



METROPOLITAN
TRANSPORTATION
COMMISSION

Agenda Item 5a

Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105
TEL 415.778.6700
WEB www.mtc.ca.gov

Memorandum

TO: Joint MTC Planning Committee with the
ABAG Administrative Committee

DATE: November 2, 2018

FR: Executive Director

RE: Federal Performance Target-Setting Update – November 2018

Background

In response to the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) established a Transportation Performance Management program. The intent of the program is to orient transportation investment decision-making around national transportation goals, thus increasing the accountability of Federal programs while also moving toward a performance-based planning and programming paradigm.

Through this program, State Departments of Transportation (DOTs), Metropolitan Planning Organizations (MPOs), and transit agencies are responsible for setting targets for 28 performance measures covering the following federal goal areas: Safety; Infrastructure Condition; System Reliability; Freight Movement and Economic Vitality; Congestion Reduction; and Environmental Sustainability (**Attachment A**). Under MTC Resolution No. 4295 adopted in June 2017, the Planning Committee delegated authority for target-setting to staff, requiring regular consultation with stakeholders through MTC's working groups and semiannual updates to the committee going forward. MTC staff presented the following targets to the Partnership Technical Advisory Committee in September 2018.

MTC will set targets for several performance measures in November. This memo summarizes the upcoming target-setting actions and presents the methodology and rationale used to arrive at the targets. In brief, MTC will support the targets set by Caltrans when the targets are in agreement with MTC's goals, and set regional targets when required by law or when the State targets are not aligned with MTC's priorities. MTC will support State targets for infrastructure condition, system reliability, and freight movement and economic vitality, and set regional targets as mandated by law for environmental sustainability. MTC will set regional targets for safety, given that in the second round of target-setting, Caltrans set substantially less ambitious targets for these performance measures.

To date, MTC has completed target-setting for the following performance measures:

- State of Good Repair for Public Transit Assets: MTC and Bay Area transit operators have completed two rounds of target-setting.
- Safety: MTC and Caltrans have completed one round of target-setting.
- Congestion Reduction: MTC and Caltrans have completed one round of target-setting.

Targets for the following performance measures will be set by MTC and the State for the first time in 2018. State targets were finalized by Caltrans in May 2018. MTC is responsible for establishing its corresponding targets for these performance measures by November 2018.

- Infrastructure Condition: MTC will establish targets for 2021.
- System Reliability: MTC will establish targets for 2021.
- Freight Movement and Economic Vitality: MTC will establish targets for 2021.
- Environmental Sustainability: MTC will establish targets for 2019 and 2021.

Infrastructure Condition, System Reliability, and Freight Movement and Economic Vitality Performance Measures

As discussed in **Attachment B** and **Attachment C**, MTC is required to support State targets or establish quantifiable regional targets for infrastructure condition. **Attachment D** and **Attachment E** discuss the target-setting requirements for system reliability and freight movement and economic vitality. For performance measures related to the aforementioned federal goal areas, MPOs are required to set four-year targets or support State targets every four years. The targets set by the State for these performance measures represent modest but attainable steps in the right direction, generally aiming for improvements to reliability and infrastructure condition, goals that are aligned with MTC's own aspirations. As such, staff proposes that MTC support State targets.

Environmental Sustainability Performance Measures

As discussed in **Attachment F** and **Attachment G**, MTC is required to set two-year and four-year regional targets for environmental sustainability every two years. Unlike most other performance measures, supporting State targets is not an option for this performance measure. Staff sought input from the Regional Advisory Working Group on proposed targets for this performance measure in spring 2018. Proposed targets are derived from MTC's model of expected emissions reductions from CMAQ-funded projects.

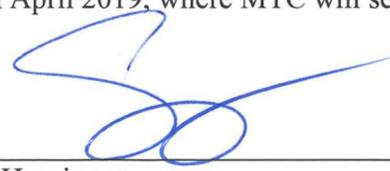
Safety Performance Measures

As discussed in **Attachment H** and **Attachment I**, MTC is required to establish safety targets in coordination with Caltrans every year. This will be the second round of road safety target-setting for MTC and Caltrans. In the first cycle, MTC supported the aggressive road safety targets set by Caltrans, including targets based on a goal of reaching zero deaths in the year 2030. In the second round of target setting, Caltrans set less aggressive targets on road safety, moving the goal year for zero deaths to 2050.

Staff recommends that MTC set regional targets based on the more ambitious methodology applied by Caltrans and supported by MTC in the first round of target-setting. The less aggressive stance adopted by the State in the second round of target-setting does not align with MTC's goals for safety, especially given MTC's current work toward establishing a Regional Safety Program and moving toward a regional Vision Zero policy. As part of this process, MTC has received funding from the Systematic Safety Analysis Report Program (SSARP) to create an integrated Regional Safety Data System and draft a State of Safety in the Region report. Future efforts could also leverage MTC resources to coordinate safety project implementation at the local level, apply for funding from State and Federal sources, and assess regional safety needs for local streets and roads. The attached PowerPoint presentation largely focuses on the implications of retaining a more aggressive safety goal.

Next Steps

MTC is responsible for setting regional targets or supporting State targets for infrastructure condition, system reliability, freight movement and economic vitality, and environmental sustainability by November 16, 2018. MTC must set regional targets or support State targets for safety by February 21, 2019. Targets will be posted on Vital Signs, where progress toward targets will be updated on an annual basis. The next round of target-setting for federal performance measures will occur in April 2019, where MTC will set its third round of targets for state of good repair for public transit assets.



Steve Heminger

Attachments:

- Attachment A: List of Federally-Required Performance Measures
- Attachment B: November 2018 Target-Setting Summary: Infrastructure Condition
- Attachment C: Proposed 2021 Targets for Infrastructure Condition
- Attachment D: November 2018 Target-Setting Summary: System Reliability and Freight Movement and Economic Vitality
- Attachment E: Proposed 2021 Targets for System Reliability and Freight Movement and Economic Vitality
- Attachment F: November 2018 Target-Setting Summary: Environmental Sustainability
- Attachment G: Proposed 2019 and 2021 Targets for Environmental Sustainability
- Attachment H: November 2018 Target-Setting Summary: Safety
- Attachment I: Proposed 2019 Targets for Safety

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List of Federally-Required Performance Measures

FEDERAL GOALS & PROGRAMS	GENERAL MEASURES IN LAW	FINAL PERFORMANCE MEASURES	TARGET-SETTING FREQUENCY	TARGET-SETTING DUE DATES	CURRENT STATUS
Safety HSIP TSOP	Number of Fatalities on Roads	1. Total number of road fatalities	Annual	State: annually in August MPO: annually in February	MTC supported the State's Toward Zero Deaths targets for roadway safety in 2018. Staff recommend setting regional targets in 2019.
	Rate of Fatalities on Roads	2. Road fatalities per 100M VMT	Annual	State: annually in August MPO: annually in February	
	Number of Serious Injuries on Roads	3. Total number of serious injuries on roads	Annual	State: annually in August MPO: annually in February	
	Rate of Serious Injuries on Roads	4. Serious injuries on roads per 100M VMT	Annual	State: annually in August MPO: annually in February	
	Non-Motorized Safety on Roads	5. Combined total number of non-motorized fatalities and serious injuries	Annual	State: annually in August MPO: annually in February	
	Safety of Public Transit Systems	6. Total number of reportable transit fatalities 7. Reportable transit fatalities per RVM by mode <i>(example below)</i> a. Motor bus b. Light rail c. etc. 8. Total number of reportable transit injuries 9. Reportable transit injuries per RVM by mode <i>(example below)</i> a. Motor bus b. Light rail c. etc. 10. Total number of reportable transit safety events 11. Reportable transit safety events per RVM by mode <i>(example below)</i> a. Motor bus b. Light rail c. etc. 12. Mean distance between major mechanical failures by mode <i>(example below)</i> a. Motor bus b. Light rail c. etc.	Annual	Operators: annually in July (starting 2020) MPO: annually in January (starting 2021)	The final rule for these performance measures was issued in July 2018 and goes into effect in July 2019. Transit operators must establish a Public Transportation Agency Plan, including safety performance targets, by July 20, 2020. MPOs will have 180 days after the establishment of the Safety Plan to establish regional targets for safety of public transit systems.

FEDERAL GOALS & PROGRAMS	GENERAL MEASURES IN LAW	FINAL PERFORMANCE MEASURES	TARGET-SETTING FREQUENCY	TARGET-SETTING DUE DATES	CURRENT STATUS
Infrastructure Condition NHPP NTAMS	Pavement Condition on the IHS	13. Percentage of pavements on the IHS in good condition 14. Percentage of pavements on the IHS in poor condition	Every 4 years	State: May 21, 2018 MPO: November 16, 2018	State set targets in May 2018 for pavement and bridge condition. MTC has until November 2018 to set its 1 st cycle targets.
	Pavement Condition on the NHS	15. Percentage of pavements on the non-IHS NHS in good condition 16. Percentage of pavements on the non-IHS NHS in poor condition	Every 4 years	State: May 21, 2018 MPO: November 16, 2018	
	Bridge Condition on the NHS	17. Percentage of NHS bridges by deck area classified in good condition 18. Percentage of NHS bridges by deck area classified in poor condition	Every 4 years	State: May 21, 2018 MPO: November 16, 2018	
	State of Good Repair for Public Transit Assets	19. Percentage of revenue vehicles that have met or exceeded their ULB by asset class (<i>example below</i>) a. Motor bus b. Light rail vehicle c. etc. 20. Percentage of facilities within a condition rating below fair by asset class (<i>example below</i>) a. Maintenance yards b. Stations c. etc. 21. Percentage of guideway directional route-miles with performance restrictions 22. Percentage of non-revenue vehicles that have met or exceeded their ULB	Annual	Operators: annually in January (2017 & 2018); annually in October (going forward) MPO: annually in July (2017 & 2018); annually in April (going forward)	Operators set their 2017 and 2018 targets by FTA's January 1 st deadline. MTC set its 2017 targets in July 2017 and its 2018 targets in July 2018.
System Performance NHPP	Performance of the Interstate System	23. Percentage of person-miles traveled on the IHS that are reliable	Every 4 years	State: May 21, 2018 MPO: November 16, 2018	State set targets in May 2018 for system reliability. MTC has until November 2018 to set its 1 st cycle targets. The CO ₂ performance target requirement was eliminated by FHWA rulemaking in spring 2018.
	Performance of the NHS	24. Percentage of person-miles traveled on the non-IHS NHS that are reliable 25. Percent change in NHS tailpipe CO₂ emissions compared to 2017 baseline (eliminated by FHWA in spring 2018)	Every 4 years	State: May 21, 2018 MPO: November 16, 2018	

FEDERAL GOALS & PROGRAMS	GENERAL MEASURES IN LAW	FINAL PERFORMANCE MEASURES	TARGET-SETTING FREQUENCY	TARGET-SETTING DUE DATES	CURRENT STATUS
Freight Movement and Economic Vitality NHFP	Freight Movement on the Interstate System	26. Percentage of IHS mileage providing reliable truck travel times	Every 4 years	State: May 21, 2018 MPO: November 16, 2018	State set targets in May 2018 for goods movement. MTC has until November 2018 to set its 1 st cycle targets.
Congestion Reduction CMAQ	Traffic Congestion	27. Annual hours of peak-hour excessive delay per capita by urbanized area <ul style="list-style-type: none"> a. San Francisco-Oakland UA b. San Jose UA c. Concord UA** d. Santa Rosa UA** e. Antioch UA** 28. Percent of non-SOV travel by urbanized area <ul style="list-style-type: none"> a. San Francisco-Oakland UA b. San Jose UA c. Concord UA** d. Santa Rosa UA** e. Antioch UA** ** = not required during 1 st target-setting cycle	Every 2 years	State: May 21, 2018 MPO: November 16, 2018 <i>Note that targets must be fully consistent with state targets; therefore the de facto target-setting deadline for both State and MPO is May 21.</i>	State & MTC agreed upon targets in May 2018 for PHED and non-SOV travel.
Environmental Sustainability CMAQ	On-Road Mobile Source Emissions	29. Total emissions reductions from CMAQ-funded projects by pollutant <ul style="list-style-type: none"> a. PM_{2.5} b. PM₁₀ c. CO d. VOC e. NO_x 	Every 4 years	State: May 21, 2018 MPO: November 16, 2018	State set targets in May 2018 for CMAQ emissions reductions. MTC has until November 2018 to set its 1 st cycle targets.
Reduced Project Delivery Delays	none	none (neither MAP-21 nor FAST included performance measures for this goal)	n/a	n/a	n/a

November 2018 Target-Setting Summary: Infrastructure Condition Targets

Overview

The final rule from FHWA established six performance measures to assess performance for infrastructure condition. The rule contained new requirements for State DOTs and MPOs. The major requirements of the rule related to infrastructure condition are:

- 1) **Infrastructure Condition Targets** – The final rule established six performance measures to assess progress towards the infrastructure condition goal, defined as such:

Measure	Definition
Percentage of pavements on the Interstate System in good condition	The area of Interstate highway pavement where cracking, roughness, and rutting/faulting (in the case of asphalt and jointed concrete) metrics are all rated “good” divided by the total area of Interstate highway pavement.
Percentage of pavements on the Interstate System in poor condition	The area of Interstate highway pavement where cracking, roughness, and rutting/faulting (in the case of asphalt and jointed concrete) metrics are all rated “poor” divided by the total area of Interstate highway pavement.
Percentage of pavements on the non-Interstate NHS in good condition	The area of NHS highway pavement where cracking, roughness, and rutting/faulting (in the case of asphalt and jointed concrete) metrics are all rated “good” divided by the total area of NHS highway pavement.
Percentage of pavements on the non-Interstate NHS in poor condition	The area of NHS highway pavement where cracking, roughness, and rutting/faulting (in the case of asphalt and jointed concrete) metrics are all rated “poor” divided by the total area of NHS highway pavement.
Percentage of NHS bridges by deck area classified as in good condition	The share of NHS deck area with a National Bridge Inventory (NBI) condition rating greater than or equal to 7. Bridges are rated on deck, superstructure, substructure, and culvert, and the NBI rating is the lowest of these items.
Percentage of NHS bridges by deck area classified as in poor condition	The share of NHS deck area with a National Bridge Inventory (NBI) condition rating less than or equal to 4. Bridges are rated on deck, superstructure, substructure, and culvert, and the NBI rating is the lowest of these items.

In the first performance period, State DOTs must establish two-year and four-year numerical targets for pavement condition on the non-Interstate NHS and four-year targets for the Interstate. In the first performance period, State DOTs must also establish two-year and four-year numerical targets for NHS bridge condition. In the following performance periods, State DOTs will be required to establish two-year and four-year numerical targets for all six performance measures. MPOs must support the four-year State targets or set their own regional targets.

- 2) **Reporting** – State DOTs must submit a report at the start of each performance period summarizing baseline conditions and targets. Additionally, State DOTs must submit progress reports at the midpoint and end of the performance period. MPOs are expected to report baseline conditions and targets to their State DOT in their Regional Transportation Plans.
- 3) **Evaluation** – State DOTs are evaluated on whether or not they have made “significant progress” based on an analysis of estimated condition/performance and measured condition/performance of the targets. Significant progress is made when actual performance is better than baseline performance or actual performance is equal to or better than the established target.

MPOs are required to support State targets for 2021 or establish their own 2021 targets for infrastructure condition by November 16, 2018, 180 days after the state DOT requirement. State and MPO targets are set every 4 years; States are allowed to adjust the 4-year targets (e.g., 2021 targets for this round) at the halfway point of the four-year cycle.

Target-Setting Approach and Rationale

Caltrans established targets for 2019 and 2021 based on an inventory of existing pavement and bridge condition on the Interstate System and non-Interstate National Highway System. Taking into account the expected infusion of funds from Senate Bill 1 and local tax measures, Caltrans projected either small decreases in performance (in the case of Interstate pavement assessed as “good” or “poor” and NHS pavement assessed as “poor”) or small increases in performance over the four year performance period. Additionally, Caltrans acknowledged that the full benefits of such funding programs may not manifest until more than four years from now.

The Bay Area generally underperforms the State averages in pavement and bridge condition (Table 1). Highway pavement condition within the Bay Area has been stagnant since the early 2000s, while bridge condition has been improving, due in part to toll revenue expenditures to improve seismic conditions.

Table 1: Baseline Data and State Targets for Infrastructure Condition

	Bay Area	State		
	Baseline*	Baseline ⁺	2019 Target	2021 Target
Percentage of pavements on the Interstate System in good condition	42.2%	44.9%	45.1%	44.5%
Percentage of pavements on the Interstate System in poor condition	4.5%	3.1%	3.5%	3.8%
Percentage of pavements on the non-Interstate NHS in good condition	13.7%	25.5%	28.2%	29.9%
Percentage of pavements on the non-Interstate NHS in poor condition	7.6%	7.1%	7.3%	7.2%
Percentage of NHS bridges by deck area classified as in good condition	54.5%	66.6%	69.1%	70.5%
Percentage of NHS bridges by deck area classified as in poor condition	7.7%	4.7%	4.6%	4.4%

Data source: Federal Highway Administration Highway Performance Monitoring System and National Bridge Inventory

** = based upon most recently available data; for pavement condition, year 2016 data is used; for bridge condition, year 2017 data is used.*

⁺ = After submitting targets to FHWA, Caltrans identified a calculation error and may submit revised targets to FHWA in the near future. In calculating the Bay Area baseline, MTC staff corrected the calculation error to reflect accurate baseline conditions.

The targets set by the State in this cycle aim for either an improvement in pavement and bridge condition or a mitigation of decline in condition. These targets mesh with MTC’s own goals for pavement and bridge condition in our region. While the forecasted changes over the upcoming performance period are small, and in some cases, represent an incremental decline in conditions, staff emphasize that achieving larger improvements to conditions over a short time period is likely not possible. Over the longer term, funding from sources like Senate Bill 1 may result in more meaningful improvements in performance for these measures. As such, MTC will support State targets for 2021, as opposed to setting numerical regional targets.

Proposed 2021 Targets for Infrastructure Condition

General Information

Goal	Infrastructure Condition
Performance Measure(s)	<ul style="list-style-type: none"> • Percentage of pavements on the Interstate System in good condition • Percentage of pavements on the Interstate System in poor condition • Percentage of pavements on the non-Interstate NHS in good condition • Percentage of pavements on the non-Interstate NHS in poor condition • Percentage of NHS bridges by deck area classified as in good condition • Percentage of NHS bridges by deck area classified as in poor condition
Target(s) for Year	2021
Target(s) Deadline for MTC Approval	November 16, 2018

Current Conditions and Proposed Regional Targets

Measure	Baseline*	Target (2019)	Target (2021)	Measure ID
Percentage of pavements on the Interstate System in good condition	42.2%	N/A	Support State target	13
Percentage of pavements on the Interstate System in poor condition	4.5%			14
Percentage of pavements on the non-Interstate NHS in good condition	13.7%			15
Percentage of pavements on the non-Interstate NHS in poor condition	7.6%			16
Percentage of NHS bridges by deck area classified as in good condition	54.5%			17
Percentage of NHS bridges by deck area classified as in poor condition	7.7%			18

* = based upon most recently available data; for pavement condition, year 2016 data is used; for bridge condition, year 2017 data is used.

November 2018 Target-Setting Summary: System Reliability and Freight Movement and Economic Vitality

Overview

The final rule from FHWA established three performance measures to assess performance for system performance as it relates to the reliability of passenger and freight movement. The rule contained new requirements for State DOTs and MPOs. The major requirements of the rule related to system performance are:

- 1) **System Reliability and Freight Movement and Economic Vitality Targets** – The final rule established two performance measures to assess progress towards the system reliability goal and one performance measure to assess progress towards freight movement and economic vitality goal, defined as such:

Measure	Definition
Percent of the person-miles traveled on the Interstate that are reliable	Percent of person-miles traveled on the Interstate that are reliable, where reliable is defined as a Level of Travel Time Reliability (LOTTR) metric of below 1.50 during all time periods for a given segment. LOTTR is calculated as the 80 th percentile travel time in seconds divided by the 50 th percentile travel time in seconds.
Percent of person-miles traveled on the non-Interstate NHS that are reliable	Percent of person-miles traveled on the non-Interstate NHS that are reliable, where reliable is defined in the same way as described above.
Truck travel time reliability (TTTR) index	The sum of the maximum TTTR score for each segment, divided by the total Interstate system miles. TTTR is calculated as the 95 th percentile of truck travel time in seconds divided by the 50 th percentile travel time in seconds.

In the first performance period, State DOTs must establish two-year and four-year numerical targets for reliability on the Interstate and four-year targets for the non-Interstate NHS. In the following performance periods, State DOTs will be required to establish two-year and four-year numerical targets for all three performance measures. MPOs must support the four-year State targets or set their own regional targets.

- 2) **Reporting** – State DOTs must submit a report at the start of each performance period summarizing baseline conditions and targets. Additionally, State DOTs must submit progress reports at the midpoint and end of the performance period. MPOs are expected to report baseline conditions and targets to their State DOT in their Regional Transportation Plans.
- 3) **Evaluation** – State DOTs are evaluated on whether or not they have made “significant progress” based on an analysis of estimated condition/performance and measured

condition/performance of the targets. Significant progress is made when actual performance is better than baseline performance or actual performance is equal to or better than the established target.

MPOs are required to support State targets for 2021 or establish their own 2021 targets for infrastructure condition by November 16, 2018, 180 days after the state DOT requirement. State and MPO targets are set every 4 years; States are allowed to adjust the 4-year targets (e.g., 2021 targets for this round) at the halfway point of the four-year cycle.

Target-Setting Approach and Rationale

Caltrans established targets for 2019 and 2021 based on an assessment of existing passenger and truck travel reliability data made available through the National Performance Management Research Dataset (NPMRDS). Taking into account the expected infusion of funds from Senate Bill 1 and local tax measures, Caltrans expects to see small increases in performance in the coming years. As with infrastructure condition, Caltrans acknowledged that the full benefits of such funding programs may not be fully realized within the four year performance period.

The Bay Area underperforms the state average in both passenger and freight reliability (Table 2). The share of person miles traveled on the Interstate in the Bay Area is slightly lower than the share in California, and the share of PMT on the non-Interstate NHS is nearly ten percentage points lower than the state average. In terms of the truck travel time reliability index, in which larger numbers indicate lower levels of reliability, Bay Area roads are also less reliable than the state average.

Table 2: Baseline Data and State Targets for System Reliability and Freight Movement and Economic Vitality

	Bay Area	State		
	Baseline*	Baseline	2019 Target	2021 Target
Percent of the person-miles traveled on the Interstate that are reliable	63.3%	64.6%	65.1%	65.6%
Percent of person-miles traveled on the non-Interstate NHS that are reliable	64.7%	73.0%	N/A	74.0%
Truck travel time reliability (TTTR) index	2.3	1.69	1.68	1.67

Data source: National Performance Management Research Dataset

The targets set by the State in this round of target-setting aim for increased reliability for both passenger transportation as well as the transportation of goods. Overall, these targets are in sync with MTC’s own goals for system reliability in our region. While the targets aim for small improvements to passenger and freight reliability, they still represent a step in the right direction. Given the short time frame of the performance period, achieving larger improvements to reliability is not likely to occur. As such, MTC will support State targets for 2021, as opposed to setting numerical regional targets.

Proposed 2021 Targets for System Reliability and Freight Movement and Economic Vitality

General Information

Goals	System Reliability and Freight Movement and Economic Vitality
Performance Measure(s)	<ul style="list-style-type: none"> • Percent of the person-miles traveled on the Interstate that are reliable • Percent of the person-miles traveled on the non-Interstate NHS that are reliable • Truck travel time reliability (TTTR) index
Target(s) for Year	2021
Target(s) Deadline for MTC Approval	November 16, 2018

Current Conditions and Proposed Targets

Measure	Baseline* (2017)	Target (2019)	Target (2021)	Measure ID
Percent of the person-miles traveled on the Interstate that are reliable	63.3%	N/A	Support State target	23
Percent of person-miles traveled on the non-Interstate NHS that are reliable	64.7%			24
Truck travel time reliability (TTTR) index	2.3			26

* = based upon most recently available data (2017)

November 2018 Target-Setting Summary: Environmental Sustainability Targets

Overview

The final rule from FHWA established one performance measure with multiple sub-parts to assess performance for environmental sustainability. The rule contained new requirements for State DOTs and MPOs. The major requirements of the rule related to environmental sustainability are:

- 1) **Environmental Sustainability Targets** – The final rule established one performance measure with multiple sub-parts to assess progress towards the environmental sustainability goal, defined as such:

Measure	Definition
Total emissions reductions from CMAQ-funded projects by pollutant <ol style="list-style-type: none">a. PM_{2.5}b. PM₁₀c. COd. VOCe. NO_x	Total emissions reductions for Carbon Monoxide (CO), Nitrogen Oxides (NO _x), Volatile Organic Compounds (VOCs), Particulate Matter (PM _{2.5} and PM ₁₀) for CMAQ-funded projects in designated nonattainment and maintenance areas in kilograms per day.

Federal regulation requires MPOs with nonattainment and maintenance areas that overlap with an urbanized area with a population greater than one million set their own two-year and four-year regional targets for this performance measure. MPOs that do not meet this description have the option of supporting four-year State targets or setting quantifiable regional four-year targets every four years. Performance is calculated using the cumulative 2-year and 4-year reported daily emissions reductions for all projects funded by CMAQ and all applicable criteria pollutants and precursors, meaning the 2021 target is the sum of daily reductions for projects implemented between the years 2018 and 2021.

- 2) **Reporting** – State DOTs must submit a report at the start of each performance period summarizing the boundaries of nonattainment and maintenance areas, baseline conditions, and targets. Additionally, State DOTs must submit progress reports at the midpoint and end of the performance period. MPOs must submit targets to their respective State DOTs in a manner that is documented and mutually agreed upon by both parties. MPOs must also include baseline level and progress toward targets in their Regional Transportation Plan and include a CMAQ Performance Plan in State Biennial Performance Reports.
- 3) **Evaluation** – Per federal regulation, there is no significant progress determination required for the CMAQ On-Road Mobile Source Emissions performance measure.

MPOs are required to establish their 2019 and 2021 targets for environmental sustainability by November 16, 2018, 180 days after the state DOT requirement.

Target-Setting Approach and Rationale

The targets proposed below are based on the results of MTC's emissions reductions model, which accounts for projects within the CMAQ pipeline and vehicle fleet characteristics, among other factors. An advantage of this target-setting approach is the clear connection between current and planned investments and the associated reduction in emissions.

Given the localized definition of non-attainment areas, federal performance measurement rules state that MPOs must set regional targets when they meet certain criteria – a population greater than one million and the presence of non-attainment areas within their borders.

In general, staff expect the Bay Area's emissions reductions performance to decrease over time based on the profiles of projects in the implementation queue and the fact that older vehicles, which tend to pollute more than newer vehicles, will be retired over time.

The proposed targets for this performance measure were presented to the Regional Advisory Working Group in spring 2018. At the spring RAWG presentation, stakeholders did not voice any substantial concerns regarding the proposed targets.

Proposed 2019 and 2021 Targets for Environmental Sustainability

General Information

Goal	Environmental Sustainability
Performance Measure(s)	<ul style="list-style-type: none"> • Total emissions reductions from CMAQ-funded projects by pollutant <ul style="list-style-type: none"> a. PM_{2.5} b. PM₁₀ c. CO d. VOC e. NO_x
Target(s) for Year	2019, 2021
Target(s) Deadline for MTC Approval	November 16, 2018

Current Conditions and Proposed Targets

Measure	Baseline*	Target (<u>2019</u>)	Target (<u>2021</u>)	Measure ID
Total emissions reductions from CMAQ-funded projects by pollutant (PM_{2.5})	24.50	8.66	16.53	29(a)
Total emissions reductions from CMAQ-funded projects by pollutant (PM₁₀)	31.29	10.99	21.00	29(b)
Total emissions reductions from CMAQ-funded projects by pollutant (CO)	31,046.04	8,373.38	14,963.60	29(c)
Total emissions reductions from CMAQ-funded projects by pollutant (VOC)	2,248.93	528.31	897.70	29(d)
Total emissions reductions from CMAQ-funded projects by pollutant (NO_x)	2,179.66	557.61	962.58	29(e)

* = based upon most recently available data (2014-2017); 2019 target is the expected emissions reduction per day for federal fiscal years 2018 and 2019; 2021 target is expected emissions reduction per day for federal fiscal years 2019 through 2021

November 2018 Target-Setting Summary: Safety

Overview

The final rule from FHWA established five performance measures to assess performance for safety. The rule contained new requirements for State DOTs and MPOs. The major requirements of the rule related to safety are:

- 1) **Safety Targets** – The final rule established five performance measures to assess progress towards the safety goal, defined as such:

Measure	Definition
Number of fatalities	The number of people involved in a crash with the outcome fatal injury.
Rate of fatalities per 100 million vehicle miles traveled	The number of people involved in a crash with the outcome fatal injury, divided by the number of vehicle miles traveled on roads within the jurisdiction in hundreds of millions of miles.
Number of serious injuries	The number of people involved in a crash with the outcome suspected serious injury.
Rate of serious injuries per 100 million vehicle miles traveled	The number of people involved in a crash with the outcome suspected serious injury, divided by the number of vehicle miles traveled on roads within the jurisdiction in hundreds of millions of miles.
Number of non-motorized fatalities and non-motorized serious injuries	The number of pedestrians or cyclists involved in a crash with the outcome fatal injury or suspected serious injury.

State DOTs must set numerical targets and MPOs must support State targets or set numerical regional targets annually for each of the five safety targets to comply with the regulation.

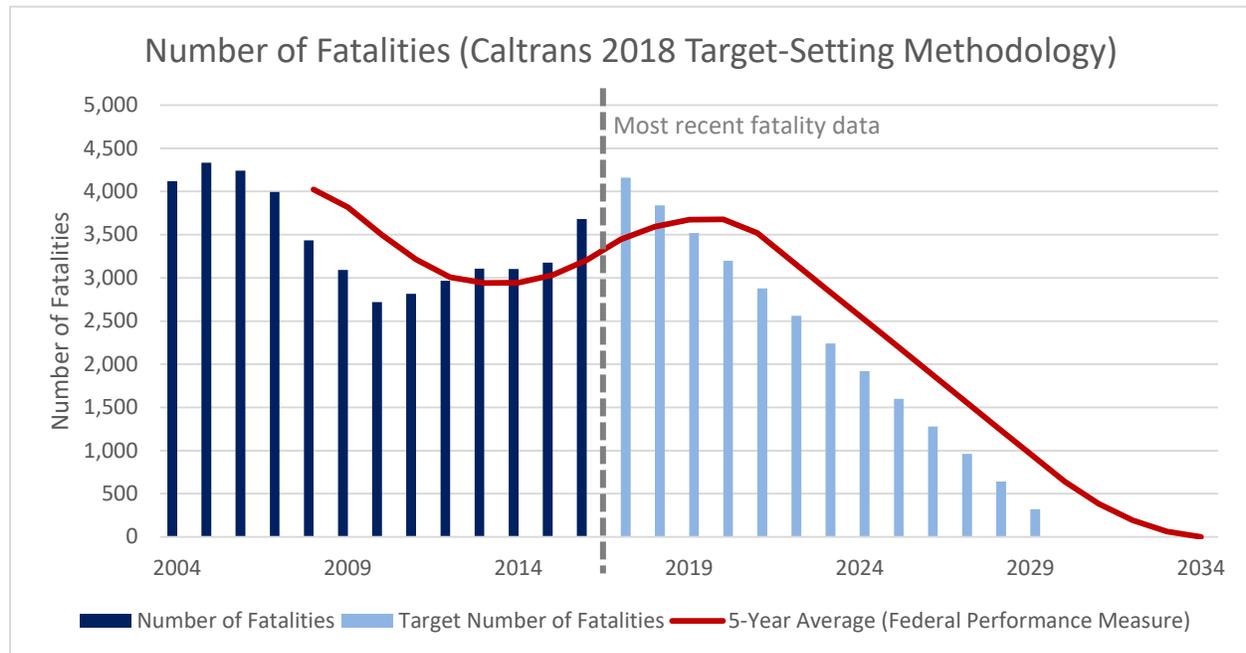
- 2) **Reporting** – State DOTs must submit a report at the start of each performance period summarizing baseline conditions and targets. Additionally, State DOTs must submit progress reports at the midpoint and end of the performance period. MPOs and State DOTs must agree on reporting process as part of their Metropolitan Planning Agreements, though federal regulation does not require separate reports to be submitted to FHWA.
- 3) **Evaluation** – A State DOTs is said to have made “significant progress” if it meets four out of five safety performance targets or if performance is better than baseline data for four out of five safety performance targets. FHWA will assess an MPO’s progress as part of ongoing transportation planning process reviews. If an MPO does not meet or achieved its targets, the MPO is encouraged to develop a statement that describes how the MPO will work with the State and other partners to meet targets during the next performance period.

MPOs are required to establish their 2019 targets for safety by February 27, 2019, 180 days after the state DOT requirement. Staff are presenting target-setting options to the Planning Committee ahead of schedule for this performance measure to streamline the target-setting process.

Target-Setting Approach and Rationale

Caltrans and California MPOs completed their first round of safety target-setting in February 2018. In that cycle, the State adopted aspirational “vision-based” targets for all performance measures. For road fatalities, the State adopted a “Toward Zero Deaths” framework, setting a goal of zero deaths in the year 2030. This involved using the most recent fatality data for the year 2016 to estimate the number of fatalities in 2017. Starting in 2018, the state estimated a linear progression toward achieving zero deaths in the year 2030 (Figure 1). The state set similarly aggressive goals for reductions in the number and rate of serious injuries and the number of non-motorized fatalities and non-motorized serious injuries. At the conclusion of this process, MTC joined the vast majority of California MPOs in supporting State targets.

Figure 1: Toward Zero Deaths Methodology



In August 2019, the State released their second round targets for safety (Table 3). In setting these targets, the State aligned its targets with the goals of the California Strategic Highway Safety Plan (SHSP). As a result, the 2019 State targets for the number and rate of fatalities were less aggressive, being based on a goal of achieving zero deaths in the year 2050. The target for non-motorized fatalities and non-motorized serious injuries was also changed to be less ambitious, moving from a goal of a 10% reduction to a goal of a 3% reduction in non-motorized fatalities and a 1.5% reduction in non-motorized serious injuries. The goal rate of reduction in the number and rate of serious injuries remained constant between the first and second rounds of target-setting, with a goal of a 1.5% reduction in the number of serious injuries in both years.

Table 3: California Safety Targets Summary

Performance Measure	Round 1 Target (2018)	Round 2 Target (2019)
Number of fatalities	3,590.8 (-7.69%)	3,445.4 (-3%)
Rate of fatalities per 100 million vehicle miles traveled	1.029 (-7.69% fatalities; +2% VMT)	0.995 (-3% fatalities; +1% VMT)
Number of serious injuries	12,823.4 (-1.5%)	12,688.1 (-1.5%)
Rate of serious injuries per 100 million vehicle miles traveled	3.831 (-1.5% injuries; +2% VMT)	3.661 (-1.5% injuries; +1% VMT)
Number of non-motorized fatalities and non-motorized serious injuries	4,271.1 (-10%)	3,949.8 (-3% non-motorized fatalities; -1.5% non-motorized serious injuries)

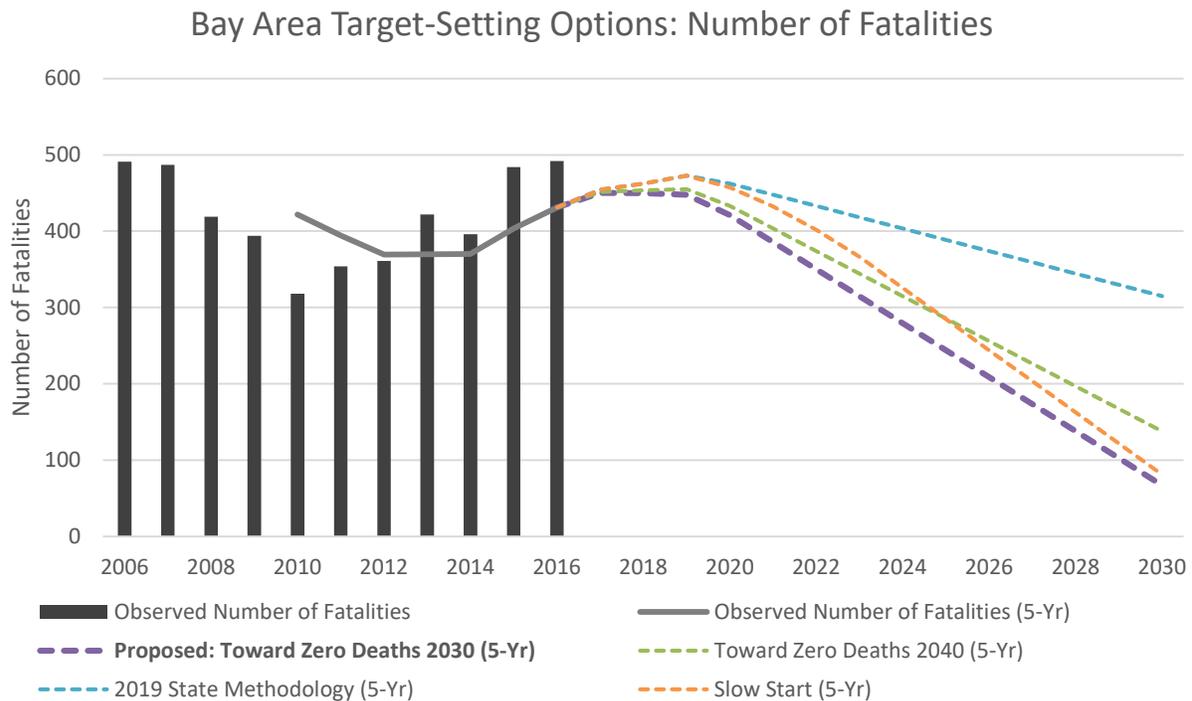
Data source: Fatality Analysis Reporting System, Statewide Integrated Traffic Records System

Caltrans held several workshops across the state with MPO partners to determine the appropriate approach for setting these targets. There was discussion regarding the tradeoffs between setting ambitious targets and achievable targets, especially given recent increases in the number and rate of serious injuries and fatalities statewide. Ultimately, Caltrans chose to align targets with the goals of the 2015-2019 SHSP for consistency, although the SHSP is expected to be updated for the years 2019 through 2023 within the coming months and may feature different goals for fatalities and serious injuries.

The Healthy and Safe Communities goal of Plan Bay Area 2040 established road safety as one of MTC’s primary emphasis areas. Also, given MTC’s current work toward establishing a Regional Safety Program and moving toward a regional Vision Zero policy, staff found that supporting the State’s less aggressive targets for 2019 was not well-aligned with regional priorities. In evaluating the path forward for setting regional targets for the Bay Area, staff considered multiple methodologies, including:

- A. Replicating the 3% reduction in fatalities used in setting State targets for 2019
- B. Replicating the straight line reduction to zero deaths in the year 2030 used in setting State targets for 2018
- C. Plotting a straight line reduction to zero deaths in the year 2040
- D. Setting targets based on a smaller reduction in fatalities in the next few years, followed by a faster rate of decrease in future years, accounting for the fact that changes to infrastructure and policy may not be immediately implemented or have an immediate impact

Figure 2: Target-Setting Options for Fatalities (5-Year Averages)



To arrive at the proposed target for number of fatalities, staff replicated the methodology used to set State targets for 2018. A straight line trajectory arriving at zero deaths in 2030 was calculated, equating to a reduction of 35.4 fatalities per year, or 7.2% of the number of fatalities in 2016. The one year number of fatalities for 2017, 2018, and 2019 were estimated using that methodology. A five-year rolling average of the performance period 2015-2019 was then calculated to arrive at the target. 2016 is the last year of finalized data from the Fatality Analysis Reporting System (FARS), so the decrease was calculated starting in 2017.

The projected number of fatalities for each year were used in the calculation of the proposed 2019 target for rate of fatalities. To project vehicle miles traveled, staff calculated the average annual increase in yearly vehicle miles traveled for the Bay Area, arriving at an average increase of 1.1% per year. Starting in 2016, the most recent year for which VMT data are available from the Highway Performance Monitoring System, VMT were projected to increase by 1.1% each year. The annual fatalities per 100 million VMT were then calculated and averaged for the period 2015-2019 to arrive at the 2019 target.

The target for the number of serious injuries was calculated using the 1.5% reduction put forth by the State in target-setting for 2018 and 2019. While 2015 is the most recent year for which finalized data from the Statewide Integrated Traffic Records System (SWITRS) are available, CHP publishes provisional data for 2016 and 2017. 2016 data were used as baseline data for the Bay Area in order to be consistent with the methodology used by Caltrans to calculate the statewide targets. Starting in 2017, the number of serious injuries were projected to decline by 1.5% of the 2016 number of serious injuries, or 31.5 serious injuries per year.

The rate of serious injuries was calculated in the same way as the rate of fatalities, with the target number of serious injuries serving as the numerator and the projected vehicle miles traveled the denominator.

For the performance measure related to non-motorized fatalities and non-motorized serious injuries, MTC staff evaluated setting targets using the methodology used by Caltrans in the first target-setting cycle, which aimed to reduce the number of non-motorized fatalities and serious injuries together by 10% of the previous year's figure. Staff also evaluated using the methodology used in the second cycle, which called for a reduction in non-motorized fatalities of 3% of the 2016 figure and a reduction in non-motorized serious injuries of 1.5% of the 2016 figure. In line with the thought process behind determining the target for number and rate of fatalities, staff decided to pursue the more aggressive target-setting approach, aiming for a 10% reduction each year in the combined number of non-motorized fatalities and serious injuries.

This summer, staff sought input from the Partnership Technical Advisory Committee. Committee members voiced support for MTC's ongoing safety work, including the plan to create a Regional Safety Data System and a State of Safety in the Region report. No significant concerns were voiced regarding setting vision-based targets for road safety.

Summary of Proposed Regional Targets

Measure	Baseline*	2019 Target*
Number of fatalities	431.0	447.9
Rate of fatalities per 100 million vehicle miles traveled	0.695	0.702
Number of serious injuries	1,890.2	2037.4
Rate of serious injuries per 100 million vehicle miles traveled	3.050	3.190
Number of non-motorized fatalities and non-motorized serious injuries	753.4	736.9

** = based upon most recently available data (2016); uses five-year rolling average. Federal rulemaking requires that performance for each safety performance measure be assessed using a five-year rolling average. As a function of this requirement, the proposed targets are actually larger than baseline performance for four of the five performance measures, despite the fact that the forecasted number of fatalities and serious injuries in each subsequent year is lower. With time, the five-year average will dip below the baseline.*

Proposed 2019 Targets for Safety
General Information

Goal	Safety
Performance Measure(s)	<ul style="list-style-type: none"> • Number of fatalities • Rate of fatalities per 100 million vehicle miles traveled • Number of serious injuries • Rate of serious injuries per 100 million vehicle miles traveled • Number of non-motorized fatalities and non-motorized serious injuries
Target(s) for Year	2019
Target(s) Deadline for MTC Approval	November 16, 2018 (expected announcement); February 27, 2019 (official deadline)

Past Targets & Past Performance

Measure	Target (2018)	Actual (2018)	Target Achieved?	Measure ID
Number of fatalities	Support State target	Data unavailable	N/A	1
Rate of fatalities per 100 million vehicle miles traveled				2
Number of serious injuries				3
Rate of serious injuries per 100 million vehicle miles traveled				4
Number of non-motorized fatalities and non-motorized serious injuries				5

Current Conditions and Proposed Regional Targets

Measure	Baseline*	Target (2018)	Target (2019)*	Measure ID
Number of fatalities	431.0	Support State target	447.9	1
Rate of fatalities per 100 million vehicle miles traveled	0.695		0.702	2
Number of serious injuries	1,890.2		2037.4	3
Rate of serious injuries per 100 million vehicle miles traveled	3.050		3.190	4
Number of non-motorized fatalities and non-motorized serious injuries	753.4		736.9	5

* = based upon most recently available data (2016); uses five-year rolling average

Federal Performance Target-Setting Focus on Safety

Raleigh McCoy and Shruti Hari
Joint MTC Planning Committee with the
ABAG Administrative Committee
November 9, 2018

Overview

Number of Road Fatalities	Non-Motorized Fatalities and Serious Injuries	Reportable Transit Injuries per RVM by Mode	Percent of Pavements on the IHS in Good Condition	Percent of NHS Bridges Classified in Good Condition	Percent of Guideway Directional Route Miles with Speed Restrictions	IHS Truck Travel Reliability Index
Number of Road Fatalities per 100 Million VMT	Total Number of Reportable Transit Fatalities	Total Number of Reportable Transit Safety Events	Percent of Pavements on the IHS in Poor Condition	Percent of NHS Bridges Classified in Poor Condition	Percent of Non-Revenue Vehicles That Have Met or Exceeded Their ULB by Asset Class	Annual Peak-Hour Excessive Delay per Capita by Urbanized Area
Number of Serious Injuries	Reportable Transit Fatalities per RVM by Mode	Reportable Transit Safety Events per RVM by Mode	Percent of Pavements on the Non-IHS NHS in Good Condition	Percent of Revenue Vehicles That Have Met or Exceeded Their ULB by Asset Class	Percent of PMT on the IHS That Are Reliable	Percent of Non-SOV Travel by Urbanized Area
Number of Serious Injuries per 100 Million VMT	Total Number of Reportable Transit Injuries	Mean Distance Between Major Mechanical Failures by Mode	Percent of Pavements on the Non-IHS NHS in Poor Condition	Percent of Facilities With a Condition Rating Below Fair by Asset Class	Percent of PMT on the Non-IHS NHS That Are Reliable	Total Emissions Reductions from CMAQ-Funded Projects by Pollutant

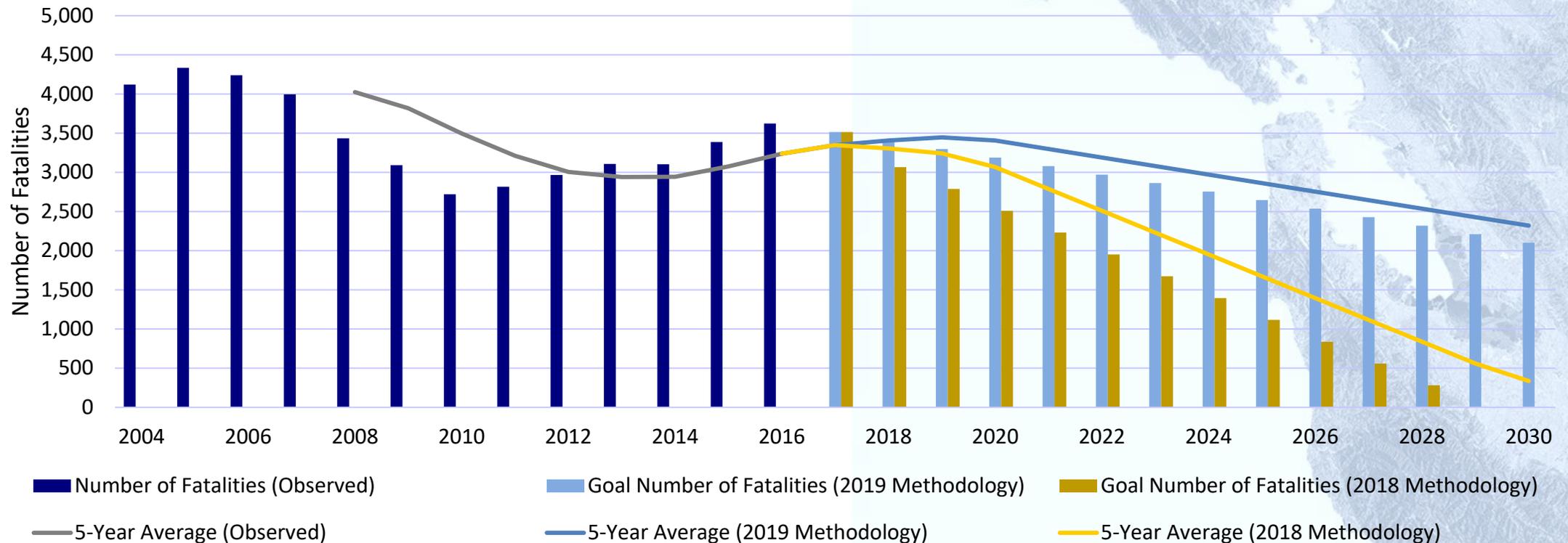
Proposed Targets

Goal	Number of Performance Measures	Target*	Target Year(s)
Infrastructure Condition	6	Support State targets	2021
System Reliability	2	Support State targets	2021
Freight Movement and Economic Vitality	1	Support State target	2021
Environmental Sustainability	5	Set regional targets	2019, 2021
Road Safety	5	Set regional targets	2019

* MTC is required to set regional targets for Environmental Sustainability. For the remaining performance measures discussed today, MTC may support the State target or adopt regional numeric targets.

2018 and 2019 State Safety Targets

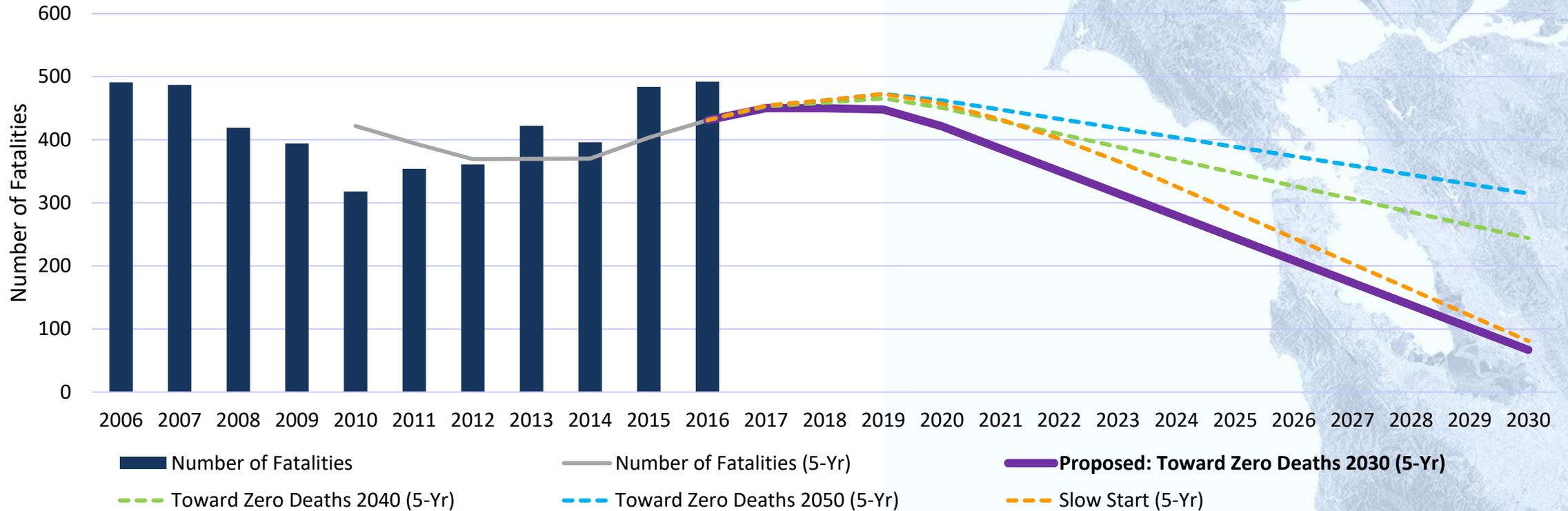
California Number of Fatalities Target



Data Source: FARS, via Caltrans

Setting a Regional Target for Number and Rate of Fatalities

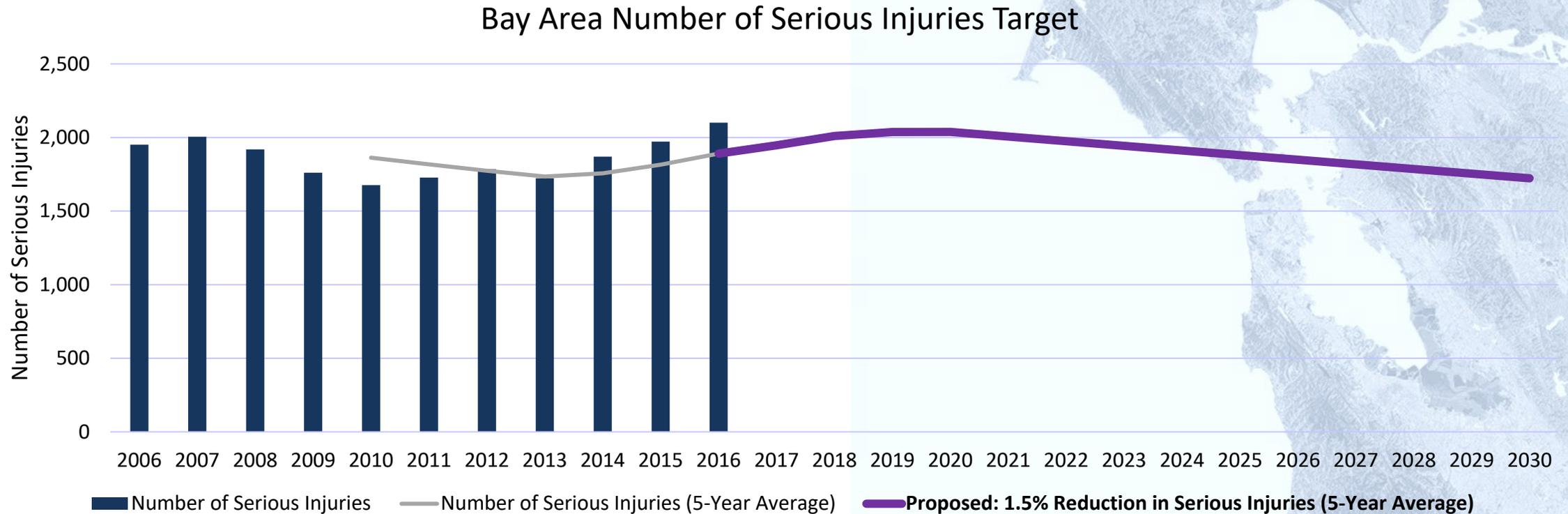
Bay Area Number of Fatalities Target



Regional target for 2019: 448 Fatalities (-7% annual reduction)

Data Source: FARS. Note that target represents a rolling five-year average. Target will be reported as 447.9 fatalities per FHWA precision requirements.

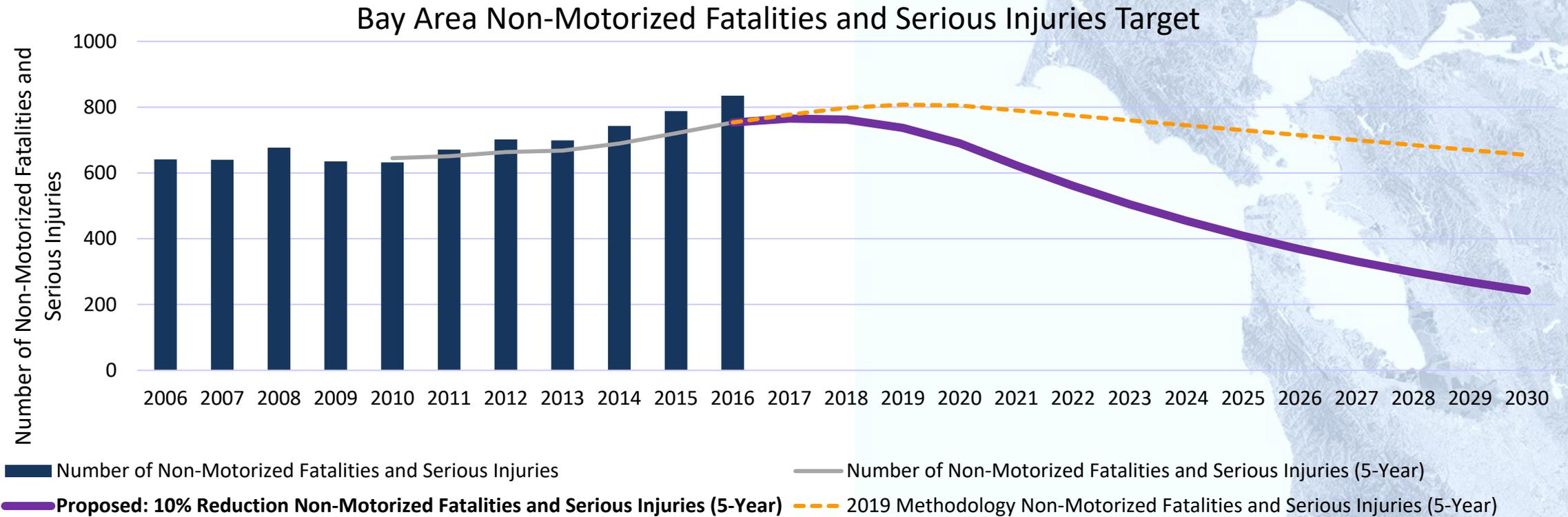
Setting a Regional Target for Number and Rate of Serious Injuries



Regional target for 2019: 2,037 Serious Injuries (-2% annual reduction)

Data Source: SWITRS. Note that target represents a rolling five-year average. Target will be reported as 2,037.4 serious injuries per FHWA precision requirements.

Setting a Regional Target for Number of Non-Motorized Fatalities and Serious Injuries



Regional target for 2019: 737 Non-Motorized Fatalities/Serious Injuries (-10% annual reduction)

Data Source: FARS, SWITRS. Note that target represents a rolling five-year average. Target will be reported as 736.9 non-motorized fatalities and serious injuries per FHWA precision requirements.

Regional Safety Program – Vision & Goals

Establish a Regional Safety Program to reduce fatalities and serious injuries across the region

- Manage safety performance targets
- Assess regional safety needs for local streets and roads
- Coordinate safety implementation with local jurisdictions
- Gauge effectiveness of HSIP projects from regional perspective
- Seek regional funding from HSIP, SB1, etc.

Caltrans Funds - Regional Safety Report

MTC applied for \$500,000 in Caltrans funds for:

- Regional Safety Data System
 - Data Collection and Integration Plan – FHWA pilot
 - Perform Data Integration
 - Conduct Safety Analyses & Effectiveness Evaluations
- State of Safety in the Region Report

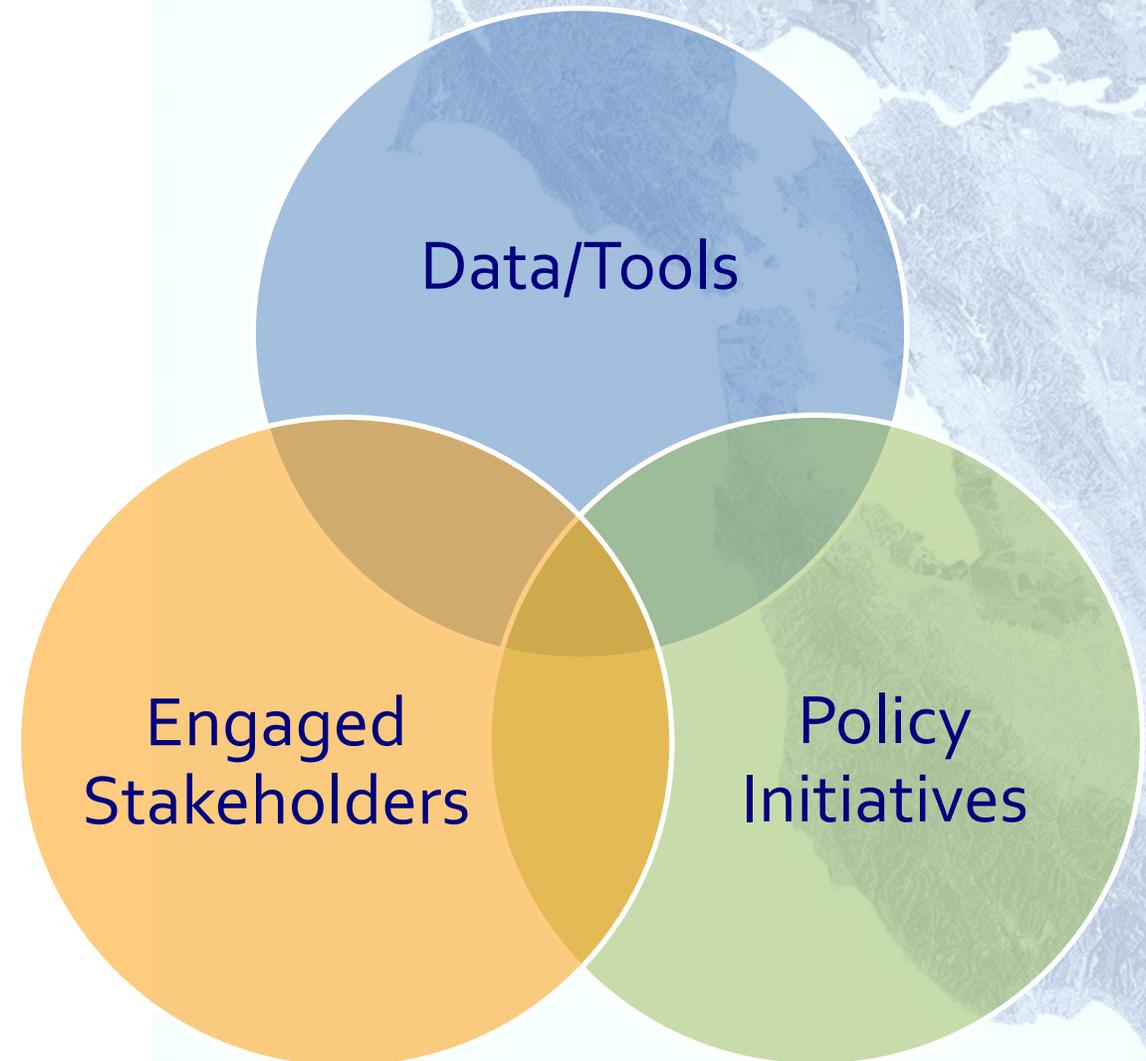
Potential Vision Zero Regional Approach/Policy

Potential Policy Initiatives

- Align funding policies with Vision Zero goals
- Leverage technology solutions, in collaboration with Cities
- Support safety legislation — e.g. Cities' power to set speed limits
- Education/technical assistance for Cities
- Continuous improvements in data systems
- Incorporate "Vision Zero 2.0" strategies related to AVs/TNCs

Stakeholders

- Cities, CMAs, Community Groups
- CHP / Local PDs / Emergency Responders
- Universities / Community Colleges
- Health Agencies
- Insurance Companies



Regional Safety Program - Next Steps

- **Develop Vision Zero Regional Policy**
 - Bring back for approval in early 2019
- **Adopt Regional Safety Targets**
- **Develop Regional Safety Data System**
- **Regional Safety Plan**