

# Metropolitan Transportation Commission Planning Committee

May 10, 2019

Agenda Item 4b

## Federal Performance Target-Setting Update – May 2019

---

**Subject:** Update on State of Good Repair for Transit Assets performance measures, including 2018 performance and 2019 targets.

**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 Transportation Performance Management program is to orient transportation investment decision-making around national transportation goals, thus increasing accountability and transparency 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. In setting these targets, MTC staff worked in close collaboration with the region's transit operators.

This April, MTC set targets for federally-mandated performance measures for state of good repair (SGR) for transit assets for the third time. This memo summarizes MTC target-setting actions and presents the methodology and rationale used to arrive at the targets. Based on an analysis of available funding for the coming year, we expect all four asset categories - Revenue Vehicles, Non-Revenue Vehicles, Facilities, and Infrastructure - to see modest improvements in the percentage of assets in a state of good repair, which would represent a continuation of progress made over the past year.

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

- Transit SGR: MTC and Bay Area transit operators have completed three rounds of target-setting.
- Roadway Safety: MTC and Caltrans have completed two rounds of target-setting.
- Pavement and Bridge Condition: MTC and Caltrans have completed one round of target-setting.
- System Performance: MTC and Caltrans have completed one round of target-setting.

- Freight Movement and Economic Vitality: MTC and Caltrans have completed one round of target-setting.
- Congestion Reduction: MTC and Caltrans have completed one round of target-setting.
- Environmental Sustainability: MTC and Caltrans have completed one round of target-setting.

**Issues:**

**State of Good Repair for Transit Assets Targets**

As discussed in Attachment B and Attachment C, MTC is required to establish quantifiable regional targets for the state of repair of transit assets. For these performance measures, MPOs and transit operators are required to set targets annually. MTC's state of good repair targets reflect an aggregation of individual targets set at the operator level. On an annual basis, MTC coordinates an update to the Regional Transit Capital Inventory, a database maintained by MTC which contains information on each operator's transit asset inventories. This database is used to calculate the percentage of assets not in a state of good repair for each operator each year. These percentages represent the performance measure for each asset class. In order to determine the expected performance measures for the following year, transit operator staff estimate their expected state of good repair funding for the coming year, and calculate the percentage of assets in each asset class they expect to be able to rehabilitate or replace with that funding. The expected performance measure represents the state of good repair target for that asset class. MTC staff assesses the targets and works with operators to confirm they are realistic before aggregating them to a region-wide level for each asset class.

**Next Steps:**

Updated transit asset condition targets will be posted on Vital Signs, where progress toward targets is updated on an annual basis. The next round of target-setting for federal performance measures will occur in February 2020, where MTC will set its third round of targets for roadway safety.

**Attachments:**

Attachment A: List of Federally-Required Performance Measures  
Attachment B: May 2019 Target-Setting Summary: State of Good Repair for Transit Assets  
Attachment C: 2019 Targets for State of Good Repair for Transit Assets

  
Therese W. McMillan

**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
<b>Safety</b>  HSIP TSOP	Number of Fatalities on Roads	<b>1. Total number of road fatalities</b>	<b>Annual</b>	State: <b>annually in August</b> MPO: <b>annually in February</b>	MTC set regional targets for roadway safety in 2019.
	Rate of Fatalities on Roads	<b>2. Road fatalities per 100M VMT</b>	<b>Annual</b>	State: <b>annually in August</b> MPO: <b>annually in February</b>	
	Number of Serious Injuries on Roads	<b>3. Total number of serious injuries on roads</b>	<b>Annual</b>	State: <b>annually in August</b> MPO: <b>annually in February</b>	
	Rate of Serious Injuries on Roads	<b>4. Serious injuries on roads per 100M VMT</b>	<b>Annual</b>	State: <b>annually in August</b> MPO: <b>annually in February</b>	
	Non-Motorized Safety on Roads	<b>5. Combined total number of non-motorized fatalities and serious injuries</b>	<b>Annual</b>	State: <b>annually in August</b> MPO: <b>annually in February</b>	
	Safety of Public Transit Systems	<b>6. Total number of reportable transit fatalities</b> <b>7. Reportable transit fatalities per RVM by mode</b> <i>(example below)</i> a. Motor bus b. Light rail c. etc.	<b>Annual</b>	Operators: <b>annually in July</b> (starting 2020) MPO: <b>annually in January</b> (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.
		<b>8. Total number of reportable transit injuries</b> <b>9. Reportable transit injuries per RVM by mode</b> <i>(example below)</i> a. Motor bus b. Light rail c. etc.			
		<b>10. Total number of reportable transit safety events</b> <b>11. Reportable transit safety events per RVM by mode</b> <i>(example below)</i> a. Motor bus b. Light rail c. etc.			
		<b>12. Mean distance between major mechanical failures by mode</b> <i>(example below)</i> a. Motor bus b. Light rail c. etc.			

FEDERAL GOALS & PROGRAMS	GENERAL MEASURES IN LAW	FINAL PERFORMANCE MEASURES	TARGET-SETTING FREQUENCY	TARGET-SETTING DUE DATES	CURRENT STATUS
Infrastructure Condition	Pavement Condition on the IHS	<b>13. Percentage of pavements on the IHS in good condition</b> <b>14. Percentage of pavements on the IHS in poor condition</b>	Every 4 years	State: <b>May 2022</b> MPO: <b>November 2022</b>	MTC supported State targets in 2018.
	Pavement Condition on the NHS	<b>15. Percentage of pavements on the non-IHS NHS in good condition</b> <b>16. Percentage of pavements on the non-IHS NHS in poor condition</b>	Every 4 years	State: <b>May 2022</b> MPO: <b>November 2022</b>	
	Bridge Condition on the NHS	<b>17. Percentage of NHS bridges by deck area classified in good condition</b> <b>18. Percentage of NHS bridges by deck area classified in poor condition</b>	Every 4 years	State: <b>May 2022</b> MPO: <b>November 2022</b>	
NHPP NTAMS	State of Good Repair for Public Transit Assets	<b>19. Percentage of revenue vehicles that have met or exceeded their ULB by asset class (example below)</b> a. Motor bus b. Light rail vehicle c. etc. <b>20. Percentage of facilities within a condition rating below fair by asset class (example below)</b> a. Administrative and maintenance facilities b. Passenger facilities <b>21. Percentage of guideway directional route-miles with performance restrictions</b> <b>22. Percentage of non-revenue vehicles that have met or exceeded their ULB</b>	Annual	Operators: <b>annually in October</b> MPO: <b>annually in April</b>	Operators set their 2019 targets in October 2018. MTC set regional targets in April 2019.
System Performance	Performance of the Interstate System	<b>23. Percentage of person-miles traveled on the IHS that are reliable</b>	Every 4 years	State: <b>May 2022</b> MPO: <b>November 2022</b>	MTC supported State targets in 2018.
NHPP	Performance of the NHS	<b>24. Percentage of person-miles traveled on the non-IHS NHS that are reliable</b> <b>25. Percent change in NHS tailpipe CO<sub>2</sub> emissions compared to 2017 baseline (eliminated by FHWA in spring 2018)</b>	Every 4 years	State: <b>May 2022</b> MPO: <b>November 2022</b>	

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. IHS truck travel reliability index	Every 4 years	State: <b>May 2022</b> MPO: <b>November 2022</b>	MTC supported State targets in 2018.
Congestion Reduction  CMAQ	Traffic Congestion	27. Annual hours of peak-hour excessive delay per capita by urbanized area <ul style="list-style-type: none"> <li>a. San Francisco-Oakland UA</li> <li>b. San Jose UA</li> <li>c. Concord UA**</li> <li>d. Santa Rosa UA**</li> <li>e. Antioch UA**</li> </ul> 28. Percent of non-SOV travel by urbanized area <ul style="list-style-type: none"> <li>a. San Francisco-Oakland UA</li> <li>b. San Jose UA</li> <li>c. Concord UA**</li> <li>d. Santa Rosa UA**</li> <li>e. Antioch UA**</li> </ul> ** = not required during 1 <sup>st</sup> target-setting cycle	Every 4 years	State: <b>May 2021</b> MPO: <b>November 2021</b>  <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 2021.</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"> <li>a. PM<sub>2.5</sub></li> <li>b. PM<sub>10</sub></li> <li>c. CO</li> <li>d. VOC</li> <li>e. NO<sub>x</sub></li> </ul>	Every 4 years	State: <b>May 2022</b> MPO: <b>November 2022</b>	MTC set regional targets for on-road mobile emissions based on EMFAC regional emissions forecasts in 2018.
Reduced Project Delivery Delays	<i>none</i>	<i>none</i> <i>(neither MAP-21 nor FAST included performance measures for this goal)</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>

## May 2019 Target-Setting Summary: State of Good Repair for Public Transit Assets

### Overview

The transit asset management (TAM) final rule published by FTA in July 2016 established a National TAM System in accordance with MAP-21. The rule contained new requirements for public transit providers, and designated recipients such as MTC. The major requirements of the rule include:

- 1) **State of Good Repair (SGR) Performance Targets** – Targets must be set for each applicable asset including Rolling Stock, Equipment, Infrastructure, and Facilities. The final rule establishes SGR standards and SGR performance measures as shown below:

Asset Category	Performance Measure
Rolling Stock: All revenue vehicles	Percentage of revenue vehicles within a particular asset class that have either met or exceeded their Useful Life Benchmark (ULB)
Facilities: All buildings or structures and parking facilities	Percentage of facilities within an asset class, rated below condition 3 (fair) on the TERM scale
Infrastructure: Only rail fixed guideway, tracks, signals and systems	Percentage of guideway directional route-miles with performance restrictions
Equipment: Only non-revenue (service) vehicles	Percentage of non-revenue vehicles that have either met or exceeded their ULB

In the case of rolling stock and facilities, the major asset categories are further broken down into distinct asset classes, with targets required for each asset class. Facilities are separated into administrative and maintenance facilities and passenger facilities, while revenue vehicles are separated into 15 sub-categories (e.g., light rail vehicle, bus, ferry, etc.)

Note that over time some targets improve relative to existing performance measures if there is funding available to replace or repair assets that are in poor condition. On the other hand, if there is no funding available to replace or repair assets, targets can worsen due to these assets aging another year and exceeding their useful lives.

- 2) **Development of TAM Plans** – Tier I operators (rail operators and any operators with 101 or more vehicles) must do their own TAM plan consisting of nine required elements. Tier II operators (operators with 100 vehicles or less) may do their own plan or participate in a group plan. There are only four required elements to the TAM plan for Tier II operators.
- 3) **Reporting** – Operators must report annually to FTA on SGR targets, asset conditions, and progress made towards meeting set targets.

The TAM Rule required transit providers to set SGR performance targets by October 1, 2018. The Planning Rule requires that each MPO establish targets no later than 180 days after the date on which the transit providers establish their performance targets. Therefore, staff developed targets to meet the year 2019 target-setting deadline of April 1<sup>st</sup> for transit asset management.

### Target-Setting Approach and Rationale

To set SGR targets, MTC staff assessed the current condition of operators' assets using data from the Regional Transit Capital Inventory (RTCI). The RTCI is a comprehensive regional database of the transit assets that are owned by transit agencies across the region. MTC developed the RTCI in order to collect consistent and comparable data on the region's transit capital assets and associated replacement and rehabilitation costs from each operator.

To set the target for each asset category, MTC staff provided each operator with existing performance measures (by asset class) for their asset inventory included in the RTCI and requested that each operator conduct an analysis of expected funding from all sources for the coming fiscal year that will be used to repair or replace transit assets. Operators used this assessment to predict which vehicle assets would be replaced or repaired, and presented MTC with a target percentage of assets expected not to be in a state of good repair by the end of the fiscal year.

Staff worked with the operators to keep the targets realistic and base them on reasonable financial projections. For vehicles and infrastructure, MTC staff consolidated the targets for all operators to identify a regional target for each asset class. With respect to facilities, prior targets had been set using the age of the facility as a proxy for its condition to determine the percentage of all regional transit facilities assets estimated to be out of a state of good repair. Operators' methodology has improved in the interim year due to new TAM Plan requirements. For the first time, operators are required to conduct physical inspections of their facilities to determine their condition rather than relying on the age of the facilities alone. As a result, the actual condition of the region's transit facilities is better than had been previously estimated, and this year's targets reflect that.

### Review of 2018 Performance

The Bay Area failed to meet its performance targets for state of good repair for revenue vehicles, non-revenue vehicles, and guideway in 2018, though the condition of the region's revenue and non-revenue vehicle fleet did improve. Due to the fundamental change in the way state of good repair is calculated for facilities, 2018 performance cannot be directly compared to 2018 targets. As current federal regulations stand, there is no penalty for not meeting the 2018 targets.

In 2018, 32 percent of revenue vehicles were past their useful life, just shy of the regional target of 31 percent. This represented a four percentage point decrease, powered in large part by improvements to commuter rail locomotive and passenger coach asset condition, asset classes that had failed to meet their targets in the previous cycle. The share of non-revenue vehicles past their useful life declined in 2018 as well, improving from 64 percent to 61 percent, though falling short of the target of 53 percent of vehicles past their useful life.

While the Bay Area met its target for state of good repair for guideway assets in 2017, the region failed to meet its target in 2018. The percentage of route directional miles with speed or operational restrictions increased from 1.5 percent in 2017 to 2.5 percent in 2018, above the target share of 1.8 percent.

### Summary of Proposed Targets

As presented in detail in **Attachment C**, MTC set the following targets for transit asset management for year 2019. The regional targets for this performance period seek to reduce the share of assets of all classes that are not in a state of good repair, with the lone exception of commuter rail rolling stock, which we expect to hold steady. As a whole, revenue vehicles are expected to see an improvement in state of repair as significant vehicle and rolling stock replacements occur at the operator level over the coming year. Non-revenue vehicles are also expected to see a significant

improvement over the coming year, primarily as a result of SFMTA's efforts to replace significant numbers of vehicles in its sizeable non-revenue vehicle fleet. A physical-inspection-based assessment of transit facilities at the operator level reached the conclusion that the region's facilities are mostly in a state of good repair, and we expect to see improvement as operators rehabilitate and replace aging facilities in the coming year.

**Percent of Assets Not in a State of Good Repair**

<b>Asset Category</b>	<b>2018 Target</b>	<b>2018 Performance</b>	<b>2019 Target</b>
<b>Revenue Vehicles</b>	31%	32% (target not met)	23%
<b>Facilities*</b>	24%	6% (target met)	3%
<b>Infrastructure</b>	1.8%	2.5% (target not met)	1.4%
<b>Non-Revenue Vehicles</b>	53%	61% (target not met)	32%

Data source: Regional Transit Capital Inventory (RTCI)

\* Methodology for evaluating facility condition changed for the 2019 target-setting cycle. As such, 2018 performance cannot be directly compared to 2018 targets.



## 2019 Targets for State of Good Repair for Transit Assets

### General Information

<b>Goal</b>	Infrastructure Condition
<b>Performance Measure(s)</b>	<ul style="list-style-type: none"><li>• Percentage of revenue vehicles that have met or exceeded their useful life benchmark (ULB) by asset class</li><li>• Percentage of facilities with a condition rating below fair by asset class</li><li>• Percentage of guideway directional route-miles with performance restrictions</li><li>• Percentage of non-revenue vehicles that have met or exceeded their ULB</li></ul>
<b>Target(s) for Year</b>	2019
<b>Target(s) Deadline for MTC Approval</b>	April 1, 2019

Current Conditions and Targets

Measure	Subcategory	Current (2018)	Target (2019)	Total # (2018)	Measure ID
<b>Percentage of revenue vehicles that have met or exceeded their useful life benchmark (ULB)</b>	Articulated bus	23%	14%	489	US-19a
	Automated guideway vehicle	0%	0%	4	US-19b
	Bus	19%	18%	2,720	US-19c
	Bus rapid transit	0%	0%	29	US-19d
	Cable car	0%	0%	42	US-19e
	Commuter rail – locomotive	43%	43%	47	US-19f
	Commuter rail – passenger coach	28%	28%	188	US-19g
	Commuter rail – self-propelled passenger car	36%	36%	58	US-19h
	Ferryboat	14%	10%	21	US-19i
	Heavy rail	88%	66%	669	US-19j
	Light rail	8%	0%	292	US-19k
	Over-the-road bus	34%	10%	143	US-19l
	Trolley bus	40%	24%	309	US-19m
	Van	46%	39%	364	US-19n
	Vintage trolley	100%	0%	43	US-19o
<b>Percentage of facilities with a condition rating below fair*</b>	Administrative and maintenance facilities	5%	4%	N/A	US-20a
	Passenger facilities	6%	2%	N/A	US-20b
<b>Percentage of guideway directional route-miles with performance restrictions</b>	n/a	2.5%	1.4%	N/A	US-21
<b>Percentage of non-revenue vehicles that have met or exceeded their ULB</b>	n/a	61%	32%	1,941	US-22

Data source: Regional Transit Capital Inventory (RTCI)

\* Methodology for evaluating facility condition changed for the 2019 target-setting cycle. As such, 2018 performance cannot be directly compared to 2018 targets.