

MEASURING UP:

MORE BANG FOR THE BUCK IN TRANSPORTATION PROJECT SELECTION

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METROPOLITAN TRANSPORTATION COMMISSION

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1

Impetus for Enhanced Performance Analysis:

We've run out of money - now we'll have to start thinking!

2

Establishing a Level Playing Field:

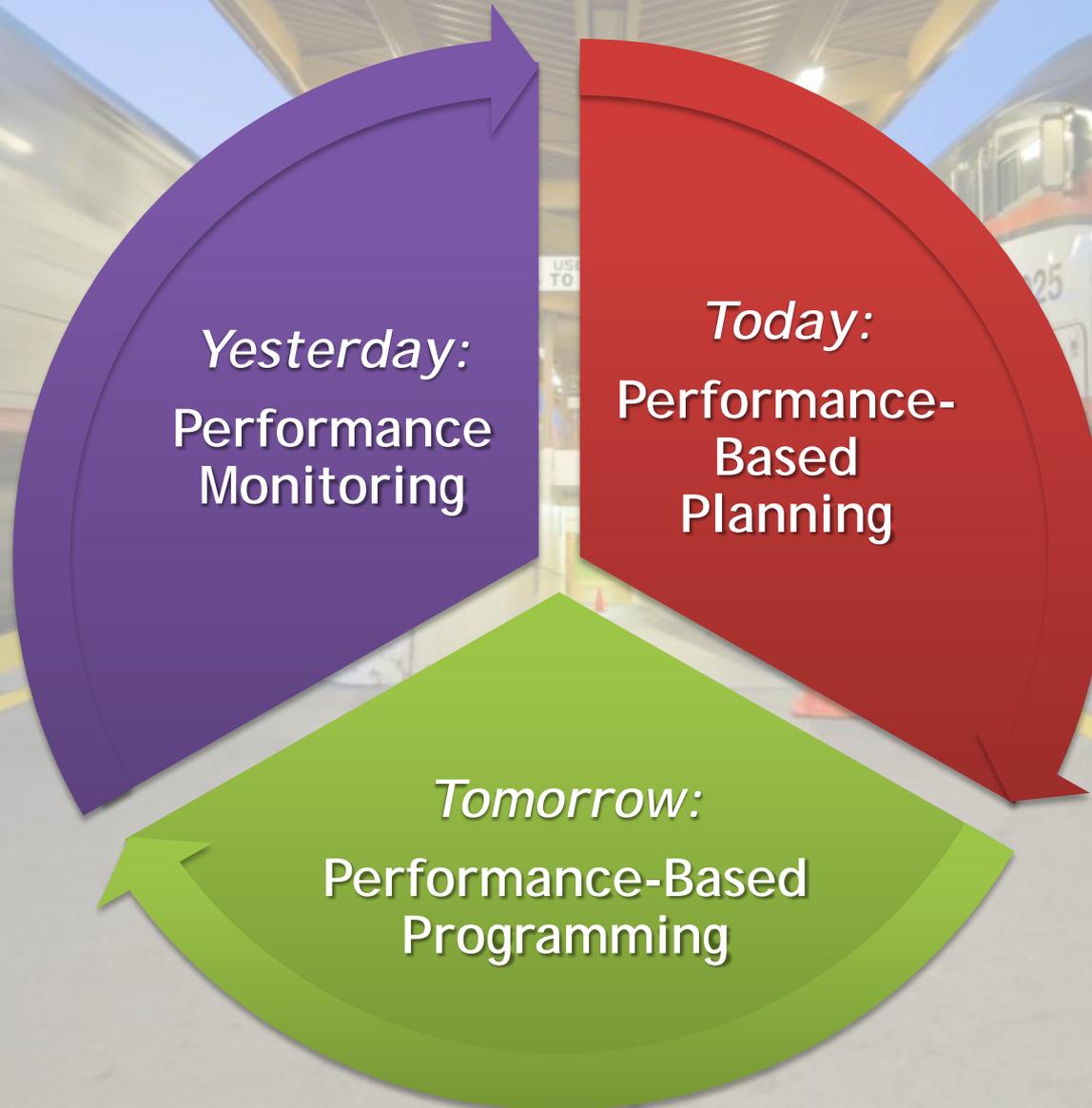
How do you compare a pothole to a BRT?

3

Performance Assessment in the MAP-21 Era:

Do more with less, or less with less?

POTENTIAL MPO & STATE DOT PERFORMANCE RESPONSIBILITIES





States and metropolitan areas across the country are struggling with limited funding in a time of growing maintenance backlogs.

①

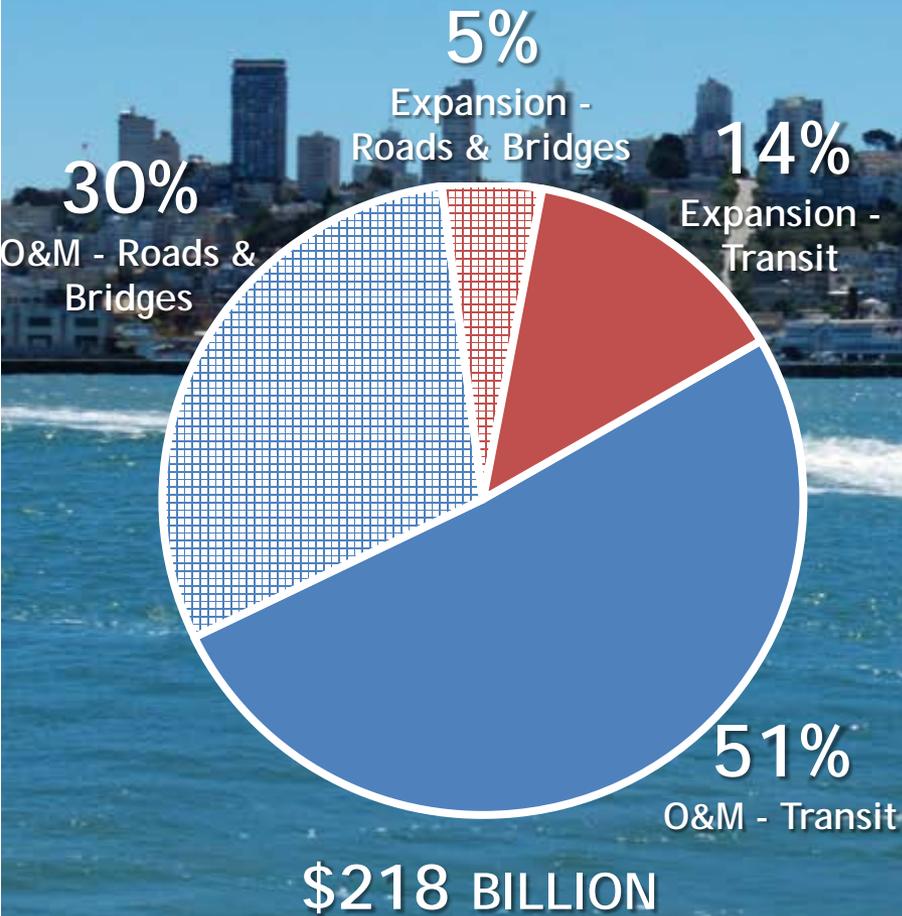
This results in significant challenges when pursuing ambitious targets for system performance.

②

It places a premium on matching constrained expansion dollars to the right expansion projects.

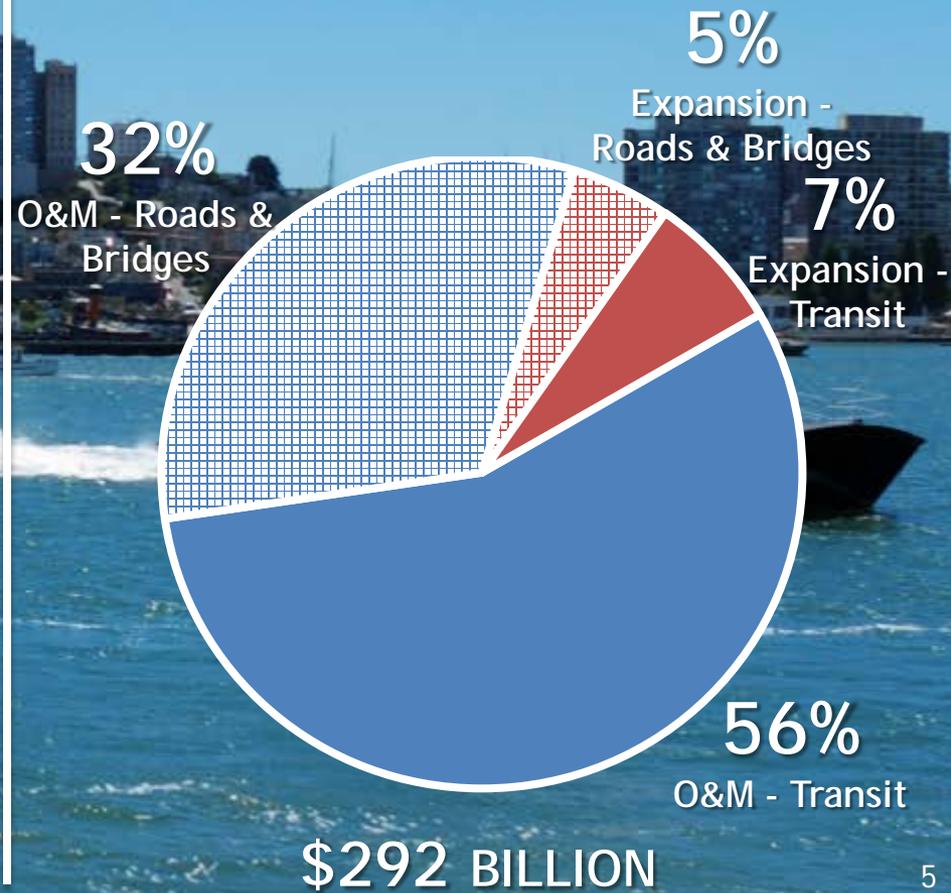
PREVIOUS RTP (ADOPTED IN 2009)

TRANSPORTATION 2035 CHANGE IN MOTION

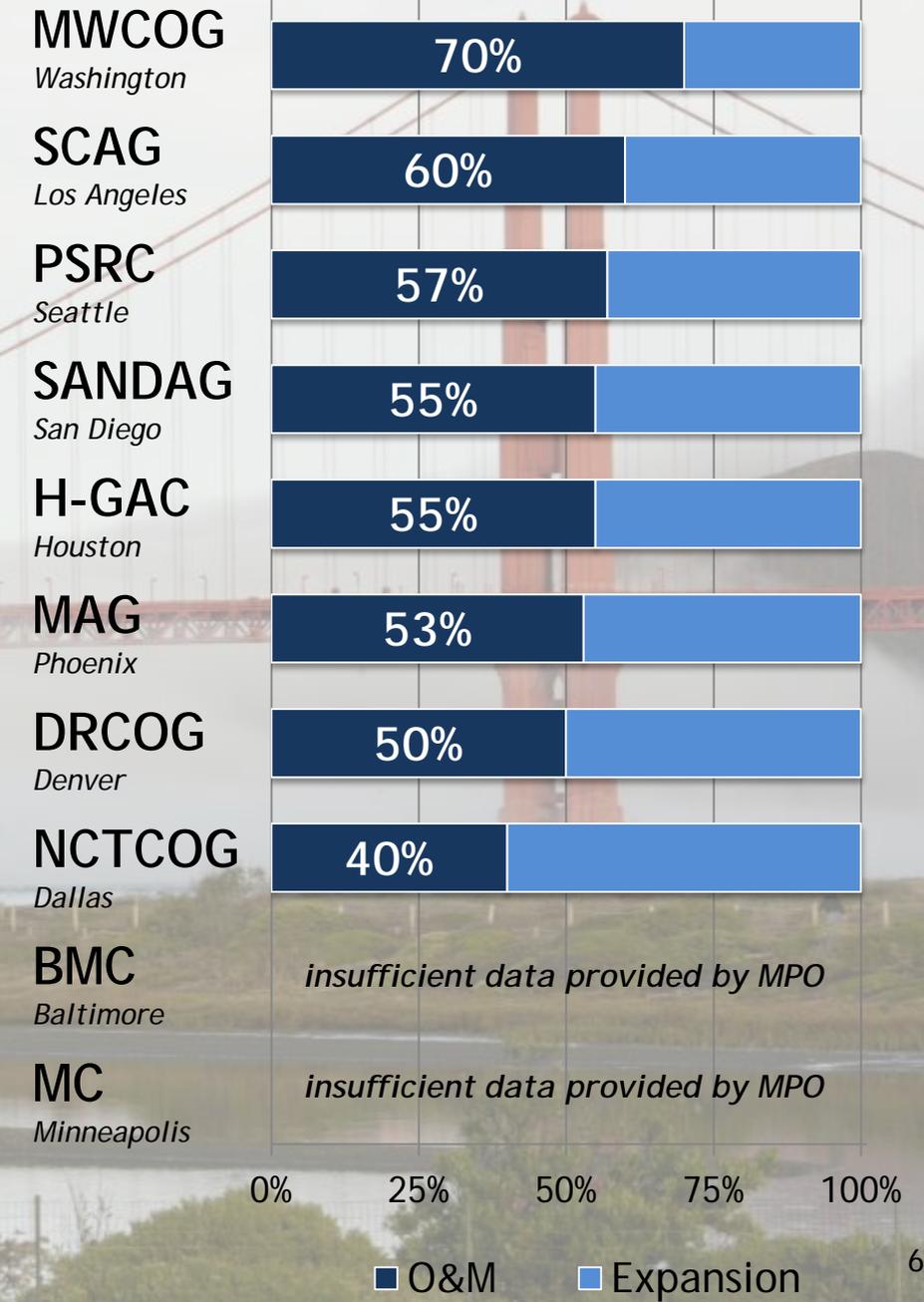
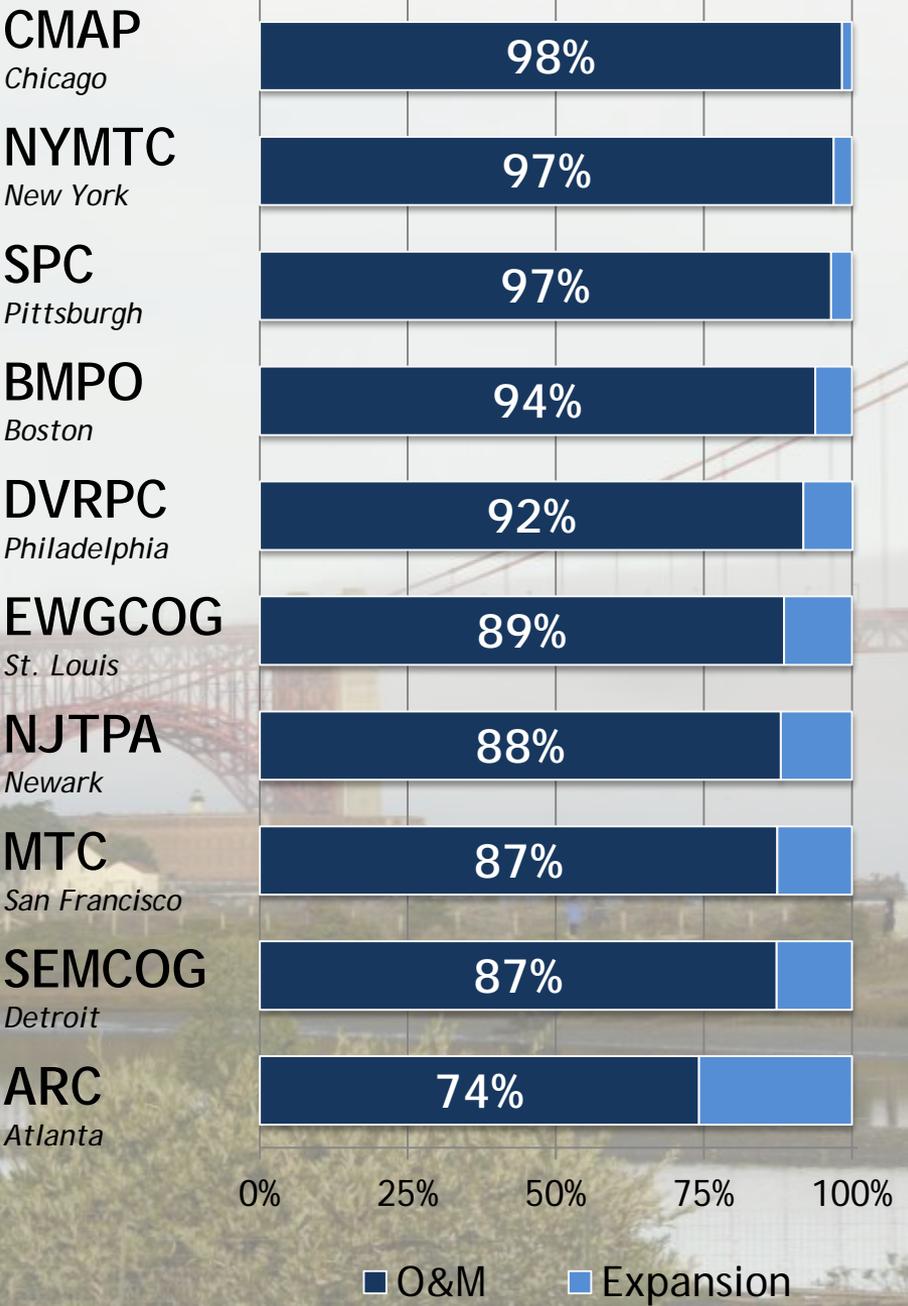


CURRENT RTP (ADOPTED IN 2013)

BayArea Plan



TOP 20 MPOs: O&M VERSUS EXPANSION FUNDING



Funding constraints and ambitious targets are not the only performance challenges for MPOs and state DOTs.

Decision-making authority is widely dispersed across many levels of government, making it challenging to advance toward goals and to maximize accountability.



Federal Government



State Government



MPO



Transit Agencies

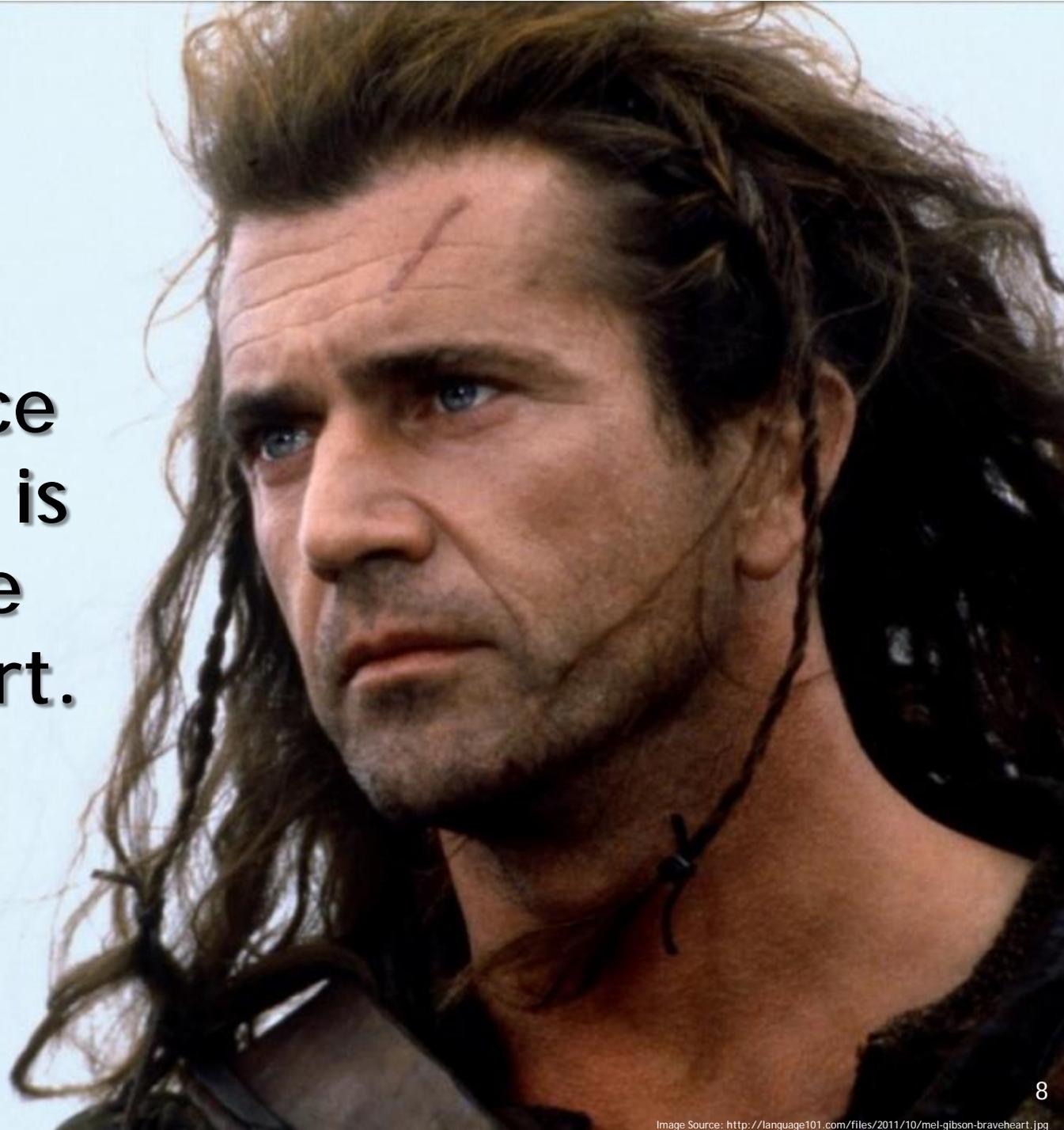


County Government



City Government

**Performance
assessment is
not for the
faint of heart.**





**LONG-RANGE
PLANNING
PROCESS**

A

Establish Performance Targets

B

Assess Project Performance

C

Assess Scenario Performance

D

Assess Plan/EIR Performance

E

Monitor Performance of Adopted Plan

BRIEF HISTORY OF PERFORMANCE ASSESSMENT AT MTC

Year	2001	2005	2009	2013
	2001 REGIONAL TRANSPORTATION PLAN			
SCENARIO PLANNING	Transportation investment packages	Transportation investment packages	Transportation investment packages	Integrated transportation & land use scenarios
PERFORMANCE TARGETS	Transportation targets	Transportation targets	Transportation targets	Integrated targets
QUALITATIVE PROJECT ASSESSMENT	None	Goals-based	Goals-based	Targets-based
QUANTITATIVE PROJECT ASSESSMENT	None	None	Limited benefit-cost analysis	Rigorous benefit-cost analysis
NUMBER OF PROJECTS ANALYZED	0	400	700	>1,000

BayArea Plan

- First regional plan to integrate transportation, land use, and housing
- Sustainable Communities Strategy initiated by California Senate Bill 375



ECONOMY



Increase gross regional product



Increase non-auto mode share
Reduce VMT per capita
Maintain the transportation system

ENVIRONMENT



Reduce per-capita greenhouse gas emissions from cars and light-duty trucks



Direct all non-agricultural development within the urban footprint



Reduce premature deaths from exposure to particulate emissions
Reduce injuries and fatalities from collisions
Increase average daily time spent walking or biking

EQUITY



House all of the region's projected housing growth



Decrease housing and transportation costs as a share of low-income household budgets

PERFORMANCE ASSESSMENT FRAMEWORK

PLANNING
FRAMEWORK

PERFORMANCE
ASSESSMENT

SCENARIO

SCENARIO-LEVEL
TARGETS ASSESSMENT

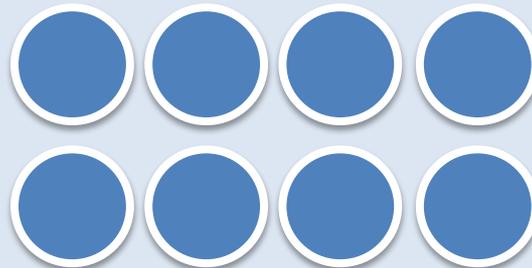
SCENARIO-LEVEL
EQUITY ASSESSMENT

PROJECT-LEVEL
TARGETS ASSESSMENT

PROJECT-LEVEL
BENEFIT-COST ASSESSMENT



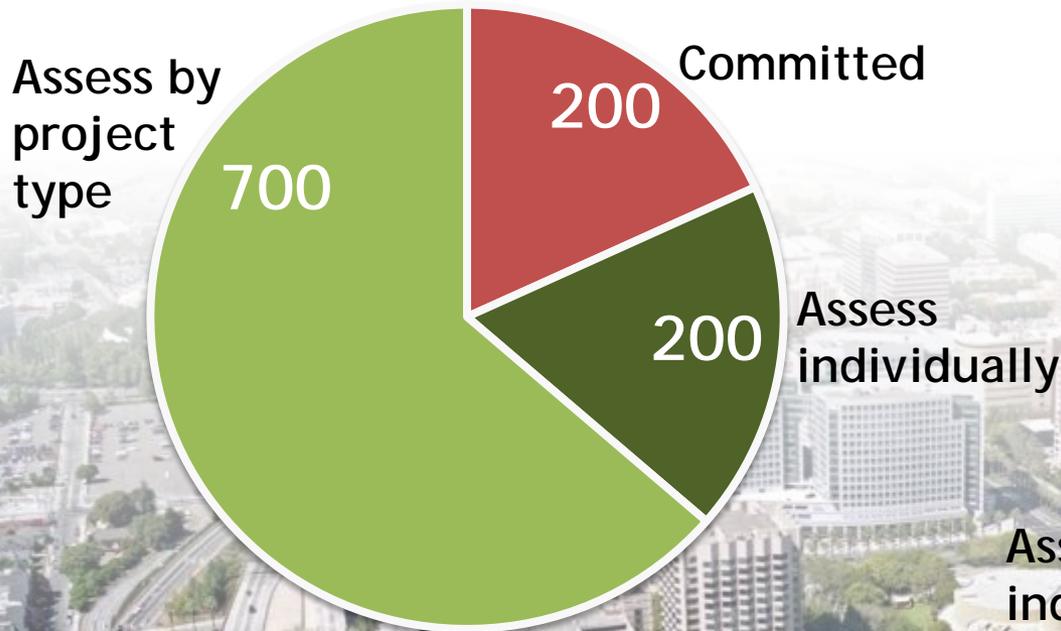
LAND USE
PATTERN



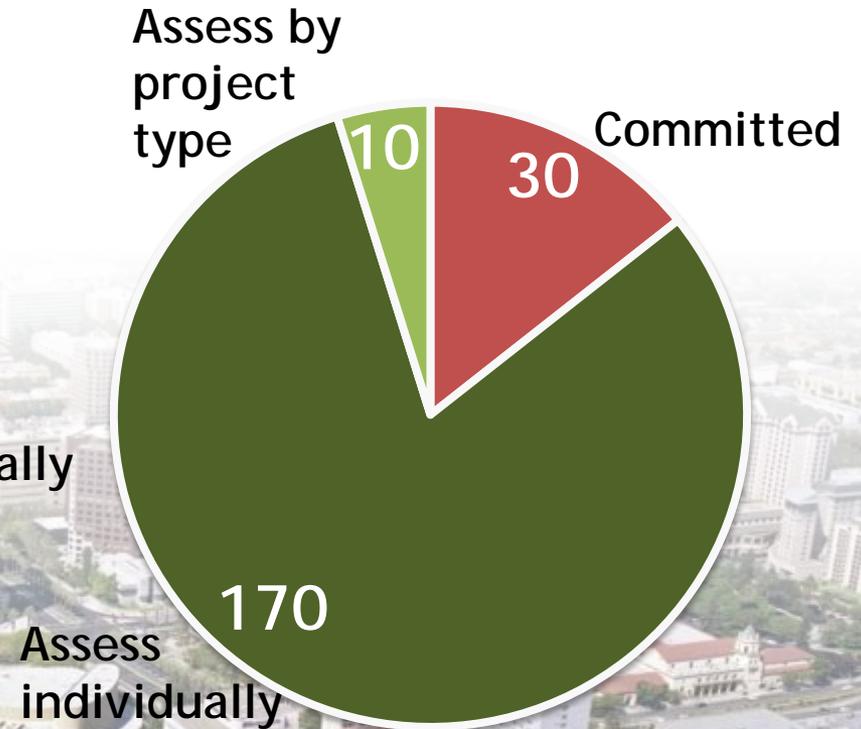
TRANSPORTATION
PROJECTS

Only projects that have environmental clearance and full funding secured are treated as committed. This effectively means that only projects under construction or about to begin construction are exempt from performance analysis.

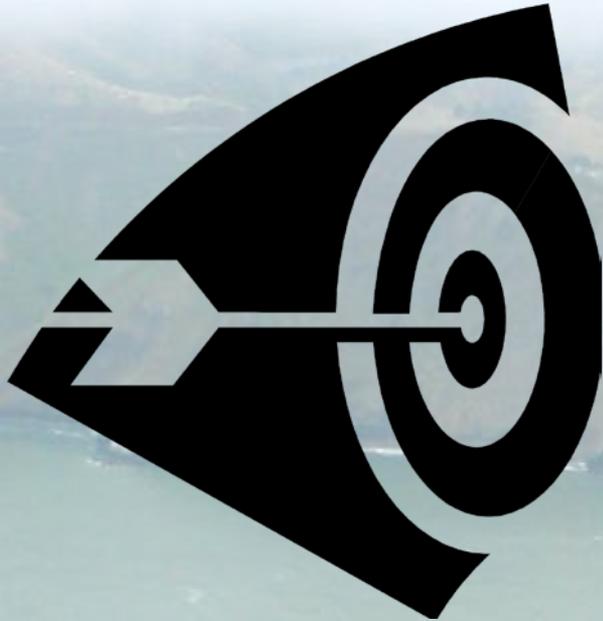
Number of Projects



Cost of Projects (in billions of \$)



TWO ELEMENTS OF PROJECT PERFORMANCE ASSESSMENT



TARGETS ASSESSMENT

*Determine impact on targets
adopted by MTC and ABAG*

Analyzed all 900 uncommitted
projects



BENEFIT-COST ASSESSMENT

Compare benefits & costs

Analyzed most significant projects
(approximately 100 in total)

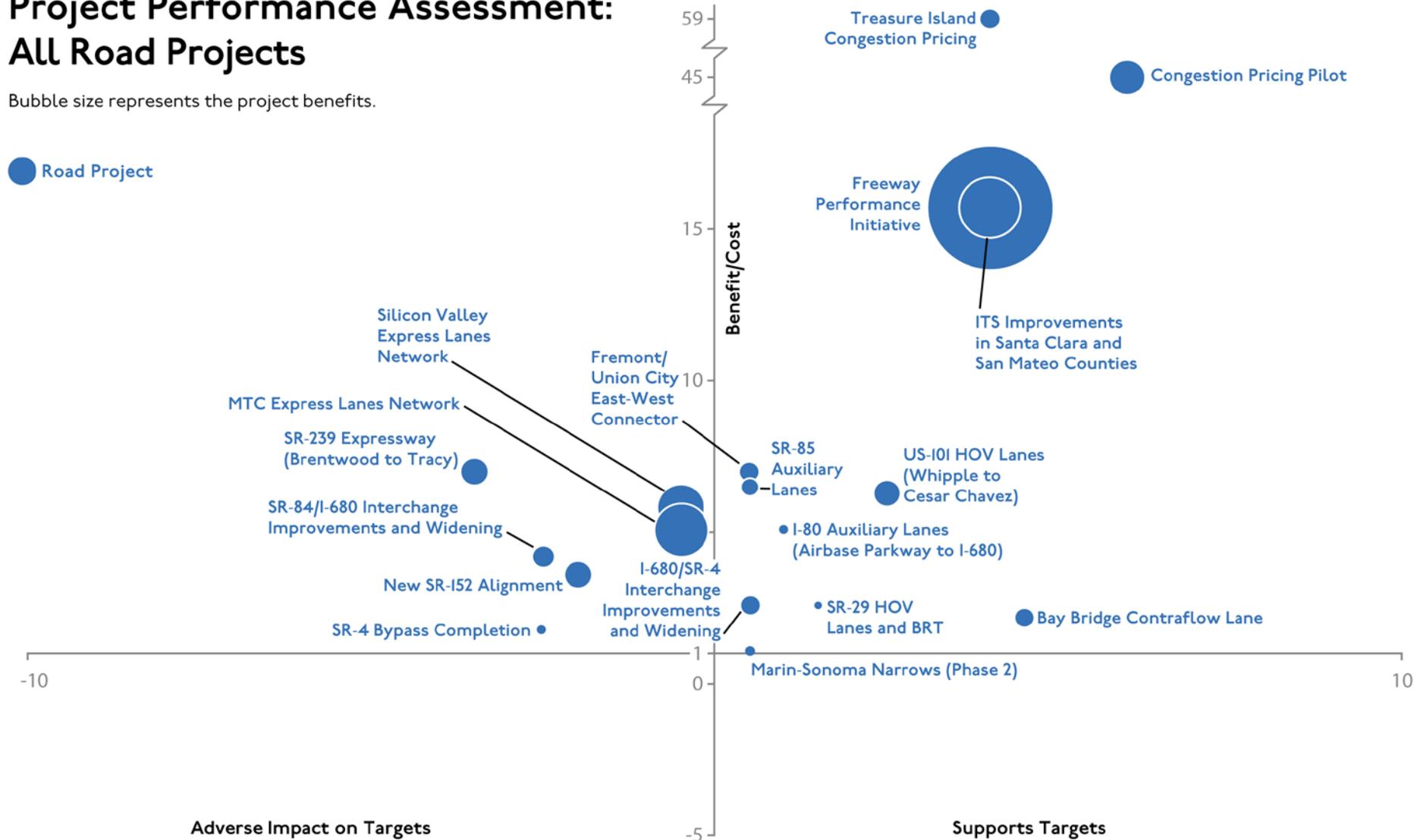
Individual project evaluation allows for greater transparency and accountability.

Project Performance Assessment: All Road Projects

Bubble size represents the project benefits.

● Road Project

● Congestion Pricing Pilot

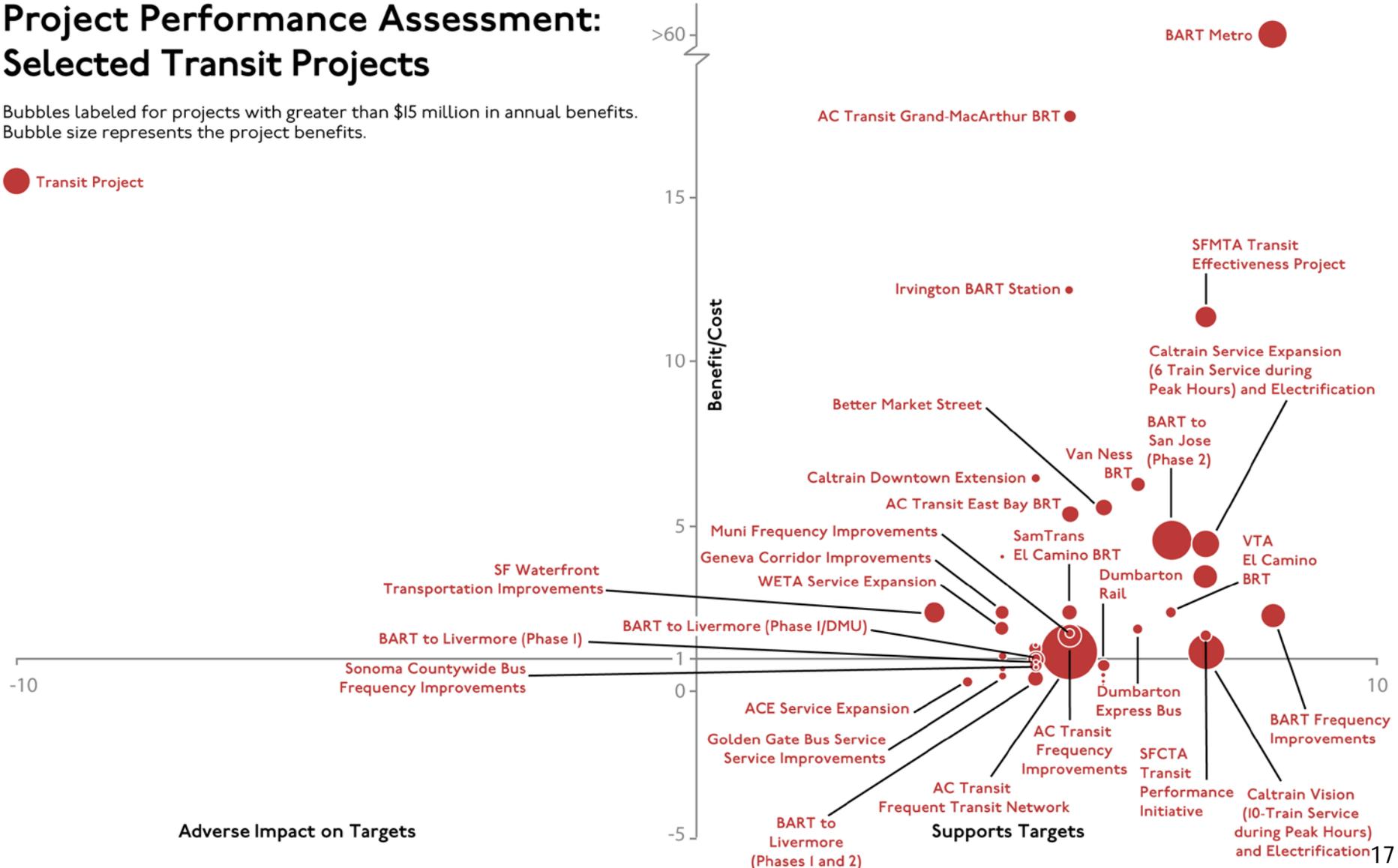


Individual project evaluation allows for greater transparency and accountability.

Project Performance Assessment: Selected Transit Projects

Bubbles labeled for projects with greater than \$15 million in annual benefits. Bubble size represents the project benefits.

● Transit Project

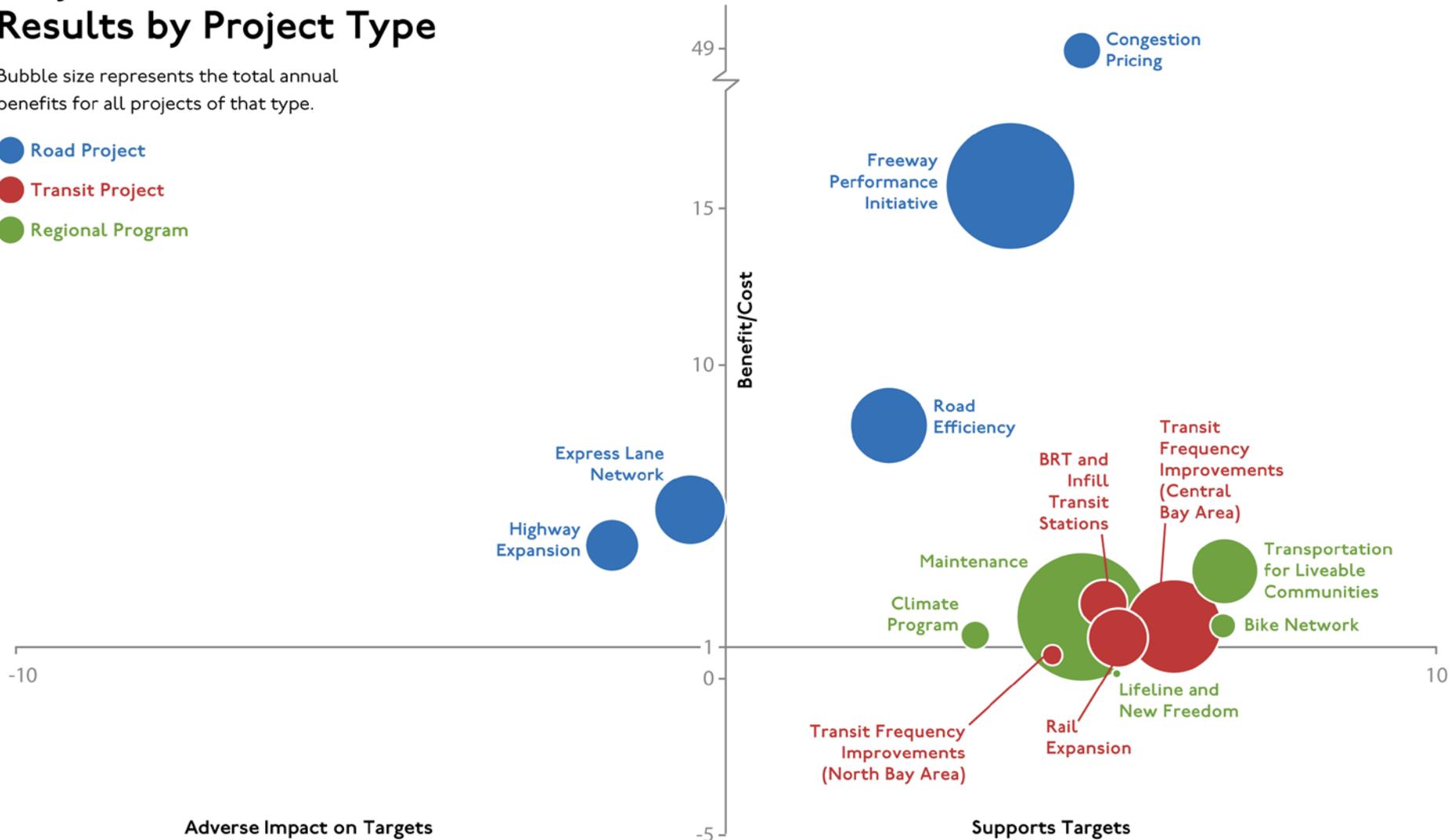


Analysis results can also be summarized by project type to highlight the performance of overall strategies.

Project Performance Assessment: Results by Project Type

Bubble size represents the total annual benefits for all projects of that type.

- Road Project
- Transit Project
- Regional Program



**SAMPLE HIGH-
PERFORMING
PROJECTS**

*PRIORITIZED FOR
REGIONAL FUNDING*



**BART
METRO**



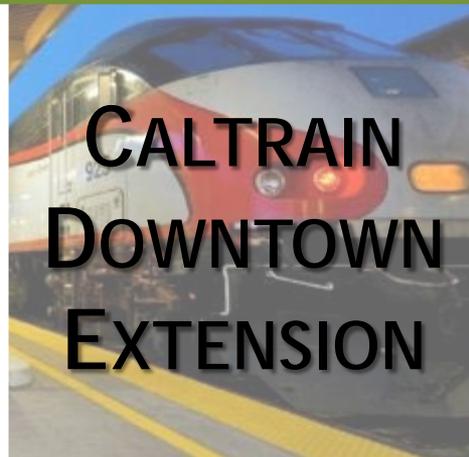
**URBAN BRT
SYSTEMS**



**FREEWAY
PERFORMANCE
INITIATIVE**

**SAMPLE
MODERATE-
PERFORMING
PROJECTS**

*"NOTHING TO SEE HERE,
MOVE ALONG"*



**CALTRAIN
DOWNTOWN
EXTENSION**



**URBAN BUS
FREQUENCY
IMPROVEMENTS**



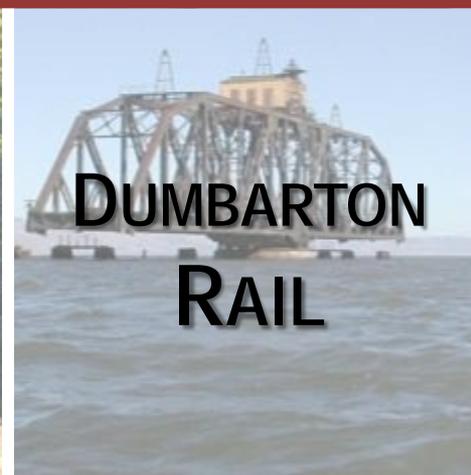
**EXPRESS LANE
NETWORK**

**SAMPLE LOW-
PERFORMING
PROJECTS**

*REQUIRED COMPELLING
CASE FOR INCLUSION IN
PLAN*



**SMART
EXPANSION**

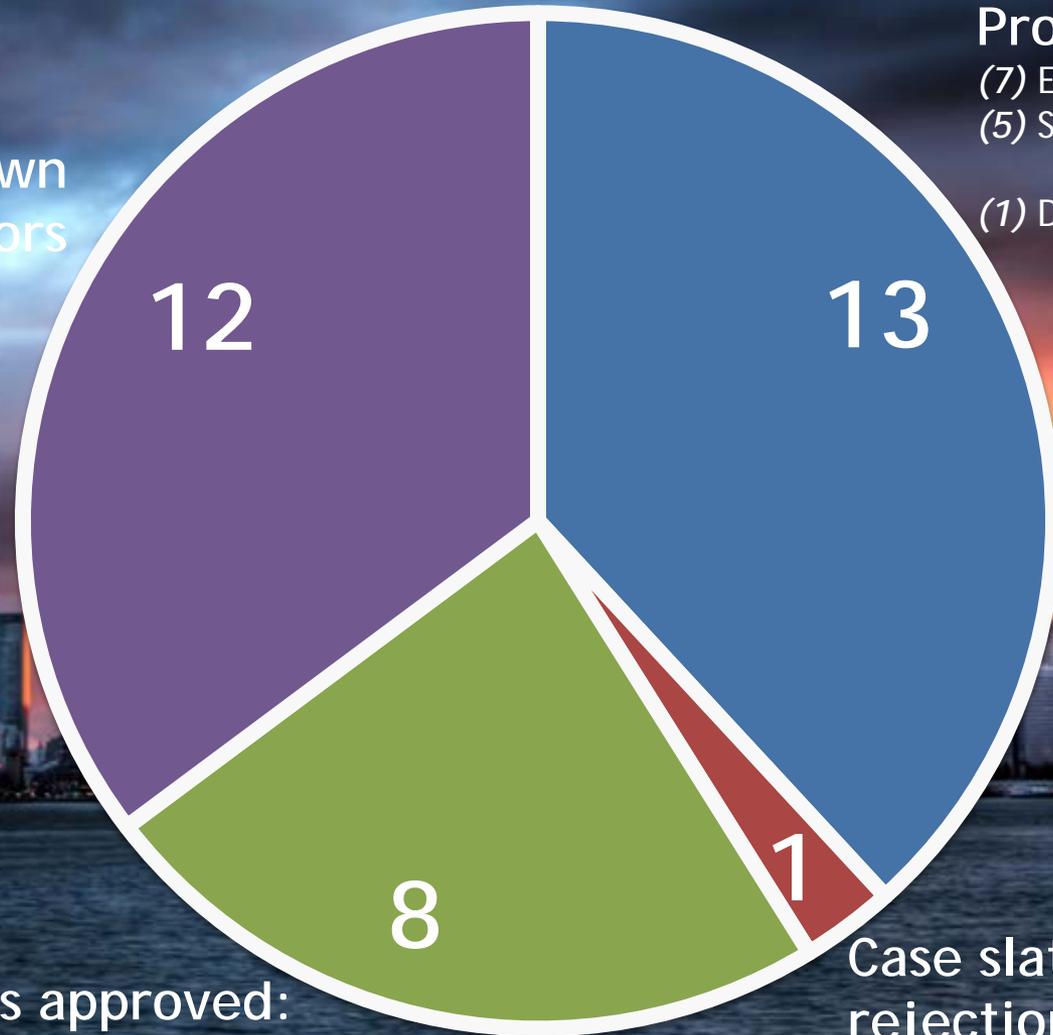


**DUMBARTON
RAIL**



**FREEWAY
WIDENING
(US-101 & SR-239)**

IMPLICATIONS OF COMPELLING CASE REQUIREMENT FOR LOW-PERFORMING PROJECTS



Projects re-scoped:
(7) Environmental phase only
(5) Sponsor agreed to fully fund project locally
(1) Down-scoped to achieve B/C ratio greater than 1

Projects withdrawn by sponsors

Compelling cases approved:
(6) Communities of Concern
(1) Air quality
(1) Recreational trips

Case slated for rejection; "settled out of court"

LESSONS LEARNED FROM PLAN BAY AREA PERFORMANCE ASSESSMENT

- Given the limited budget for expansion projects, performance data can make the difference.
- Performance results helped to advance good projects and weed out bad ones.
- Tread carefully when picking:
 - a. performance objectives
 - b. which projects to evaluate
- Incorporating state of good repair investments into this performance-based framework is a critical next step.

