

# Highway safety improvement program

**2022 Performance Targets**



# Highway Safety Improvement Program (HSIP)

- Map-21 mandated FHWA to develop a rule for safety performance measures and targets
- Performance management ties together 3 state documents:
  - **NHDOT** Highway Safety Improvement Program (HSIP)
  - **NHDOT** Strategic Highway Safety Plan (SHSP),
  - **NH Office of Highway Safety (NHOHS)** Highway Safety Plan (**Department of Safety**)
- State must coordinate with **MPOs** to establish required target
- MPOs have the option to develop targets specific to their region
- Applicable to all public roadways

# Measures and Targets

- Performance Measures and targets cover five areas:
  - Number of Fatalities
  - Rate of Fatalities
  - Number of Serious Injuries
  - Rate of Serious Injuries
  - Total Non-Motorized Fatalities and Serious Injuries
- Annual NHDOT HSIP targets by **August 31<sup>st</sup>** each year
- MPO targets **within 180 days** after that (~February 27)
- MPO Has option to support state targets or develop their own
- MPO can expand measures beyond those that are required
  - Number of Motorcycle Fatalities

# Target Setting Process

- Number Targets: 5-Year rolling average number
  - Add number for the measure for most recent five years and divide by 5
  - Round to the tenth decimal place.

$$135 + 95 + 114 + 136 + 102 = 582 / 5 = 116.4 \text{ Average Fatalities}$$

- Rate Targets: Rate of measure per 100 Million Vehicle Miles of Travel (VMT)
  - Divide number of measured by VMT (in 100's of millions) for each of most recent five years. Add together and divide by five for average.
  - Rounded to thousandth decimal place

$$\begin{aligned} &135/129.03 + 95/129.70 + 114/130.94 + 136/134.76 + 102/136.81 = \\ &(1.046 + 0.732 + 0.871 + 1.009 + 0.746)/5 = \\ &0.881 \text{ 5-Year Average Fatality Rate per 100 Million VMT} \end{aligned}$$

# Fatalities

Year	Annual Crash Fatalities		5-Year Rolling Average Crash Fatalities		
	NH	MPO Region	5-Year Period	New Hampshire	MPO Region
2009	110	15			
2010	128	18			
2011	90	11			
2012	108	21			
2013	135	19	2009-2013	<b>114.2</b>	<b>16.8</b>
2014	95	10	2010-2014	<b>111.2</b>	<b>15.8</b>
2015	114	17	2011-2015	<b>108.4</b>	<b>15.6</b>
2016	136	17	2012-2016	<b>117.6</b>	<b>16.8</b>
2017	102	10	2013-2017	<b>116.4</b>	<b>14.6</b>
2018	147	22	2014-2018	<b>118.8</b>	<b>15.2</b>
2019	100	11	2015-2019	<b>119.8</b>	<b>15.4</b>
2020	<b>104</b>	<b>9</b>	<b>2019-2020</b>	<b>117.8</b>	<b>13.8</b>

Figure 4: Statewide Fatalities 2022 Projected

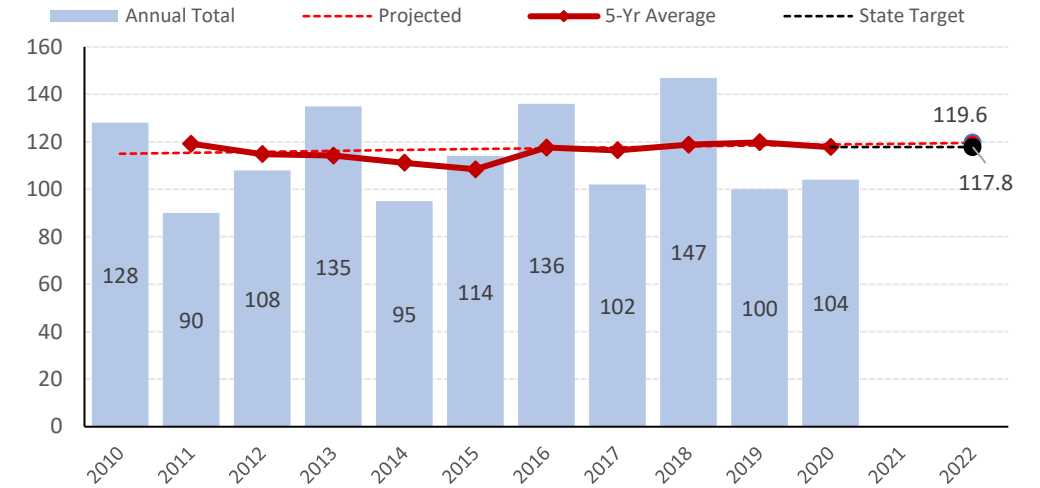
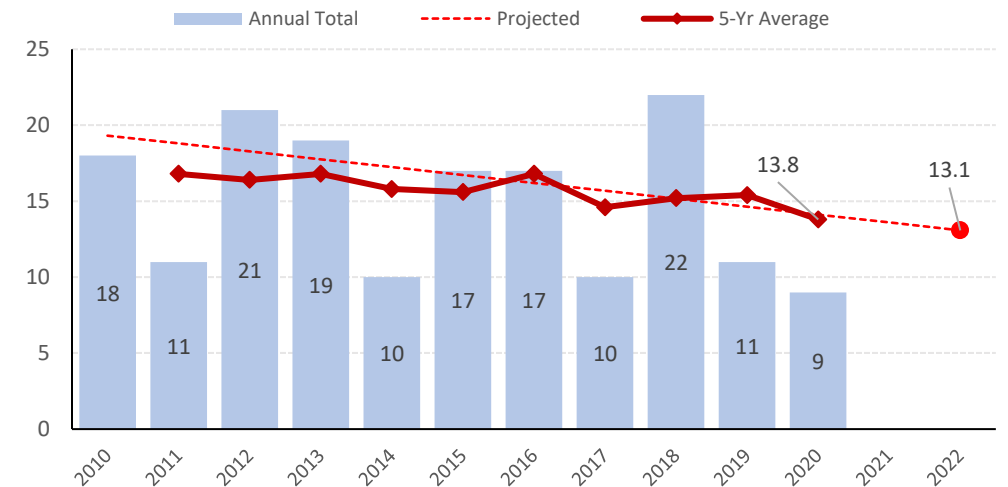


Figure 5: RPC Fatalities - 2022 Projected



# Fatality Rate

Year	100 Million Vehicle Miles of Travel (VMT)		Fatality Rate per 100 Million VMT		5-Year Period	5-Year Average Fatality Rates per 100 Million VMT	
	New Hampshire	MPO Region	New Hampshire	MPO Region		New Hampshire	MPO Region
2009	129.75	22.18	0.848	0.676			
2010	130.65	22.34	0.980	0.806			
2011	127.20	21.75	0.715	0.506			
2012	128.94	22.05	0.838	0.952			
2013	129.03	23.48	1.046	0.809	2009-2013	<b>0.884</b>	<b>0.750</b>
2014	129.70	21.65	0.732	0.462	2010-2014	<b>0.861</b>	<b>0.707</b>
2015	130.94	21.61	0.871	0.787	2011-2015	<b>0.839</b>	<b>0.703</b>
2016	134.76	23.53	1.009	0.723	2012-2016	<b>0.899</b>	<b>0.747</b>
2017	136.81	21.18	0.753	0.472	2013-2017	<b>0.881</b>	<b>0.650</b>
2018	137.76	23.24	1.074	0.947	2014-2018	<b>0.885</b>	<b>0.678</b>
2019	138.57	23.69	0.729	0.464	2015-2019	<b>0.883</b>	<b>0.679</b>
2020	<b>119.70</b>	<b>20.33</b>	<b>0.869</b>	<b>0.436</b>	2016-2020	<b>0.882</b>	<b>0.608</b>

Figure 7: Statewide Fatality Rate  
2022 Projected

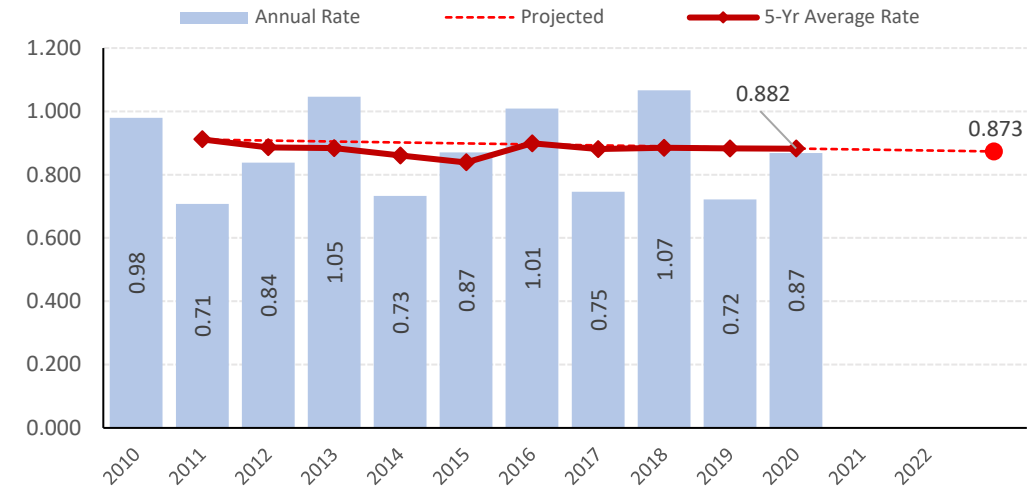
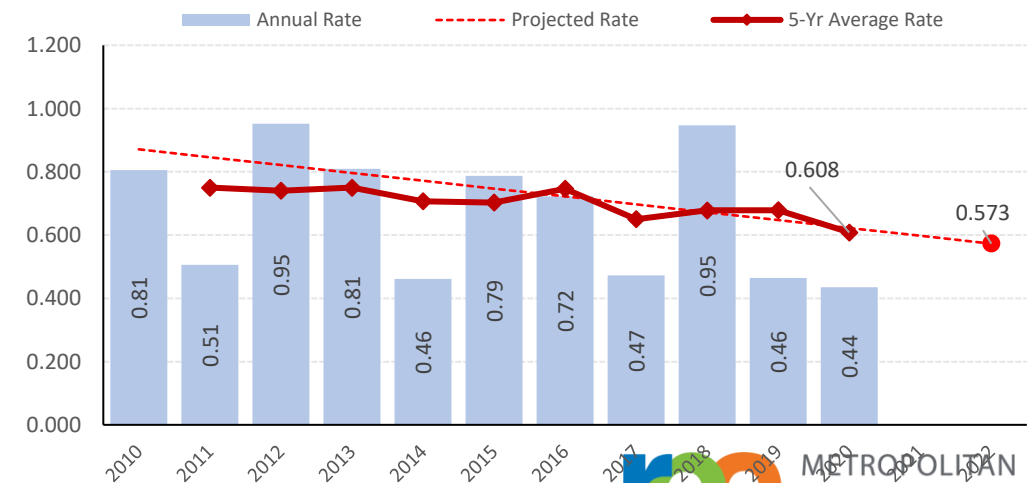


Figure 8: RPC Fatality Rate  
2022 Projected



# Serious Injuries

	NH	MPO Region		5-Year Rolling Average Serious Injuries	
Year	Serious Injuries	Serious Injuries	5-Year Period	NH	MPO Region
2009	891	105			
2010	724	112			
2011	727	105			
2012	623	120			
2013	489	147	2009-2013	<b>690.8</b>	<b>117.8</b>
2014	451	86	2010-2014	<b>602.8</b>	<b>114.0</b>
2015	459	93	2011-2015	<b>549.8</b>	<b>110.2</b>
2016	477	95	2012-2016	<b>499.8</b>	<b>108.2</b>
2017	410	47	2013-2017	<b>457.2</b>	<b>93.6</b>
2018	451	57	2014-2018	<b>449.4</b>	<b>75.6</b>
2019	485	67	2015-2019	<b>456.4</b>	<b>71.8</b>
2020	<b>512</b>	<b>60</b>	2016-2020	<b>467.0</b>	<b>65.2</b>

Figure 10: Statewide Serious Injuries  
2022 Projected

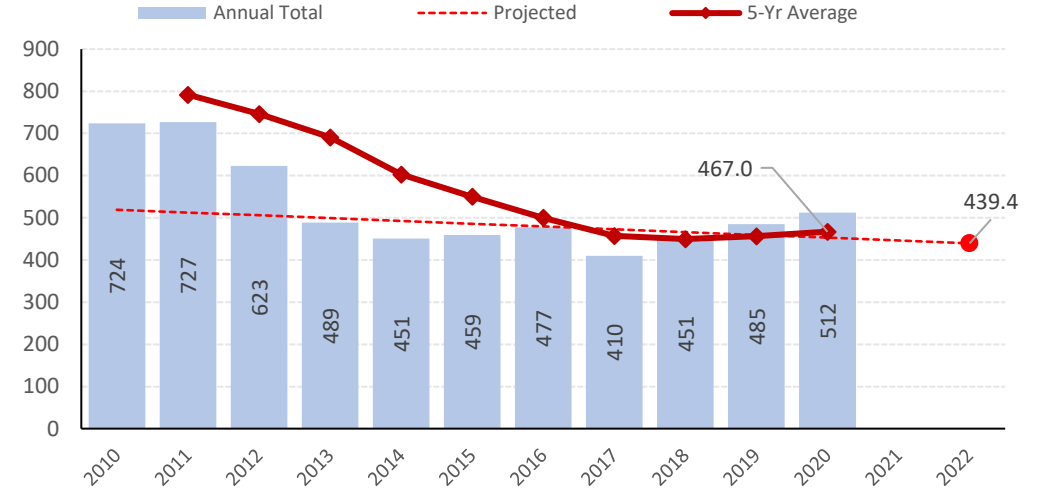
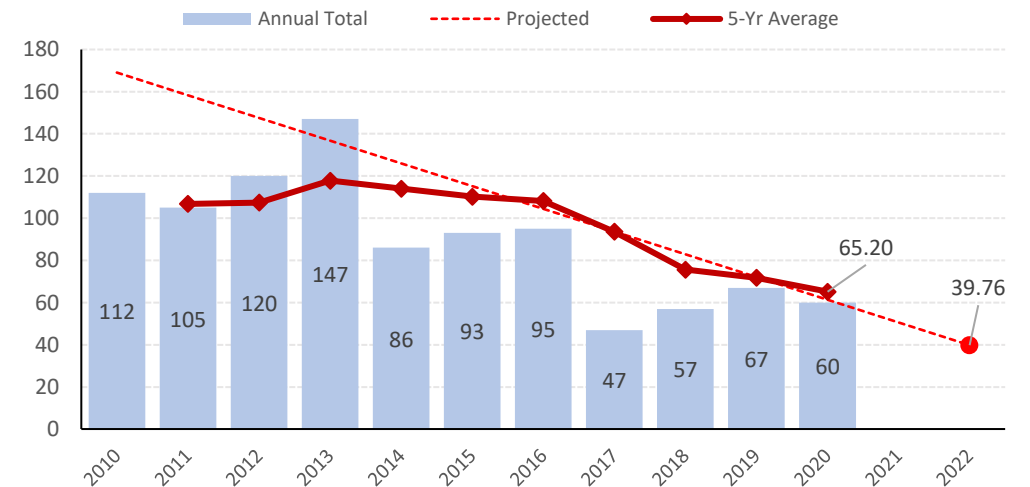


Figure 11: RPC Serious Injuries  
2022 Projected



# Rate of Serious Injuries

Year	100 Million Vehicle Miles of Travel (VMT)		Serious Injury Rate per 100 Million VMT		5-Year Period	5-Year Average Fatality Rates per 100 Million VMT	
	New Hampshire	MPO Region	New Hampshire	MPO Region		New Hampshire	MPO Region
2009	129.75	22.18	6.867	4.732			
2010	130.65	22.34	5.542	5.013			
2011	127.20	21.75	5.715	4.827			
2012	128.94	22.05	4.832	5.442			
2013	129.03	23.48	3.790	6.260	2009-2013	<b>5.349</b>	<b>5.255</b>
2014	129.70	21.65	3.477	3.970	2010-2014	<b>4.671</b>	<b>5.103</b>
2015	130.94	21.61	3.505	4.305	2011-2015	<b>4.264</b>	<b>4.961</b>
2016	134.76	23.53	3.540	4.038	2012-2016	<b>3.829</b>	<b>4.803</b>
2017	136.81	21.18	2.997	2.219	2013-2017	<b>3.462</b>	<b>4.158</b>
2018	137.76	23.24	3.274	2.453	2014-2018	<b>3.359</b>	<b>3.397</b>
2019	138.57	23.69	3.500	2.828	2015-2019	<b>3.363</b>	<b>3.168</b>
2020	<b>119.70</b>	<b>20.33</b>	4.277	2.904	2016-2020	3.518	2.888

Figure 13: Statewide Serious Injury Rate 2022 Projected

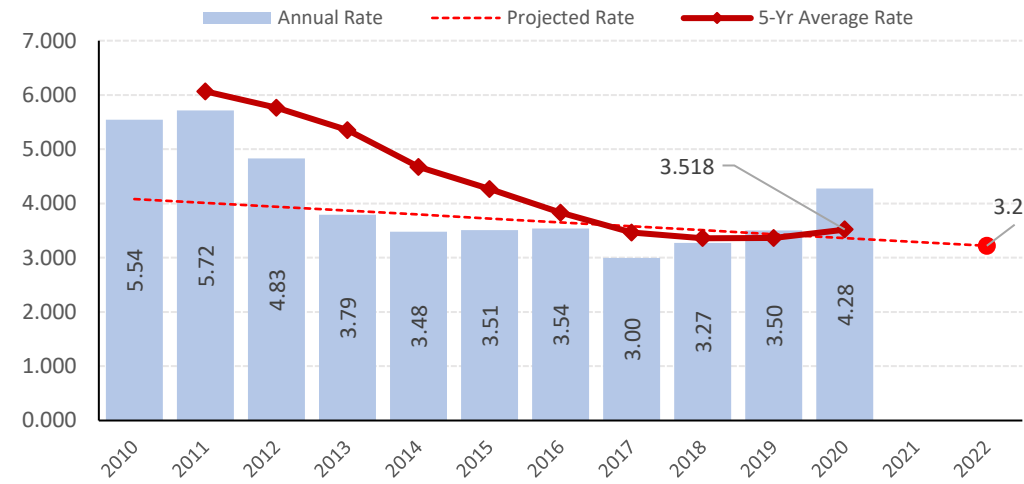
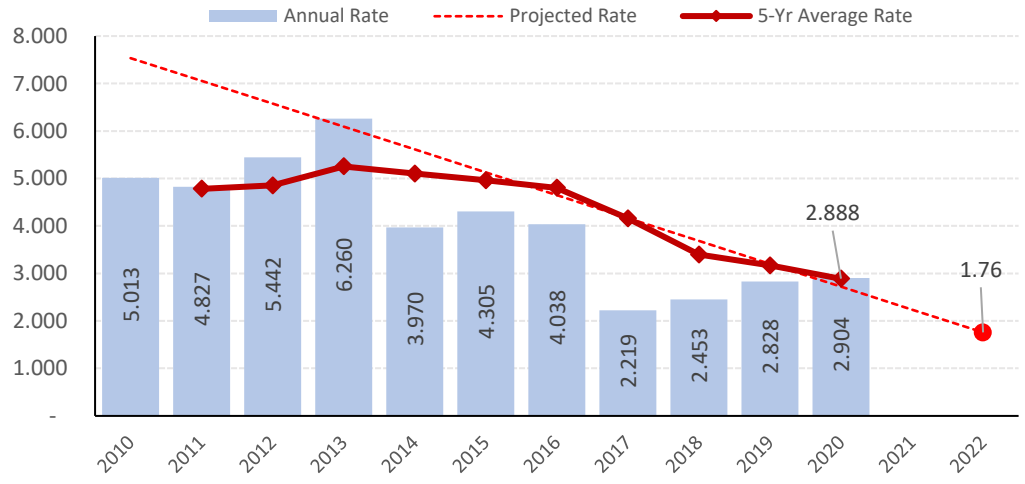


Figure 14: RPC Serious Injury Rate 2022 Projected





# Non-Motorized Fatalities & Serious Injuries

Figure 16: Statewide Non-Motorized Fatalities & Serious Injuries - 2022 Projected

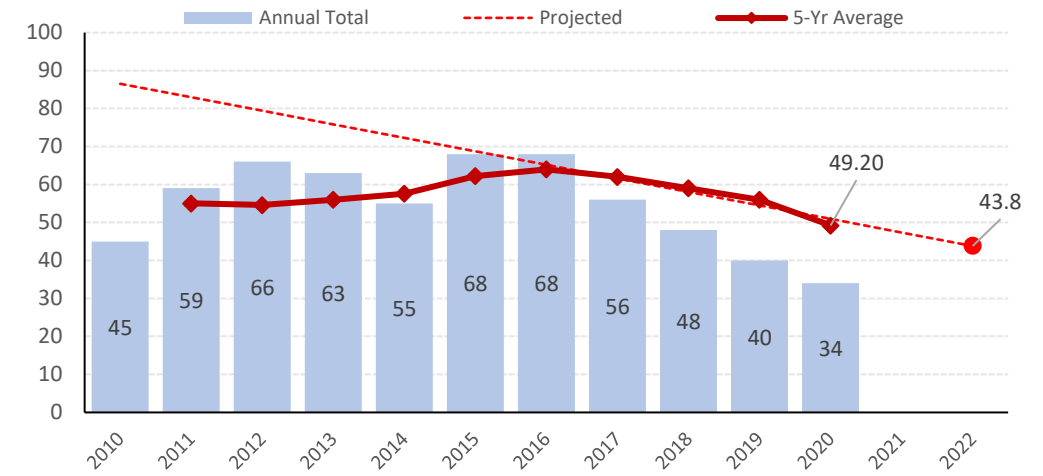
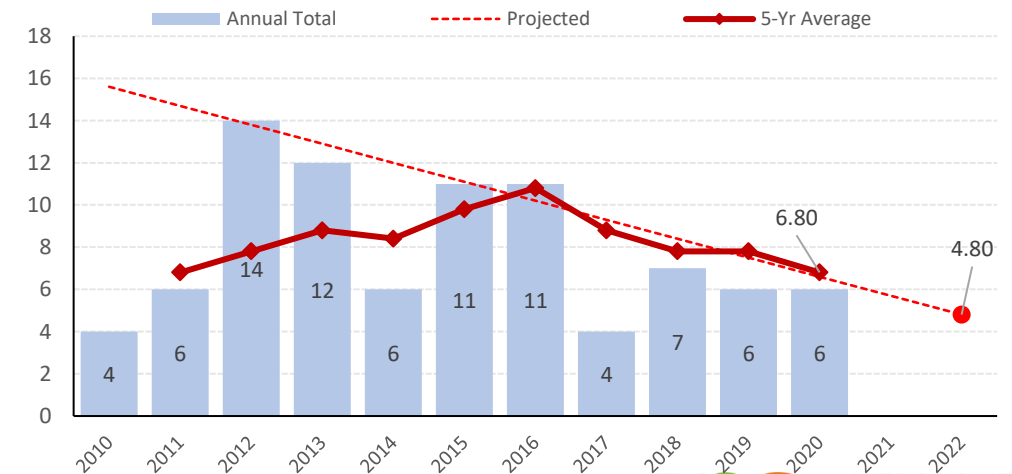


Figure 17: RPC Non-Motorized Fatalities & Serious Injuries - 2022 Projected



Year	New Hampshire Non-Motorized Crashes			MPO Region Non-Motorized Crashes			5-Year Rolling Average Non-Motorized Fatalities & Serious Injuries		
	Fatalities	Serious Injuries	Total	Fatalities	Serious Injuries	Total	5-Year Period	New Hampshire	MPO Region
2009	10	37	47	1	7	8			
2010	9	36	45	0	4	4			
2011	10	49	59	1	6	6			
2012	10	56	66	3	11	14			
2013	20	43	63	5	7	12	2009-2013	<b>56.0</b>	<b>8.8</b>
2014	16	39	55	0	6	6	2010-2014	<b>57.6</b>	<b>8.4</b>
2015	14	54	68	2	9	11	2011-2015	<b>62.2</b>	<b>9.8</b>
2016	21	47	68	1	10	11	2012-2016	<b>64.0</b>	<b>10.8</b>
2017	15	41	56	0	4	4	2013-2017	<b>62.0</b>	<b>8.8</b>
2018	14	34	48	5	2	7	2014-2018	<b>59.0</b>	<b>7.8</b>
2019	10	30	40	0	6	6	2015-2019	<b>56.0</b>	<b>7.8</b>
2020	<b>14</b>	<b>20</b>	<b>34</b>	<b>1</b>	<b>5</b>	<b>6</b>	2016-2020	<b>49.2</b>	<b>6.8</b>

# Motorcycle Fatalities (MPO Only)

Figure 19: Statewide Motorcycle Fatalies  
2022 Projected

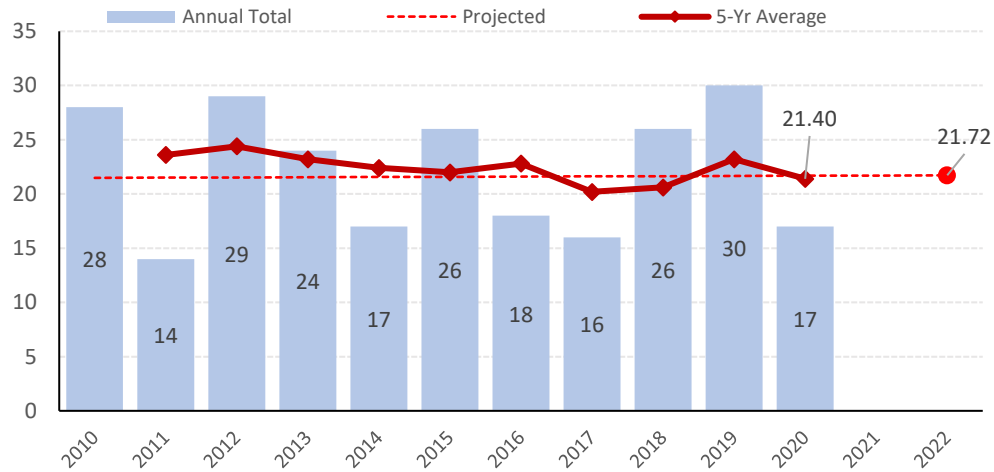


Figure 20: RPC Motorcycle Fatalities  
2022 Projected

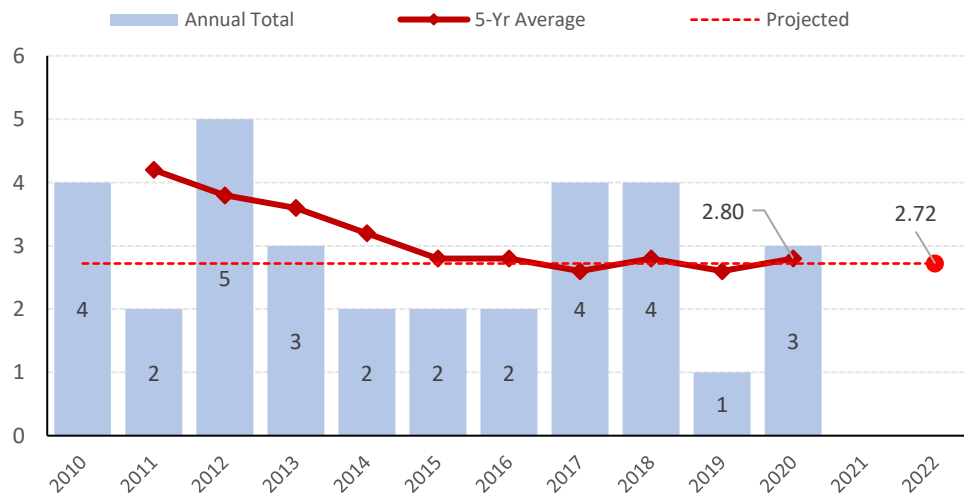


Table 8: Motorcycle Fatalities

Year	Annual Motorcycle Crash Fatalities		5-Year Period	5-Year Rolling Average Crash Fatalities	
	New Hampshire	MPO Region		New Hampshire	MPO Region
2009	24	4			
2010	29	5			
2011	14	2			
2012	32	4			
2013	24	3	2009-2013	<b>24.40</b>	<b>3.60</b>
2014	16	2	2010-2014	<b>23.20</b>	<b>3.20</b>
2015	26	2	2011-2015	<b>22.40</b>	<b>2.60</b>
2016	18	2	2012-2016	<b>22.80</b>	<b>2.60</b>
2017	15	3	2013-2017	<b>20.20</b>	<b>2.60</b>
2018	26	4	2014-2018	<b>20.60</b>	<b>2.80</b>
2019	30	1	2015-2019	<b>23.20</b>	<b>2.60</b>
2020	<b>17</b>	<b>3</b>	2016-2020	<b>21.40</b>	<b>2.80</b>

# State HSIP Targets for Calendar Year 2021

Measure	2019 Values		2021 Targets					2022 Target
	Yearly	Five-Year Average	Trend Based Target	New Hampshire		MPO Region		
				Current Trend	Desired Trend	Current Trend	Desired Trend	
Number of Fatalities	104	117.8	119.6					<b>117.8</b>
Fatality Rate per 100 Million VMT	0.869	0.882	0.874					<b>0.874</b>
Number of Serious Injuries	512	467.0	439.4					<b>439.4</b>
Serious Injury Rate per 100 Million VMT	4.277	3.518	3.220					<b>3.220</b>
Non-Motorized Fatalities and Serious Injuries	34	49.20	38.6					<b>38.6</b>
Motorcycle Fatalities (MPO Only)	3	2.80	2.80					<b>1.0</b>

# State HSIP Targets for Calendar Year 2022

- Recommend that RPC support the established State HSIP targets for Number and Rate of Fatalities, Number and Rate of Serious Injuries, and Total Non-Motorized Fatalities and Serious Injuries.
- Recommend MPO adopt MPO only target for Motorcycle Fatalities.
- MPO Policy Committee will consider these targets during the February 9, 2022 Meeting

Measure	2019 Values		2021 Targets					2022 Target
	Yearly	Five-Year Average	Trend Based Target	New Hampshire		MPO Region		
				Current Trend	Desired Trend	Current Trend	Desired Trend	
Number of Fatalities	104	117.8	119.6	↗	↘	↘	↘	117.8
Fatality Rate per 100 Million VMT	0.869	0.882	0.874	↗	↘	↘	↘	0.874
Number of Serious Injuries	512	467.0	439.4	↗	↘	↘	↘	439.4
Serious Injury Rate per 100 Million VMT	4.277	3.518	3.220	↗	↘	↘	↘	3.220
Non-Motorized Fatalities and Serious Injuries	34	49.20	38.6	↘	↘	↘	↘	38.6
Motorcycle Fatalities (MPO Only)	3	2.80	2.80	↘	↘	↗	↘	1.0