

MEMORANDUM

TAB 18

To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: October 9, 2019

From: STEVEN KECK, Chief Financial Officer

Reference Number: 4.21, Action Item - **REPLACEMENT ITEM**

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Subject: **ADOPTION OF ANNUAL BENCHMARKS FOR FIX 500 ADDITIONAL BRIDGES FOR REPORTING PERFORMANCE REQUIREMENTS UNDER SENATE BILL 1**

ISSUE:

Should the California Transportation Commission (Commission) adopt the California Department of Transportation's (Department) criteria to be used to report Senate Bill 1 (SB 1) performance requirements for a "fixed bridge"?

RECOMMENDATION:

The Department recommends that the Commission adopt its criteria to be used to report SB1 performance requirements for a "fixed bridge".

BACKGROUND:

SB 1, the Road Repair and Accountability Act of 2017, includes a specific performance requirement to "Fix no less than an additional 500 bridges" over a 10-year period ending in 2027. The Department has previously developed criteria to be able to report on this metric which has been utilized since 2017

Fix Bridge Criteria

SB 1 language included the requirement that the Department "Fix no less than an additional 500 bridges" by 2027. To measure the progress toward the accomplishment of this measure, the Department developed a definition of "fix bridge" and established a baseline accomplishment level, prior to the passage of SB 1, in order to measure "additional fixes".

The definition of bridge fixes includes five criteria as defined below. These criteria can be met singularly or in combination.

1. Any project that improves the condition of the bridge from a lesser condition to a better condition (Example Poor to Good, Poor to Fair.)
2. Any project that provides seismic safety.
3. Any project that addresses scour vulnerability.
4. Any project that replaces a bridge rail that does not meet current federal safety standards.
5. Any bridge whose vertical clearance is increased to current Highway Design standards or whose load capacity is increased for permit vehicles shall be counted as a fixed bridge.

The Pre-SB 1 accomplishment levels were evaluated to determine the level to begin measuring the “additional” bridges. The five years preceding the passage of SB 1 were evaluated and it was found that an average of 126 bridges per year were being fixed. For the purposes of SB 1 reporting, bridge fixes above 126 yearly will count toward the SB 1 requirement of “additional 500 bridges”.

The following information is an excerpt from the 2018/19 Performance Benchmark Report related to the Fix Bridge performance metric:

Fix an Additional 500 Bridges

Overview

SB1 includes a performance requirement to fix not less than an additional 500 bridges over a 10-year period ending in 2027. Projects that improve the condition of the bridge from a lesser condition to a better condition, mitigate seismic or scour vulnerabilities, address operational limitations, or replace bridge rail not meeting current federal crash test standards are counted towards this goal. Prior to the passage of SB1, Caltrans was fixing an average of 126 bridges per year. For the purpose of counting towards the additional 500 bridges which should be fixed, Caltrans is reporting bridges fixed in excess of the baseline of 126 bridges. To satisfy the provisions of SB1, Caltrans need to fix at least 1760 bridges between 2018 and 2027.

Current and Projected Number of Bridges Fixed

The number of bridges fixed in the current and last fiscal years is determined from an analysis of bridge project records and an estimate of when the work was effectively complete, referred to as the Expected Construction Work Complete (ECWC) date.

Table 1 presents the number of bridges fixed in FY 2017/18 and 2018/19. **Table 2** presents the breakdown of the counts of bridges in each fiscal year by the primary type of fix.

Expected Construction Work Complete (ECWC)

The point in time when performance credit is taken is defined by the Expected Construction Work Complete (ECWC) date. This is the date when construction work is effectively complete, the project limits are open to traffic, and benefits are realized by the travelling public. The ECWC is estimated to be 2/3rds the time between the contract award date and the Construction Contract Acceptance (CCA) date.

Table 1 – Fix an Additional 500 Bridges

Fix Bridges	FY 2017/18	FY 2018/19
Baseline	126	126
Additional	107*	152
Total	233	278

*Adjusted from previous reporting to reflect ECWC dates

Table 2 – Count of Bridges by Type of Fix

Fix Bridges	FY 2017/18	FY 2018/19
Health	205	237
Scour	7	13
Seismic	10	10
Goods Movement	1	-
Rail	10	18
Total	233	278

A 10-year projection of bridges fixed is presented in Figure 1. The chart shows the total number of bridges anticipated to be fixed each year over the 10-year period through FY 2026/27. Bridges fixed through the SHOPP are based on projects defined in the SHOPP Ten Year Project Book. For bridges fixed through the Highway Maintenance (HM) Program, the first two years are based on projects in a currently approved HM workplan. For HM projects in the remaining 8 years, the minimum of the first two years is used to estimate the number of bridges fixed in subsequent years.

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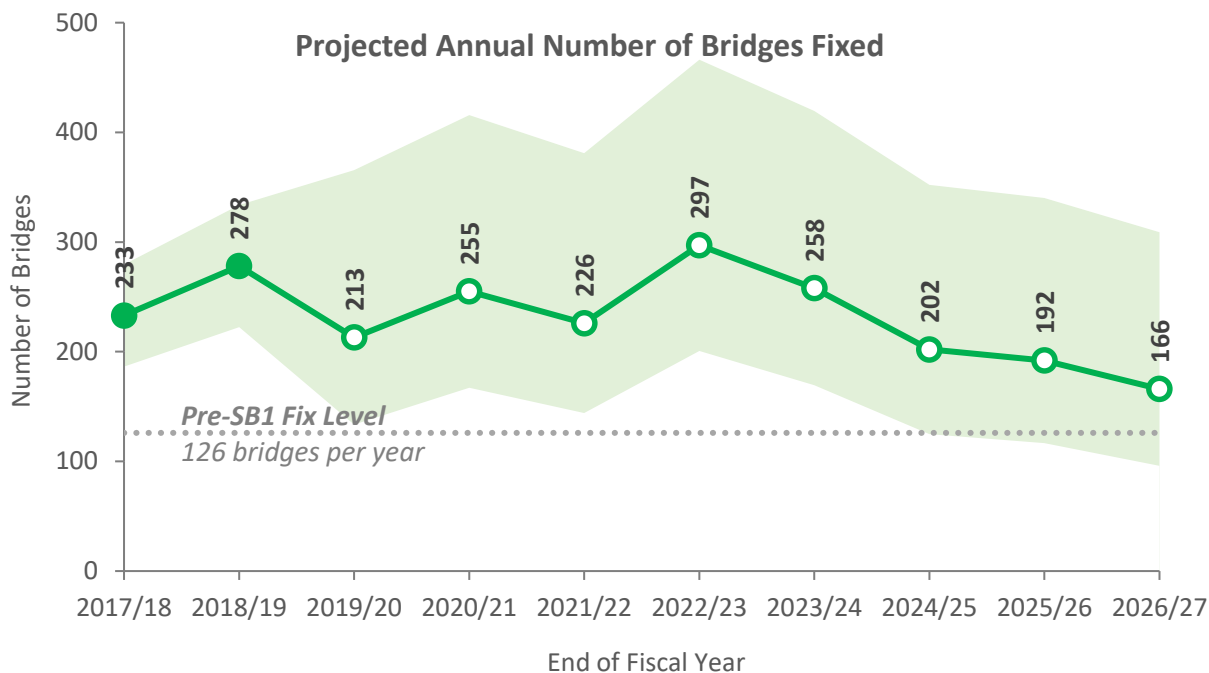


Figure 1 – Projected Number of Bridges Fixed Each Year

The assessed conditions for fiscal years 2017/18 and 2018/19 are presented in the chart with a solid fill symbol.

The shaded area in the chart represents an upper and lower boundary, quantifying two primary uncertainties from assumptions used in the analysis. First, delays in delivery of bridge projects are common but difficult to predict and could account for a shift of up to 20% of the projected fixed bridges in any given year. Second, programming levels for Highway Maintenance (HM) work and fluctuations in annual HM funding can be a significant source of additional uncertainty.

Caltrans is expected to fix an additional 500 bridges beyond the established baseline of 1260 bridges over the 10-year period (126 bridges/year on average), for a total of 1760 bridges. Figure 2 presents the cumulative total number of bridges fixed, including the uncertainty band to account for project delays and HM programming. Based on the projection and modeling assumptions, it is possible that the SB1 target could be achieved earlier than 2027.

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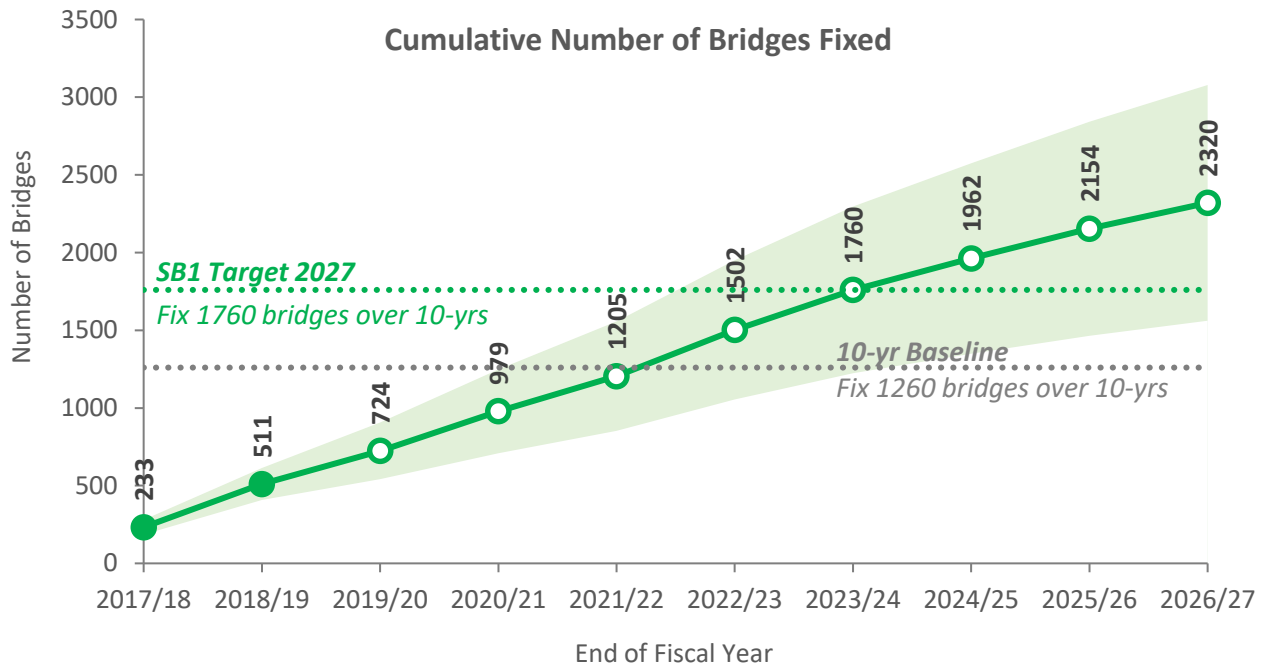


Figure 2 – Projected Cumulative Total Number of Bridges Fixed Above the Baseline

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