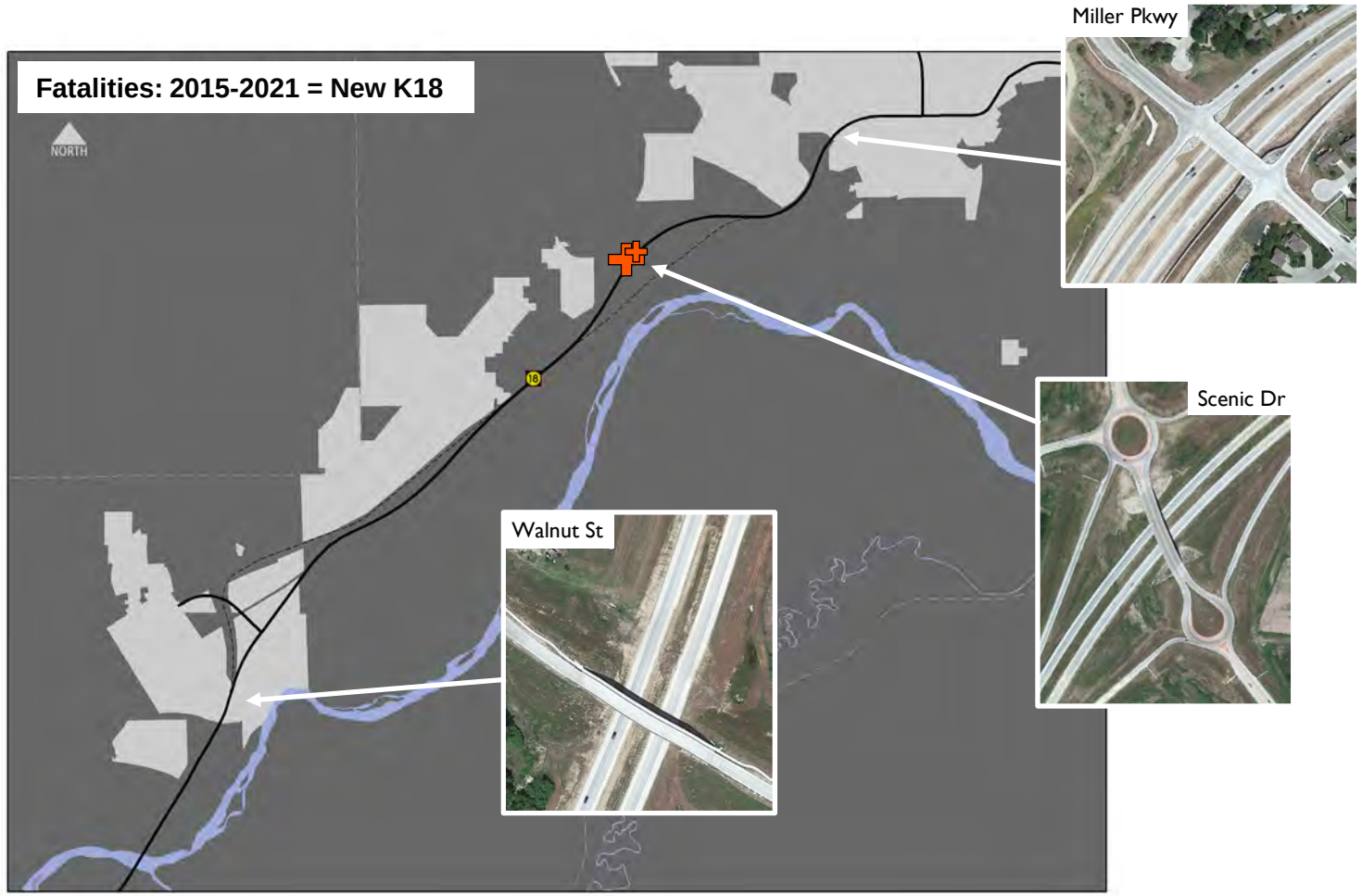
Serious Injuries

25	225

K18: BEFORE & AFTER

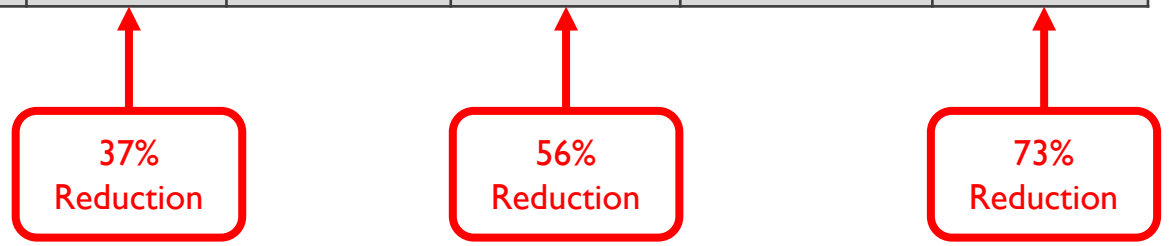


K18: BEFORE & AFTER



K18: BEFORE & AFTER

Years	Road Type	# of Crashes	Crashes p.Year	# of Fatalities	Fatalities p. Year	# of Serious Injuries	Serious Injuries p.Year
2004-10	4-Lane	**676**	96.5	**9**	1.29	**40**	5.71
2015-21	4-Lane Limited Access	**428**	61.1	**4**	0.57	**11**	1.57



APPENDIX A

CALCULATING VMT

1. Calculate ADT for all Road Segments

TDM

Major Roads;
Skeleton network

Verify

Tube Counts

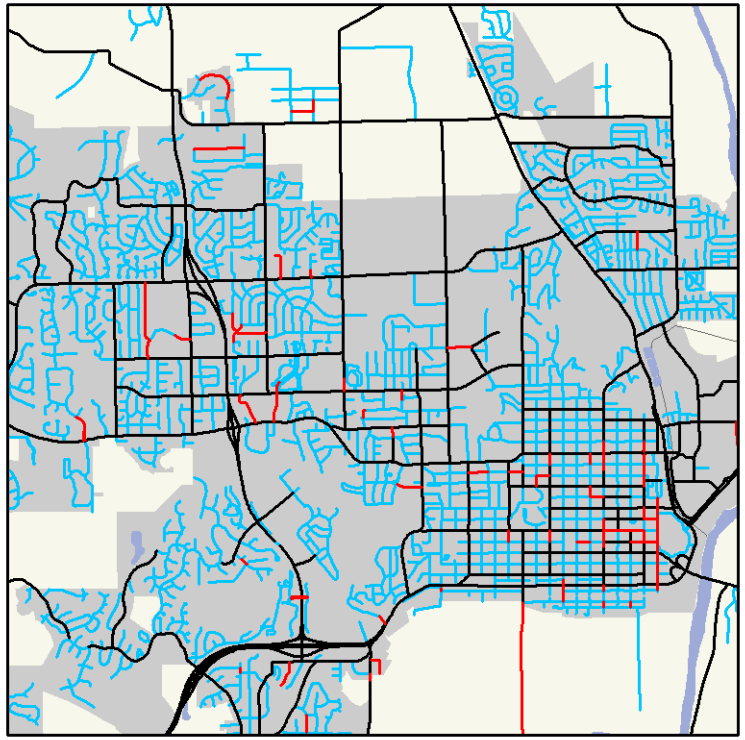
- KDOT
- City of MHK
- City of JC
- RL County
- PT County

Create

Zoning Sub-groups

- Rural Subdivision
- MHK Wards 1
- MHK Wards 2
- MHK Wards 3
- Subdivision 1
- Subdivision 2
- Subdivision 3
- Cul du Sac
- Industrial
- Commercial

Assign ADT to remaining roads (4,439 segments)



APPENDIX A

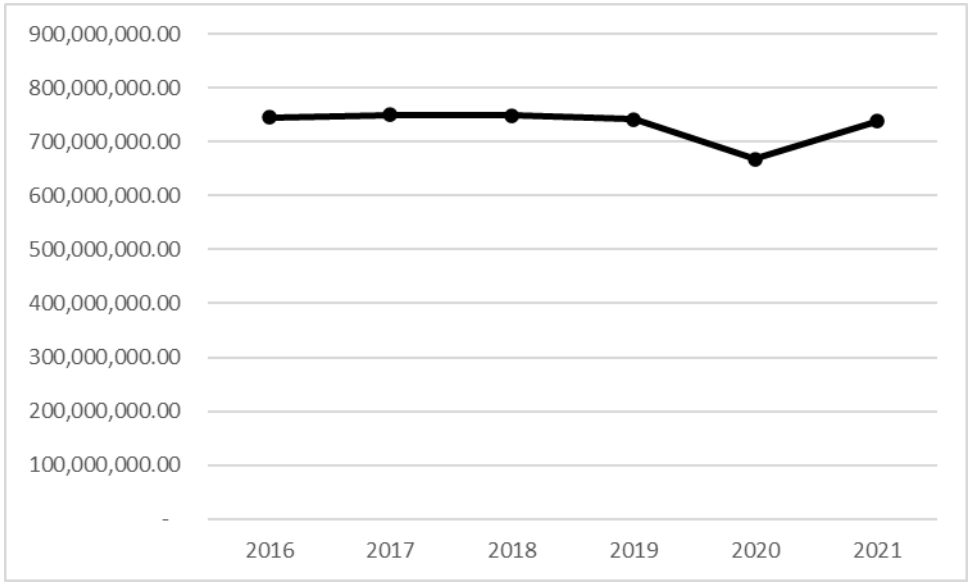
CALCULATING VMT

2. Calculate VMT from ADT for all Road Segments

$$(\text{Road Length (ft)} \div 5280) \times \text{ADT} = \textbf{Daily VMT}$$

$$\times 365 =$$

Annual VMT



Annual % change based on KDOT data

2016 VMT: **744,949,486**

↓

2021 VMT: **738,160,316**

PAVEMENT & BRIDGE CONDITION PERFORMANCE MEASURES

2023

Flint Hills MPO

FHWA'S **8** PAVEMENT & BRIDGE CONDITION PERFORMANCE MEASURES

Data Source: KDOT

1. % of Interstate pavements in GOOD condition
2. % of Interstate pavements in POOR condition
3. % of Non-Interstate NHS pavements in GOOD condition
4. % of Non-Interstate NHS pavements in POOR condition

Data Source: KDOT

5. % of NHS bridges by deck area classified as in GOOD condition
6. % of NHS bridges by deck area classified as in POOR condition
7. % of Non-NHS bridges by deck area classified as in GOOD condition
8. % of Non-NHS bridges by deck area classified as in POOR condition

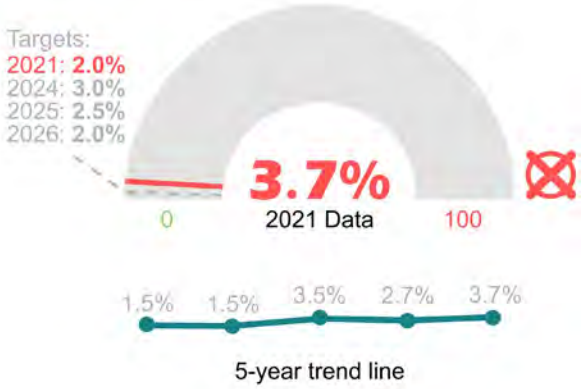
PAVEMENT CONDITIONS: **SUMMARY**

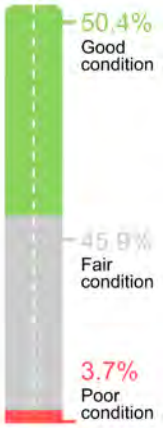
PM 1: % of Interstate Pavement in Good Condition

PM 2: % of Interstate Pavement in Poor Condition

PM 3: % of Non-Interstate Pavement in Good Condition

PM 4: % of Non-Interstate Pavement in Poor Condition

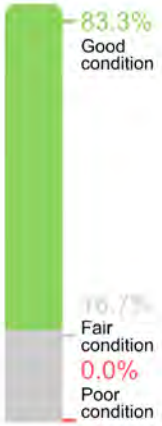




BRIDGE CONDITIONS: **SUMMARY**

PM 5: % of NHS Bridges in Good Condition

PM 6: % of NHS Bridges in Poor Condition



PM 7: % of Non-NHS Bridges in Good Condition

PM 8: % of Non-NHS Bridges in Poor Condition

BACKGROUND ON PAVEMENT CONDITIONS

- Pavement condition is evaluated by measuring International Roughness Index (IRI), Present Serviceability Index (PSR), Cracking Percent, Rutting, and Faulting (uneven slabs of concrete). See the figure to view the pavement thresholds for good, fair, and poor.
- *2016 was the first year of reported data to comply with federal requirements – Data provided by the Kansas Department of Transportation (KDOT).

TPM
HOW WE GET THERE

§ 490.311 Metric Thresholds in Final Rule

Rating	Good	Fair	Poor
IRI *(inches/mile)*	<95	***95-170***	***>170***
PSR* *(0.0-5.0 value)*	≥4.0	2.0-4.0	≤2.0
Cracking Percent *(%)*	<5	***CRCP: 5-10 Jointed: 5-15 Asphalt: 5-20***	***>10 >15 >20***
Rutting *(inches)*	<0.20	0.20-0.40	>0.40
Faulting *(inches)*	***<0.10***	0.10-0.15	>0.15

*PSR may be used only on routes with posted speed limit < 40mph.

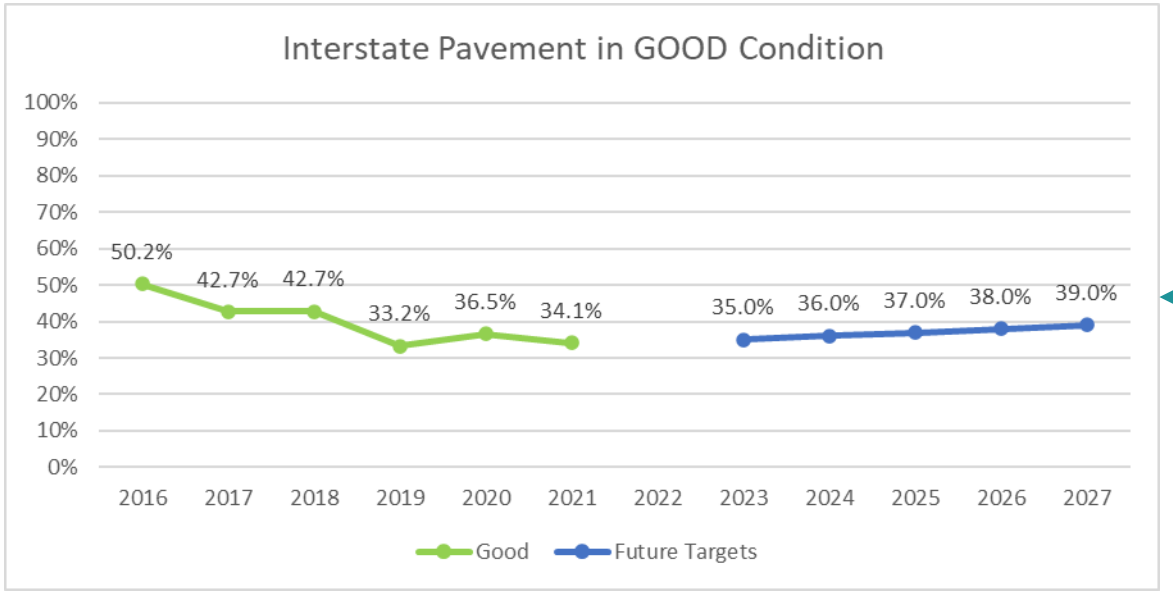
U.S. Department of Transportation
Federal Highway Administration

22

TARGET 1: % OF INTERSTATE PAVEMENTS IN **GOOD** CONDITION

Year	% in Good Condition	Target
2016	50.2%	
2017	42.7%	
2018	42.7%	50%
2019	33.2%	55%
2020	36.5%	60%
2021	34.1%	65%
2022		-
2023		35.0%
2024		36.0%
2025		37.0%
2026		38.0%
2027		39.0%

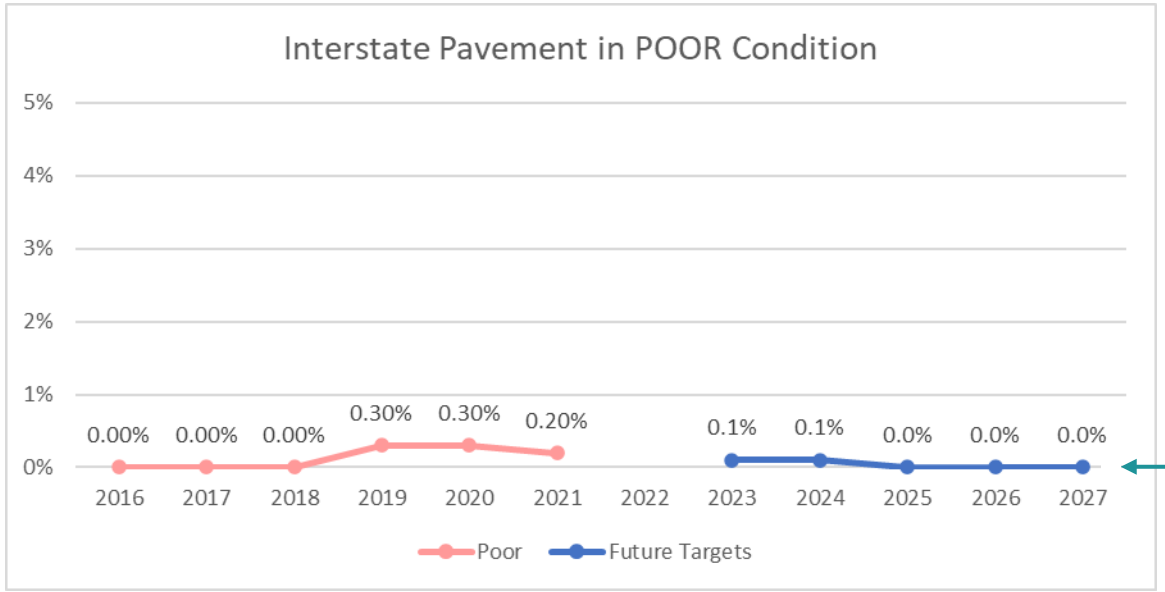
Off Target



TARGET 2: % OF INTERSTATE PAVEMENTS IN **POOR** CONDITION

Year	% in Poor Condition	Target
2016	0.0%	
2017	0.0%	
2018	0.0%	0%
2019	0.3%	0%
2020	0.3%	0%
2021	0.2%	0%
2022		-
2023		0.1%
2024		0.1%
2025		0.1%
2026		0.0%
2027		0.0%

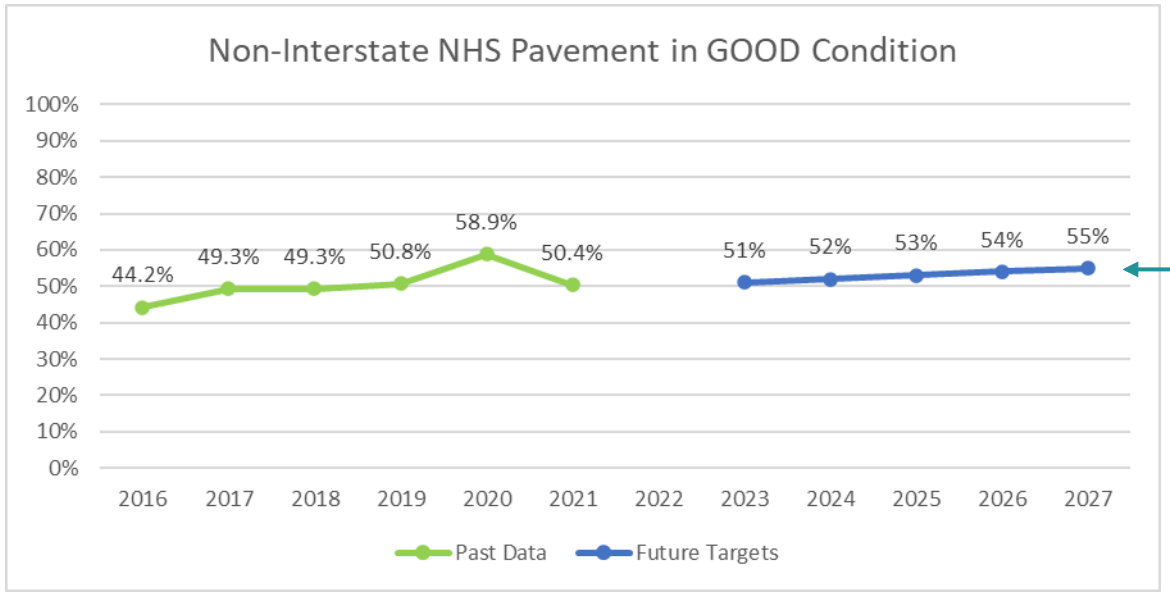
Off Target



TARGET 3: % OF NON-INTERSTATE NHS PAVEMENTS IN **GOOD** CONDITION

Year	% in Good Condition	Target
2016	44.2%	
2017	49.3%	
2018	49.3%	
2019	50.8%	
2020	58.9%	
2021	50.4%	55%
2022		-
2023		51%
2024		52%
2025		53%
2026		54%
2027		55%

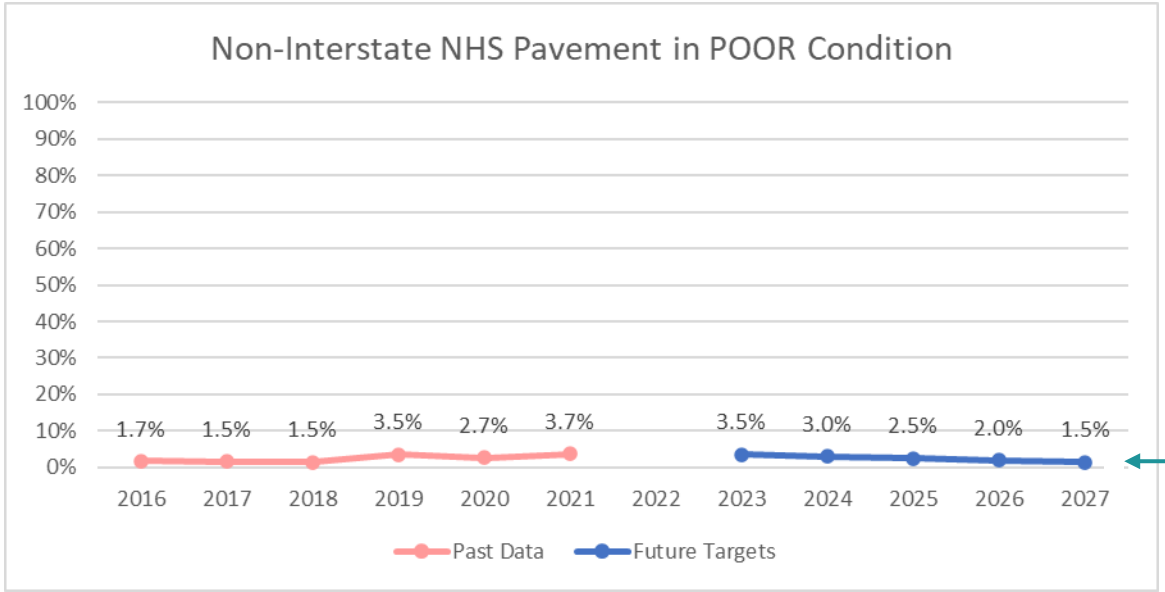
Off Target



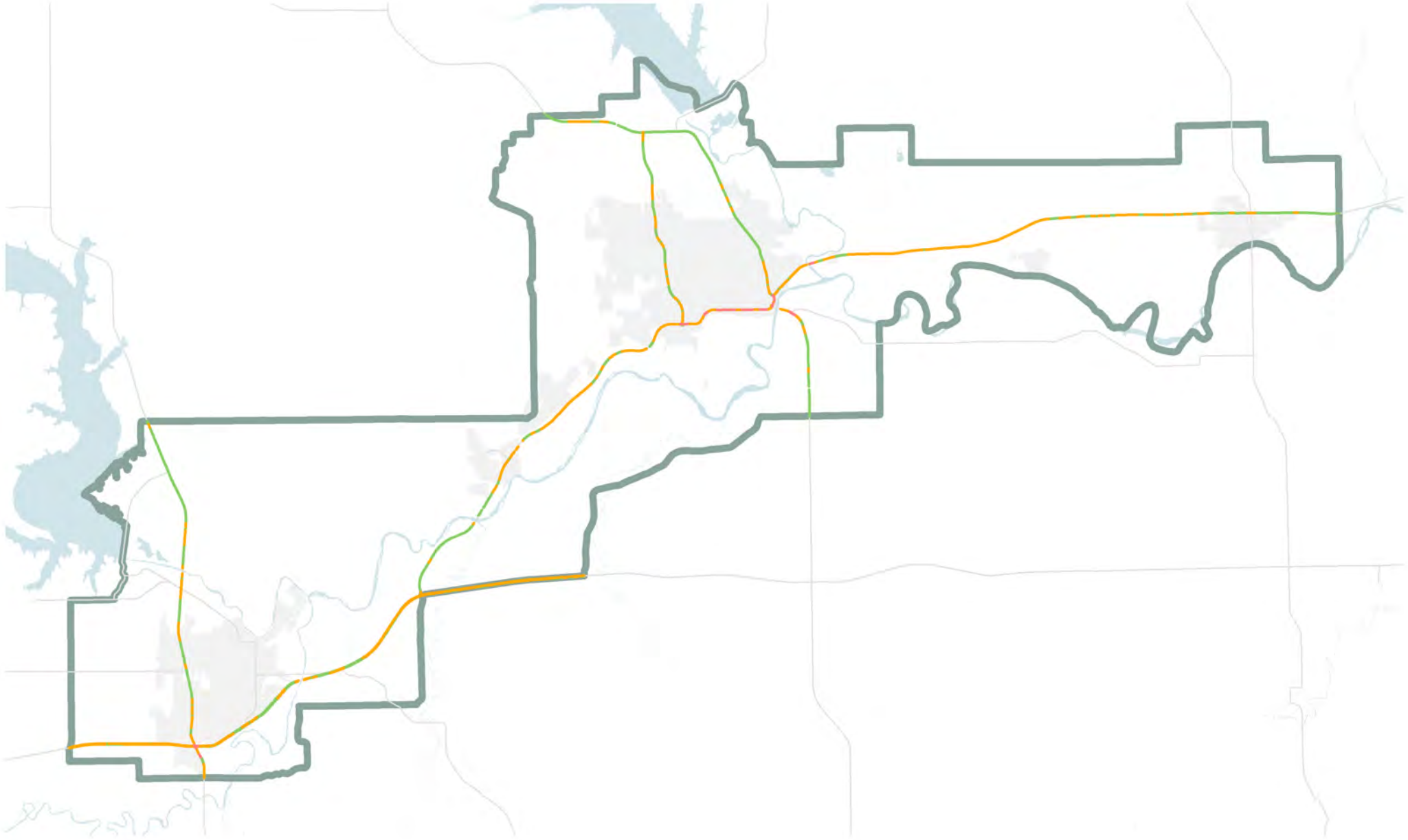
TARGET 4: % OF NON-INTERSTATE NHS PAVEMENTS IN **POOR** CONDITION

Year	% in Poor Condition	Target
2016	1.7%	
2017	1.5%	
2018	1.5%	
2019	3.5%	
2020	2.7%	
2021	3.7%	2%
2022		-
2023		3.5%
2024		3.0%
2025		2.5%
2026		2.0%
2027		1.5%

Off Target

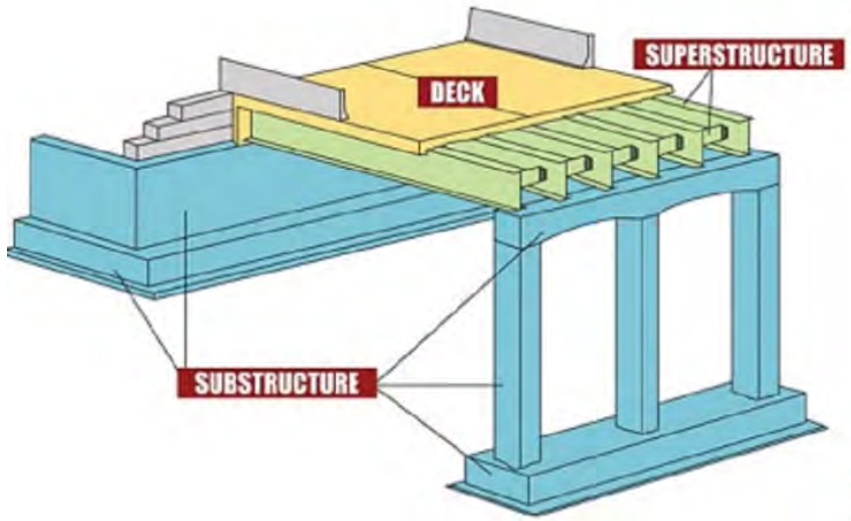


PAVEMENT CONDITIONS: **ALL NHS ROADWAYS**



BACKGROUND ON BRIDGE CONDITIONS

- The Federal government (FHWA) is moving towards utilizing a new metric to evaluate bridges. This metric includes the deck, superstructure, and substructure. The rating is then weighted based on the deck area.



TPM
HOW WE GET THERE

§ 490.409 Metric Thresholds

NBI Rating Scale *(from 0 – 9)*	9 8 7 Good	6 5 Fair	4 3 2 1 0 Poor
Deck *(Item 58)*	≥7	5 or 6	≤4
Superstructure *(Item 59)*	≥ 7	5 or 6	≤ 4
Substructure *(Item 60)*	≥ 7	5 or 6	≤ 4
Culvert *(Item 62)*	≥ 7	5 or 6	≤ 4

U.S. Department of Transportation
Federal Highway Administration

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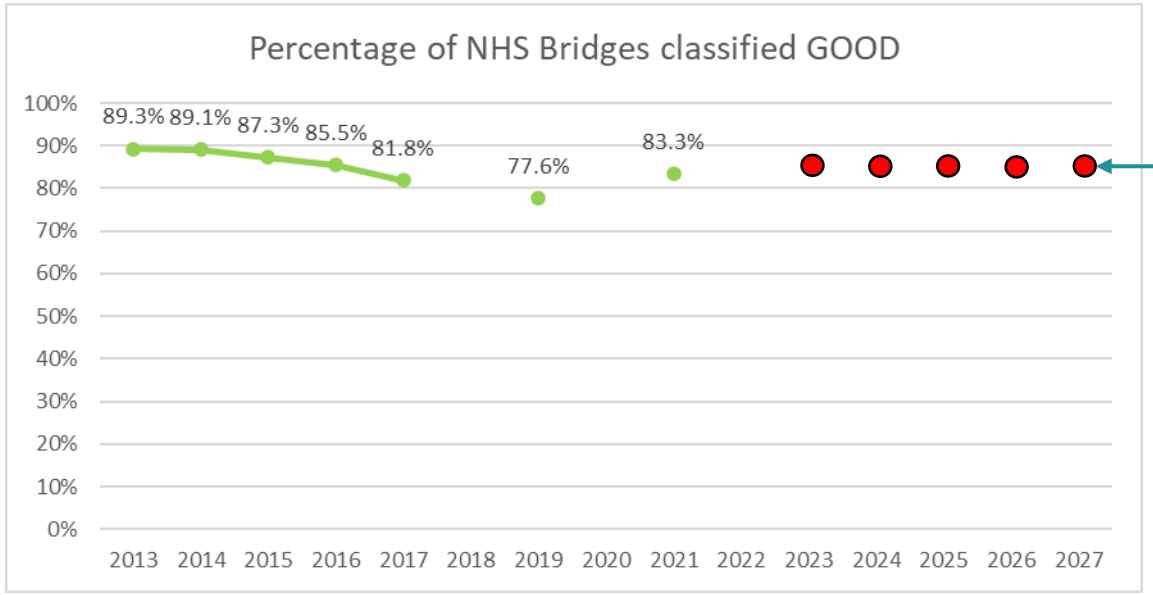
Bridge deck area is the percent of deck area classified as good and poor, using National Bridge Inventory (NBI) condition ratings for Deck, Superstructure, Substructure, and Culvert. Condition is determined by the lowest rating of these items. If the lowest rating is greater than or equal to 7, the bridge is classified as good; if it is less than or equal to 4, the bridge is classified as poor. Deck area is computed using NBI Structure Length and Deck Width or Approach Roadway Width (for some culverts). (Bridges rated below 7 but above 4 will be classified as fair.) See the figures below to view bridge components and the bridge condition thresholds for good, fair, and poor. Data provided by the Kansas Department of Transportation (KDOT).

TARGET 5: % OF NHS BRIDGES BY DECK AREA CLASSIFIED AS IN **GOOD** CONDITION

Year	% in Good Condition	Target
2017	81.8%	
2019	77.6%	
2020	-	
2021	83.3%	70
2022		-
2023		85%
2024		85%
2025		85%
2026		85%
2027		85%

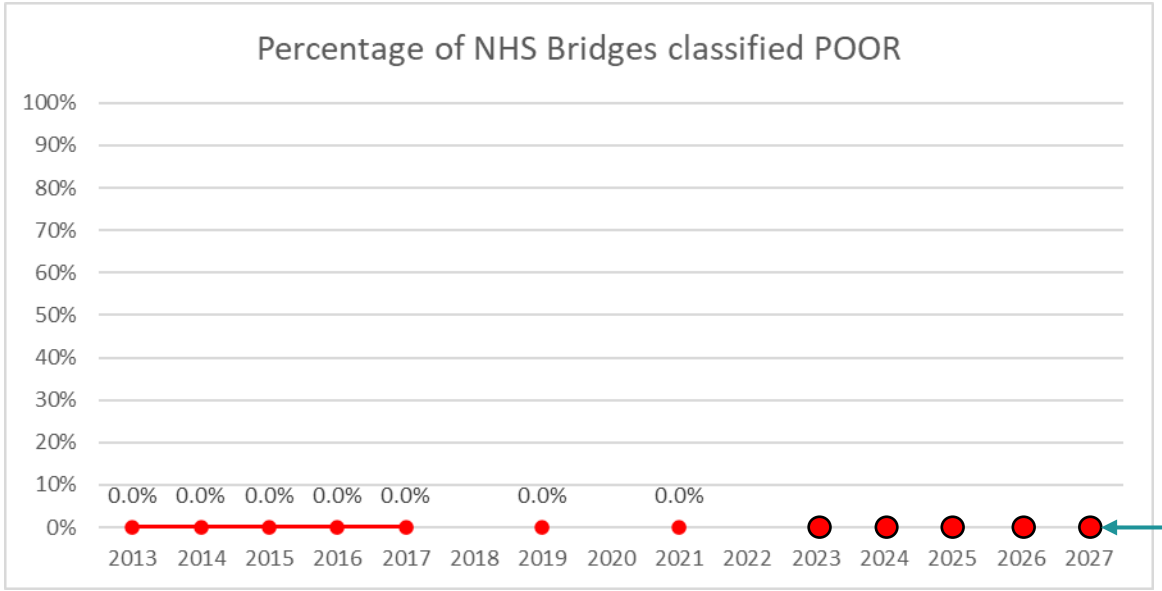
On Target



TARGET 6: % OF NHS BRIDGES BY DECK AREA CLASSIFIED AS IN **POOR** CONDITION

Year	% in Poor Condition	Target
2017	0.0%	
2019	0.0%	
2020	-	
2021	0.0%	0
2022		-
2023		0%
2024		0%
2025		0%
2026		0%
2027		0%

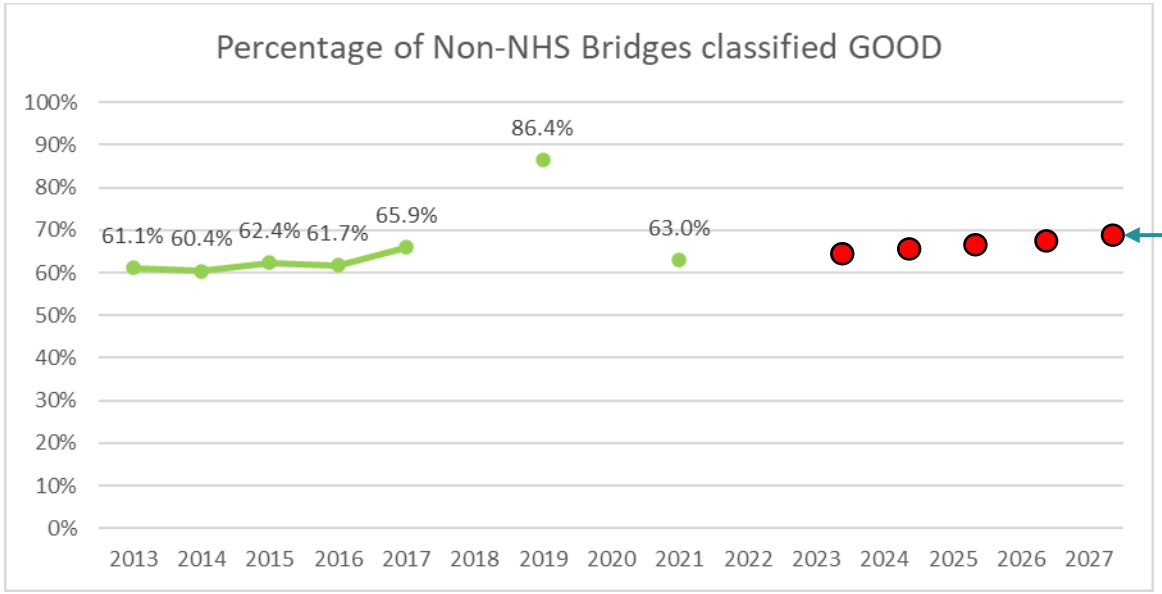
On Target



TARGET 7: % OF NON-NHS BRIDGES BY DECK AREA CLASSIFIED AS IN **GOOD** CONDITION

Year	% in Good Condition	Target
2017	65.9%	
2019	86.4%	
2020	-	
2021	63.0%	69
2022		-
2023		65%
2024		66%
2025		67%
2026		68%
2027		69%

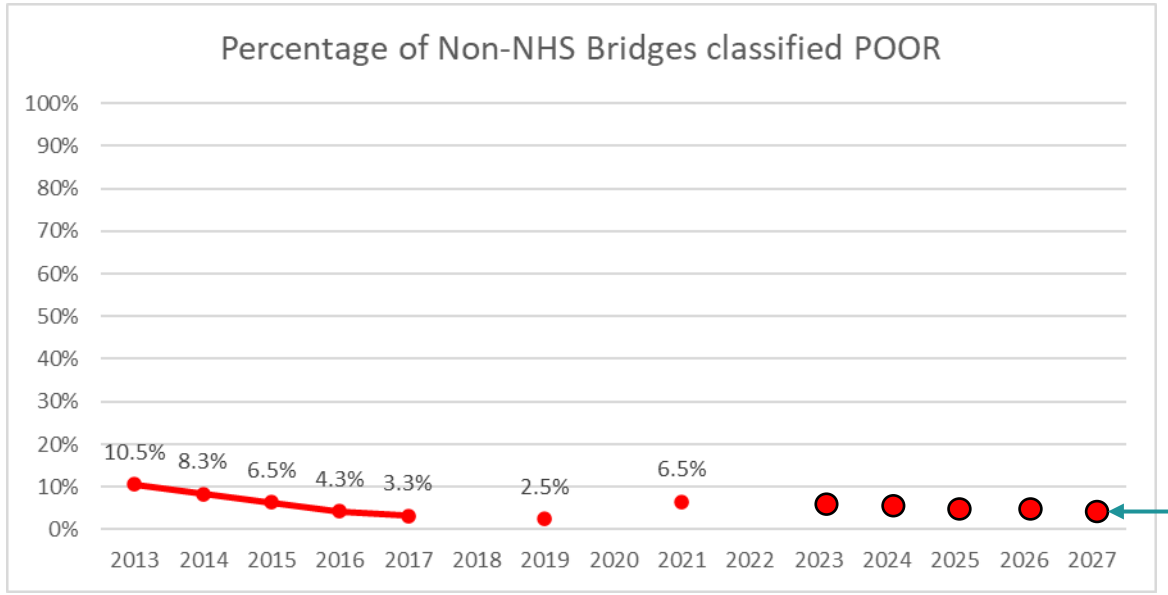
Off Target



TARGET 8: % OF NON-NHS BRIDGES BY DECK AREA CLASSIFIED AS IN **POOR** CONDITION

Year	% in Poor Condition	Target
2017	3.3%	
2019	2.5%	
2020	-	
2021	6.5%	3
2022		-
2023		6%
2024		6%
2025		5%
2026		5%
2027		4%

Off Target



BRIDGES CONDITION **DETAILS**

MPO Region:

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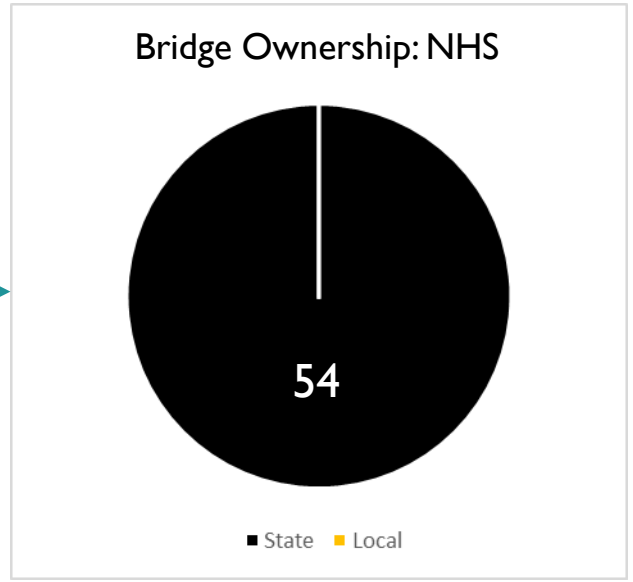
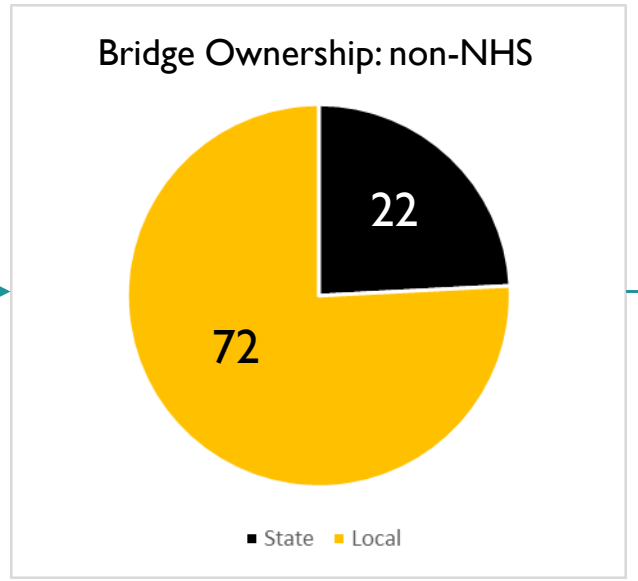
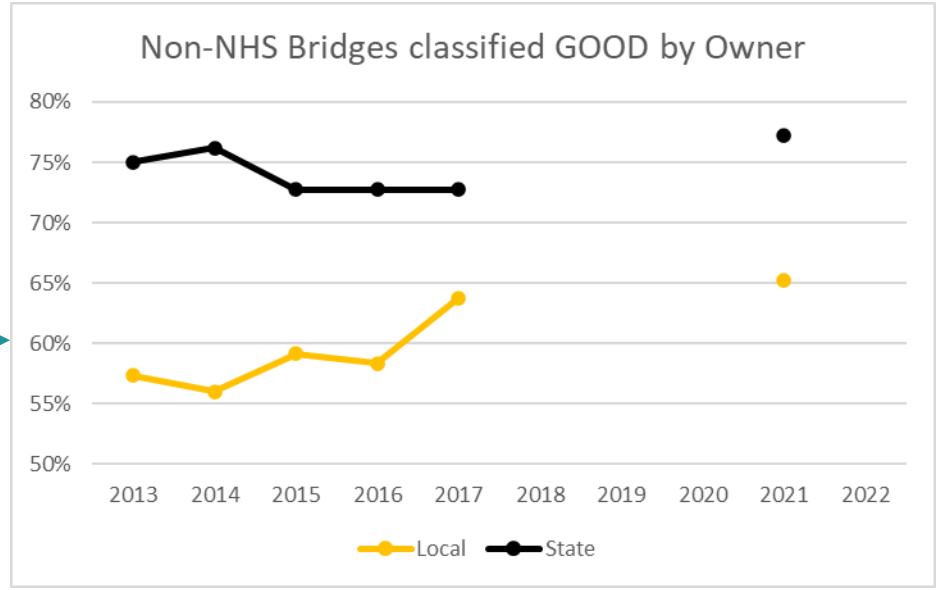
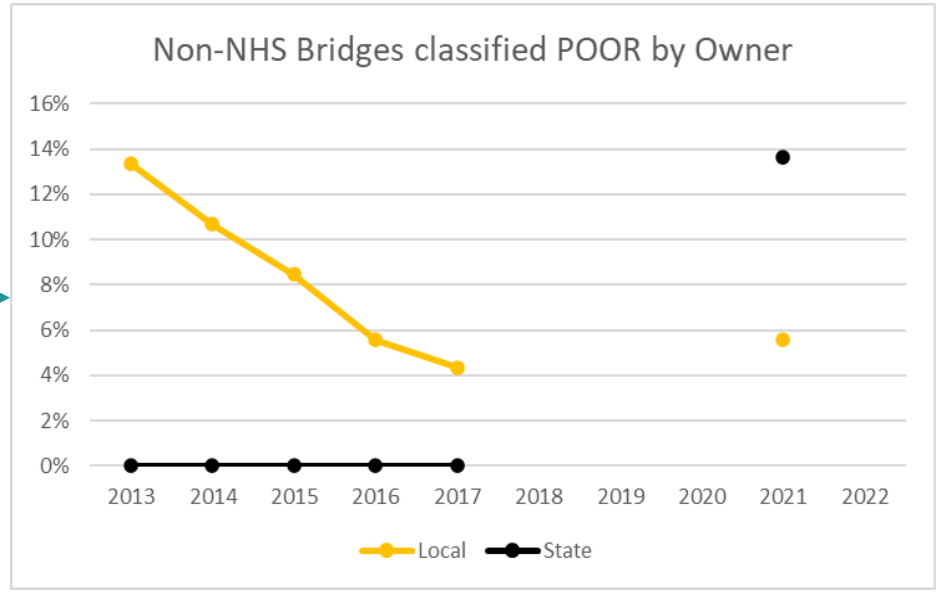
Bridges

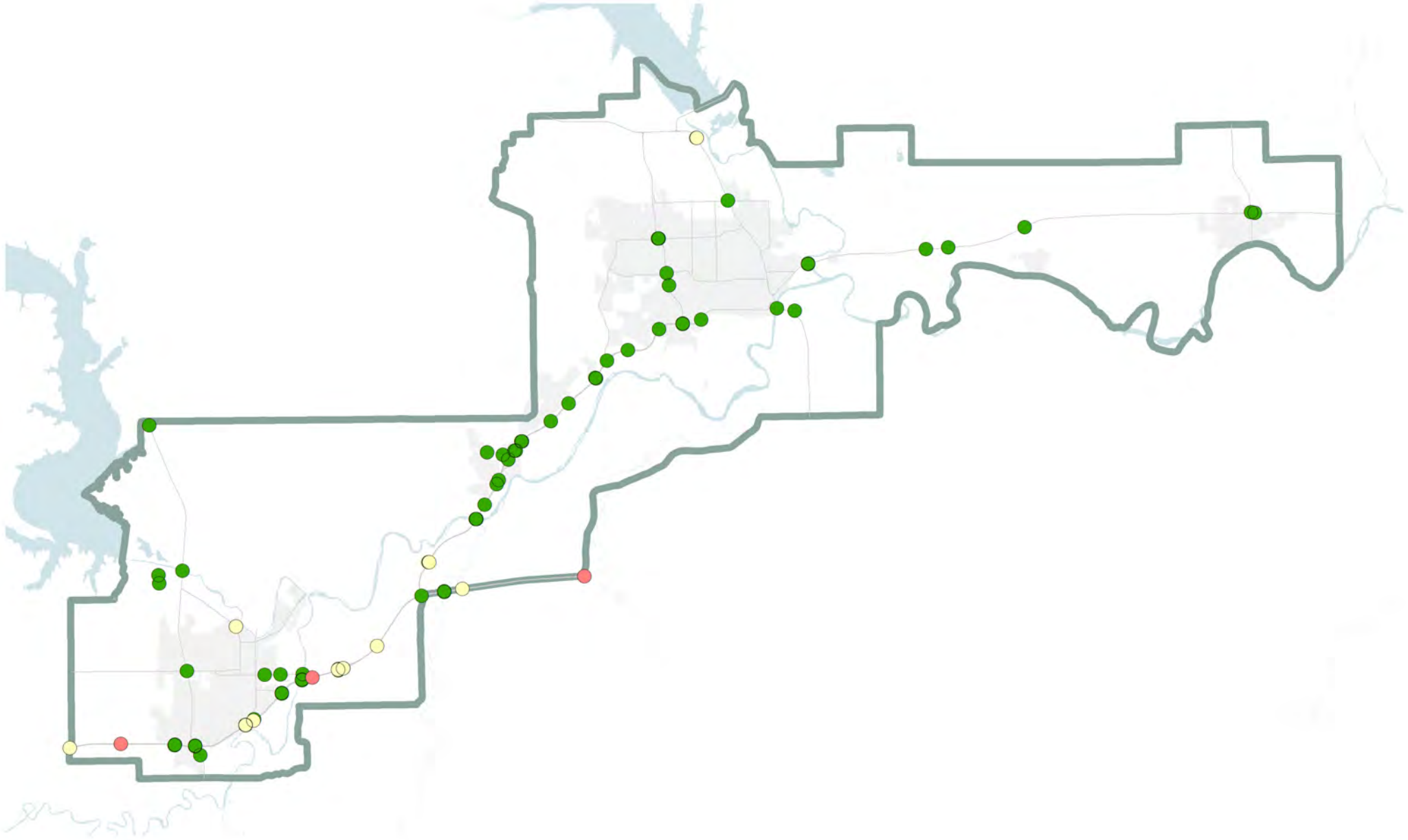




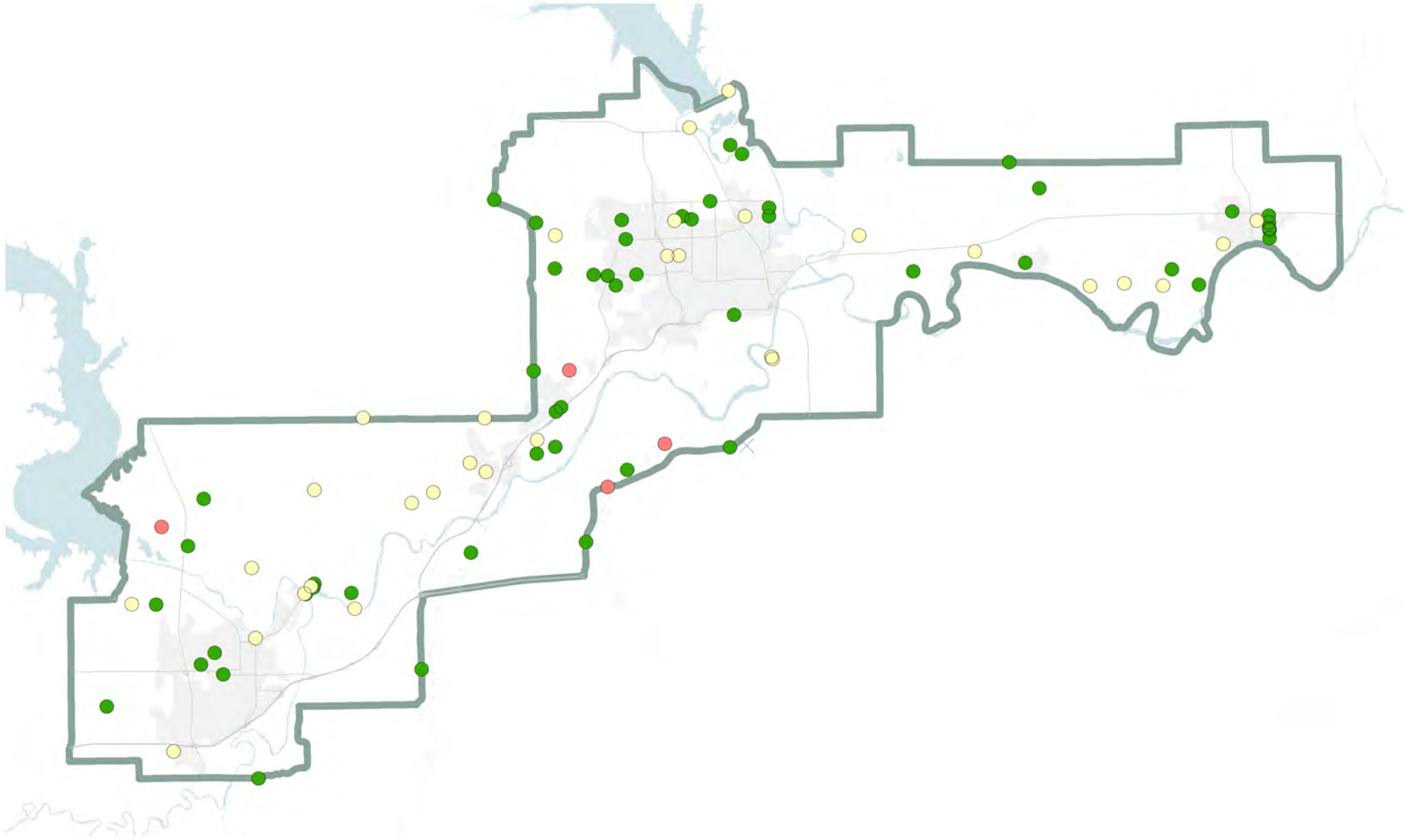




BRIDGES DETAILS: KDOT BRIDGES



BRIDGES DETAILS: LOCAL & OTHER BRIDGES



SYSTEM RELIABILITY & FREIGHT MOVEMENT PERFORMANCE MEASURES

2023

Flint Hills MPO

FHWA'S **3** SYSTEM RELIABILITY & FREIGHT MOVEMENT PERFORMANCE MEASURES

Data Source: RITIS

1. Interstate Travel Time Reliability Measure (TTRM):
   % of person-miles traveled on the Interstate that are reliable

2. Non-Interstate Travel Time Reliability Measure (NTTRM):
   % of person-miles traveled on the Non-Interstate NHS that are reliable

Data Source:
RITIS

1. Interstate Freight Reliability Measure:
   Truck Travel Time Reliability (TTTR) Index

SYSTEM RELIABILITY & FREIGHT MOVEMENT: **SUMMARY**

PM 1: % of Person-Miles Traveled on Interstate with Reliable Travel Time

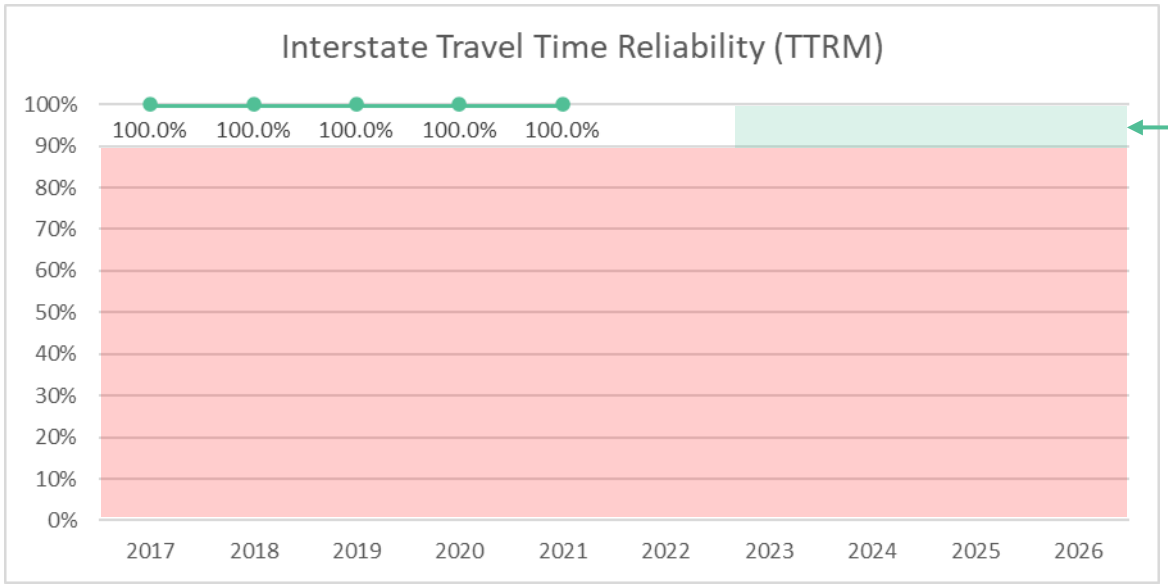
PM 2: % of Person-Miles Traveled on the NHS with a Reliable Travel Time

PM 3: Truck Travel Time Reliability (TTTR) Index on our Interstate System

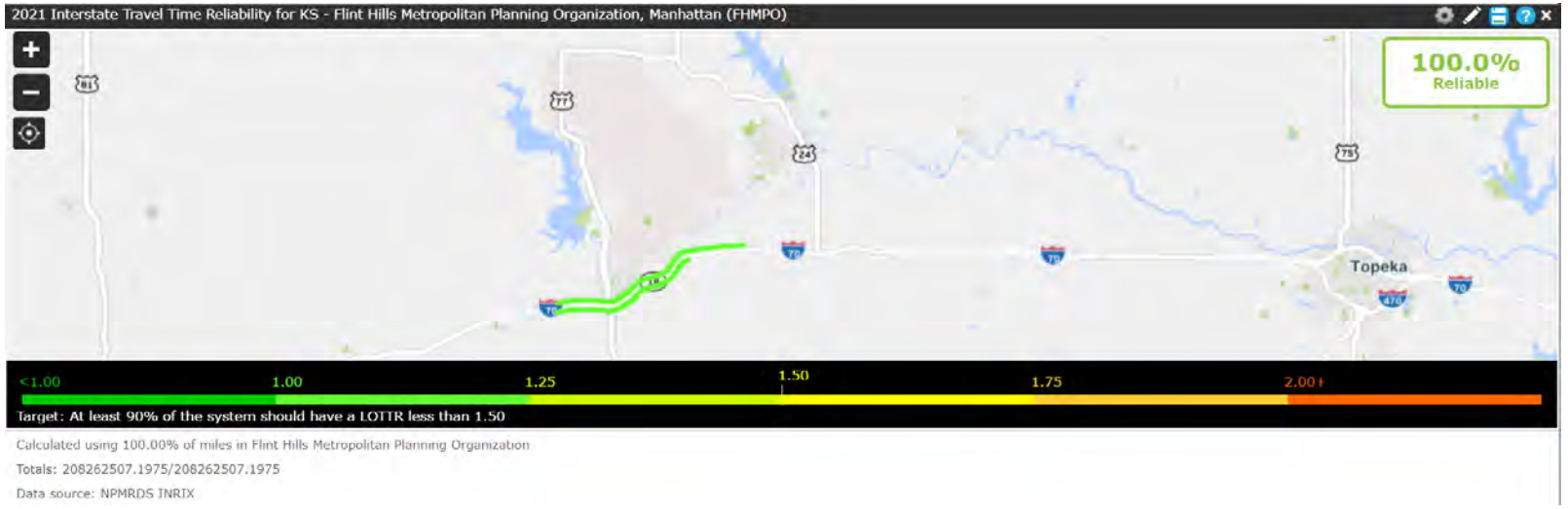
TARGET 1: INTERSTATE TRAVEL TIME RELIABILITY MEASURE (TTRM)

Year	TTRM	Target
2017	100.0%	
2018	100.0%	
2019	100.0%	
2020	100.0%	
2021	100.0%	>90%
2022		-
2023		>90%
2024		>90%
2025		>90%
2026		>90%

On Target



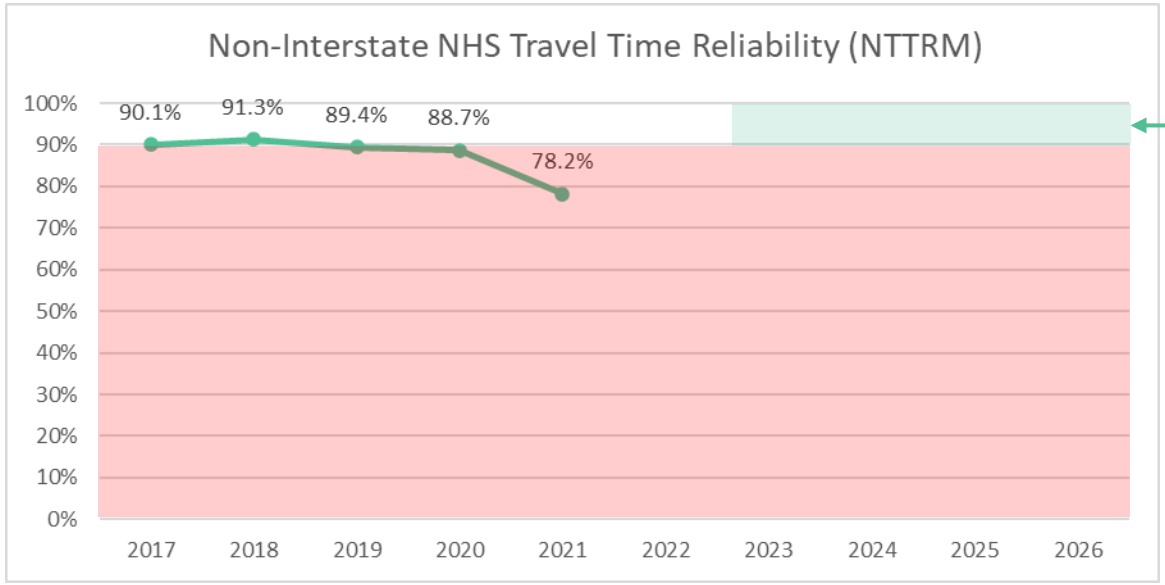
TARGET 1: INTERSTATE TRAVEL TIME RELIABILITY MEASURE (TTRM)



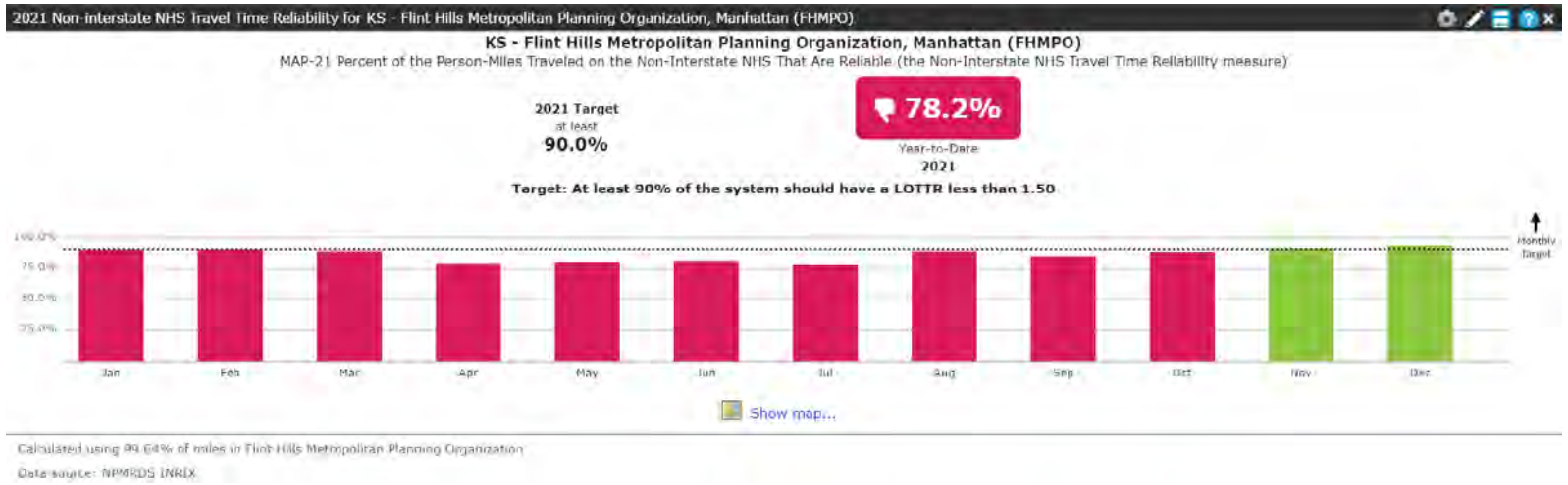
TARGET 2: NON-INTERSTATE TRAVEL TIME RELIABILITY MEASURE (NTTRM)

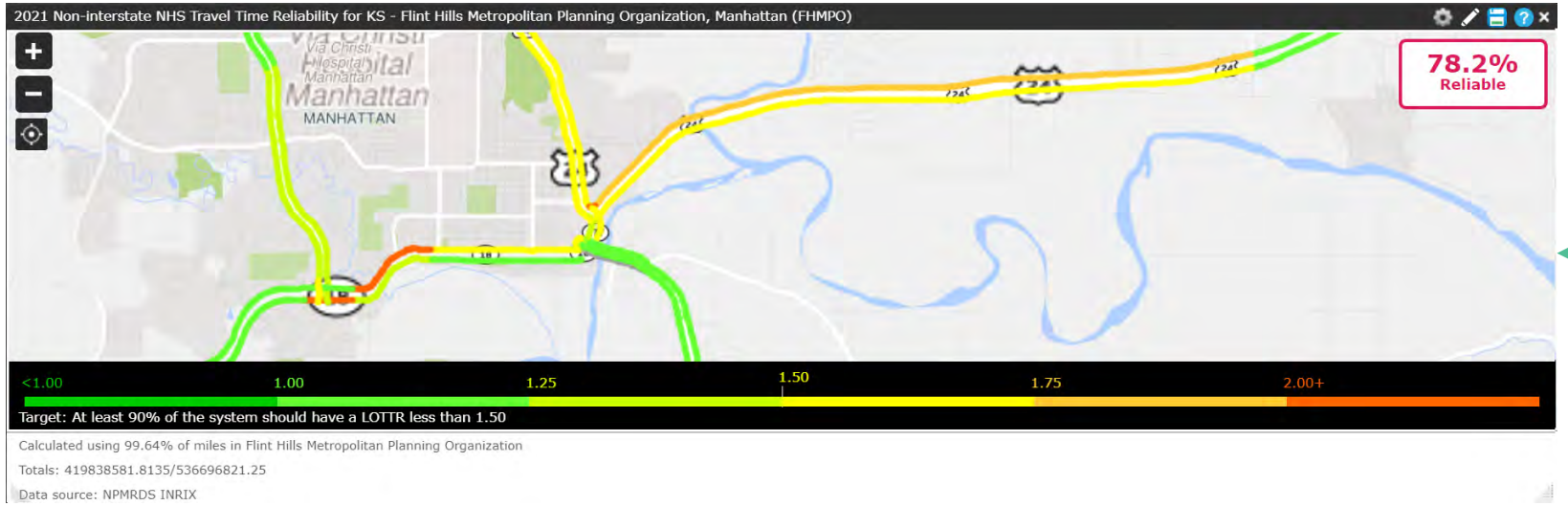
Year	NTTRM	Target
2017	90.1%	
2018	91.3%	
2019	89.4%	
2020	88.7%	
2021	78.2%	>90%
2022		-
2023		>90%
2024		>90%
2025		>90%
2026		>90%

Off Target



TARGET 2: NON-INTERSTATE TRAVEL TIME RELIABILITY MEASURE (NTTRM)





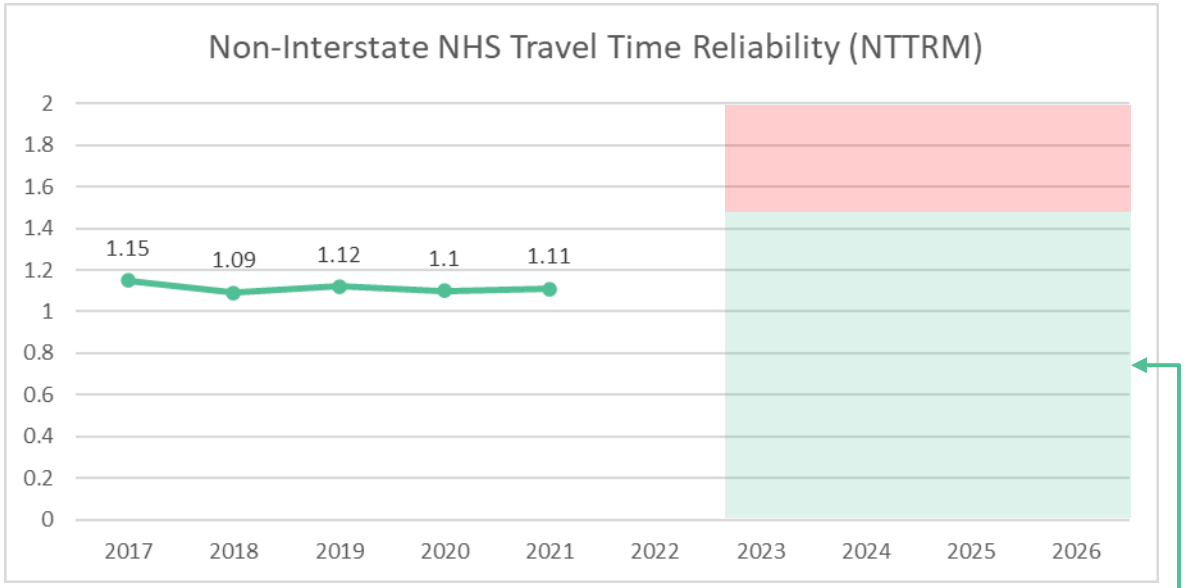
Wildcat Creek Bridge Construction

US24 @ Green Valley Rd Construction

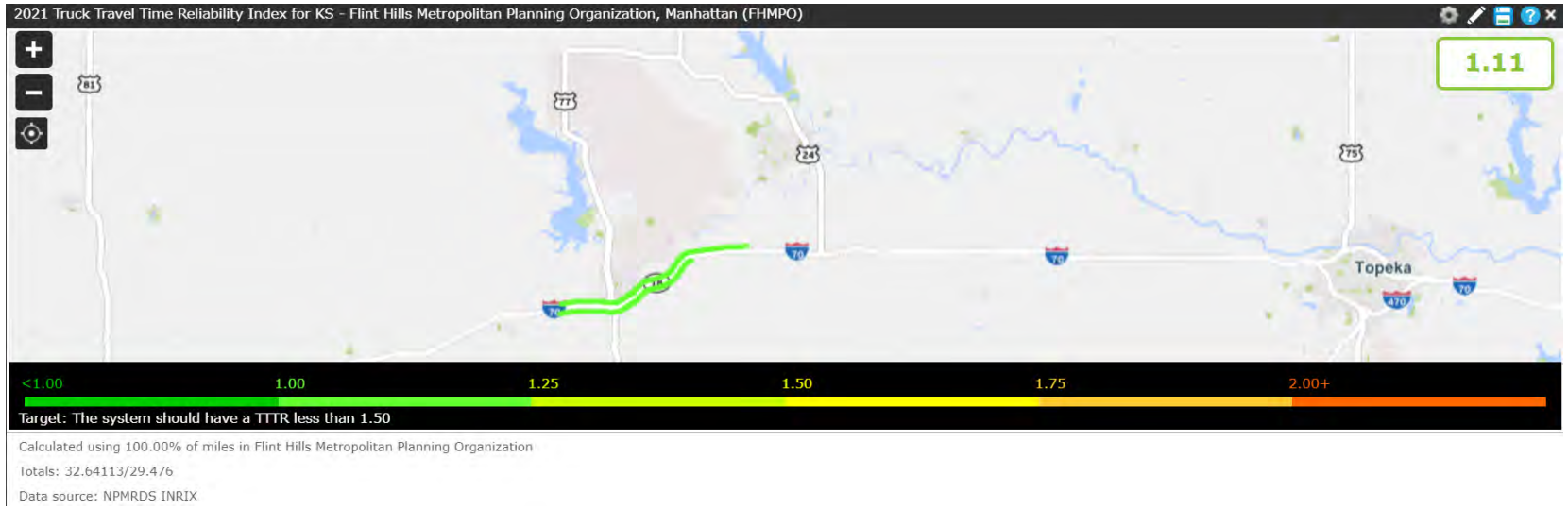
TARGET 1: INTERSTATE FREIGHT RELIABILITY MEASURE (TTTR)

Year	TTTR	Target
2017	1.15	
2018	1.09	
2019	1.12	
2020	1.10	
2021	1.11	<1.50
2022		-
2023		<1.50
2024		<1.50
2025		<1.50
2026		<1.50

On Target



TARGET 1: INTERSTATE FREIGHT RELIABILITY MEASURE (TTTR)

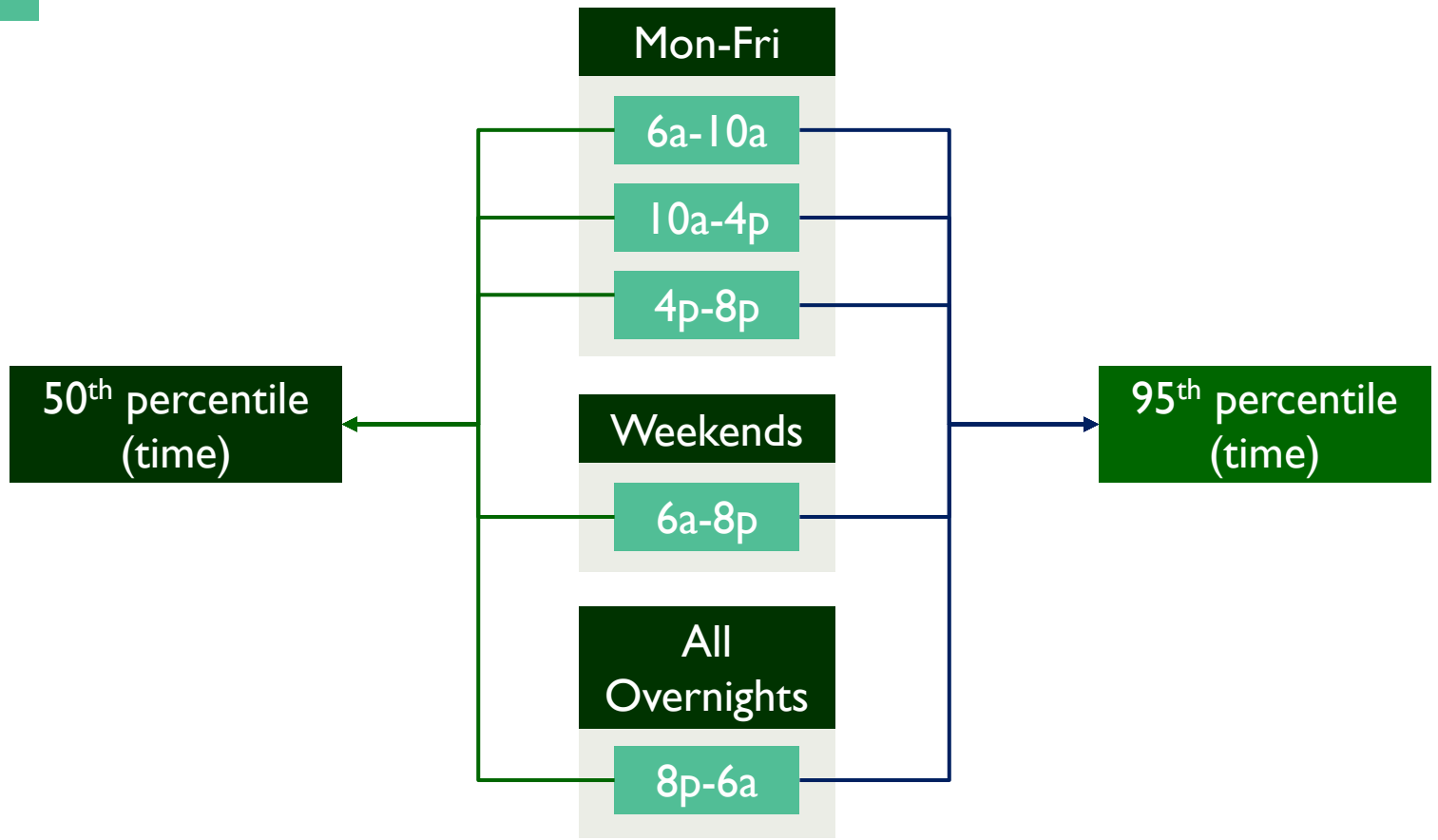


BACKGROUND ON SYSTEM RELIABILITY & FREIGHT MANAGEMENT

- System Reliability & Freight Management data are monitored and aggregated via the Regional Integrated Transportation Information System (RITIS). RITIS is a web-based database with multiple interfaces including graphs and maps.
- FHMPO staff has access to this data and has an account based upon the 2017 FHMPO boundary. RITIS data is monitored on the Interstate and Non-Interstate NHS systems.

TRUCK TRAVEL TIME RELIABILITY INDEX (TTTR)

1



2

95th percentile

÷

50th percentile

=

TTTR