

# Memorandum

# TAB 26

To: CHAIR AND COMMISSIONERS  
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: March 26, 2015

Reference No.: 4.19 – **REPLACEMENT ITEM**  
Action Item

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Subject: **TRANSPORTATION ASSET MANAGEMENT PLAN AND PERFORMANCE MEASURES**

## **RECOMMENDATION:**

The California Department of Transportation (Department) recommends that the California Transportation Commission (Commission) approve the following four asset classes for the Transportation Asset Management Plan (TAMP): (1) Pavements; (2) Bridges; (3) Culverts; and (4) Intelligent Transportation System (ITS) elements. In addition, the Department recommends the Commission approve the performance measures for each of these assets.

## **ISSUE:**

On September 30, 2014, the Governor signed Legislation (Senate Bill [SB] 486, Chapter 917) requiring the Department, in consultation with the Commission, to prepare a robust asset management plan to guide the development of the State Highway Operation and Protection Program (SHOPP) and requires the Commission to adopt related targets and performance measures that reflect state policy goals and objectives. The statute allows for the Department to prepare the asset management plan in phases.

The Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) established federal regulation governing asset management requirements for all National Highway System (NHS) roads and bridges.

Specific asset classes under MAP-21 include Pavement and Bridges, however, SB 486 does not direct asset classes nor does it define performances measures.

## **BACKGROUND:**

Asset management is a strategic and systematic process of operating, maintaining, and improving physical assets. Its focus is on engineering and economic analysis, based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired and sustainable state of good repair over the lifecycle of the assets at minimum practicable cost.

As prescribed by SB 486, the Department is required to develop an asset management plan for the State Highway System with local projects coordinated, but not included, into the plan. The TAMP is required to be fully implemented by July 1, 2020, with Phase 1 beginning in July 2016. The Department is proposing that Phase 1 of the TAMP include the following items:

<b>TAMP Milestone</b>	<b>Target Date</b>
<b>Identification of the assets to be included in the TAMP</b>	March 2015
<b>Recommended performance measures</b>	March 2015
<b>Establishment of baseline conditions</b>	October 2015
<b>Performance target setting</b>	October 2015

The first step in the development of the asset management plan is the definition of asset classes to be included in the plan and the associated performance measures for the defined assets. Once the asset classes and performance measures have been approved, the condition baselines and performance targets can be established. Consistent with federal requirements, and after careful consideration of the new mission for transportation, the Department recommends the inclusion of four asset classes and associated performance measures into the asset management plan, as described below.

<b>Asset Class</b>	<b>Measurement Units</b>	<b>Performance Measure</b>
<b>Pavements</b>	Pavement Area	Good, Fair, Poor
<b>Bridges</b>	Deck Area	Good, Fair, Poor
<b>Culverts</b>	Culvert Length	Good, Fair, Poor
<b>ITS Elements</b>	% Operational	Operational or Not

The four noted asset classes account for approximately 70 percent of the total SHOPP fiscally constrained budget and represent key physical elements of the transportation system. A breakdown of the assets recommended for inclusion in the plan are as follows:

<b>Asset Class</b>	<b>Percentage of 2015 SHOPP Ten Year Needs</b>
<b>Pavement</b>	29%
<b>Bridges</b>	27%
<b>Culverts</b>	7%
<b>ITS Elements</b>	7%
<b>Sub Total</b>	70%

The four recommend asset classes were selected for the following reasons:

- They collectively represent 70% of the 2015 SHOPP Ten Year Needs
- They lend themselves well to asset management (defined inventory, measureable condition, predictable deterioration rates and project size that justifies their inclusion)
- Directly support the departments stewardship, sustainability and system performance goals

A summary listing of additional highway system assets not recommended for inclusion in the Transportation Asset Management Plan are listed in Appendix 1.

The Department also recommends that the Commission adopt the recommended performance measures for the four recommended asset classes. Condition assessments of “Good”, “Fair” or “Poor” are based on federal criteria established for MAP-21 for the Pavement and Bridge assets. For Pavements, the condition classification is based on the pavement roughness, cracking and rutting. For Bridges, the condition classification is based on the lesser of the bridge deck, superstructure or substructure ratings as defined for the National Bridge Inventory (NBI). Culvert conditions are based on an aggregate inspection score of the condition of various attributes of the culvert. Intelligent Transportation System (ITS) elements are classified as operational or not based on field testing or observation.

The Department recommends that the MAP-21 performance measures and units for Pavements and Bridges be adopted to ensure consistency and compliance with federal law. The Department further recommends that the Culvert performance measure mirror the measures for Bridges and Pavements. ITS elements are recommended to be measured based on the percentage of the inventory that is operational to serve the traveling public.

#### **Project Prioritization Pilot**

The Transportation Asset Management Plan will use a prioritization approach to evaluate benefits across all assets. This approach will prioritize projects in alignment with the Department’s new mission, vision, goals and objectives.

Upon approval of the asset classes and performance measures, the Department plans to run a pilot test process, parallel with traditional project selection methods, for the 2016 SHOPP development. The lessons learned during the pilot test, will be incorporated into the project selection methods for full implementation of the 2020 SHOPP.

Attachment

This listing provides a summary of highway assets recommended for inclusion or exclusion from the Transportation Asset Management Plan.

Included Asset Classes
Highway Pavement
Rigid Pavement
Flexible Pavement
Highway Structures
Bridges
Tunnels
Highway Drainage
Culverts
Highway Operations
Highway Loop Detectors
Ramp Meters
Changeable Message Signs

Excluded Asset Classes
Overhead Signs
Pump Houses
CCTV Cameras
Weigh In Motion Scales
Highway Barriers
Bridge Barriers
Roadside Rest Facilities
Park and Ride Facilities
Highway Lighting
Highway Signs
Sidewalks
Traffic Management Centers
Equipment Shops
Labs
Maintenance Stations