# Asset Management

Caltrans D7/ ACEC
Professional Liaison Committee Meeting
Roger C. Yoh
District 7 Asset Manager
September 16th, 2019

*District 7 (Los Angeles and Ventura Counties)*

# Transportation Asset Management



California Transportation Asset Management Plan
Fiscal Years 2017/18-2026/27

January 2018

Transportation Asset Management (TAM) is a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively throughout their life cycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision making based on quality information and well-defined objectives.

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# Statutory Requirements

- **MAP-21 and FAST Acts –** each state is required to develop a risk-based asset management plan to address its pavement and bridges for the National Highway System

- **SB 486 –** implement a robust asset management plan by 2020

- **SB 1** - defines the performance measures

- **AB 515 –** State Highway System Management Plan, quantifiable accomplishments, goals, objectives, costs, and performance measures consistent with the asset management plan
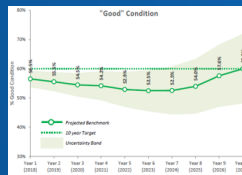
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# Significance of SHSMP



SHSMP

FINAL

2017 State Highway System Management Plan

TAMP

Attach Needs to Nominated Projects to meet targets

10-Year Project Book

Plan & Targets

Measure

Needs/ Investments

Transportation Asset Management

Performance Gaps

Execute

Wheel

Project Book

Accomplishments

Programming

Certify Targets

Delivery/M&O: Pipeline Projects Execute Performance

Field Maintenance Crews

Major Maintenance

SHOPP

Maintain the State Highway System

Performance & Financial Projections & Target Monitoring
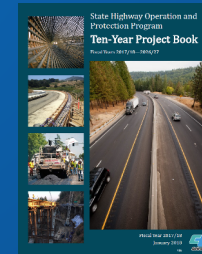
Funding Commitments

Performance & Financial

STATE HIGHWAY OPERATION AND PROTECTION PROGRAM

2018 SHOPP

FISCAL YEARS
2018-19 through 2021-22

Prepared by the CALIFORNIA DEPARTMENT OF TRANSPORTATION
In accordance with Government Code section 14526.5
CALIFORNIA STATE TRANSPORTATION AGENCY
Adopted by the California Transportation Commission
March 22, 2018

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# 2019 SHSMP

**SHOPP**: First five years represent the pipelined SHOPP projects. Last five years constitute the SHOPP performance gap

**Maintenance**: All ten years constitute the Maintenance performance gap.

| 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 |

**Current:**

| 2018 SHOPP | 2020 PID Work Plan | SHOPP Performance Gap |

| Pipelined SHOPP Projects |

| Maintenance Performance Gap |

**Future:**

| 2018 SHOPP | 2020 SHOPP | 2022 PID Work Plan | Last 3 Years of the Ten-Year Project Book |

# SHSMP Components

- **Needs Assessment (goal-constrained)**
  - Provides a picture of all the needs on SHS regardless of available resources.
  - Is determined by a performance-based gap analysis.
  - Captures the needs for preventive and corrective maintenance as well as minor and major rehabilitation and reconstruction.

- **Investment Plan (fiscally-constrained)**
  - Is constrained by available SHOPP and Maintenance resources.
  - Allocates available resources to specific objectives to effectively manage SHS.

# Performance-Based Gap Analysis

The need:

- Is a function of the baseline condition.
- Is a function of the pipelined projects.
- Is a function of deterioration rates.
- Is not a function of prior year allocations.



Bridge and Tunnel Health (Statewide Analysis)

*Baseline Condition:* 3.31%, 30.76%, 65.93%

*Future Condition (Do Nothing):* 5.62%, 31.42%, 62.96%

*Future Condition (w/ Pipelined Projects):* 3.92%, 23.20%, 72.88%

*Desired State of Repair (Targets):* 1.50%, 15.00%, 83.50%

Fix Poor by 2.42% of total

Fix Fair by 8.20% of total

Legend: Poor, Fair, Good
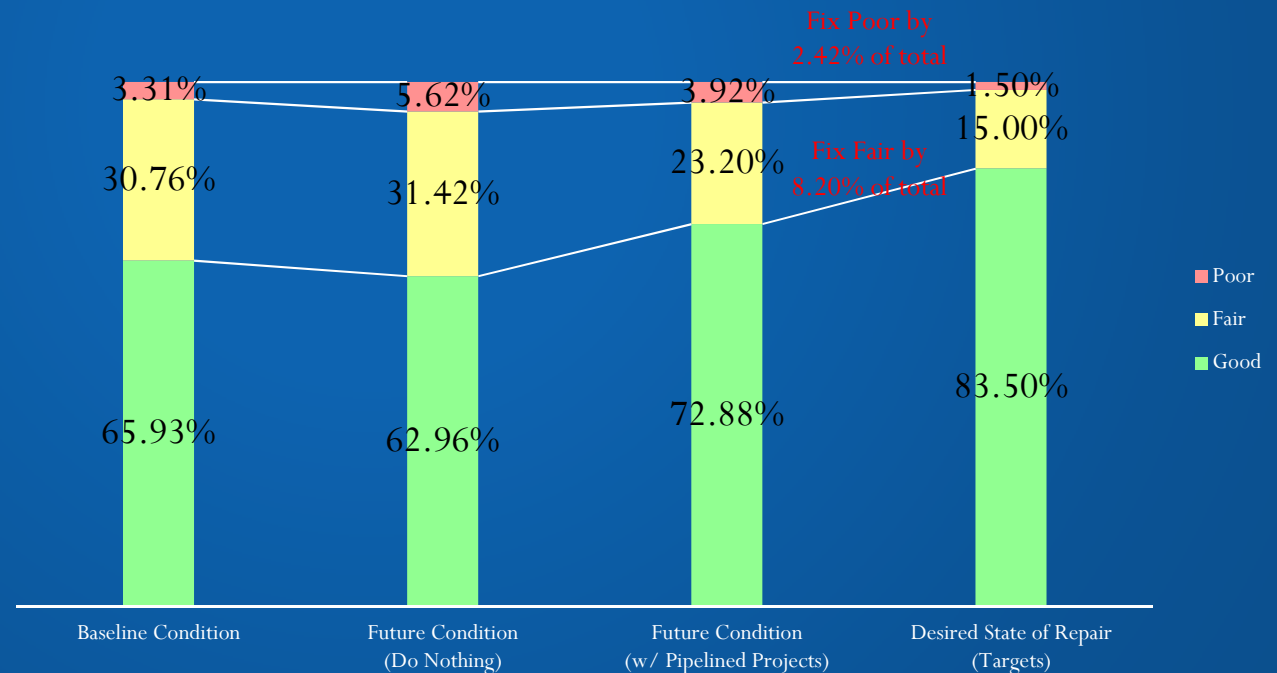
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# Multi-Asset Project Scoping Tool
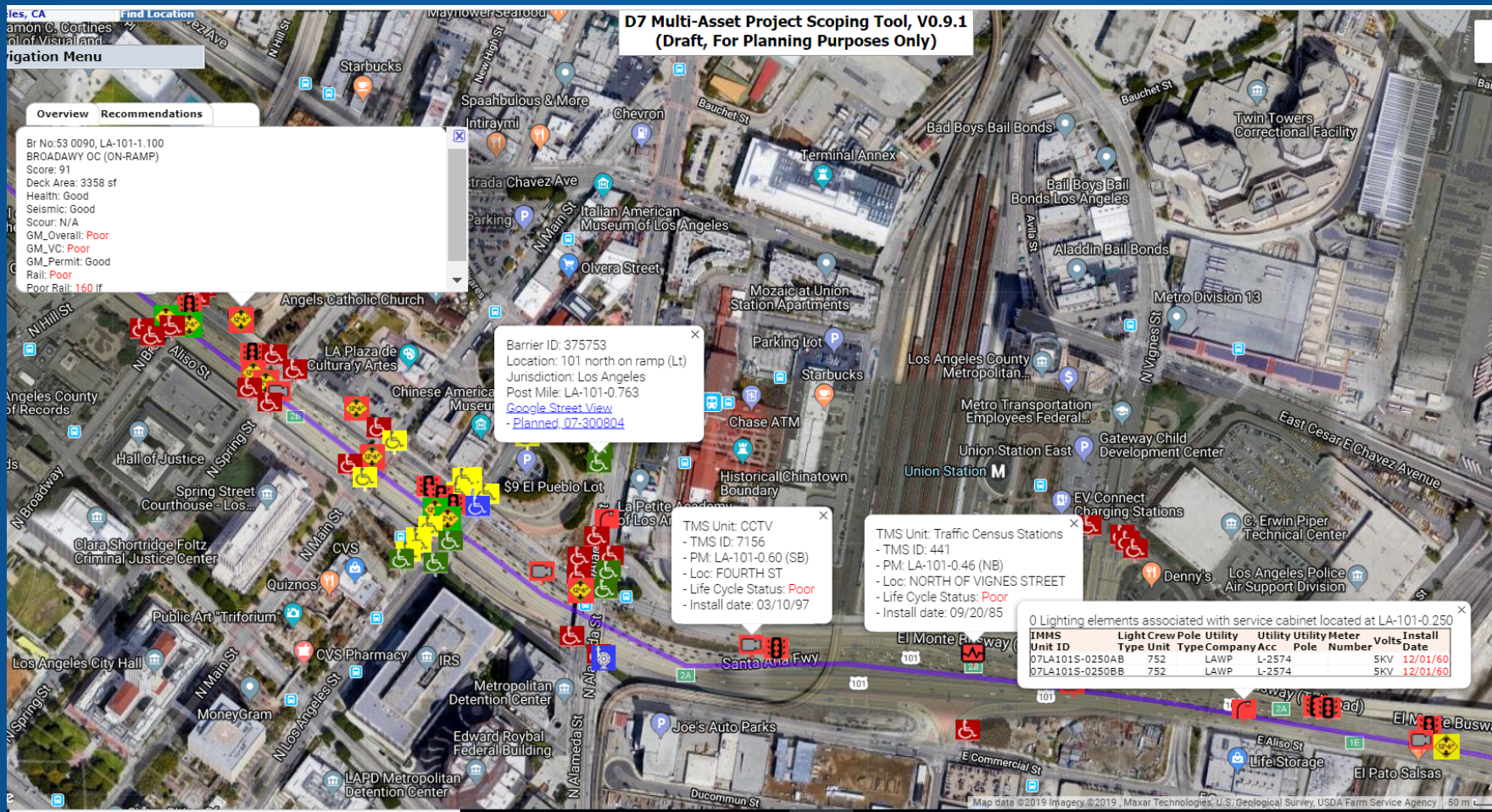


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# Listing of Actionable Needs

**Actionable Needs on LA-101 between Post Miles 0 and 2**

Please use Google Chrome or FireFox for best results

Click on the buttons inside the tabbed menu for detail:

Actionable Items are highlighted in red

| Pavement | Bridges | Drainage | TMS | ADA | Overhead Sign Structures & Signs | Lighting | BMP | Safety Barriers | Complete Streets | Fish Passage |

**ADA Curb Ramp : Responsible Party - Sarah Horn, 213.897.5631**

Current ADA Highway Design Guidelines (June 2018) | 1991 Design Standards | 2010 Design Standards | PERMANENT PEDESTRIAN FACILITIES ADA COMPLIANCE HANDBOOK

Record Count: Compliant = 1 Planned = 27 Verify = 22 Deleted = 0 Non-Compliant = 32

* Possible Difficulty Level: 4 = Both RW and Utility Issues, 3 = RW Only, 2 = Utility Only, 1 = No RW or Utility Issues

| Post Mile | Barier ID | Asset Type | Cross Street | Location | Issues | Status | Street View | Grievance Case | RW Acq | Utility Impact | Diff * Level | Latitude | Longitude | Estimate ($) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.389 | | Curb Ramp | N Vignes St | 101 north on ramp (Rt) | | | Street View | | | | 1 | 34.054968 | -118.232441 | 10,000 |
| 0.389 | | Curb Ramp | N Vignes St | 101 north off ramp, island 1 | | | Street View | | | | 1 | 34.054826 | -118.232022 | 10,000 |
| 0.389 | | Curb Ramp | N Vignes St | 101 north off ramp, island 2 | | | Street View | | | | 1 | 34.054881 | -118.232079 | 10,000 |
| 0.389 | | Curb Ramp | N Vignes St | 101 north off ramp (Rt) | | | Street View | | | | 1 | 34.054758 | -118.231938 | 10,000 |
| 0.476 | 375718 | Curb Ramp | E Commercial St / Ramirez St | 101 SB onramp - via Commercial | Flare Slope,Detectable Warning | | Street View | | | | 1 | 34.0531167459 | -118.233765225 | 10,000 |
| 0.492 | | Curb Ramp | E Commercial St | 101 south on ramp (Rt) | | Planned, 07-300804 | Street View | | | | 1 | 34.053125 | -118.233767 | N/A |
| 0.626 | | Curb Ramp | E 4th St | 101 southbound on-ramp and Eagle St | | Planned, 07-300804 | Street View | | | | 1 | 34.042494 | -118.221602 | N/A |
| 0.626 | 375822 | Curb Ramp | E 4th St | NW corner of Hwy 101 southbound off-ramp and 4th st | Top Landing,Width,Cross Slope,Gutter Slope | ??? | Street View | | | | 1 | 34.043087 | -118.221561 | N/A |
| 0.626 | 375823 | Curb Ramp | E 4th St | NW corner of Hwy 101 southbound off-ramp and 4th st | Top Landing,Width,Cross Slope,Gutter Slope,Protruding Object,Detectable Warning,Defined Edges,Grade | ??? | Street View | | | | 1 | 34.0430860847 | -118.221652653 | N/A |
| 0.626 | 375824 | Curb Ramp | E 4th St | NE corner of Hwy 101 southbound off-ramp and 4th st | Top Landing,Running Slope,Cross Slope,Flare Slope,Abrupt Level Change,Detectable Warning,Grade Break | ??? | Street View | | | | 1 | 34.043067 | -118.221385 | N/A |
| 0.626 | 375827 | Curb Ramp | E 4th St | 101 northbound off-ramp (Rt) | Top Landing,Running Slope,Flare Slope,Abrupt Level Change,Detectable Warning,Grade Breaks | Planned, 07-300804 | Street View | 10389 | | | 1 | 34.042919 | -118.220672 | N/A |
| 0.626 | 375828 | Curb Ramp | E 4th St | 101 northbound off-ramp (Lt) | Top Landing,Cross Slope,Flare Slope,Gutter Slope,Abrupt Level Change,Protruding Object,Detectable Wa | Planned, 07-300804 | Street View | 10389 | | | 1 | 34.042924 | -118.220807 | N/A |
| 0.626 | 375831 | Curb Ramp | E 4th St | 101 southbound on-ramp (Lt) | Top Landing,Running Slope,Flare Slope,Detectable Warning | Planned, 07-300804 | Street View | | | | 1 | 34.04238 | -118.221584 | N/A |
| 0.763 | 375741 | Curb Ramp | N Alameda St | Alameda / Aliso, NW | Top Landing,Width,Running Slope,Flare Slope,Gutter Slope,Detectable Warning,Grade Breaks | | Street View | | | | 1 | 34.053967 | -118.238086 | 10,000 |
| 0.763 | 375744 | Curb Ramp | N Alameda St | Alameda / Arcadia, NW | Top Landing,Running Slope,Cross Slope,Flare Slope,Gutter Slope,Abrupt Level Change,Detectable Warnin | | Street View | | | | 1 | 34.05469 | -118.237997 | 10,000 |
| 0.763 | 375745 | Curb Ramp | N Alameda St | Entrance to ExpressLane (Lt) | Top Landing,Cross Slope,Gutter Slope,Abrupt Level Change,Detectable Warning,Bottom Landing | | Street View | | | | 1 | 34.054867 | -118.237625 | 10,000 |
| 0.763 | 375750 | Curb Ramp | N Alameda St | Alameda / Arcadia, SW | Top Landing,Running Slope,Cross Slope,Flare Slope,Abrupt Level Change,Detectable Warning,Grade Break | | Street View | | | | 1 | 34.054513 | -118.238007 | 10,000 |

# 2017 10-Year SHOPP Project Book



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# 2018 SHOPP Programming Cycle



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# 2020 SHOPP Programming Cycle



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# 2022 SHOPP Programming Cycle



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# Desired Outcome

- Having the right information to make good decisions
- Providing a strategic framework for consistent decision making
- Demonstrating asset needs with quantitative information is compelling
- Minimizing long term costs of ownership through life-cycle planning
- Being a fiduciary and be accountable for public funds
- Supporting the 2015-2020 Caltrans Strategic Management Plan's Stewardship and Efficiency goal explicitly and all other goals through project accomplishments

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# Opportunities

- Implement more multi-asset projects
- Utilize quality data to help develop better project scope efficiently
- Develop project and implement codependent item effectively
- Avoid construction fatigue, inconvenience the public once

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# Questions?

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Caltrans Transportation Asset Management

https://dot.ca.gov/programs/asset-management

Rebuilding California SB 1

http://rebuildingca.ca.gov/

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