

SAFETY PERFORMANCE MEASURES: 2018



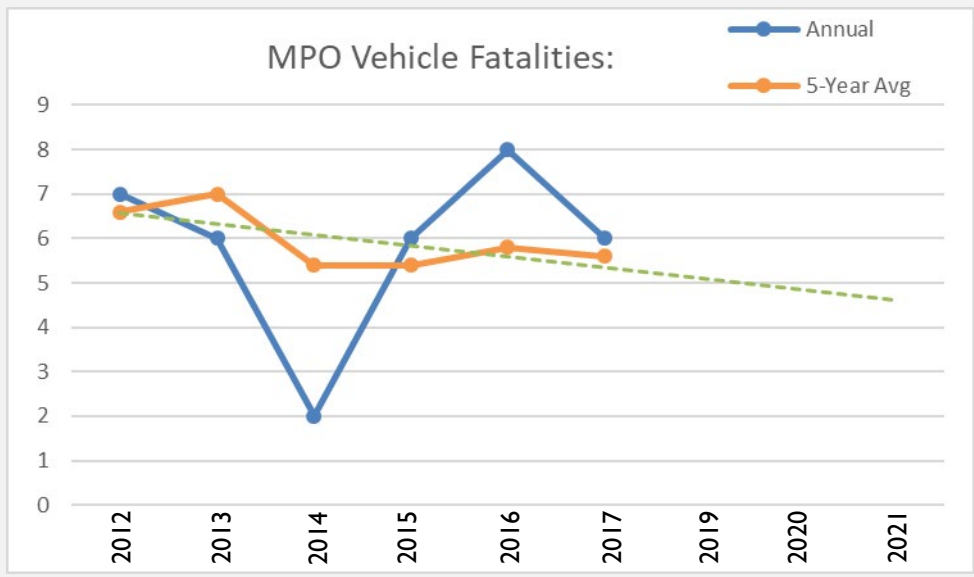
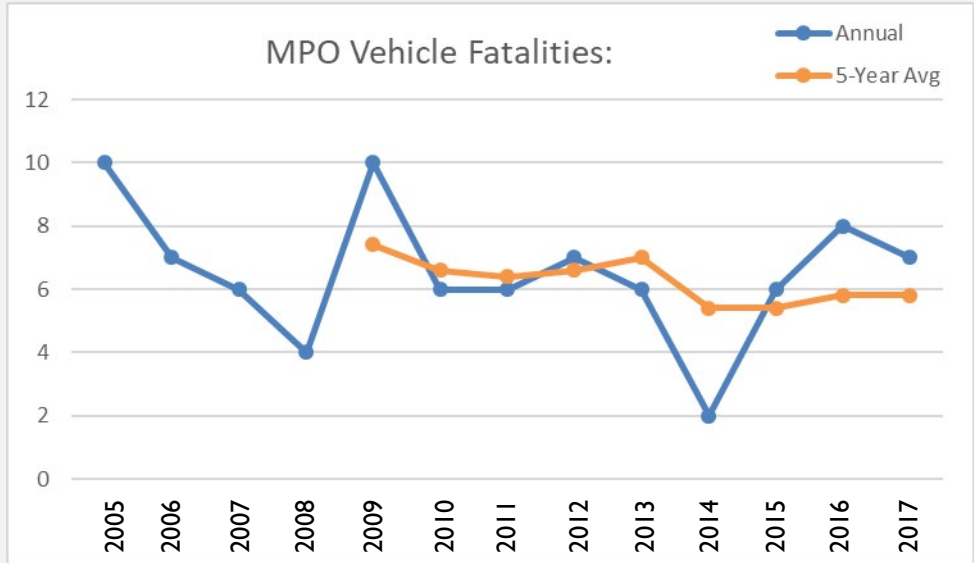
FHWA'S 5 SAFETY PERFORMANCE MEASURES

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

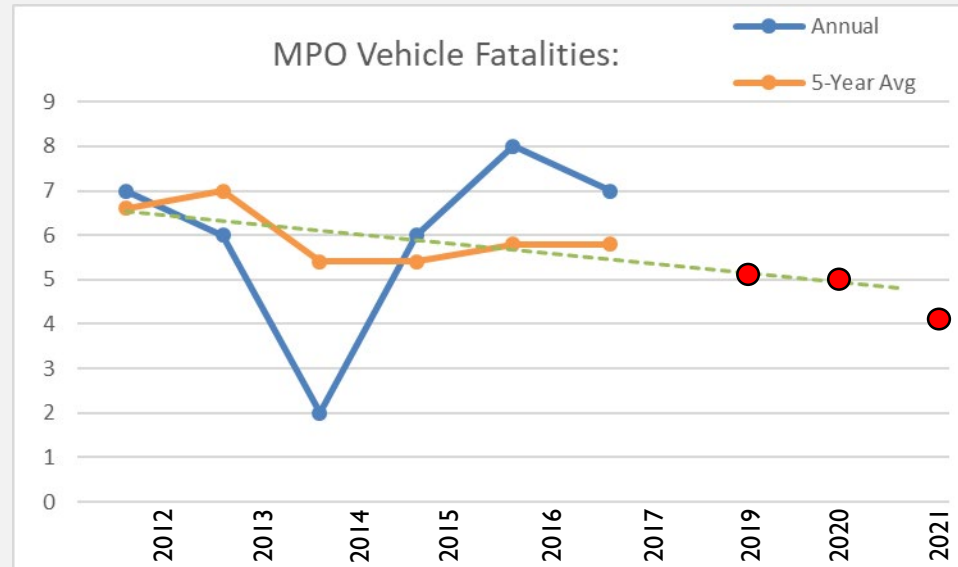
TARGET 1: # OF VEHICLE FATALITIES

Year	Annual Fatalities	5-Year Avg
2006	7	n/a
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
Total	74	n/a



TARGET 1: # OF VEHICLE FATALITIES

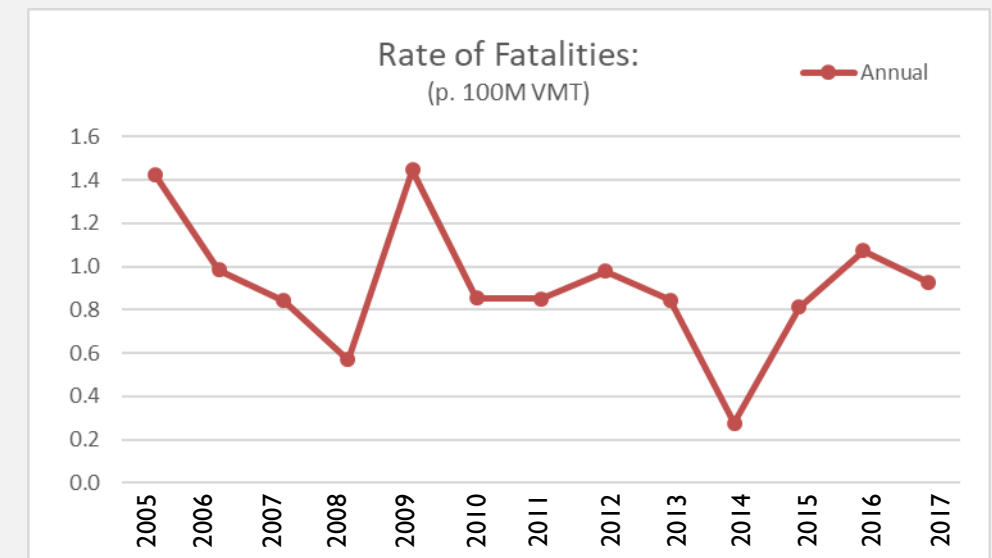
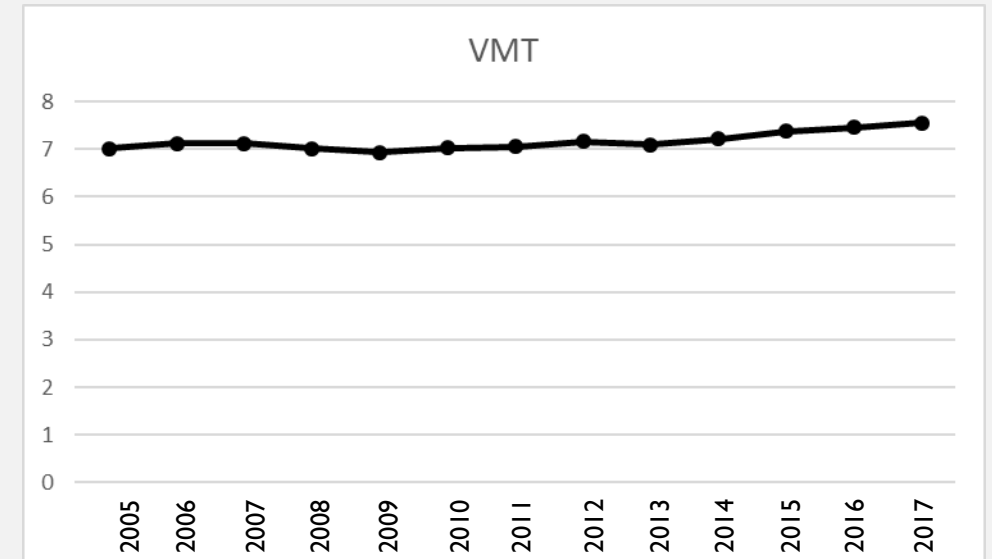
Year	Annual Fatalities	5-Year Avg
2010	6	6.6
2011	6	6.4
2012	7	6.6
2013	6	7
2014	2	5.4
2015	6	5.4
2016	8	5.8
2017	7	5.8
2018	n/a	n/a
2019	5	5.2
2020	5	6
2021	4	5.2



2019: 5
2020: 5
2021: 4

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

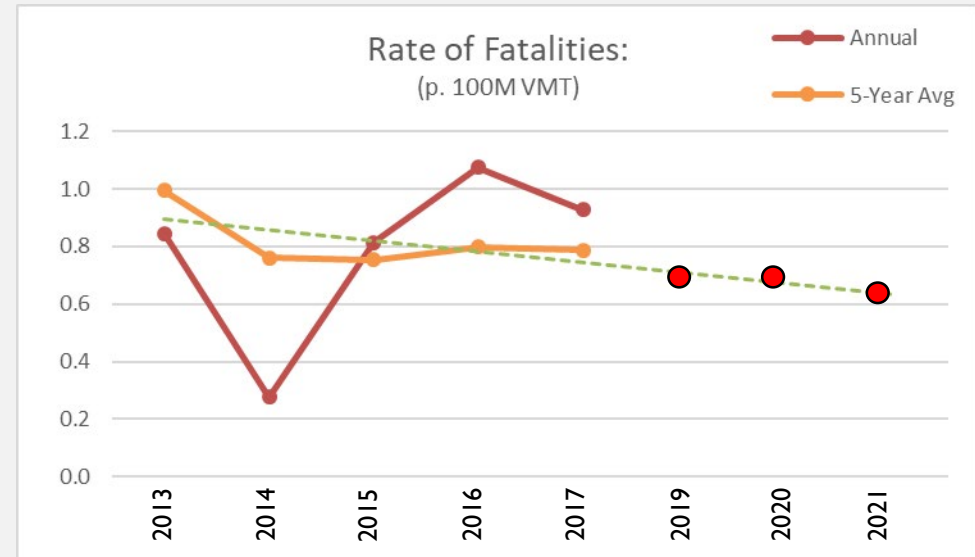
Year	Annual Fatalities	VMT % Change	100M VMT	Fatality Rate p. 100M VMT
2006	7	n/a	7.118	.983
2007	6	0.07	7.123	.842
2008	4	-1.65	7.007	.571
2009	10	-1.21	6.924	1.444
2010	6	1.36	7.019	.855
2011	6	0.4	7.047	.851
2012	7	1.57	7.16	.978
2013	6	-0.92	7.094	.846
2014	2	1.66	7.214	.277
2015	6	2.18	7.375	.814
2016	8	1.00	7.449	1.074
2017	7	1.01	7.545	.928



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

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

Year	Annual Fatalities	Fatality Rate p. 100M VMT	5-Year Avg
2013	6	0.846	.995
2014	2	0.277	.761
2015	6	0.814	.753
2016	8	1.074	.798
2017	7	.928	.788
2018	n/a	n/a	n/a
2019		.7	
2020		.7	
2021		.65	



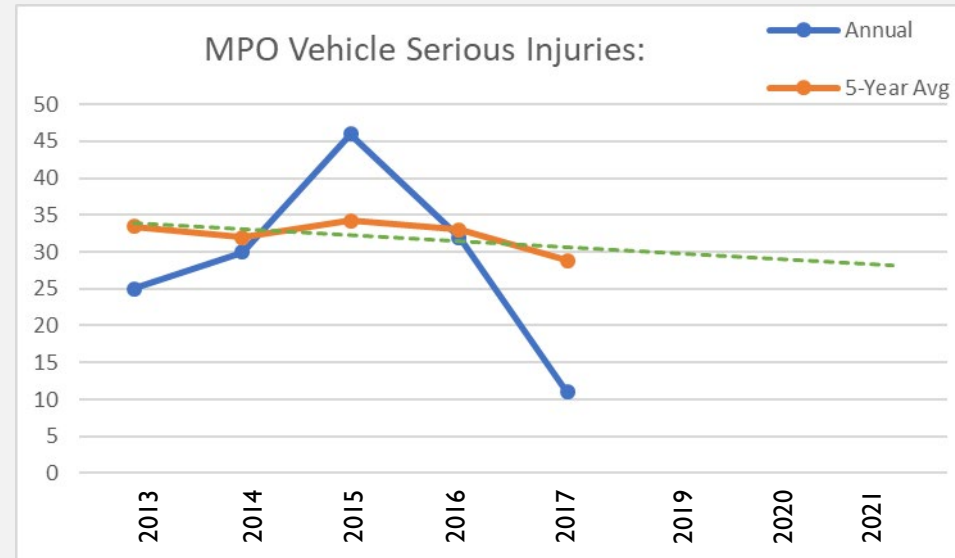
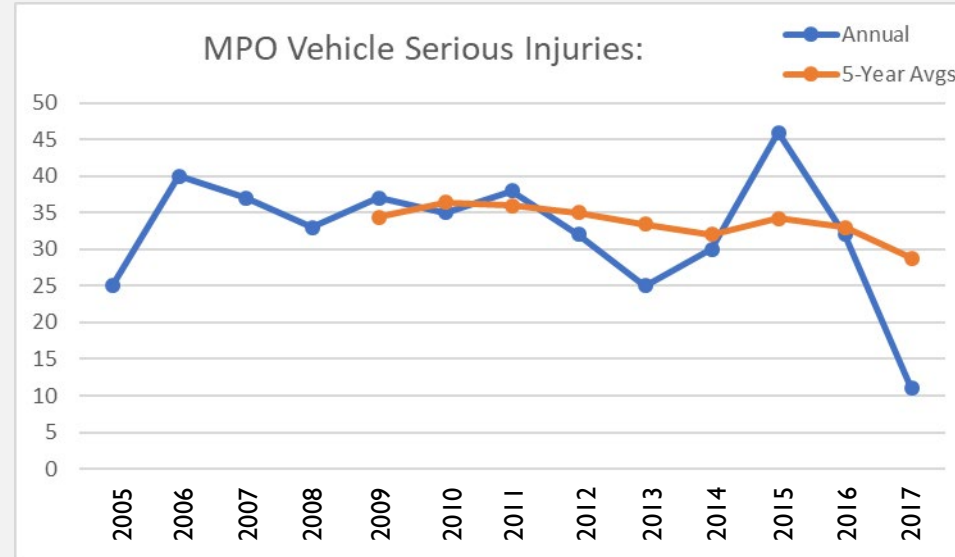
On Track



2019: 0.7
2020: 0.7
2021: 0.65

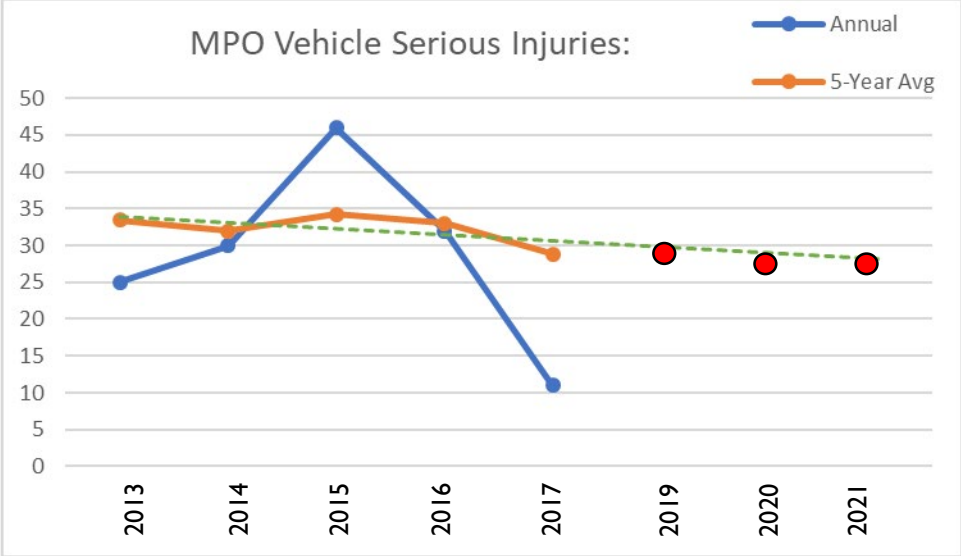
TARGET 3: # OF SERIOUS INJURIES

Year	Annual Serious Injuries	5-Year Avg
2006	40	n/a
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
Total	396	n/a



TARGET 3: # OF SERIOUS INJURIES

Year	Annual Serious Injuries	5-Year Avg
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	n/a	n/a
2019	29	29
2020	26	28
2021	26	27

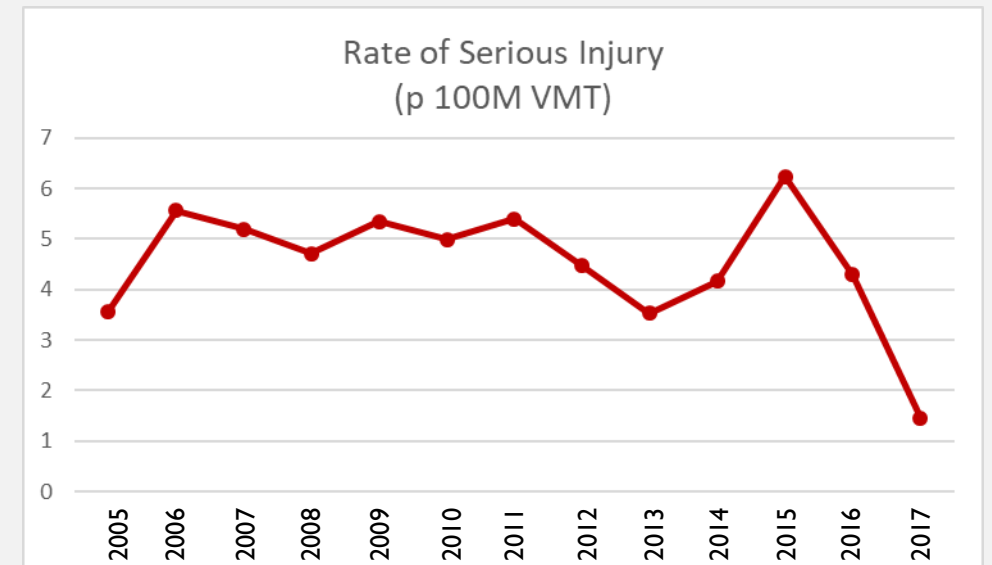
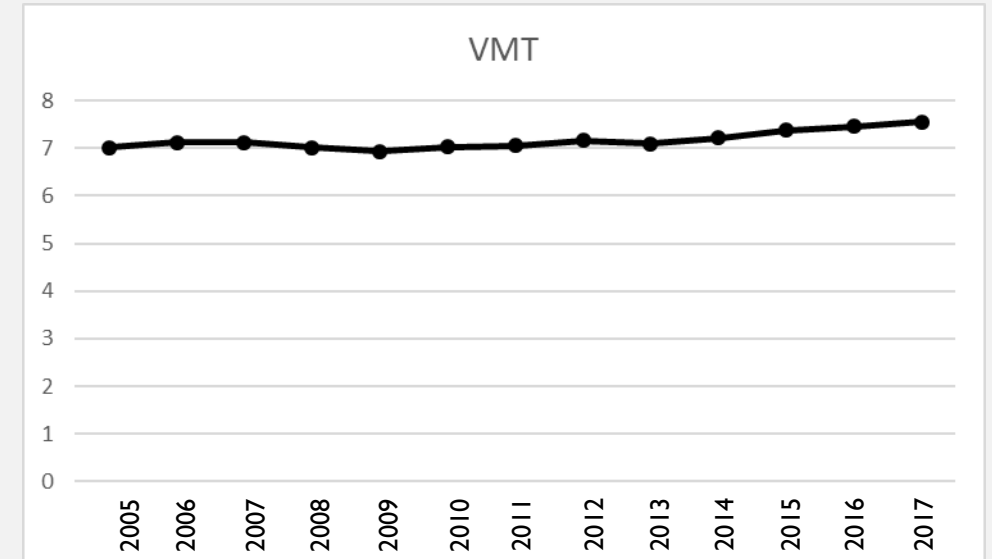


On Track

2019: 29
2020: 26
2021: 26

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

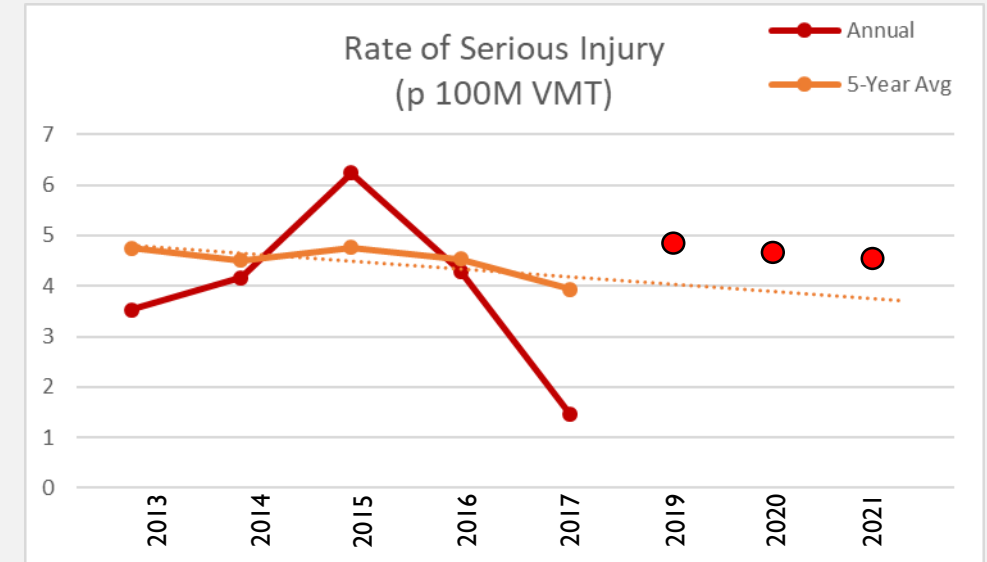
Year	Annual S. Injuries	VMT % Change	100M VMT	S. Injury Rate p. 100M VMT
2006	40	1.45	7.118	5.565
2007	37	0.07	7.123	5.194
2008	33	-1.65	7.007	4.710
2009	37	-1.21	6.924	5.344
2010	35	1.36	7.019	4.986
2011	38	0.4	7.047	5.392
2012	32	1.57	7.16	4.469
2013	25	-0.92	7.094	3.524
2014	30	1.66	7.214	4.159
2015	46	2.18	7.375	6.237
2016	32	1.00	7.449	4.296
2017	32	1.01	7.545	1.458



- 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
2013	25	-0.92	4.469	4.743
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	n/a	n/a	n/a	n/a
2019			4.3	
2020			4.2	
2021			4.1	



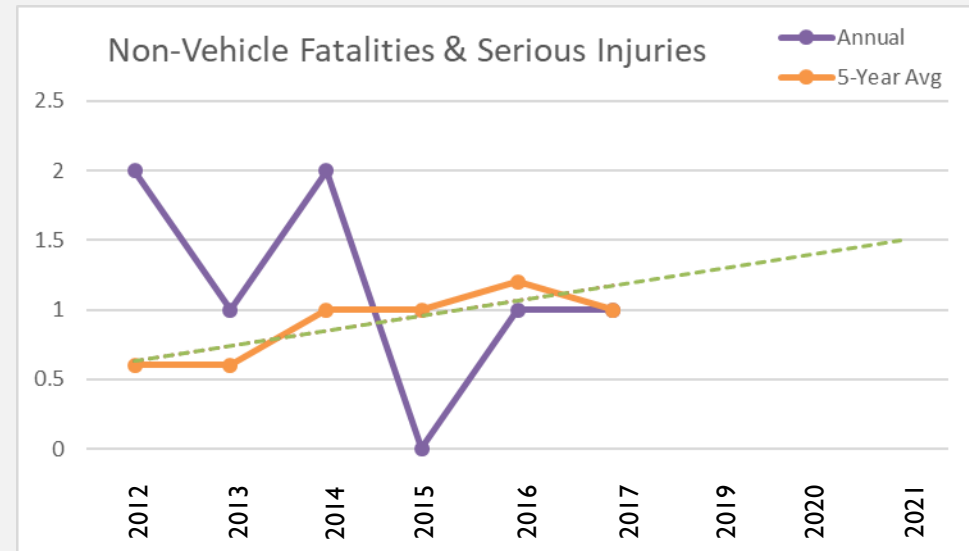
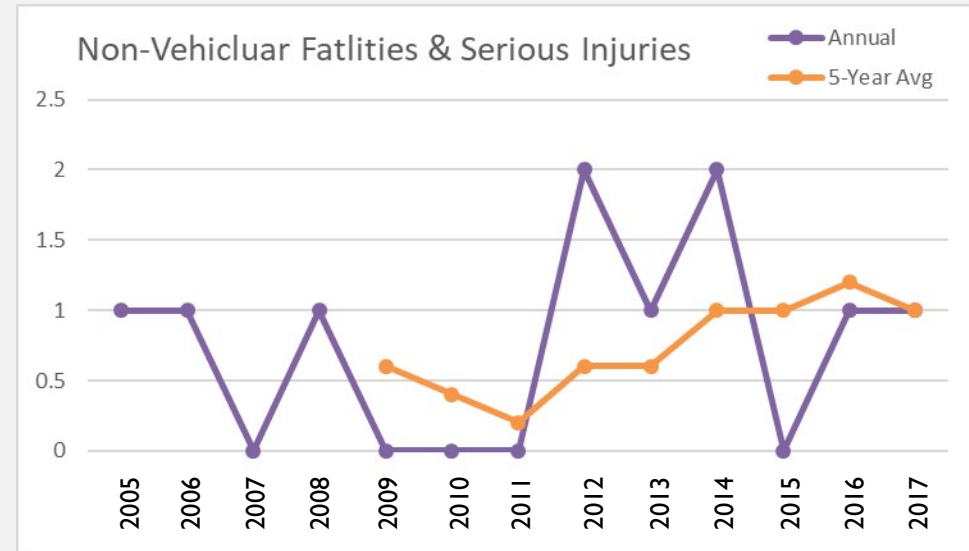
2019: 4.3
2020: 4.2
2021: 4.1



On Track

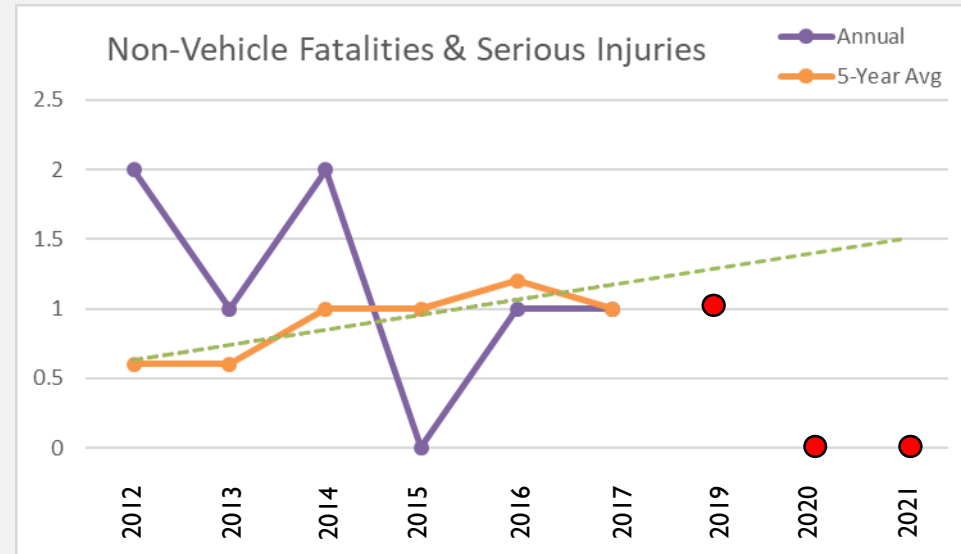
TARGET 5: # OF NON-VEHICULAR FATALITIES & SERIOUS INJURIES

Year	Annual Fatalities & Serious Injuries	5-Year Avg
2006	1	n/a
2007	0	n/a
2008	1	n/a
2009	0	0.6
2010	0	0.4
2011	0	0.2
2012	2	0.6
2013	1	0.6
2014	2	1
2015	0	1
2016	1	1.2
2017	1	1
Total	78	n/a













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

Year	Annual Fatalities & Serious Injuries	5-Year Avg
2010	0	0.4
2011	0	0.2
2012	2	0.6
2013	1	0.6
2014	2	1
2015	0	1
2016	1	1.2
2017	1	1
2018	n/a	n/a
2019	1	0.8
2020	0	0.4
2021	0	0.4

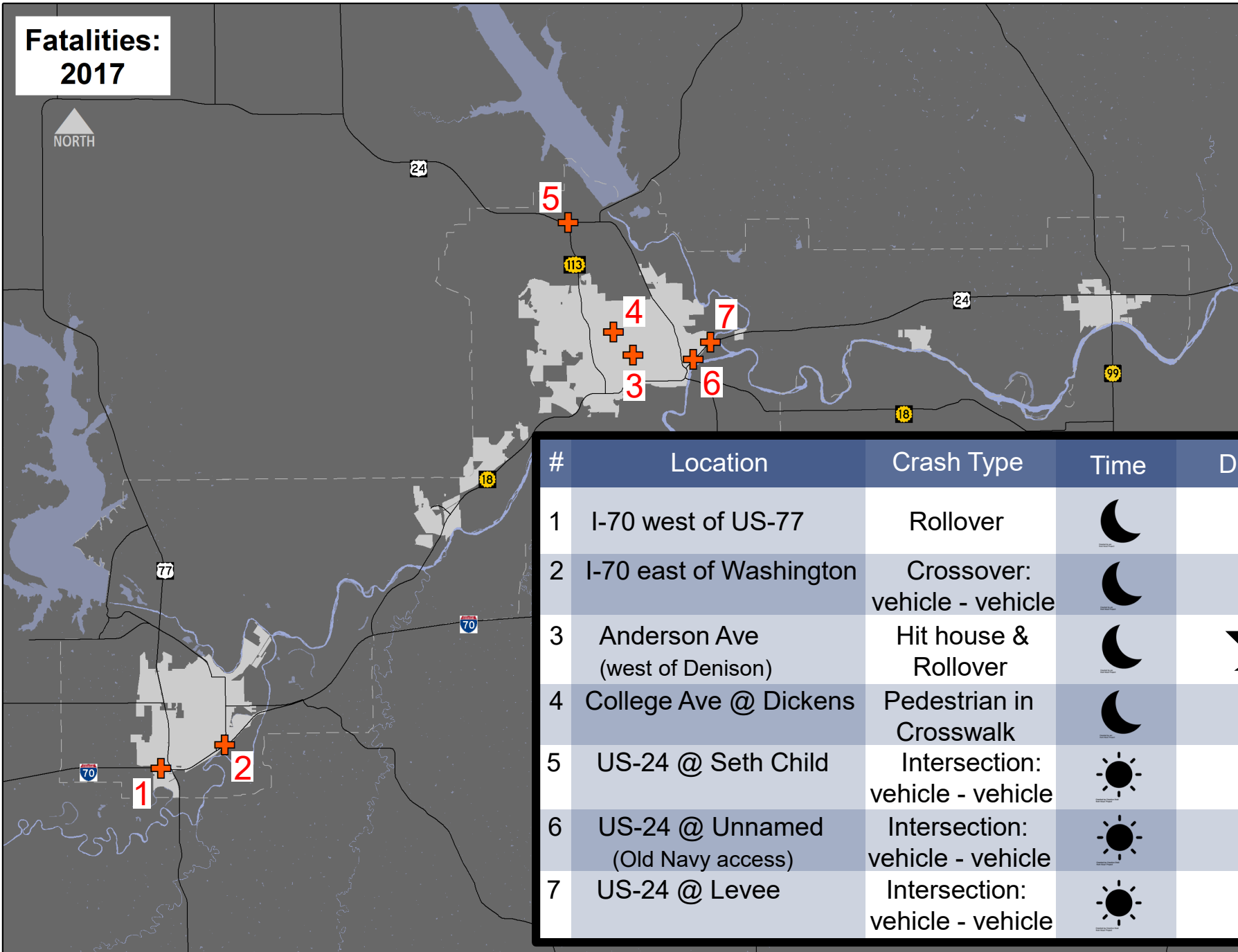


2019: 1
2020: 0
2021: 0

TARGET SUMMARY

- 1** Number of Fatalities
 -  **2019: 5**
2020: 4
2021: 4 
- 2** Rate of Fatalities per 100 million VMT
 -  **2019: 0.7**
2020: 0.7
2021: 0.65 
- 3** Number of Serious Injuries
 -  **2019: 29**
2020: 26
2021: 26 
- 4** Rate of Serious Injuries per 100 million VMT
 -  **2019: 4.3**
2020: 4.2
2021: 4.1 
- 5** Number of Non-motorized Fatalities & Non-motorized Serious Injuries
 -  **2019: 1**
2020: 0
2021: 0 

**Fatalities:
2017**



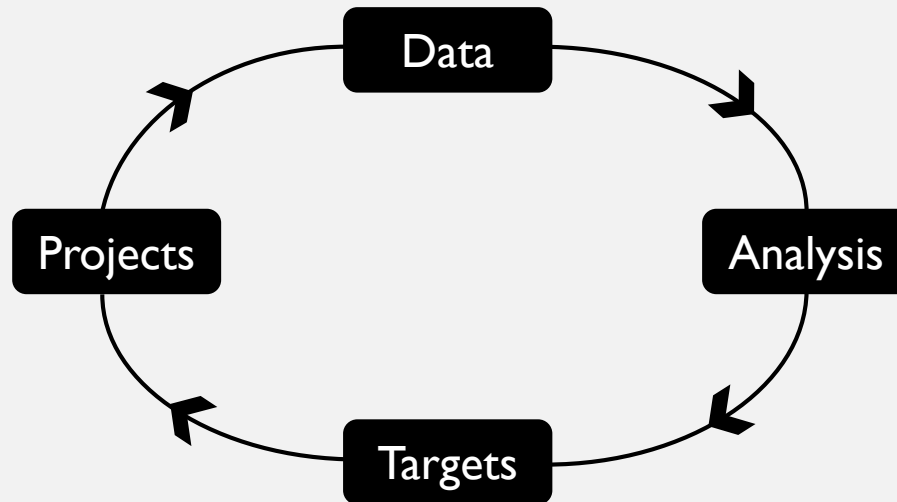
#	Location	Crash Type	Time	DUI	Planned Improvements
1	I-70 west of US-77	Rollover			No
2	I-70 east of Washington	Crossover: vehicle - vehicle			No
3	Anderson Ave (west of Denison)	Hit house & Rollover			No
4	College Ave @ Dickens	Pedestrian in Crosswalk			Yes: Improved crossing with overhead signals
5	US-24 @ Seth Child	Intersection: vehicle - vehicle			Yes: Seth Child Corridor Plan
6	US-24 @ Unnamed (Old Navy access)	Intersection: vehicle - vehicle			Yes: US-24 Corridor Plan
7	US-24 @ Levee	Intersection: vehicle - vehicle			Yes: US-24 Corridor Plan

METHODOLOGY DETAILS

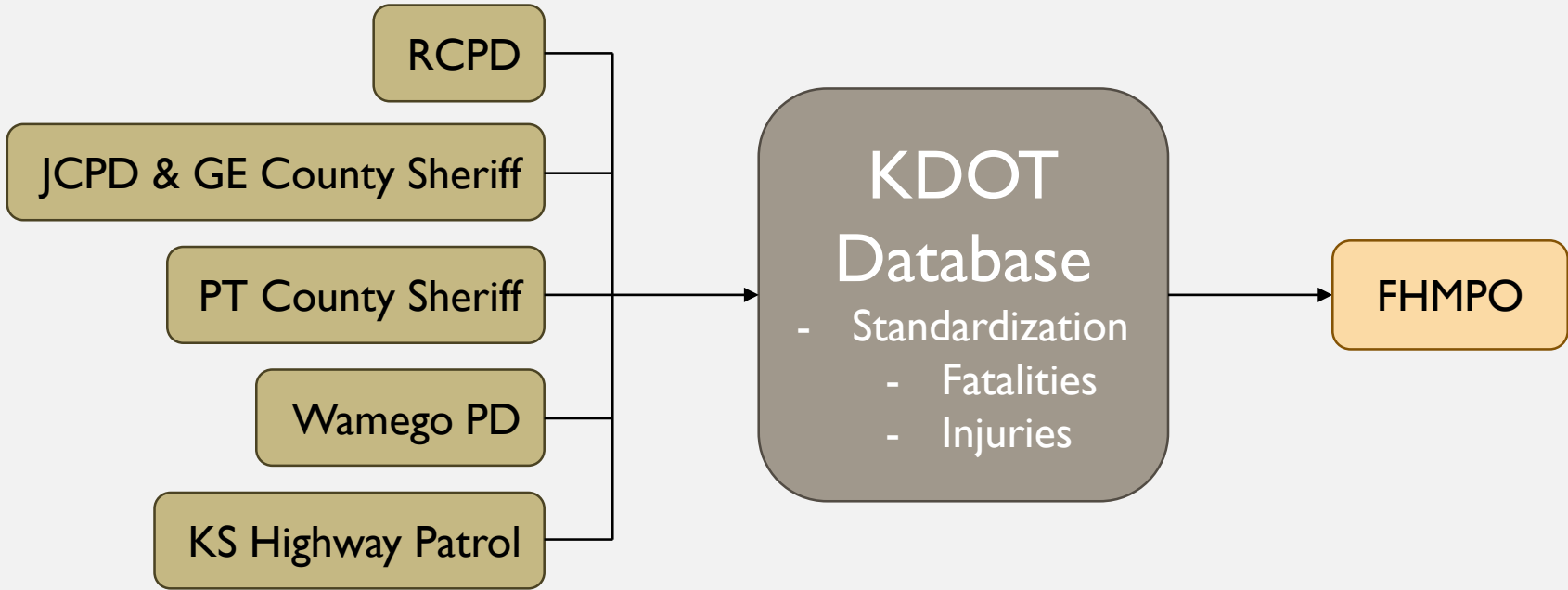
The following slides outline the workflow and methodologies used in analyzing the crash data.

DATA DRIVEN

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

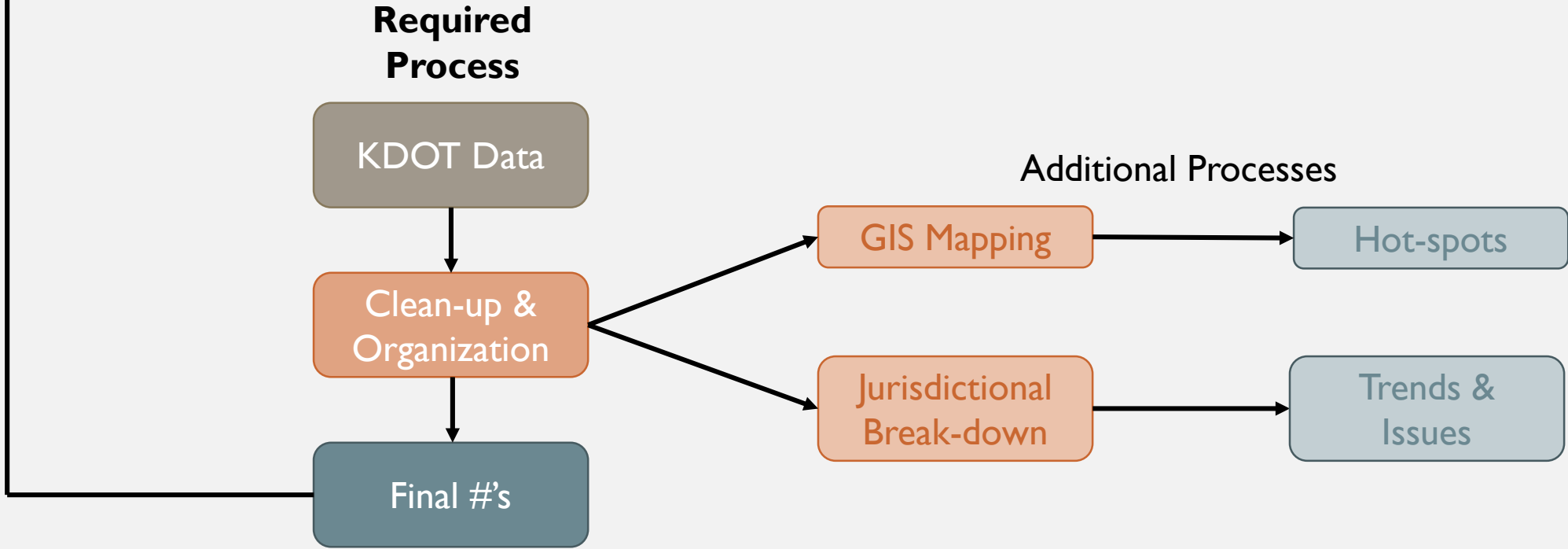


DATA FLOW



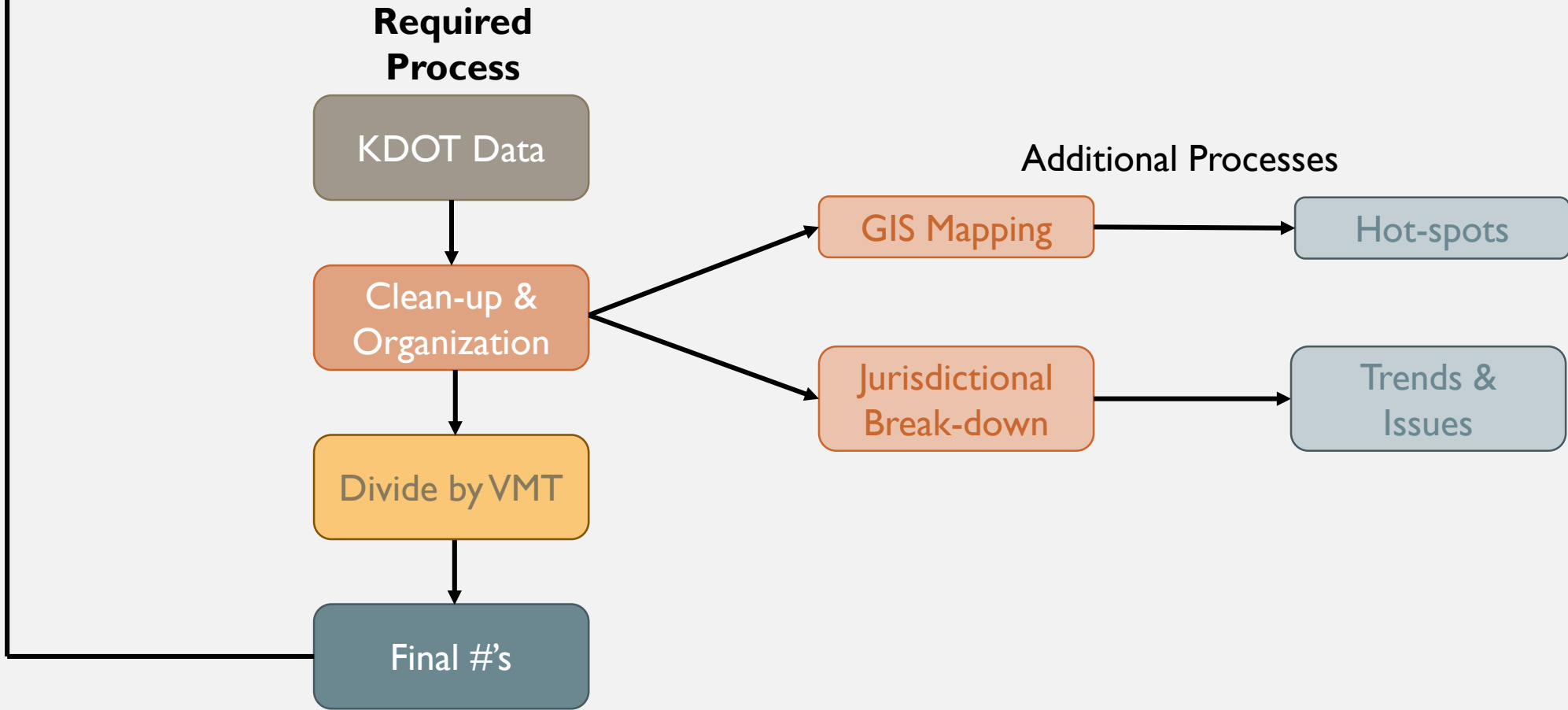
PROCESS FOR RULES...

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



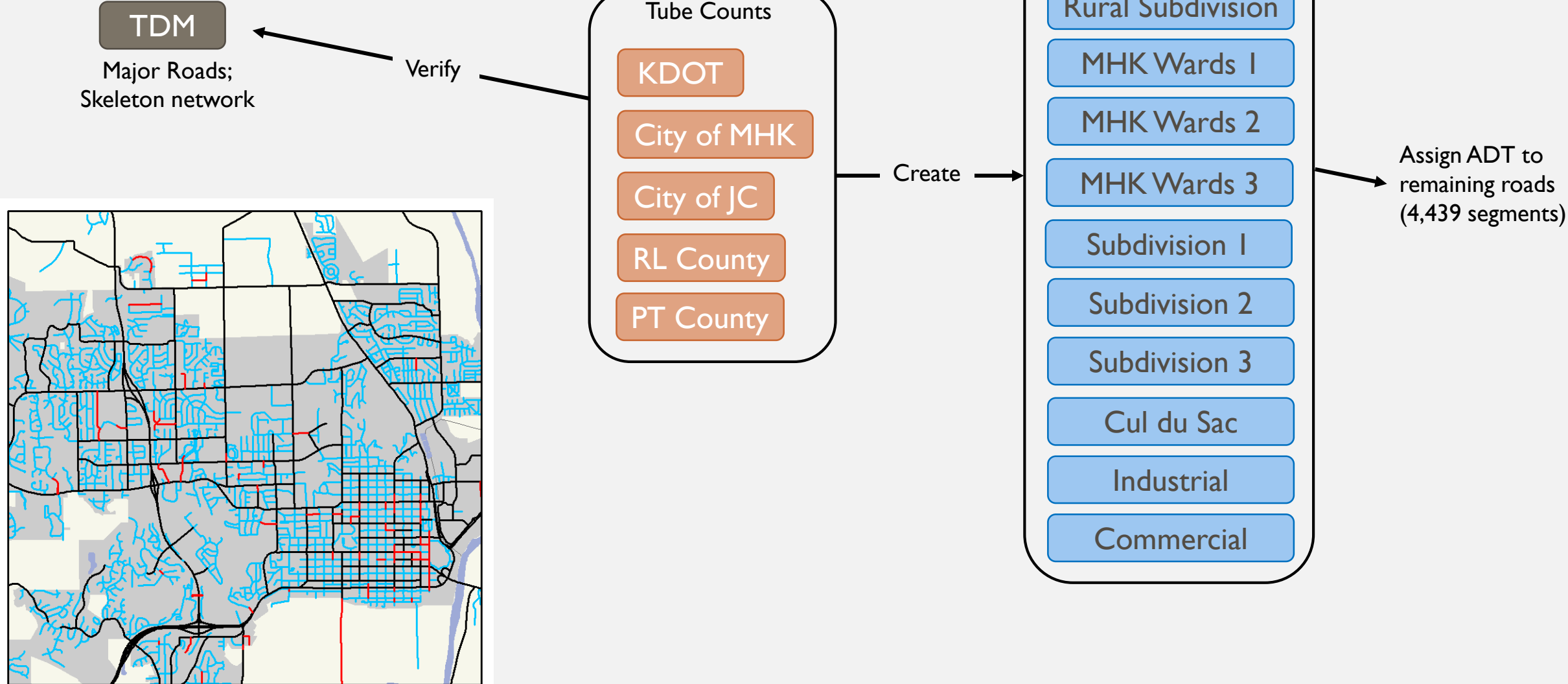
PROCESS FOR RULES...

- 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