

MEMORANDUM

To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: March 24-25, 2021

From: STEVEN KECK, Chief Financial Officer

Reference Number: 4.30, Action Item

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State Asset Management Engineer

Subject: **RECOMMENDED ASSET MANAGEMENT TARGET CHANGES**

ISSUE:

Should the California Transportation Commission (Commission) approve the California Department of Transportation's (Department) recommended asset management target changes for bridges and drainage systems (culverts)?

RECOMMENDATION:

The Department recommends that the Commission approve its recommended asset management target changes for bridges and drainage systems (culverts).

SUMMARY:

The Commission adopted condition targets recommended by the Department in 2016. The recommended targets included both FAIR condition and POOR condition targets for bridges and drainage system (culverts) and were based on information that was available to the department at the time. The Department has matured in its asset management practice since these targets were set and is recommending that two of the targets be revised to better meet our asset management needs. The targets being proposed for revision do not impact the Senate Bill 1 performance metrics, or the Departments' commitment to achieve the Senate Bill 1 goals by 2027.

The following are the proposed target changes:

Table 1 – Recommended Asset Management Targets for Bridges

| | Good Condition | Fair Condition | Poor Condition |
|-----------------------------|----------------|----------------|----------------|
| Existing Targets | 83.5% | 15% | 1.5% |
| Recommended Revised Targets | 48.5% | 50% | 1.5% |

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Table 2 – Recommended Asset Management Targets for Drainage Systems

| | Good Condition | Fair Condition | Poor Condition |
|-----------------------------|----------------|----------------|----------------|
| Existing Targets | 80% | 10% | 10% |
| Recommended Revised Targets | 70% | 20% | 10% |

BACKGROUND:

Bridge Target Background

The current adopted FAIR condition bridge target is 15 percent of the State-owned bridge deck area. The Department is recommending the Commission adopt a revised target of 50 percent of the State-owned bridge deck area. There is no proposed change to the POOR condition bridge target (Currently 1.5 percent).

Chart 1 shows a multiyear history of the bridge condition. At the time the FAIR condition bridge target was established, the Department was measuring a 21 percent FAIR condition and a downward trending line that made the recommended target of 15 percent appear appropriate.

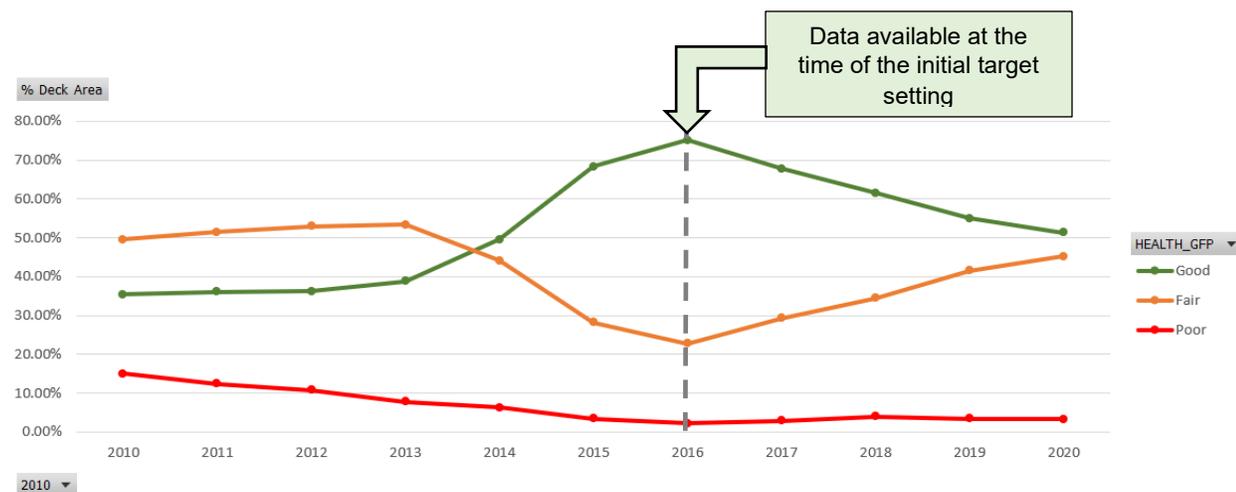


Chart 1- Bridge Deck Area GOOD, FAIR and POOR Percentages Over Time

Measured conditions in subsequent years began a trend upward corresponding to new Federal Highway Administration (FHWA) bridge inspection program compliance metrics and other changes made in the technical details of how these conditions are determined. The Department continues to see the FAIR condition trending upward, but flattening, from the current measured levels of 46 percent. Bridges spend the majority of their life in FAIR condition and having inventory in this condition is safe, appropriate and cost effective.

The national bridge condition metrics look at the condition of three components of the bridge (deck, superstructure and substructure) with the overall condition reported as the lowest of the

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three individual condition ratings. In California, we are addressing many bridge needs; however, we have found that in some cases when we address components that our engineers identified as being in need of repair, other components may limit the overall condition improvement realized. Some non-structural issues often result in a bridge being classified as FAIR in accordance with FHWA inspection guidelines but would not justify a recommendation for repair. Undertaking actions to improve FAIR condition bridges, in these cases, is not recommended nor a cost-effective use of taxpayer money. For these reasons we are recommending that the Commission adopted the revised FAIR condition target for bridges as shown in Table 1.

Table 1 – Recommended Asset Management Targets for Bridges

| | Good Condition | Fair Condition | Poor Condition |
|-----------------------------|----------------|----------------|----------------|
| Existing Targets | 83.5% | 15% | 1.5% |
| Recommended Revised Targets | 48.5% | 50% | 1.5% |

Drainage Target Background

The Department has been building an inventory and performing condition assessments of drainage system components since 2006. During this time period, the drainage inventory has continued to grow as shown in Chart 2 below.

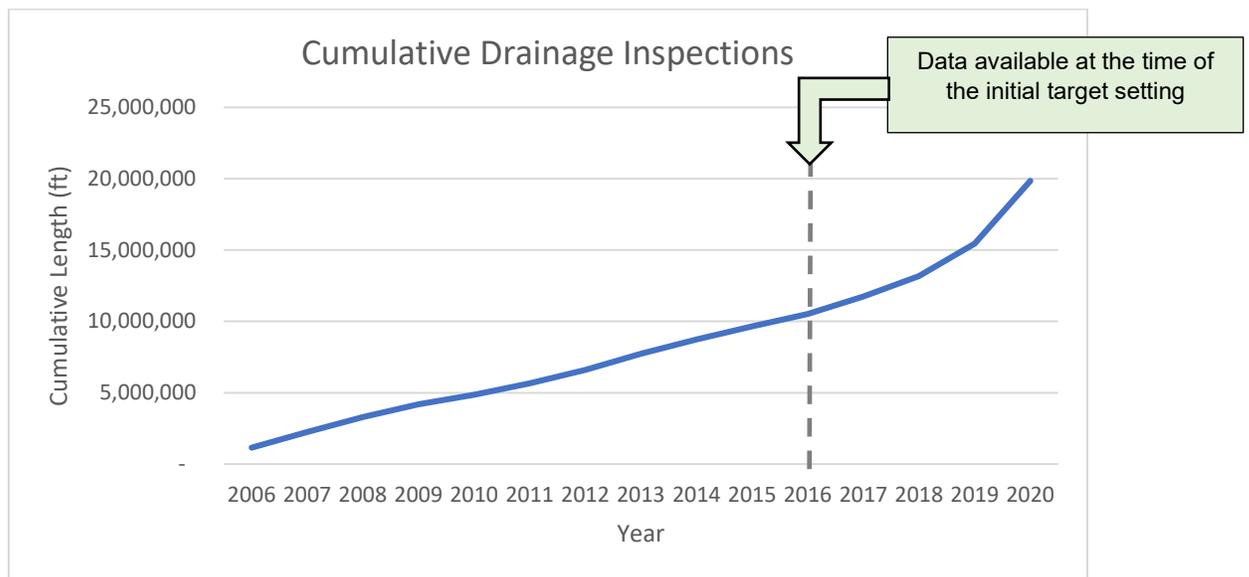


Chart 2 – Cumulative Drainage Length Inspected

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The Department initially recommended, and the Commission adopted, condition targets based on the partial drainage inventory that was available in 2016. At the time the targets were established, approximately 50 percent of the total inventory had been identified and assessed. As the Department works to complete the initial inventory and condition assessments by 2023, it has become clear that a revised FAIR target is warranted.

Approximately 20 million linear feet of drainage systems have been identified in California with 16.8 percent of them currently in FAIR condition. The Department is expecting to see the FAIR condition percentage increase, as systems first assessed in the early years of the program are reassessed, and deterioration that has been realized since the initial inspection is captured. Considering the expected deterioration and project accomplishments that will improve conditions, the Departments expects the FAIR condition to grow to approximately 20 percent over time.

When the FAIR target was initially established, there was an expectation that viable preservation treatments could be applied to FAIR condition assets to extend their service life. The degree that these treatments can be applied is more limited than originally anticipated. This is in part attributed to the need to address larger water volumes in preparation for more extreme rainfall associated with climate change. For these reasons the Department has focused our investments more on addressing Poor condition culverts and recommend that the FAIR targets be adjusted as shown in Table 2

Table 2 – Recommended Asset Management Targets for Drainage Systems

| | Good Condition | Fair Condition | Poor Condition |
|-----------------------------|----------------|----------------|----------------|
| Existing Targets | 80% | 10% | 10% |
| Recommended Revised Targets | 70% | 20% | 10% |