

SAFETY PERFORMANCE MEASURES: 2019



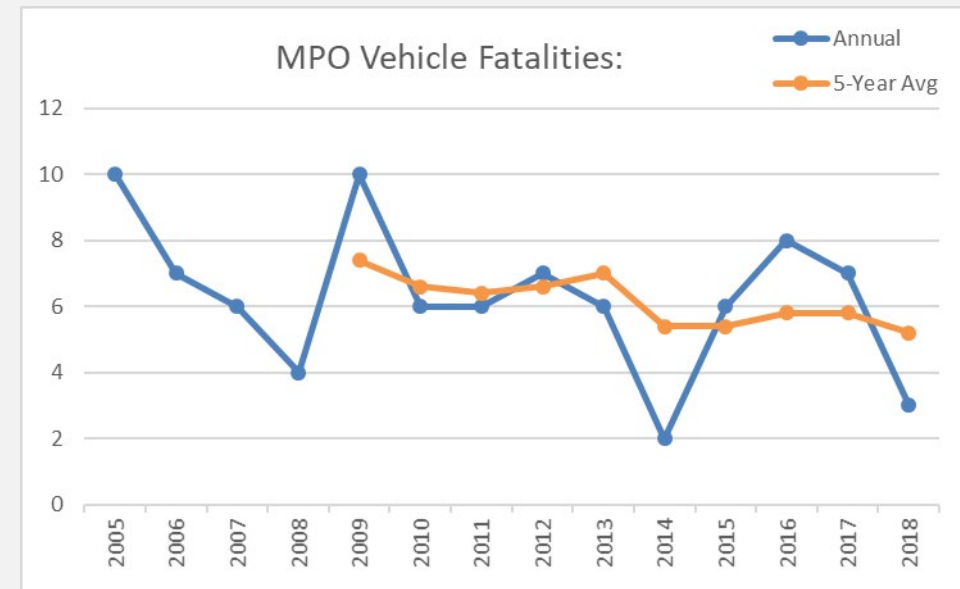
FHWA'S 5 SAFETY PERFORMANCE MEASURES

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 & Non-motorized Serious Injuries

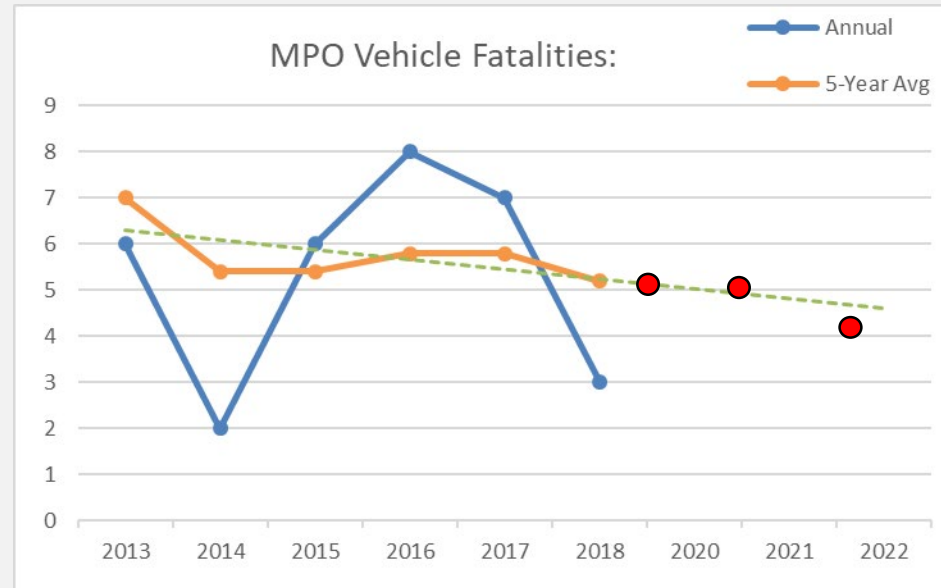
TARGET 1: # OF VEHICLE FATALITIES

Year	Annual Fatalities	5-Year Avg
2007	6	n/a
2008	4	n/a
2009	10	7.4
2010	6	6.6
2011	6	6.4
2012	7	6.6
2013	6	7
2014	2	5.4
2015	6	5.4
2016	8	5.8
2017	7	5.6
2018	3	5.2
Total	74	n/a



TARGET 1: # OF VEHICLE FATALITIES

Year	Annual Fatalities	5-Year Avg
2011	6	6.4
2012	7	6.6
2013	6	7
2014	2	5.4
2015	6	5.4
2016	8	5.8
2017	7	5.8
2018	3	5.2
2019	n/a	n/a
2020	5	5.2
2021	5	5.8
2022	5	5.6



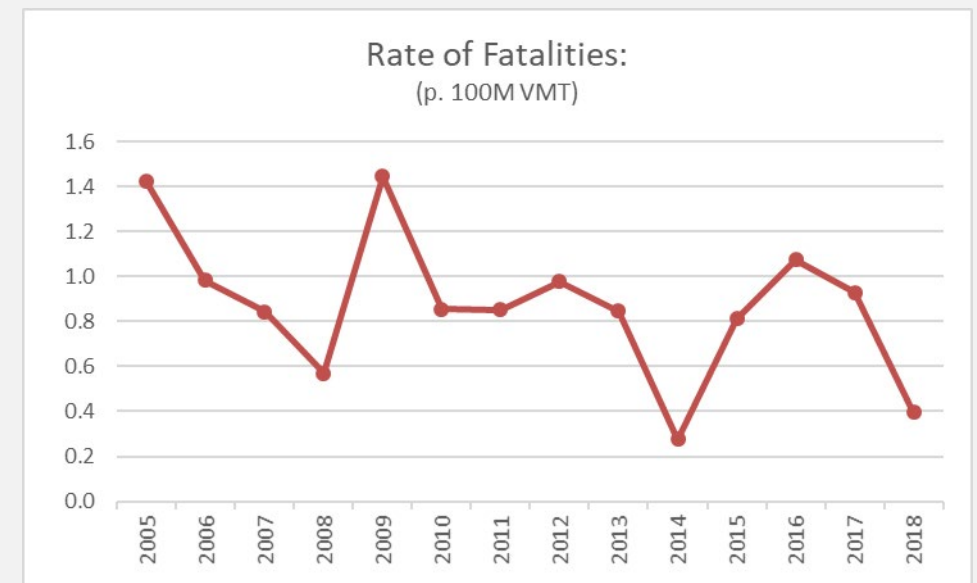
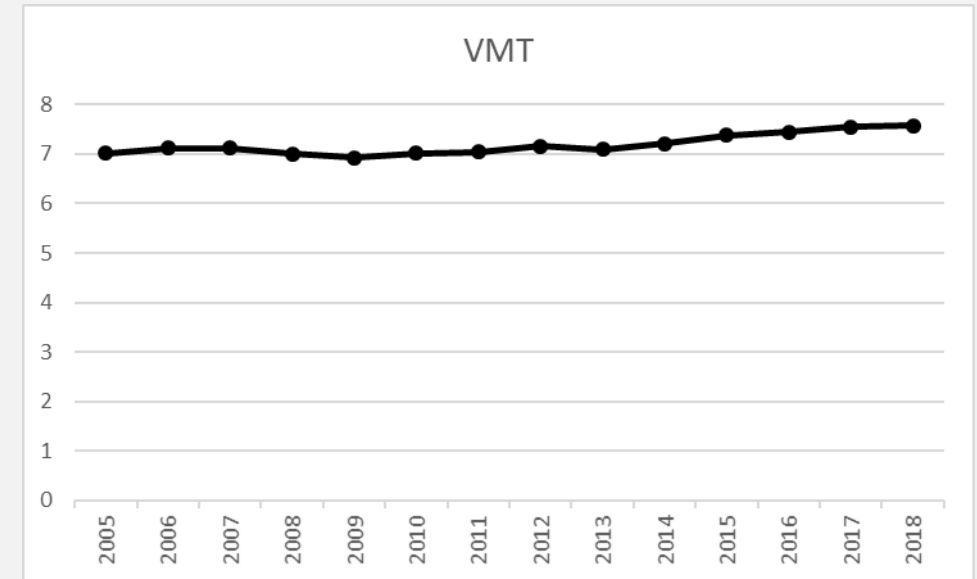
On Track



2020: 5
2021: 5
2022: 5

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

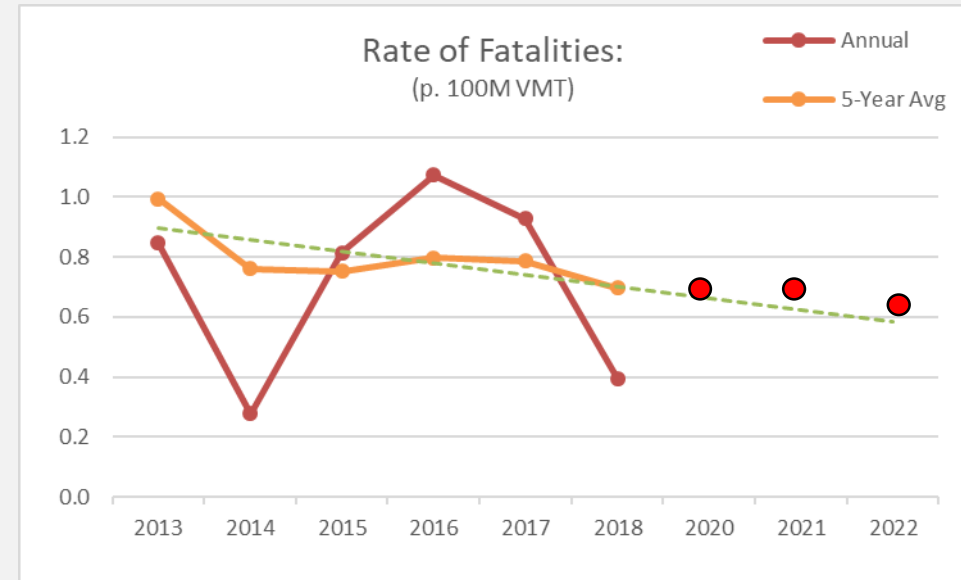
Year	Annual Fatalities	VMT % Change	100M VMT	Fatality Rate p. 100M VMT
2007	6	0.07	7.123	.842
2008	4	-1.65	7.007	.571
2009	10	-1.21	6.924	1.444
2010	6	1.36	7.019	.855
2011	6	0.4	7.047	.851
2012	7	1.57	7.16	.978
2013	6	-0.92	7.094	.846
2014	2	1.66	7.214	.277
2015	6	2.18	7.375	.814
2016	8	1.00	7.449	1.074
2017	7	1.01	7.545	.928
2018	3	1.01	7.575	.396



- VMT percent increases taken from KDOT historical data

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

Year	Annual Fatalities	Fatality Rate p. 100M VMT	5-Year Avg
2014	2	0.277	.761
2015	6	0.814	.753
2016	8	1.074	.798
2017	7	.928	.788
2018	3	.396	.698
2019	n/a	n/a	n/a
2020		.7	
2021		.7	
2022		.65	



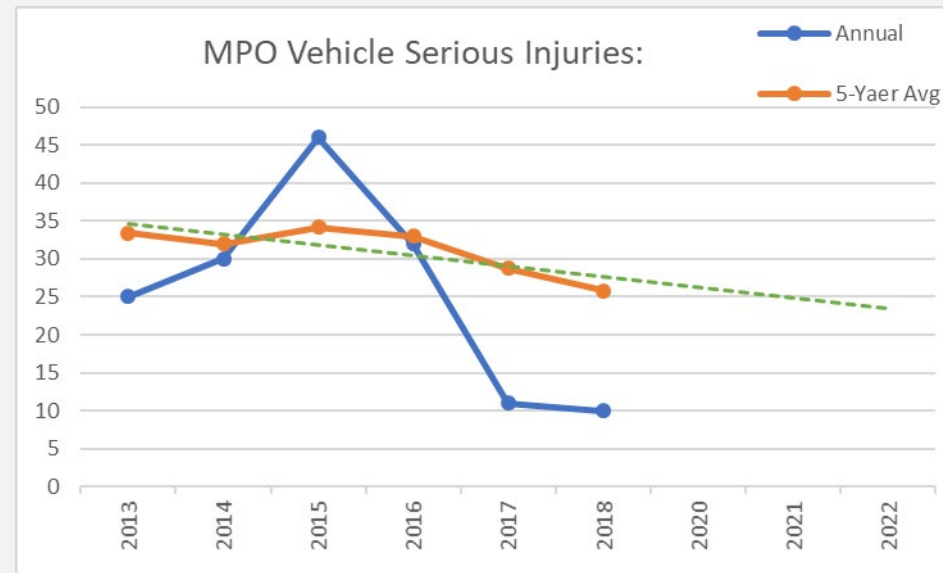
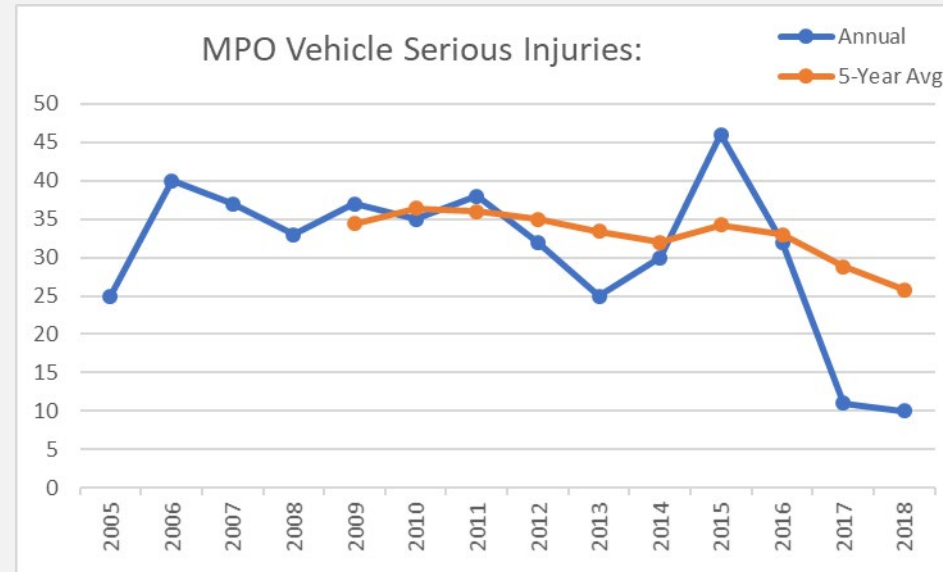
2020: 0.7
2021: 0.7
2022: 0.65



On Track

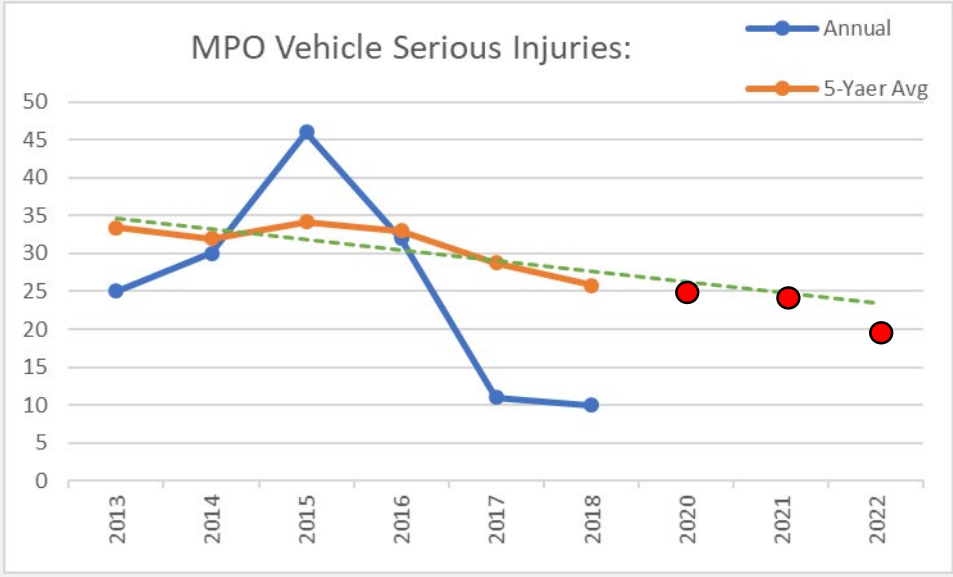
TARGET 3: # OF SERIOUS INJURIES

Year	Annual Serious Injuries	5-Year Avg
2007	37	n/a
2008	33	n/a
2009	37	34.4
2010	35	36.4
2011	38	36
2012	32	35
2013	25	33.4
2014	30	32
2015	46	34.2
2016	32	33
2017	11	28.8
2018	10	25.8
Total	396	n/a



TARGET 3: # OF SERIOUS INJURIES

Year	Annual Serious Injuries	5-Year Avg
2011	38	36
2012	32	35
2013	25	33.4
2014	30	32
2015	46	34.2
2016	32	33
2017	11	28.8
2018	10	25.8
2019	n/a	n/a
2020	25	29
2021	24	28
2022	19	27



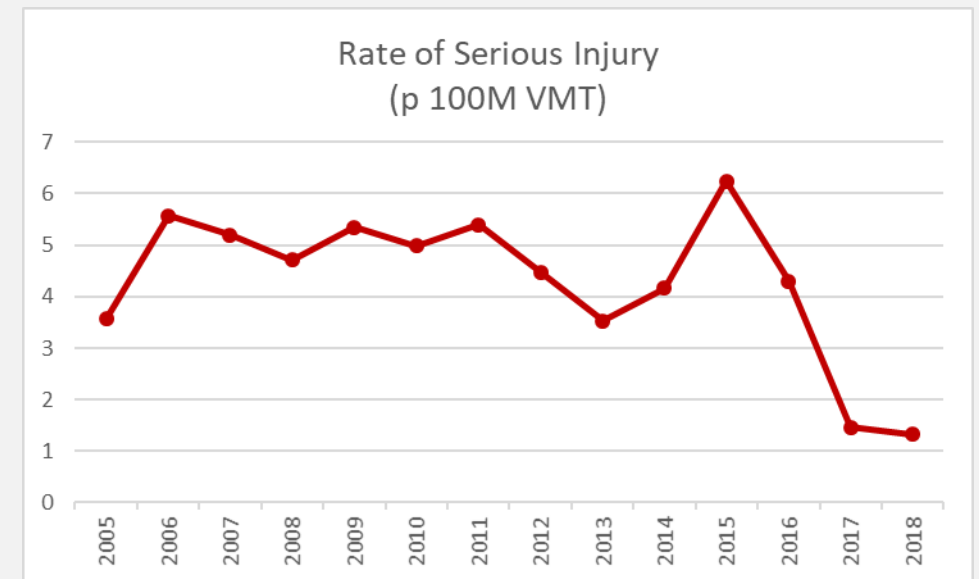
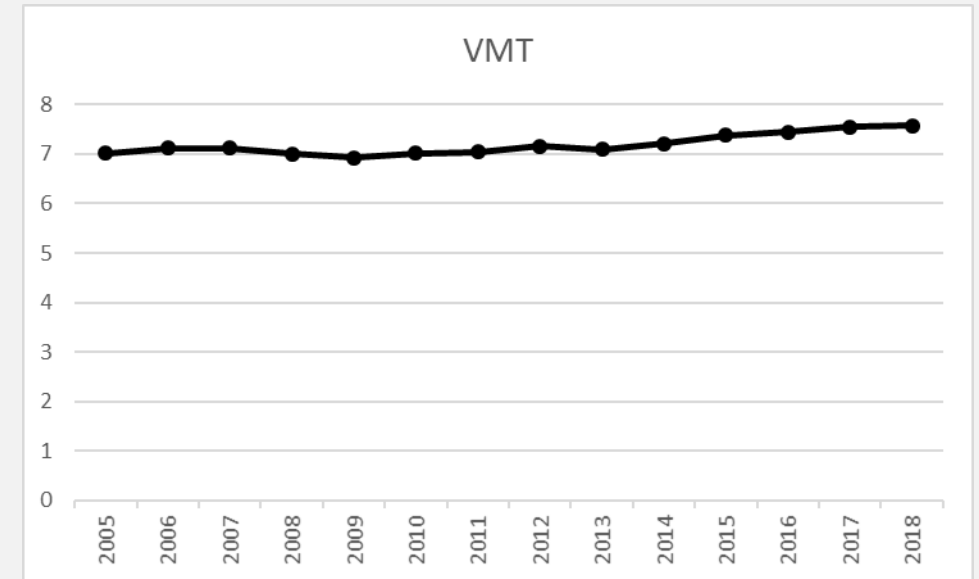
On Track

2020: 25
2021: 24
2022: 19

Change in reporting of Injury Severity likely cause of drop from 2016 to 2017 onward

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

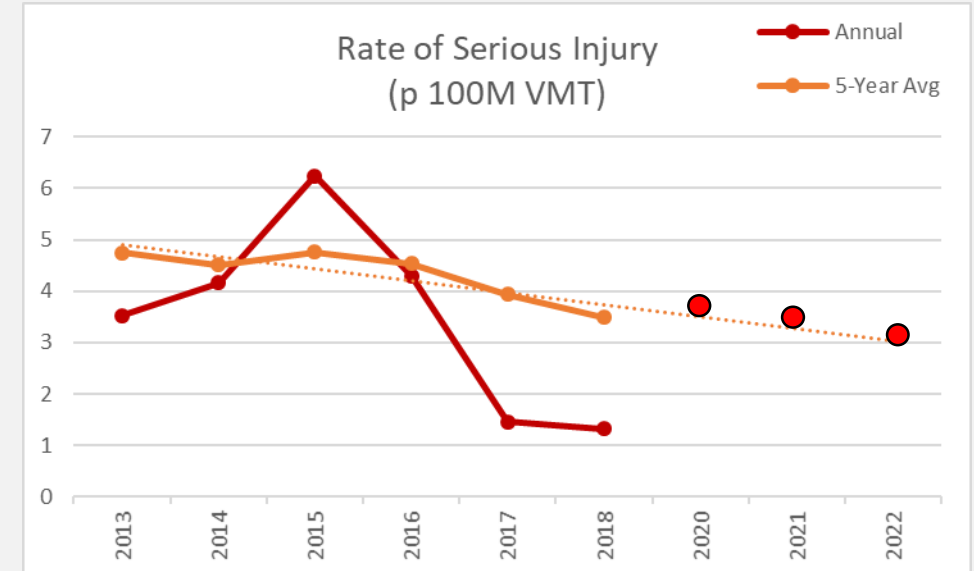
Year	Annual S. Injuries	VMT % Change	100M VMT	S. Injury Rate p. 100M VMT
2007	37	0.07	7.123	5.194
2008	33	-1.65	7.007	4.710
2009	37	-1.21	6.924	5.344
2010	35	1.36	7.019	4.986
2011	38	0.4	7.047	5.392
2012	32	1.57	7.16	4.469
2013	25	-0.92	7.094	3.524
2014	30	1.66	7.214	4.159
2015	46	2.18	7.375	6.237
2016	32	1.00	7.449	4.296
2017	11	1.01	7.545	1.458
2018	10	1.01	7.575	1.320



- 2005-2015 VMT was calculated with 2016 VMT then KDOT historical VMT tables to establish year-to-year changes.

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

Year	Annual S. Injuries	100M VMT	Serious Injury p. 100M VMT	5-Year Avg
2014	30	1.66	4.159	4.506
2015	46	2.18	6.237	4.756
2016	32	1.00	4.296	4.537
2017	11	1.01	1.458	3.935
2018	10	1.01	1.320	3.949
2019	n/a	n/a	n/a	n/a
2019			3.9	
2020			3.5	
2021			3.1	



2020: 3.9
2021: 3.5
2022: 3.1

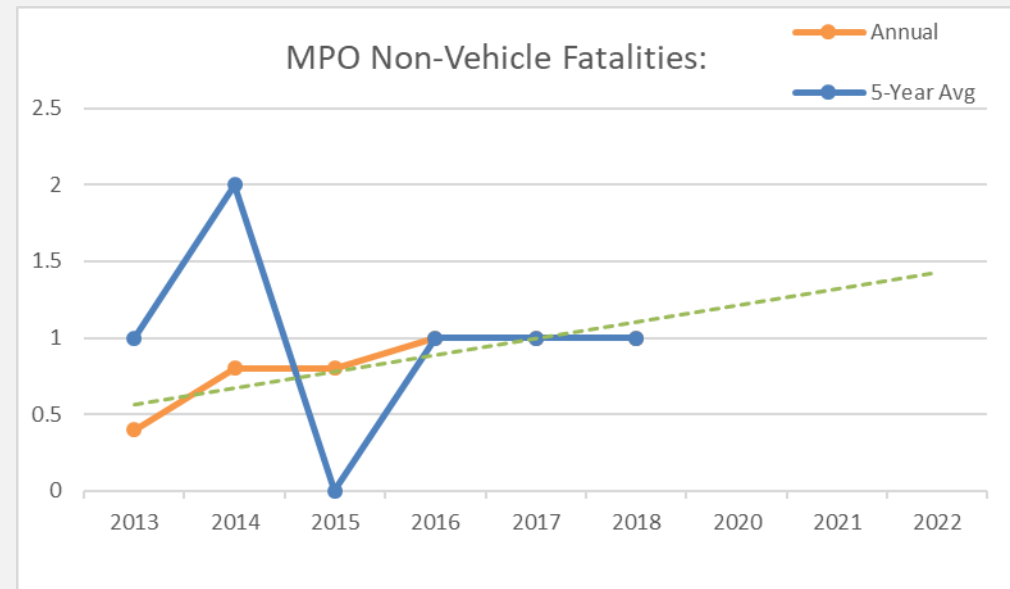
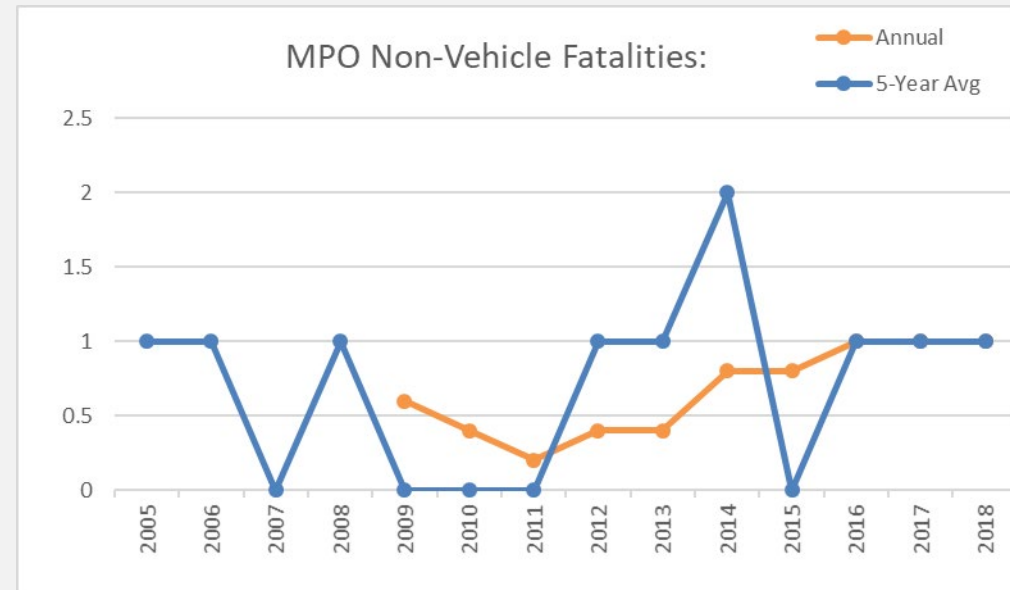


On Track

Change in reporting of Injury Severity likely cause of drop from 2016 to 2017 onward

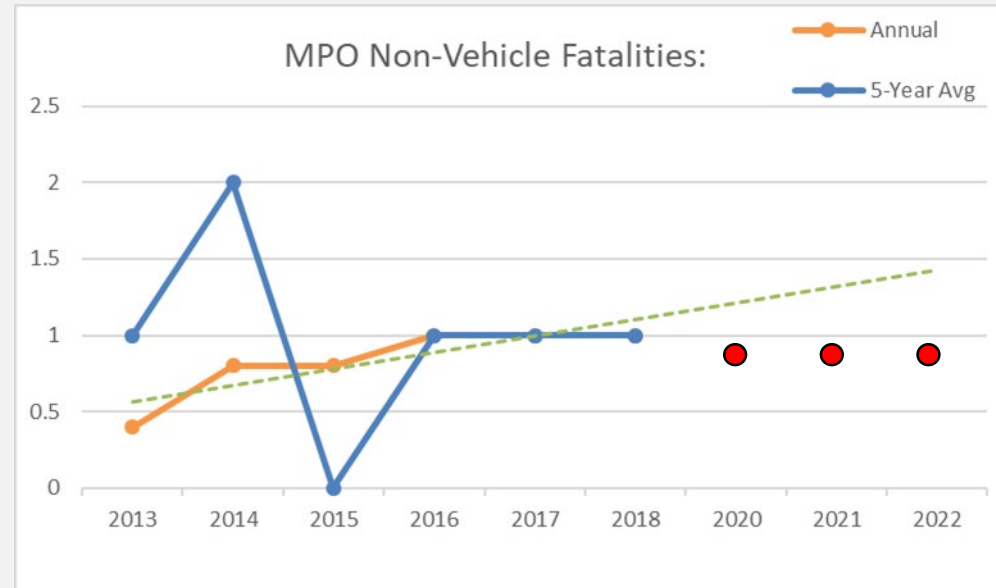
TARGET 5: # OF NON-VEHICULAR FATALITIES & SERIOUS INJURIES

Year	Annual Fatalities & Serious Injuries	5-Year Avg
2007	0	n/a
2008	1	n/a
2009	0	0.6
2010	0	0.4
2011	0	0.2
2012	2	0.4
2013	1	0.4
2014	2	0.8
2015	0	0.8
2016	1	1
2017	1	1
2018	1	1
Total	78	n/a



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

Year	Annual Fatalities & Serious Injuries	5-Year Avg
2011	0	0.2
2012	2	0.4
2013	1	0.4
2014	2	0.8
2015	0	0.8
2016	1	1
2017	1	1
2018	1	1
2019	n/a	n/a
2020	1	0.8
2021	0	0.8
2022	0	0.8













Off Track

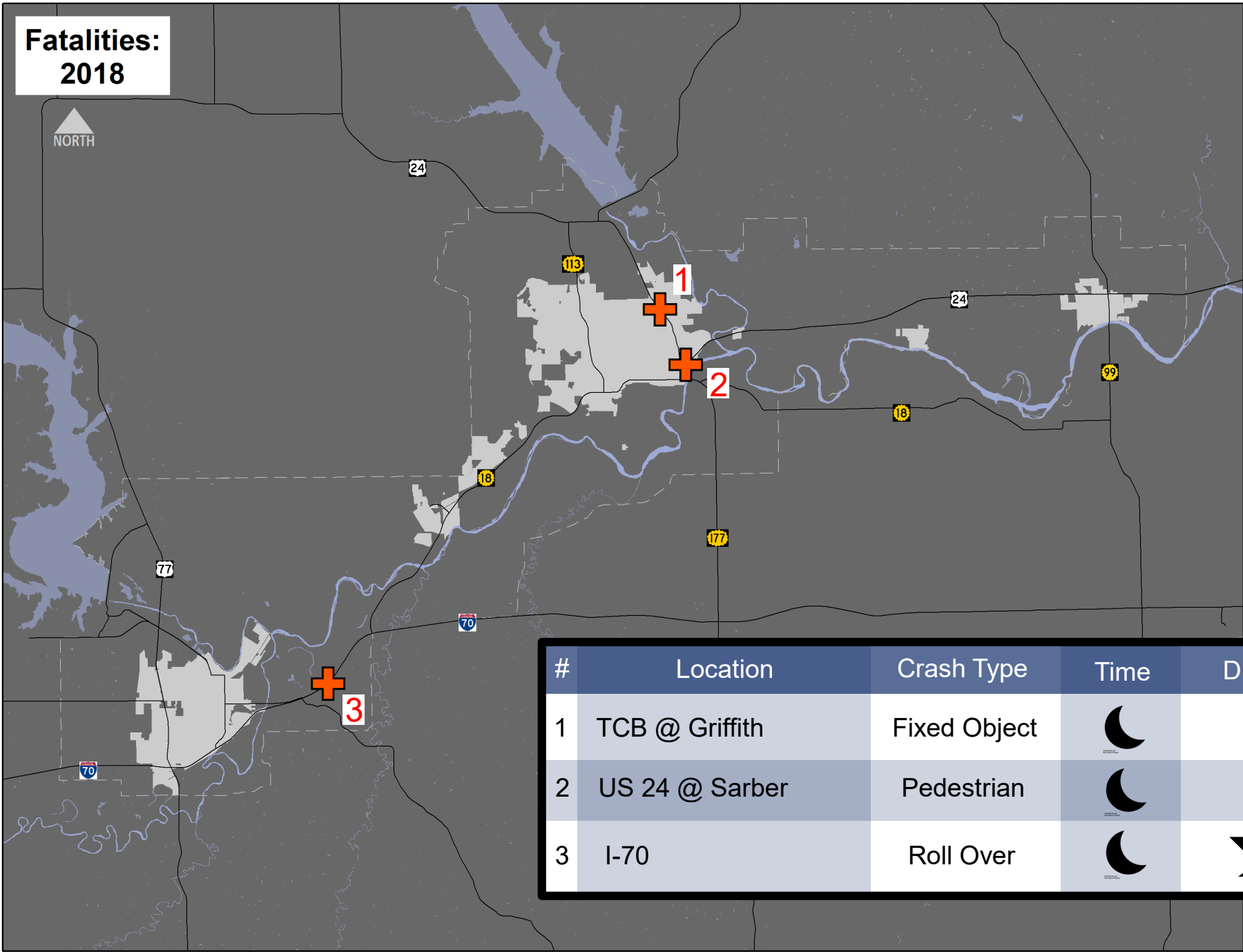


2020: 1
2021: 0
2022: 0

TARGET SUMMARY

- 1** Number of Fatalities
 -  **2020: 5**
2021: 5
2022: 5
 - 
- 2** Rate of Fatalities per 100 million VMT
 -  **2020: 0.7**
2021: 0.7
2022: 0.65
 - 
- 3** Number of Serious Injuries
 -  **2020: 25**
2021: 24
2022: 19
 - 
- 4** Rate of Serious Injuries per 100 million VMT
 -  **2020: 3.9**
2021: 3.5
2022: 3.1
 - 
- 5** Number of Non-motorized Fatalities & Non-motorized Serious Injuries
 -  **2020: 1**
2021: 0
2022: 0
 - 

**Fatalities:
2018**



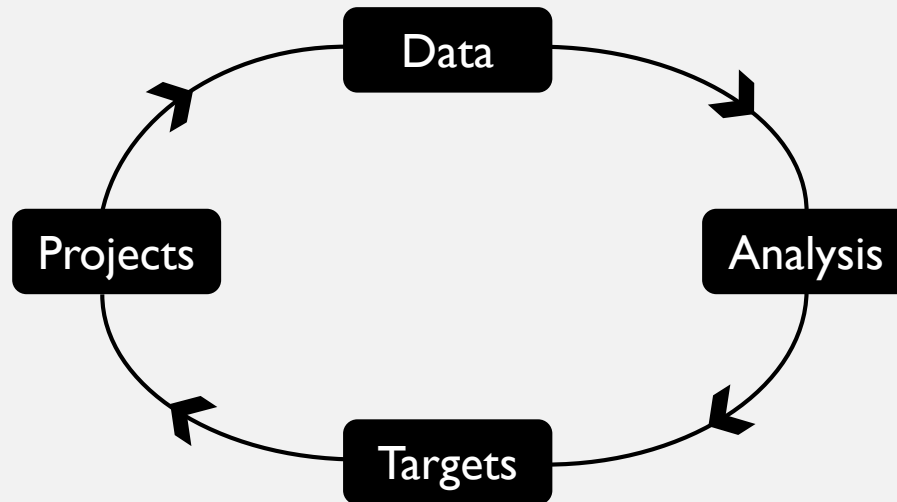
#	Location	Crash Type	Time	DUI	Planned Improvements
1	TCB @ Griffith	Fixed Object			No
2	US 24 @ Sarber	Pedestrian			US 24 Corridor Plan
3	I-70	Roll Over			No

METHODOLOGY DETAILS

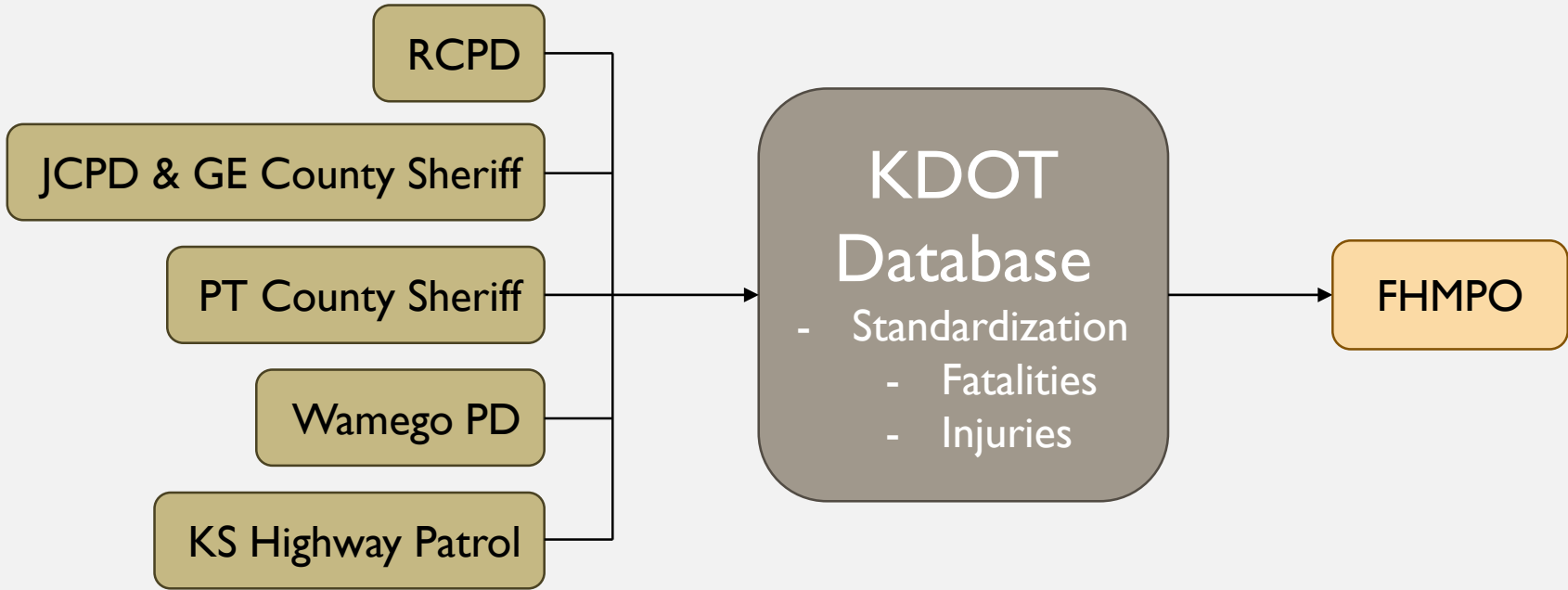
The following slides outline the workflow and methodologies used in analyzing the crash data.

DATA DRIVEN

- Based on the 5-Year Avgs, we must set annual Safety Targets for each Performance Measure.
- Data drives >>>> safer transportation system.

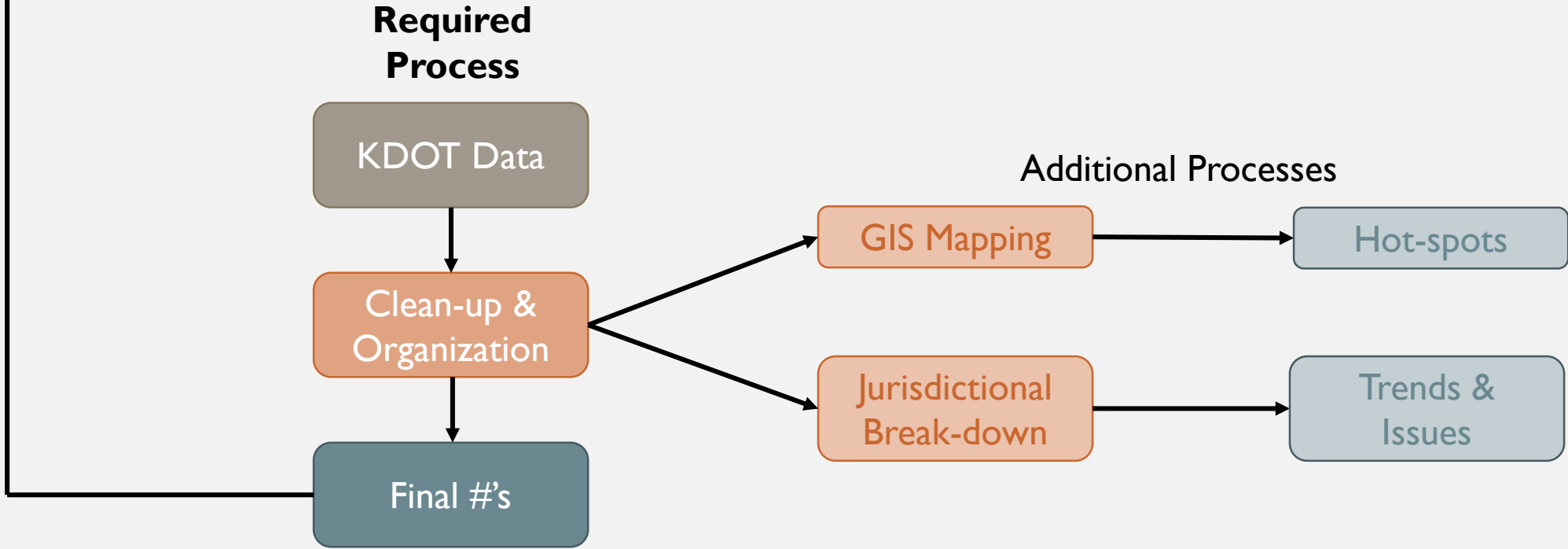


DATA FLOW



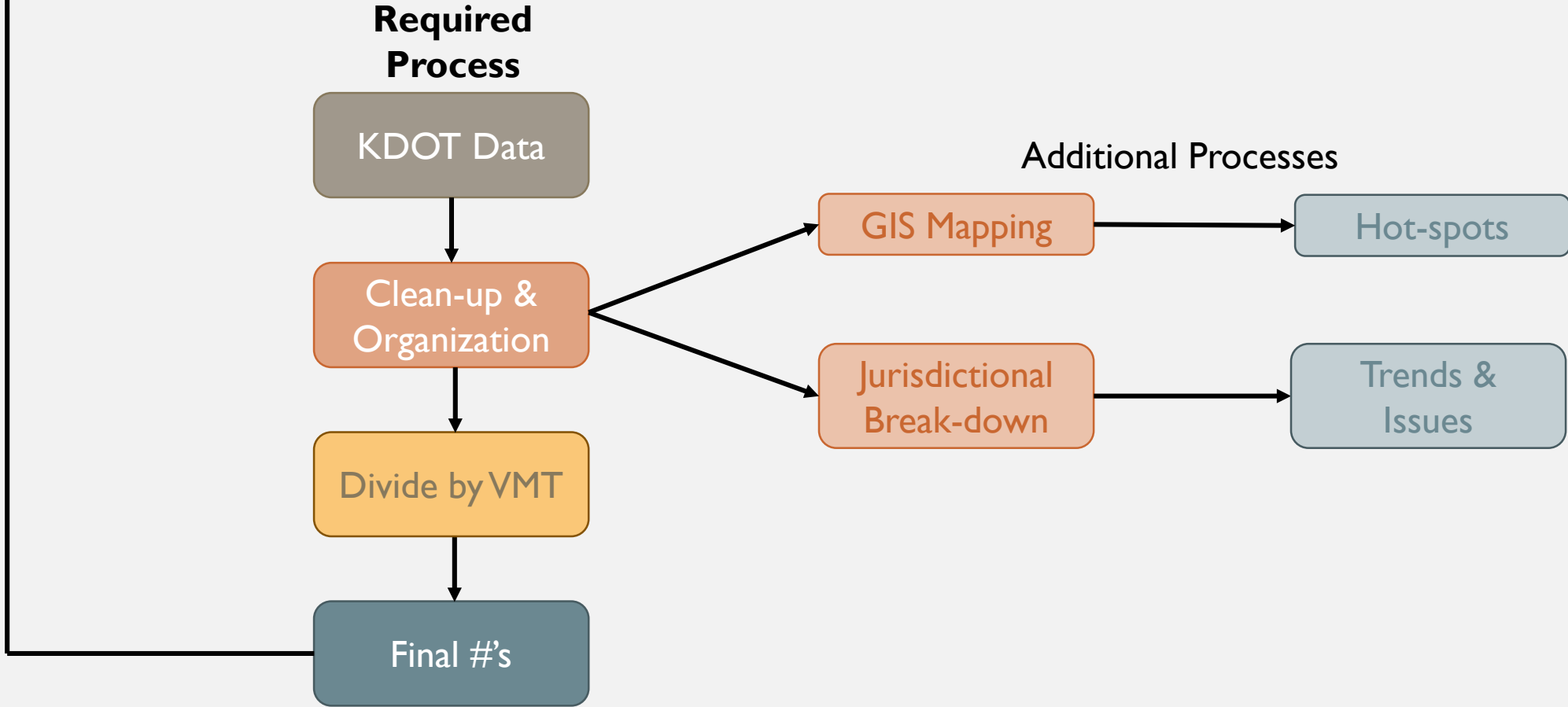
PROCESS FOR RULES...

- 1. Number of Fatalities
- 3. Number of Serious Injuries
- 5. Number of Non-motorized Fatalities & Non-motorized Serious Injuries



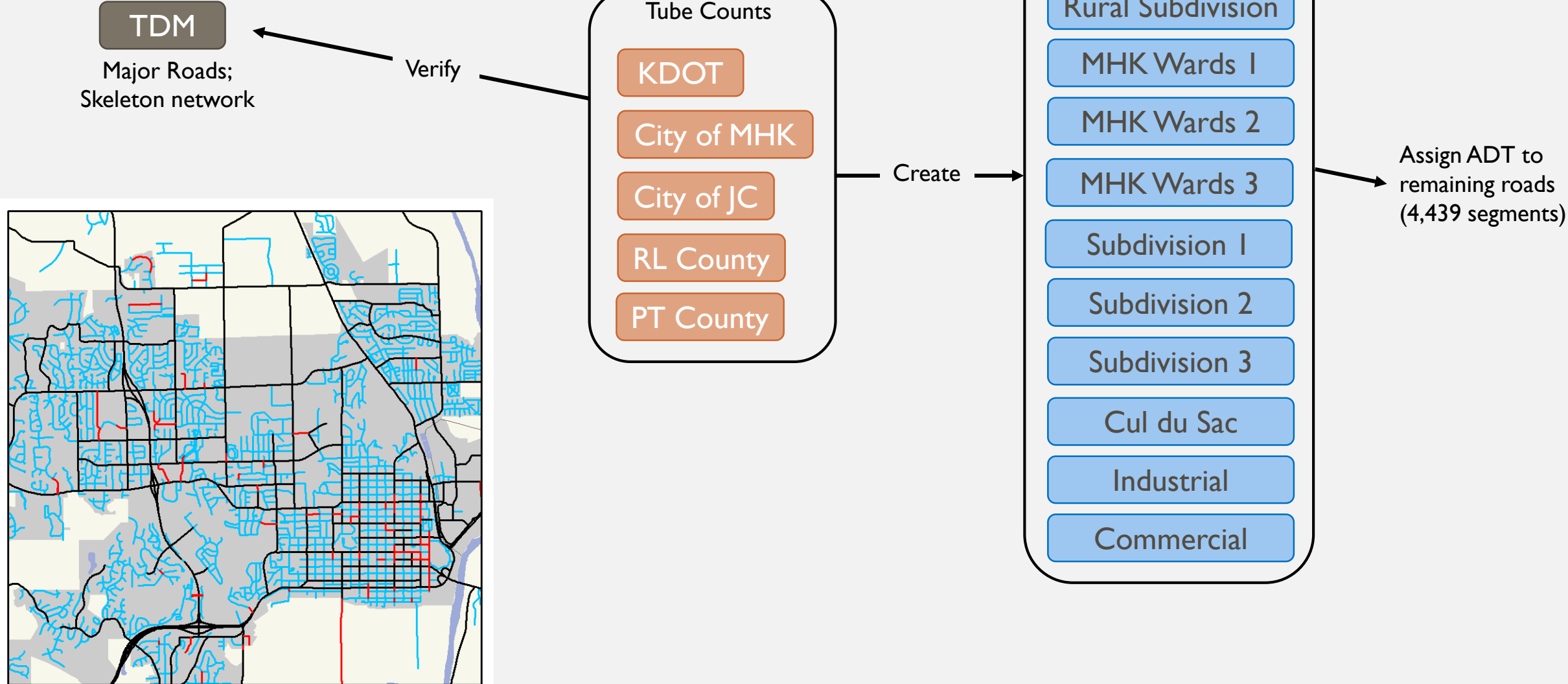
PROCESS FOR RULES...

- 2. Rate of Fatalities per 100 million VMT
- 4. Rate of Serious Injuries per 100 million VMT



CALCULATING VMT

1. Calculate ADT for all Road Segments



CALCULATING VMT

2. Calculate VMT from ADT for all Road Segments

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

$$\times 365 =$$

Annual VMT

2017 VMT: 754,500,000