



METROPOLITAN
TRANSPORTATION
COMMISSION

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Memorandum

TO: Partnership Board

DATE: October 16, 2017

FR: David Vautin, MTC/ABAG

RE: 2018 Safety Performance Targets – Recommendation and Options Evaluated

The Moving Ahead for Progress in the 21st Century Act (MAP-21) transformed the policy and programmatic framework for surface transportation investments by establishing new requirements for performance management to ensure the most efficient investment of Federal transportation funds. To implement MAP-21 and the Fixing America's Surface Transportation (FAST) Act, the Federal Highway Administration (FHWA) has established a Transportation Performance Management program to provide a framework to support improved investment decision-making by focusing on national transportation goals, increasing the accountability and transparency of the Federal highway programs, and establishing performance-based planning and programming.

As part of Transportation Performance Management, between April 2016 and January 2017, FHWA finalized all performance management rules to fulfill MAP-21 and FAST Act requirements. The rules established 28 transportation performance measures covering the following federal goal areas: Safety; Infrastructure Condition; System Reliability; Freight Movement and Economic Vitality; Congestion Reduction; and Environmental Sustainability. Under the final rules, State DOTs are required to set performance targets for each measure to comply with the regulations. MPOs have the choice to either support the State targets or set their own, depending on the specific rule. MTC is coordinating with Caltrans on target-setting processes.

While transit asset management targets were set in coordination with Bay Area operators earlier this year, the safety performance measures are the first to be set in coordination with Caltrans. In August 2017, Caltrans set the statewide safety performance targets for the state as a whole. Since MPOs must establish targets within 180 days of the State, MTC is required to set its 2018 targets for safety measures by February 2018, repeating this process on an annual basis going forward.

This memorandum focuses on the target-setting process for the Safety Performance Measures Final Rule. It provides an update on statewide targets set by Caltrans and identifies three potential safety target-setting options. Staff is seeking feedback from partners, stakeholders, and the public on which target-setting approach is most appropriate. MTC intends to adopt safety targets by the end of 2017, in advance of the February 2018 deadline.

Safety Performance Measures Final Rule

What are the safety performance measures?

The final rule established five performance measures to assess safety on all public roads:

1. Number of fatalities
2. Rate of fatalities per 100 million VMT (vehicle miles traveled)
3. Number of serious injuries
4. Rate of serious injuries per 100 million VMT (vehicle miles traveled)
5. Number of non-motorized fatalities and non-motorized serious injuries (bicyclists and pedestrians)

The measures are reported using 5-year rolling averages to capture long-term performance trends. The first performance period, calendar year 2018, represents the annual average for 2014 to 2018.

What are the safety target requirements?

State DOTs must set annual numerical targets each year for each safety measure to comply with the regulation. MPOs have the option of supporting State targets, setting their own region-specific numerical targets, or a combination of both. The measures and targets should inform agency planning and funding decisions to carry out the Highway Safety Improvement Program (HSIP). MPOs will report annual targets to Caltrans each year and report progress on these measures in future Regional Transportation Plans (RTPs) and Transportation Improvement Programs (TIPs).

How are State DOTs and MPOs evaluated on safety targets?

State DOTs and MPOs meet or make “significant progress” towards their safety goal if they achieve the target or improve performance in at least four out of five of the safety measures. If a State DOT does not meet or make “significant progress” then it will lose flexibility in spending HSIP funds. FHWA *will not* evaluate MPOs on their progress towards targets. However, FHWA will review MPO performance as part of the triennial review process.

Caltrans Statewide Safety Targets

Caltrans used a vision-based approach to set the 2018 statewide safety targets. The methodology the State used was to identify existing trends for measures through 2016, forecast performance for 2017, then estimate annual targets for 2018 using annual vision based goals. Fatalities and the rate of fatalities targets reflect the State’s Towards Zero Deaths (TZD) goal for zero traffic fatalities by 2030. Serious injuries and the rate of serious injuries targets reflect the State Highway Safety Plan (SHSP) vision based concept of 1.5% annual reductions in serious injuries. The non-motorized safety target reflects the vision based goal of 10% annual reductions in non-motorized fatalities and serious injuries.

The statewide targets for 2018, all of which reflect five-year rolling average values, are:

1. 3,591.8 fatalities
2. 1.029 fatalities per 100 million VMT
3. 12,823.4 serious injuries

4. 3.831 serious injuries per 100 million VMT
5. 4,271.1 non-motorized fatalities + serious injuries

Regional Safety Performance

As part of the target setting process, traffic collision data has been analyzed to identify current safety trends in the Bay Area. Economic conditions are strong determinants for road safety performance. One effect of the Great Recession was a decrease in fatalities and serious injuries due to lower rates of driving, whereas the subsequent economic boom can partially explain the rise in fatalities and serious injuries since 2013. However, it is important to recognize that non-motorized fatalities and serious injuries have had an upward trajectory for the past decade-plus.

Existing Road Safety Targets and Policies in the Bay Area

As part of Plan Bay Area 2040, MTC has adopted a regional Healthy and Safe Communities target, which aims to adverse health impacts by making roads safer, by supporting active transportation, and by improving air quality. Many Bay Area cities and counties have also adopted their own road safety policies and targets. In recent years, Vision Zero and Towards Zero Deaths initiatives have gained momentum around the country. Bay Area jurisdictions that have adopted Vision Zero policies include the cities of San Francisco, San Jose, Fremont, San Mateo, and Oakland.

Target-Setting Options

To provide MPOs with flexibility, federal rules state that MPOs may: support all the State targets, establish their own specific numeric targets for all the performance measures, or pursue any combination of these actions on a measure-by-measure basis. Targets will be updated annually, meaning that MTC can revisit its target-setting methodology annually, if needed. Staff evaluated three potential options for setting 2018 safety targets, as shown below and recommends Option 1 with monitoring of regional progress toward statewide target. Staff recommends Option 1 as being easiest to explain to the public and decision-makers, while providing strong alignment with the state on safety targets. It also supports the Vision Zero approach adopted by several Bay Area jurisdictions.

Option 1: Support Caltrans statewide targets

MTC supports all five State targets by agreeing to plan and program projects so that they contribute towards the accomplishment of the statewide targets.

Strengths: simple; easy to explain; aligns directly with State targets, including Towards Zero Deaths

Weaknesses: safety trends will be monitored but no region-specific targets will be identified

Option 2: Set Bay Area targets based on Caltrans methodology

MTC establishes numerical targets for the Bay Area mirroring the methodology Caltrans used to set the statewide targets.

Strengths: leverages State methodology but quantifies Towards Zero Deaths goal for the region; demonstrates stronger commitment to safety and performance-based planning

Weaknesses: unlikely that the region would achieve targets; 2018 targets would remain higher than 2016 baseline due to 5-year rolling average calculation

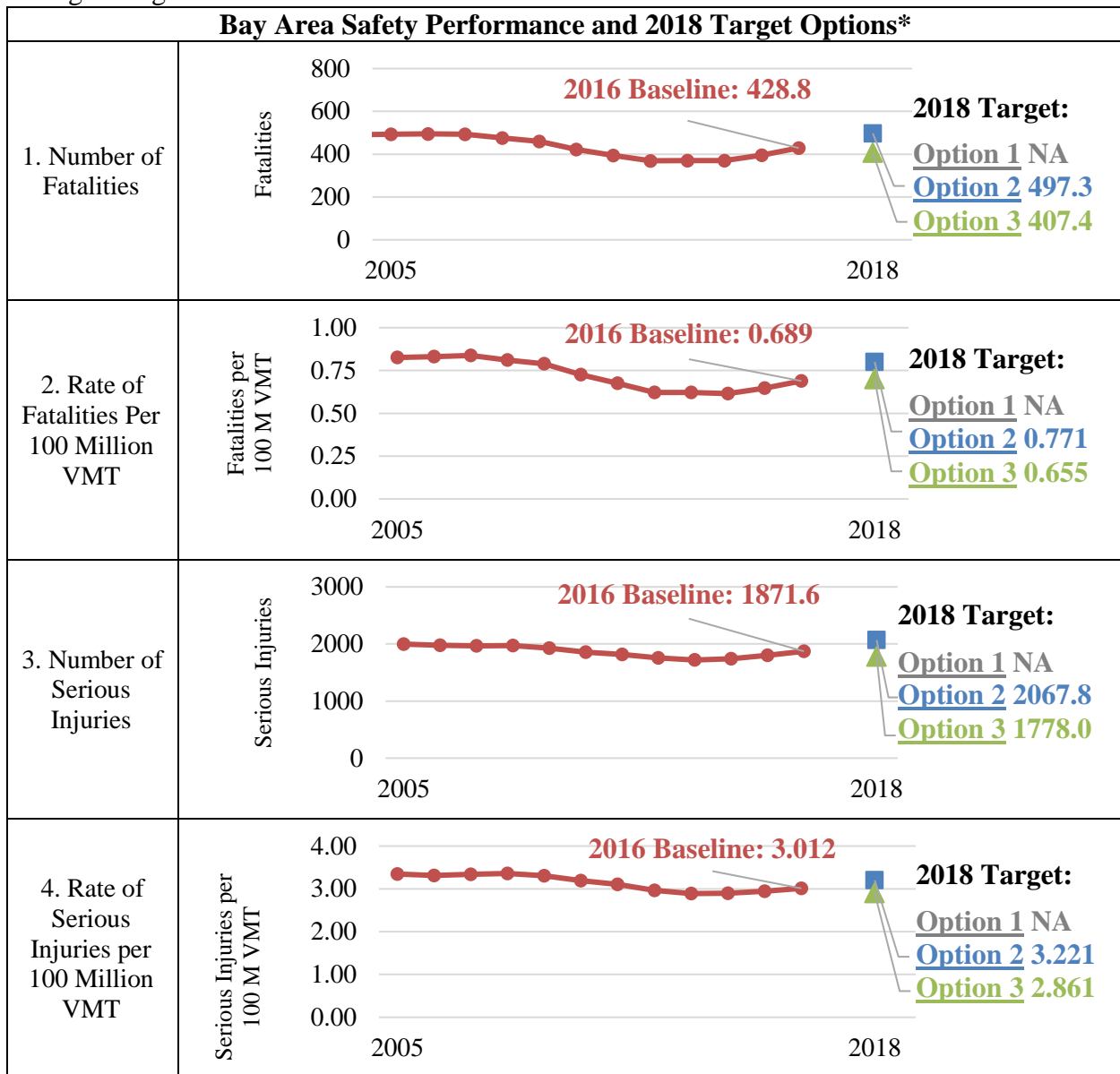
Option 3: Set more ambitious Bay Area targets based on region-specific methodology

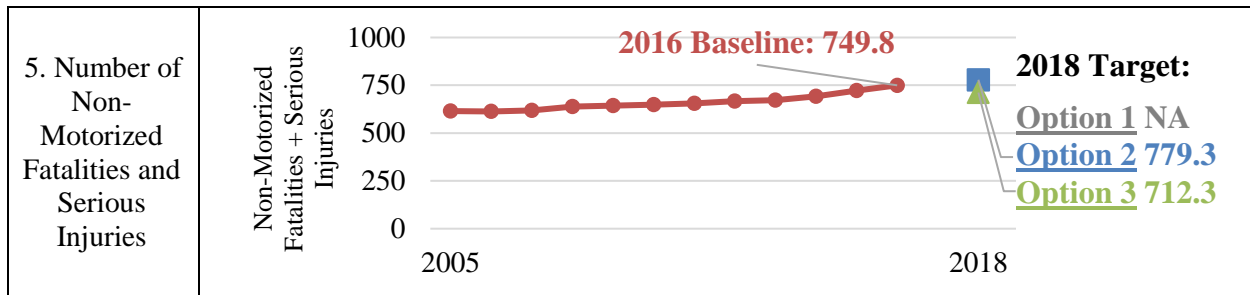
MTC establishes numerical targets for the Bay Area using a different methodology where 2018 targets are set lower than the 2016 baseline – for example, a 5% reduction across all measures from the 2016 baseline.

Strengths: most ambitious option; targets identified would improve performance for 2018

Weaknesses: extremely unlikely that the region would achieve ambitious targets; difficult to identify the appropriate percent reduction goal

Under Option 1, MTC does not need to set numerical targets for the Bay Area. The numerical targets for each measure for **Option 2** and **Option 3** are shown alongside historical 5-year rolling averages:





Note: Measures and targets reflect 5-year rolling averages

Sources: FARS; SWITRS

*** Safety data will be updated in October 2017 with the final Caltrans dataset to ensure consistency across California; staff is most interested in feedback on the approach rather than the numeric targets.**

Next Steps

Staff is seeking feedback on staff’s recommendation and the alternative safety target options through early November, meeting with stakeholders through several Partnership working groups. Based on feedback received, staff will finalize a preferred alternative and update numeric targets using the final Caltrans dataset. Monitoring data, as well as any adopted targets, will ultimately be reported through the Vital Signs performance monitoring website and will be incorporated into future long-range plans (RTPs/TIPs). Staff will also be seeking input on future target-setting activities related to asset management and system performance in the months ahead.

Setting Safety Targets for Federal Performance Requirements



October 20, 2017

Partnership Board

Dave Vautin, MTC/ABAG

Background

- MAP-21 and the FAST Act established a performance- and outcome-based transportation program
- The objective is for States to make investments that make progress towards
 - **Safety**
 - Infrastructure condition
 - Congestion reduction
 - System reliability
 - Freight movement and economic vitality
 - Environmental sustainability
 - Reduced project delivery delays

Safety Performance Management Final Rule

- FHWA issued a final rule under MAP-21 for highway safety planning in April 2016
- The rule established 5 safety performance measures:
 1. Number of Fatalities
 2. Rate of Fatalities per 100 Million VMT
 3. Number of Serious Injuries
 4. Rate of Serious Injuries per 100 Million VMT
 5. Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries (Bicycles and Pedestrians)

Safety Target Setting

State DOTs

- State DOTs must set numerical targets for all five safety measures
- Targets should inform planning and funding decisions to carry out the Highway Safety Improvement Plan (HSIP)
- State DOTs coordinate with MPOs on statewide targets

MPOs

- MPOs can support state targets, set their own region-specific numerical targets, or a combination of both
- Targets should inform planning and funding decision to carry out the Highway Safety Improvement Plan (HSIP)
- MPOs coordinate with State DOTs on target setting process

Safety Target Evaluation

State DOTs

- State DOTs report performance data and targets to FHWA
- FHWA determines if State has met or made significant progress towards meeting targets
- If a State does not meet or make significant progress towards meeting the targets for at least 4 out of 5 measures, it will be required to use obligation authority equal to the HSIP apportionment for highway safety projects and submit a HSIP Implementation Plan

MPOs

- MPOs do not report performance data and targets to FHWA
- FHWA does not determine if MPO has met or made significant progress towards meeting targets
- MPOs report targets to State DOT
- MPOs report performance measures and target achievement in future RTP and TIP
- FHWA will evaluate MPO performance as part of ongoing transportation planning process reviews

California's Targets

- State DOTs had to set 2018 targets by August 2017
- Caltrans selected the statewide targets using a vision-based target setting approach
 - Total fatalities targets are set based on a 'Towards Zero Deaths' vision
 - Serious injuries targets are set based on the goal of 1.5% annual reduction from the Highway Safety Improvement Plan (HSIP)
 - Non-motorized fatalities + serious injuries target is set based on a vision of 10% annual reduction

Caltrans Statewide Targets

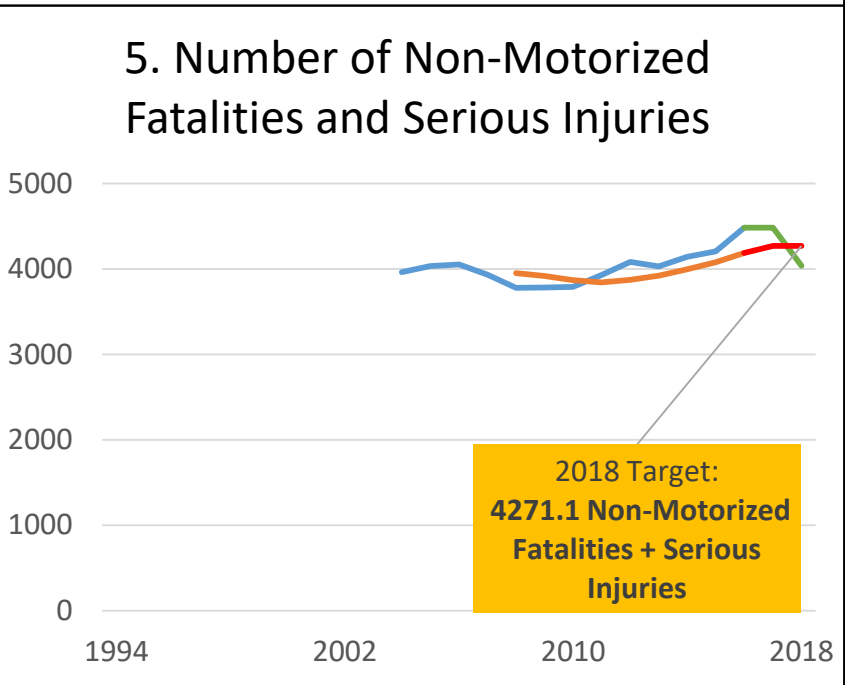
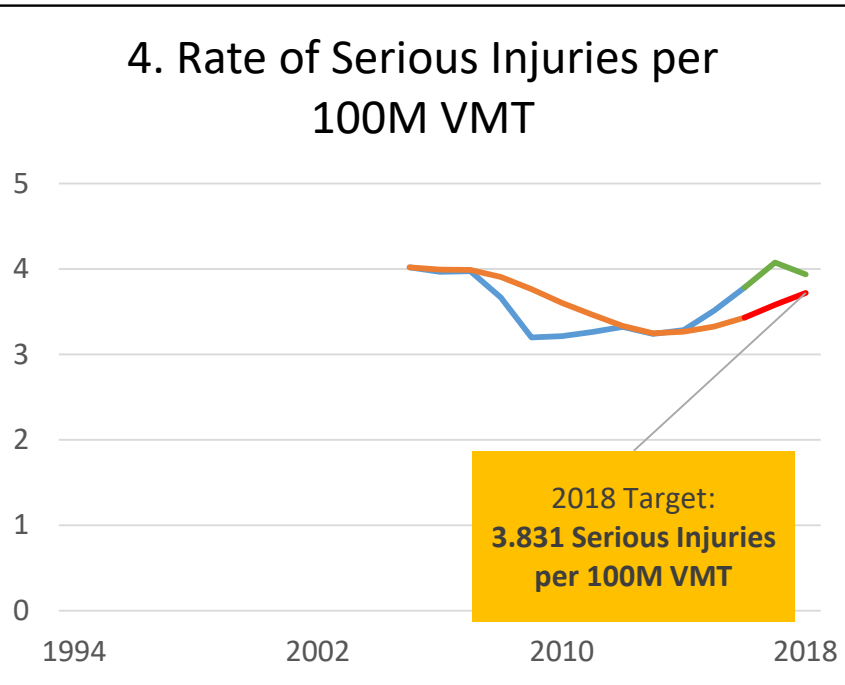
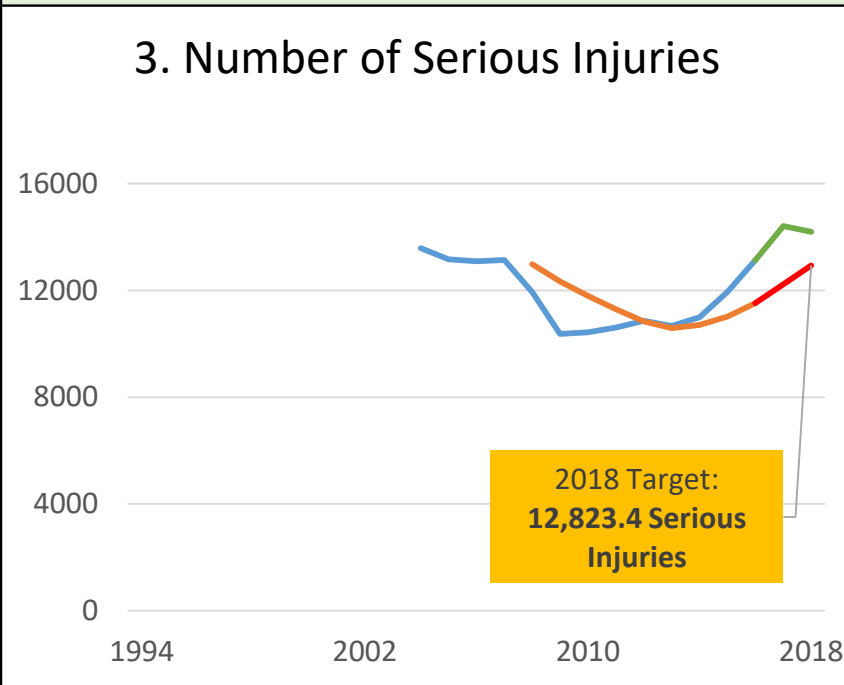
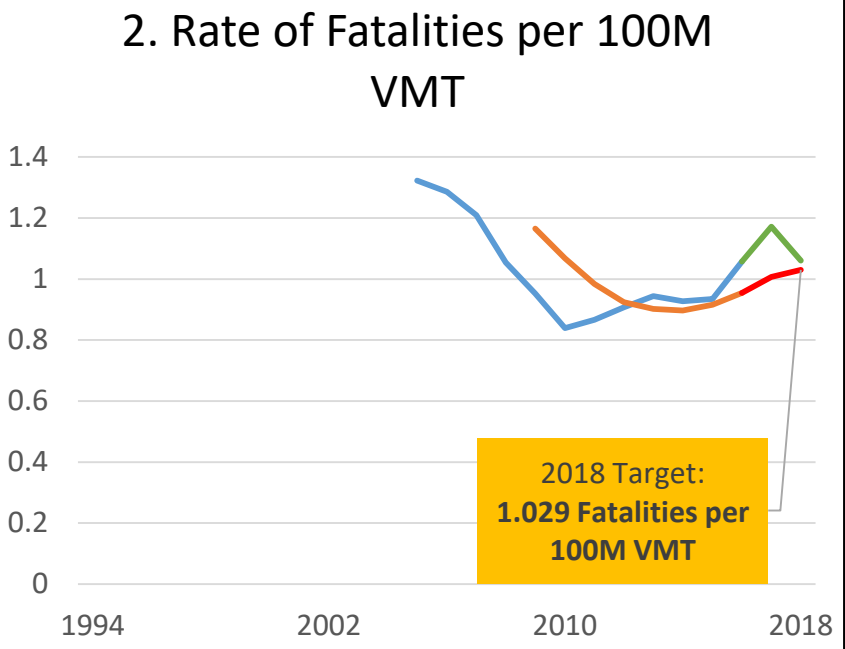
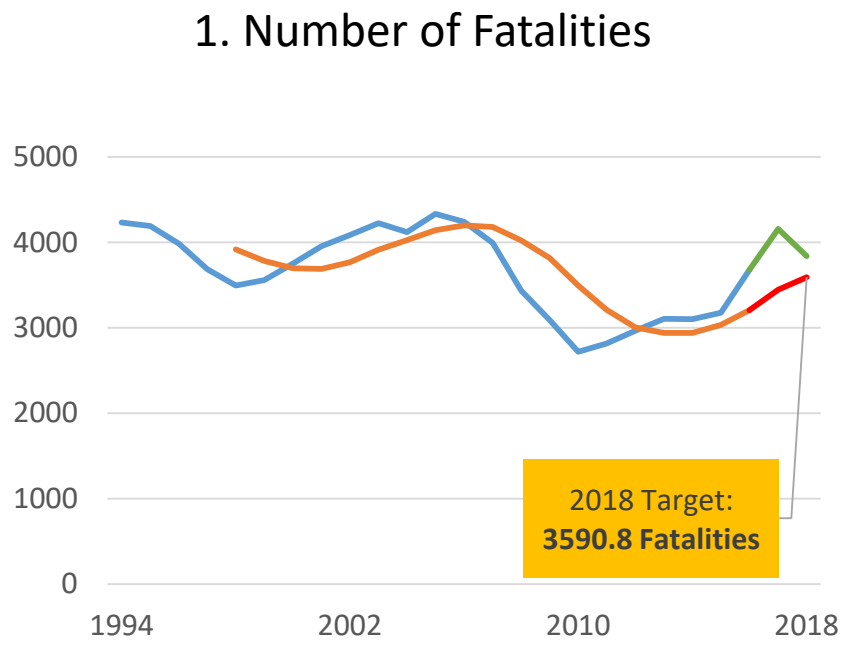
Methodology
 For 2017, assume

- VMT: +2%
- Fatalities: +13%
- Serious Injuries: +10%
- Non-motorized fatalities + serious injuries: 0%

For 2018, aim for

- VMT: +2%
- Fatalities: -7.69% (based on zero deaths by year 2030)
- Serious injuries: -1.5%
- Non-motorized fatalities + serious injuries: -10%

For 2018 Target, calculate the 5-YR Rolling Average

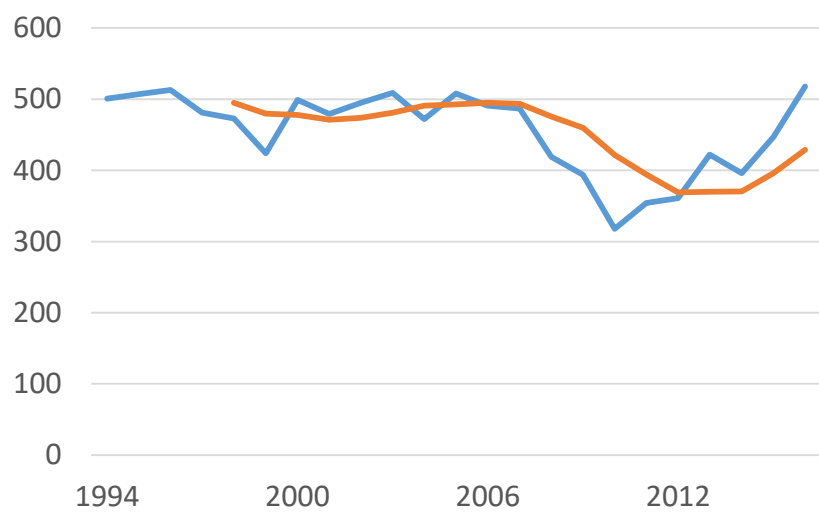


— Historic Data
 — Historic Data 5-YR Rolling Avg.
 — Forecast/Target
 — Forecast/Target 5-YR Rolling Avg.

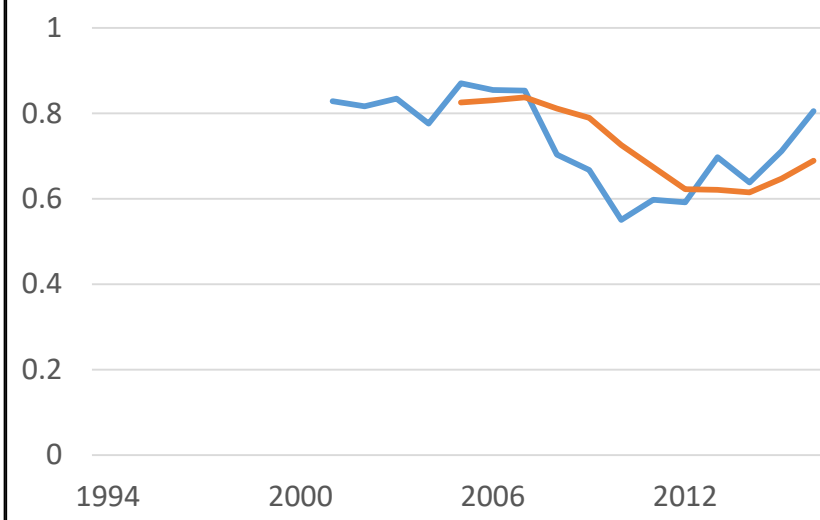
Regional Safety Performance

- Although there have been upticks in the last 5 years, road fatalities and serious injuries have decreased over the long-term
- However, non-motorized fatalities and serious injuries have grown since the 2000s
- The 5-year rolling average smooths year-to-year variation and help us gauge long-term trends.
- Economic conditions are strong determinants for these safety measures. More fatalities and serious injuries occur when the economy grows and fewer when it shrinks.
- Overall, the Bay Area and California have similar safety performance trends

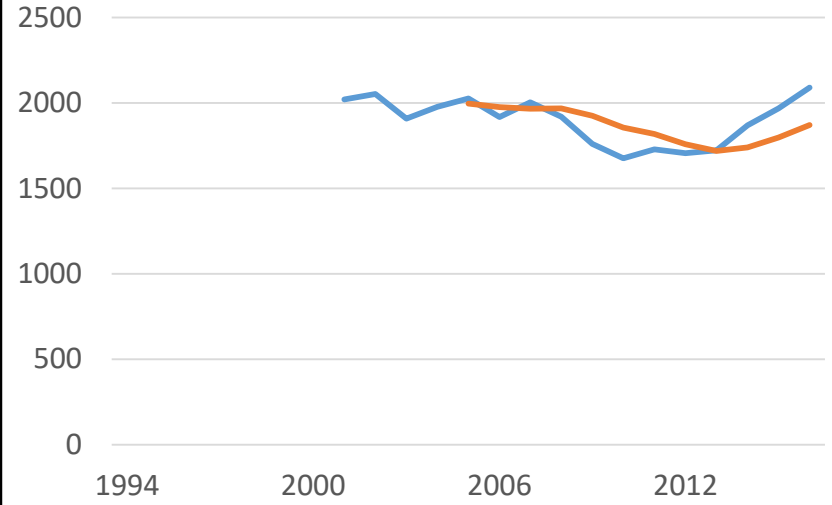
1. Number of Fatalities



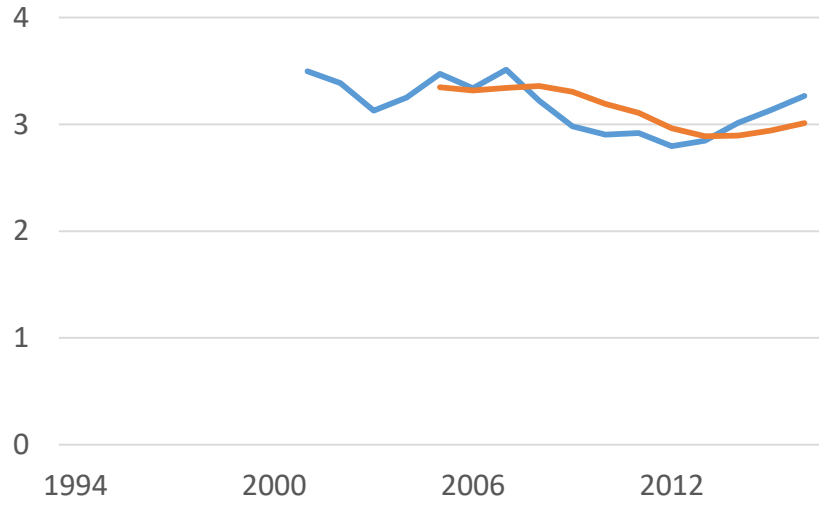
2. Rate of Fatalities per 100M VMT



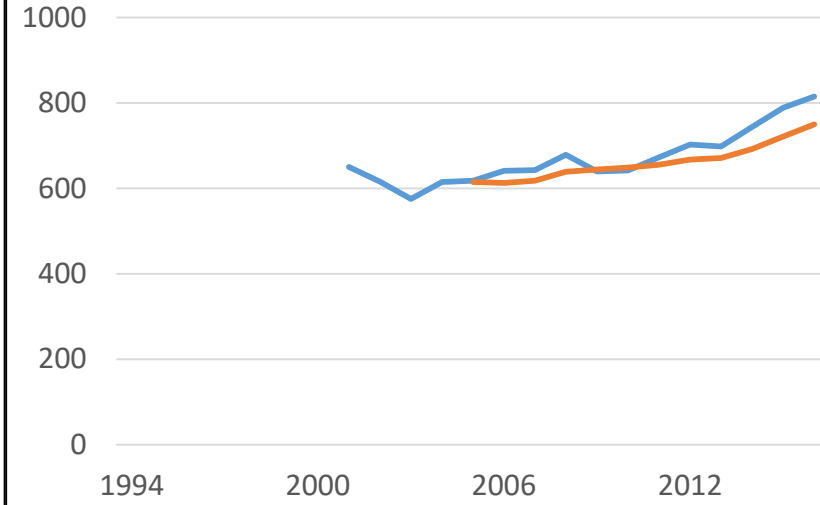
3. Number of Serious Injuries



4. Rate of Serious Injuries per 100M VMT



5. Number of Non-Motorized Fatalities and Serious Injuries



Three Options for Safety Target-Setting

Option	Approach
1	Support the State's statewide targets
2	Set Bay Area targets based on State's methodology
3	Set Bay Area targets based on own methodology



Option 1: Support the State's statewide targets

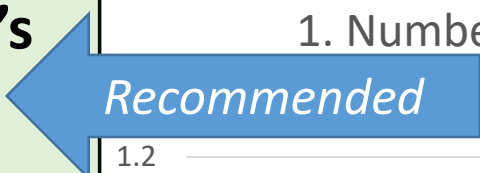
MTC will not need to report new performance data or set a region-specific numeric target.

Strengths

- simple
- easy to explain
- aligns directly with State's targets, including Towards Zero Deaths

Weaknesses

- safety trends will be monitored but no region-specific targets will be identified



1. Number of Fatalities



2. Rate of Fatalities per 100M VMT



3. Number of Serious Injuries



4. Rate of Serious Injuries per 100M VMT



5. Number of Non-Motorized Fatalities and Serious Injuries



Option 2: Set Bay Area targets based on State's methodology

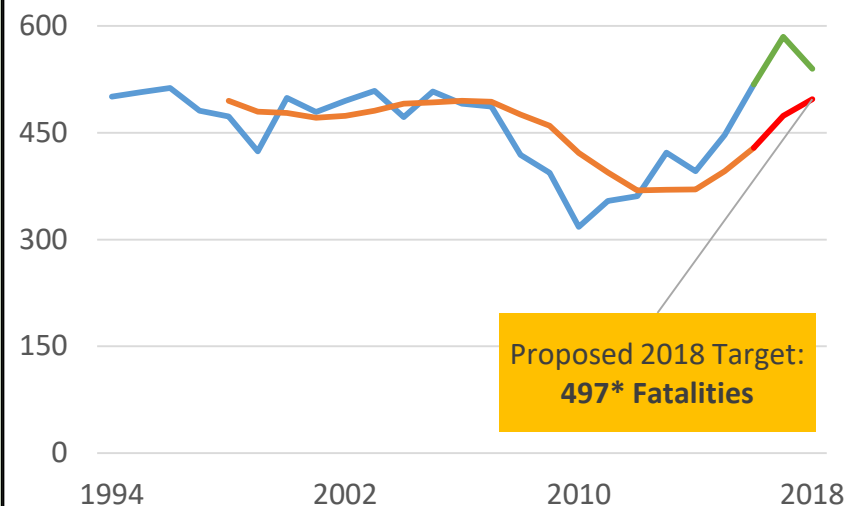
Strengths

- leverages State methodology but quantifies Towards Zero Deaths goal for the region
- demonstrates stronger commitment to safety and performance-based planning

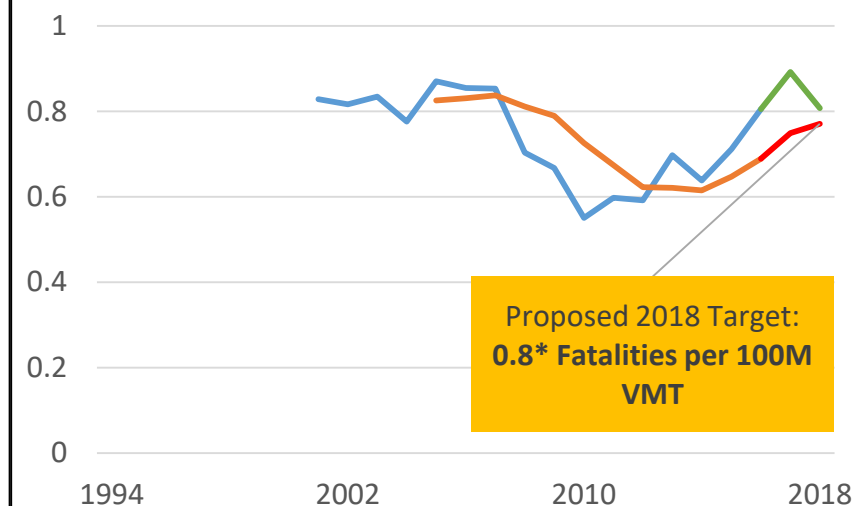
Weaknesses

- unlikely that the region would achieve targets
- 2018 targets would remain higher than 2016 baseline due to 5-year rolling average calculation

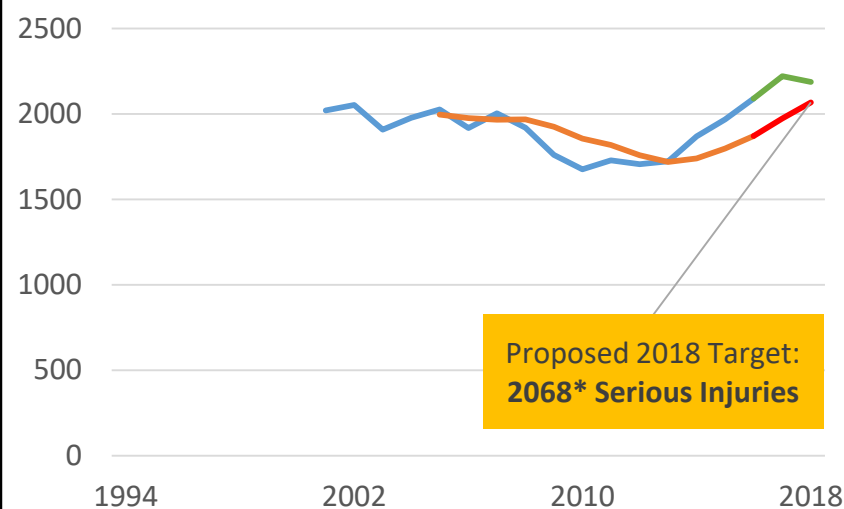
1. Number of Fatalities



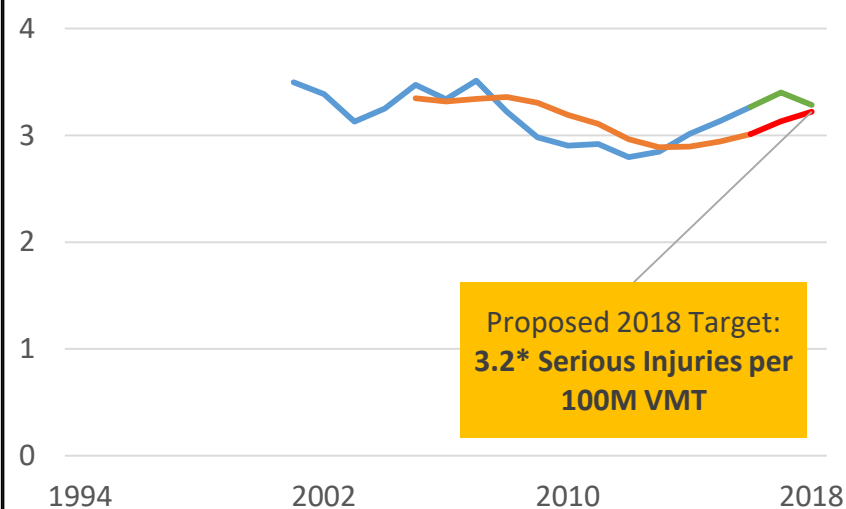
2. Rate of Fatalities per 100M VMT



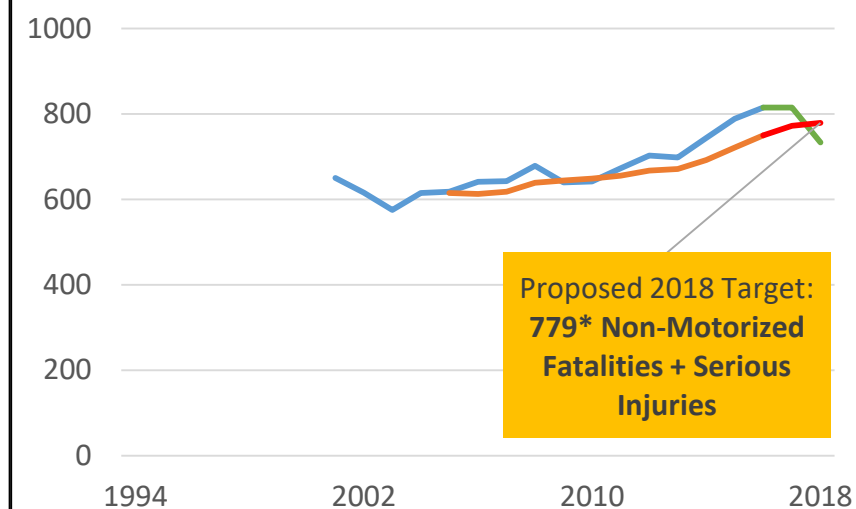
3. Number of Serious Injuries



4. Rate of Serious Injuries per 100M VMT



5. Number of Non-Motorized Fatalities and Serious Injuries



— Historic Data — Historic Data 5-YR Rolling Avg. — Forecast/Target — Forecast/Target 5-YR Rolling Avg.

* Note all data is preliminary; targets will be based on final data provided by Caltrans

Option 3: Set Bay Area targets based on own methodology –

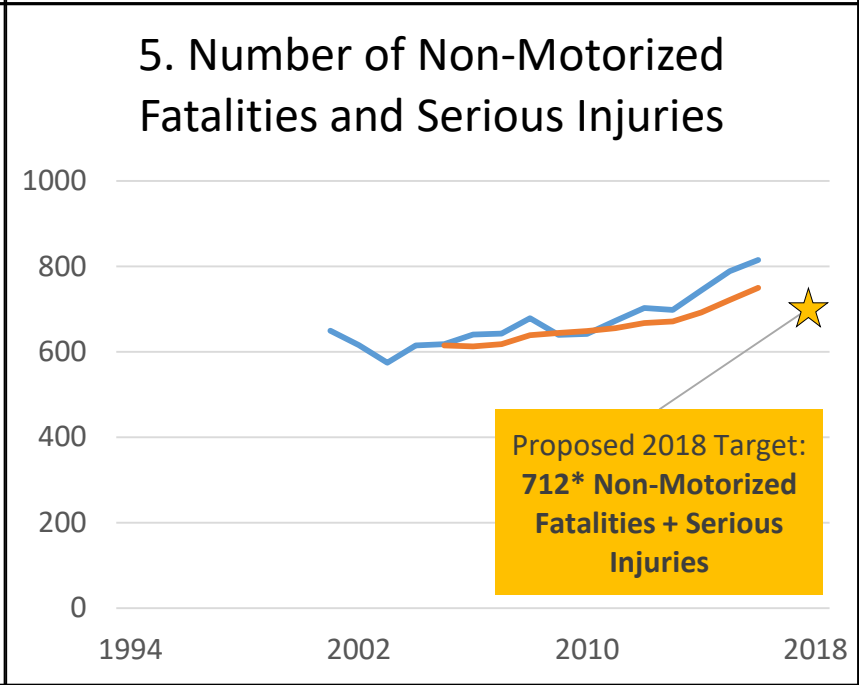
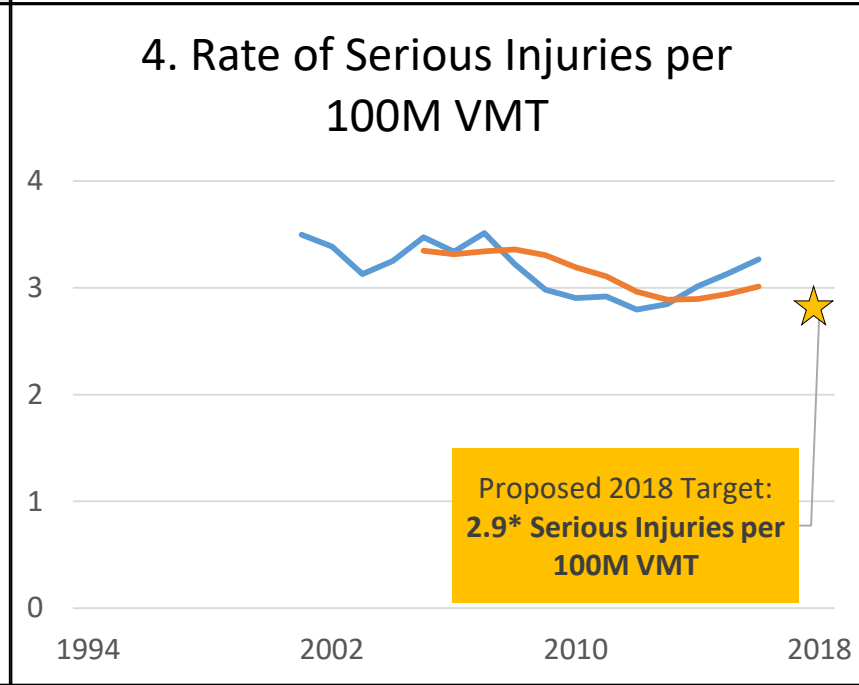
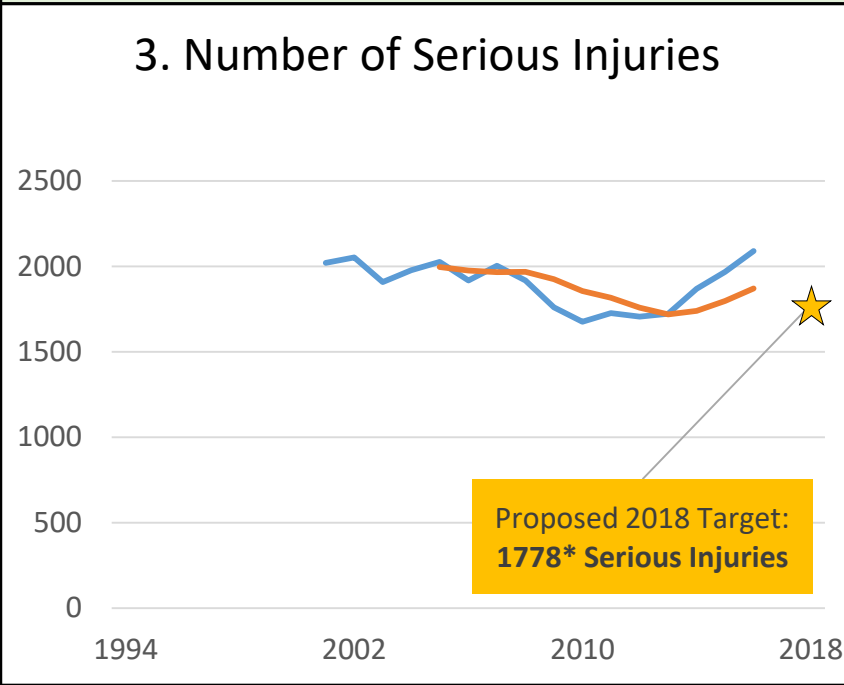
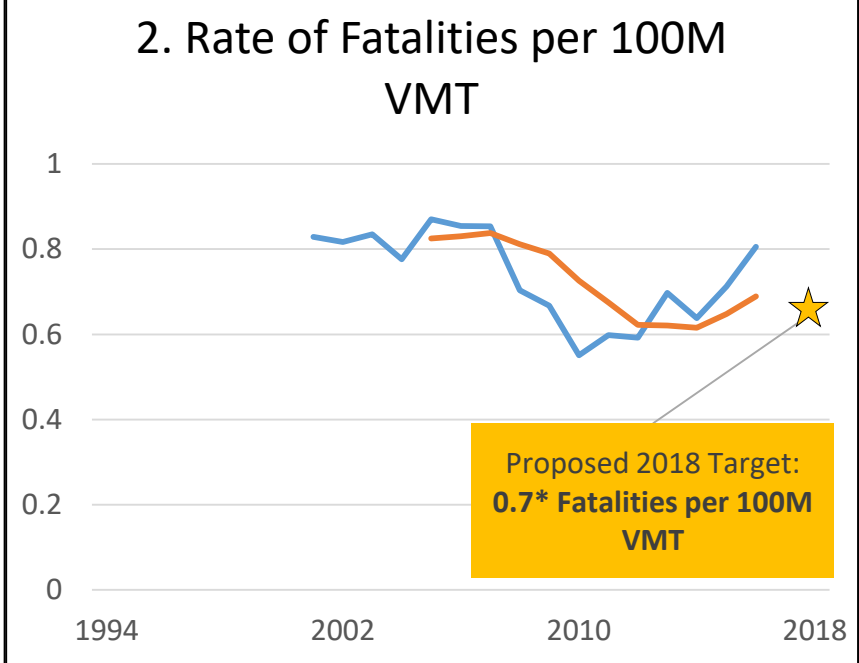
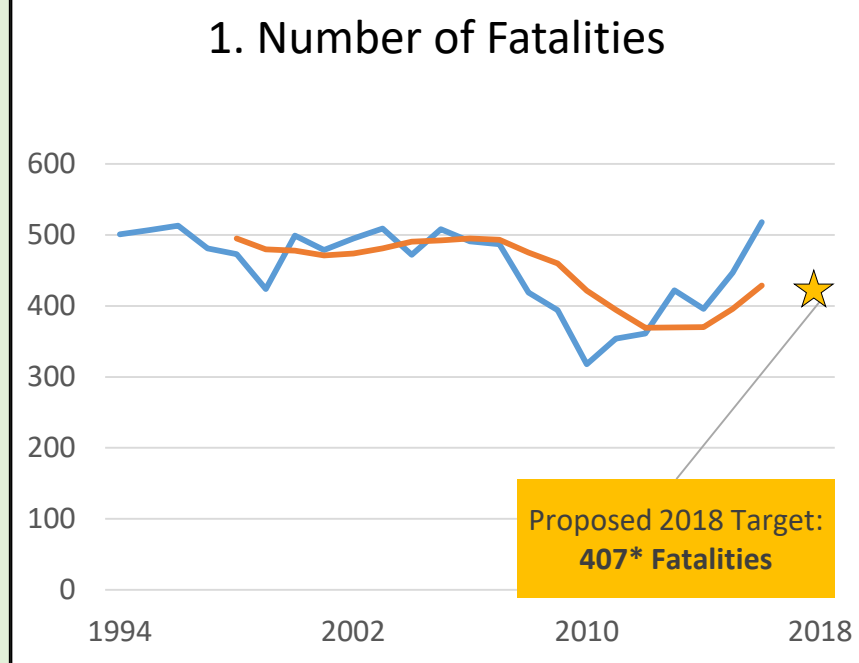
for example 5% reduction from baseline year across all measures

Strengths

- most ambitious option
- targets identified would improve performance for 2018

Weaknesses

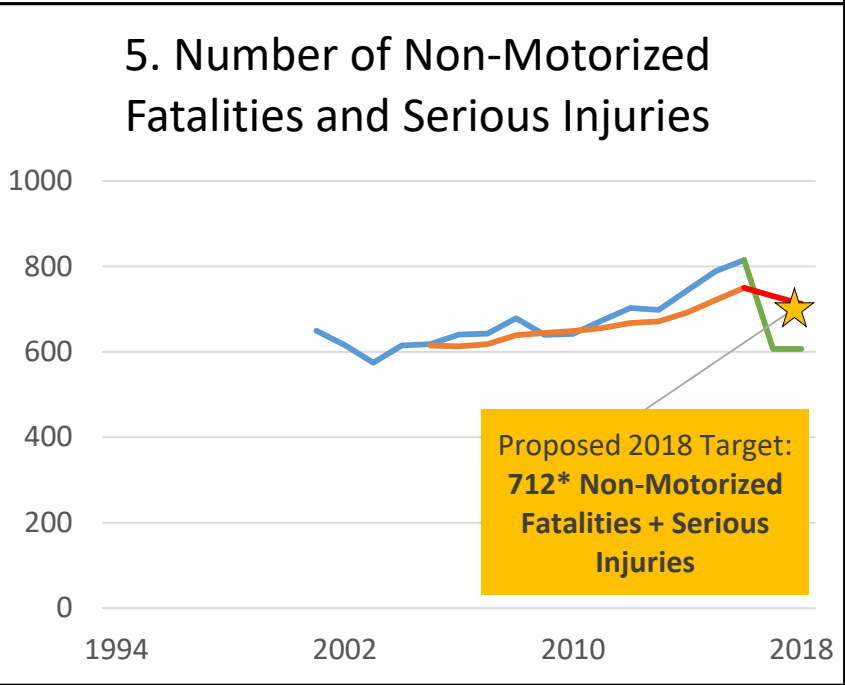
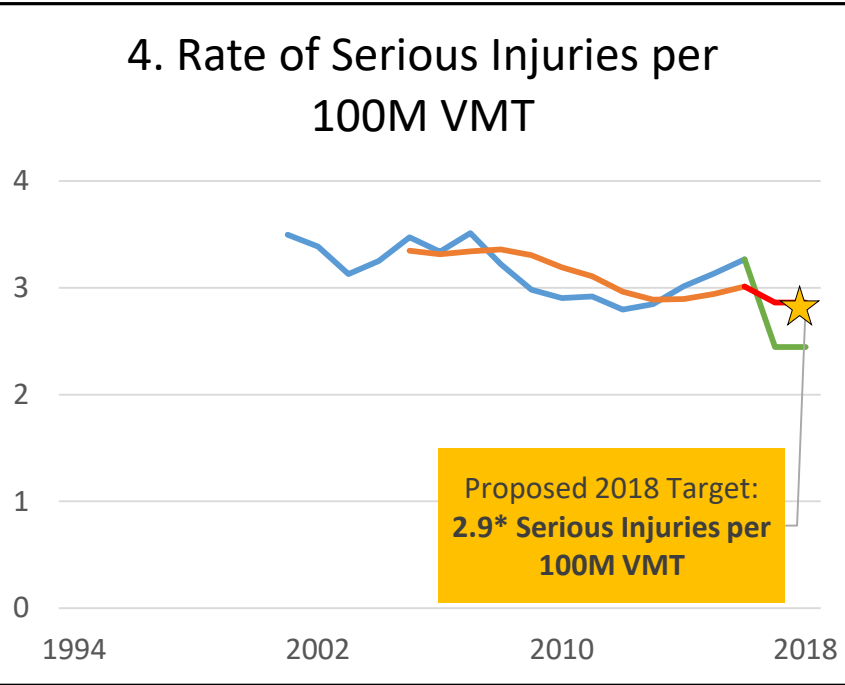
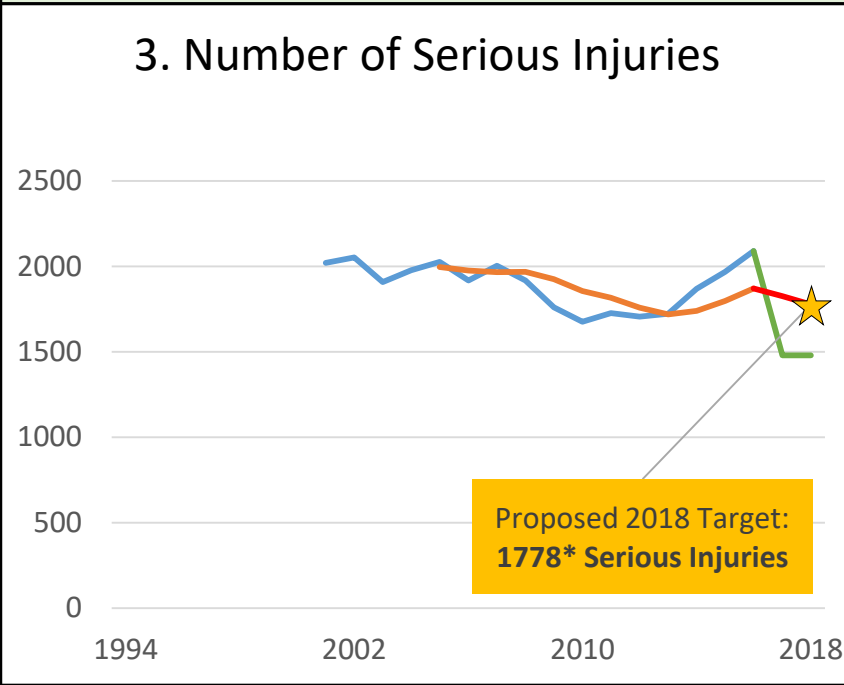
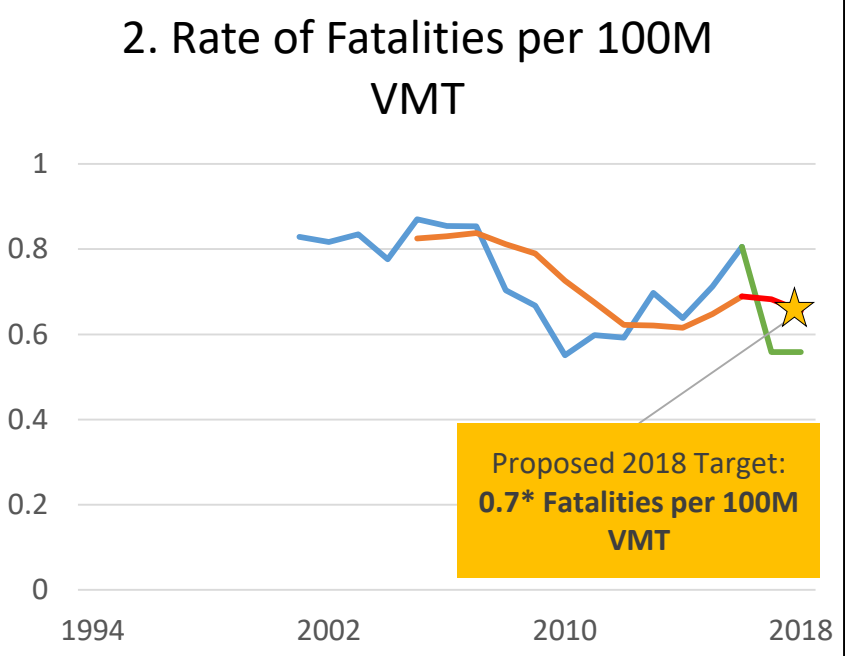
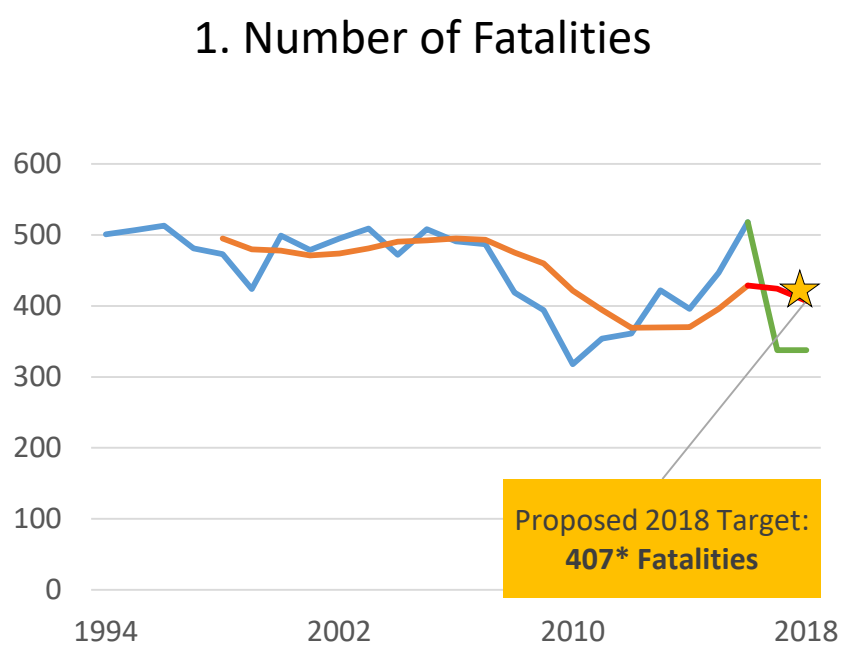
- extremely unlikely that the region would achieve ambitious targets
- difficult to identify the appropriate percent reduction goal



— Historic Data — Historic Data 5-YR Rolling Avg. — Forecast/Target — Forecast/Target 5-YR Rolling Avg.
 * Note all data is preliminary; targets will be based on final data provided by Caltrans

Option 3: Set Bay Area targets based on own methodology – for example 5% reduction from baseline year across all measures

The Bay Area would need to have record-low annual safety performance measures in 2017 and 2018 to achieve the targets



— Historic Data — Historic Data 5-YR Rolling Avg. — Forecast/Target — Forecast/Target 5-YR Rolling Avg.
 * Note all data is preliminary; targets will be based on final data provided by Caltrans

Next Steps

- Seek feedback on recommended target and alternatives from partners, stakeholders, and public
 - Programing and Delivery Working Group
 - Local Streets and Roads Working Group
 - Active Transportation Working Group
 - CMA Planning Directors
- Finalize preferred alternative based on feedback received
- If needed, update numeric targets using final Caltrans dataset
- Adopt final safety targets by the end of the year
- Report performance measures and targets to Vital Signs website and incorporate targets in future RTPs/TIPs