

Metropolitan Transportation Commission Planning Committee

April 9, 2021

Agenda Item 4b

Federal Performance Target-Setting Update 2021 State of Good Repair for Transit Assets Targets

Subject: Update on State of Good Repair for Transit Assets performance measures, including 2020 performance and 2021 targets.

Background: The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) established a Transportation Performance Management program to orient transportation investment decision-making around national transportation goals, 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 (status shown in **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.

This memorandum summarizes MTC's target-setting actions for State of Good Repair for Transit Assets and presents the methodology and rationale used to arrive at the targets. MTC will set targets for the four federally-mandated performance measures for State of Good Repair (SGR) for Transit Assets for the fifth time in April 2021. The performance measures are:

- Percentage of revenue vehicles that have met or exceeded their useful life benchmark by asset class (18 asset classes)
- Percentage of facilities within a condition rating below fair by asset class (2 asset classes)
- Percentage of guideway directional route-miles with performance restrictions
- Percentage of non-revenue vehicles that have met or exceeded their useful life benchmark

The remaining performance measures under the federal goal area of Infrastructure, which quantify the condition of bridges and pavement on the National Highway System (on Interstate and Non-Interstate facilities), will be updated by Caltrans and MTC in the year 2022.

In setting these targets, MTC staff worked in close collaboration with the region's transit operators. Based on an analysis of available funding for the coming year, we expect two of four asset categories - revenue vehicles and non-revenue vehicles - 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. Facilities and guideway are expected to see slight declines in state of good repair in 2021.

State of Good Repair for Transit Asset Targets - Methodology

As discussed in **Attachment B** and **Attachment C**, MTC is required to establish quantifiable regional targets for the State of Good Repair for Transit Assets 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 operators' 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 are aggregated to a region-wide level, which represents the performance measure for each asset class. In order to set targets 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. MTC works with operators to help them set realistic targets.

Issues:

Impact of COVID-19 on Transit Asset Condition Performance


Per federal regulations, Bay Area transit operators set their 2021 State of Good Repair for Transit Assets performance targets in October 2020, months into the COVID-19 pandemic. The impact of the pandemic and ensuing Shelter-in-Place guidelines on transit operators' financial resources has been well-documented, with operating revenues dipping significantly below prior expectations, primarily as a result of lower fare revenues. Despite this challenging time for transit operations, performance for State of Good Repair for Transit Assets has not yet been significantly altered, given the pandemic has yet to impact capital funding sources and some of the procurements of transit assets are either underway or fully funded. Should capital funding become more scarce over the next several years, this will be reflected in future transit asset performance and targets. Staff will continue to monitor progress toward the 2021 targets over the coming year.

Next Steps:

Updated transit asset condition targets have been 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 December 2021, where MTC will set its first round of targets for Safety of Public Transit Systems in partnership with Bay Area transit operators.

Attachments:

Attachment A: List of Federally-Required Performance Measures
Attachment B: April 2021 Target-Setting Summary: State of Good Repair for Transit Assets
Attachment C: 2021 Targets for State of Good Repair for Transit Assets


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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	Caltrans set its 2021 targets in August 2020. MTC must set regional targets by February 2021. Three rounds of target-setting complete.
	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: July 2021 MPO: January 2022	Federal guidance required transit operators to establish a Public Transportation Agency Plan, including safety performance targets, by July 20, 2020. Due to extraordinary circumstances facing transit operators, this deadline was extended to July 20, 2021. MPOs will have 180 days after the establishment of the Safety Plan to establish regional targets.

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	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 2022 MPO: November 2022	MTC supported State targets in 2018. One round of target-setting complete.
	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 2022 MPO: November 2022	
	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 2022 MPO: November 2022	
NHPP NTAMS	State of Good Repair for Public Transit Assets	19. Percentage of revenue vehicles that have met or exceeded their ULB by asset class (example below) <i>a. Motor bus</i> <i>b. Light rail vehicle</i> <i>c. etc.</i> 20. Percentage of facilities within a condition rating below fair by asset class (example below) <i>a. Administrative and maintenance facilities</i> <i>b. Passenger facilities</i> 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 October MPO: annually in April	Operators set their 2020 targets in October 2019. MTC must set regional targets by April 2020. Three rounds of target-setting complete.
System Performance	Performance of the Interstate System	23. Percentage of person-miles traveled on the IHS that are reliable	Every 4 years	State: May 2022 MPO: November 2022	MTC supported State targets in 2018. One round of target-setting complete.
NHPP	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 2022 MPO: November 2022	

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: May 2022 MPO: November 2022	MTC supported State targets in 2018. One round of target-setting complete.
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 4 years	State: May 2022 MPO: November 2022 <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 2022.</i>	State & MTC agreed upon targets in May 2018 for PHED and non-SOV travel. One round of target-setting complete.
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 2022 MPO: November 2022	MTC set regional targets for on-road mobile emissions based on EMFAC regional emissions forecasts in 2018. One round of target-setting complete.
Reduced Project Delivery Delays	none	none <i>(neither MAP-21 nor FAST included performance measures for this goal)</i>	n/a	n/a	n/a

April 2021 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 18 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 1st of each year. 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 2021 target-setting deadline of April 1st for State of Good Repair for Transit Assets.

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 last couple of years due to new TAM Plan requirements. 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, most of the facilities' targets reflect the actual condition of the assets.

Review of 2020 Performance

The Bay Area met its performance targets for state of good repair for non-revenue vehicles, guideway, and facilities, though it fell short of its target for revenue vehicles. As current federal regulations stand, there is no penalty for not meeting the 2020 targets.

The share of revenue vehicles not in a state of good repair has decreased over the past four years, though progress stalled between 2019 and 2020 with the share remaining roughly flat and exceeding the target for 2020. The share of non-revenue vehicles past their useful life declined in 2020 as well, improving from 56 percent to 47 percent, outpacing the region-wide target of 52 percent for 2020. The 2021 targets for non-revenue vehicle asset condition represent a continuation of this trend.

Facilities remained in a similar condition between 2019 and 2020, with around 6 percent of facilities scoring below 3 on the TERM facility condition rating scale. This was in line with the target for 2020.

Finally, the region met its guideway target in 2020. The percentage of route directional miles with speed or operational restrictions remained at 1 percent between 2019 and 2020, below the target share of 1.3 percent. Analysis of funding availability and asset maintenance needs suggests performance may worsen slightly between 2020 and 2021, with a 2021 target of 1.5 percent reflecting that realistic expectation for performance.

While funding sources for transit operations were severely impacted in 2020 due to COVID-19 and the ensuing economic fallout, capital funding sources remained stable over the past year. With funding for capital maintenance and asset replacement remaining mostly intact, performance for State of Good Repair for Transit Assets did not experience significant adverse impacts in 2020. Over the next few years, MTC will continue to monitor transit capital funding and asset condition, but for the time being, the situation is stable.

Steady capital funding meant that maintenance work and replacement of aging assets was able to continue on-pace in 2020. In fact, some maintenance work was carried out more quickly than expected due to longer periods of suspended service. For example, with train service suspended after 9 PM, BART maintenance crews were able to expedite the replacement of aging electrical cables in downtown San Francisco.

Furthermore, transit assets likely did not degrade as much as they would have during a typical year in 2020, as transit agencies throughout the region decreased the number of service hours provided in response to COVID-19 and related Shelter-in-Place guidelines. This may have resulted in slight improvements in performance for condition of facilities and guideway due to higher than average use for these asset types, though revenue and non-revenue vehicle performance would not be impacted given that performance for these two asset types is measured as a function of asset age.

Summary of Proposed Targets

As presented in detail in **Attachment C**, MTC set the following targets for State of Good Repair for Transit Assets for 2021. As a whole, revenue vehicles are expected to see an improvement in state of good repair as vehicle and rolling stock replacements occur at the operator level over the coming year, with the share of revenue vehicles outside of a state of good repair expected to trend downward to roughly one in five assets. Non-revenue vehicles are also expected to see an improvement over the next year. The region's facilities and guideway were mostly in a state of good repair as of 2020, with just over 6 percent of facilities and 1 percent of guideway miles not in a state of good repair. These two asset types are expected to see increases in share of assets outside of a state of good repair between 2020 and 2021, as assets age at a faster rate than available maintenance and replacement funds are able to address.

Percent of Assets Not in a State of Good Repair

Asset Category	2020 Target	2020 Performance	2021 Target
Revenue Vehicles	24%	27% (target not met)	21%
Facilities	6%	6% (target met)	10%
Infrastructure	1.3%	1.0% (target met)	1.5%
Non-Revenue Vehicles	52%	47% (target met)	44%

Data source: Regional Transit Capital Inventory (RTCI) & operators' targets

2021 Targets for State of Good Repair for Transit Assets

General Information

Goal	Infrastructure Condition
Performance Measure(s)	<ul style="list-style-type: none">• Percentage of revenue vehicles that have met or exceeded their useful life benchmark (ULB) by asset class• Percentage of facilities with a condition rating below fair by asset class• Percentage of guideway directional route-miles with performance restrictions• Percentage of non-revenue vehicles that have met or exceeded their ULB
Target(s) for Year	2021
Target(s) Deadline for MTC Approval	April 1, 2021

Current Conditions and Targets

Measure	Subcategory	Current (2020)	Target (2021)	Total # (2020)	Measure ID
Percentage of revenue vehicles that have met or exceeded their useful life benchmark (ULB)	Articulated bus	12%	3%	437	US-19a
	Automated guideway vehicle	0%	0%	4	US-19b
	Automobile	18%	16%	84	US-19c
	Bus	15%	12%	2,347	US-19d
	Cable car	70%	70%	40	US-19e
	Commuter rail – locomotive	56%	56%	36	US-19f
	Commuter rail – passenger coach	41%	41%	177	US-19g
	Commuter rail – self-propelled passenger car	0%	0%	18	US-19h
	Cutaway bus	27%	21%	245	US-19i
	Double decker bus	0%	0%	3	US-19j
	Ferryboat	21%	19%	23	US-19k
	Heavy rail	75%	59%	870	US-19l
	Light rail	10%	0%	331	US-19m
	Minivan	28%	28%	139	US-19n
	Over-the-road bus	33%	34%	163	US-19o
	Trolley bus	0%	0%	306	US-19p
	Van	13%	10%	338	US-19q
	Vintage trolley	100%	100%	42	US-19r
Percentage of facilities with a condition rating below fair	Administrative and maintenance facilities	7%	11%	N/A	US-20a
	Passenger facilities	2%	8%	N/A	US-20b
Percentage of guideway directional route-miles with performance restrictions	n/a	1.0%	1.5%	N/A	US-21
Percentage of non-revenue vehicles that have met or exceeded their ULB	n/a	47%	44%	2,032	US-22

Data source: Regional Transit Capital Inventory (RTCI) & operators' targets