

NYS SAFETY TARGET SETTING METHODS – 2020 TARGETS

NYS Department of Transportation, Office of Traffic Safety

Overview

As per the Highway Safety Improvement Program final rule (23 CFR Part 490); States are required to set targets for five safety performance measures. The measures are the 5-year rolling averages for:

1. Number of Fatalities*
2. Rate of Fatalities (Fatalities / 100M VMT) *
3. Number of Serious Injuries*
4. Rate of Serious Injuries (Serious Injuries / 100M VMT)
5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries

** Must be identical to the National Highway Traffic Safety Administration's Highway Safety Plan targets set annually by the Governors Traffic Safety Committee (GTSC).*

MPO Requirements

MPOs establish safety targets by either:

- Agreeing to plan and program projects that contribute toward the accomplishment of the State DOT target or
- Committing to a quantifiable safety target for the metropolitan planning area.

Timeline

- GTSC reports targets in the annual HSP on July 1 each year.
- NYSDOT establishes safety targets in the HSIP annual report on August 31, 2019.
- MPOs must agree to support state targets or establish their own within 180 days of the State establishing and reporting its safety targets. The MPO targets are due February 28, 2020.

NYSDOT's Target Setting Framework

1. Estimate existing trend
 - A linear trendline is used as the forecasting method. It is a clear, straightforward method recommended by FHWA.
 - The five year moving average (current year plus four preceding years) is used as the data point for each year.
2. Adjust forecast for reasonability
3. Adjust forecast based on external and other factors where necessary

Step 1: Estimate existing trend

- Forecast 2020 using a 5-yr moving average linear trendline.
- Calculate a % change for 2016-2020 vs. 2013-2017.

Step 2: Adjust for reasonability

- Round the % change between 2016-2020 vs. 2013-2017.
- Apply a 2% or 4% cap.
The cap allows for a target that forecasts a significant reduction but recognizes that large decreases are difficult to sustain year after year.

Step 3: Adjust trend for external and other factors

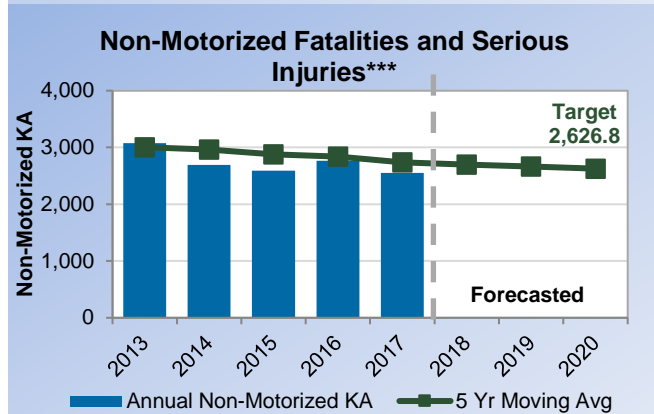
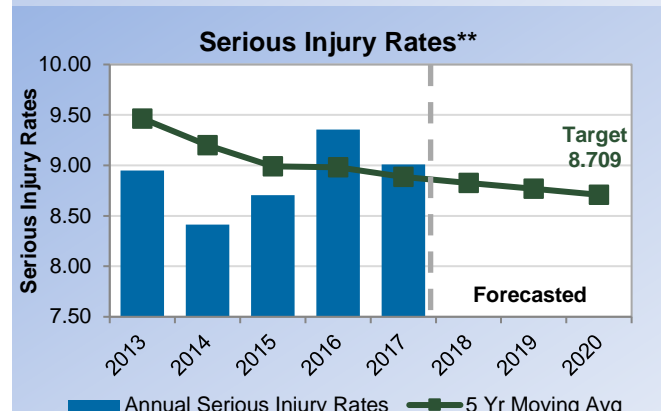
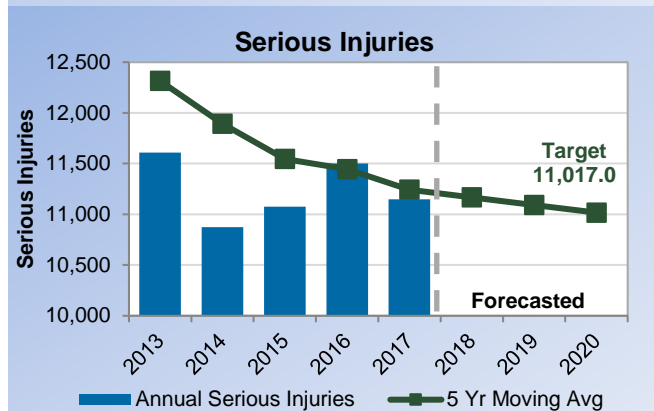
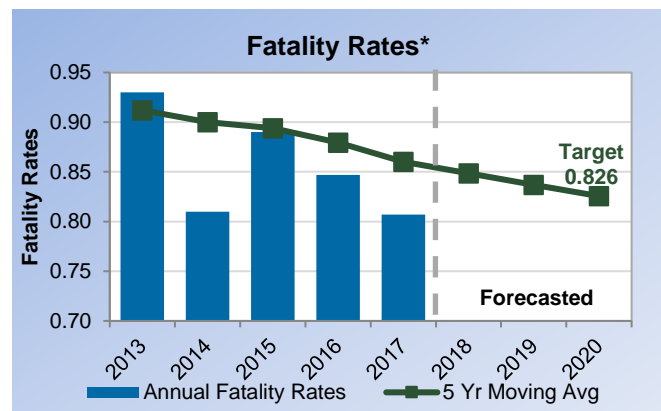
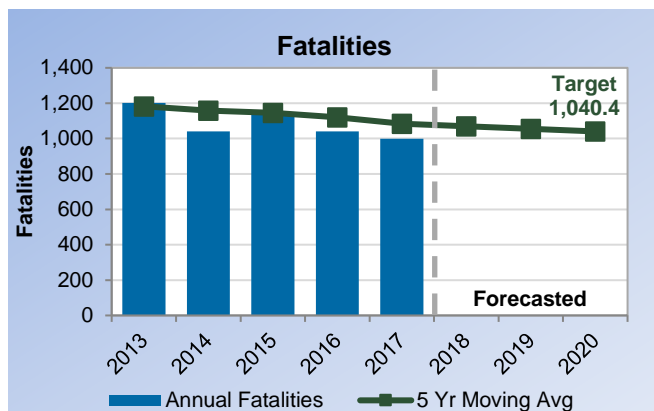
- VMT declined 8 percent between 2008 and 2017.
- Population increased 1.8 percent in the same timeframe.
- NYS has a host of safety programs designed to reduce fatal and serious injury crashes. Two of these programs are NYC's Vision Zero and the NYSDOT Pedestrian Safety Action Plan (PSAP).

No adjustment necessary. VMT, population and NY safety plans support a continued decline of the NY targets.

2020 Targets and Supporting Data

| Measure | Last Annual and 5 yr baseline | | Step 1: Forecast Using 5-Yr Moving Average Trendline | | Step 2: Round and apply 2% or 4% Cap | |
|--|-------------------------------|------------------------------|--|----------------------------------|--------------------------------------|--------------------|
| | 2017 Annual | 2017 Baseline 2013-2017 avg. | 2020 Forecast | % Change 2016-2020 vs. 2013-2017 | Rounded / Capped Percent | NYSDOT Target 2020 |
| Number of Fatalities | 999 | 1,084 | 1,020 | -5.9% | -4.0% | 1,040.4 |
| Fatality Rate | 0.81 | 0.86 | 0.82 | -4.3% | -4.0% | 0.826 |
| Number of Serious Injuries | 11,148 | 11,242 | 10,392 | -7.6% | -2.0% | 11,017.0 |
| Serious Injury Rate | 9.01 | 8.89 | 8.42 | -5.3% | -2.0% | 8.709 |
| Number of Non-Motorized Fatalities and Serious Injuries | 2,554 | 2,736 | 2,557 | -6.6% | -4.0% | 2,626.8 |

Graphs



Note: The 5-yr. trend was generated using the FORECAST function in Excel. The 5 yr trend used the 5-yr. averages on 2009-2013, 2010-2014, 2011-2015, 2012-2016, and 2013-2017 data.

*Fatality Rate computed using VMT from Highway Performance Monitoring System (HPMS)

**Serious Injury Rate computed using VMT from HPMS

*** Based on combined total of Pedestrian Fatalities and Bicyclist and Other Cyclist Fatalities from FARS.