

Performance Target Documentation Guide

TENNESSEE DEPARTMENT OF TRANSPORTATION

Performance Target	Number of Fatalities – 5 Year Rolling Average
Baseline	994.4 (Calendar Years 2012-2016)
Current Target	1,021.4 (Calendar Years 2014-2018)
Coordinating Measure	Number of Fatalities – 5 Year Rolling Average
Target Scope	This target includes all public roads as defined in 23 CFG 924 including those on federal and tribal lands, public alleys, and other service type laneways. Fatalities are defined as the total number of persons suffering fatal injuries in a motor vehicle traffic crash. The crash must occur within the geographic boundaries of the state of Tennessee. This is an annual target which currently forecasts the 5-year period between calendar years 2014-2018.
Target Audience	External audiences include the Federal Highway Administration (FHWA), Metropolitan Planning Organizations (MPO's), Tennessee Department of Safety and Homeland Security, and the Tennessee Highway Safety Office (THSO) as well as the public. Internal audiences include senior leaders and division directors from the Tennessee Department of Transportation (TDOT).
Target Reporting	<p>According to 23 CFR 924.15, and 23 CFR 490, targets will be reported in the Highway Safety Improvement Plan (HSIP) as well as the Highway Safety Plan (HSP) and on FHWA's website.</p> <p>The HSIP must include performance targets, a discussion of the basis for each target, how the established target supports the Strategic Highway Safety Plan (SHSP) goals, and discussion of any differences in the actual outcomes and targets.</p> <p>This target is required to be identical to targets listed in the HSP.</p>
Target Objective	This target seeks to improve safety, complies with the MAP-21 and FAST Act requirement for establishing performance management measures to carry out the HSIP, and ensures state DOT's choose efficient investments for federal transportation funds.
Related Targets	<p>Other targets included in the Safety Performance Measures rule include:</p> <ul style="list-style-type: none"> • Rate of Fatalities per Vehicle Mile Traveled – 5 Year Rolling Average • Number of Serious Injuries – 5 Year Rolling Average • Rate of Serious Injuries – 5 Year Rolling Average • Number of Combined Non-motorist Fatalities and Non-motorist Serious Injuries – 5 Year Rolling Average
Target Development	
Performance Measurement Team Members	Gregory Simmons (FHWA), Tanisha Hall (TDOT Long Range Planning - LRP), David Lee (TDOT LRP), Patsy Mimms (TDOT Strategic Planning - OSP), Jeff Murphy (TDOT Strategic Transportation Investments Division – STID), Brandon Darks (TDOT STID), Christopher Osbourn (Department of Safety and Homeland Security – Planning and Research), Pamela Heimsness (FHWA), Theresa Claxton (FHWA), Scott Allen (FHWA), Jessica Rich (FHWA), Sharmila Patel (TN Highway Safety Office – THSO), Jason Ivey (THSO) Patrick Dolan (TDOS&HS Planning and Research), Deborah Fleming (TDOT LRP), Jessica L. Wilson (TDOT Multimodal), Whitney S. Davis (TDOT Multimodal), Rashad Pinckney (TDOT LRP), Anne Freeman (TDOT LRP), Julie Carmean (TDOT OSP)

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Oversight Committee Team Members	Patsy Mimms (TDOT OSP), Steve Allen (TDOT STID), Phillip B. Freeze (TDOT Traffic Operations), Tanisha Hall (TDOT LRP), Jerry Hatcher (TDOT Maintenance), Ronnie Porter (TDOT Program Development and Administration), Houston Walker (TDOT Structures), Daniel Pallme (TDOT Freight and Logistics), Vic Donoho (THSO), Jason Ivey (THSO), Christopher Osbourn (TDS&HS Research and Planning), Patrick Dolan (TDS&HS Research and Planning)
Data Source	<p>Per the rule, the data sources for this measure include the Fatality Analysis Reporting System (FARS). When final FARS data is not available, state DOT's are advised to use the FARS Annual Report File (ARF). Typically, FARS ARF will need to be used only for the most recent year of data.</p> <p>Baseline trend data should be comprised of the 5 Year Rolling average covering the 2012-2016 calendar year timeframe.</p>
Historical Data	The current target covers the 5 year period from 2014-2018. Historical data used for analysis covered a period from 2008-2012 up to 2012-2016 timeframe with regard to linear trends and annual percent and absolute changes in fatality numbers. The 5-year moving average was charted beginning with the timeframe from 2002-2006 and ending with 2012-2016.
Data Quality	The NHTSA FARS data are carefully quality controlled. A quick review of the 2002 and 2015 datasets revealed 100% completeness for every field with the average percentage of outlier and extreme values being ~1% for both years. The 2016 data provided by TDOSHS has 74% complete fields and 83% of fields are ≥90% complete. None of the incomplete fields are used in the analysis. Of the 191,012 elements in the data, 22 (~0.01%) are outliers.
Data Analysis Methodology	<p>Department of Safety and Homeland Security staff provided charts detailing the 5 year moving averages beginning with 2002-2006 and ending with 2012-2016.</p> <p>The 5-year linear trend was provided based on historical data beginning with the 2008-2012 moving average and continuing to 2015-2019 timeframe. The R^2 value for this target was 0.2799 suggesting a poor fit.</p> <p>The 4-year linear trend was also provided beginning with the 2009-2013 moving average and continuing to 2015-2019 timeframe. The R^2 value for this was 0.0207, again suggesting a poor fit.</p> <p>Both percent change and absolute change from prior year were also provided from 2012-2016. Prior to 2016, rolling averages for fatality numbers have been decreasing.</p>

<p>Related Files</p>	<p><u>Data</u> Fatalities.xls – Created: (Thursday, April 27, 2017, 7:12:27 AM) Safety PM Data – TDOT 5.2.2017 (Created: Tuesday, May 02, 2017, 12:13:13 PM)</p> <p><u>Performance Measurement Team Minutes</u> TPM_10192016.doc – Created: Tuesday, December 13, 2016, 2:40:00 PM TPM_11282016.doc – Created: Tuesday, December 13, 2016, 2:41:16 PM TPM_01132017.doc – Created: Thursday, January 19, 2017, 10:06:03 AM TPM_02162017.doc – Created: Wednesday, March 08, 2017, 9:49:19 AM TPM_03132017.doc – Created: Friday, March 10, 2017, 1:16:44 PM FHWA 03272017 Meeting.pptx – Created: Tuesday, April 18, 2017, 12:58:26 PM FHWA 04172017 Meeting.pptx – Created: Tuesday, April 18, 2017, 9:10:14 AM FHWA 05022017 Meeting.pptx – Created: Wednesday, May 03, 2017, 2:53:52 PM</p> <p><u>Oversight Committee</u> Rulemaking Status for National Performance Areas.doc – Created: Thursday, December 08, 2016, 9:24:06 AM Oversight Committee Initial Meeting Summary and Follow-up February 2017.doc – Created: Thursday, May 11, 2017, 1:21:15 PM Oversight Committee Meeting Minutes April 10, 2017.doc – Created: Monday, April 17, 2017, 8:48:30 AM Oversight Committee Meeting Minutes May 5, 2017.doc – Created: Thursday, May 11, 2017, 1:30:21 PM</p> <p>The above information is the set of final documents which will be put into a Sharepoint site for all working group members to access.</p>
<p>Benchmark Data</p>	<p>Rhode Island had the lowest number of traffic fatalities for calendar year 2015 with 45 deaths.</p> <p>Among SASHTO states, West Virginia had the lowest number of traffic fatalities with 268 deaths. However, WV may not be a good comparison state for TN considering the differences in population and vehicle miles traveled (VMT). Tennessee also outperforms WV in traffic fatality rate with TN's 2015 rate being 1.25 to WV's rate of 1.35. Virginia may provide a better benchmarking state with 753 fatalities in 2015 despite having a higher population and a higher VMT than TN.</p>

Influencing Factors	<p>Current factors influencing the fatality number target include the rise in traffic related deaths during calendar year 2016. Current 2017 fatalities appear to be following a similar trend to 2016 deaths. Tennessee anticipates traffic fatalities due to distracted driving to continue to rise. No effective countermeasures or programs have been identified to mitigate distracted driving risks according to the Tennessee Highway Safety Office.</p> <p>Other influencing factors identified from the risk analysis include the following:</p> <ul style="list-style-type: none"> National and state motor vehicle traffic fatalities are up. Behavioral causes, such as distracted driving, speeding and driving under the influence are important considerations due to their prevalence in crashes as well as resource limitations for countermeasure programs to effectively mitigate these risks. Non-motorized deaths are increasing with early 2017 bike/pedestrian and other non-motorist fatalities being higher than this time last year. The greater mix of cars, bikes, pedestrians sharing the roadway is an important factor to consider. The economic boom in TN has caused more people to come to the state meaning more travel, traffic congestion, trucks hauling freight and increasing VMT. Funding uncertainties exist at the federal level and are part of determination of how aggressively to set safety targets. State of Tennessee passed the IMPROVE Act increasing the fuel tax percentage during the 2017 legislative session. As part of this legislation, 962 projects were identified for implementation over the next 13 years prior to the identification of any national performance targets. 																																																					
Target Selection Methodology	<p>A hybrid approach was used in selecting this target, beginning with analysis and ending with consensus from the Safety Performance Measures team.</p> <p>The team reviewed the data analyses provided by the Department of Safety and Homeland Security. Current calendar year 2017 fatalities are almost the same as this time last year but this number varies daily. Based on the decline of traffic fatalities from 2012-2015 and the current trend keeping pace with the uptick in fatalities for 2016, the team agreed that the target should be higher than the baseline.</p> <p>The target number reflects a 2% increase in fatality numbers for both CY2017 and again in CY2018. This matches the VMT increase during CY2016. The average percent change from year to year for total fatalities was 2.4% based on data from 2006-2016.</p>																																																					
Target Calculation	<table border="1"> <thead> <tr> <th colspan="2">Fatality Numbers</th> <th colspan="2">Fatality Rolling Averages</th> <th colspan="2">Fatality Number Targets</th> </tr> </thead> <tbody> <tr> <td>2012</td> <td>1015.0</td> <td>2012-2016</td> <td>994.4</td> <td>Baseline 2012-2016</td> <td>994.4</td> </tr> <tr> <td>2013</td> <td>995.0</td> <td>2013-2017</td> <td>1003.8</td> <td>2014-2018</td> <td>1021.4</td> </tr> <tr> <td>2014</td> <td>963.0</td> <td>2014-2018</td> <td>1021.4</td> <td></td> <td></td> </tr> <tr> <td>2015</td> <td>958.0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2016</td> <td>1041.0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2017</td> <td>1062.0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2018</td> <td>1083.0</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>*Yellow indicates preliminary data, orange indicates projected data</p> <p>"Table: Traffic Safety Performance (Core Outcome) Measures* For Tennessee (PDF file; 677kb). In <i>Traffic Safety Facts Tennessee 2001-2015</i>. Available at National Highway Transportation Safety Agency, https://cdan.nhtsa.gov/SASStoredProcess/guest?_program=%2FUATTest%2FSTSI; Accessed 4/13/17.</p>						Fatality Numbers		Fatality Rolling Averages		Fatality Number Targets		2012	1015.0	2012-2016	994.4	Baseline 2012-2016	994.4	2013	995.0	2013-2017	1003.8	2014-2018	1021.4	2014	963.0	2014-2018	1021.4			2015	958.0					2016	1041.0					2017	1062.0					2018	1083.0				
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<i>Target Feedback and Monitoring</i>	
Target Update	TDOT's Office of Strategic Planning will be responsible for documenting key decisions made as a result of information gained from updates. Department of Safety will be responsible for collecting and reporting updated data. Official reporting on the HSP will be completed by the Tennessee Highway Safety Office while official reporting for the HSIP will be completed by TDOT's Strategic Transportation Investments Division.
Target Monitoring	Target monitoring is the responsibility of the Safety Performance Measures group. Monitoring will be conducted on a quarterly basis at a minimum and results will be provided to the Oversight Committee members.
Other Notes	<p>In order for TDOT to be determined as making significant progress toward meeting its targets, four out of five safety targets (fatality number, serious injury number, fatality rate, serious injury rate and combined number of non-motorized fatalities and serious injuries) must be met or the outcome of the performance measure must be better than the state's baseline performance.</p> <p>The target must be updated annually and may not be changed unless approved by FHWA.</p> <p>Data used for calculating fatality number analyses, baselines and targets was taken from the National Highway Transportation Safety Agency's website and includes 1 more fatality in CY 2012 than Tennessee reports elsewhere due to adjustments made after FARS data was finalized.</p> <p>5/2/2017 – Draft targets identified by Safety PM Committee 5/5/2017 – Oversight Committee discussed targets and recommended pursuing TDOT leadership approval and guidance regarding targets identified as being higher than previous years 5/9/2017 – Preliminary confirmation that TDOT Commissioner was in agreement that targets reflect increasing numbers of fatalities and serious injuries while rates remained fairly consistent 5/15/2017 - Meeting with TDOT Bureau Chiefs; targets approved 5/24/2017 – Safety PM meeting conducted After Action Review of target setting process 5/31/17 – Safety PM subgroup met to discuss messaging about targets 6/8/2017 – Presented targets at MPO conference</p>