

MAP-21 FACT SHEET

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SUBJECT: MAP-21: Safety Performance Measure

PROBLEM STATEMENT:

The State currently uses the following safety performance measures: the number of fatalities; and fatalities per million vehicle miles traveled. To comply with the Moving Ahead for Progress in the 21st Century Act (MAP-21), the State's safety performance measures should be revised to include serious injury data. However, MAP-21 does not provide a national definition for "serious injuries" sustained in a traffic collision.

RECOMMENDATION:

It is recommended that the Department revise the State's safety performance measures to include serious injuries, as currently defined and reported in the California Highway Patrol's (CHP), Statewide Integrated Traffic Records System (SWITRS) collision database. The State's new safety performance measures should be: the number of fatalities and serious injuries; and fatalities and serious injuries per million vehicle miles traveled. As soon as the Department makes the decision to revise these measures, collision data and trends (using fatalities and injuries) can be evaluated to determine appropriate performance targets that will measure the impacts of both, behavioral and infrastructure safety strategies and countermeasures.

BACKGROUND:

On July 6, 2012, the President signed MAP-21 into law. MAP-21 includes specific provisions related to the Highway Safety Improvement Program (HSIP) under section 1112 of MAP-21. The HSIP is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. (23 U.S.C. 148(b))

As described in 23 U.S.C. 148(c)(1), to obligate HSIP funds, a State must have in effect a State HSIP under which the State:

- Develops, implements and updates a strategic highway safety plan (SHSP) that identifies and analyzes highway safety problems and opportunities;
- Produces a program of projects or strategies to reduce identified safety problems; and
- Evaluates the SHSP on a regularly recurring basis.

Funds apportioned to a State to carry out the HSIP should be obligated for highway safety improvement projects that support progress toward the achievement of the national safety performance goal and State safety performance targets for the measures described in 23 U.S.C. 150 (amended by MAP-21 § 1203):

Performance goal (23 U.S.C. 150(b)(1)): To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Performance measures (23 U.S.C. 150(c)(4)): The number of fatalities and serious injuries; and fatalities and serious injuries per vehicle mile traveled.

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The State currently uses the following as its safety performance measures: the number of fatalities; and fatalities per million vehicle miles traveled. To comply with the requirements of MAP-21 and fully obligate HSIP funds, the State's safety performance measures should be revised to include serious injuries. The State collects injury information (by severity of injury) and stores this information in SWITRS. However, MAP-21 does not provide a national definition for a "serious injuries" sustained in a traffic collision.

Within 18 months of enactment of MAP-21, the Federal Department of Transportation (FDOT) Secretary, in consultation with States, MPOs, and other stakeholders, is directed to publish a rulemaking to establish measures for the States to use to assess serious injuries and fatalities per vehicle mile traveled and number of serious injuries and fatalities. States are required to set performance targets within 1 year after the rulemaking has been published. According to recent Federal Highway Administration (FHWA) guidelines, fact sheets, and webinars, the expected deadlines are April 2014 for publishing the rulemaking for performance measures, and April 2015 for setting performance targets. At this time, it is unknown whether the rulemaking will be published earlier than expected, in which case the deadline for setting performance targets would be 1 year after the earlier date.

Note that traffic safety engineers and professionals generally agree that using fatalities alone is not the most accurate way to measure safety performance, because of the variable nature of the number of fatal collisions over time and there are fewer numbers of fatal collisions relative to all traffic collisions. Also, looking at fatality data alone tends toward identifying more of the behavioral factors related to traffic collisions. More collision data is needed to accurately identify potential infrastructure problems and specific locations to apply corrective safety strategies and measures, and to accurately measure performance for infrastructure improvements.

The State's HSIP uses fatal, injury, and property damage only collision data to identify high collision concentration locations on the State highway system for conducting safety investigations, recommending possible safety countermeasures, and for evaluating effectiveness of safety improvements. The collision data and location information for the State's HSIP is obtained from the Department's Traffic Accident Surveillance and Analysis System (TASAS). Note that TASAS currently reports injury collision data for all injuries, and does not categorize them by severity of injury.

The Department's Division of Local Assistance manages the Local HSIP which issues an annual call to local agencies to submit applications for consideration of funding for safety projects under their jurisdiction. The Local HSIP relies on individual local agencies to identify high collision concentration locations on their roadway system, conduct safety investigations, recommend possible safety countermeasures, and evaluate the effectiveness of safety improvements. Each local agency engages in these activities differently and has access to different levels of fatal, injury, and property damage collision data. Obtaining and managing collision data and location information for the Local HSIP is the responsibility of the individual local agencies. Many rely on SWITRS data directly or through the UC Berkeley, Safe-TREC Transportation Injury Mapping System (TIMS), while others manage their own local crash databases.

The State's safety performance measures, the State HSIP, and the Local HSIP can be improved by to expanding the data set to include serious injuries as currently defined and reported in SWITRS, so that the identification of high collision concentration locations can be improved and the effectiveness of infrastructure and behavioral safety improvements can be measured more accurately.

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Note that if the State's definition of "serious injuries" needs to be changed due to the FDOT Secretary's rulemaking on performance measures (which is yet to be published), it will take a significant amount of time and effort to change the CHP Collision Report Form and the SWITRS collision database. Collision data would not be available until these systems are changed to reflect the new definition. The State's HSIP and TASAS database will also need to be modified to include serious injuries according to the new definition.

ALTERNATIVES:

Alternative 1: Revise the State's safety performance measures now to include serious injuries (as currently defined and reported in the SWITRS database). The State's new safety performance measures should be: the number of fatalities and serious injuries; and fatalities and serious injuries per million vehicle miles traveled. As soon as the decision is made to revise the measures, collision data and trends (using fatalities and injuries) can be evaluated to determine appropriate performance targets that will measure the impacts of both, behavioral and infrastructure safety strategies and countermeasures. According to recent FHWA guidelines, fact sheets, and webinars, the expected deadlines are April 2014 for publishing the rulemaking for performance measures, and April 2015 for setting performance targets. At this time, it is unknown whether the rulemaking will be published earlier than expected, in which case the deadline for setting performance targets would be 1 year after the earlier date.

Pros:

- Allows the study of fatality and serious injury trends well before performance targets need to be set.
- Meet the deadline to set performance targets ahead of schedule, even if the rulemaking is published sooner.
- Fully obligate the State's HSIP funds in the year that performance targets are required to be set.
- It is anticipated that the State's definition of "serious injuries" will satisfy FHWA guidance when it is provided, thus the risk of moving forward now is small.

Cons:

- A national definition of a serious injury is unknown at this time.
- When a national definition is provided, it might be different from the State currently uses.
- Unknown if the State's definition needs to be changed.
- The State's HSIP and TASAS database will need to be modified to include serious injuries.

Alternative 2: Wait until a national definition or guidance is issued by FHWA before revising the State's safety performance measures. Once this is done, work can begin on evaluating collision data and trends (using fatalities and injuries) to determine appropriate performance targets that will measure the impacts of both, behavioral and infrastructure safety strategies and countermeasures. According to recent FHWA guidelines, fact sheets, and webinars, the expected deadlines are about April 2014 for publishing the rulemaking for performance measures, and April 2015 for setting performance targets. At this time, it is unknown whether the rulemaking will be published earlier than expected, in which case the deadline for setting performance targets would be 1 year after the earlier date.

Pros:

- National definition of the term "serious injuries" will be known and can be used to set goals, measures, and performance targets.

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Cons:

- Would not be able to evaluate fatality and serious injury trends over the next few years.
- Lose time needed to analyze data and to develop accurate and realistic performance measures and targets by the deadline.
- May not be able to meet the deadline to set the State's safety performance targets, given only 1 year to do so.
- May not be able to fully obligate the State's HSIP funds in the year that performance targets are required to be set.
- If the State's definition of "serious injuries" needs to be changed, it will take a significant amount of time and effort to change the CHP Collision Report Form and the SWITRS collision database.
- Collision data would not be available until these systems are changed.
- The State's HSIP and TASAS database will need to be modified to include serious injuries.

PROPOSED IMPLEMENTATION SCHEDULE:

- Implement new safety performance measures (immediately)
- Analyze fatalities and injuries, collisions, trends, and performance target scenarios (November 2012 – April 2015)
- Set safety performance targets (no later than April 2015)
- Note that the dates may change if the FDOT Secretary publishes the rulemaking on performance measures earlier than expected.