



NOTICE OF MEETING

WHO: Nashua Regional Planning Commission MPO Policy Committee

WHEN: Wednesday – February 24, 2021 – 6:00 P.M.

WHERE: Remote Meeting via Zoom

AGENDA

1. 6:00 pm - Call to Order, Welcome and Introductions
2. Public Hearing: Approval of a Minor Update to the adopted Nashua Metropolitan Area 2019-2022 Transportation Improvement Program (TIP) and the 2019-2045 Metropolitan Transportation Plan (MTP) **(Action Required)** (6:05)
3. Adoption of Performance Measure Targets, including:
 - Public Transportation Agency Safety Target
 - Transit Asset Management Target
 - Highway Safety Target**(Action Required)** (6:25)
4. Other Business (6:40)
5. Adjourn (6:45)

***Next Meeting – The next NRPC Commission/MPO meeting is scheduled for
Wednesday, March 17, 2021 at 7:00 pm***

MEMORANDUM

TO: MPO Policy Committee
FROM: Gregg Lantos, MPO Coordinator
SUBJECT: Public Transportation Agency Safety Performance Targets
DATE: February 18, 2021

The Public Transportation Agency Safety Plan (PTASP) regulation (49 CFR § 673.11(a)(3)) requires covered public transportation providers and State Departments of Transportation (DOT) to establish safety performance targets (SPTs) to address the safety performance measures (SPMs) identified in the National Public Transportation Safety Plan.

A safety performance target (SPT) is a quantifiable level of performance or condition expressed as a value for the measure related to safety management activities to be achieved within a set time period (§ 673.5). A safety performance measure (SPM) is a quantifiable indicator of performance or condition that is used to establish targets related to safety management activities, and to assess progress toward meeting the established targets (§ 673.5). Transit providers may choose to establish additional targets for the purpose of safety performance monitoring and measurement.

In order to reflect the broad and varied nature of public transportation, FTA's National Public Transportation Safety Plan (NSP) relies on SPMs that: (1) can be applied to all modes of public transportation and (2) are based on data currently submitted to the National Transit Database (NTD). Transit providers and State DOTs report this data following the NTD Safety and Security Policy Manual (PM).

As described in the NSP, transit providers must establish by mode seven SPTs in four categories:

- Fatalities: Total number of fatalities reported to NTD and rate per total vehicle revenue miles (VRM) by mode.
- Injuries: Total number of injuries reported to NTD and rate per total VRM by mode.
- Safety Events: Total number of safety events reported to NTD and rate per total VRM by mode.
- System Reliability: Mean distance between major mechanical failures by mode.

Transit providers must make their SPTs available to their State and Metropolitan Planning Organizations (MPOs) (§ 673.15(a)). Transit providers also must coordinate with States and MPOs in the selection of State and MPO safety performance targets, to the maximum extent practicable (§ 673.15(b)). During this coordination process, to ensure consistency across the transportation modes represented in the state/regional planning process,

States and MPOs may request that transit agencies use specific time periods for “total number” SPTs and specific VRM values for “rate” SPTs.

When establishing SPTs for total numbers, transit providers may consider the total number of fatalities, injuries and safety events they expect to experience per year (calendar, fiscal, or NTD reporting year). The annual timeframe may be established to ensure consistency with the state/regional planning process. Likewise, in setting rates per VRM, transit providers may use total annual VRM, or another number (e.g. 100,000 VRM, 1,000,000 VRM, or 10,000,000 VRM) as needed for consistency with state/regional planning requirements.

FTA has not established, and does not impose, penalties for not meeting safety performance targets set by transit providers.

Nashua Transit System has included annual target totals for fatalities, injuries, safety events and system mechanical failures. NRPC was provided the most recent vehicle revenue mile (VRM) data for fixed-route and demand-responsive service for 2019 to convert the target totals to rates per 100,000 VRM. The table below presents the safety performance targets recommended for adoption by the Nashua MPO.

Nashua Transit System Safety Performance Target Summary

Transit Mode	Safety Events per 100k		Injuries per 100k		Fatalities per 100k		System Reliability VRM/	
	Total	VRM	Total	VRM	Total	VRM	Failures	Failures
Fixed-Route	12	2.55	3	0.64	0	0.0	12	39,186
Demand Response	5	3.53	2	0.43	0	0.0	12	11,817

Fixed-Route VRM 470,233 (2019)

Demand Response VRM 141,804 (2019)

The NRPC Transportation Technical Advisory Committee, at its meeting of November 18, 2020, voted to recommend MPO adoption of the public transportation agency safety performance targets.



MEMORANDUM

TO: MPO Policy Committee
FROM: Gregg Lantos, MPO Coordinator
SUBJECT: 2021 Highway Safety Performance Targets
DATE: February 18, 2021

Background

On March 15th, 2016 the Federal Highway Administration (FHWA) published the final rule on the Highway Safety Improvement Program (HSIP). The rule required State Departments of Transportation to set targets for Safety Performance by August 31st, 2017 for calendar year 2018, and Metropolitan Planning Organizations (MPOs) to set regional targets 180 days after that. The NRPC, in its role as MPO for the Nashua Area, initially adopted statewide targets for 2018 on December 20, 2017. The Safety Targets are re-set each year and must be approved by the MPO by the end of February for submission to NHDOT. In 2019 the MPO transitioned to the adoption of regional targets developed from crash data for the NRPC area.

The targets deal with five safety measures:

1. **Number of Fatalities:** The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year.
2. **Rate of Fatalities:** The ratio of total number of fatalities to the number of vehicle miles traveled (VMT, in 100 Million VMT) in a calendar year.
3. **Number of Serious Injuries:** The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year.
4. **Rate of Serious Injuries:** The ratio of total number of serious injuries to the number of VMT (in 100 Million VMT) in a calendar year.
5. **Number of Non-Motorized Fatalities and Non-motorized Serious Injuries:** The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year.

Data for the establishment of these measures is provided from three sources:

- **Fatality Analysis Reporting System (FARS):** FARS Annual Report File or Final data is utilized to provide information on fatal crashes in the state.
- **State Motor Vehicle Crash Database:** Data collected and maintained by the NH Department of Safety is utilized to determine the number of serious injury crashes in the state (currently those classified as “A” on the KABCO scale). Crashes can be aggregated at the state, region, community, or highway level.

- **Highway Performance Monitoring System (HPMS):** State Vehicle Miles of Travel (VMT) data is collected by the Department of Transportation and aggregated into a dataset for the state. VMT data can be calculated for MPO regions and individual communities.

Target Development

States establish Highway Safety Improvement Program (HSIP) targets and report them for the upcoming calendar year in the HSIP annual report that is submitted to FHWA by August 31st each year. Targets are applicable to all public roads, regardless of functional classification or ownership. The targets established for number and rate of fatalities, and number of serious injuries must be identical to those established for the National Highway Transportation Safety Agency (NHTSA) Highway Safety Grant program in the annual Highway Safety Plan. The state has the option to also establish any number of urbanized area targets and a non-urbanized area target for the purposes of evaluating and reporting measures; however, those sub-state targets are not included in the significant progress determination that will be made by FHWA.

In New Hampshire, the process used to develop the required safety measures included in the annual Highway Safety Plan formed the basis for the establishment of the five FHWA mandated targets by NHDOT and the MPOs. This involved coordination and consultation between the New Hampshire Departments of Transportation and Safety, as well the four MPOs in the state. Currently available fatality, serious injury, and volume data were analyzed to establish 2007-2019 conditions in terms of total fatalities, fatality rates, total serious injuries, serious injury rates, as well as total non-motorized fatalities and serious injuries. Five-year rolling averages were developed from these values and utilized to compute projected values for 2021.

The Nashua MPO establishes Regional Safety Targets in all five mandated areas. The presentation of data that supports the regional targets does include statewide crash totals and rates for comparison purposes. The Nashua MPO TTAC voted at its February 13, 2019 meeting to use the five-year moving average as the future target where the trend would show a higher number/rate of accidents. The rationale is that we should not accept increasing rates of accidents in the future; the goal should be to at least cap the target at the average of recent year. Where a downward trend exists, the future target is set as continuation of that trend, resulting in a target lower than the five-year moving average. This methodology was endorsed by the MPO Policy Committee when the 2019 targets were adopted.

NRPC Target Summary

The table below presents the MPO Safety Targets for 2021 and the 2020 target previously adopted for comparison. A best fit of data is calculated in Excel for the 2011-2019 period for each safety measure and a trendline projection from 2019 to 2021 is calculated. As noted, trendline estimates are not used as targets where the five-year trend is upward, resulting in future estimates higher than the five-year moving average. Currently there are no upward trendlines, as crash incidents have shown a decline over the past two years.

	5-Year Moving Averages Used for Establishing Trends									2020	2021
	2011	2012	2013	2014	2015	2016	2017	2018	2019	Target	Target
Fatality Total	11.2	10.2	10.8	12.6	12.4	12.6	12.6	11.8	10.4	11.8	10.4
Fatality Rate	0.689	0.635	0.674	0.786	0.774	0.779	0.771	0.711	0.619	0.710	0.619
Serious Injury Total	74.2	75.6	73.2	69.4	68.2	68.6	63.6	59.2	58.4	59.00	57.0
Serious Injury Rate	4.59	4.71	4.57	4.34	4.26	4.23	3.88	3.57	3.48	3.50	3.30
Non-Motorized Fatal + Serious Injuries	6.2	5.4	6.8	7.2	8.2	7.8	8.6	7.2	7.4	7.2	7.3

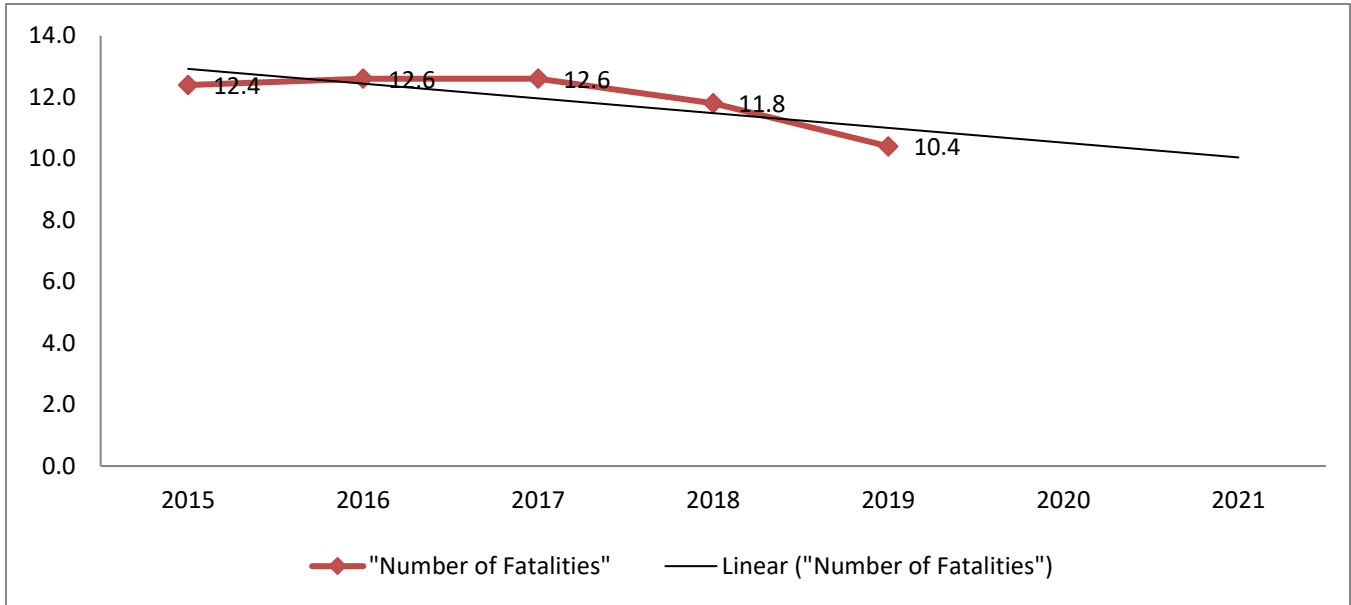
NRPC Target Detail and Statewide Comparison

Number of Fatalities

The Federal Fatal Analysis Reporting System (FARS) provides the data necessary for identifying the total number of traffic crash fatalities in New Hampshire and for the MPO region. Five-year rolling averages are computed to provide a better understanding of the overall data over time without discarding years with significant increases or decreases, as well as to provide a mechanism for regression to the mean for a random variable such as fatalities. A significantly lower fatality total in 2019 reduced the 5-year average to 10.4, which also approximates the projected trend to 2021, thereby establishing a reasonable target.

Year	State of NH		NRPC Region	
	Fatalities	5-year Average	Fatalities	5-year Average
2007	129	n/a	17	N/A
2008	138	n/a	13	N/A
2009	110	n/a	4	N/A
2010	128	n/a	13	N/A
2011	90	119.0	9	11.2
2012	108	114.8	12	10.2
2013	135	114.2	16	10.8
2014	95	111.2	13	12.6
2015	114	108.4	12	12.4
2016	136	117.6	10	12.6
2017	102	116.4	12	12.6
2018	147	118.8	12	11.8
2019	101	120.0	6	10.4

NUMBER OF FATALITIES & TRENDLINE, NRPC REGION

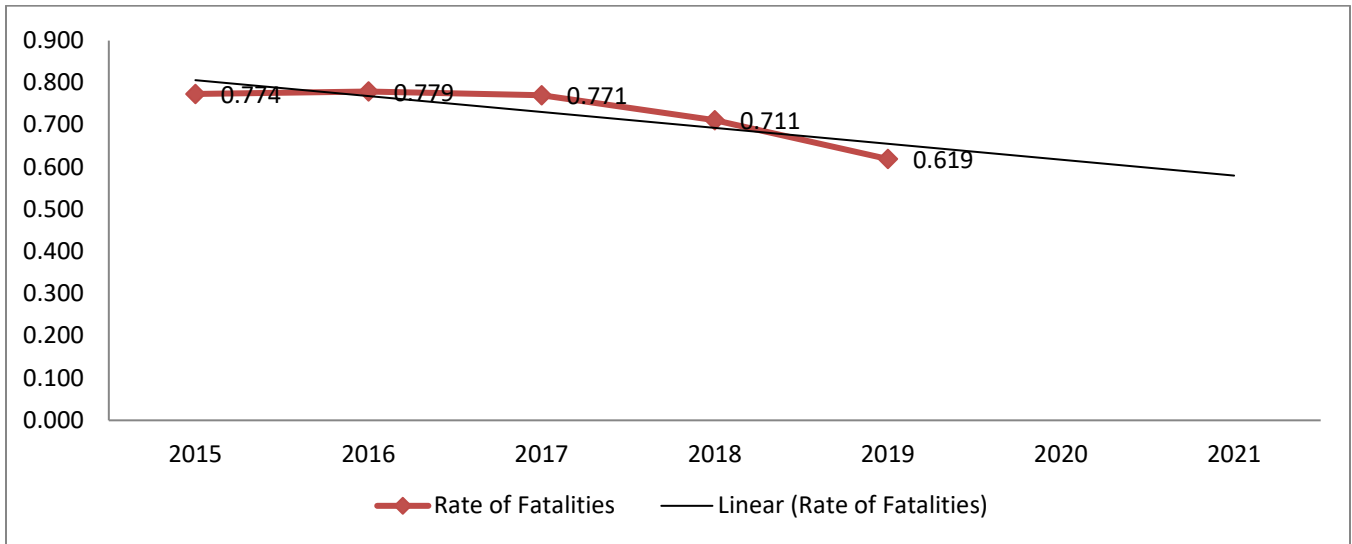


Rate of Fatalities

FARS data is combined with data from the Highway Performance Monitoring System (HPMS) which provides annual Vehicle Miles of Travel (VMT) at the State and community level to develop the next safety target. Combining the total number of fatalities in a particular year with the aggregated volume of travel in the state during that same year provides a fatality rate per 100 Million VMT. This data is then aggregated into 5-year moving averages. This average declined for the fifth straight year to 0.619 fatalities per 100M VMT, following a spike in year one of the 5-year average. The trendline to 2021 approximates the existing five-year average, which establishes a reasonable future target.

Year	State of NH		NRPC Region	
	Rate of Fatalities	5-year Average	Rate of Fatalities	5-year Average
2007	0.958	n/a	1.019	N/A
2008	1.058	n/a	0.804	N/A
2009	0.848	n/a	0.249	N/A
2010	0.980	n/a	0.802	N/A
2011	0.708	0.910	0.571	0.689
2012	0.838	0.886	0.751	0.635
2013	1.046	0.884	1.000	0.674
2014	0.732	0.861	0.808	0.786
2015	0.871	0.839	0.739	0.774
2016	1.009	0.899	0.598	0.779
2017	0.746	0.881	0.707	0.771
2018	1.067	0.885	0.702	0.711
2019	0.729	0.884	0.349	0.619

FATALITIES RATES PER VMT & TRENDLINE, NRPC REGION



Number of Serious Injuries Serious injuries are defined currently as those that are designated as “A” or “4 Incapacitating” on the crash report form used by the New Hampshire Department of Safety (State of New Hampshire Uniform Police Traffic Crash Report, 2007). This includes injuries that involve severe lacerations, broke or distorted limbs, skull fracture, crushed chest, internal injuries, unconscious when taken from the accident scene, or unable to leave the accident scene without assistance.

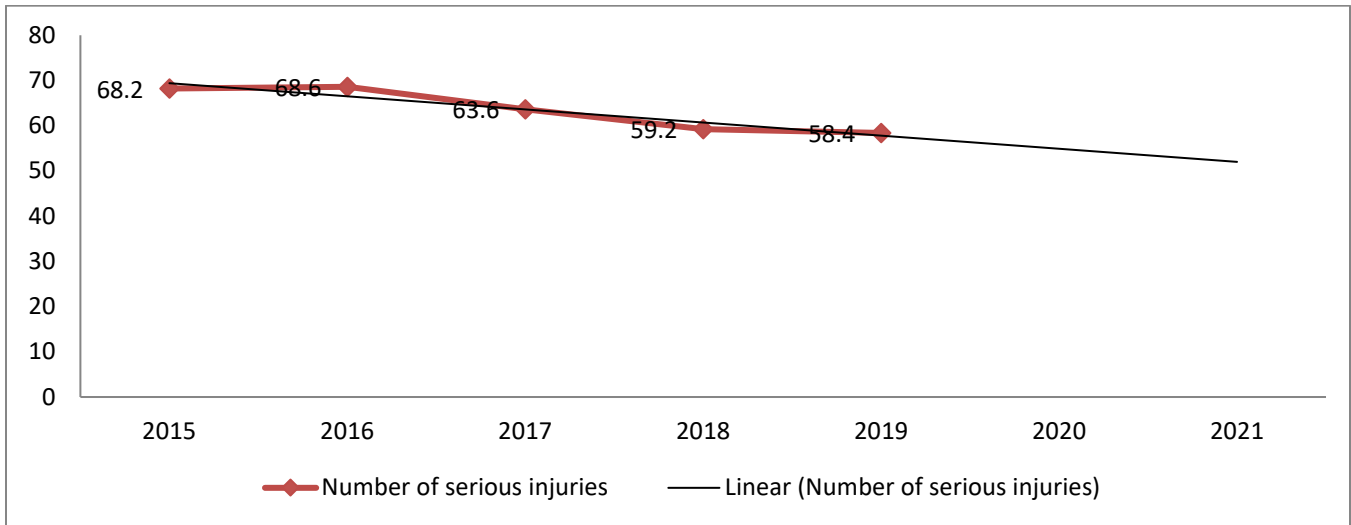
Data for years prior to 2017 come from the legacy crash database maintained by NH Department of Safety. Beginning in 2017, the NH VISION database is utilized. This newly implemented system updates a series of legacy systems that maintain information including crashes, traffic violations, drivers' licenses, etc. The data for the last three years show a significant drop from the 2007 – 2016 period both statewide and regionally.

The major issue in the State's data management for the crash database has been the fact that it has been managed by two entities, NHDOS and NHDOT. The two databases have resulted in different sets of numbers for serious injuries. With implementation of the VISION database in 2017, the data have been centralized and the exports are more consistent. After two more cycles of setting performance targets, moving averages will be based solely on the use of the VISION database.

Year	State of NH		NRPC Region	
	Serious Injuries	5-yr Ave	Serious Injuries	5-year Average
2007	N/A	N/A	71	N/A
2008	N/A	N/A	77	N/A
2009	667	N/A	74	N/A
2010	528	N/A	70	N/A
2011	462	552.3	79	74.2
2012	623	570.0	78	75.6
2013	489	553.8	65	73.2
2014	451	510.6	55	69.4
2015	459	496.8	64	68.2
2016	477	499.8	81	68.6
2017	410	457.2	53	63.6
2018	451	449.6	43	59.2
2019	485	456.4	51	58.4

The NRPC region five-year average for serious injuries slightly declined in 2019 to 58.4 from 59.2. as the past three years have resulted in the lowest totals since data tabulation for performance measures commenced in 2007. The two-year trendline takes the projection to the mid-50 range. A 2021 target of 57 is recommended, which is a reduction from the 2020 target of 59.

NUMBER OF SERIOUS INJURIES & TRENDLINE, NRPC REGION



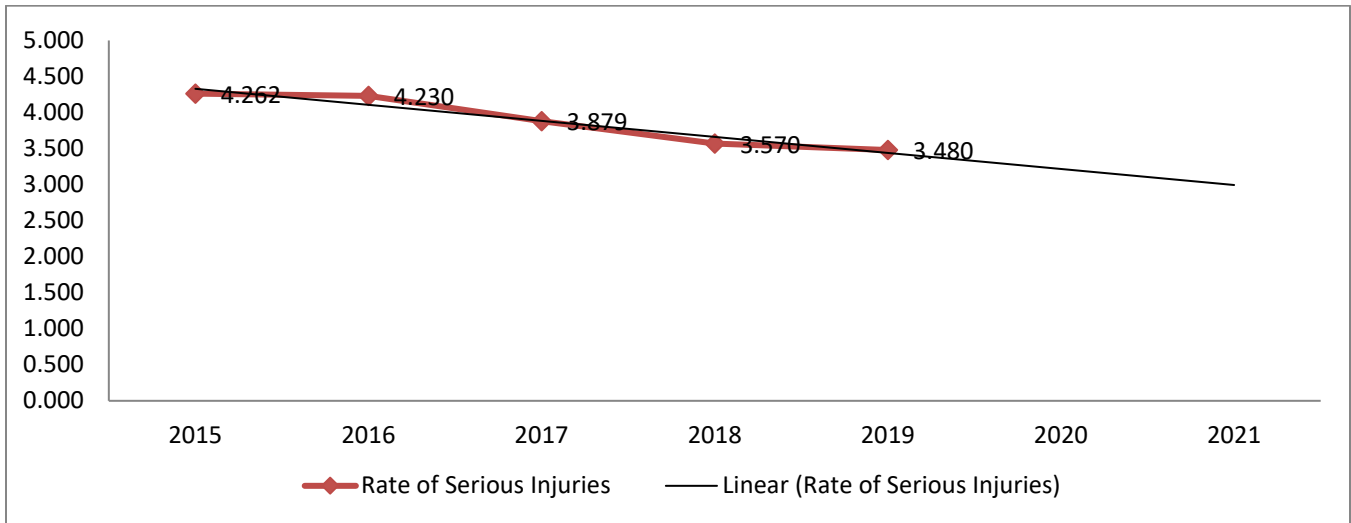
Rate of Serious Injuries

The Rate of Serious Injuries is calculated by applying an estimate of annual travel in the state to the serious injury totals for the same year. As was done for fatality rates, serious injury crash data is combined with HPMS data to produce a rate of serious injuries per 100 Million VMT. This value is further aggregated into five-year averages to identify longer-term trends and reduce the impacts of the variability of the data.

The trendline projection for 2021 is around 3.0. The recommended serious injury rate target is 3.30, which is about a 6% decline from the 2020 target.

Year	State of NH		NRPC Region	
	Rate of Serious Injures	5-yr Ave	Rate of Serious Injures	5-year Average
2007	N/A	N/A	4.254	N/A
2008	N/A	N/A	4.762	N/A
2009	N/A	N/A	4.599	N/A
2010	N/A	N/A	4.321	N/A
2011	3.632	N/A	5.009	4.589
2012	4.832	N/A	4.878	4.714
2013	3.790	4.085	4.063	4.574
2014	3.477	3.933	3.420	4.338
2015	3.505	3.847	3.942	4.262
2016	3.540	3.829	4.847	4.230
2017	2.997	3.462	3.124	3.879
2018	3.270	3.358	2.517	3.570
2019	3.500	3.362	2.968	3.480

SERIOUS INJURY RATES PER VMT & TRENDLINE, NRPC REGION



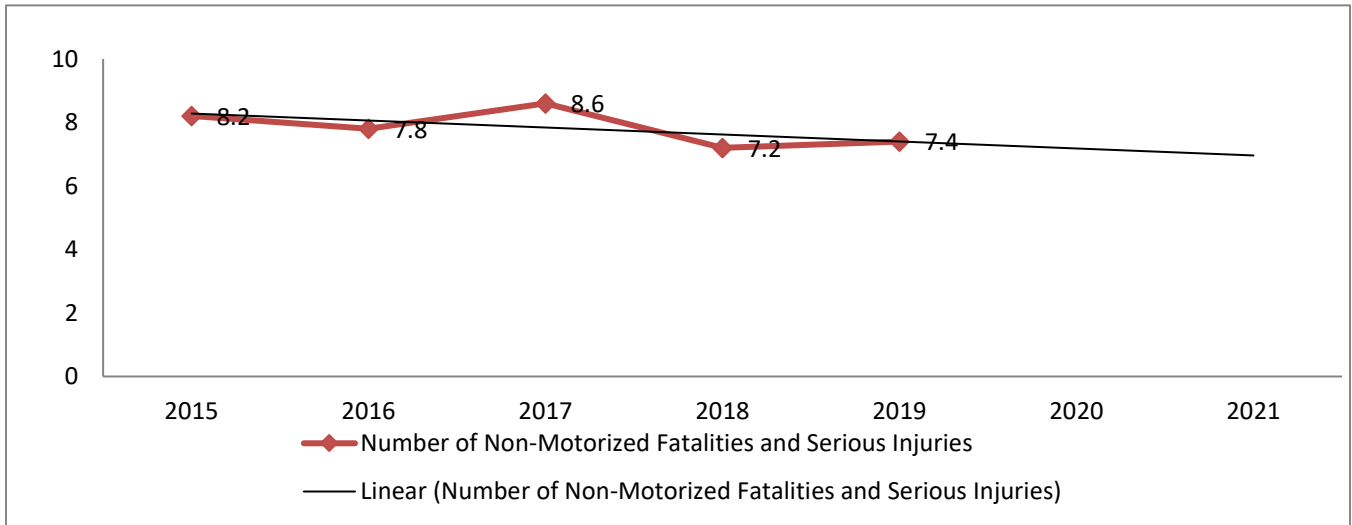
Number of Non-Motorized Fatalities and Serious Injuries

This performance measure utilizes data from both NHTSA’s FARS database and the State Crash Records Database which is maintained by the New Hampshire Department of Safety. Each dataset is queried for non-motorized vehicle crashes and the results are tabulated below. This data can be analyzed at the state, regional, municipal, or corridor level.

For data prior to 2017 there is little variability between the two data sources for statewide data. For regional non-motorized injuries there is wide variability from year to year, as can be typical for low-incidence occurrences for any data category. In 2019 there were 7 non-motorized crashes with serious injury (but none involving fatalities), which was an increase from 2 in 2018 but a decline from 12 in 2017. The five-year trend bumped up slightly from 7.2 in 2018 to 7.4 in 2019. NRPC staff recommends a 2021 target of 7.3, which is 0.1 higher than the 2020 target but does extrapolate a decline from the existing five-year moving average.

Year	State of NH		NRPC Region	
	Non-Motorized Fatalities & Serious Injuries	5-yr Ave	Non-Motorized Fatalities & Serious Injuries	5-year Average
2007	65	N/A	12	N/A
2008	51	N/A	2	N/A
2009	46	N/A	4	N/A
2010	41	N/A	5	N/A
2011	52	51.0	8	6.2
2012	58	49.6	8	5.4
2013	56	50.6	9	6.8
2014	52	51.8	6	7.2
2015	64	56.4	10	8.2
2016	41	54.2	6	7.8
2017	62	55.0	12	8.6
2018	39	51.6	2	7.2
2019	37	49.2	7	7.4

NUMBER OF NON-MOTORIZED FATALITIES/SERIOUS INJURIES & TRENDLINE, NRPC REGION



The NRPC Transportation Technical Advisory Committee, at its meeting of January 13, 2021, voted to recommend MPO adoption of the 2021 highway safety targets.