

**To:** CRCOG Transportation Committee  
**From:** Roger Krahn, Principal Transportation Engineer  
 Devon Lechtenberg, Senior Transportation Planner  
**Date:** October 6, 2023  
**Subject:** 2024 Annual CTDOT Safety Performance Targets

In accordance with Federal Highway Administration (FHWA) requirements, the Connecticut Department of Transportation (CTDOT) has established five safety performance targets for calendar year 2024. FHWA requires Metropolitan Planning Organizations (MPOs) to either support the State’s targets or to set their own targets within 180 days of the setting of state-level targets. To achieve this deadline, CRCOG will need to endorse safety targets no later than February 27, 2024. Historically, CRCOG has supported CTDOT’s targets, considering that selecting specific targets for the Capitol Region would require substantial data collection and analysis efforts as well as the allocation of significant MPO resources to meet said targets.

FHWA uses 5-year moving averages to determine the State’s progress towards achieving safety targets. However, states may use any methodology deemed appropriate to calculate the target value for each performance measure. Since 2020, CTDOT uses a modified approach of both a 5-year moving average trendline and annual trendlines to guide the selection of targets. The attached CTDOT technical memo titled “Safety Performance Targets: CTDOT’s proposed targets for year 2024” explains the selection of target values.

The table below shows CTDOT’s 2024 target compared to previous years’ targets. It should be noted that the term “Target” is used in accordance with the Federal Register. The goal is to reduce the number of traffic related serious injuries and deaths to zero.

Measure	2018 Target	2019 Target	2020 Target	2021 Target	2022 Target	2023 Target	<b>2024 Target</b>
<b>Number of Fatalities</b>	257	274	277	270	270	270	<b>270</b>
<b>Fatality Rate (per 100 million VMT)</b>	0.823	0.873	0.883	0.885	0.850	0.850	<b>0.850</b>
<b>Number of Serious Injuries</b>	1,571	1,574	1,547	1,360	1,300	1,300	<b>1,300</b>
<b>Serious Injury Rate (per 100 million VMT)</b>	5.03	5.02	4.93	4.30	4.30	4.30	<b>4.30</b>
<b>Number of Non-Motorist Fatalities and Serious Injuries</b>	280	290	307	300	280	280	<b>280</b>

**CRCOG staff has prepared the attached draft resolution for approval of CTDOT targets by the Policy Board. It is recommended that the Transportation Committee endorse the targets for approval at the Policy Board meeting on November 13, 2023.**

CRCOG will continue to promote regional efforts to reduce fatalities and serious injury crashes, including:

- Using the FY 2022 Safe Streets and Roads for All (SS4A) Grant funding to develop a comprehensive safety action plan for the CRCOG region and administer funds for the City of New Britain to create a comprehensive safety action plan for New Britain.
- Continuing to support the CRCOG municipalities that submitted applications for FY 2023 SS4A Planning and Demonstration Grants, and Implementation Grants.
- Preparing in advance to respond to anticipated SS4A funding opportunities in calendar year 2024.
- Integrating highway safety in the standard work tasks, core plans, special studies and projects. Documents related to these activities include the CRCOG Unified Planning Work Program, Metropolitan Transportation Plan, Regional Transportation Safety Plan, and Regional Roundabout Screening Study.
- Supporting the Safety Circuit Rider program and working in partnership with UConn's Training and Technical Assistance (T2) Center to collaborate in promoting safety on local roads and incorporating safety countermeasures in projects.
- Promoting infrastructure safety improvements in projects that utilize CRCOG's Local Transportation Capital Improvement Program (LOTICIP) funding.
- Administering the Greater Hartford Traffic Incident Management (TIM) Coalition.
- Supporting the efforts of the Vision Zero Council of Connecticut. CRCOG staff participate in several Vision Zero Council subcommittees.
- Participating on the CT Strategic Highway Safety Plan Steering Committee and several Emphasis Area committees.
- Identifying opportunities for CRCOG Transportation Committee and Policy Board to support CT General Assembly legislation to improve traffic safety.
- Supporting Vision Zero activities by member municipalities, such as West Hartford's Vision Zero Task Force.

**RESOLUTION  
SUPPORTING 2024 TARGETS FOR  
SAFETY PERFORMANCE MEASURES ESTABLISHED BY CTDOT**

**WHEREAS**, the Capitol Region Council of Governments (CRCOG) has been designated by the Governor of the State of Connecticut as the Metropolitan Planning Organization (MPO) responsible, together with the State, for the comprehensive, continuing, and cooperative transportation planning process for the Capitol Region; and

**WHEREAS**, as outlined in 23 CRF 490.207 (a), MPOs shall establish annual performance targets for each of the measures identified in the National performance management measures for the Highway Safety Improvement Program (HSIP); and

**WHEREAS**, the Connecticut Department of Transportation (CTDOT) has established the following targets for five safety performance measures:

- (1) Number of fatalities: 270
- (2) Rate of fatalities per 100 million vehicle miles traveled (VMT): 0.850
- (3) Number of serious injuries: 1,300
- (4) Rate of serious injuries per 100 million VMT: 4.30
- (5) Number of non-motorized fatalities and non-motorized serious injuries: 280; and

**WHEREAS**, CTDOT submitted the above five targets to the Federal Highway Administration (FHWA) by August 31, 2023 and MPOs have until February 27, 2024 (180 days) to either support the Department's targets or set their own, by; and

**WHEREAS**, CRCOG strives to reduce the number of roadway fatalities and serious injury crashes in the region; and

**WHEREAS**, the CRCOG Transportation Committee has discussed and endorsed CTDOT's 2024 targets for the five safety performance measures identified above,

**NOW THEREFORE, BE IT RESOLVED**, that the CRCOG Policy Board has agreed to support CTDOT's 2024 targets for these five safety performance measures; and

**BE IT FURTHER RESOLVED**, that the CRCOG Policy Board will plan and program projects that contribute to the accomplishment of the targets.

**CERTIFICATE**

I certify the above is a true copy of a resolution adopted by the Policy Board at its meeting held on November 15, 2023.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Jason Bowsza, Secretary

# Safety Performance Targets

CTDOT's proposed targets for year 2024

April 2023

*This technical memo documents the safety target selection process used by CTDOT to select the five safety performance targets for 2024 that CTDOT will submit to USDOT in two separate reports.*

- *The Safety Engineering Section within the Division of Traffic Engineering will submit the targets through the annual report of its Highway Safety Improvement Program (HSIP) that is submitted to FHWA.*
- *The Highway Safety Office (HSO) in the Policy and Planning Bureau will submit the targets through its Highway Safety Plan (HSP) that is submitted to NHTSA.*

***It is important to note that the term “Target” used in this technical memo is in accordance with the Federal Register, but CTDOT disagrees with the use of the term “Target” as it implies that a specific number of deaths or serious injuries are acceptable. The Federal Highway Administration (FHWA) determines whether a State has met its Safety Performance Targets based on the 5-year moving average.***

The USDOT requires that each State DOT evaluate highway safety in the state using five highway safety performance “measures” and data from motor vehicle crashes in the state for the previous five years.

1. **Number of traffic fatalities**
2. **Fatality rate (Fatalities/100 million vehicle miles traveled)**
3. **Number of serious (A) injuries**
4. **Serious (A) injury rate (Serious Injuries/100 million vehicle miles traveled)**
5. **Number of non-motorist fatalities and serious injuries<sup>1</sup>**

Every year, the CTDOT must establish a specific performance “target” for each performance measure. The Safety Engineering Section in the Bureau of Engineering and Construction, and the Highway Safety Office in the Bureau of Policy and Planning work collaboratively to establish a single common set of five (5) performance targets. The shared targets are subsequently submitted to and tracked by the USDOT through the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration (NHTSA). FHWA and NHTSA encourage setting objectives that are Specific, Measurable, Action-oriented, Reasonable and Time-Bound (S.M.A.R.T). Federal regulations require that states must achieve their targets or risk penalties applied to Federal Highway safety funds. There are two (2) penalties, if states fail to meet four (4) of the five (5) targets:

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<sup>1</sup> Non-motorists include pedestrians, other pedestrians (wheelchair, person in a building, skater, pedestrian conveyance), bicyclists, and other cyclist (non-motorist using a non-motorized pedal-powered vehicle other than a bicycle, such as a unicycle or adult tricycle), per the MMUCC investigators guide.

- States lose the ability to “flex” some of their FHWA safety funds to other programs and are required to spend 100 percent of their safety funds on safety projects.
  - This penalty has no real impact on CTDOT since safety is a priority and our goal for the last few years has been to spend all of our federal safety funds on safety projects.
- States must prepare an HSIP Implementation Plan which details how the safety funds will be spent and how the proposed program will improve safety.

The CTDOT aims to balance the target-setting process by selecting targets that:

- impact safety programming in a way that accomplishes the overall goal of reducing serious injuries and fatalities on the State’s roadways and are still practical and achievable.

**Smoothing Data with 5-Year Moving Averages.** FHWA uses 5-year moving averages to determine the State’s progress towards achieving safety targets. However, States may use any methodology deemed appropriate to calculate the target value for each performance measure. States are encouraged to review data sets, trends, anticipated funding, and consider other factors that may affect targets. The use of 5-year moving averages smooths out what can sometimes be significant fluctuations in data from one year to the next. Since large annual fluctuations in data are relatively common, basing performance targets on “annual” data alone can result in the selection of faulty targets and an inability to achieve the selected performance targets. The 5-year moving average is one method that can help avoid or reduce the problem caused by large “annual” fluctuations.

For this year’s Safety Performance Target submittals to FHWA and NHTSA, CTDOT is required to report on the 5-year period from 2017 to 2021. The preliminary 2022 data, where available, are used for better decision-making regarding target selection. While the targets are determined jointly, separate submittals are made to each federal agency.

**Disadvantage of 5-year Moving Average.** Connecticut has not been satisfied with the prior practice of using the 5-year moving average as the sole indicator to set the future years’ safety performance targets. While the moving average does smooth fluctuations, the use of a 5-year period means that some fatality and serious injury data included in the moving averages are four and five years old. During that timeframe, motor vehicle crash trends might have changed. In fact, Connecticut has experienced a change in trend for some performance measures since the COVID-19 pandemic. Connecticut believes that the 5-year moving average is a “lagging indicator” that cannot serve as the sole or even primary guideline for setting safety performance targets.

**Target Setting Approach.** Since 2020, Connecticut has been using a modified approach to target setting using both a 5-year moving average trendline and an annual trendline to guide the selection of targets. In addition, since 2021, CTDOT has used ten years of data for annual forecasting to assist with better decision making. The final target selection is also based on professional judgement and a strengthened commitment to advancing CTDOT’s overall safety goal of improving the safety of all roadway users. CTDOT is committed to setting “aggressive” safety targets and then developing a strong program to achieve the targets.

This aggressive target setting increases the risks of not achieving targets, but it is consistent with the high priority that CTDOT has given to advancing its safety program. Additionally, FHWA recognizes states may choose to set aggressive targets as part of their strong commitment to safety. See inset.

**Considerations for Aggressive Safety Targets**

A State that chooses a very aggressive target is making a very strong commitment to safety. This approach will require aggressive implementation efforts to improve performance. While an aggressive target introduces greater risk of missing the target, it is an opportunity to emphasize commitment to safety, strengthen safety policies, and improve consideration of safety in investment decisions.

*[The above FHWA statement is taken from page 14 of “Safety Target Setting Coordination Report,” FHWA, 2016.](#)*

**The COVID-19 Pandemic and Its Lingering Effects.** The COVID-19 pandemic and its aftermath has posed an unusual challenge to state DOTs across the country. During the initial phase of the COVID-19 pandemic, traffic volumes in Connecticut fell 40 to 50 percent from normal in March and April of 2020, followed by a slow increase in traffic volumes from the month of May onwards. However, traffic volumes had not returned to 2019 levels by the end of 2020. While reduced traffic volumes should have resulted in a decrease in crashes, injuries, and fatalities, Connecticut found that was not the case. The total number of crashes and serious injuries decreased, while the number of fatalities increased in 2020. This may have been caused by a significant increase in the percentage of drivers driving in excess of 85 mph observed on Connecticut roadways, which is considered reckless driving. This change in roadway travel and the changes in driver behavior was also observed at the national level. There was 7.3 percent increase in traffic fatalities in 2020, compared to 2019 in the U.S.<sup>2</sup>

In 2021, fatalities in Connecticut stayed relatively flat. National data suggest an increase in fatalities of approximately 10.1 percent in 2021 compared to 2020.<sup>2</sup>

In 2022, the fatalities in Connecticut continued to increase. Preliminary fatality numbers for Connecticut for 2022 show an estimated increase of 28.2 percent from 2021. This included an increase in fatal speeding crashes while the state experienced a decrease in fatal alcohol-impaired crashes. National data suggest a decrease in fatalities of approximately 0.3 percent in 2022 compared to 2021.<sup>2</sup> Although nationwide there was a slight decrease in the number of fatalities, the Northeast region experienced a 1 to 2 percent increase. The Traffic Safety Facts publication by

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<sup>2</sup> NHTSA Report No. DOT HS 813 428 Early Estimate of Motor Vehicle Traffic Fatalities in 2022.

NHTSA suggests that speeding, driving impaired, driving distracted and not using seat belts as possible factors which created an environment contributing to risky driving behavior and increased traffic fatalities during and after the COVID-19 pandemic.<sup>3</sup> The reduction in law enforcement presence on the roadways is likely a potential contributing factor to the observed risky driving behavior.

**Vision Zero Council of Connecticut.** CTDOT is committed to eliminating traffic fatalities and is leading the effort with the Vision Zero Council. The [Vision Zero Council of Connecticut](#) is an interagency work group tasked with developing statewide policy to eliminate transportation-related fatalities and severe injuries involving pedestrians, bicyclists, transit users, motorists, and passengers.

The Council was established in 2021 by the Connecticut General Assembly as part of *Public Act 21-28*, a landmark transportation safety bill. Members of the council include the commissioners (or their designees) of the Departments of Transportation, Public Health, Emergency Services and Public Protection, Motor Vehicles, Education, Aging and Disability Services, Office of Early Childhood, and Office of the Chief State's Attorney.

Recently, the Council and its subcommittees focusing on equity, enforcement, engineering, and education developed proposals for legislation on the next steps to implement the recommendations of the Vision Zero Council.

These recommendations included:

- Requiring a complete streets plan for each municipality
- Adopting an ICE (Intersection Control Evaluation) Policy
- Studying of specific traffic movement regulations
- Increasing requirements for driver retraining
- Enacting a prohibition on open alcohol containers in motor vehicles
- Implementing automated traffic enforcement
- Enacting a helmet law for all motorcycle riders
- Establishing a Fatal Collision Reduction Team to engage in high visibility enforcement blitzes
- Utilizing schools to better educate children about road safety
- Utilizing the judicial system in driver re-training
- Utilizing the DMV to educate drivers on a more frequent basis
- Utilizing DPH to educate around emerging traffic safety issues
- Improving data, identify uses, formalize statewide consideration of equity
- Establishing traffic safety campaigns and education
- Creating opportunities for car seat distribution and education
- Promoting seatbelt safety among populations with lower usage rates

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<sup>3</sup> NHTSA Report No. DOT HS 813 210 Continuation of Research on Traffic Safety During the COVID-19 Public Health Emergency: January-June 2021.

- Reforming license suspension and traffic court processes
- Creating infrastructure that specifically protects bicyclists, the disabled, and pedestrians

**Blood Alcohol Concentration Limit.** Connecticut consistently ranks amongst the top five states in the nation for alcohol-impaired traffic fatalities and is above the national average in terms of alcohol-related fatalities. To address the problem of impaired driving on Connecticut roadways, CTDOT introduced the legislative bill to lower the legal limit of the Blood Alcohol Concentration (BAC) from 0.08 to 0.05 g/dl during the 2023 legislative session. The CTDOT HSO has worked to address this issue in the state through various avenues including but not limited to educational and awareness campaigns, enforcement grants etc.

**Wrong-Way Crashes.** In 2022, Connecticut experienced a sharp rise in fatal wrong-way crashes on the state's interstates and highways. Thirteen fatal wrong-way crashes resulted in 23 fatalities, accounting for six percent of total crashes and an approximately 500 percent increase in wrong-way fatalities. Nearly all fatal wrong-way crashes involved alcohol impairment, with many drivers also testing positive for cannabis and other drugs.

To counteract this rise in wrong-way crashes, Connecticut announced the implementation of \$20 million in funding for wrong-way driving alert systems in July 2022. Media campaigns were created to address wrong-way driving. In addition to this program, the CTDOT Safety Engineering Unit has upgraded signage on 700 limited access highway off-ramps including oversized signs and red retro-reflective strips and has improved pavement arrows and line delineation at off-ramps with double-wide stop lines. The Safety Engineering Unit is also installing updated traffic signaling at ramp intersections and installing wrong-way signs on the back sides of speed limit signs along highways.

Within the CTDOT HSO, there has been added funding to state and local police with Alcohol-Impaired and Distracted Driving enforcement grants, increased media campaigns addressing cannabis and alcohol use and additional support for the implementation of programs such as Drug Recognition Expert (DRE) trainings, DUI sobriety checkpoints and roving patrols.

In order to address this increase in impaired wrong-way driving crashes, Connecticut is currently reviewing the BAC laws and consideration is being placed on lowering the BAC impairment level from 0.08 to 0.05 g/dl. The State also held a Green Lab in February which provided training to law enforcement partners and provided a chance to assess volunteers under the influence of cannabis as well as combined with alcohol. This training is highly beneficial to law enforcement who may have little exposure to the increased impairing effects of legalized recreational cannabis.

As a result, three bills were introduced in the 2023 legislative session: House Bill 5917 An Act Implementing the Recommendations of the Vision Zero Council; Senate Bill 1082 An Act Implementing the Recommendations of the Department of Transportation Regarding a Reduction in Blood Alcohol Limits for Impaired Driving and Boating; and House Bill 6746 An Act Concerning



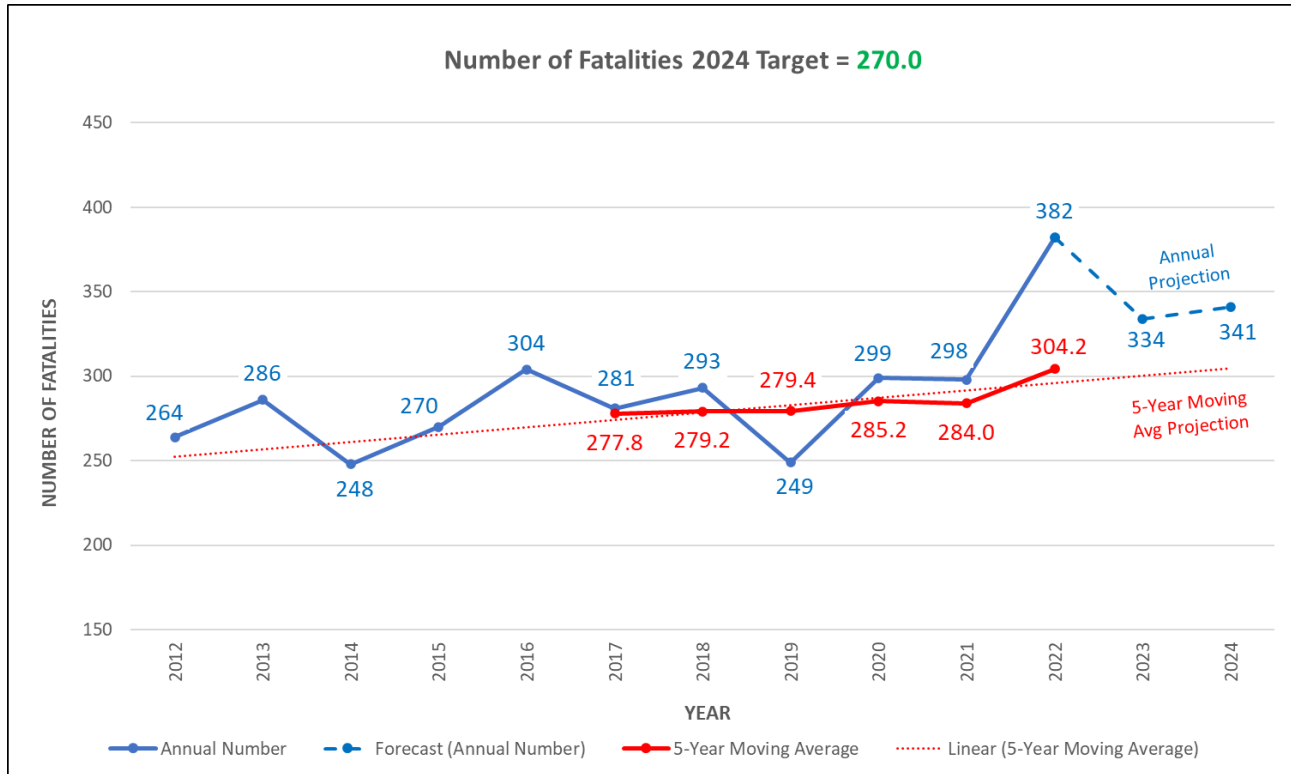
Wrong-Way Driving Detection and Prevention. These bills received favorable ranking by the joint committee on transportation and are currently pending review.

**Safe Systems Approach.** The Safe Systems approach is part of the Strategic Highway Safety Plan (SHSP), with the idea being that it can be applied equitably across the transportation network. CTDOT will evaluate how to integrate Safe System principles into CTDOT's planning and design practices and will discuss the best ways to integrate this during the Executive and Steering Committee meetings.

**CTDOT continues to address the increase in traffic fatalities on Connecticut roadways with various measures as stated above and has stayed committed to setting aggressive targets as indicated below. CTDOT is actively working to decrease the traffic fatalities on Connecticut roadways, developing non-receding or improving data driven targets, with the ultimate goal of zero fatalities.**

## Performance Measure: Number of Traffic Fatalities

The trends in number of fatalities are illustrated in the graph below. Annual fatalities are shown in blue, and the 5-year moving average is shown in red. These two lines are compared and used to select a target for 2024 as described below.



Source: FARS Final Files 2012-2020, FARS Annual Report File 2021, Preliminary 2022 CTDOT Data as of 4/10/2023.

### “Annual” Fatalities

- The annual number of fatalities has fluctuated from year to year. There was a declining trend until 2019 after a high point of 304 fatalities in 2016. However, the trend started to reverse in 2020 with the COVID-19 pandemic. The years 2020 and 2021 saw a spike in fatalities in Connecticut and was observed at the national level as well. The 2022 preliminary data suggest 382 fatalities, a dramatic 28.2 percent increase over 2021 in Connecticut.
- A time series regression analysis was conducted to project the likely number of fatalities in 2023 and 2024 (our target year). Based on this regression analysis, the projected fatalities are approximately 341, but there is a significant amount of statistical variance around the projection.

### 5-Year Moving Average

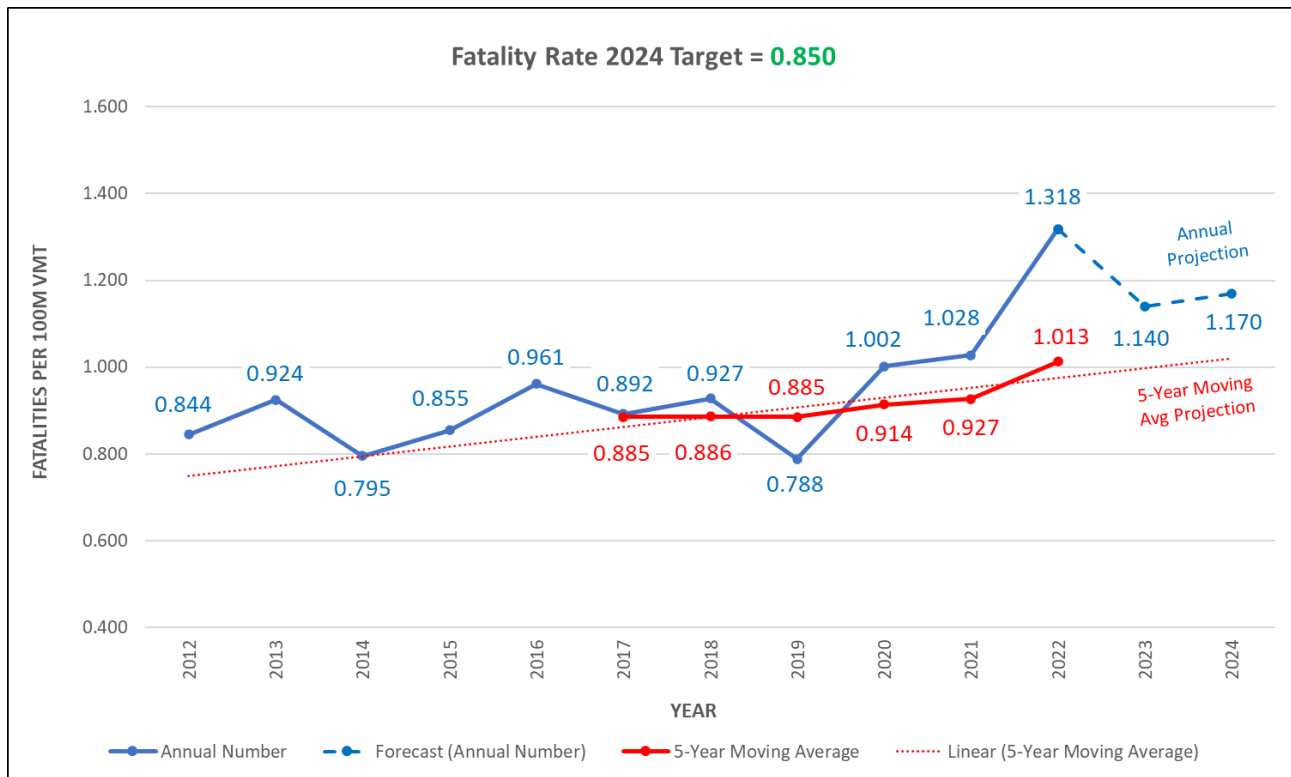
- The 5-year moving average trendline shows the projected fatalities of approximately 304, lower than the projection with the annual numbers for the target year of 2024.

### TARGET

- CTDOT is choosing to maintain a 2024 fatality target of **270.0**. The selection is based on careful consideration of the following:
  1. CTDOT has chosen to set an aggressive target that will move the state back toward fatality levels experienced in 2014-2015 and 2019. before the impact of the COVID-19 pandemic.
  2. Prior to the COVID-19 pandemic, there had been a decreasing trend in the number of fatalities for the past couple of years with safety related infrastructure projects as well as enforcement and educational campaigns. CTDOT recognizes that 2020 -2022 were unusual years with the COVID-19 pandemic which resulted in higher-than-expected traffic fatalities. This was an unexpected consequence observed in several states in the country.

## Performance Measure: **Fatality Rate** (Fatalities/100 million vehicle miles traveled)

The trends in the fatality rate<sup>4</sup> are illustrated in the graph below. Annual fatality rates are shown in blue, and the 5-year moving average is shown in red. These two lines are compared and used to select a target for 2024 as described below.



Source: FARS Final Files 2012-2020; FARS Annual Report File 2021; Preliminary 2022 CTDOT Data as of 4/10/2023; VMT data as published by FHWA in table VM-2 at <https://www.fhwa.dot.gov/policyinformation/statistics/2020/>  
 Note: The data points for 2022 are based on the 2021 VMT since the 2022 VMT information is not available at this time.

### “Annual” Fatality Rate

- The annual fatality rate has fluctuated from year to year, but the annual data suggest an upward trend since the COVID-19 pandemic in 2020 and 2021. The number of fatalities continued to increase, reaching 1.028 fatalities/100 million VMT in 2021. Preliminary 2022 data suggest a further increase in the fatality rate.
- A time series regression analysis was conducted to project the likely number of fatalities in 2023 and 2024 (our target year). Based on the regression analysis the projected fatality rate

<sup>4</sup> Fatality rate is calculated as the number of fatalities per 100 million Vehicle Miles Traveled annually. Comparing the number of fatalities relative to the volume of annual travel eliminates annual fluctuations in fatalities that one might expect due to differences in travel volumes from year to year. It adjusts for one source of variation that is known to directly impact the number of fatalities.

is approximately 1.170, but there is a significant amount of statistical variance around the projection.

### 5-Year Moving Average

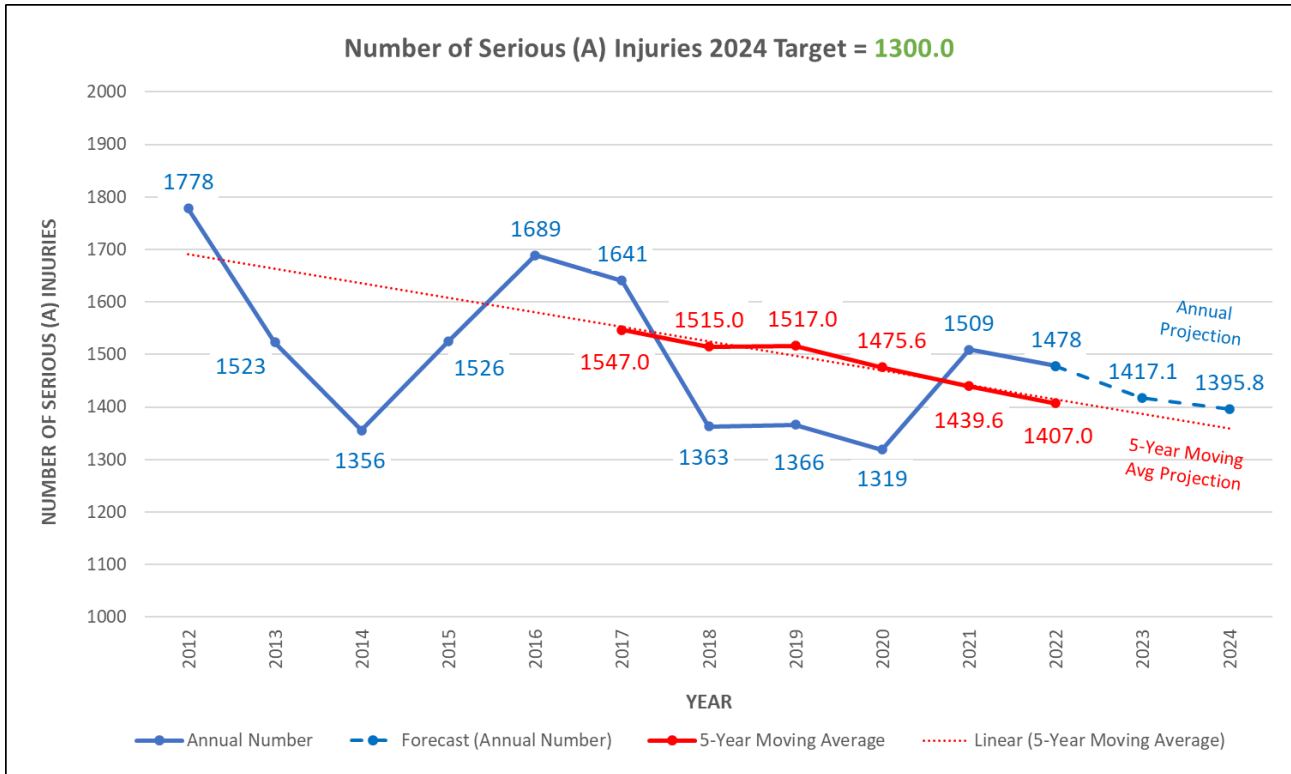
- In parallel with the annual numbers, the 5-year moving average is exhibiting an upward trend. The trendline for the 5-year moving average suggests the fatality rate could increase to 1.020 in 2024.

### TARGET

- CTDOT is choosing to maintain an aggressive target of **0.850** in 2024. The selection is based on careful consideration of the following:
  1. The two trendlines in the graph suggest the actual value may be between 1.020 and 1.170. These trends are higher due to the continuing impact of the COVID-19 pandemic on the number of fatalities and the VMT.
  2. CTDOT wants to set an aggressive target that will move the state back toward fatality rate levels experienced in 2014-2015 and 2019 time periods before the impact of the COVID-19 pandemic.
  3. CTDOT recognizes that 2020 -2022 were unusual years with the COVID-19 pandemic when Connecticut saw an increase in traffic fatalities even though the traffic volume dropped. This resulted in higher fatality rate in 2020 and the increase in fatalities has continued into 2021 and 2022 which will likely push the fatality rate even higher.
  4. In 2021, in the aftermath of the COVID-19 pandemic, Connecticut's fatality rate increased to 1.028. Early estimates from NHTSA suggest a national fatality rate of 1.37 in 2021 which is 33 percent higher than Connecticut. Connecticut is choosing to strive for a lower rate by setting a target at 0.850 for 2024. The outcome is to return to pre-COVID-19 pandemic levels with the ultimate goal of zero traffic fatalities.

## Performance Measure: **Number of Serious (A) Injuries**

The trends in number of serious injuries are illustrated in the graph below. Annual serious injuries are shown in blue, and the 5-year moving average is shown in red. These two lines are compared and used to select a target for 2024 as described below.



Source: Connecticut Crash Data Repository as of 4/10/2023.

Note: The definition of “Serious (A) Injury” was changed in 2015 to match MMUCC 4<sup>th</sup> edition. Prior to 2015, Serious (A) Injury was defined as Incapacitating Injury (prevents return to normal). In 2015, a Serious (A) Injury was defined as any injury other than fatal which results in one or more of the following: severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood; broken or distorted extremity (arm or leg); crush injuries; suspected skull, chest or abdominal injury other than bruises or minor lacerations; significant burns (second and third degree burns over ten percent or more of the body); unconsciousness when taken from the crash scene; paralysis.

### “Annual” Serious Injuries

- The annual number of serious injuries has fluctuated from year to year, but the annual data also suggest a downward trend since a high point of 1778 in 2012.
- A time series regression analysis was conducted to project the likely number of serious injuries in 2023 and 2024 (our target year). The preliminary data for 2022 suggest a decrease in the number of serious injuries after an increase in 2021. This decrease is expected to bring the projected annual number down to approximately 1395, but there is a significant amount of statistical variance around the projection.

### 5-Year Moving Average

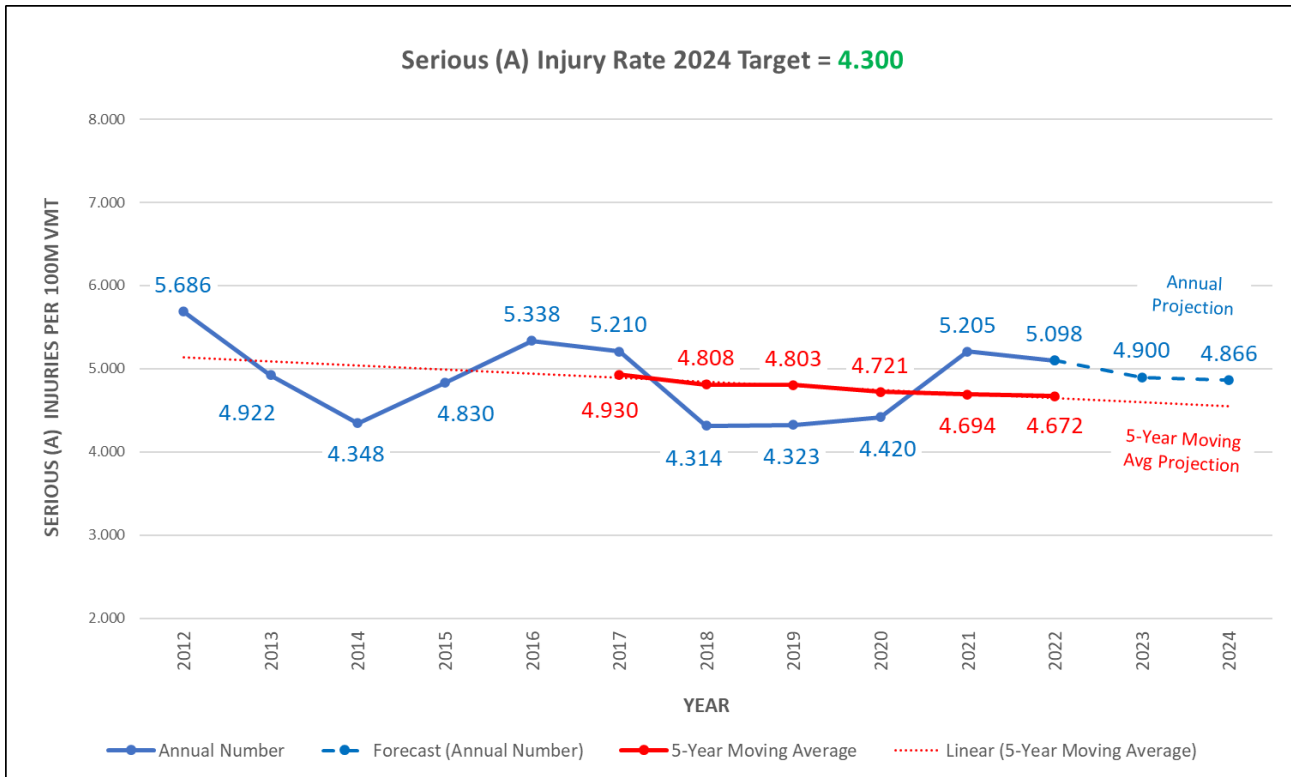
- Unlike the case for *fatalities*, the 5-year moving average for *serious injuries* has been exhibiting a steady downward trend despite a recent uptick in 2021. Nonetheless, there is still a small difference between the 5-year average trendline and the annual regression analysis forecast. The 5-year average is expected to fall to approximately 1359, while the regression forecast is approximately 1395.

### TARGET

- CTDOT is choosing to maintain a 2024 target of **1300.0** serious injuries. The selection is based on careful consideration of the following:
  1. The two trendlines in the graph suggest the actual value may fall between 1359-1395.
  2. CTDOT wants to set an aggressive target that will move the state back toward serious injury levels experienced in 2020 and lower. At the beginning of the COVID-19 pandemic in 2020 the number of fatalities increased but the number of serious injuries decreased.

## Performance Measure: **Serious (A) Injury Rate** (Serious Injuries/100 million vehicle miles traveled)

The trends in the serious injury rate<sup>5</sup> are illustrated in the graph below. Annual serious injury rates are shown in blue, and the 5-year moving average is shown in red. These two lines are compared and used to select a target for 2024 as described below.



Source: Connecticut Crash Data Repository as of 4/10/2023. VMT data as published by FHWA in table VM-2 at <https://www.fhwa.dot.gov/policyinformation/statistics/2020/>

Note: 1.) The data points for 2021 and 2022 are based on the same VMT number since the 2022 VMT information is not available at this time; 2.) The definition of “Serious (A) Injury” was changed in 2015 to match MMUCC 4<sup>th</sup> edition. Prior to 2015, Serious (A) Injury was defined as Incapacitating Injury (prevents return to normal). In 2015, a Serious (A) Injury was defined as any injury other than fatal which results in one or more of the following: severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood; broken or distorted extremity (arm or leg); crush injuries; suspected skull, chest or abdominal injury other than bruises or minor lacerations; significant burns (second and third degree burns over ten percent or more of the body); unconsciousness when taken from the crash scene; paralysis.

<sup>5</sup> The serious injury rate is calculated as the number of serious injuries per 100 million Vehicle Miles Traveled annually. Comparing the number of serious injuries relative to the volume of annual travel eliminates annual fluctuations in injuries that one might expect due to differences in travel volumes from year to year. It adjusts for one source of variation that is known to directly impact the number of serious injuries.



### “Annual” Serious Injury Rates

- The annual serious injury rates have fluctuated from year to year, but the annual data suggest a downward trend since a high point of 5.686 serious injuries/100 million VMT in 2012.
- A time series regression analysis was conducted to project the likely serious injury rates in 2023 and 2024 (our target year). Based on the regression analysis, we should expect a continuing reduction in serious injury rates. This decrease is expected to bring the annual rate down to 4.551-4.866, but there is a significant amount of statistical variance around the projection.

### 5-Year Moving Average

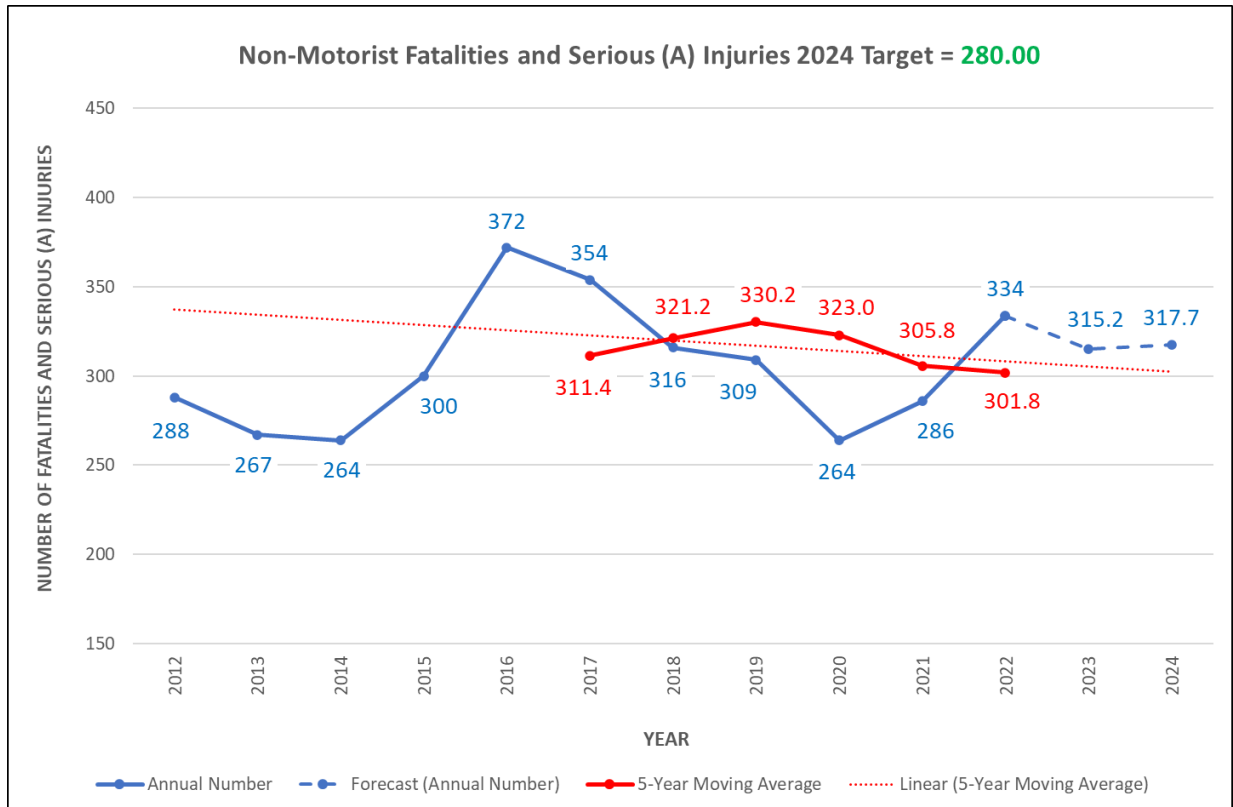
- Unlike the case for *fatality rates*, the 5-year moving average for *serious injury rates* is exhibiting a steady downward trend. Nonetheless, there is still a small difference between the 5-year average trendline and the annual regression analysis forecast. The 5-year average is expected to fall to approximately 4.551, while the regression forecast is 4.866.

### TARGET

- CTDOT is choosing to maintain a 2024 target of **4.300** serious injuries/100 million VMT. The selection is based on careful consideration of the following:
  1. The two trendlines in the graph suggest the actual value may fall between 4.551-4.866, but CTDOT wants to set an aggressive target that will move the state back toward fatality rate levels experienced in 2018 and lower.
  2. CTDOT recognizes that 2020 and 2021 were unusual years with the COVID-19 pandemic. There was a decrease in the number of serious injuries likely due to a reduction in traffic volume in 2020, whereas 2021 saw an increase in the number of serious injuries. In 2022, preliminary data suggest serious injuries once again began the downward trend.

## Performance Measure: **Number of Non-Motorist Fatalities and Serious (A) Injuries**

The trends in number of non-motorist fatalities and serious injuries are illustrated in the graph below. Annual fatalities and serious injuries for non-motorists are shown in blue, and the 5-year moving average is shown in red. These two lines are compared and used to select a target for 2024 as described below.



Source: FARS Final Files 2012-2020, FARS Annual Report File 2021, Preliminary 2022 CTDOT and Connecticut Crash Data Repository Data as of 4/10/2023.

### “Annual” Non-Motorist Fatalities and Serious Injuries

- The annual number of non-motorist fatalities and serious injuries has fluctuated from year to year, but the annual data suggest a downward trend since a high point of 372 in 2016.
- A time series regression analysis was conducted to project the likely number of non-motorist fatalities and serious injuries in 2023 and 2024 (our target year). The regression analysis, suggest a small reduction to approximately 302.5 - 317.7 similar to the 2018 and 2019 pre-COVID-19 pandemic number. There is a significant amount of statistical variance around the projection.

## 5-Year Moving Average

- Similar to the “annual” projection, the 5-year moving average for non-motorist fatalities and serious injuries is projecting an increase although there is a significant difference between the 5-year moving average trendline and the annual regression analysis forecast. The 5-year moving average is expected to increase to approximately 302.5, while the regression forecast is 317.7 for 2024.

## TARGET

- CTDOT is choosing to maintain a 2024 target of **280.0** non-motorist fatalities and serious injuries. The selection is based on careful consideration of the following:
  1. High Priority for Pedestrian Safety. The safety of pedestrians became a heightened concern in Connecticut when pedestrian fatalities increased significantly in 2014. While it was part of a larger national trend, it raised concern in heavily urbanized areas, where walking and bicycling are more common. These forms of active transportation are also increasingly popular forms of physical exercise. CTDOT adopted pedestrian safety as a high priority and has a program to improve safety. Several safety-related infrastructure projects were undertaken from 2015-2023 to improve the conspicuity of traffic control devices for non-motorized road users including, but not limited to, marked crosswalk enhancements, pedestrian facility upgrades, and pedestrian signing. Connecticut remains committed to these goals.

In addition, there were several changes to the non-motorist Safety Laws in Connecticut in 2021 with the *Connecticut House Bill No. 5429*, which included the following:

- *Pedestrian Law – § 1 – YIELDING TO PEDESTRIANS AT CROSSWALKS: Expands the circumstances under which drivers must yield to pedestrians at uncontrolled crosswalks*
  - *Dooring Law – § 4 – DOORING: Prohibits causing physical contact with moving traffic by (1) opening a vehicle door or (2) leaving it open longer than necessary to load or unload passengers*
  - *Speed Limit Law – §§ 6-12 – LOCAL ROAD SPEED LIMITS AND PEDESTRIAN SAFETY ZONES: Allows municipalities to establish speed limits on local roads without OSTA approval and allows for the establishment of pedestrian safety zones with speed limits as low as 20 mph in downtown districts, community centers, and areas around hospitals*
2. Aggressive Target. The CTDOT wants to set an aggressive target that will move the state back toward fatality rate levels experienced in 2014 and lower.

## CTDOT Safety Performance Targets Reported to FHWA

<b>Targets Reported</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b> <i>CTDOT Adopted New Target Setting Methodology</i>	<b>2022</b>	<b>2023</b>	<b>2024</b>
Target Years	2014-2018	2015-2019	2016-2020	2017-2021	2018-2022	2019-2023	2020-2024
Performance Assessment Year	2020	2021	2022	2023	2024	2025	2026
Number of Traffic Fatalities	257.0	274.0	277.0	270.0	270.0	270.0	270.0
Fatality Rate	0.823	0.873	0.883	0.850	0.850	0.850	0.850
Number of Serious (A) Injuries	1571.0	1574.0	1547.0	1360.0	1300.0	1300.0	1300.0
Serious (A) Injury Rate	5.033	5.024	4.931	4.300	4.300	4.300	4.300
Number of Non-motorized Fatalities & Serious (A) Injuries	280.0	290.0	307.2	300.0	280.0	280.0	280.0

## 2019 & 2020 Safety Performance Target Assessment Summaries from FHWA Website

### 2019 Connecticut Safety Performance Target Assessment Summary

Performance Measure	2015-2019 Target	2015-2019 Actual	2013-2017 Baseline	Met Target?	Better Than Baseline?	Met or Made Significant Progress?
Number of Fatalities	274.0	279.4	277.8	No	No	No
Rate of Fatalities	0.873	0.884	0.884	No	No	
Number of Serious Injuries	1,574.00	1,510.40	1,547.00	Yes	N/A	
Rate of Serious Injuries	5.024	4.782	4.93	Yes	N/A	
Number of Non-Motorized Fatalities and Serious Injuries	290.0	329.6	311.4	No	No	

### 2020 Connecticut Safety Performance Target Assessment Summary

Performance Measure	2016-2020 Target	2016-2020 Actual	2014-2018 Baseline	Met Target?	Better Than Baseline?	Met or Made Significant Progress?
Number of Fatalities	277.0	284.4	279.2	No	No	No
Rate of Fatalities	0.883	0.912	0.886	No	No	
Number of Serious Injuries	1,547.00	1,467.80	1,514.60	Yes	N/A	
Rate of Serious Injuries	4.931	4.696	4.808	Yes	N/A	
Number of non-motorized fatalities and non-motorized serious injuries	307.2	322.2	321.4	No	No	