Mesilla Valley
Metropolitan Planning Organization

Safety Report:

2018

Introduction

"Increasing safety for all users starting with those with the most vulnerable modes," is one of the key goals in *Transport 2040, Metropolitan Transportation Plan Update*, the adopted Metropolitan Transportation Plan (MTP) for the Mesilla Valley Metropolitan Planning Organization (MVMPO) for the years 2015-2020. Improving safety requires a multifaceted approach. For example, crashes are related to multiple factors such as: inattention due of the use of cell phones; driving while using drugs or alcohol; geometric design of intersections, streets and Interstates; and the amount of vehicle miles travelled. All these factors are in play when examining motorized and non-motorized crashes.

One approach to assist in monitoring and reducing crashes, particularly crashes that include fatalities and serious injuries, is Transportation Performance Management (TPM). This performance-based approach was formally introduced into the Metropolitan Planning Process through the Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 was signed into law on July 6, 2012, and passage of the subsequent federal transportation authorizing legislation titled Fixing America's Surface Transportation (FAST) Act in December 2015 continues to emphasize the importance of performance-based metrics and the establishment of targets to guide future transportation investments. For further information, go to the website of Transportation Performance Planning at: https://www.fhwa.dot.gov/tpm/

Transportation Performance Management (TPM) is a strategic approach that uses system information to make investment and policy decisions to achieve performance goals. TPM principles ensure that the best projects are selected and delivered to produce the performance outcomes desired by the agency, external partners, elected officials, and the public. TPM helps determine objectives, using information from past performance levels and forecasted conditions to guide investments, measuring progress toward strategic goals, and adjusting to improve performance. TPM is grounded in sound data management, usability, and analysis as well as in effective communication and collaboration with internal and external stakeholders. The key to successful implementation of TPM practices lies in organizational support and agency embrace of data-driven decision making.

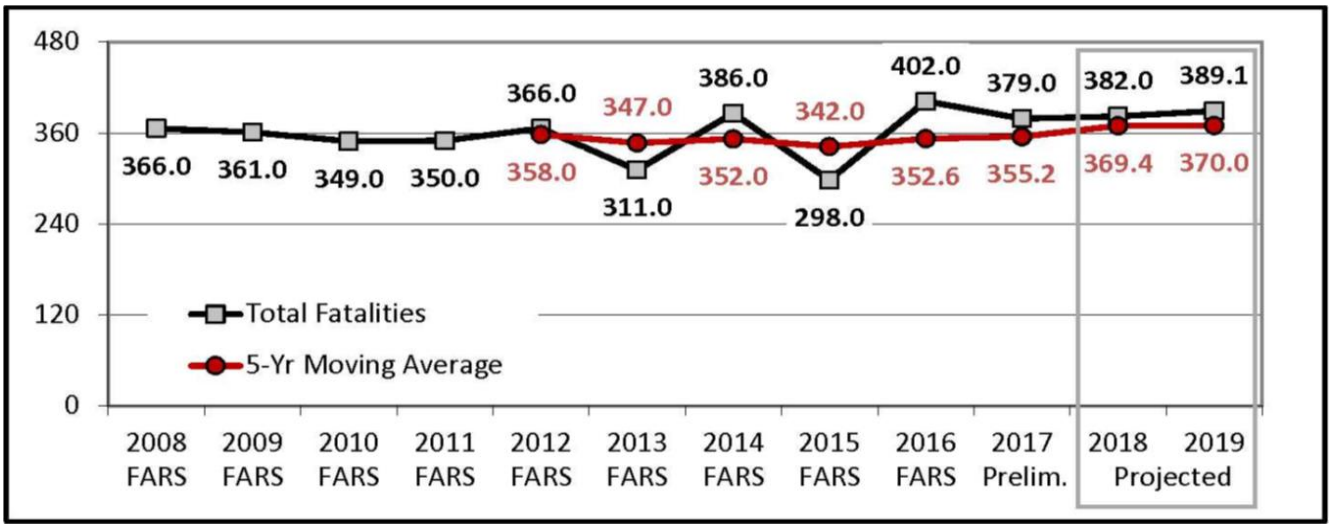
Monitoring and setting targets are the means to determine allocations of scare Federal, State and local monies for safety projects and programs. There is often a common perception that geometric improvements (including more travel lanes) or signalization of intersections is the solution for decreasing crashes. The number of crashes generally increases as vehicle miles traveled increase. While geometric improvements can decrease crashes, they are not a panacea and can possibly increase crashes. Other factors such as improved safety features for vehicles (seatbelts, air bags, collision warning etc.), effective enforcement against the use of drugs and alcohol while driving, addressing demographic factors (reduction of drivers 18-25 and 65 plus driving vehicles) and elimination of vehicle miles travelled. The use of public transit and non-motorized modes can also be effective in decreasing crashes. Conversely, mode shift from motorized to non-motorized modes can increase crashes for these modes, if there are not proper facilities. For further information on safety target settings refer to this FHWA resource webpage: https://safety.fhwa.dot.gov/hsip/spm/target-setting_resources.cfm

State of New Mexico and Mesilla Valley MPO Crash Target Setting

In November 2018 the Mesilla Valley MPO adopted 2019 Targets for Safety for New Mexico, as required by the 23 CFR 490, Final Rule on the Highway Safety Improvement Program (HSIP). Statewide traffic crash data can be found in the New Mexico Traffic Crash Annual Report 2016 at: http://tru.unm.edu/Crash-Reports/Annual-Reports/annual-report-2016.pdf Crash data for Doña Ana County can be found at: https://tru.unm.edu/Crash-Reports/Community-Reports/2016-community-reports/2016-community-reports-pdfs/County_DonaAna_2016.pdf .

The first chart in each section represents the State Targets, which the Mesilla Valley voted to support, and the State Justification Statement, followed by charts and tables specific to the Mesilla Valley MPO.

1. Fatalities

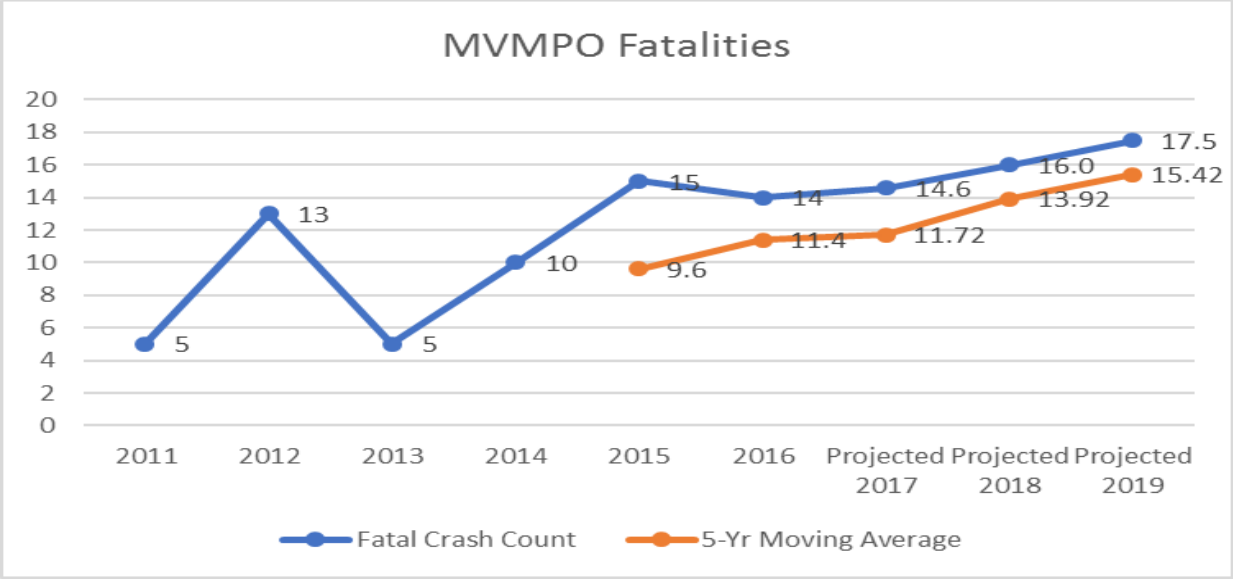


NMDOT Target Statement: Limit the increase in total fatalities to 6.4 percent from 352.6 in 2016 to 375 by December 31, 2019 (FARS; 5-year averages)

NMDOT Justification: Five-year average fatalities fell by 7 percent between 2011 and 2015, but then rose in 2016 to their highest level in ten years. 2017 preliminary data and 2018 and 2019 projected data indicate fatalities remaining high. Although the 5- year trend line indicates a 5 percent increase in overall fatalities from 2016 to 2019, given the projected increases in pedestrian, speeding and alcohol-impaired fatalities, the State has determined a 6.4 percent increase in overall fatalities to be an achievable target in 2019.

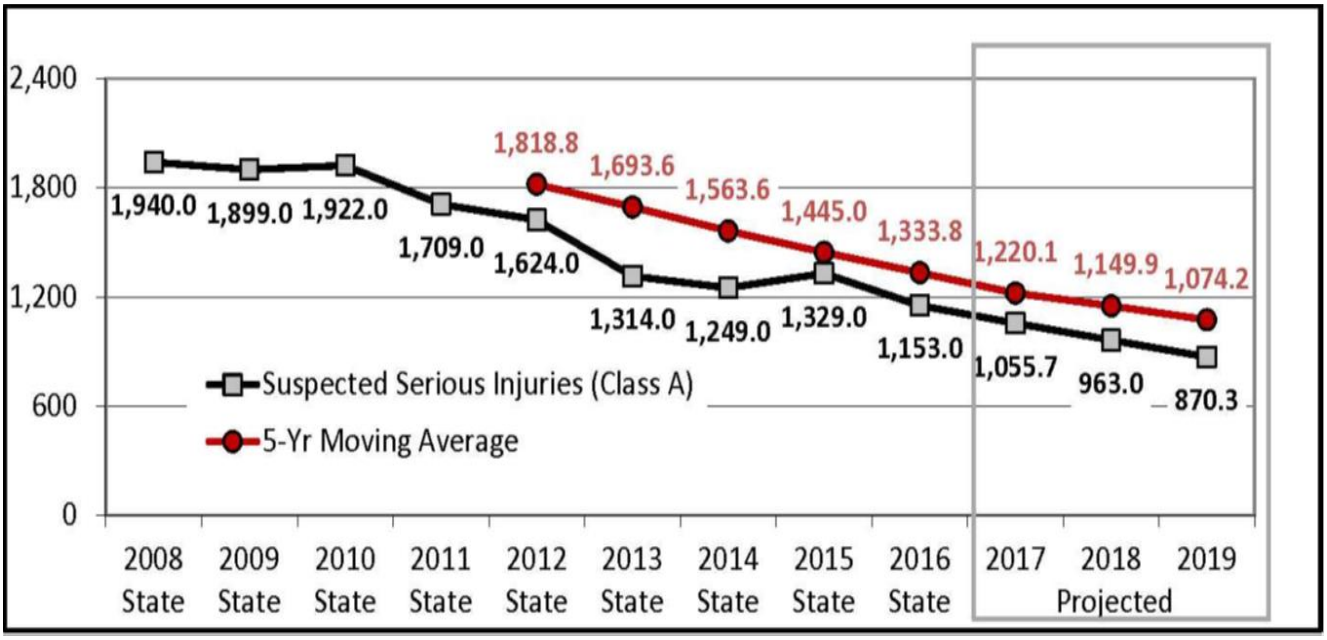
MVMPO Fatalities:

Year	2011	2012	2013	2014	2015	2016	Projected 2017	Projected 2018	Projected 2019	% Difference (2011-2016)	% Difference (2016-2019)
Fatal Crash Count	5	13	5	10	15	14	14.6	16.0	17.5	180.000%	25.000%
5-Yr Moving Average					9.6	11.4	11.72	13.92	15.42	18.750%	35.263%



MVMPO Performance: Over the study period, 2011 to 2016 fatalities have been increasing (180 % increase.) The fluctuation has been dramatic. Between 2011 and 2013, the number of fatalities went from 5 in 2011 to 13 in 2013 to 5 in 2013 and 10 in 2014. Since 2014 the number of fatalities has risen dramatically. The 5-year average number of fatalities from 2011 to 2015 is 9.6. The 5-year average number of fatalities from 2012 to 2016 is 11.4. The percentage change between the two 5-year intervals is 18.75%. It is projected that in 2018 and 2019, there will be 25% increase and a 35.263% increase between the five year intervals. This is higher than the NMDOT target of a 6.4% increase for the five year period. It must be noted that the number of absolute fatalities are small and erratic and the projected fatalities have a large margin of error. The location and cause of fatal crashes are detailed for 2016 in Section 7.

2. Serious Injuries

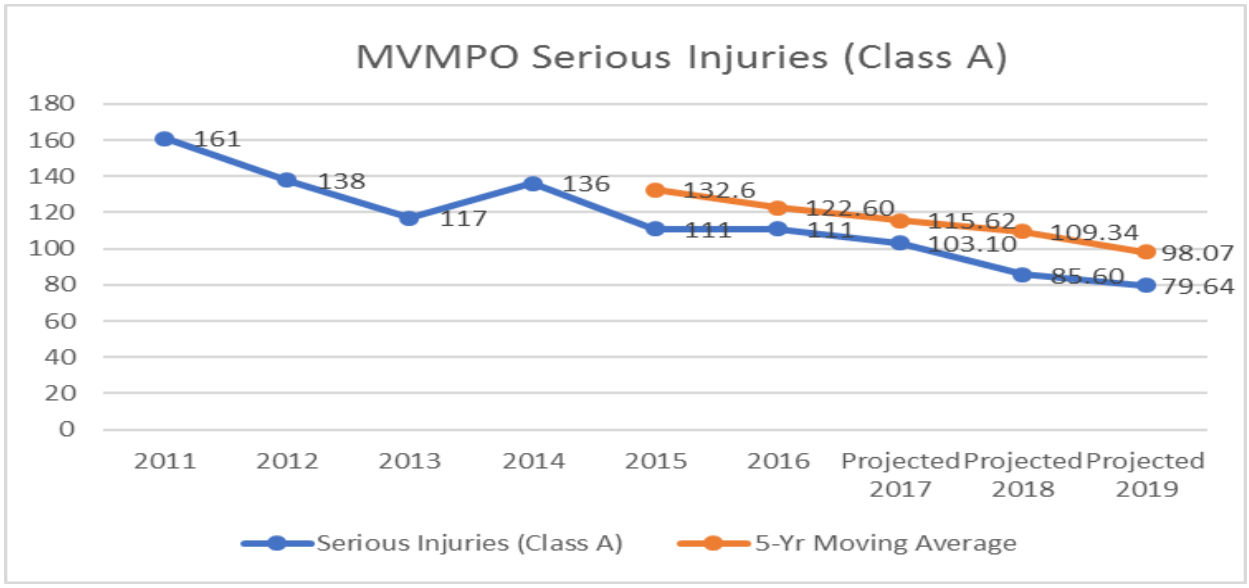


NMDOT Target Statement: Decrease the number of serious injuries by 17.5 percent from 1,333.8 in 2016 to 1,100.0 by December 31, 2019.

NMDOT Justification: Five-year average serious injuries are projected to fall by 14.7 percent between 2016 and 2018, and the State anticipates a continued reduction in serious injuries in 2019. The State has determined a 17.5 percent reduction in these injuries from 2016 to 2019 is achievable.

MVMPO Serious Injuries (Class A):

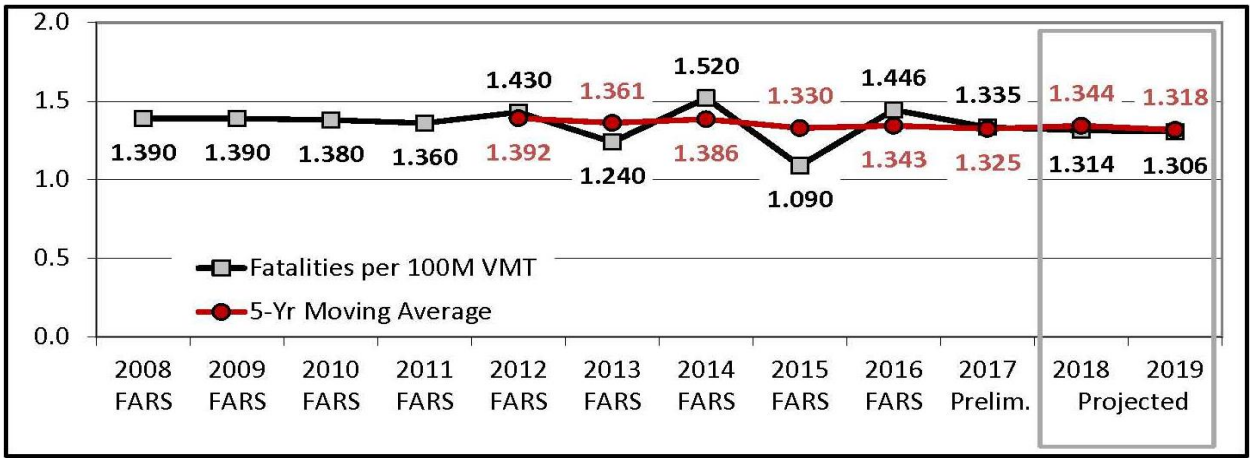
Year	2011	2012	2013	2014	2015	2016	Projected 2017	Projected 2018	Projected 2019	% Difference (2011-2016)	% Difference (2016-2019)
Serious Injuries (Class A)	161	138	117	136	111	111	103.10	85.60	79.64	-31.06%	-28.25%
5-Yr Moving Average					132.6	122.60	115.62	109.34	98.07	-7.54%	-20.01%



MVMPO Performance: Serious injures (Class A) have been steadily increasing corresponding to the decrease in the State. The five-year average number of serious injuries (Class A) from 2011 to 2015 is 132.6. The five-year average of serious injuries from 2012 to 2016 is 122.60. The percentage change was -7.54% between the two five-year periods. It is predicted to be a decrease of 28.25% in serious injuries (Class A) by 2019 from 111 in 2016 to 79.64 (predicted) in 2019. The five year period decrease should be 20.01% decrease.

(1) NMDOT definition of injuries:
Injuries – The number of people injured in a crash, in contrast to the number of crashes in which people were injured. This includes Suspected Serious Injuries (Class A), Suspected Minor Injuries (Class B) and Possible Injuries (Class C). Counts consist of people injured but not killed.
(NMDOT Traffic Crashes Annual Report (2016), p.xviii.)

3. Fatalities per 100 Million Vehicle Miles Travelled (VMT)

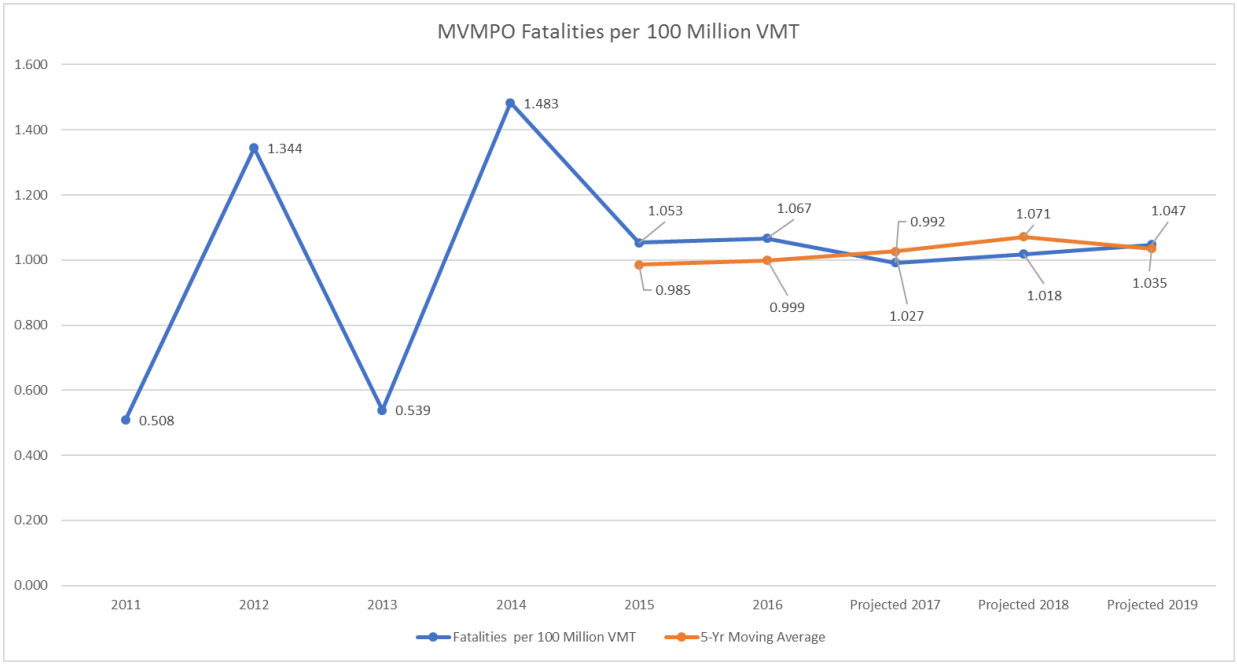


NMDOT Target Statement: Decrease the fatality rate from 1.343 in 2016 to 1.318 by December 31, 2019.

NMDOT Justification: Although five-year average fatalities are expected to increase in 2019 from 2016, with VMT expected to continue rising, the State determines that the projected 2019 five-year fatality rate is an achievable target.

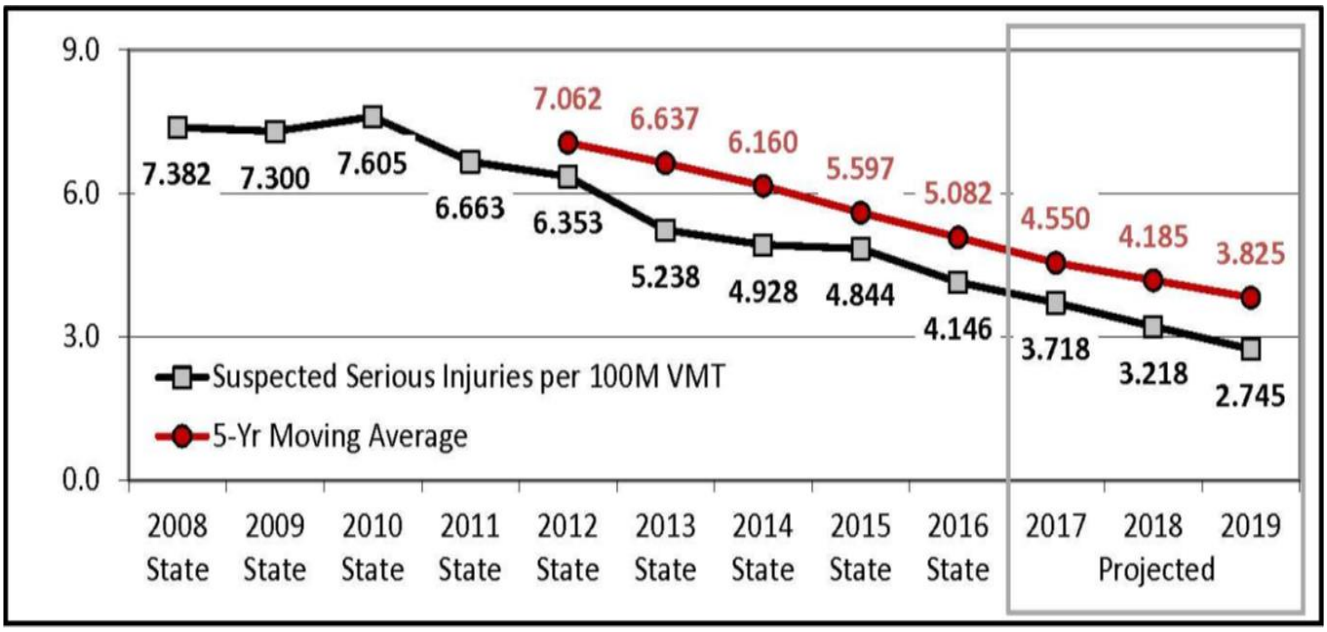
MVMPO Fatalities per 100 Million VMT:

Year	2011	2012	2013	2014	2015	2016	Projected 2017	Projected 2018	Projected 2019	% Difference (2011-2016)	% Difference (2016-2019)
Fatalities per 100 Million VMT	0.508	1.344	0.539	1.483	1.053	1.067	0.992	1.018	1.047	110.00%	-1.88%
5-Yr Moving Average					0.985	0.999	1.027	1.122	1.035	1.38%	3.63%



MVMPO Performance: The fatality rate per 100 Million VMT fluctuates yearly according to the VMT changes per year for the MPO Area (See Appendix A). Between 2011 to 2014, there were wide fluctuations in the number of fatalities and a decrease in VMT. After 2013, VMT rose dramatically and continued to increase untill 2016. It is forecasted that there will be steady increase in the VMT to 2019. The average fatality rate per 100 Million VMT from 2011 to 2015 is .99 The average fatality rate from 2012 to 2016 is 1.10. The percentage difference between the two 5-year periods is 1.38%. The fatality rate is expected to increase till 2019, but will be under the targets set by the State.

4. Serious Injuries per 100 Million VMT

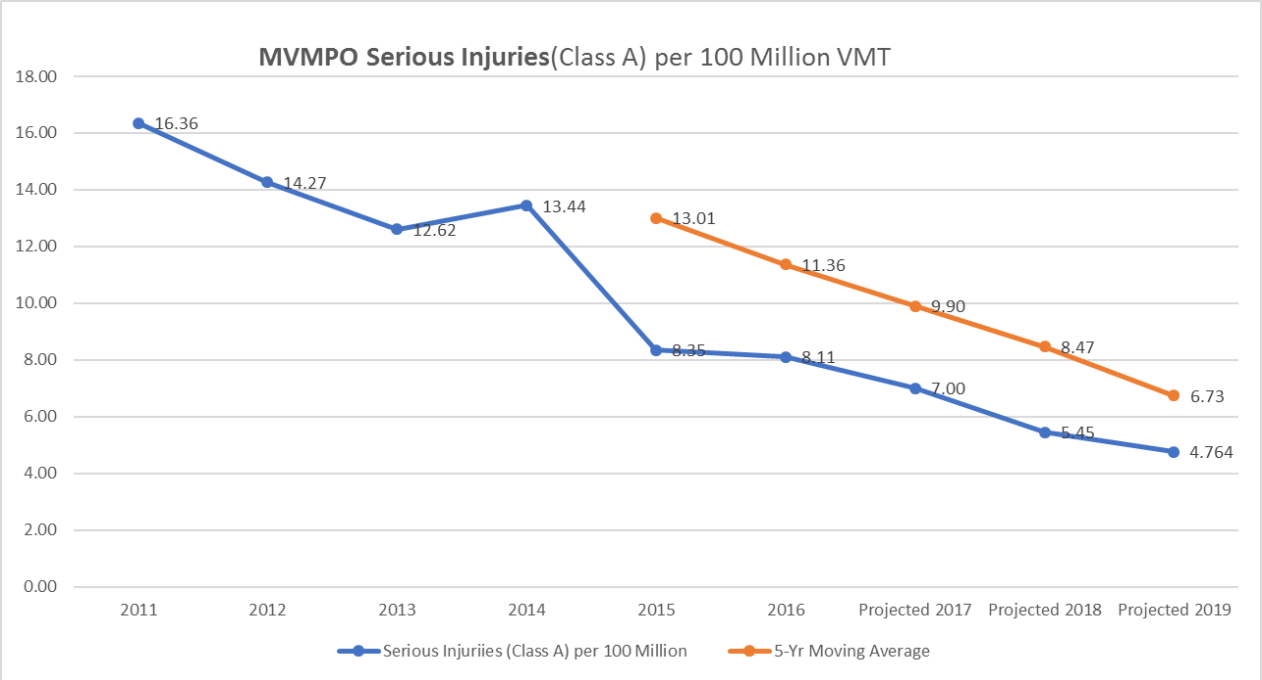


NMDOT Target Statement: Decrease the rate of serious injuries from 5.082 in 2016 to 3.825 by December 31, 2019.

NMDOT Justification: Five-year average serious injury rates are projected to continue falling, and the State has determined the 2019 five-year average projection to be an achievable target.

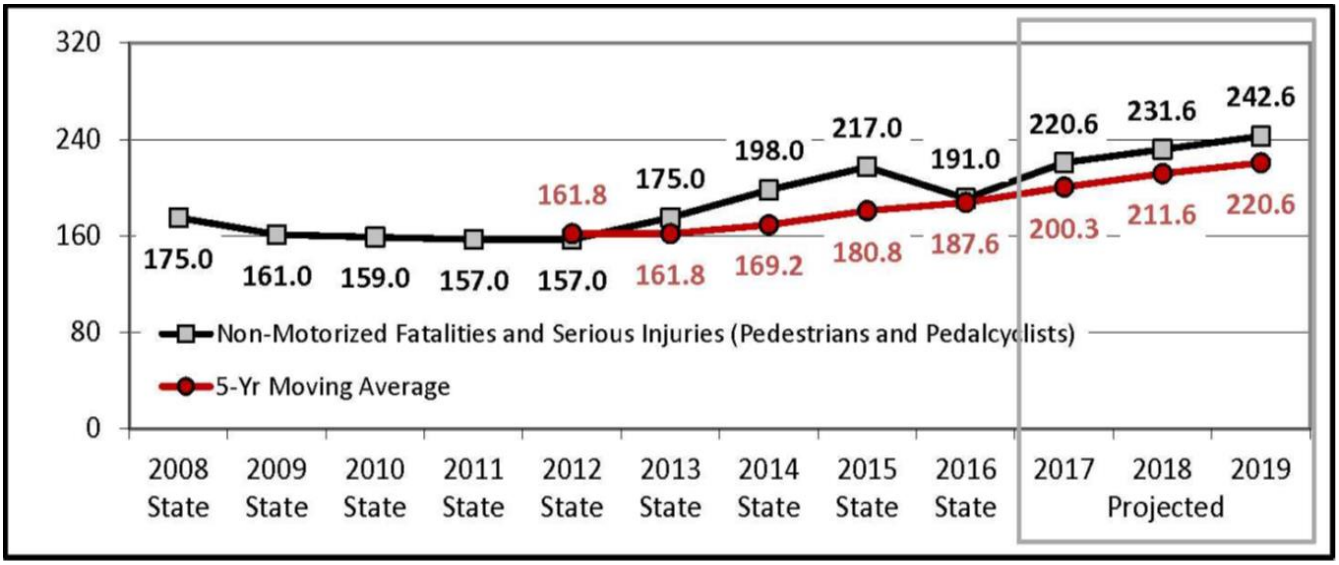
MVMPO Serious Injuries (Class A) per 100 Million VMT:

Year	2011	2012	2013	2014	2015	2016	Projected 2017	Projected 2018	Projected 2019	% Difference (2011-2016)	% Difference (2016-2019)
Serious Injuriies (Class C) per 100 Million VMT	16.36	14.27	12.62	13.44	8.35	8.11	7.00	5.45	4.76	-0.50	-0.41
5-Yr Moving Average					13.01	11.36	9.90	8.47	6.73	-0.13	-0.41



MVMPO Performance: The average serious injury (Class A) rate per 100 Million VMT from 2011 to 2015 is 13.01. The average serious injury rate from 2012 to 2016 is 11.36. The percentage difference between the two 5-year periods is -12.68%. The State's serious injury rate is projected to be 2.745 by 2019. The projected rate for MVMPO is 4.76 per 100 Million VMT. This is 73.55% above the State's target rate. To improve this, the MVMPO member jurisdictions should devote more resources to measures that will decrease the area's serious injury rate.

5. Number of Non-Motorized Fatalities and Serious Injuries

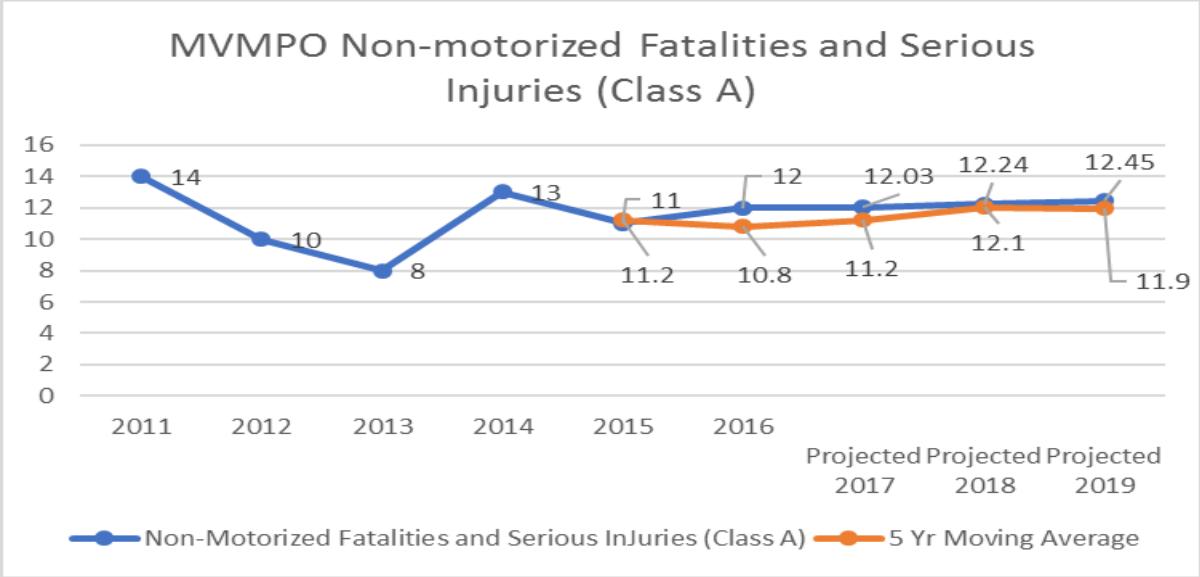


NMDOT Target Statement: Limit the increase in non-motorized fatalities and non-motorized serious injuries to 220.6 by December 31, 2019.

NMDOT Justification: Five-year average non-motorized fatalities and serious injuries are projected to rise over the next four years, and the State has determined the 2019 five-year average projection to be an achievable target.

MVMPO Non-motorized Fatalities and Serious Injuries (Class A):

Year	2011	2012	2013	2014	2015	2016	Projected 2017	Projected 2018	Projected 2019	% Difference (2011-2016)	% Difference (2016-2019)
Non-Motorized Fatalities and Serious InJuries (Class A)	14	10	8	13	11	12	12.03	12.24	12.45	-12.58%	3.7%
5 Yr Moving Average					11.2	10.8	11.2	12.1	11.9	-40.0%	10.6%



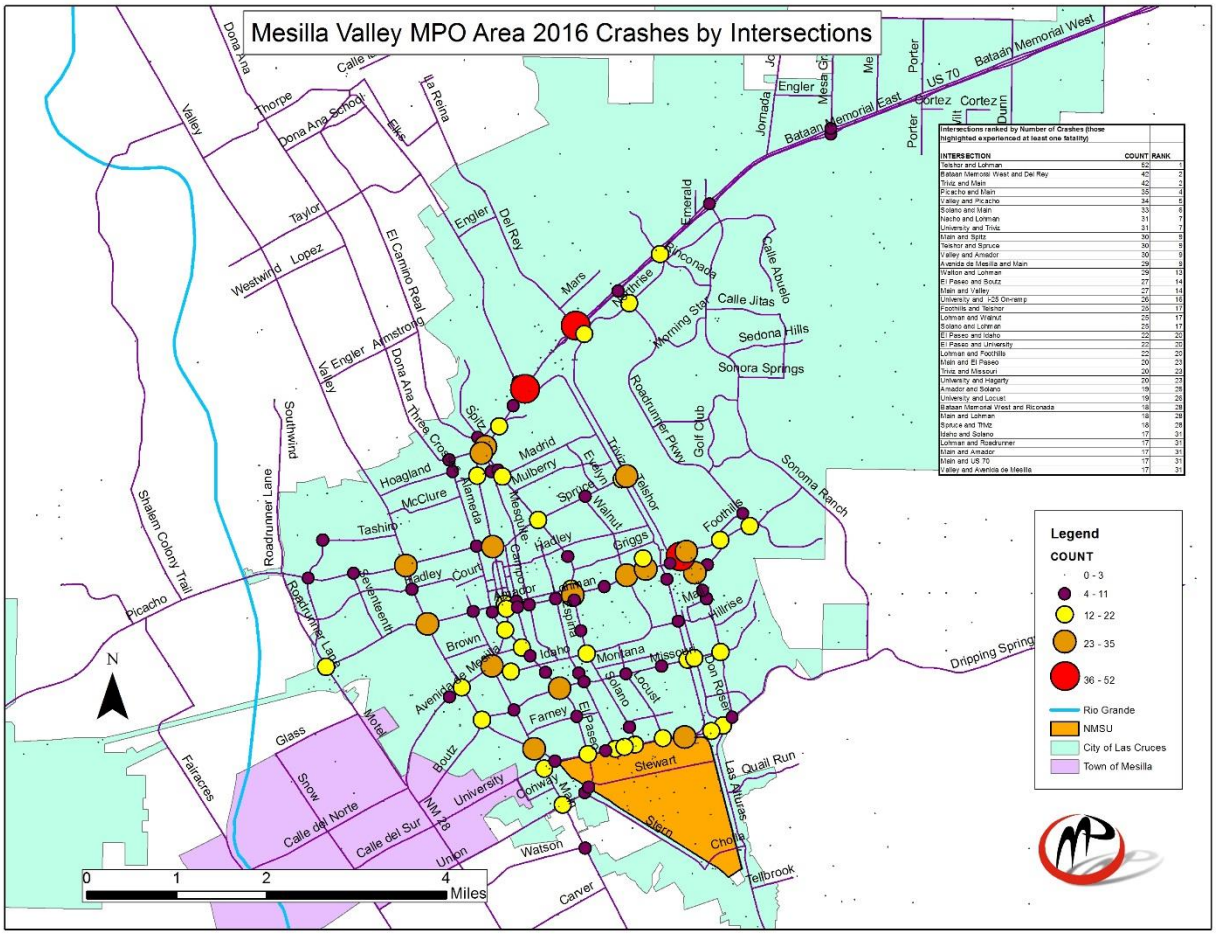
MVMPO Performance: Between 2011 to 2013, there was a decrease in non-motorized fatalities and serious injuries. This number increased in 2014 and decreased slightly in following years. The five-year average from 2011-2015 was 11.20 and the five-year average from 2012-16 was 10.80. There was a 12.58% decrease from 2011 to 2016. There was a 40.0% decrease in the five-year average in 2016 and 2015. The projected average number for 2019 is only a slight increase, 3.7%. It is projected to be a 10.6% from the previous five year average of 2016. These numbers are small and volatile. Therefore, the confidence level in this forecast is tentative.

Mesilla Valley MPO Area Specific Analysis

6. MVMPO 2016 Crashes by Intersection (Top 31)

Intersections ranked by Number of Crashes (highlighted in blue experienced at least one fatality; highlighted in brown experienced at least one serious injury (Class C))				
INTERSECTION	**COUNT**	**RANK**	**Serious Injuries (Class A)**	**Fatalites**
Telshor and Lohman	52	1		
Bataan Memorial West and Del Rey	42	2	1	
Triviz and Main	42	2		
Picacho and Main	35	4		
Valley and Picacho	34	5		
Solano and Main	33	6		
Nacho and Lohman	31	7		
University and Triviz	31	7	1	1
Avenida de Mesilla and Main	29	9	2	
Main and Spitz	30	9	2	
Telshor and Spruce	**30**	**9**	**2**	
Valley and Amador	30	9		
Walton and Lohman	29	13	1	
El Paseo and Boutz	27	14		
Main and Valley	27	14		
University and I-25 On-ramp	26	16		
Foothills and Telshor	25	17		
Lohman and Walnut	25	17		
Solano and Lohman	25	17		
El Paseo and Idaho	22	20		
El Paseo and University	22	20	1	
Lohman and Foothills	22	20		
Main and El Paseo	20	23		
Triviz and Missouri	20	23	1	
University and Hagarty	20	23		
Amador and Solano	19	26		1
University and Locust	19	26		
Bataan Memorial West and Riconada	18	28	1	
Main and Lohman	18	28	1	
Spruce and Triviz	18	28	1	1
Idaho and Solano	17	31		
Lohman and Roadrunner	17	31		

Main and Amador	17	31	1	1
Main and US 70	17	31		
Valley and Avenida de Mesilla	17	31		

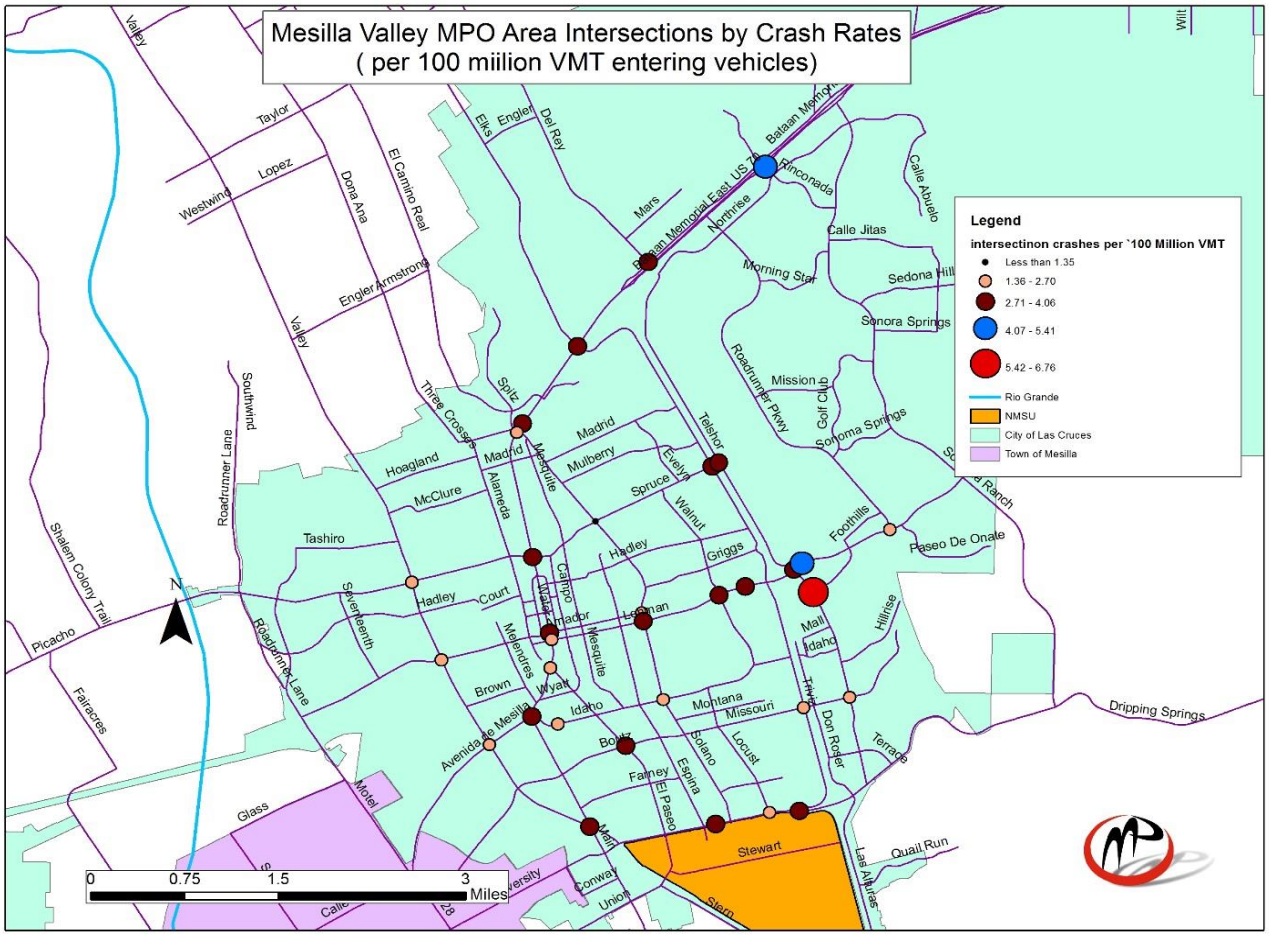


The top three intersections by number of crashes are: Telshor and Lohman; Bataan Memorial West and Del Rey; and Triviz and Main. There are clusters of intersections with high number of crashes along Lohman from Walnut to Telshor; surrounding the Three Crosses/Solano/Main intersection; along University from Triviz to Main and along Lohman/Amador from Solano to Main. These areas of crashes might indicate some systematic problems and warrant further study.

Crash Rates by Intersection
(lines highlighted in blue indicates partial data)

Intersection		COUNT	Volume	Crash Rate
Foothills	Telshor	25	10125	6.76
Bataan Memorial West	Riconada	18	9498	5.19
Nacho	Lohman	31	20679	4.11
Picacho	Main	35	24655	3.89
Solano	Lohman	25	17980	3.81
Telshor	Spruce	30	22231	3.70

University	Hagerty	20	14915	3.67
Telshor	Lohman	52	40272	3.54
Main	Valley	27	21162	3.50
Del Ray	Bataan Memorial West	42	33168	3.47
Avenida de Mesilla	Main	29	23032	3.45
Walton	Lohman	29	23723	3.35
University	I-25 On-Ramp	26	21951	3.25
University	Triviz	31	27108	3.13
Solano	Main	33	31842	2.84
El Paseo	Boutz	27	26170	2.83
Spruce	Triviz	18	17449	2.83
Bataan Memorial West	Sonoma Ranch	16	15643	2.80
Lohman	Walnut	25	24594	2.78
Triviz	Main	42	41669	2.76
Main	Amador	17	17184	2.71
Valley	Picacho	34	34992	2.66
Valley	Amador	30	31161	2.64
Main	Spitz	30	31842	2.58
Idaho	Solano	17	18428	2.53
El Paseo	Idaho	22	23988	2.51
Solano	Missouri	16	18630	2.35
Main	El Paseo	20	23302	2.35
Triviz	Missouri	20	23364	2.35
University	Locust	19	22286	2.34
Main	Lohman	18	21538	2.29
Amador	Solano	19	24274	2.14
El Paseo	University	22	28644	2.10
Lohman	Foothills	22	34063	1.77
Lohman	Roadrunner	17	31482	1.48
Valley	Avenida de Mesilla	17	31670	1.47
Main	US 70	17		



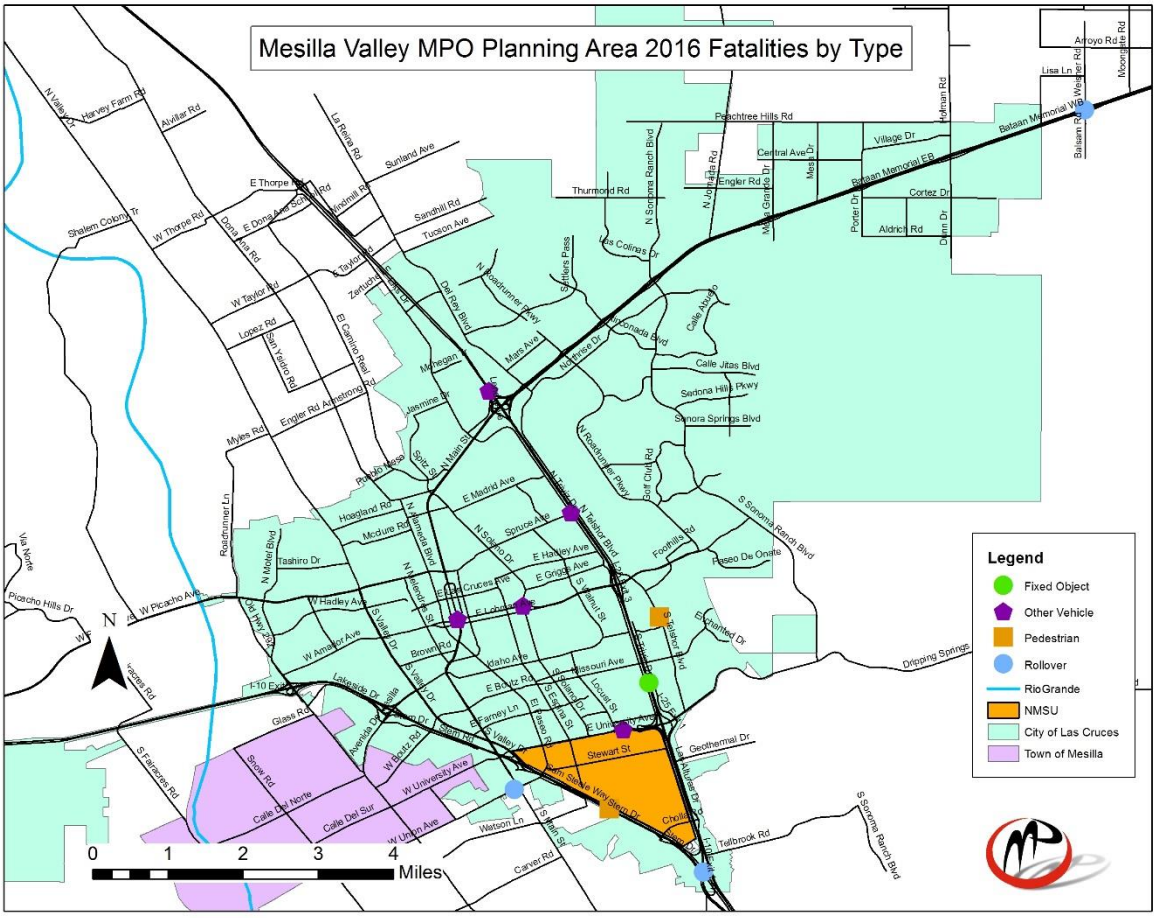
The intersections with the highest crash rates are: Foothills and Telshor; Bataan Memorial West and Rinconada; Nacho and Lohman; Picacho and Main; and Solano and Lohman. This indicates that at these intersections there are significant problems while accounting for the vehicles entering the intersection.

7. MPO 2016 Fatality Locations

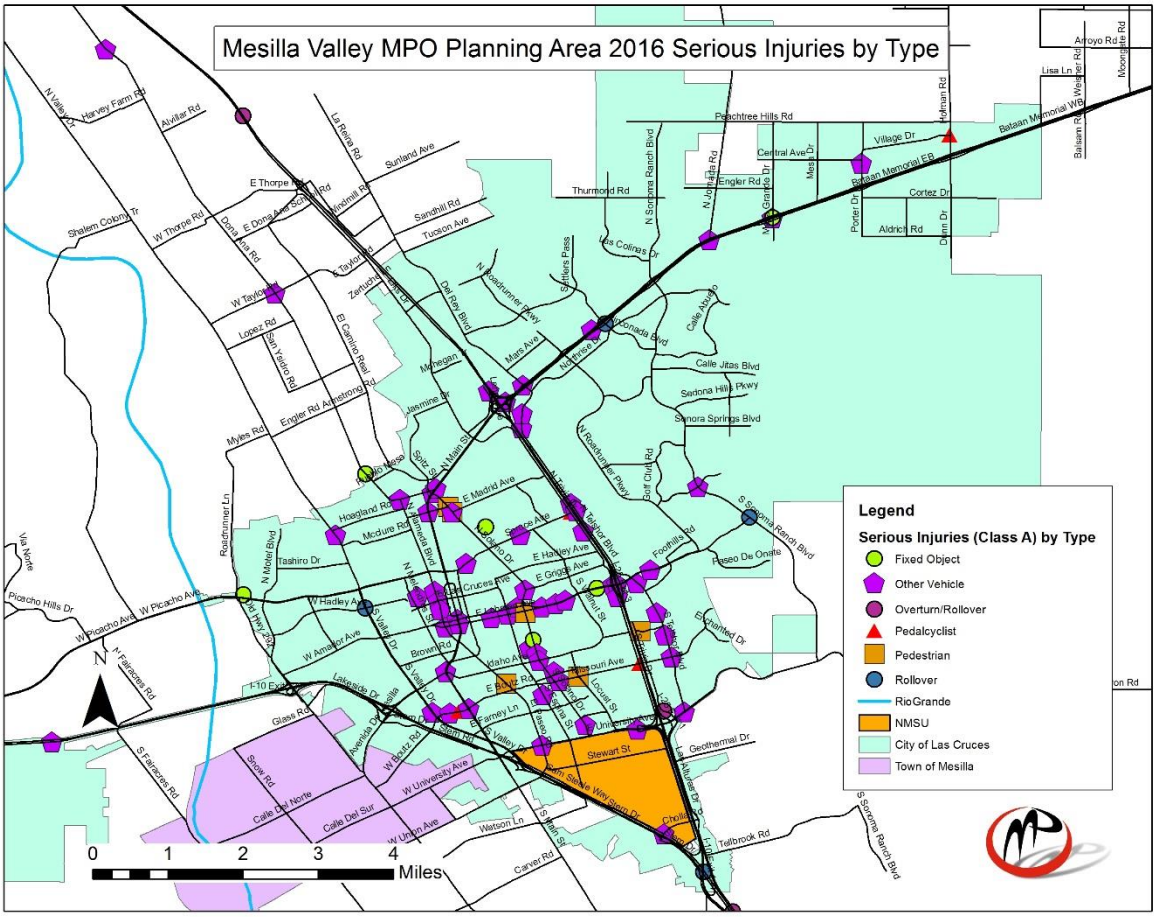
Location	Persons Killed	Number Vehicles Involved	Factor
E. Amador and S. Main	**1**	**2**	**Missing Data**
I-25 and N. Main Interchange	**4**	**3**	**Alcohol/Drug Involved**
Harrelson St and Union	**1**	**2**	**Avoid No Contact - Vehicle**
Solano and Amador	**1**	**2**	**Missing Data**
Triviz and Spruce	**1**	**2**	**Missing Data**
1-10 East (near mile marker 143)	**1**	**2**	**Alcohol/Drug Involved**
University and Triviz	**1**	**3**	**Alcohol/Drug Involved**
1-25 West near mile marker 4	**1**	**1**	**Alcohol/Drug Involved**

900 S. Telshor Blvd	**1**	**2**	**Pedestrian Error**
I-10 and I-25 Interchange	**1**	**1**	**Defective Tires**
U.S. 70 and Wiesner Rd.	**1**	**2**	**Alcohol/Drug Involved**

Of the eleven locations where fatalities occurred 6 involved alcohol or drugs, and 3 had missing data. There was one pedestrian fatality on Telshor caused by “pedestrian error.”



8. MPO Area Serious Injury Crashes Location

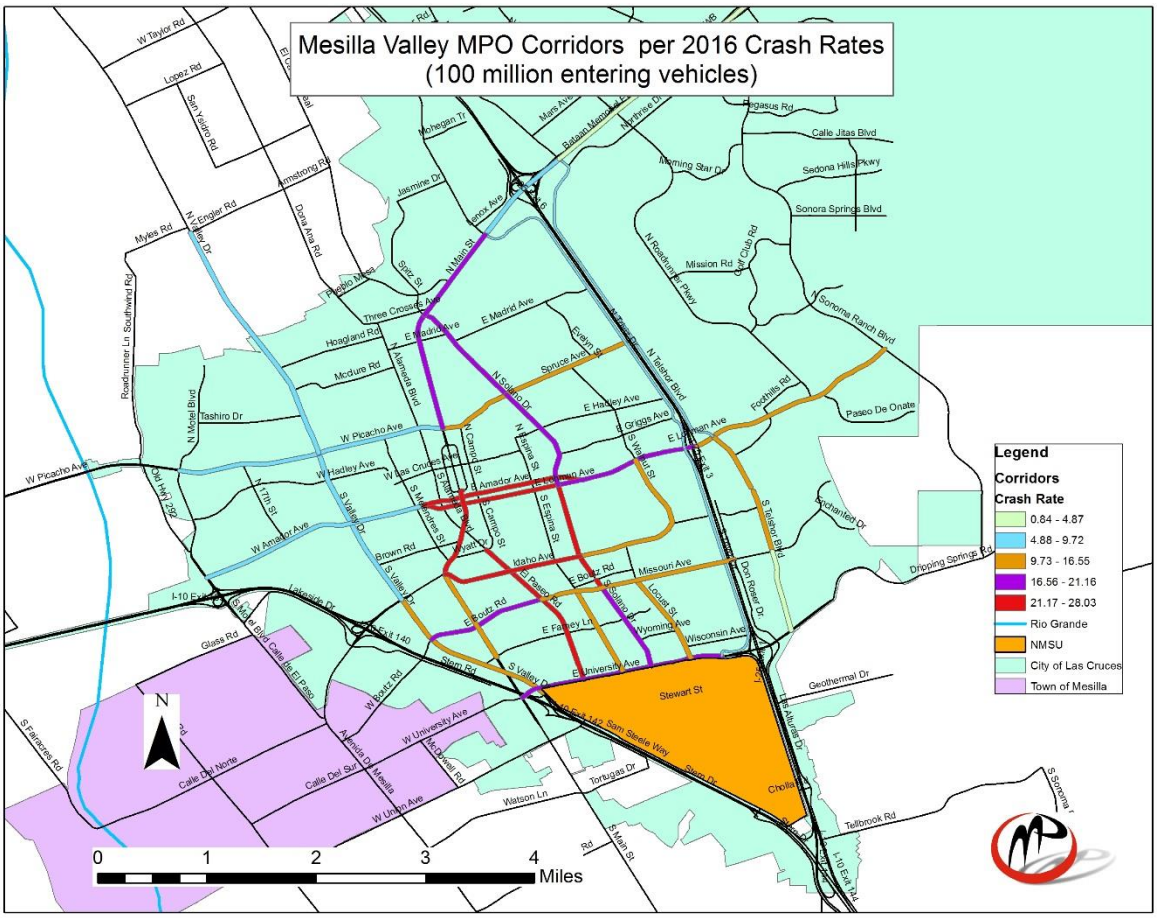


Most serious injuries (Class C) occurred between other vehicles. There is a concentration of locations with serious injuring along Lohman and South Solano, from Nevada to Missouri.

10. Corridor Crashes

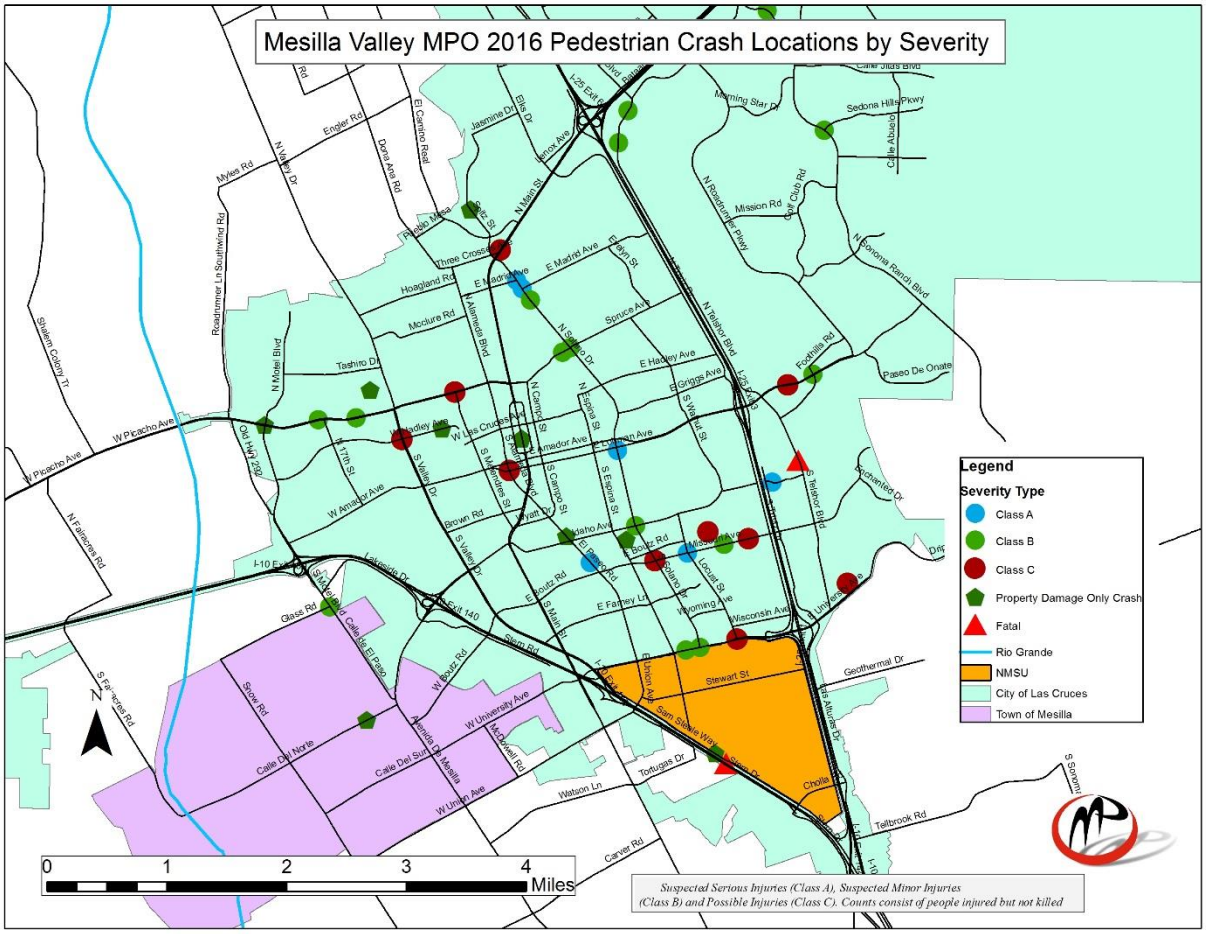
Corridor	Count	Miles	AADT	Crash Rate
Main: Ave de Mesilla-Bowman	102	0.8	12,464	28.03
Solano: Lohman-Missouri	100	1	11,216	24.43
Amador: Lohman-near Solano	102	1.3	9,024	23.82
Lohman: Amador-Solano	88	1.1	9,217	23.78
El Paseo: Missouri-University	66	0.7	11,044	23.39
Idaho: Solano-Main	89	1.1	9,658	22.95
El Paseo: Wyatt-Idaho	86	0.8	12,967	22.71
Boutz: Valley-El Paseo	60	0.9	8,631	21.16
Main: Solano-Picacho	102	1.1	12,264	20.71
N. Main: Solano-Triviz	148	0.9	22,149	20.34

N. Solano: Lohman-Spruce	95	1	13,400	19.42
Lohman: Solano-I 25 Exit	172	1.2	20,719	18.95
Solano: Missouri-University	38	0.9	6,141	18.84
Solano: N. Main-Spruce	86	1	13,330	17.68
University Ave: Triviz- Main	175	1.6	17,220	17.40
Missouri: El Paseo-Don Roser	126	1.6	13,038	16.55
Espina: University-Missouri	35	0.9	6,602	16.14
Walnut/Idaho: Lohman-Solano	68	1.4	8,346	15.95
Locust: Missouri-University	38	0.9	7,269	15.91
Lohman: I 25 Exit-Sonoma Ranch	169	1.7	17,605	15.47
Valley: Avenida de Mesilla-University	84	1.3	11,470	15.43
Telshor: Lohman-Missouri	140	1.2	20,877	15.31
Spruce: Main-Triviz	110	1.6	14,103	13.36
Main: Ave. de Mesilla-Farney	40	0.9	9,507	12.81
Picacho: Main-Motel	123	2.1	16,513	9.72
Triviz: Lohman-University	79	2.2	10,193	9.65
Valley: Avenida de Mesilla-Amador	111	1.5	21,172	9.58
Valley: Picacho-Engler	64	2.2	9,089	8.77
Telshor: US 70-Lohman	139	2.9	15,254	8.61
Amador: Melendres-Motel	63	1.8	11,351	8.45
US 70: Elks-Del Rey	109	0.9	43,129	7.69
Triviz: N. Main-Lohman	85	2.9	11,280	7.12
Telshor: Missouri-University	38	1.8	11,888	4.87
US 70: Del Rey- Sonoma Ranch	30	2.1	40,773	0.96
US 70: Sonoma Ranch-MPO Bound	67	10.2	21,430	0.84



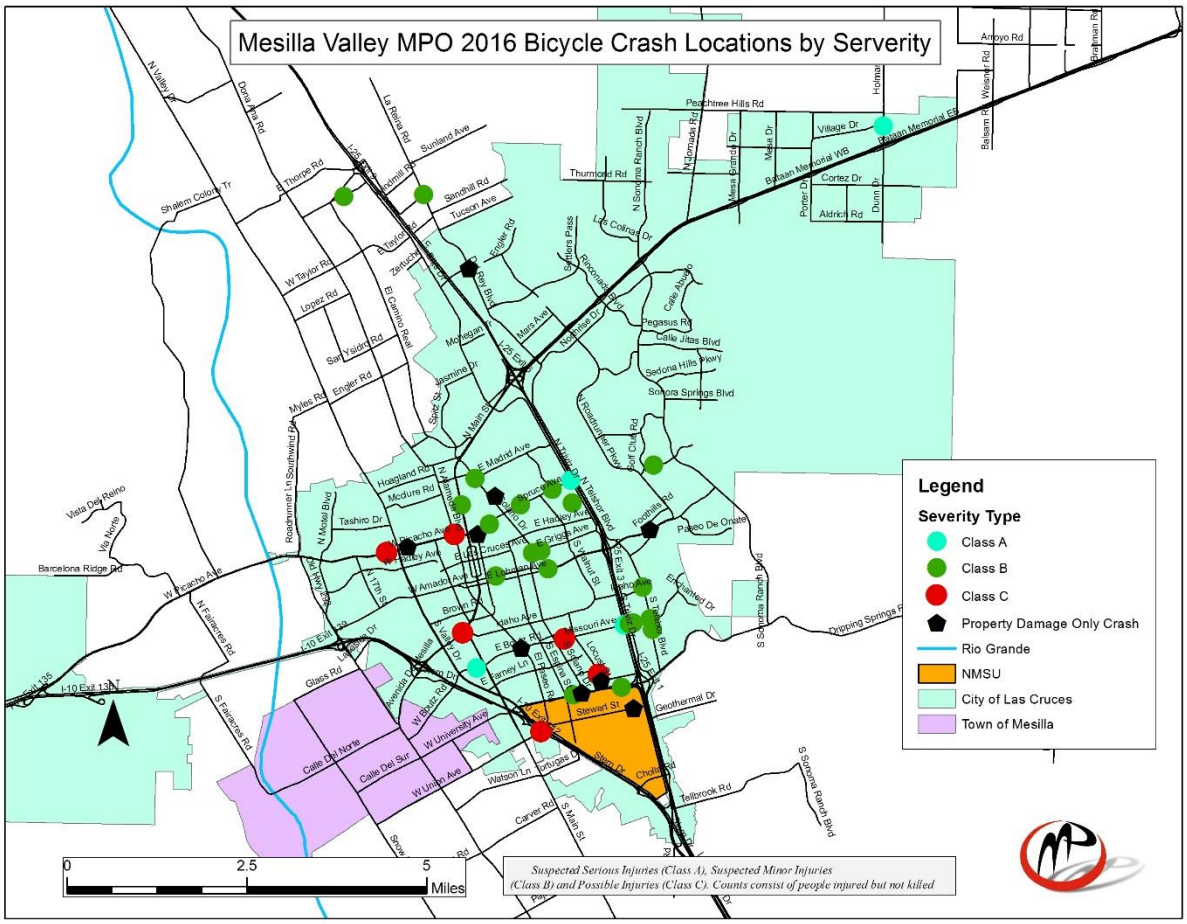
The highest crash rates per corridor are for the following corridors: Lohman and Amado from Melendres to I-25; Idaho from Solano to Main; University from I-25 to Triviz; and Main from Idaho to Amador

9. MPO Mesilla Valley MPO Pedestrian Crashes



The pedestrian crashes are concentrated along Missouri and Idaho. The two fatalities were located on 'Telshor and along I-25.

10. Mesilla Valley MPO Bicycle Crashes



9. MVMPO 2016 Causes of Crashes

Cause of Crash	Count	Rank	Percent
Driver Inattention	948	1	24.7%
Failed to Yield Right of Way	569	2	14.8%
None/Missing Data	558	3	14.5%
Following Too Closely	318	4	8.3%
Other Improper Driving	231	5	6.0%
Alcohol/Drug Involved	154	6	4.0%
Disregarded Traffic Signal	127	7	3.3%
Improper Lane Change	125	8	3.3%
Made Improper Turn	116	9	3.0%
Other - No Driver Error	96	10	2.5%
Excessive Speed	86	11	2.2%
Improper Backing	84	12	2.2%
Avoid No Contact - Vehicle	70	13	1.8%
Avoid No Contact - Other	49	14	1.3%
Speed Too Fast for Conditions	49	14	1.3%
Passed Stop Sign	48	16	1.2%
Drove Left Of Center	46	17	1.2%
Inadequate Brakes	43	18	1.1%
Improper Overtaking	32	19	0.8%
Pedestrian Error	26	20	0.7%
Defective Tires	25	21	0.7%
Other Mechanical Defect	21	22	0.5%
Driverless Moving Vehicle	10	23	0.3%
Defective Steering	6	24	0.2%
Road Defect	4	25	0.1%
Vehicle Skidded Before Brake	3	26	0.1%
Grand Count	3844		100.0%

By far the highest percentage of causes for crashes is “driver inattention.” “Driver inattention” could be actions such as texting or talking on a cell phone, changing radio stations and other distractions. It is suspected that texting is now a major cause for crashes. Missing data is prevalent among the “reasons” for the crashes and ranks 3. Drug and alcohol abuse is ranked 6.

Recommendations and Conclusion

Overall crashes are decreasing in the Mesilla Valley MPO Area and all of the State targets will be met within the MPO area the exception of reduction in serious crashes per 100 Million vehicle miles travelled. There is a

decreasing amount of fatalities, but this amount is volatile and could change from year to year based on numerous and sometimes unpredictable factors. The number of pedestrian and bicycle crashes are increasing.

Recommendations:

1. Better recording of crash data by law enforcement with specific reasons for collisions.

2. Increased enforcement to reduce fatalities due to alcohol and drug abuse.

3. Studies of intersection and corridors ranked high in this Safety Report.

4. Improved pedestrian and bicycle facilities.

5. Traffic calming to reduce crashes and severity.

6. Encouragement of use of public transit.

7. Better land use and transportation integration to reduce VMT.

Resources:

Crash Data for the United States:
https://crashstats.nhtsa.dot.gov/#/

National Highway Traffic Safety Administration
https://www.nhtsa.gov/

National Safety Council (motor vehicles):
https://injuryfacts.nsc.org/motor-vehicle/overview/introduction/

New Mexico Traffic Crash Annual Report (2016):
https://tru.unm.edu/Crash-Reports/Annual-Reports/annual-report-2016.pdf

New Mexico Traffic Crash Reporting:
https://tru.unm.edu/index.html

State of New Mexico Uniform Crash Report Instruction Manual
http://nmtrafficrecords.com/wp-content/uploads/NM-UCR-InstructionManualFinal-09-091.pdf

Transportation Performance Management (TPM) Tool Box:
https://www.tpmtools.org/guidebook/

Vision Zero Network:
https://visionzeronetwork.org/

Appendix A: MVMPO Vehicle Miles Travelled (2011-2019)

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019
Est. Annual VMT (Millions)	984.12	966.92	927.43	1,011.58	1,329.69	1,368.41	1,472.11	1,571.86	1,671.60