



OahuMPO Policy Board

September 28, 2018



- I. Call to order by Chair
- II. Introductions/Roll Call



III. August 31, 2018 Meeting Minutes



IV. Reports

A. Executive Director



V. Old Business

A. Revision to the Citizens Advisory Committee (CAC) Bylaws



VI. New Business

A. Performance Measures Targets – Pavement and Bridge Condition & Freight Performance



Performance Management

- Introduced in 2012 under MAP-21
 - Reaffirmed in 2015 FAST Act
- Strategic approach to use data to inform decision-making and evaluate outcomes





MPOs & Target-setting

- Transit Asset Management (last year)
- Safety (last year)
- **Pavement and Bridge Condition (today!)**
- **Freight Performance (today!)**
- National Highway System Performance (November)
- Congestion Mitigation and Air Quality (CMAQ) measures (not applicable)

Final Measures: Pavement and Bridge Condition

Measure Area	Performance Measures
National Performance Management Measures to Assess Pavement Condition (Subpart C)	<ul style="list-style-type: none"> • Percentage of pavements of the Interstate System in Good condition • Percentage of pavements of the Interstate System in Poor condition • Percentage of pavements of the non-Interstate NHS in Good condition • Percentage of pavements of the non-Interstate NHS in Poor condition
National Performance Management Measures to Assess Bridge Condition (Subpart D)	<ul style="list-style-type: none"> • Percentage of NHS bridges classified as in Good condition • Percentage of NHS bridges classified as in Poor condition

Note: These measures contribute to assessing the National Highway Performance Program (NHPP)





HDOT Target Setting

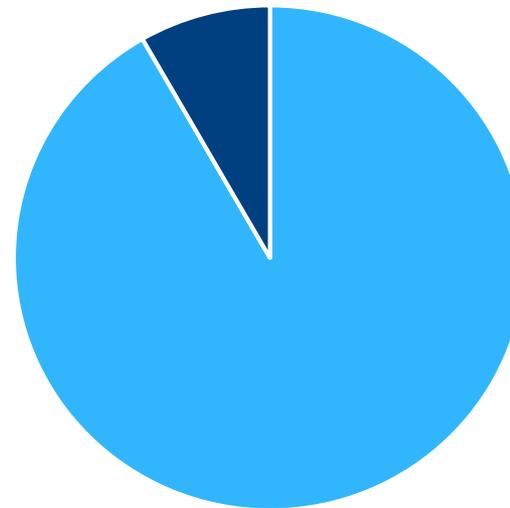
- Within the context of the Transportation Asset Management Plan (TAMP)
 - Inventory of items and their condition
 - Objectives and measures
 - Gap analysis
 - Risk management analysis



Jurisdiction – Oahu Pavement

- NHS Pavement Lane-miles by jurisdiction
 - State: 895
 - C/C Honolulu: 81

Pavement lane-miles



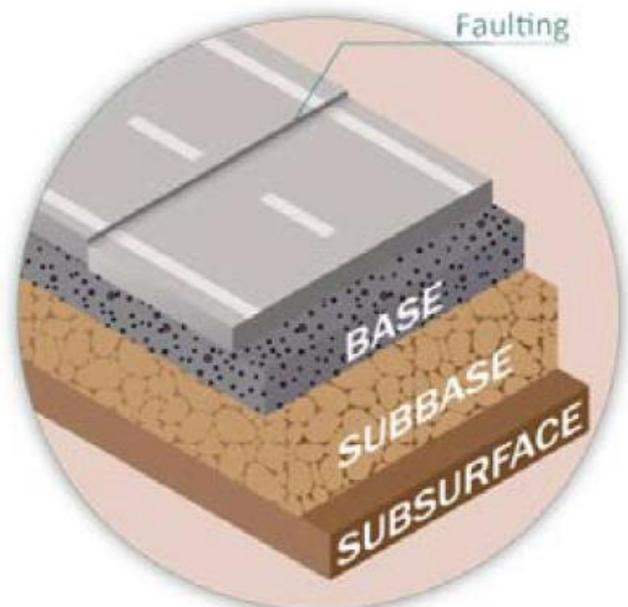
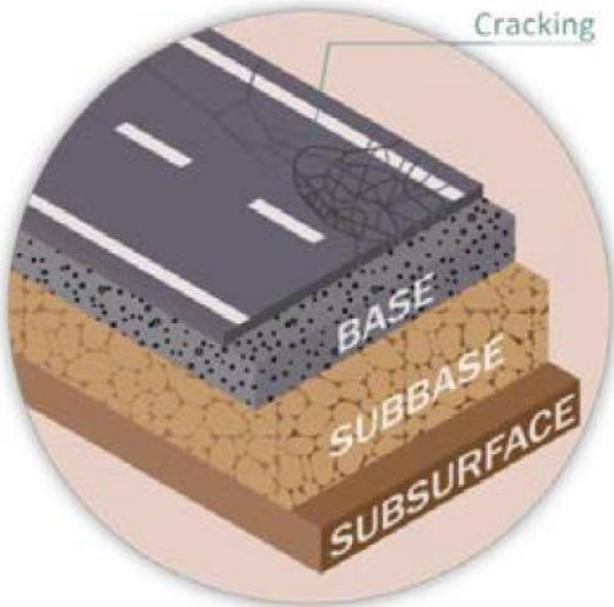
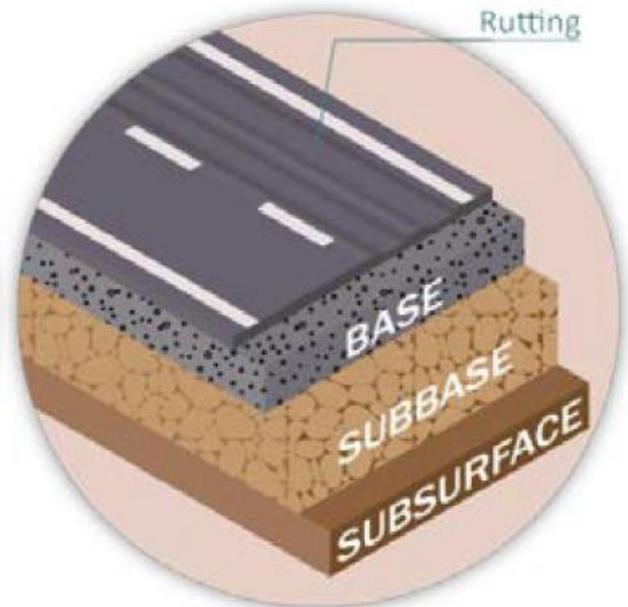
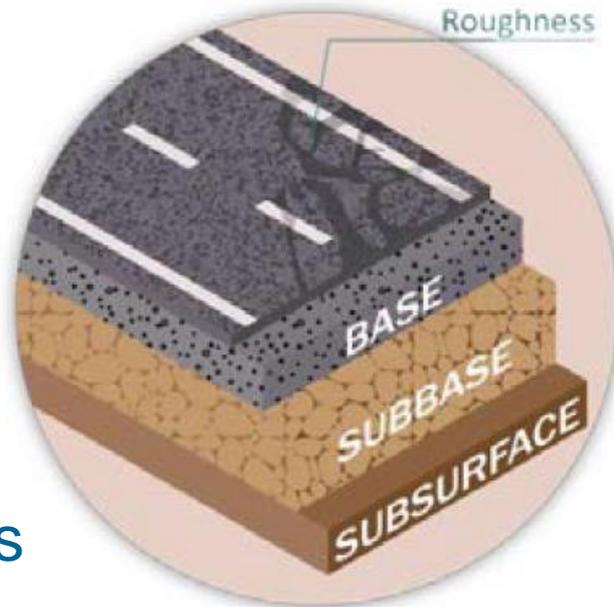
■ State ■ City/County



Oahu MPO

Assessing Pavement Condition

- Roughness
- Cracking
- Rutting
- Faulting

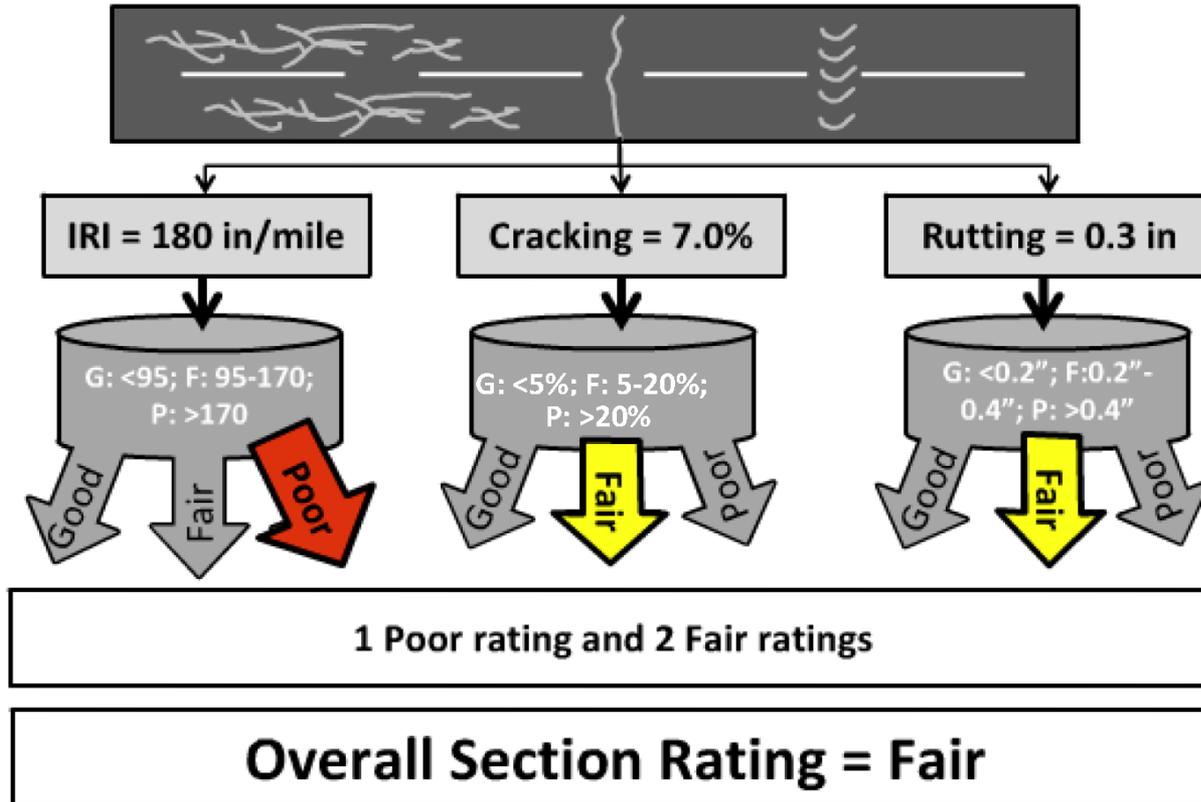


§ 490.311 Metric Thresholds in Final Rule

Rating	Good	Fair	Poor
IRI <i>(inches/mile)</i>	<95	95-170	>170
PSR* <i>(0.0-5.0 value)</i>	≥4.0	2.0-4.0	≤2.0
Cracking Percent <i>(%)</i>	<5	<i>CRCP: 5-10</i> <i>Jointed: 5-15</i> <i>Asphalt: 5-20</i>	>10 >15 >20
Rutting <i>(inches)</i>	<0.20	0.20-0.40	>0.40
Faulting <i>(inches)</i>	< 0.10	0.10-0.15	>0.15

*PSR may be used only on routes with posted speed limit < 40mph.

Pavement Metric Rating Example: Asphalt Surfaces, Interstate





NHS Pavement Inventory and Condition

	Lane- Miles	Good	Fair	Poor	
<i>All NHS</i>					
Interstate	342	6%	90%	4%	
Non-Interstate NHS	1136	16%	81%	3%	
<i>By Jurisdiction</i>					
Oahu District	895	5%	93%	2%	
Hawaii District	247	34%	63%	3%	
Maui District	177	39%	61%	0%	
Kauai District	54	7%	93%	0%	
City and County of Honolulu	81	0%	87%	13%	
County of Hawaii	24	0%	100%	0%	



HDOT Targets – Pavement Condition

Performance Measure	2016 Conditions	2-year Target	4-year Target	Performance Goal (10-year goal)	Federal minimum (if applicable)
Percentage of pavements on the Interstate classified in good condition	6%	7%	7%	10%	n/a
Percentage of pavements on the Interstate classified in poor condition	4%	4%	4%	4%	<5%
Percentage of non-Interstate NHS pavements classified in good condition	16%	15%	15%	20%	n/a
Percentage of non-Interstate NHS pavements classified in poor condition	3%	4%	4%	3%	n/a

§ 490.407 National Performance Management Measures for Assessing Bridge

Bridge Condition Measures

All NHS Bridges

Percentage of NHS bridges classified as in **Good** condition

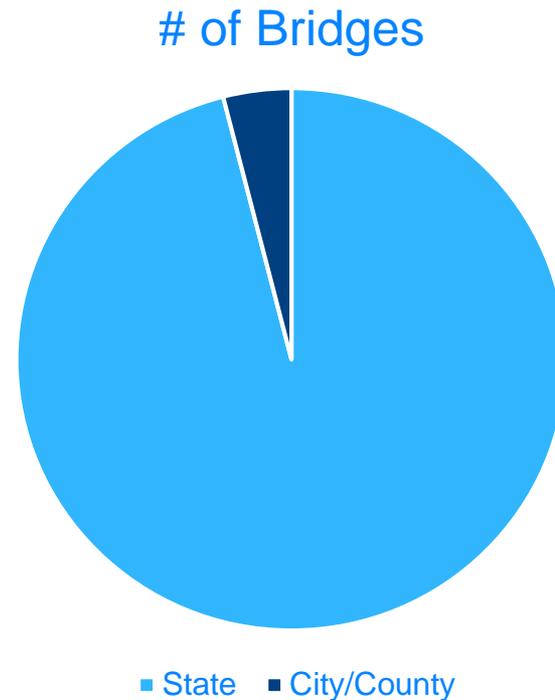
Percentage of NHS bridges classified as in **Poor** condition





Jurisdiction – Oahu Bridges

- NHS Bridges by jurisdiction
 - State: 384
 - C/C Honolulu: 16





Oahu MPO

Components of a Bridge

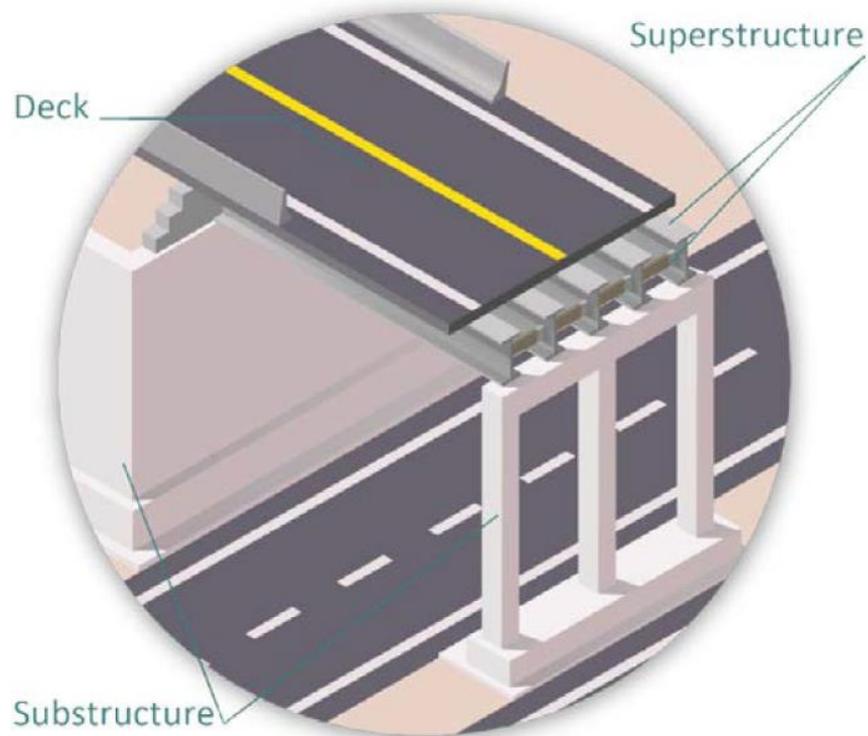


Figure 3.6. Bridge Components

Source: Caltrans Draft Transportation Asset Management Plan, October 2017

§ 490.409 Metric Thresholds

NBI Rating Scale
(from 0 – 9)

9	8	7	6	5	4	3	2	1	0
Good			Fair		Poor				

Deck <i>(Item 58)</i>	≥ 7	5 or 6	≤ 4
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Superstructure <i>(Item 59)</i>	≥ 7	5 or 6	≤ 4
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Substructure <i>(Item 60)</i>	≥ 7	5 or 6	≤ 4
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Culvert <i>(Item 62)</i>	≥ 7	5 or 6	≤ 4
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§ 490.409 Measure Calculations

Percent Classified as in Good condition:

$$100 * \frac{\sum_{g=1}^{\text{GOOD}} [\text{Length} * \text{Width}]_{\text{Bridge } g}}{\sum_{s=1}^{\text{TOTAL}} [\text{Length} * \text{Width}]_{\text{Bridge } s}}$$

Percent Classified as in Poor condition:

$$100 * \frac{\sum_{p=1}^{\text{POOR}} [\text{Length} * \text{Width}]_{\text{Bridge } p}}{\sum_{s=1}^{\text{TOTAL}} [\text{Length} * \text{Width}]_{\text{Bridge } s}}$$

Calculations are taken to one tenth of a percent





NHS Bridges by Jurisdiction & Condition

	Amount	Good	Fair	Poor	
<i>All NHS</i>					
NHS Bridges	533	23%	75%	2%	
<i>By Jurisdiction</i>					
Oahu District	384	20%	79%	1%	
Hawaii District	77	75%	19%	6%	
Maui District	41	38%	50%	12%	
Kauai District	14	38%	51%	11%	
City and County of Honolulu	16	25%	67%	8%	
County of Hawaii	1	100%	0%	0%	



HDOT Targets – Bridge Condition

Performance Measure	2016 Conditions	2-year Target	4-year Target	Performance Goal (10-year goal)	Federal minimum (if applicable)
Percentage of NHS bridges classified in good condition	23%	20%	20%	23%	n/a
Percentage of NHS bridges classified in poor condition	2%	2%	2%	2%	< 10% structurally deficient



Summary: Pavement & Bridge Targets

Performance Measure	2-year Target	4-year Target
Percentage of pavements on the Interstate classified in good condition	7%	7%
Percentage of pavements on the Interstate classified in poor condition	4%	4%
Percentage of non-Interstate NHS pavements classified in good condition	15%	15%
Percentage of non-Interstate NHS pavements classified in poor condition	4%	4%
Percentage of NHS bridges classified in good condition	20%	20%
Percentage of NHS bridges classified in poor condition	2%	2%

Subpart F Measure

- **Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index**
 - The sum of maximum TTTR for each reporting segment, divided by the total Interstate system miles

§ 490.611 Freight Reliability Metric (Example)

$$\frac{\text{Longer Truck Travel Time (95th)}}{\text{Normal Truck Travel Time (50th)}} = \frac{\# \text{ seconds}}{\# \text{ seconds}} = \text{Truck Travel Time Reliability (TTTR) Ratio}$$

Truck Travel Time Reliability (TTTR) (Single Segment, Interstate Highway System)

Monday – Friday	6am – 10am	$\text{TTTR} = \frac{72 \text{ sec}}{50 \text{ sec}} = 1.44$
	10am – 4pm	TTTR = 1.39
	4pm – 8pm	TTTR = 1.49
Weekends	6am – 8pm	TTTR = 1.31
Overnight	8pm – 6am	TTTR = 1.20
Maximum TTTR		1.49

HPMS Submittal: Starting in 2018, State DOTs report TTTR metrics and the corresponding 95th and 50th percentile times for each time period and each reporting segment by June 15 of each year, for the previous year's measures



§ 490.613 Calculating Freight Reliability Measure (Example)

$$\text{TTTR Index} = \frac{\sum \text{All segment length weighted TTTR}}{\sum \text{All segment lengths}}$$

Segment length (mi.)	0.500	0.500	1.000	1.000	5.000
MaxTTTR	x	x	x	x	x
	1.49	1.59	1.50	1.41	1.36
Length-weighted TTTR	=	=	=	=	=
	0.75	0.80	1.50	1.41	6.80

$$\text{TTTR Index} = \frac{11.25}{8.000 \text{ mi}} = \mathbf{1.41}$$

Measure: TTTR Index, full extent of the Interstate system





HDOT Target – Truck Travel Time Reliability

Performance Measure	2017 Conditions	4-year Target
Weekday morning peak TTTR (6am - 10am)	1.80	1.80
Weekday mid-day TTTR (10am – 4pm)	1.60	1.60
Weekday Afternoon Peak TTTR (4pm – 8pm)	1.70	1.70
Weekend TTTR (6am – 8pm)	1.40	1.40
Daily Night TTTR (8pm – 6am)	1.30	1.30



MPO requirements

- Respond to targets set by State DOT
- Report on progress toward meeting targets in next long-range plan (ORTP)
- Show how projects programmed in the TIP will support meeting targets



OahuMPO Options for Coordination

- Agree to plan and program projects that support and contribute toward the accomplishment of the State's targets;
- Commit to its own quantifiable targets for all performance measures for the metropolitan planning area; or
- Develop a combination of both.



OahuMPO Recommended Response

- Agree to plan and program projects that support and contribute toward the accomplishment of the State's Pavement and Bridge Condition and Freight Performance targets and integrate the targets into OahuMPO's planning process.



Reasons for Response

- Familiarization with targets, data, and analysis required
- Nearly 100% of this infrastructure is HDOT facilities
- Opportunity to revisit targets in the future



Requested action

- Direct OahuMPO staff to agree to plan and program projects that support and contribute toward the accomplishment of the State's Pavement Condition, Bridge Condition, and Freight Performance targets and integrate the targets into OahuMPO's planning process.



VII. Invitation to interested members of the public to be heard on matters not included on the agenda

VIII. Announcements

IX. Adjournment