



# OahuMPO Technical Advisory Committee

September 14, 2018



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



## III. August 10, 2018 Meeting Minutes



## IV. Reports

### A. Executive Director



## V. Old Business None



## VI. New Business

### A. FY20 Overall Work Program



# Overall Work Program (OWP)

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- **Primary Purpose**
  - MPO Administration
  - Federally-Required MPO Work

## **REQUIRED MPO PLANNING ACTIVITIES**

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- MPO Administration / Management
- Federally-Required Work:
  - Overall Work Program
  - Transportation Improvement Program
  - Regional Transportation Plan
  - Congestion Management Process
  - Public Participation Plan
  - Title VI



# Overall Work Program (OWP)

- Necessary and reasonable planning activities that assist the MPO reach its goals and performance targets
  - Carried out by the MPO or other partners/consultants

## NECESSARY & REASONABLE PLANNING ACTIVITIES

- Data Development & Maintenance
  - GIS, Modeling, Census, etc.
- Short-Range Planning
  - Bicycle, Pedestrian, Transit, Thoroughfare, Corridor, Safety, ITS, etc.
- Long-Range Planning
  - Bicycle Plan, Pedestrian Plan, Transit, Resiliency, etc.
- Special Studies
  - One-time studies



# Overall Work Program (OWP)

- Work that is not eligible
  - Construction projects
  - Operations
  - General interpretation:  
*If you've already defined "what" you want to build and "where", then it's not eligible in the OWP.*

## NOT ELIGIBLE

- Construction projects are not eligible in the Overall Work Program; all construction projects using Federal funds must be programmed in the Transportation Improvement Program (TIP)
- All phases of construction projects (design, engineering, etc.) are programmed in the TIP not the OWP



## Potential OWP Work

- Directly supports Federally-required MPO work
  - ORTP, TIP, CMP, PPP, Title VI, etc.
- Supports the “Federal Planning Factors”
  - 10 factors, 23 CFR Part 450.300
- Supports the goals in the Oahu Regional Transportation Plan (ORTP)
  - 2040 plan has 8 goals (pg. 19, ORTP)
- Supports other MPO, State, City, HART, etc., planning efforts



# Potential OWP Work

- **Studies/Plans:**
  - Resiliency
  - Tourism/Travel
  - Safety
  - Transportation + Land Use Studies
  - New Mobility (shared, AV, EV, etc.)
- **Data**



# Proposed Future OWP Format

TASK 1 MPO Administration and Management

TASK 2 Data Development and Maintenance

TASK 3 Short-Range Planning

TASK 4 Long-Range Planning

TASK 5 Special Studies

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# Proposed Future OWP Format

TASK 1 Administration, overhead, OWP, public participation, etc.

TASK 2 GIS, Census, modeling, etc.

TASK 3 TIP, multimodal studies, safety, air quality, etc.

TASK 4 ORTP, multimodal plans, resiliency, etc.

TASK 5 Special one-time studies

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# FY20 OWP Process

- **CAC**

- August 15 meeting: OahuMPO presented on OWP and requested CAC ideas by September 5
- Four ideas were sent to OahuMPO: North Shore Corridor Study, ADA Accessibility Analysis, Traffic Signal Timing Evaluation, and Congestion Pricing
- OahuMPO is engaging CAC members and partners to understand existing work addressing these topics
- September 19 meeting: continue discussion with CAC on these ideas and how to address them



# FY20 OWP Process

- **Where we are right now**
  - OahuMPO is engaging partner agencies about their ideas for future OWP work elements
  - CAC: OahuMPO presented the OWP at the August 15 meeting; requested ideas from CAC members; OahuMPO received 4 ideas; OahuMPO/CAC continue discussion at September 19 meeting



# FY20 OWP Process

- What's next
  - Continue discussions with partners
    - If you have an idea for a proposal, then let us know. Early discussions with us will help us improve work in the OWP.
  - OahuMPO will issue a call for work elements



## VI. New Business

### B. 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 (next month)
- 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"> <li>• Percentage of pavements of the Interstate System in Good condition</li> <li>• Percentage of pavements of the Interstate System in Poor condition</li> <li>• Percentage of pavements of the non-Interstate NHS in Good condition</li> <li>• Percentage of pavements of the non-Interstate NHS in Poor condition</li> </ul>
National Performance Management Measures to Assess Bridge Condition (Subpart D)	<ul style="list-style-type: none"> <li>• Percentage of NHS bridges classified as in Good condition</li> <li>• Percentage of NHS bridges classified as in Poor condition</li> </ul>

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





Oahu MPO

# National Highway System on Oahu



Source: FHWA



# HDOT Target Setting

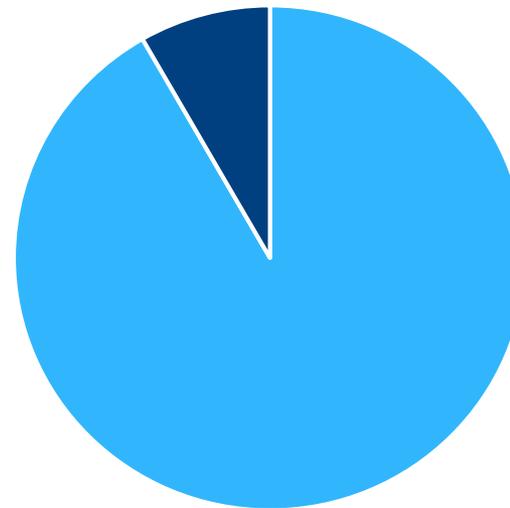
- Within the context of the Transportation Asset Management Plan (TAMP)
  - Inventory of items and their condition
  - Objectives and measures
  - Gap analysis
  - Risk management analysis



# Jurisdiction – Oahu Pavement

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

Pavement lane-miles

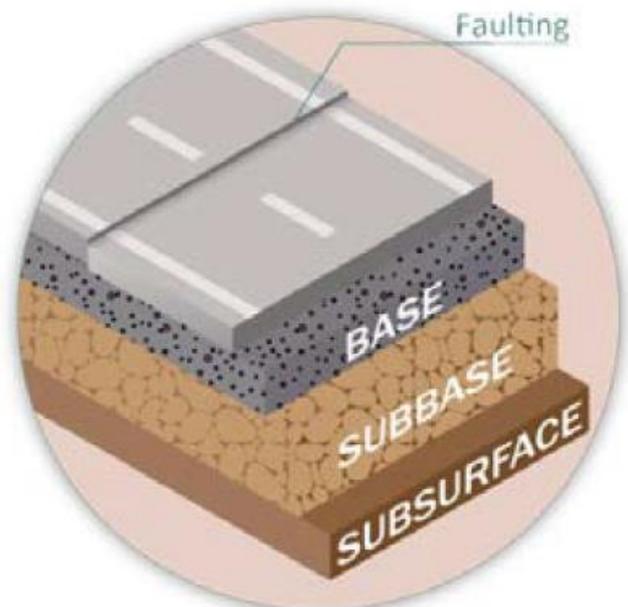
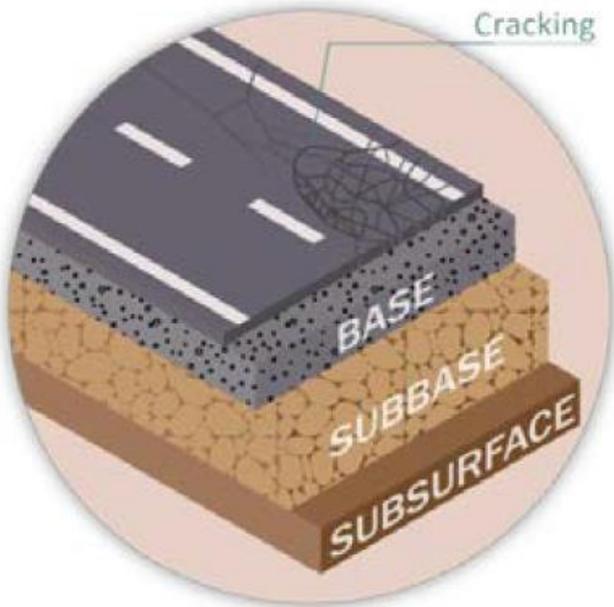
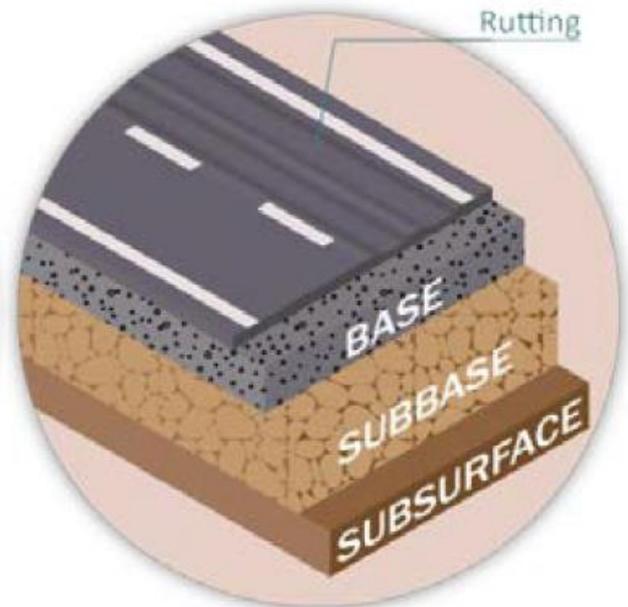
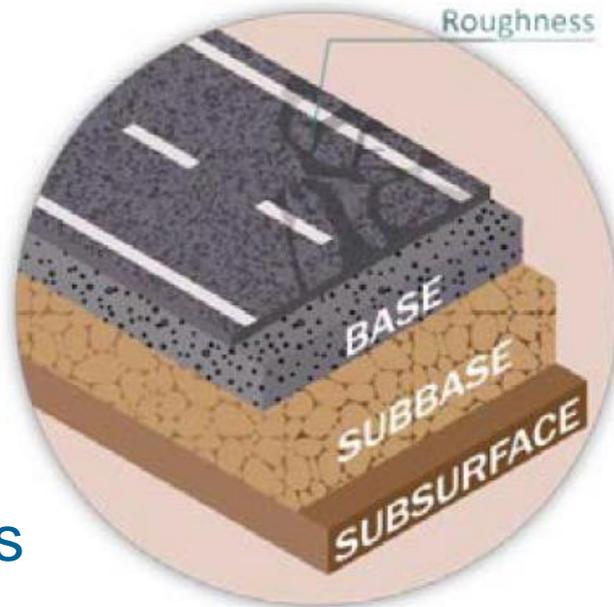


■ State ■ City/County



# Assessing Pavement Condition

- Roughness
- Cracking
- Rutting
- Faulting

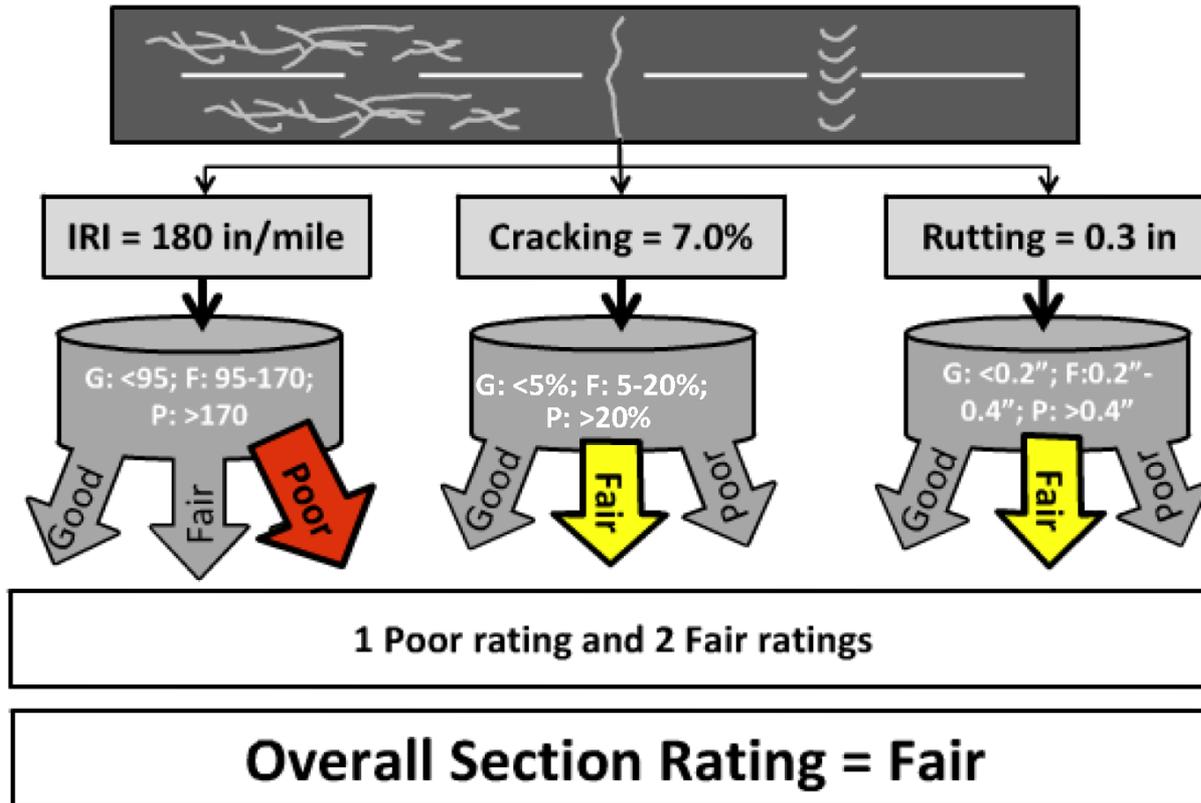


## § 490.311 Metric Thresholds in Final Rule

Rating	Good	Fair	Poor
IRI <i>(inches/mile)</i>	<95	<b>95-170</b>	>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>	< <b>0.10</b>	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 <b>good</b> condition	6%	7%	7%	10%	n/a
Percentage of pavements on the Interstate classified in <b>poor</b> condition	4%	4%	4%	4%	<5%
Percentage of non-Interstate NHS pavements classified in <b>good</b> condition	16%	15%	15%	20%	n/a
Percentage of non-Interstate NHS pavements classified in <b>poor</b> 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

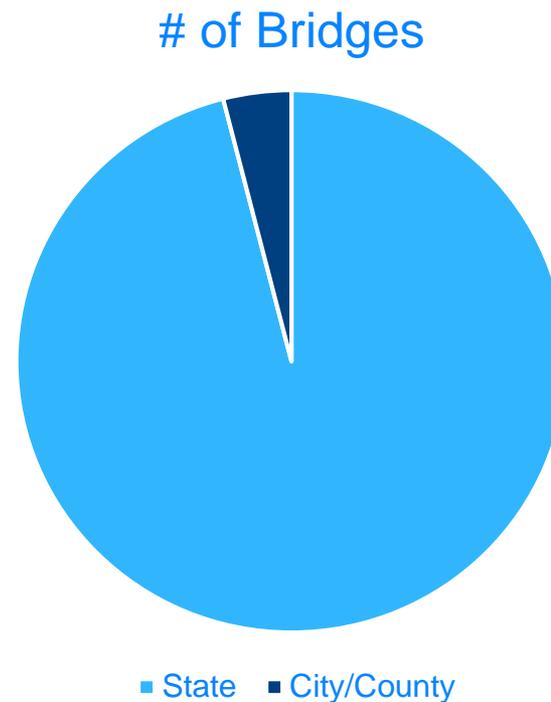
Percentage of NHS bridges classified as in **Poor** condition



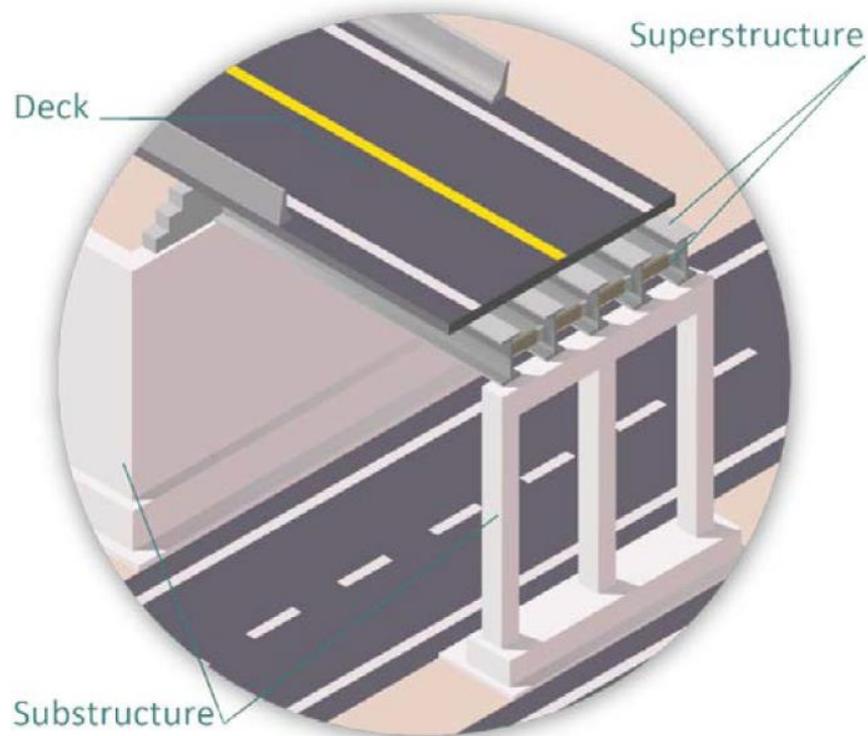


# Jurisdiction – Oahu Bridges

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



# 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>	$\geq 7$	5 or 6	$\leq 4$
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Superstructure <i>(Item 59)</i>	$\geq 7$	5 or 6	$\leq 4$
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Substructure <i>(Item 60)</i>	$\geq 7$	5 or 6	$\leq 4$
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Culvert <i>(Item 62)</i>	$\geq 7$	5 or 6	$\leq 4$
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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 <b>good</b> condition	23%	20%	20%	23%	n/a
Percentage of NHS bridges classified in <b>poor</b> 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 <b>good</b> condition	7%	7%
Percentage of pavements on the Interstate classified in <b>poor</b> condition	4%	4%
Percentage of non-Interstate NHS pavements classified in <b>good</b> condition	15%	15%
Percentage of non-Interstate NHS pavements classified in <b>poor</b> condition	4%	4%
Percentage of NHS bridges classified in <b>good</b> condition	20%	20%
Percentage of NHS bridges classified in <b>poor</b> condition	2%	2%

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## *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	<b>TTTR = 1.49</b>
Weekends	6am – 8pm	TTTR = 1.31
Overnight	8pm – 6am	TTTR = 1.20
Maximum TTTR		<b>1.49</b>

**HPMS Submittal:** Starting in 2018, State DOTs report TTTR metrics and the corresponding 95<sup>h</sup> and 50<sup>th</sup> 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

- Recommend OahuMPO's response to Pavement and Bridge Condition and Freight Performance targets for Policy Board consideration and approval.



## VI. New Business

### C. HDOT's Draft Performance-Based Project Prioritization



**Smart Growth America**

Improving lives by improving communities

# Performance-Based Project Prioritization \*Draft\* Procedure

Version 2.0

August 15, 2018

# SmartTRAC

SmartTRAC is a process to assess how well proposed transportation projects address state priorities -- relative to the requested funding

- Provides predictability/transparency
- Connects state funding to goals
- Promotes leveraging of state funds
- Improves our understanding of what benefits come from which investments

# SmartTRAC

- Primary state priorities
  - improving safety;
  - preserving the transportation system;
  - providing access to jobs and necessities;
  - reducing traffic congestion, and
  - protecting the environment and cultural assets.
- Secondary priority: timely project delivery

# SmartTRAC

- Applies to existing funding allocation system.
- Applies to projects seeking
  - state capital improvement program or major special maintenance program
  - major federal formula programs, NHPP, STP, CMAQ and HSIP.

# SmartTRAC

- Exceptions:
  - If counties want to adjust the scoring system for the funding they control, must propose it by September 4.
  - HDOT may set aside HSIP funds for education and enforcement programs, which are not subject to scoring under Smart TRAC
  - Projects under \$1 million in estimated cost (set-aside)
  - Projects through NEPA, fully funded and expected to go to bid by September 30, 2019

# SmartTRAC - Roles

- HDOT – Review and set funding for projects; provide available data; make reviews available.
- STAC/sub-STAC – Oversight of development and scoring.
- Applicant – coordinate with HDOT; define scope, schedule and budget; ensure project eligibility.
- Legislature – Review and comment.
- Stakeholders – opportunity to express support for projects proposed.

# SmartTRAC - Eligibility

- Applicants: Hawaii DOT, MPOs, counties and transit agencies.
- Projects:
  - capital projects and operational improvements
  - highway, bridge, rail, road, bicycle, pedestrian and transportation demand management projects.
  - projects with transit benefits
  - independent utility
  - Planning studies, engineering, environmental reviews only as part of project delivery

# SmartTRAC - Scoring

Goal Area	Points
Safety	20
System preservation	24
Access to Jobs and Necessities	16
Congestion Reduction	16
Environmental Protection	16
Project Readiness	8
Total	100
Total score divided by cost to HDOT	



# SmartTRAC - Scoring

- Safety
  - Reduce crashes (10 points)
  - Improves safety for vulnerable users (10 points)
- System preservation
  - Pavement condition (10 points)
  - Bridge condition (10 points)
  - Bonus: project in low income community (4 points)
  - Bonus: high priority freight or transit route (4 points)

# SmartTRAC - Scoring

- Access to jobs and necessities
  - Access to jobs and necessities 12 points
  - Bonus (4 points): project benefits low income community
- Congestion reduction
  - Person hours of delay (8 points)
  - Bonus: high priority freight route (4 points)
  - Bonus: transit route (4 points)

# SmartTRAC - Scoring

- Environment and Natural Resources
  - Reduce emissions (4 points)
  - Improve cultural resources (4 points)
  - Improves resilience (4 points)
- Project readiness
  - Project will go to bid within 4-year STIP (8 points)
- Cost
  - Project benefit score is divided by cost to HDOT

# SmartTRAC - Scoring

- Projects ranked by benefit/cost score
- Funding assigned to projects based on eligibilities

# SmartTRAC - Schedule

Action	Date
Projects submitted	9/4
County scoring determination	9/4
STAC/sub-STAC review	9/10
HDOT and county scoring	11/16
Development of final funding plan	11/30
STAC/sub-STAC review	12/7
Legislative review	12/14
Public announcement	12/21

# SmartTRAC – Rescoring

- Rescore projects over budget:
  - under \$5 million with 20% increase in funding requested;
  - \$5 million-\$10 million with an increase of funding requested of \$1 million or more; or
  - \$10 million and a 10% increase in funding requested.
- If new score is lower than the lowest project funded, project can be resubmitted with the new cost estimate for a future STIP.

# SmartTRAC – Rescoring

- Rescore projects with major schedule delays.
  - Projects funded and that have completed NEPA and expected to go to bid by Sep 30 of the fiscal year when the STIP is adopted will move forward.
  - Projects delayed beyond that point will be rescored for inclusion in the new STIP.

# SmartTRAC – Next Steps

- HDOT and sub-STAC members will conduct outreach on this prioritization process in September and October.
- Another round of outreach will be conducted after the STIP is adopted to get feedback and consider changes for the next round, which will take place in 2 years (2020).

# Questions and Comments





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

VIII. Announcements  
Next meeting is scheduled for October 12, 2018 at 9 am in the HART Board meeting room

IX. Adjournment