VI. New Business
B. Federal and Regional Performance Measures for the Oahu Regional Transportation Plan (ORTP) and the Transportation Improvement Program (TIP)

Federal Performance Measures

MAP-21 Performance Measures

- FHWA: safety, state of repair, system performance, freight, and air quality
- FTA: safety and state of repair
- NHTSA measures, include:
  - Unrestrained fatalities
  - Child safety restraints
  - Driving under the influence fatalities
  - Unhelmeted motorcyclists fatalities
  - Speeding-related fatalities
  - Fatalities involving drivers under 20

Note: No MPO requirements for NHTSA

Final Measures: Transit

Measure Area	Performance Measures
Transit Asset Management	• State of good repair for equipment, rolling stock, infrastructure, facilities
Safety	• Rule not yet finalized

Final Measures: Safety

Measure Area	Performance Measures
Highway Safety Improvement Program (HSIP)	• Number of fatalities on the roadway • Number of serious injuries on the roadway • Fatality rate • Serious injury rate
Added by FY2016 appropriations bill	• Number of bike/ped fatalities

Final Measures: Pavement and Bridge

Measure Area	Performance Measures
National Performance Management Measures to Assess Pavement Condition	• 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	• Percentage of NHS bridges classified as in Good condition • Percentage of NHS bridges classified as in Poor condition

Final Measures: System and Freight

Measure Area	Performance Measures
Performance of the National Highway System	• **Interstate Travel Time Reliability Measure**: Percent of person-miles traveled on the Interstate that are reliable • **Non-Interstate Travel Time Reliability Measure**: Percent of person-miles traveled on the non-Interstate NHS that are reliable
	• **Green House Gas Measure**: Percent change in tailpipe CO_2 emissions on the NHS compared to the calendar year 2017 level
Freight Movement on the Interstate System	• **Freight Reliability Measure**: Truck Travel Time Reliability (TTTR) Index

Final Measures: CMAQ

Note: Hawaii not required to use CMAQ measures

Measure Area	Performance Measures
Measures to Assess the CMAQ Program – Traffic Congestion	• **Peak Hour Excessive Delay(PHED) Measure**: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita • **Non-Single Occupancy Vehicle Travel (SOV) Measure:** Percent of Non-Single Occupancy Vehicle (SOV) Travel
Measure to Assess the CMAQ Program – On-Road Mobile Source Emissions	• **Emissions Measure:** Total Emission Reductions

Additional Performance Measures

Federal Measures are **not** comprehensive:

- What Congress could agree to.
- Expectation is that states and MPOs will add other priorities.
- Public expects their transportation agencies to think about all priorities, whether in MAP-21 or not.

Additional Performance Measures

What's missing?

- Access to opportunity
- Public health
- Economic activity
- Stormwater
- Transportation cost
- Reliability of transit
- Walkability/bike-ability

MPO role in Federal Performance Measures

- Respond to State DOT targets
  - Coordinate with partners to set targets for planning area
- Long-Range Transportation Plan/Metropolitan Transportation Plan (ORTP)
  - Next ORTP must report progress toward meeting targets
- Transportation Improvement Program
  - Explain how TIP projects will help meet targets

Performance Measures Workshop

- August 29-30
- State DOT, Counties, Public Health, EPA, FHWA…
- Led by Smart Growth America, State Smart Transportation Institute

Consensus from workshop participants

- In no particular order:
  - Safety
  - System preservation
  - Environment
  - Community/cultural values
  - Economic vitality
  - Accessibility
  - Congestion management

Other State/regional priorities?

- In no particular order:
  - Energy?
  - Stormwater?
  - Complete streets?
  - Public health?

Levels of Analysis for ORTP/TIP

- Analyze single transportation investment scenario?
  - Multiple transportation investment scenarios?
  - Multiple land use/transportation scenarios?
- Qualitative/narrative
  - “This ORTP/TIP will improve congestion by adding HOV lanes and improving transit operations.”
- Quantitative
  - “This ORTP/TIP adds 100 miles of complete streets, which is estimated to increase mode share for bicycling by 12% over 20 years.”

Comprehensive Analysis

- Benefit-cost and target-reaching analysis by MTC (San Francisco Bay Area)

Goal	#	Target	%	No Project	Main Streets	Big Cities	Preferred	EEJ2*
Climate Protection	1	Reduce per-capita CO_2 emissions from cars and light duty trucks	-15%	-2%	-14%	-17%	-16%	-17%
Adequate Housing	2	House region's projected growth by income level without displacing current low-income residents and with no increase in in-commuters over the Plan baseline year	100%	100%	100%	100%	100%	100%
Healthy & Safe Communities	3	Reduce adverse health impacts associated with air quality, road safety, and physical inactivity	-10%	-0%	-1%	-1%	-1%	-1%
Open Space & Agricultural Preservation	4	Direct non agricultural development within the urban footprint (existing urban development and UGBs)	100%	84%	98%	100%	100%	100%
Equitable Access	5	Decrease the share of lower-income residents' household income consumed by transportation and housing	-10%	+15%	+13%	+13%	+13%	+12%
	6	Increase the share of affordable housing in PDAs, TPAs, or high-opportunity areas	+15%	-0%	+2%	+1%	+3%	+3%
	7	Do not increase the share of low- and moderate-income renter households in PDAs, TPAs, or high-opportunity areas that are at risk of displacement	0%	+18%	+6%	+9%	+5%	+5%
Economic Vitality	8	Increase the share of jobs accessible within 30 minutes by auto or within 45 minutes by transit in congested conditions	+20%	-3%	-1%	-1%	-0%	-1%
	9	Increase the number of jobs in predominantly middle-wage industries	+38%	+43%	+43%	+43%	+43%	+43%
	10	Reduce per capita delay on the Regional Freight Network	20%	+38%	-25%	-33%	-29%	-15%
Transportation System Effectiveness	11	Increase non-auto mode share	+10%	+2%	+2%	+4%	+3%	+4%
	12	Reduce vehicle operating and maintenance costs due to pavement conditions	-100%	+53%	-59%	+8%	+6%	+10%
	13	Reduce per-rider transit delay due to aged infrastructure	100%	-57%	-77%	-78%	-75%	-76%

Table 4. Final scenario/Plan alternative analysis for Plan Bay Area 2040 performance targets.

** = Targets shown in green were achieved. Targets shown in orange fell short but moved in the right direction. Targets shown in red are moving in the wrong direction. Underlined text indicates which alternative performed the best for a given target. Note that EEJ2 is the acronym for the Equity, Environment, and Jobs 2.0 alternative.*

Plan Bay Area 2040
PROJECT PERFORMANCE ASSESSMENT
FINAL RESULTS

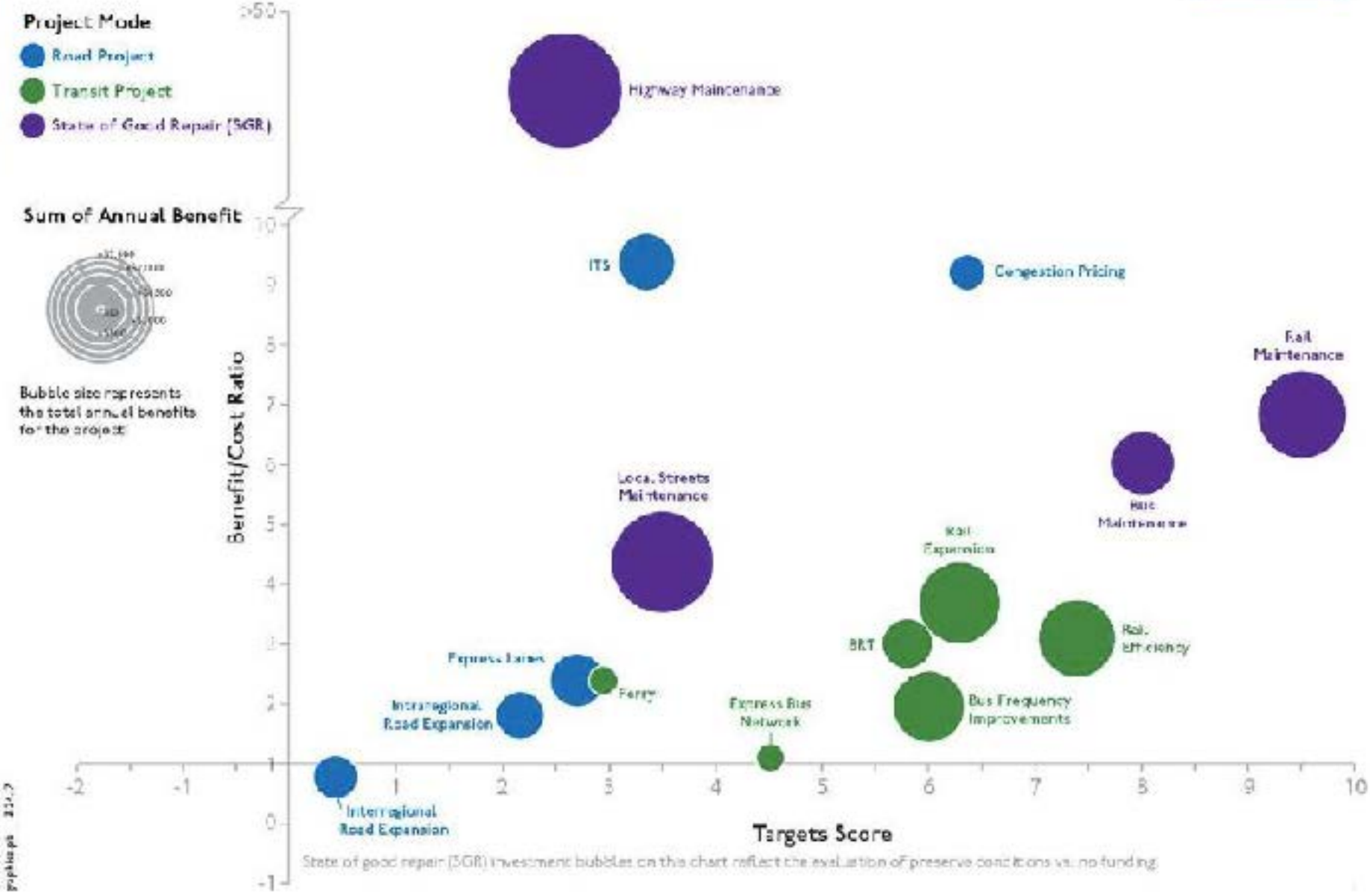
ROW	ID	PROJECT NAME	LOCATION (COUNTY)	PROJECT TYPE	ANNUAL BENEFIT	ANNUAL COST	B/C RATIO	TARGETS SCORE
1	1503	**Highway Pavement Maintenance (Ideal Conditions vs. Preserve Conditions)**	Multi-County	Highway Maintenance	$638	($1)	>50	2.5
2	1502	**Highway Pavement Maintenance (Preserve Conditions vs. No Funding)**	Multi-County	Highway Maintenance	$2,433	$144	17	2.5
3	302	**Treasure Island Congestion Pricing (Toll + Transit Improvements)**	San Francisco	Congestion Pricing	$56	$4	14	4.5
4	1301	**Columbus Day Initiative**	Multi-County	ITS	$421	$38	11	4.0
5	209	**SR-84 Widening + I-680/SR-84 Interchange Improvements (Livermore to I-680)**	Alameda	Interregional Road Expansion	$116	$13	9	1.0
6	501	**BART to Silicon Valley – Phase 2 (Berryessa to Santa Clara)**	Santa Clara	Rail Expansion	$472	$62	8	8.0
7	306	**Downtown San Francisco Congestion Pricing (Toll + Transit Improvements)**	San Francisco	Congestion Pricing	$84	$11	7	7.0
8	1651	**Public Transit Maintenance - Rail Operators (Preserve Conditions vs. No Funding)**	Multi-County	Rail Maintenance	$1,351	$198	7	9.5
9	506	**El Camino Real BRT (Palo Alto to San Jose)**	Santa Clara	BRT	$85	$13	7	6.5
10	301	**Geary BRT**	San Francisco	BRT	$124	$20	6	7.0
11	505	**Capitol Expressway LRT – Phase 2 (Alum Rock to Eastridge)**	Santa Clara	Rail Expansion	$77	$12	6	5.5
12	518	**ACE Alviso Double-Tracking**	Santa Clara	Rail Efficiency	$36	$6	6	1.5
13	1650	**Public Transit Maintenance - Bus Operators (Preserve Conditions vs. No Funding)**	Multi-County	Bus Maintenance	$623	$103	6	8.0
14	1203	**Vallejo-San Francisco + Richmond-San Francisco Ferry Frequency Improvements**	Multi-County	Ferry	$29	$5	6	4.5
15	203	**Irvington BART Infill Station**	Alameda	Rail Efficiency	$30	$6	5	3.5
16	101	**Express Lane Network (US-101 San Mateo/San Francisco)**	Multi-County	Express Lanes	$48	$10	5	0.5
17	903	**Sonoma County Service Frequency Improvements**	Sonoma	Bus Frequency Improvements	$75	$15	5	5.0
18	533	**VTA Service Frequency Improvements (15-Minute Frequencies)**	Santa Clara	Bus Frequency Improvements	$103	$23	4	5.0
19	211	**SR-262 Connector (I-680 to I-880)**	Alameda	Interregional Road Expansion	$22	$5	4	0.5

all benefits and costs are in millions of 2017 dollars

July 2016

Plan Bay Area 2040

Project Performance Assessment: Overall Results by Project Type



Bringing it all together

- Vision
  - Goals
    - Objectives
      - Performance measures

Discussion

- Questions in general?
- Thoughts on regional (Oahu) priorities?
  - Prioritize goals & measures?
- Data sources?
- Levels of analysis?
- Need more examples of performance measures? Fewer? More info on data?

Next steps

- Consultant research
  - Other MPO practices
  - Data sources
  - Possible analytical approaches
- Target setting for required measures
  - TAM PM target response due December 30, 2017
  - Safety PM target response due March 31, 2018
- Presentation of draft performance measures for ORTP 2050 for public involvement (Spring 2018)