



CALIFORNIA TRANSPORTATION COMMISSION

Transportation Asset Management Plan Guidelines

(Revised June 29, 2017)

CALIFORNIA TRANSPORTATION COMMISSION
TRANSPORTATION ASSET MANAGEMENT PLAN GUIDELINES

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TRANSPORTATION ASSET MANAGEMENT PLAN GUIDELINES

A. TRANSPORTATION ASSET MANAGEMENT PLAN

Senate Bill 486 (DeSaulnier, 2014) requires that the California Department of Transportation (Caltrans), in consultation with the California Transportation Commission (Commission), prepare a “robust” transportation Asset Management Plan (TAMP) to inform and guide the project selection process for the State Highway Operation and Protection Program (SHOPP). Specifically, the legislative intent in support of an asset management plan is that it serves as a policy document to inform future transportation investment decision making.

Subject to Government Code Section 14526.5, the Commission adopts the SHOPP and may decline to adopt the SHOPP if the Commission determines that the SHOPP is not sufficiently consistent with the TAMP. Government Code Section 14526.4 also establishes the requirements for the development of the TAMP and the Commission’s roles and responsibilities. Section 14526.4 sets forth the following:

Caltrans responsibilities include:

- Preparing, in consultation with the Commission, a robust TAMP to guide selection of SHOPP projects required by Section 14526.5.
- Ensuring the TAMP is consistent with any applicable state and federal requirements.
- If necessary, preparing the TAMP in phases, with the first phase to be implemented with the 2016 SHOPP, and the complete TAMP to be prepared no later than the 2020 SHOPP.

Commission responsibilities include:

- Adopting targets and performance measures reflecting state transportation goals and objectives.
- Reviewing and approving the TAMP.

The Commission adopted the TAMP Guidelines on June 28, 2017 at its June Commission meeting.

B. STATE GOALS AND OBJECTIVES & ADOPTION OF PERFORMANCE MEASURES AND TARGETS

Government Code Section 14526.4(c)(1) requires that the Commission, in connection with the TAMP, “adopt targets and performance measures reflecting state transportation goals and objectives.” The Commission’s adoption of targets and performance measures reflects state transportation goals and objectives as identified in substantive part in State Legislation, Governor Executive Orders, and the California Transportation Plan. The Commission’s adoption of targets and performance measures is also informed by Federal laws and regulations. Therefore, the Commission expects that Caltrans will submit target and performance measure recommendations for Commission approval that align with these authoritative laws and policies and provide for the following:

Preserve the Existing Transportation Infrastructure

- Ensure existing assets are adequately maintained

Improve the Safety of the Transportation System

- Support projects that minimize fatalities, injuries and reduce property damage

- Provide for emergency preparedness and response

Support State Environmental Goals

- Conserve natural, agricultural and cultural resources
- Reduce greenhouse gas emissions and other pollutants

Support a Vibrant Economy

- Enhance freight mobility, reliability, and global competitiveness

Foster Livable and Healthy Communities

- Support projects that address public health considerations
- Support multimodal and/or active transportation elements

In addition to establishing an TAMP in compliance with the state's transportation goals and objectives, the Road Repair and Accountability Act of 2017, Senate Bill (SB) 1, provides the first significant, stable, and on-going increase in state transportation funding in more than two decades. In providing this funding, the Legislature has increased the Commission's role in a number of existing programs, and created new programs for the Commission to oversee. Specific to the implementation of the TAMP, the legislative intent of SB 1 includes but is not limited to the following:

- Improving the condition of the state's road system will have a positive impact on the economy as it lowers the transportation costs of doing business, reduces congestion impacts for employees, and protects property values in the state.
- Well-maintained roads benefit all users, not just drivers, roads are used for all modes of transport, whether motor vehicles, transit, bicycles, or pedestrians.
- Well-maintained roads additionally provide significant health benefits and prevent injuries and death due to crashes caused by poorly maintained infrastructure.
- Relative to this account, SB 1 states that "it is the intent of the Legislature that the Department of Transportation and local governments are held accountable for the efficient investment of public funds to maintain the public highways, streets, and roads, and are accountable to the people through performance goals that are tracked and reported."
- SB 1 further states that it is the intent of the Legislature that Caltrans meet the following preliminary performance outcomes for additional state highway investments by the end of 2027, in accordance with applicable state and federal standards:
 - Not less than 98 percent of pavement on the state highway system in good or fair condition.
 - Not less than 90 percent level of service achieved for maintenance of potholes, spalls, and cracks.
 - Not less than 90 percent of culverts in good or fair condition.
 - Not less than 90 percent of the transportation management system units in good condition.
 - Fix not less than an additional 500 bridges.

While State Legislation, Governor Executive Orders, the California Transportation Plan, and Federal laws and regulations serve as natural direction for establishment of state goals and priorities. Given limited transportation funding, the Commission expects that Caltrans will recommend targets and performance measures that reflect federal and state goals and objectives, where applicable, through a policy lens that prioritizes high-traffic routes and corridors and identifies opportunities to maximize state funds with matching funds.

C. TRANSPORTATION ASSET MANAGEMENT PLAN COMPONENTS

While Government Code Section 14526.4 defines an asset management plan to mean a “document assessing the health and condition of the state highway system with which the department is able to determine the most effective way to apply the state’s limited resources,” it provides no rubric for the development of such a plan. For this, Caltrans and the Commission have relied on the federal requirements established in both the Moving Ahead for Progress in the 21st Century (MAP-21) and the Fixing America’s Surface Transportation (FAST) Acts, respectively, to formulate what constitutes the TAMP.

According to federal requirements, each State is required to “develop a risk-based Asset Management Plan for the National Highway System to improve or preserve the condition of the assets and the performance of the system” (23 U.S.C. 119(e) (1), MAP-21 § 1106). Under the federal requirements, States are required to address pavements and bridges in their asset management plans but are “encouraged” to include all infrastructure within the transportation system right-of-way. Therefore, to ensure consistency with the Federal Highway Administration (FHWA) specifications, the Commission expects that the Caltrans submitted TAMP shall, at a minimum, include the following components:

- a. A summary listing of the State’s assets;
- b. A description of the condition of the assets identified in section (a);
- c. Objectives and measures for asset management;
- d. Performance gap identification;
- e. Lifecycle cost and risk management analysis*

(* With respect to life cycle cost planning, the Commission and Caltrans will assess the efficacy of the investment strategies outlined in the TAMP from a network perspective, and not a project-based perspective)

- f. A financial plan; and
- g. Investment strategies.

While the federal requirements require the components described above to be applied to the pavements and bridge asset classes on the National Highway System (NHS), SB 486 is clear in its requirement that from the State’s perspective the TAMP contemplate this analysis for all asset classes within the State Highway System (SHS). It is the expectation of the Commission that, pursuant to SB 486, a compliant TAMP will include the narrative or analysis for components a-d above for each asset class approved by the Commission, unless the Commission approves a different level of detail for such asset class based upon the recommendation of Caltrans and approval by the Commission at a Commission meeting. A compliant TAMP will also include a global or cumulative analysis for all Commission approved asset classes that includes components e-g, unless otherwise modified and approved by the Commission.

D. TRANSPORTATION ASSET MANAGEMENT PLAN SAMPLE OUTLINE

The FHWA Office of Asset Management, Pavements and Construction has included a number of sample outlines for State Departments of Transportation to use as they develop their transportation asset management plans. Subject to State and federal requirements, the Commission expects Caltrans to follow the FHWA framework, in pertinent part, in developing the TAMP and presenting it for Commission approval. The FHWA outline for the State Departments of Transportation to utilize in the development of their respective asset management plans is included below:

FHWA Outline for State Departments of Transportation Asset Management Plan Framework		
a.	Summary listing of SHS Assets	Summarize the inventory.
b.	Asset Inventory and Conditions	Summarize the inventory and condition of the SHS assets.
c.	Asset Management Objectives and Measures	<ul style="list-style-type: none"> ▪ Define the objectives of the asset management program. ▪ Define levels of service and measures. ▪ Define short term and long term condition targets.
d.	Performance Gap Assessment	<ul style="list-style-type: none"> ▪ Define asset management planning assessment horizons. ▪ Describe traffic growth and demand on the system. ▪ Present an analysis of future funding versus condition scenarios. ▪ Illustrate the performance gap between existing condition levels and future condition levels.
e.	Lifecycle Cost Considerations and Risk Management Analysis	<ul style="list-style-type: none"> ▪ Define “lifecycle costs” and explain why they are important. ▪ Describe the methodology used to address life cycle costs in the TAMP. ▪ Set the context for risk management. ▪ Define key programmatic risks associated with implementation of the TAMP (e.g., cost escalations, budget cuts and environmental delays.) ▪ Define system risks that could adversely affect the SHS (e.g., asset failure and external events such as floods, earthquakes, and hurricanes.) ▪ Provide a map showing the SHS assets most at risk. ▪ Include a risk register that provides the following for each programmatic risk – likelihood of occurrence, consequences of occurrence, and mitigation activities.
f.	Financial Plan	<ul style="list-style-type: none"> ▪ Summarize historic funding levels for asset management. ▪ Define the amount of funds expected to be available for asset management and describe where funds will come from. ▪ Define how funds will be allocated in the short term. ▪ Define how funds will be allocated in the long term, as part of the asset management long term planning horizon. ▪ Determine current value of the assets and describe the implications of various funding levels in terms of asset valuation and financial sustainability.
g.	Investment Strategies	<ul style="list-style-type: none"> ▪ Describe key work strategies resulting from the above analyses. The strategies should include typical unit costs and typical timing. ▪ Identify priorities for asset management improvement.

E. COMMISSION APPROVED TRANSPORTATION ASSET MANAGEMENT PLAN CLASSIFICATIONS

At the March 2015 Commission meeting, Caltrans recommended the approval of four asset classes that comprise the majority of the SHOPP physical asset expenditures for inclusion in the TAMP. A summary listing of 15 additional assets not recommended for inclusion in the TAMP were listed in Caltrans’ book item for a total of 19 asset classes. The Commission requested that office buildings be added to the list of asset classes. The Commission approved the primary and supplementary asset classes for inclusion in the

TAMP, consisting of 20 asset classes identified below and expects that these asset classes will be included in the final TAMP.

Furthermore, in the event there are any deletions, additions, or refinements to the list of approved asset classes, Caltrans will seek approval by the Commission prior to incorporating any changes to the final list of both primary and supplementary asset classes. The following primary and supplementary asset classes have been approved by the Commission and subject to inclusion in the TAMP:

Compliant Transportation Asset Management Plan Components*	Asset Inventory (a)	Condition Assessment (b)	Performance Measures and Targets (c)	Performance Gap Identification (d)
Primary Asset Classes **				
Bridges	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Culverts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ITS Elements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pavements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Supplementary Asset Classes				
Drainage Pump Plants	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Highway Lighting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Office Buildings	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Overhead Signs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Park and Ride Facilities ***	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Roadside Rest Facilities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sidewalks ***	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Traffic Related Facilities****	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Weigh in Motion Scales	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

* A compliant TAMP will also include a global or cumulative analysis for all Commission approved asset classes that includes lifecycle cost and risk management analysis, where applicable, a financial plan, and Investment strategies.

** For primary asset classes, Caltrans will perform a life cycle/risk management assessments

*** For this asset class, Caltrans will perform accessibility analysis.

**** Traffic Related Facilities include maintenance stations, traffic management centers, equipment shops and transportation laboratories)

F. SCHEDULE FOR SUBMISSION OF THE TRANSPORTATION ASSET MANAGEMENT PLAN PHASES INCLUDING PERFORMANCE MEASURES AND TARGETS

Attachment A (Commission Actions as of March 2017) includes a summary of items submitted to the Commission by Caltrans and actions taken, if any, by the Commission related to the TAMP. The Commission acknowledges that Caltrans must submit a compliant TAMP that addresses certain components outlined in these TAMP Guidelines for the purpose of compliance with state and federal regulation that includes how California will address asset management principles for the NHS and SHS. On or before the October 2017 Commission meeting, Caltrans shall present an updated TAMP to the Commission for review and approval that includes the following components for all Commission approved asset classes as specified in Section C of the TAMP Guidelines. For the purposes of the October 2017 draft TAMP, components e-g identified in Section C may be presented for Commission review and approval if such components are substantially completed by Caltrans. Caltrans' proposed schedule for the submission of the October 2017 draft TAMP is as follows, and may be modified subject to mutual agreement:

- October/2017: October 2017 draft TAMP published by Caltrans for stakeholder comments.
- January/2018: October 2017 draft TAMP submitted to the Commission for formal comments.
- March/2018: Commission adopted of the October 2017 TAMP.
- April/2018: Submission of October 2017 TAMP to FHWA for compliance with federal requirements.

G. REPORTING/ACCOUNTABILITY

The Commission understands that Caltrans is currently working on various components and phases of the TAMP. The Commission expects that as Caltrans completes various components and phases of the TAMP, that Caltrans will submit the TAMP revisions to the Commission for formal approval. At a minimum, and no less frequently than on a quarterly basis, the Commission expects that Caltrans will provide reporting to the Commission on the development of components or phases of the Commission approved TAMP and on the implementation and achievement of the Commission approved and SB 1 mandated targets and performance measures.

The final update to the TAMP after the 2020 roll-out will be submitted to the Commission no later than January 31, 2021. It is the expectation of the Commission that the final TAMP that is approved by the Commission is updated on odd years similar to the submission of the Ten Year SHOPP Plan. Thereafter, at a minimum, and no less frequently than on a quarterly basis, the Commission expects that Caltrans will provide reporting to the Commission on the achievement of the Commission approved and SB 1 mandated targets and performance measures.

COMMISSION ACTIONS AS OF MARCH 2017

As of March 31, 2017, the following actions have been taken by the Commission with respect to the Asset Management Plan:

January 2015

Caltrans Submission: Caltrans informed the Commission of the Federal asset management plan rule-making process and indicated that the first phase of the Asset Management Plan is likely to include four asset classes: Pavement, Bridges, Culverts, and Intelligent Transportation System (ITS) Elements. Caltrans indicated a more detailed Asset Management Plan would be presented at the March 2015 Commission meeting. Commission staff requested a listing of all asset classes and an Asset Management Plan implementation timeline.

Commission Action: This item was noticed and presented as an information item only and, therefore no actions were taken by the Commission.

March 2015

Caltrans Submission: Caltrans presented the following Phase I Asset Management Plan milestones:

March 2015. Identification of the asset classes recommended for inclusion in the Phase I Asset Management Plan (Pavement, Highway Structures (bridges & tunnels), Culverts, and Highway Operations (ITS Elements)).

March 2015. Recommendation of performance measures (Good, Fair, Poor) for the Pavement, Bridges and Culvert asset classes and (Operational or Not) for the ITS Elements asset class.

October 2015. Establishment of the baseline conditions and performance targets for the four Phase I asset classes.

At the meeting, Caltrans recommended four state highway system asset classes for inclusion in the TAMP: Pavement, Bridges, Culverts, ITS Elements. Caltrans also presented fifteen supplementary asset classes which would be “excluded” from the TAMP.

Commission Action: The Commission approved the following four asset classes for inclusion in Phase I of the Asset Management Plan: Pavement, Bridges, Culverts, and ITS Elements. The Commission also approved Good, Fair, and Poor performance measures for the Pavement, Bridges, and Culverts asset classes and Operational or Not Operational performance measures for the ITS Elements asset class. After much discussion, the Commission approved the supplementary classes and added office buildings to the list as well. The Commission approved 20 asset classes (primary and supplementary) in total which included Pavement, Bridges, Culverts, ITS Elements, Overhead Signs, Pump Houses, Closed Circuit Television (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, and Maintenance Stations, and office buildings.

October 2015

Caltrans Submission: Caltrans requested that the Commission approve the use of existing performance measures and targets for the Pavement and Bridges asset classes until such time as the Federal asset management rule-making process is finalized, in place of the Good, Fair, Poor performance measures adopted by the Commission at the March 2015 meeting. Caltrans requested to use the amount of distressed pavement for the Pavement asset class and the number of distressed bridges for the Bridges asset class. For the four Phase I asset classes, Caltrans presented the baseline conditions and requested that the unconstrained targets be set as follows: Pavement baseline condition 84% good and unconstrained target 90% good, Bridges baseline condition 93% good and unconstrained target 90% good, Culverts baseline condition 86% good and unconstrained target 90% good, ITS Elements baseline condition 68% good and unconstrained target 90% good. Caltrans further requested that the Commission approve the development of performance targets based on a fiscally constrained budget over a four year time horizon.

Commission Action: The Commission approved the use of the existing performance measures and targets for the Pavement and Bridges asset classes only until such time as the Federal asset management rule-making process is finalized. The Commission approved the following unconstrained targets: Pavement 90% good, Bridges 96% good, Culverts 90% good, and ITS Elements 90% good.

March 2016

Caltrans Submission: To meet the SB 486 requirements for a Phase 1 of the TAMP required to accompany the 2016 SHOPP, Caltrans presented a 2016 Asset Management Performance Report ahead of the Commission adoption of the 2016 SHOPP. Caltrans stated the “report is provided to meet the Phase I requirement of the TAMP” and to address “the expected performance of the four core asset classes; pavement, bridges, culverts and ITS elements resulting from the 2016 SHOPP project portfolio as well as how each of the core assets are represented as they relate to the adoption of the proposed 2016 SHOPP.”

Commission Action: The Commission requested that Caltrans return at the May 2016 Commission meeting to request an extension from the Commission for the approval of the TAMP performance measures and targets if the Federal rule-making process was not finalized by then. This item was noticed as information item only and no action was taken by the Commission.

May 2016

Caltrans Submission: Caltrans requested an extension through August 2016 for Commission approval of Asset Management Plan performance measures and targets because the specific technical criteria proposed by the Federal government to determine Good, Fair and Poor performance measures for the Pavement and Bridges asset classes was still in the Federal rule-making process.

Commission Action: The Commission approved the extension request with the stipulation that Caltrans was to return in August 2016 with recommendations for Asset Management Plan performance measures and targets either derived under Federal rules or Caltrans technical expertise.

August 2016

Caltrans Submission: At the May 2016 Commission meeting, Caltrans committed to provide recommended performance targets for the four approved Asset Management Plan asset classes in time for the August meeting. Unfortunately, the technical details for the Pavement and Bridge asset classes’ performance measures were still pending final Federal rules. Caltrans developed the requested performance targets based on the draft Federal rules. However, Commission staff requested that Caltrans

include the fiscal impacts of the proposed performance targets and to further explain the basis for the targets. In lieu of a book item, Caltrans submitted a letter requesting postponement of the performance target discussion until the October 2016 meeting to allow time to produce the fiscal impacts of the proposed targets.

Commission Action: Although, this item was noticed on the agenda as an action item, the Commission took no action after reviewing the Caltrans letter requesting a postponement of the performance target discussion.

October 2016

Caltrans Submission: Caltrans presented *fiscally unconstrained* performance targets for the four Phase I Asset Management Plan asset classes: Pavement, Bridges, Culverts and ITS Elements. In addition, Caltrans subdivided the Pavement asset class into three subclasses: Class 1 Pavement (interstate freeways and other principal arterial and urban freeways/expressways), Class 2 Pavement (rural freeways/expressways and minor arterials), and Class 3 Pavement (major and minor collector routes). Caltrans also presented the technical criteria used to determine the Good, Fair and Poor performance measures.

Commission Action: The Commission approved the proposed fiscally unconstrained targets.

January 2017

Caltrans Submission: Caltrans presented an overview of its 2017 State Highway System Management Plan (SHSMP). The SHSMP is a new Caltrans integrated plan that combines the Ten-Year SHOPP Plan and the Five-Year Maintenance Plan and implements a number of key asset management requirements.

Commission Action: This item was noticed as information item only, the actual 2017 SHSMP document was not provided to the Commission for its consideration and no action was taken by the Commission.

March 2017

Caltrans Submission: Caltrans formally submitted the SHSMP dated March 8, 2017 to the Commission at the March 2017 Commission meeting.

Commission Action: The Commission postponed action on the proposed SHSMP because the Commission was not provided adequate time to respond with its comments. Commission directed staff to provide comments to the SHOPP plan portion of the SHSMP at the May 2017 Commission meeting.