2022 California Transportation Asset Management Plan
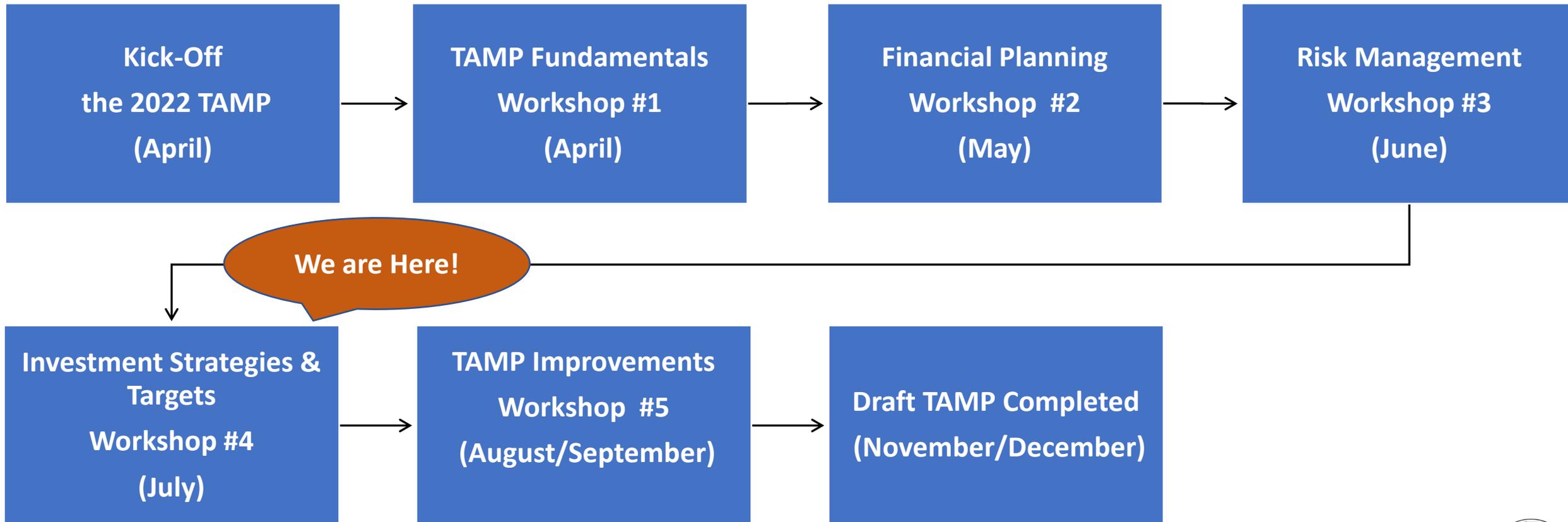
Investment Strategies & Targets

July 20, 2021
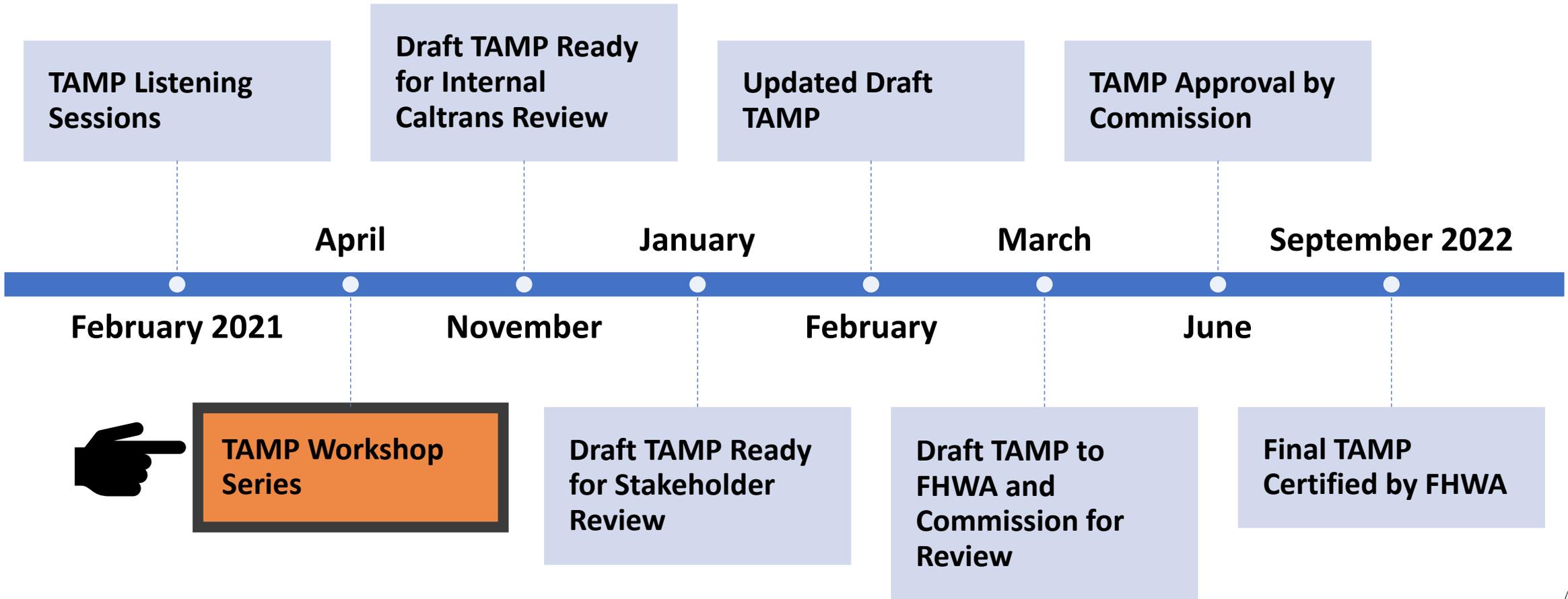
Michael B. Johnson
State Asset Management Engineer
Caltrans, HQ Asset Management

Update to 2022 TAMP Workshop Series

Kick-Off the 2022 TAMP (April) → TAMP Fundamentals Workshop #1 (April) → Financial Planning Workshop #2 (May) → Risk Management Workshop #3 (June)

We are Here!

Investment Strategies & Targets Workshop #4 (July) → TAMP Improvements Workshop #5 (August/September) → Draft TAMP Completed (November/December)

Update to 2022 TAMP Schedule

TAMP Listening Sessions

Draft TAMP Ready for Internal Caltrans Review

Updated Draft TAMP

TAMP Approval by Commission

April

January

March

September 2022

February 2021

November

February

June

👉 **TAMP Workshop Series**

Draft TAMP Ready for Stakeholder Review

Draft TAMP to FHWA and Commission for Review

Final TAMP Certified by FHWA

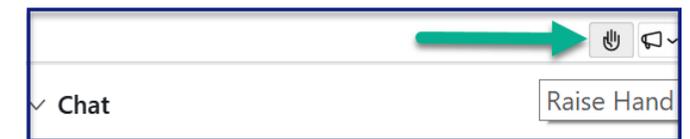# Agenda

1:00 P.M.   Welcome, Review of Agenda and Introductions

1:10 P.M.   Overview of TAMP Investment Strategies

1:25 P.M.   Understanding Investment Strategies

- Applied Pavement Technologies

2:20 P.M.   Update to Investments & Performance Analysis

- New TAMP Performance Tool

2:50 P.M.   Closing Remarks
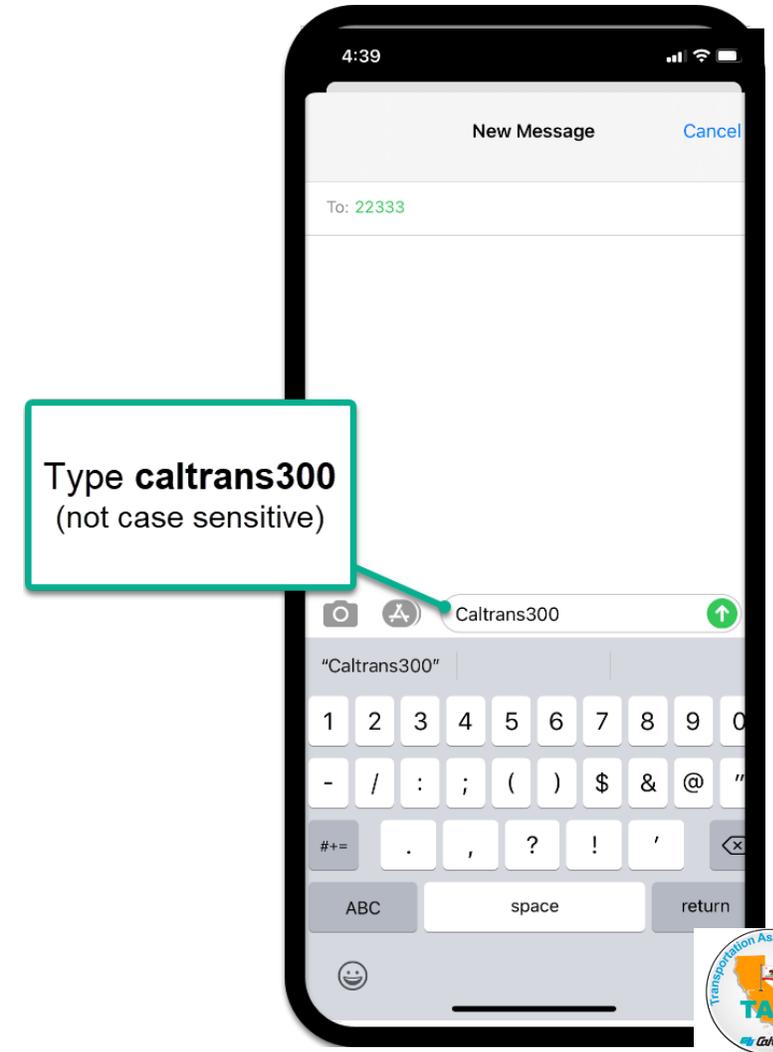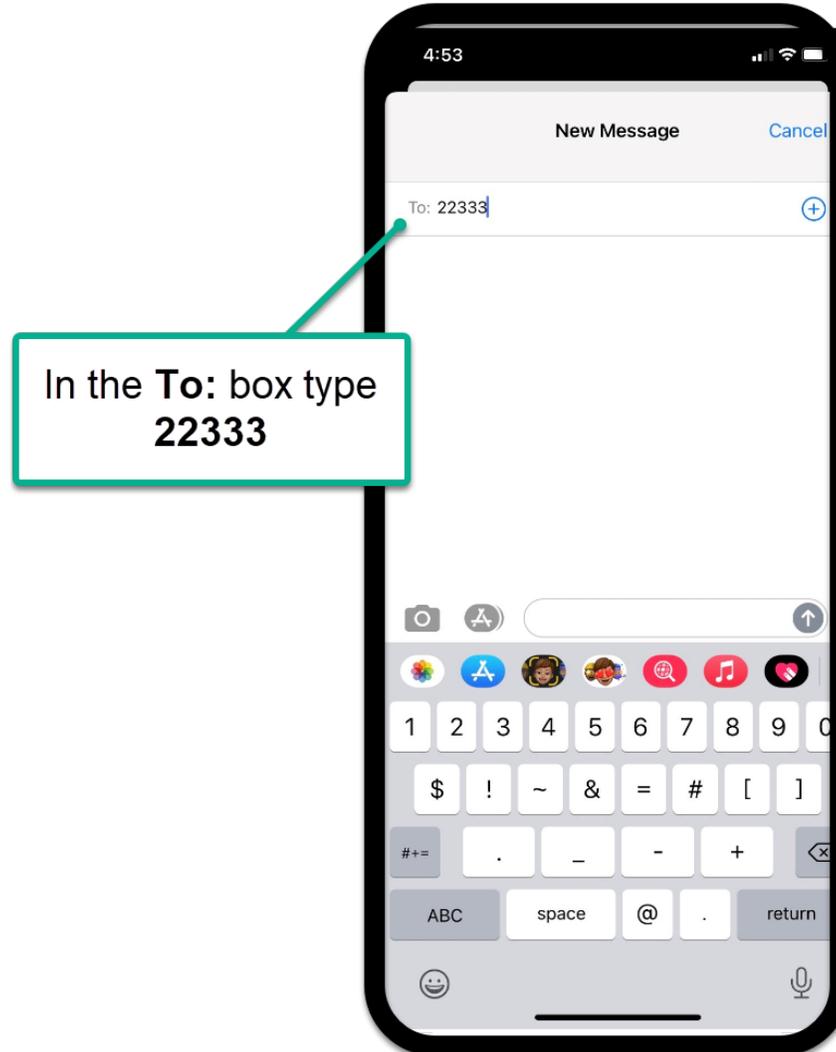
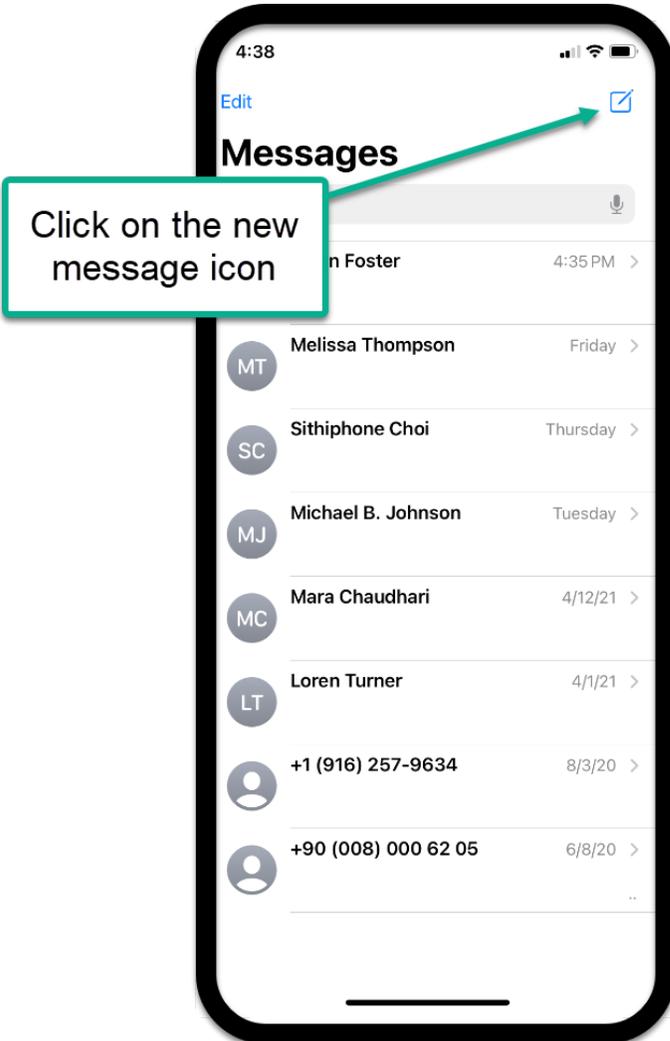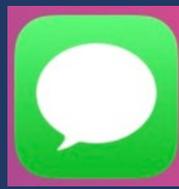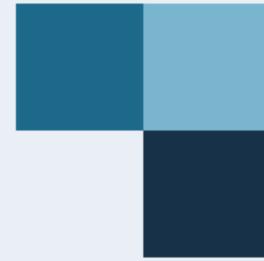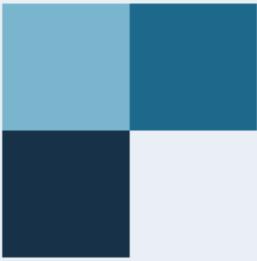3:00 P.M.   Informal Time for Additional Questions

Workshop Quick-Guide

- When joining the workshop, if you clicked on the new "Join by browser" **you will not have sound**. You will need to re-join the webinar by clicking on "Join Now"

- The workshop will be recorded and posted on the Caltrans Asset Management webpage

- Use the Chat to "Everyone" feature to submit questions. We will respond to questions during the workshop as well as a Q&A at the end of the presentation

- Use the "Raise Hand" feature if you would like to communicate with Host. Click the hand again to "Lower Hand"

- If you need technical assistance with the workshop or have questions later, you can submit questions via email to: CT-TAM@dot.ca.gov

Poll Instructions

Click on the new message icon

In the **To:** box type **22333**

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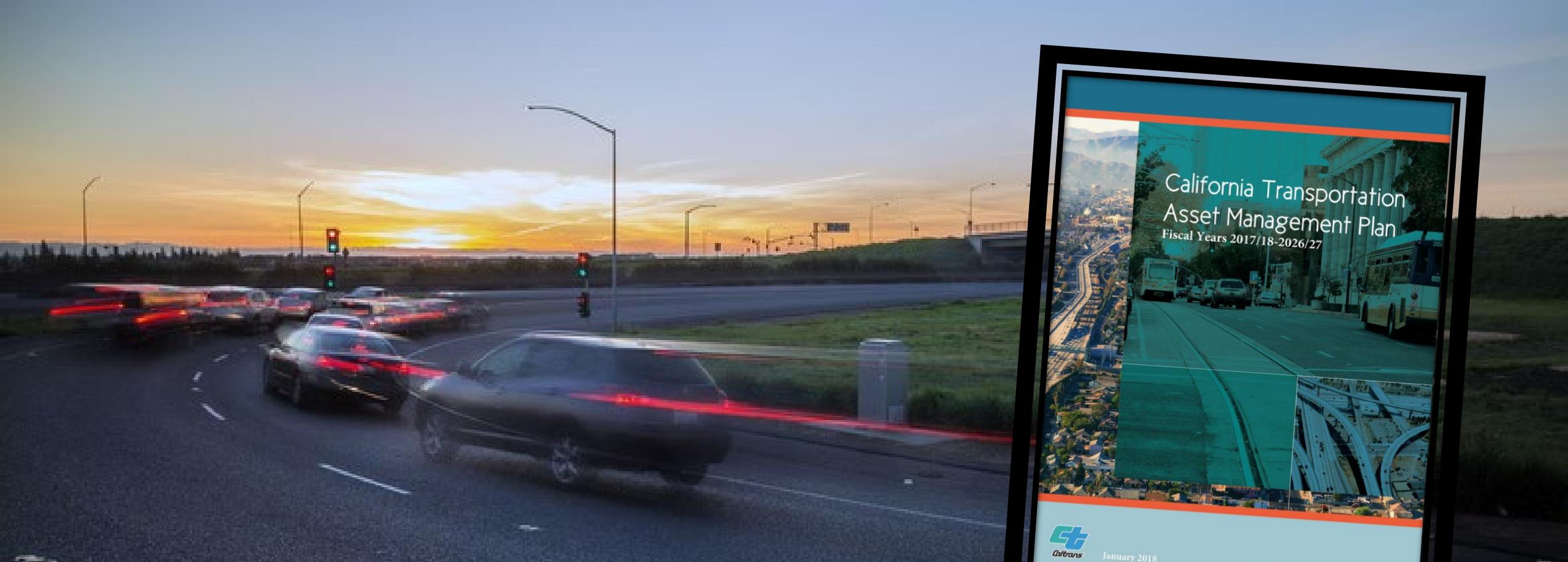
Overview of TAMP Investment Strategies

Michael B. Johnson
State Asset Management Engineer
HQ Office of Asset Management, Caltrans

What are TAM Investment Strategies?

- Asset management investment strategies are the policies for resource allocation that will deliver the best asset performance given available funds and the goals and objectives of state and local agencies

- Generating an asset management investment strategy involves assessing various funding scenarios designed to achieve and sustain a desired state of repair (DSOR) and deliver the program efficiently

23 CFR 515.5

TAMP Investment Strategies

- An asset management plan shall discuss how the plan's investment strategies collectively would make or support progress toward:

- Achieving and sustaining a desired state of good repair over the life cycle of the assets,

- Improving or preserving the condition of the assets and the performance of the NHS relating to physical assets,

- Achieving the State DOT targets for asset condition and performance of the NHS in accordance with 23 U.S.C. 150(d), and

- Achieving the national goals identified in 23 U.S.C. 150(b).

23 CFR 515.9

Investment Strategies Process Requirements

Federal Requirements

- The process must describe how investment strategies are influenced, at a minimum, by:

- Performance gap analysis

- Life cycle planning

- Risk management analysis

- Anticipated available funding and estimated cost of future work

Transportation Asset Management Plans

Case Study 5 - Financial Planning and Investment Strategies

FHWA-HIF-20-085

FEDERAL HIGHWAY ADMINISTRATION

Office of Stewardship, Oversight and Management

1200 New Jersey Avenue, SE

Washington, DC 20590

May 2020

U.S. Department of Transportation
Federal Highway Administration

Investment Strategies Process Requirements

State Requirements

- State regulations require a robust asset management plan which meets the federal TAMP requirements and also includes assets on the SHS. The investment strategies should cover the four primary asset classes on the SHS

CALIFORNIA TRANSPORTATION COMMISSION

Transportation Asset Management Plan Guidelines
(Revised June 29, 2017)
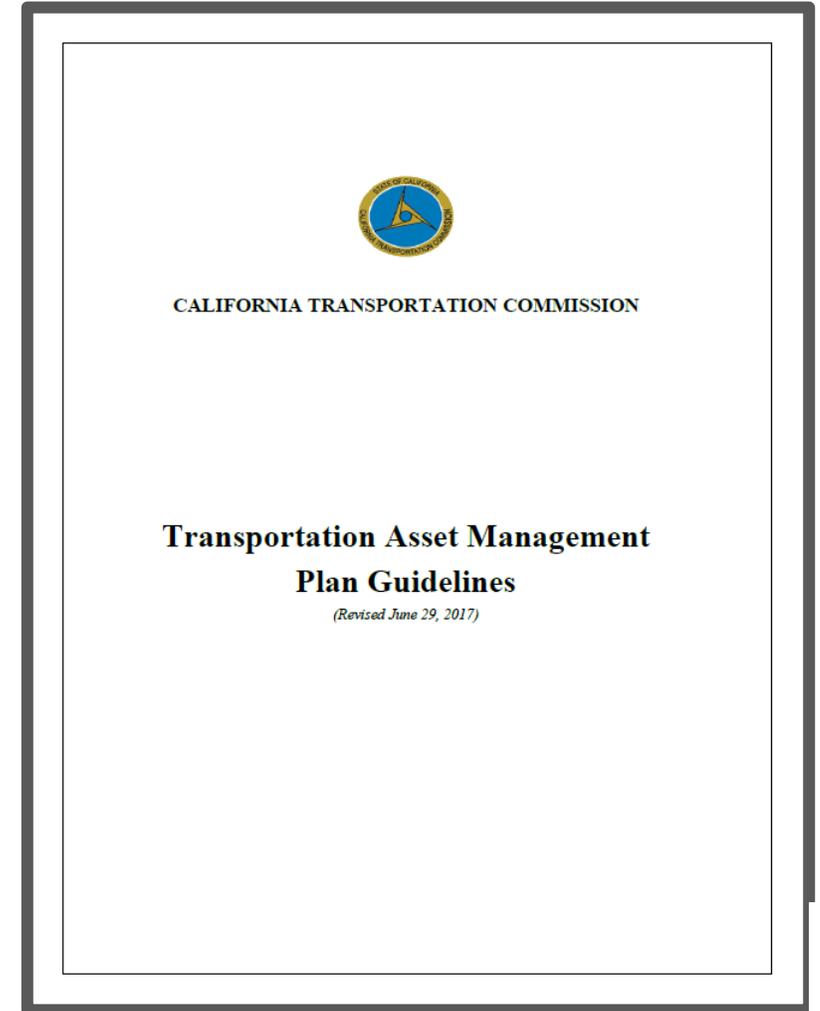
TAMP Investment Strategies

Initial TAMP

- Fix It First

- Leverage Investments

- Focus on Selected Asset Classes

- Sustainable Pavement Practices

- Complete Street Policies

2022 TAMP

- Caltrans and each MPO will determine their own investment strategies for expected condition of NHS pavement and bridges

Compare TAMP Performance Scenarios

Initial TAMP

- Pre-SB1 Funding

- 10-Year Expected Performance

- **Maintain Condition of NHS pavement and bridges**

- **Achieve 10-Year Desired State of Repair (DSOR) Targets**

2022 TAMP

- Include Risk

- 10-Year Expected Performance

- **Maintain Condition of NHS pavement and bridges**

- **Achieve 10-Year Desired State of Repair (DSOR) Targets**

2022 TAMP Performance Scenarios

Initial TAMP Top-Down Approach (State Analysis):

- Maintain Asset Condition for NHS Pavement and Bridges over 10-Years

- 10-Year DSOR Target Performance for NHS Pavement and Bridges

Proposed 2022 TAMP Bottom-up Approach (Analyzed by NHS Owners):

- 10-Year Expected Performance for NHS Pavement and Bridges

TAMP Performance Targets

- Asset performance targets specify conditions California seeks to achieve and sustain over a 10-year period to support agency goals and objectives and meet federal requirements.

- California's targets reflect state and local priorities and will be used to guide strategic planning decisions.

- 10-Year Desired State of Repair (DSOR) Targets may be updated for the 2022 TAMP

- As part of a separate federal performance management rule, 2 and 4-Year targets are also included in the TAMP and reported separately to FHWA (23 CFR 490.105)

Relating Investments/Performance Analysis and Targets

In October 2020, MPOs maintained 4-year NHS pavement and bridge targets

Initial TAMP used a quantity weighted approach to establish statewide targets

For the 2022 TAMP, propose that each agency sets their own targets

Agencies will be able to use a performance tool to evaluate different investment strategies and compare targets

Understanding TAMP Investment Strategies

Brad Allen

Applied Pavement Technologies

Our Goal

- Explain how
  - Inventory, Condition, & Targets
  - Life cycle planning (LCP),
  - Risk management, and
  - Financial forecasts

  … contribute to the selection and communication of a TAMP investment strategy.

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Risk-based Asset Management Plan Contents

- Asset inventory and conditions on the NHS

- Objectives, measures, and targets

- Performance gap identification

- Life cycle planning

- Risk management analysis

- Financial plan

- Investment strategies

23 USC 119

Investment Strategy Questions

- What conditions are your assets in?
- What are your targets or long-term goals for asset conditions?
- How do asset conditions impact system performance?
- Do you understand how different investments impact asset conditions:
  - In the short term?
  - Over the asset life cycle?
- What risks are priorities for you and what can you do to address them?
- How do you plan to balance funding across your priorities?
- What type of actions will be taken through those funding priorities?

Performance Gap Analysis

- What conditions are your assets in?
- What are your targets or long-term goals for asset conditions?
- How do asset conditions impact system performance?

NATIONAL GOAL AREAS

- Infrastructure Condition
- Congestion Reduction
- System Reliability
- Reduced Project Delivery Delays
- Environmental Sustainability
- Freight Movement and Economic Viability
- Safety

Aspects of Performance Gap Analysis

TARGETS AND STATE OF GOOD REPAIR
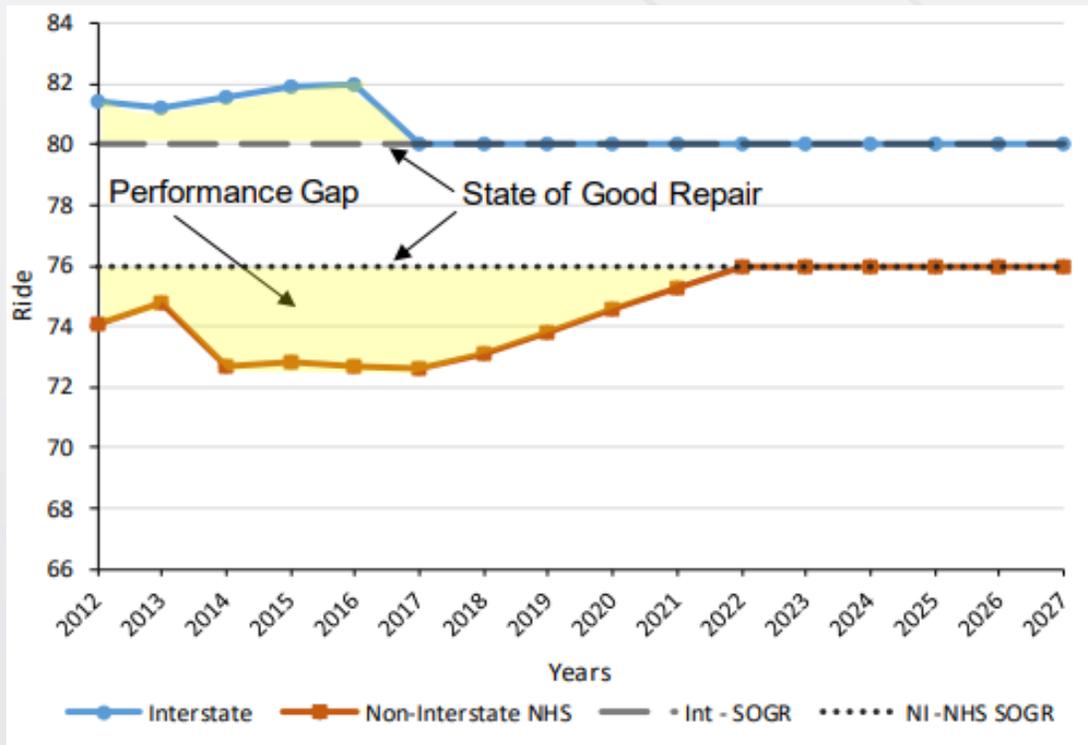
Montana DOT pavement gap analysis chart. (Source: Montana TAMP)

SYSTEM PERFORMANCE

- System performance best addressed by improving the physical condition of infrastructure assets
  - Safety
  - Mobility
  - Congestion reduction
  - Freight movement
  - Environmental sustainability

Performance Gap Analysis Tells You

- The level and types of investments needed to achieve your condition goals
  - Targets
    - Time-bound
    - Typically within the TAMP period
    - National measures or your measures
  - State of Good Repair
    - Defined by each state
    - The mix of conditions at which you would stop trying to improve
    - Ideally based on analysis showing diminishing returns on further investment
- Investments to achieve Federal Measures (in the short term) generally require addressing poor assets

- Do you understand how different investments impact asset conditions:
  - In the short term?
  - Over the asset life cycle?

Life Cycle Planning
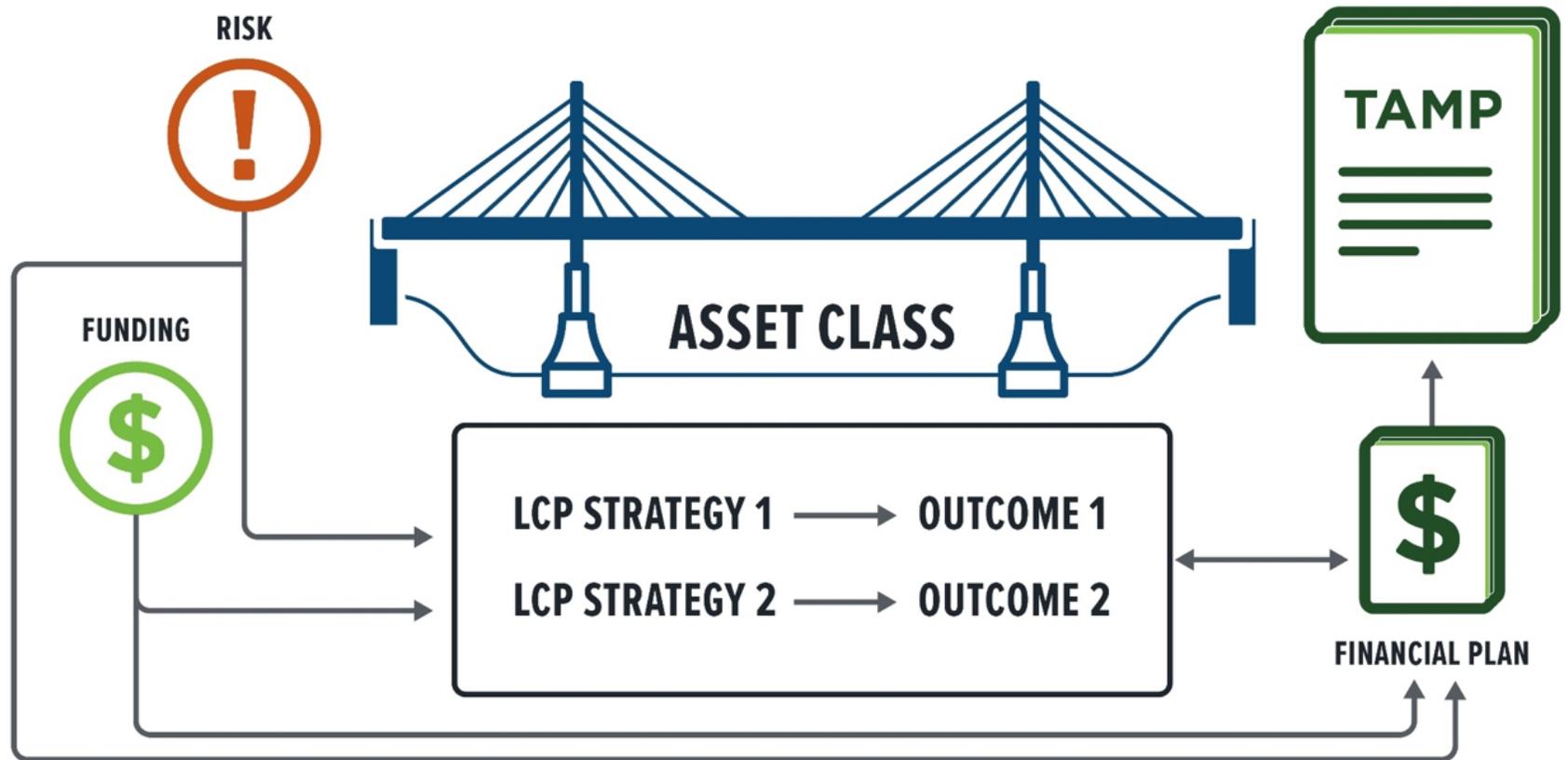
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LCP vs LCCA

NETWORK LEVEL
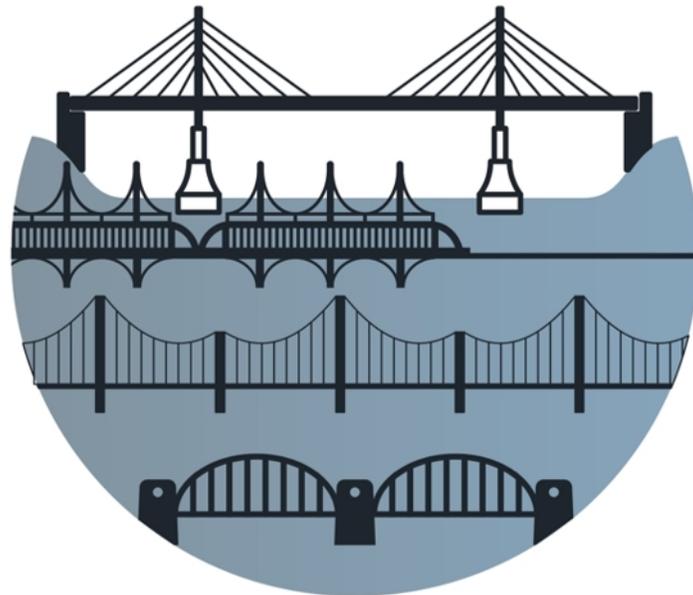
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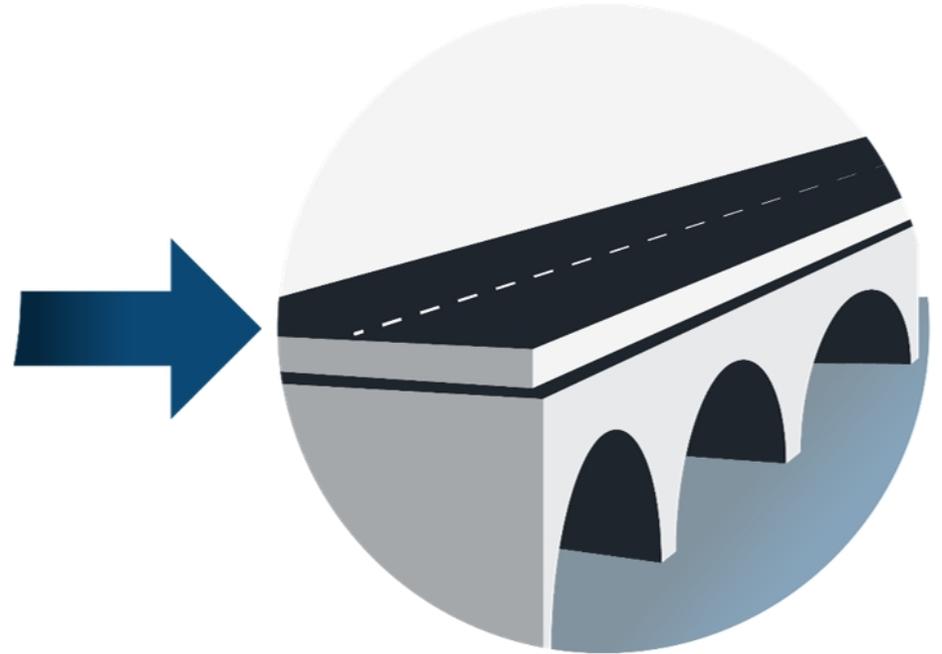
PROJECT LEVEL

27

LCP Inputs

- Current conditions
- Annual funding / budgets
- Analysis timeframe
- Performance curves
- Treatments
- Treatment costs
- Strategy details and rules

Disposal

Reconstruction

Rehabilitation

Initial Construction

ASSET LIFE CYCLE

Preservation

Maintenance

Rehabilitation

© 2017 Applied Pavement Technology

LCP Inputs

- **Current conditions**
- Annual funding / budgets
- Analysis timeframe
- Performance curves
- Treatments
- Treatment costs
- Strategy details and rules

Primary Assets				
	Inventory	Good	Fair	Poor
On the NHS (State and local)				
Pavements	56,075 Lane Miles	30.4%	63.5%	6.1%
Bridges	234,285,883 Square Feet	66.5%	28.7%	4.8%
On the SHS (State)				
Pavements	49,644 Lane Miles	40.8%	53.5%	5.7%
Bridges	245,756,328 Square Feet	74.9%	21.8%	3.3%
Drainage	10,647,900 Linear Feet	65.0%	23.5%	11.5%

Source: California TAMP

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LCP Inputs

- Current conditions
- **Annual funding / budgets**
- Analysis timeframe
- Performance curves
- Treatments
- Treatment costs
- Strategy details and rules

investment level to meet desired conditions **($378 mil/yr)**

historical investment level (2010–2015) **($132 mil/yr)**

investment level to maintain current conditions **($323 mil/yr)**

lowest level of investment for next 10 years (baseline scenario) **($75 mil/yr)**

PAVEMENT CONDITIONS IN 2026 (% FAIR OR BETTER)
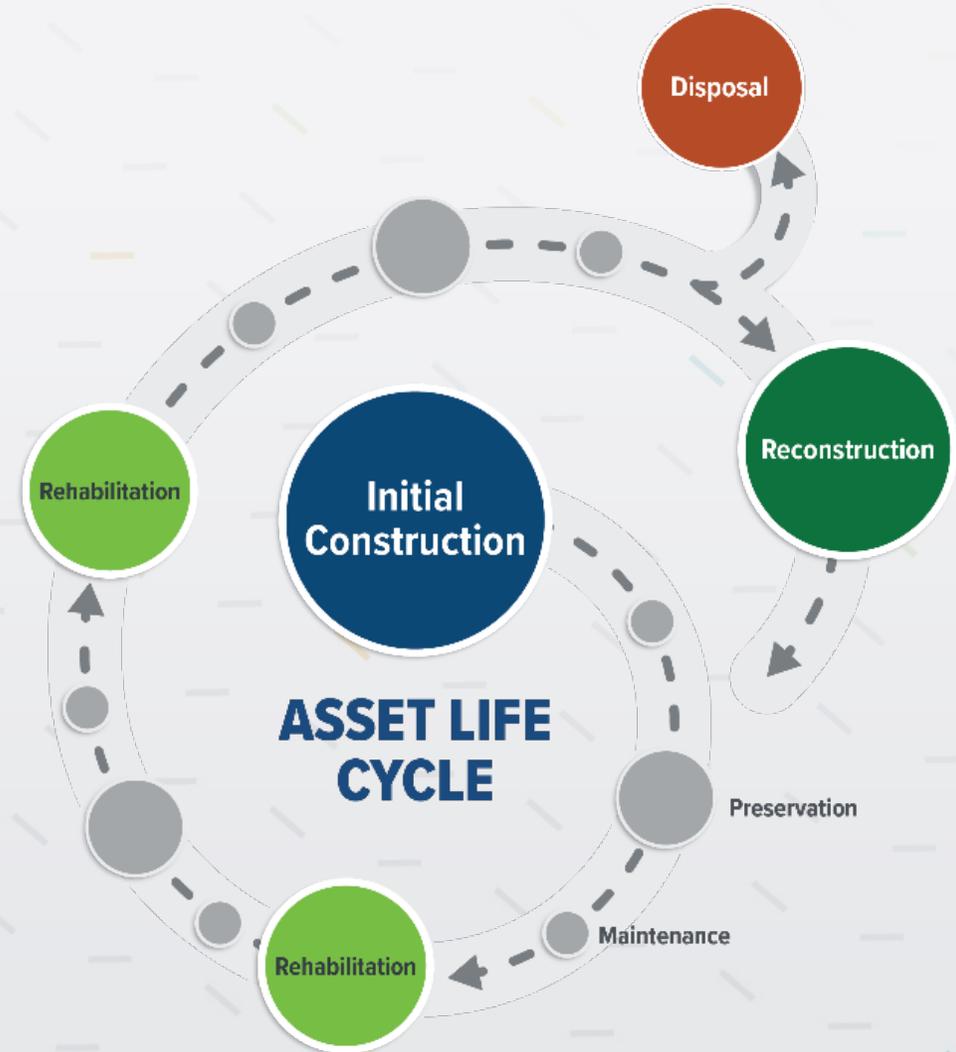
ANNUAL INVESTMENT LEVEL (MILLION DOLLARS PER YEAR)

© 2017 Applied Pavement Technology

30

LCP Inputs

- Current conditions
- Annual funding / budgets
- **Analysis timeframe**
- Performance curves
- Treatments
- Treatment costs
- Strategy details and rules

Source: NCHRP Report 713 – Estimating Life Expectancies of Highway Assets, Volume 1, page 26.

LCP Inputs

- Current conditions
- Annual funding / budgets
- Analysis timeframe
- **Performance curves**
- Treatments
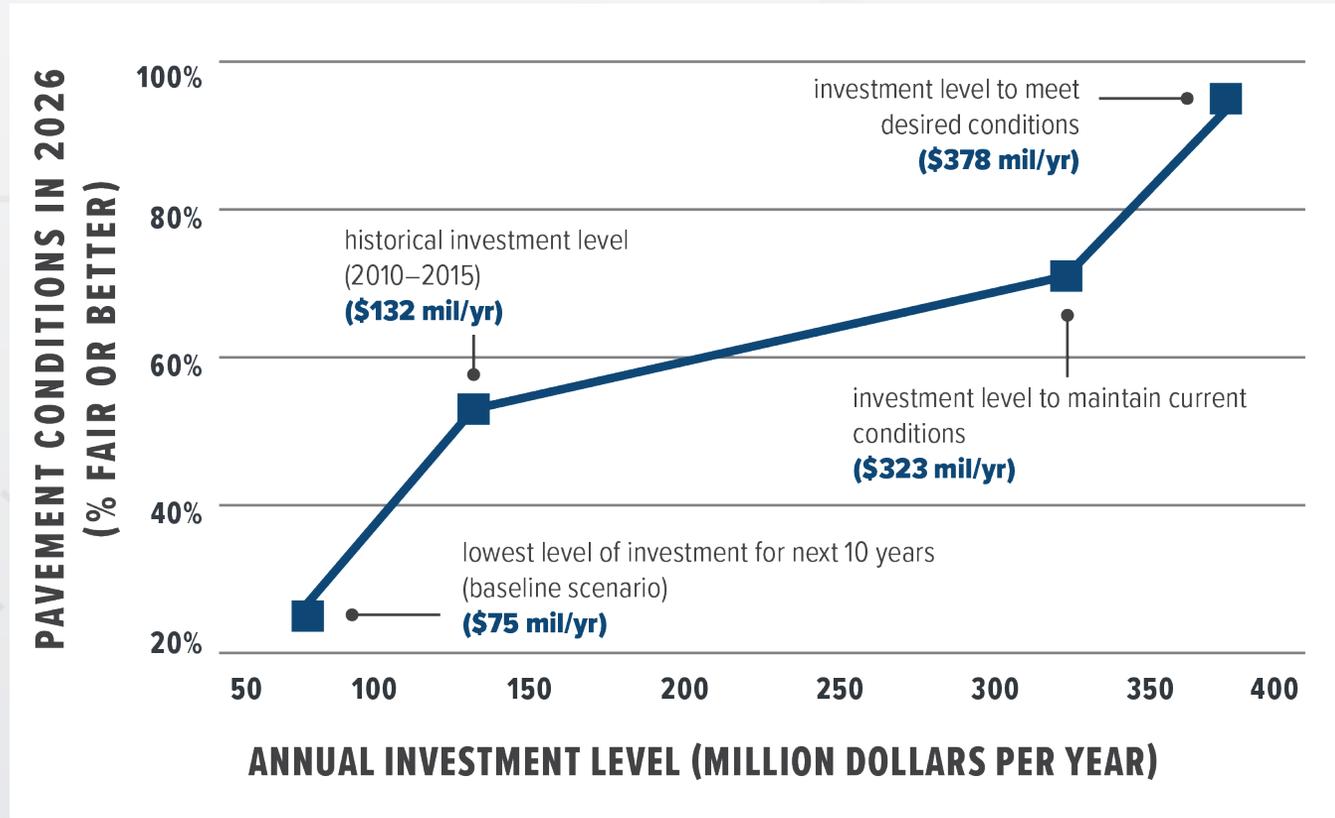- Treatment costs
- Strategy details and rules

Source: New Jersey TAMP

LCP Inputs

- Current conditions
- Annual funding / budgets
- Analysis timeframe
- Performance curves
- **Treatments**
- **Treatment costs**
- Strategy details and rules

Source: New York State DOT TAMP

LCP Inputs

- Current conditions
- Annual funding / budgets
- Analysis timeframe
- Performance curves
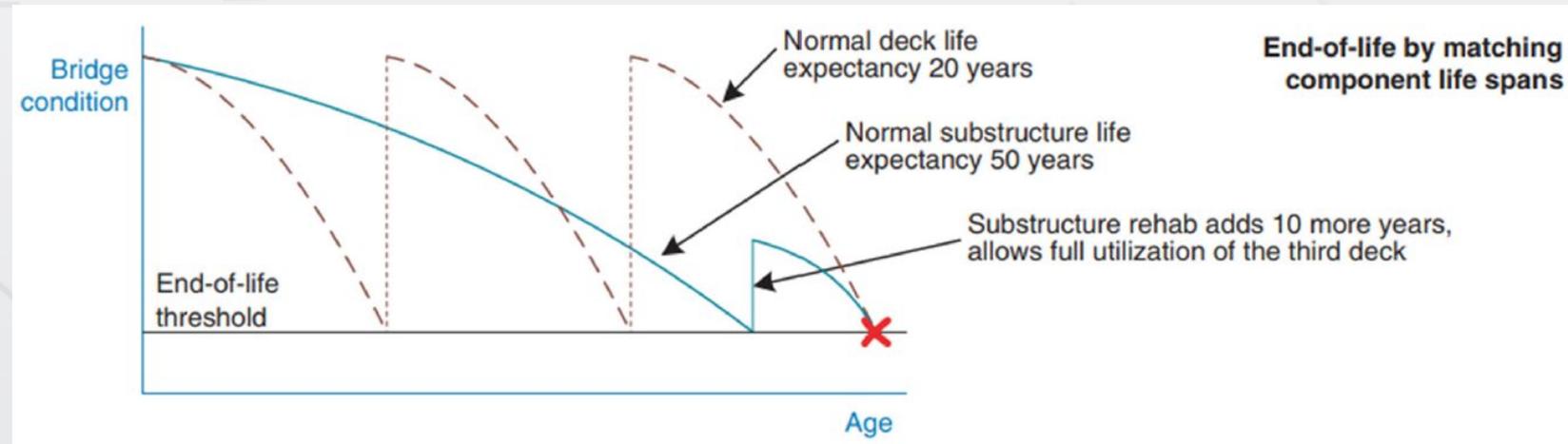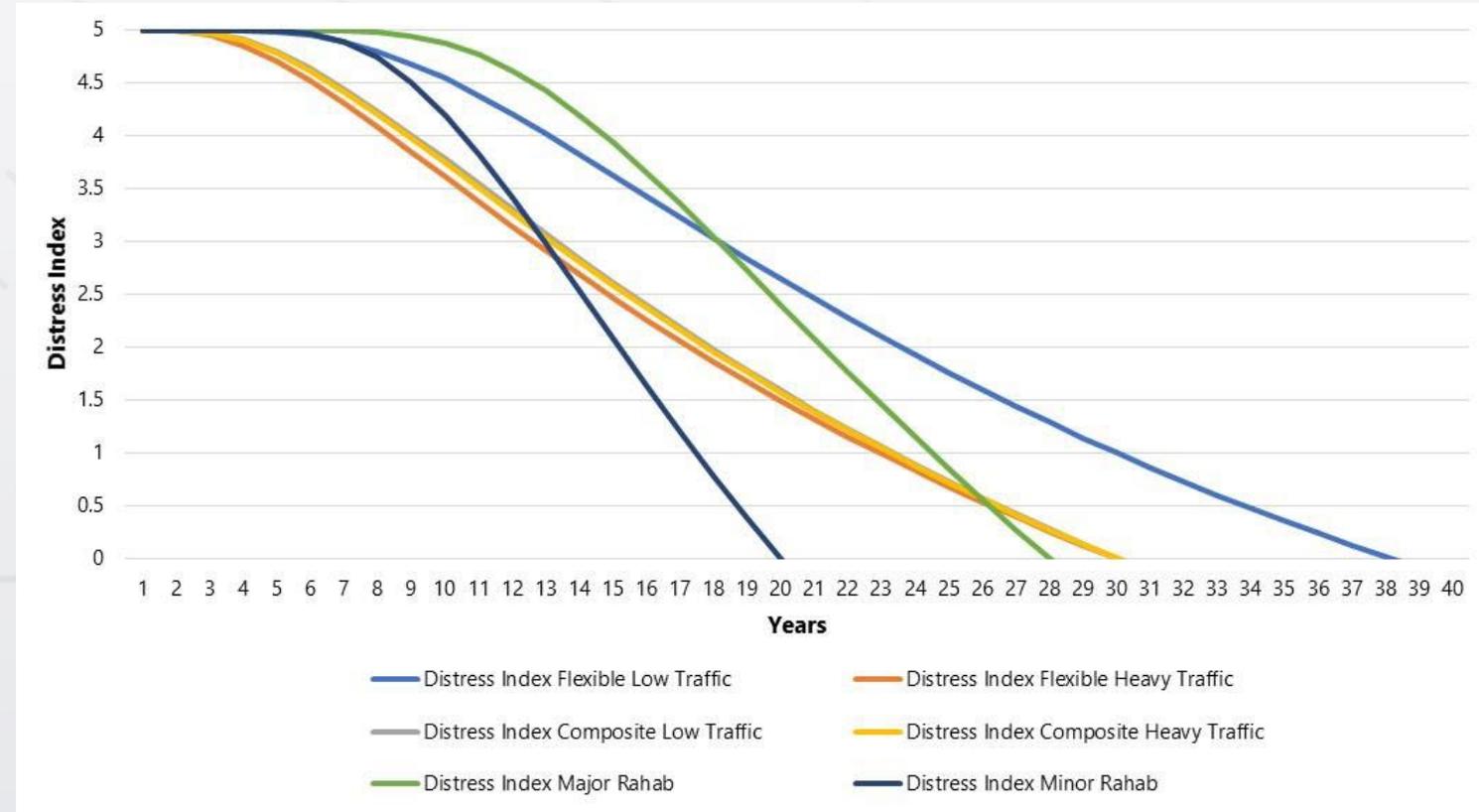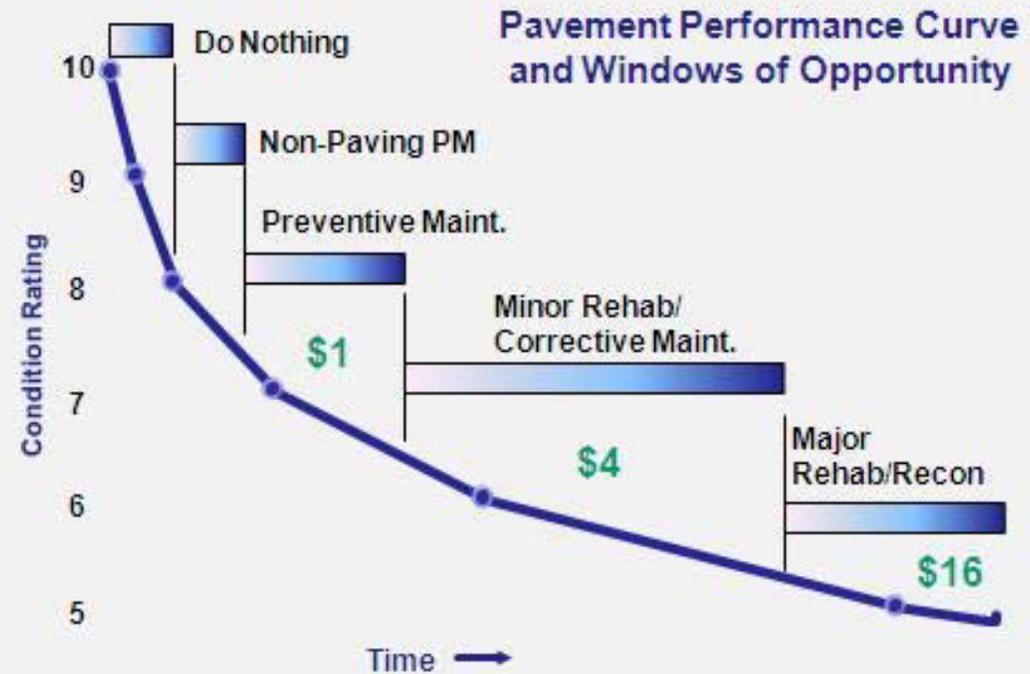- Treatments
- Treatment costs
- **Strategy details and rules**
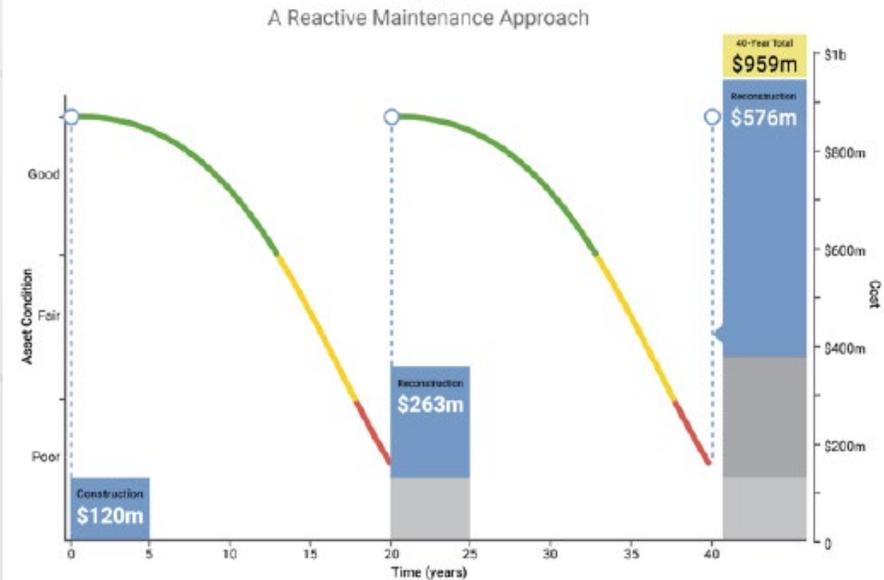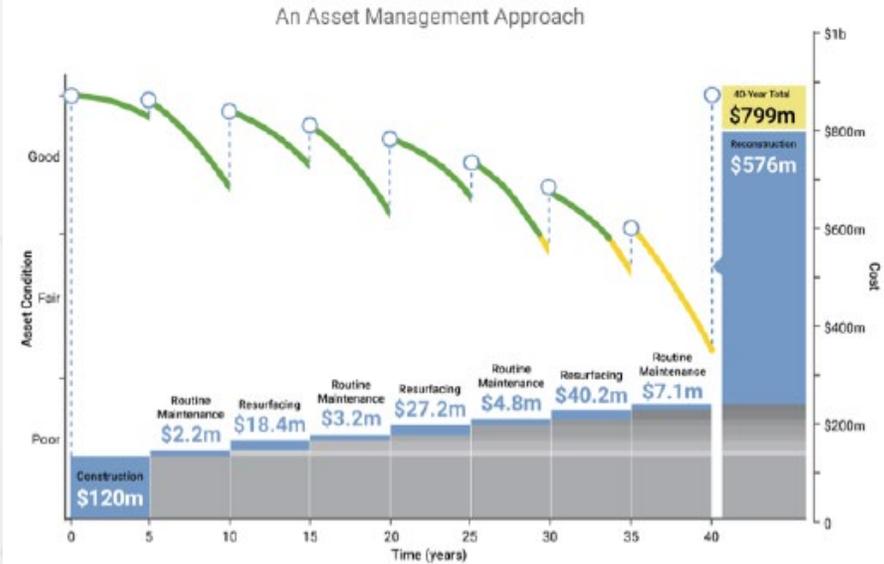
Source: California TAMP

Treatments vs Work Types

Work Type	Typical Treatments	Typical Cost per Lane-mile	Feasible Networks
Maintenance	Sweeping, Crack Sealing	$5,000 or less	All
	Pothole Patching	N/A	All
	Shoulder Work	N/A	All
Preservation	Chip seal, Slurry seal	$26,000	MP
	Microsurfacing, ¾" Asphalt Overlay	$34,000	All
	Cape Seals	$40,000	All
	Thin Overlay	$75,000	RS and MP
	Thin Overlay	$220,000	Interstates and parkways
	Diamond Grind and Repair	$200,000	RS and MP
	Diamond Grind and Repair	$275,000	Interstates and parkways
Rehabilitation	Intermediate Overlay	$275,000	Interstates and parkways
	Thick Overlay	$350,000	Interstates
	Structural Overlay	$1,100,000	Interstates
Reconstruction	Replace	$2,200,000	Interstates and parkways
	Replace	$1,350,000	RS and MP

Source: Kentucky TAMP

Ohio DOT Life Cycle Strategy Example

Bridge Preservation Strategies

PAST STRATEGY*

$$$ ↕ $

0 10 20 30 40 50 60 70 80 90 100

CURRENT STRATEGY**

$$$ ↕ $

0 10 20 30 40 50 60 70 80 90 100

Time in Years
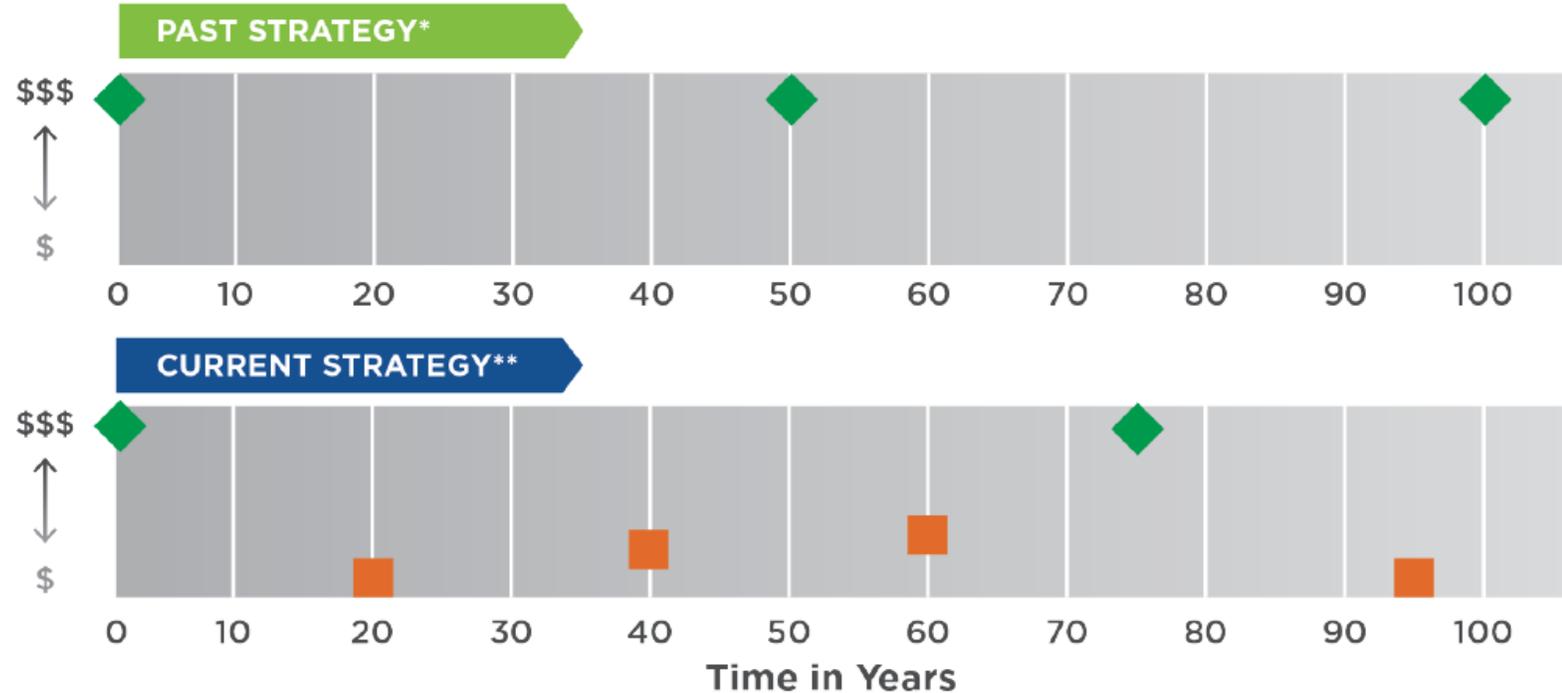
■ Preservation treatments: 20 years = $29k per bridge
40 years = $110k per bridge | 60 years = $149k per bridge

◆ New or replaced bridge | $1.9 million

*Past strategies do not include preservation; only routine maintenance amounting to $2.5k per bridge per year.

**Current strategies include treatments like bridge deck sealing and bridge washing.

Ohio DOT Life Cycle Strategy Example

Pavement Preservation Strategies

PAST STRATEGY*

CURRENT STRATEGY*

Time in Years
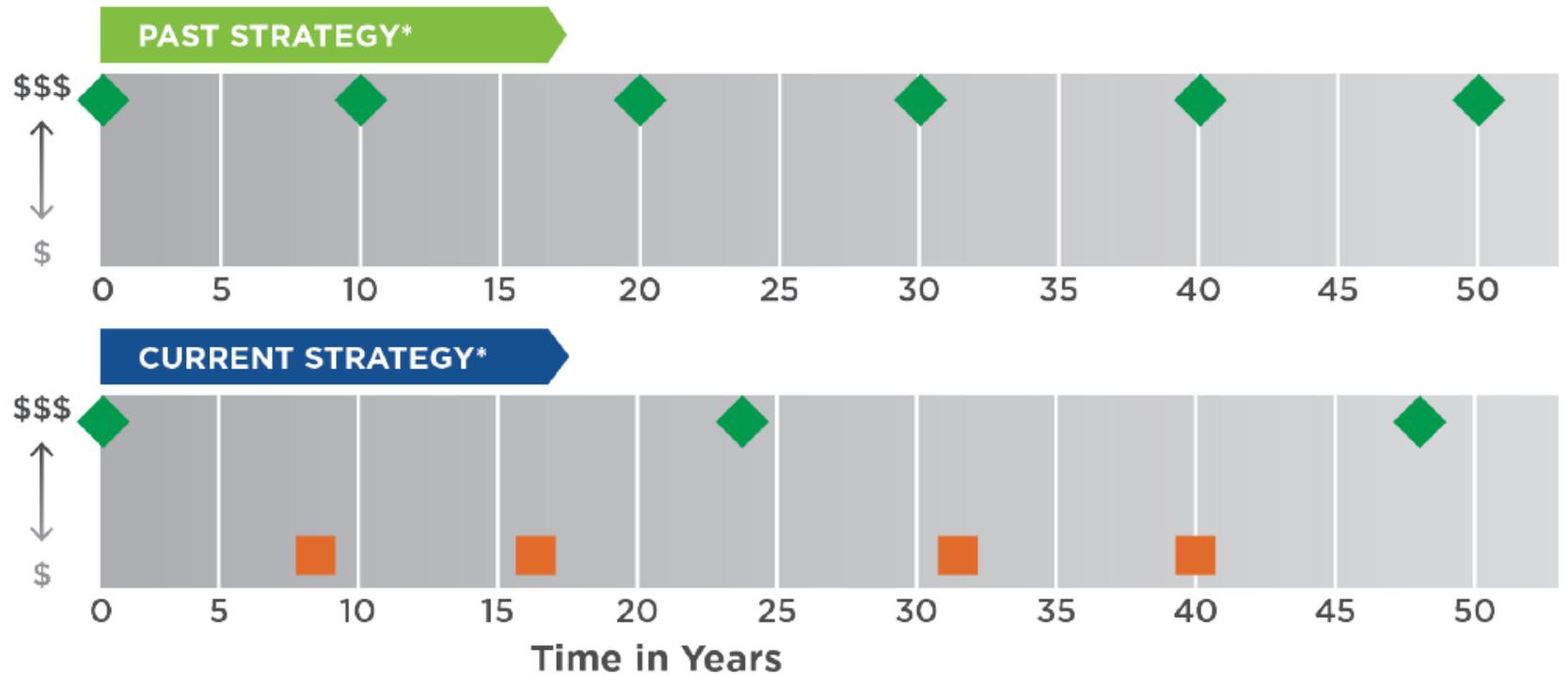
■ Chip Seal/Microsurfacing/Thin Overlay | $40–80k per lane-mile

◆ Mill/Overlay with pre-overlay repairs | $250–$350k per lane-mile

*In both strategies, crack sealing is performed on a 2–3 year cycle.

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LCP Helps Determine

- The treatments and timing that lead to maximized asset service lives and/or minimized life cycle costs

- The current needs of your assets

- The level and mix of investments to support achieving and sustaining your desired state of good repair

- The conditions that can be achieved with your current funding
    - If you invest based on the preferred life-cycle strategy
    - If you invest based on current programming

- What risks are priorities for you and what can you do to address them?

Risk Management Process

Communicate and Consult

Establish the Context
Identify goals, objectives, targets, environmental, political, economic context

Risk Identification
Identify risks to condition, performance of assets
Part 667 assets repeatedly damaged

Risk Analysis
Assess likelihood, impact and consequence

Risk Evaluation
Prioritize identified risks

Manage Risks
Mitigation plan for top priority risks
Approach for monitoring top risks
Summary of Part 667 evaluations

Monitor and Review

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Examples of Risks from June Caltrans Workshop

- Seismic
- Sea level rise / coastal flooding
- Extreme weather / inland flooding
- Wildfires
- Resource constraints or uncertainties
  - Staff
  - Funding
- Legislation or regulations
- Changes in system use, expectations, or loading

Risk Example: NYSDOT's Critical Bridges Over Water Program
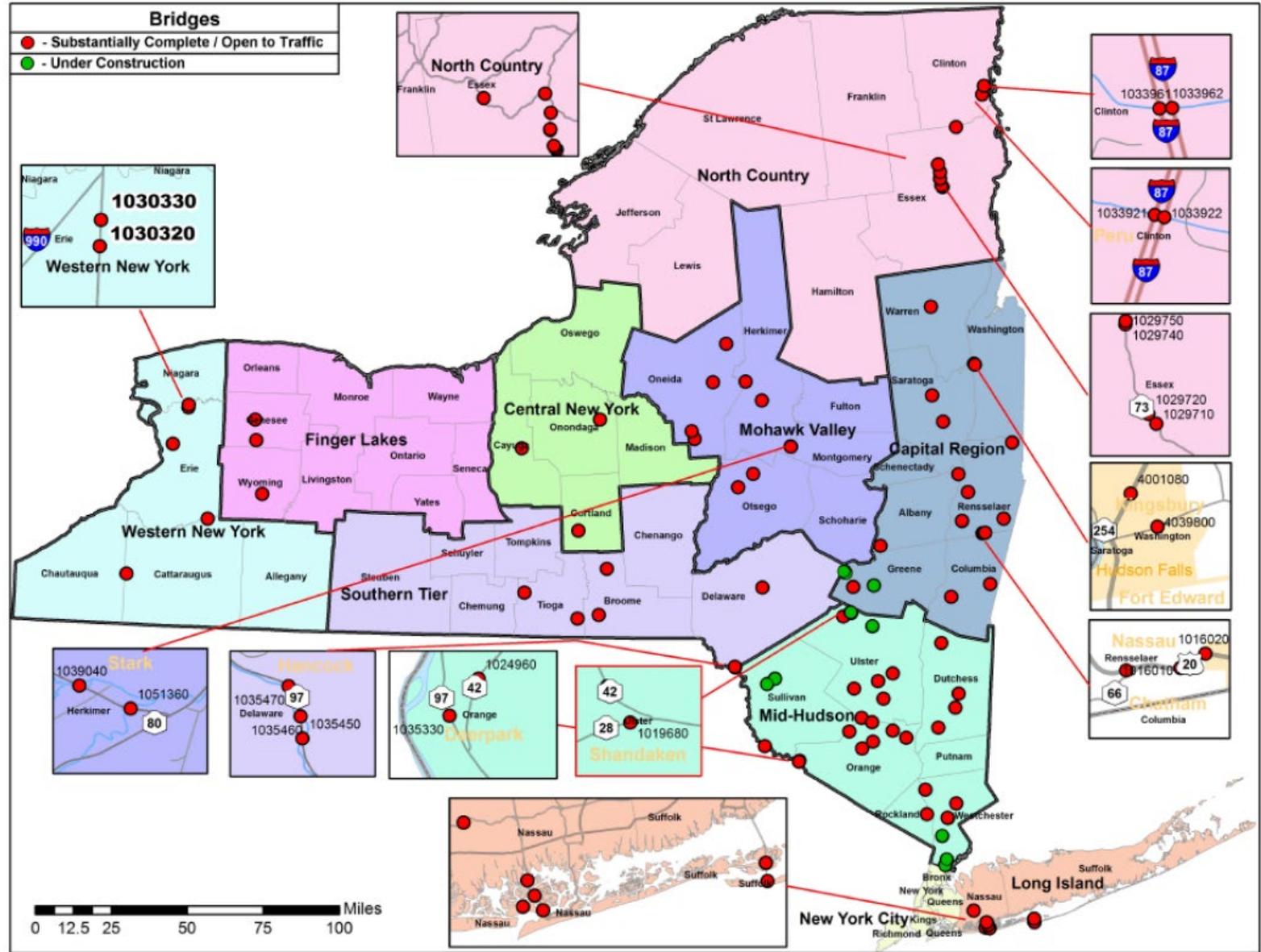
Risk Analysis Helps Establish

- A quantified assessment of uncertainties that could either threaten or benefit your TAM program

- One or more options, with costs, for mitigating each risk
  - Treat
  - Transfer
  - Terminate
  - Tolerate
  - Take advantage of

- What funding is available to you?

Financial Plan

Revenue Sources	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total
State Fuel Tax	$176	$178	$179	$181	$183	$185	$187	$188	$190	$192	$1,839
State Sales Tax	$93	$93	$94	$95	$96	$97	$98	$99	$100	$101	$968
State License and Registration Fees	$83	$84	$85	$86	$87	$87	$88	$89	$90	$91	$871
State Toll Revenues	$28	$28	$28	$29	$29	$29	$29	$30	$30	$30	$290
State General Funds	$93	$93	$94	$95	$96	$97	$98	$99	$100	$101	$968
State Bonds	$19	$19	$19	$19	$19	$19	$19	$19	$19	$19	$190
Subtotal State Revenue Sources	$491	$495	$500	$505	$510	$515	$520	$525	$530	$535	$5,126
National Highway Preservation Program	$290	$290	$290	$292	$295	$298	$301	$304	$307	$310	$2,978
Surface Transportation Block Grants	$97	$97	$97	$97	$98	$99	$100	$101	$102	$103	$993
Other Federal Programs	$48	$48	$48	$49	$49	$50	$50	$51	$51	$52	$496
Subtotal Federal Revenue Sources	$434	$435	$434	$439	$443	$447	$452	$456	$461	$466	$4,467
Local Match	$10	$10	$11	$11	$11	$11	$11	$11	$12	$12	$110
Subtotal Local Revenue Sources	$10	$10	$11	$11	$11	$11	$11	$11	$12	$12	$110
Total Revenue	$935	$941	$945	$954	$964	$973	$983	$993	$1,002	$1,012	$9,702

Source: FHWA. 2017. Developing TAMP Financial Plans

Investment Strategy Development – A Balancing Act

- Available finances
- Performance gap analysis
  - Condition predictions
  - Targets and SOGR
  - Needs from other plans
- Preferred LCP strategy
- Risk analysis results

NYSDOT NHS Bridge Investment Strategy Example

Bridge Projects for $575M

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
$(M) FHWA Reconstruction	$490.98	$388.57	$450.01	$544.97	$560.99	$565.28	$556.56	$560.94	$557.89	$548.68
$(M) FHWA Rehabilitation	$264.38	$199.53	$30.80	$16.42	$0.91	$1.29	$0.96	$1.44	$0.74	$4.95
$(M) FHWA Maintenance	$170.81	$22.88	$80.15	$3.34	$0.39	$0.70	$0.63	$1.41	$0.76	$2.84
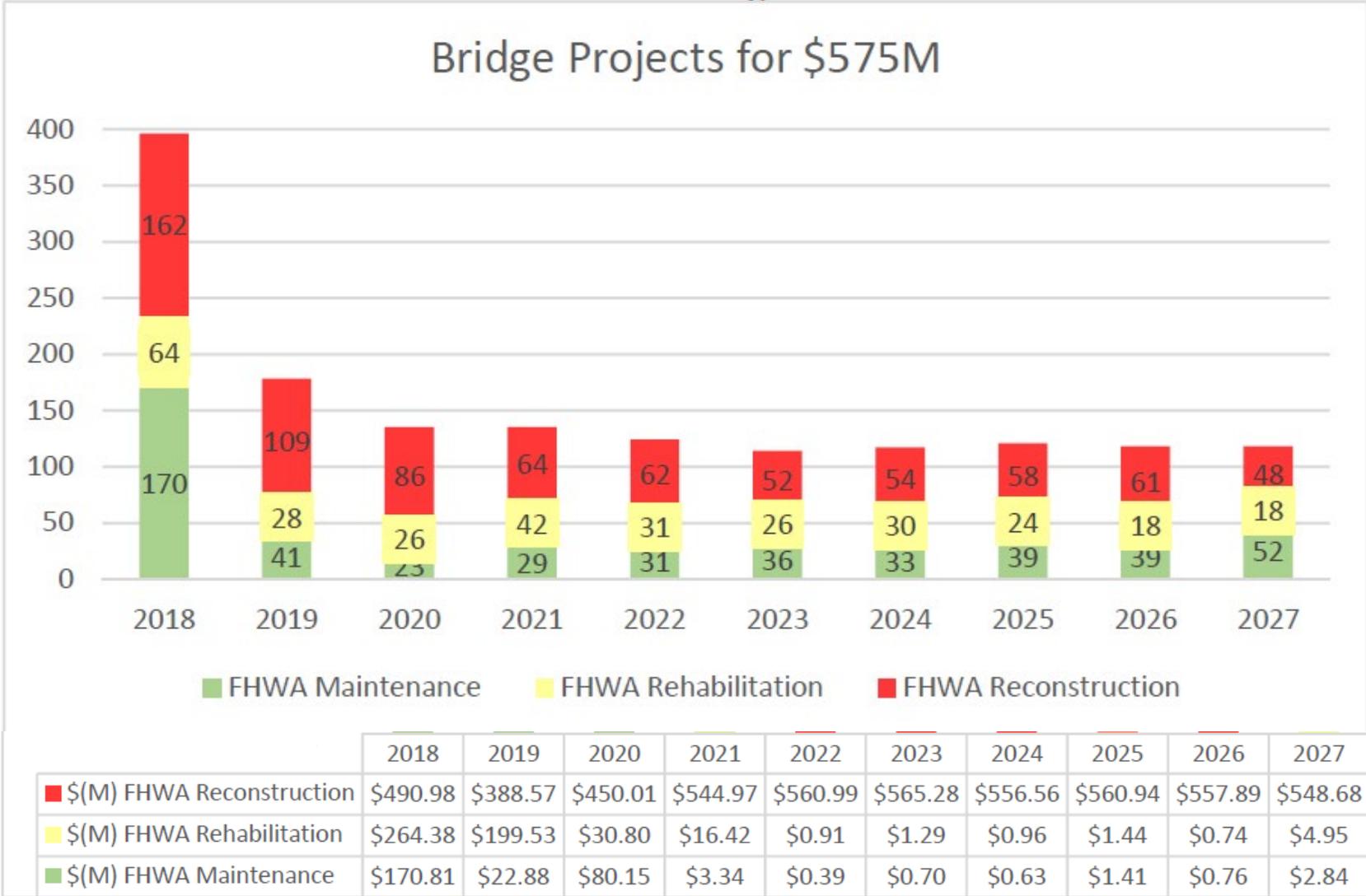
Source: New York State TAMP

TAMP investment strategies should collectively make or support progress toward

- Achieving and sustaining a desired state of good repair over the life cycle of the assets

- Improving or preserving the condition of the assets and the performance of the system relating to physical assets

- Achieving the State DOT targets for asset condition and performance of the NHS in accordance with 23 USC 150(d)

- Achieving the national goals identified in 23 USC 150(b)

- Addressing risks (threats and opportunities)

Investments to Implement Strategies

Work Type	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Initial construction	$$$$		$$$$$$$				$$$$$$$$$$			
Maintenance	$$	$$	$$	$$	$$	$$	$$	$$	$$	$$
Preservation	$$$	$$$	$$$	$$$	$$$	$$$	$$$	$$$	$$$	$$$
Rehabilitation	$$$$	$$$$	$$$$	$$$$	$$$$	$$$$	$$$$	$$$$	$$$$	$$$$
Reconstruction	$$	$$$$$			$$$$$		$$		$$$$$$	

Investment Strategy Questions

- What conditions are your assets in?
- What are your targets or long-term goals for asset conditions?
- How do asset conditions impact system performance?
- Do you understand how different investments impact asset conditions
  - In the short term?
  - Over the asset life cycle?
- What risks are priorities for you and what can you do to address them?
- What funding is available to you?
- How do you plan to balance funding across your priorities?
- What type of actions will be taken through those funding priorities?

Update to Investments & Performance Analysis

Dawn Foster & Youwei Zhou

HQ Office of Asset Management, Caltrans

Building Blocks for Performance Gap Analysis

Baseline Inventory and Condition of NHS pavement and bridges	Available funding for NHS pavement and bridges by federal work types	Unit cost of work to improve condition
Type of work to improve fair to good or poor to good	Deterioration rates of NHS pavement and bridges	Desired State of Repair (DSOR) Targets

Performance Gap Analysis – What We Have?

From Prior Workshops:

- Inventory and Condition of NHS pavement and bridges
- MPOs verified or provided their own baseline **NHS investments by federal work types** for both pavement and bridges
- Majority of MPOs indicated that an escalation factor was needed for projecting a 10-Year Investment Plan
- MPOs have indicated through a survey that risk mitigation costs are either included in investments or unknown

Performance Gap Analysis – What Else is Needed?

- **Deterioration Rates**
  - For Pavement – State Highway System Class 3 Pavement
  - For Bridges – State Highway System Bridge

- **Unit Costs of Work**
  - State Highway System Unit Costs for Pavement and Bridges

- **Targets**
  - Updated performance outcomes for NHS pavement and bridges over the 2022 TAMP 10-Year period can be compared to DSOR targets to determine performance gaps

Performance Gap Analysis – What Else is Needed?

Mapping Federal Work Types to Condition Improvement

Improve Asset Condition	Initial Construction	Maintenance	Preservation/ Rehab	Reconstruction
Poor to Good	No Impact	No Impact	Include	Include
Fair to Good	No Impact	No Impact	Include	No Impact

Notes: Initial Construction is assumed to add new inventory over the TAMP 10-Year period
Maintenance Work is assumed to maintain condition over the TAMP 10-Year period

Demonstration of New Performance Tool

2022 California TAMP Asset Performance Simulation Tool

A. Legend

 	Cells for data entry

B. Analysis Parameters

General

Agency	AMBAG	Asset	Pavement	Annual Escalation Rate	3.20%
Years of Analysis	10	Current Inventory	268.6 Lane Miles	Escalation Period (Years)	5
				Improvement Adjustment Factor	100%

Investment (Expected Annual Funding)

Use Default or Override Parameters?	Override				

Annual Funding by Work Type	Initial Const.	Maint.	Preser/Rehab	Reconstruction	Total
Default	$ 4,087	$ 513,129	$ 1,005,671	$ 2,308,276	$ 3,831,163
Override	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 4,000,000
% on Risk Mitigation			10%	1%	-
$ on Risk Mitigation		$ 100,000	$ 10,000	$ 110,000	

% Spending on Fair to Good	11.3%
% Spending on Poor to Good	36.0%
% Spending on Adding New	25.0%
% Spending on Risk Mitigation	2.8%
% Spending on Other (Maint.)	25.0%

Average Unit Costs

Use Default or Override Parameters?	Override

Treatment	Default - Current			Override - Current			Unit Cost Used - Escalated		
	Capital ($/LM)	Support Ratio	Total ($/LM)	Capital ($/LM)	Support Ratio	Total ($/LM)	Capital ($/LM)	Support Ratio	Total ($/LM)
Fix Fair to Good	$ 553,053	0.24	$ 685,786	$ 400,000.0	0.24	$ 496,000	$ 468,229	0.24	$ 679,640
Fix Poor to Good	$ 731,301	0.24	$ 906,813	$ 600,000.0	0.24	$ 744,000	$ 702,344	0.24	$ 870,906
Add New	$ 731,301	0.24	$ 906,813	$ 731,301.0	0.24	$ 906,813	$ 856,041	0.24	$ 1,061,491

In Summary - TAMP Performance Tool

- Tool calculates projected condition of NHS pavement and bridges over the TAMP 10-Year period

- Results are based on the "building blocks"/input values used to calculate conditions over time

- Input values color-coded in green are available for override in the spreadsheet

- Tool can be used to evaluate or simulate impacts to performance outcomes

- Results will be used for development of Statewide TAMP targets

- Caltrans will prepare customized Tools for each MPO

Request for Information

- MPOs will be sent the NHS Pavement and Bridge Performance Reporting form after the workshop

- Includes the TAMP Performance Spreadsheet Tool customized to each MPOs information

- Review results of tool for condition of pavement and bridges and override input values as needed for acceptable end of period conditions

- Sign and return the filled form and spreadsheet to Caltrans by September 3rd

- Each MPO's response will be used for developing statewide condition targets for the TAMP

2022 TAMP Development
National Highway System
Pavement and Bridge Expected Performance Reporting Form

Please follow the below steps and submit your agency's completed National Highway System (NHS) Pavement and Bridge Expected Performance Form and TAMP Performance spreadsheet by **Friday, September 3, 2021**, to CT-TAM@dot.ca.gov.

Step 1:

Complete your agency information.

Agency Information	
Agency (MPO/RTPA)	
Contact Name	
Title	
Phone	
Email	

Step 2:

Review your agency's expected performance of NHS pavement and bridge conditions provided in the attached TAMP Performance Spreadsheet Tool. Instructions have been included.

If you were unable to attend the workshop that provided the background information on this request, the full presentation has been posted to Caltrans 2022 TAMP Workshop Series webpage at: https://dot.ca.gov/programs/asset-management/virtual-workshop-series-for-the-2022-tamp-update

Step 3:

The TAMP Performance Spreadsheet Tool calculates expected condition of NHS pavement and bridges over the TAMP 10-Year period. The results are based on the following input values used to calculate asset conditions over time:

- Baseline Inventory and Condition for your region
- Annual Investments in NHS Pavement and Bridges by the 5 Federal Work Types
- Assumed Deterioration Rates
- Assumed Unit Costs of Work to Improve Condition
- Assumed Risk Mitigation Work by % of Annual Investments

Any input value that has been color coded in "green" is available for override within the spreadsheet allowing you to revise the values and evaluate different performance outcomes.

Select 1 of the following reporting methods below by checking the box next to the appropriate method and provide the required information for the method you choose.
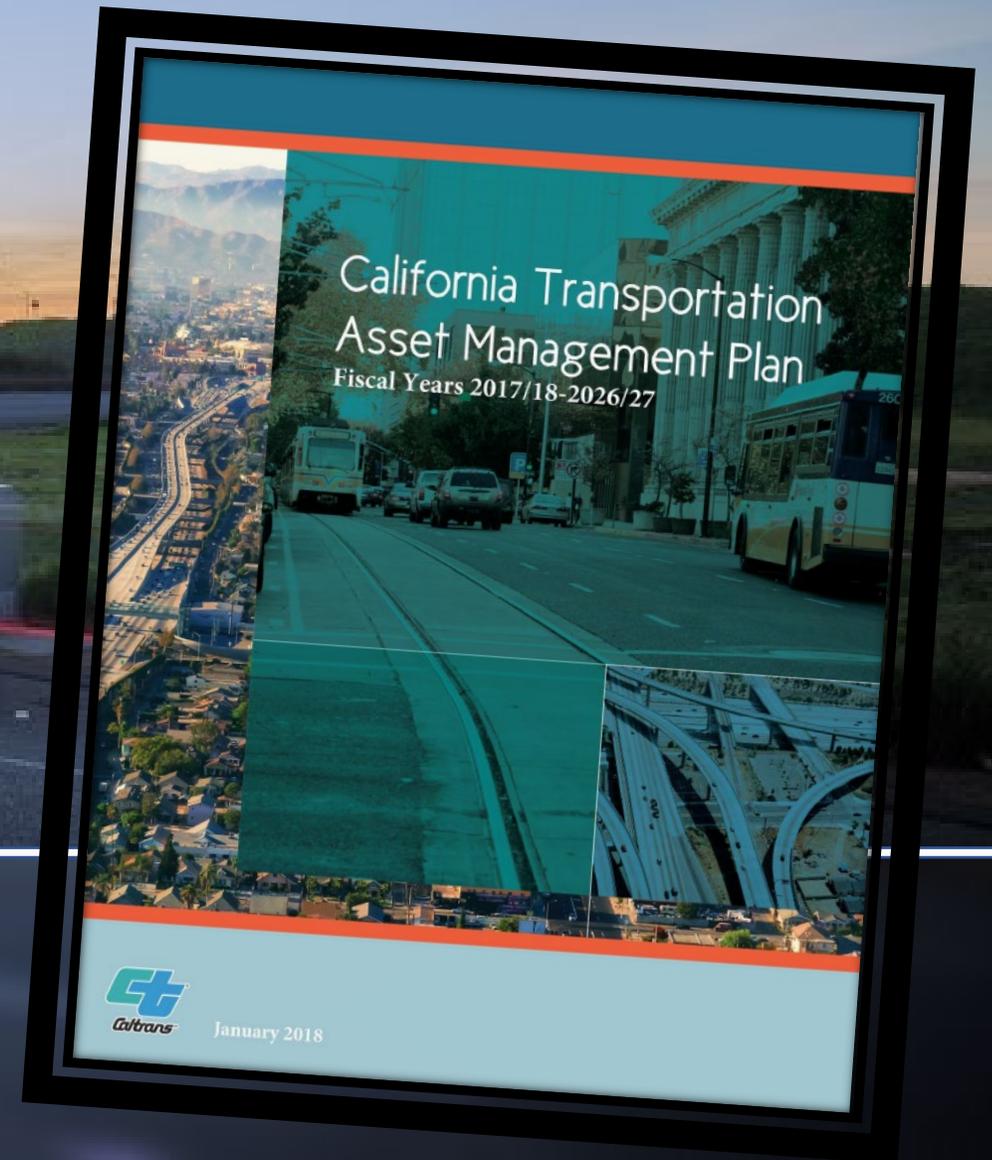
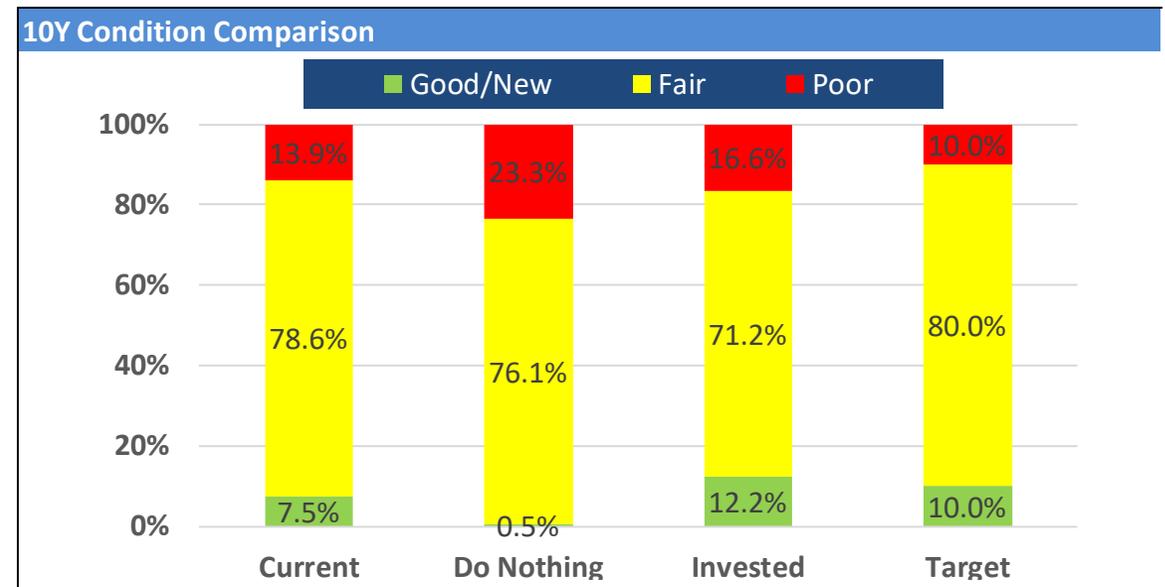Page 1 of

Closing Remarks

Michael B. Johnson

State Asset Management Engineer

HQ Office of Asset Management, Caltrans

Workshop Summary

- Different approach to 2022 TAMP

- Agency specific analysis will be used

- Analysis tool will be provided by Caltrans

- Agency results will be aggregated at a statewide level

10Y Condition Comparison

Legend: ■ Good/New ■ Fair ■ Poor

	Current	Do Nothing	Invested	Target
Poor	13.9%	23.3%	16.6%	10.0%
Fair	78.6%	76.1%	71.2%	80.0%
Good/New	7.5%	0.5%	12.2%	10.0%

**2022 California TAMP Asset Performance Simulation Tool**

Action Items

- Request for Information will be sent to MPOs with Regional TAMP Performance Tool after workshop

- Response from MPOs needed by **Friday, September 3, 2021**

- Upcoming Performance Tool Workshop will be held on:

  Monday, August 16th from 9-11 AM

Please Join Us for Developing the 2022 TAMP

2022 TAMP Virtual Workshop #5
TAMP Improvements
Date: TBD, August/September 2021
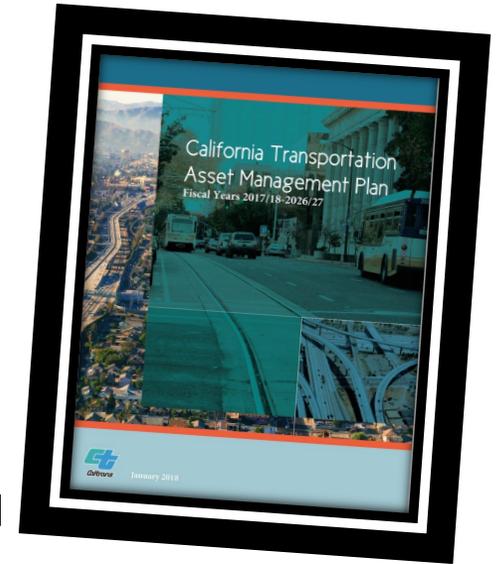
An Email from CT-TAM@dot.ca.gov will be sent to you shortly with further details!

Visit Caltrans new TAMP Webpage for a short survey:

https://dot.ca.gov/programs/asset-management/california-transportation-asset-management-plan

Thank You

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

Caltrans

January 2018

Informal Question and Answer Session

- For those of you who have additional questions and time, Caltrans will continue to be available for 1-hour after each Workshop for an informal question and answer session

  - Provides more time to gather feedback from stakeholders
  - Provides opportunity for anyone to participate and talk
  - Provides additional hours of collaboration

  Please stay connected to Webex for this additional opportunity