



# Making a Compelling Case:

Using Performance Analysis to Guide Project Selection in the Bay Area



METROPOLITAN  
TRANSPORTATION  
COMMISSION

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BayArea  
**Plan**

# BayArea Plan

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

# BayArea Plan

**1**

Establish Performance Targets

**2**

Scenario Performance Assessment

**3**

Project Performance Assessment

**4**

Define Preferred Scenario

**5**

Adopt Plan Bay Area

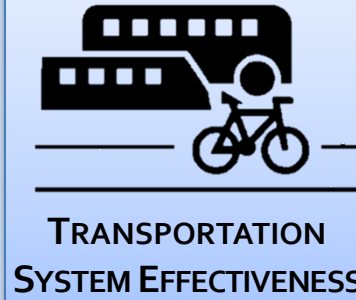
MAY 2012



**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



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



Direct all non-agricultural development within the urban footprint

**EQUITY**

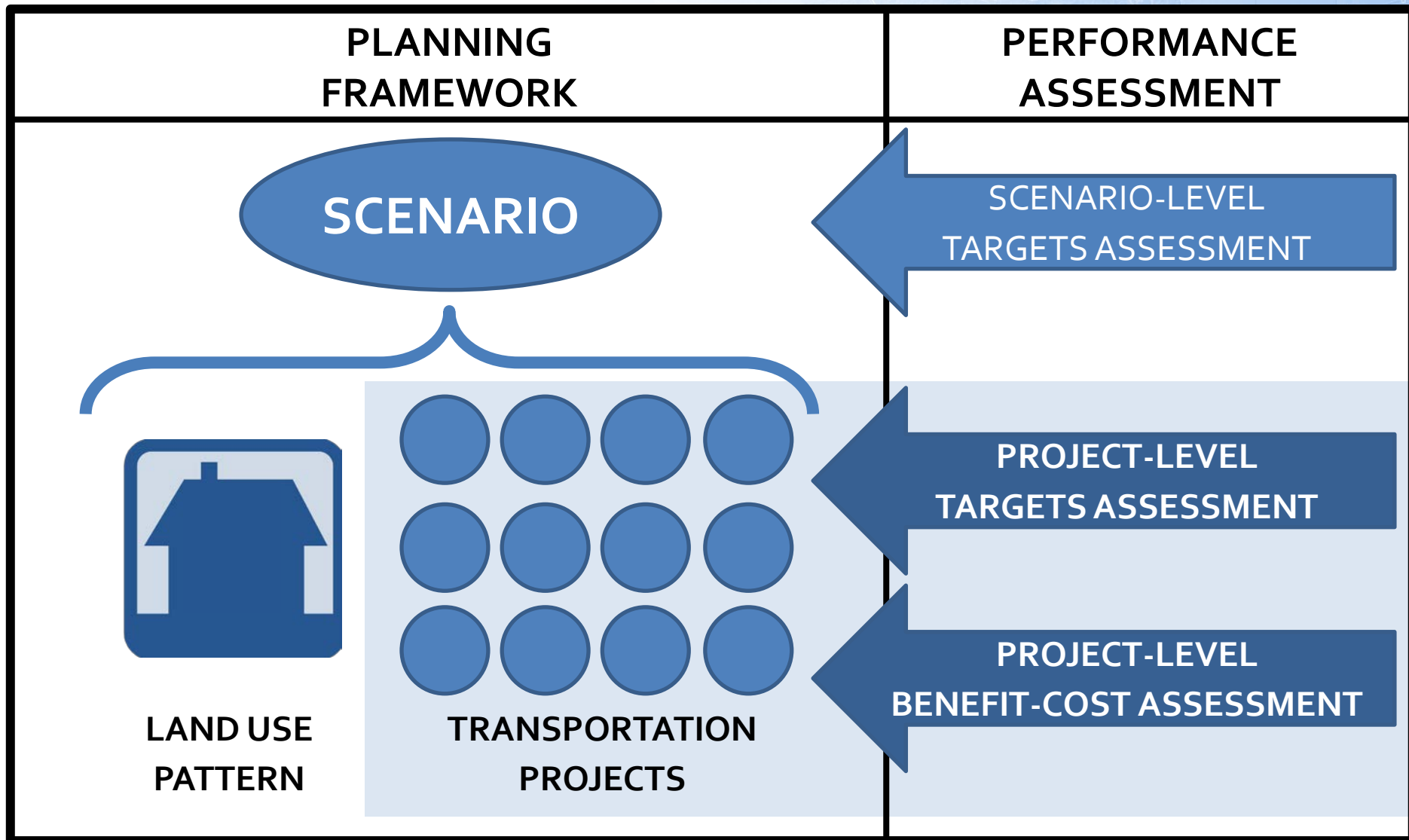


House all of the region's projected housing growth

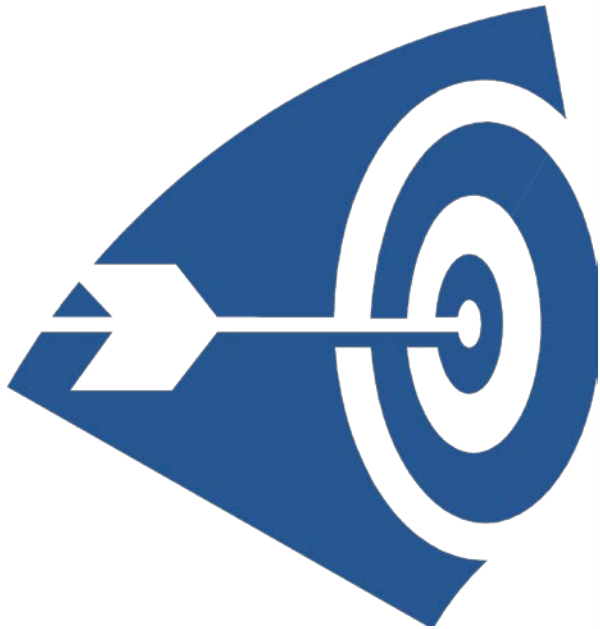


Decrease housing and transportation costs as a share of low-income household budgets

# Performance Assessment Framework



# Two Elements of 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)



# Targets Assessment

*Assessed qualitatively using target scores (max score of +10).*

1. Climate Protection
2. Adequate Housing
3. Particulate Matter
4. Collisions
5. Active Transportation
6. Open Space
7. Equitable Access
8. Economic Vitality
9. Non-Auto Mode Share/VMT
10. State of Good Repair



# Benefit-Cost Assessment

*Assessed quantitatively using MTC Travel Model One.*

## **BENEFITS**

- Travel time (including recurring & non-recurring delay)
- Travel cost (auto operating/ownership, parking)
- Emissions (CO<sub>2</sub>, PM<sub>2.5</sub>, ROG, NO<sub>x</sub>)
- Collisions (fatalities, injuries, property damage)
- Health impacts due to active transport
- Noise

## **COSTS**

- Capital costs
- Net operating and maintenance (O&M) costs

# Key Findings

- 1. Focus on improving and maintaining existing assets, with emphasis on system management.**
- 2. Provide significant regional funding to the most cost-effective projects.**
- 3. Reconsider the inclusion of low-performing projects, due to cost-ineffectiveness or adverse impacts on performance targets.**

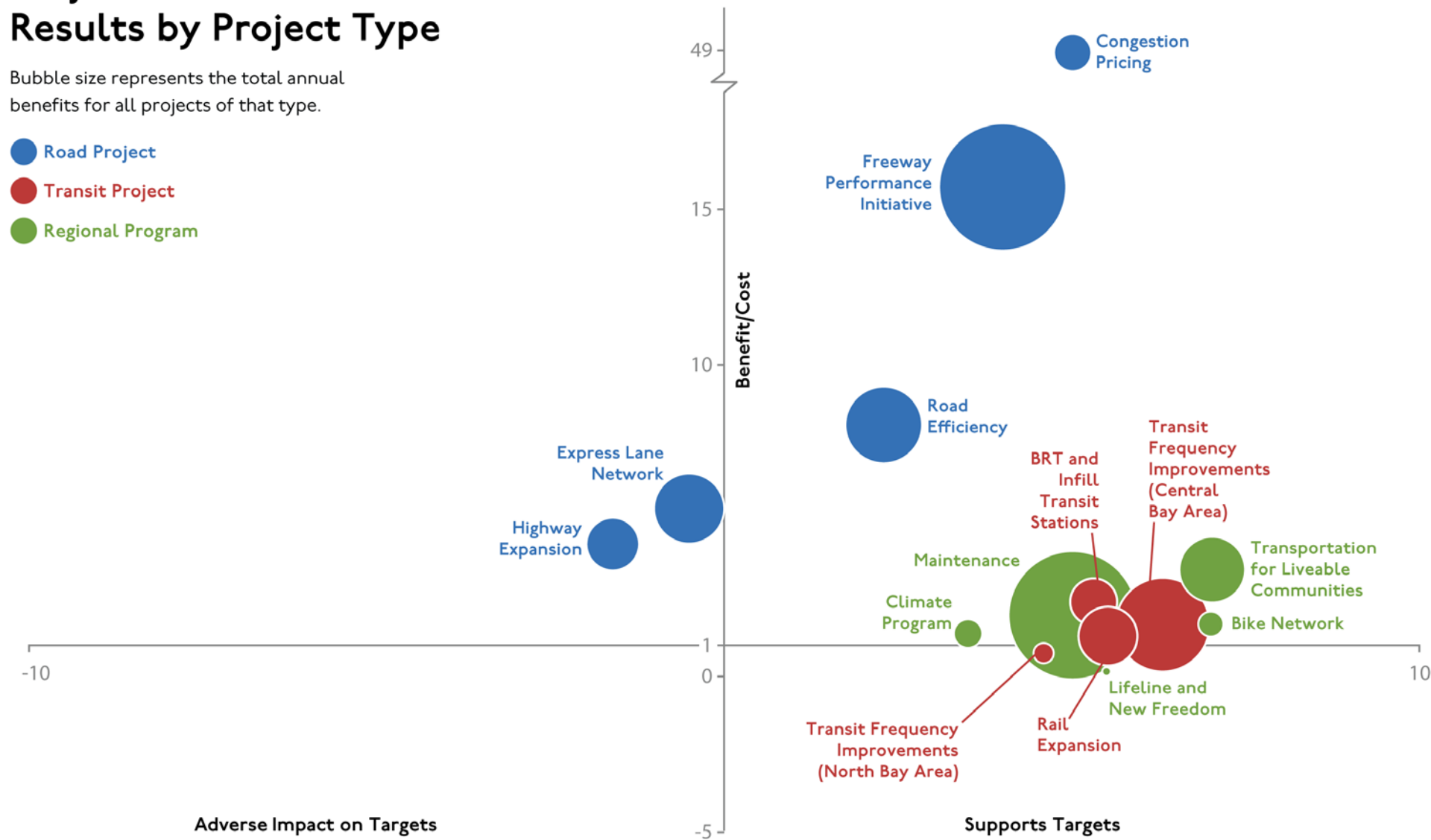




# Project Performance Assessment: Results by Project Type

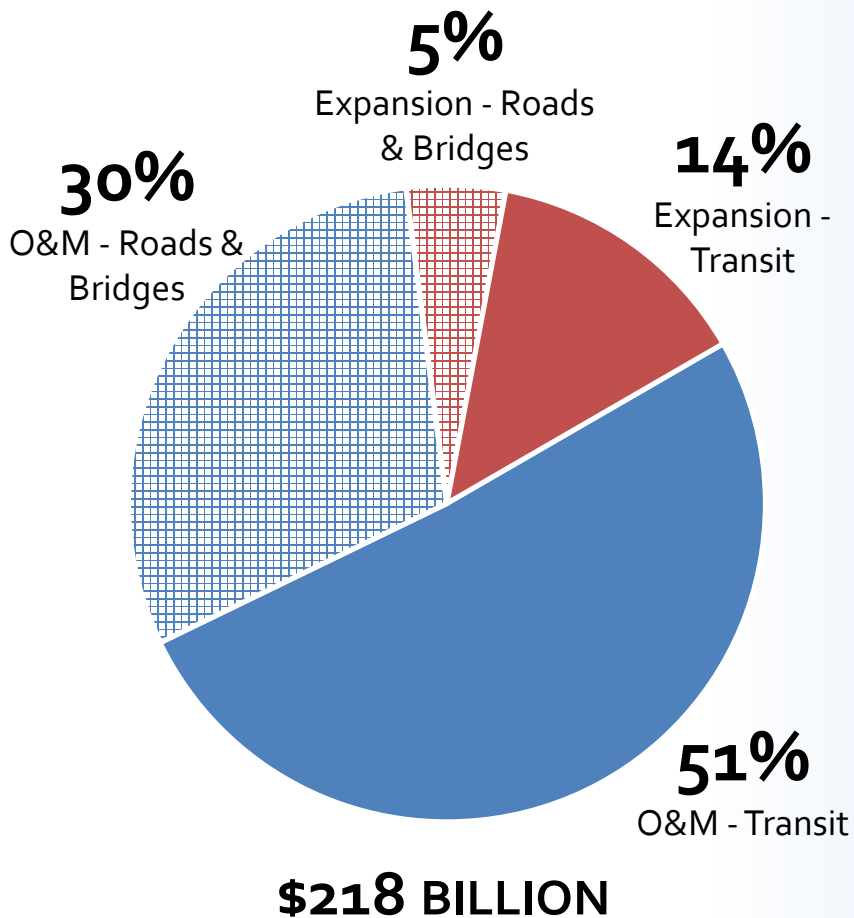
Bubble size represents the total annual benefits for all projects of that type.

- Road Project
- Transit Project
- Regional Program



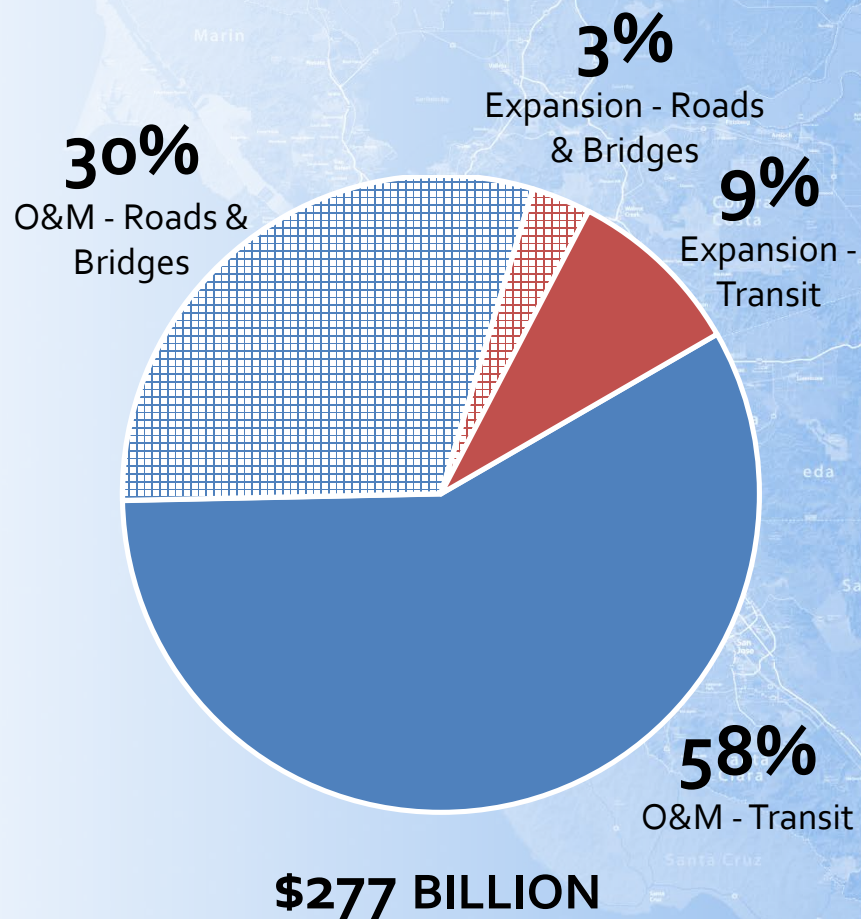
# PREVIOUS RTP (ADOPTED IN 2009)

## TRANSPORTATION 2035 CHANGE IN MOTION

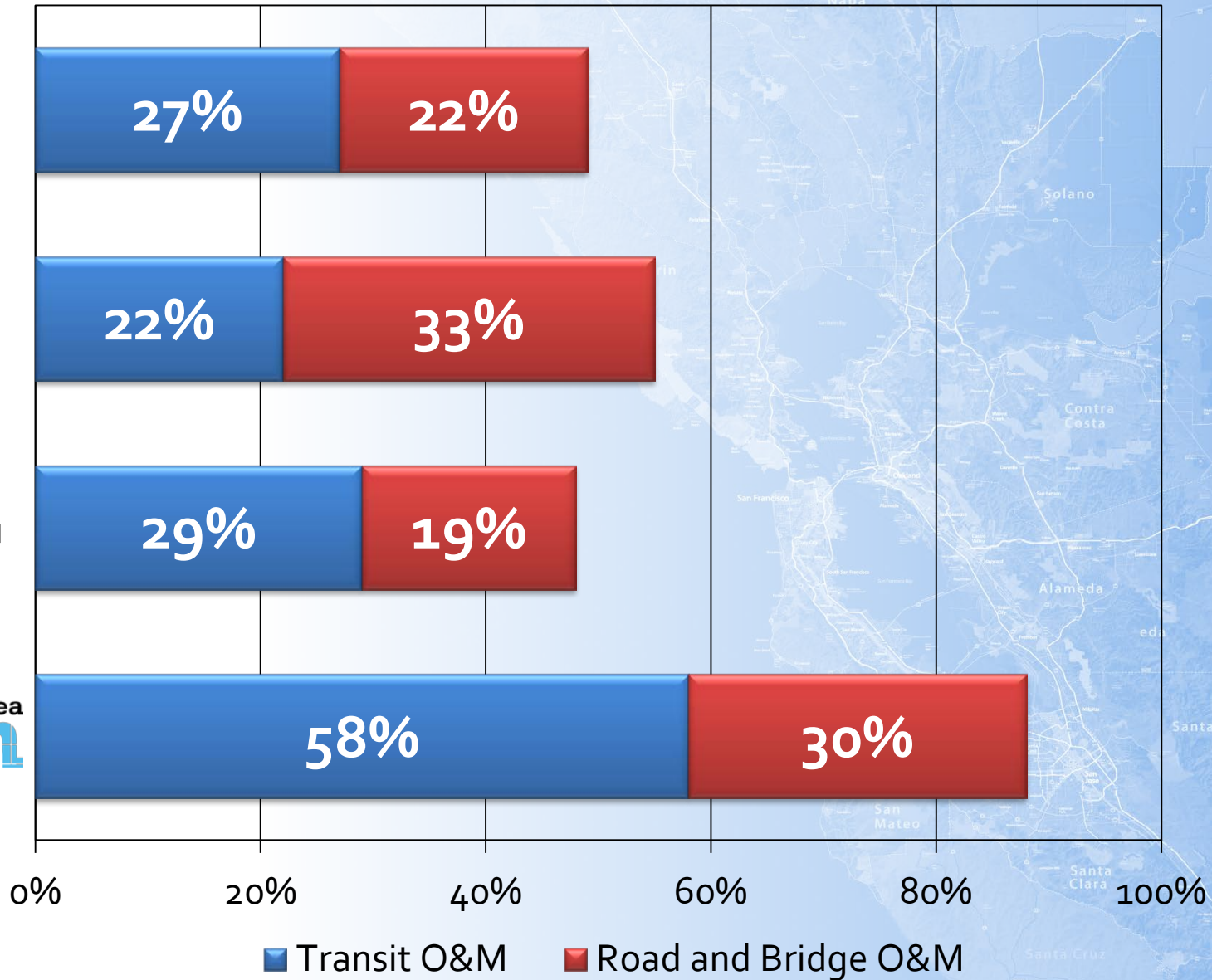
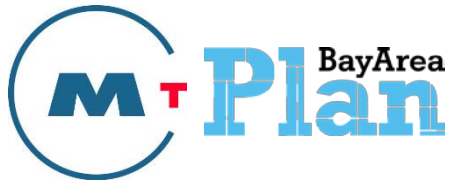


# CURRENT RTP (TO BE ADOPTED IN 2013)

## BayArea Plan



# Prioritizing Fix-It First



# HIGH-PERFORMING PROJECTS

*Prioritized for Regional Funding*

## BART Metro



## Caltrain Electrification & Frequency Improvements



## Bus Rapid Transit Systems in San Francisco and Oakland



# HIGH-PERFORMING PROJECTS

*Prioritized for Regional Funding*



**San Francisco  
Congestion Pricing**



**BART Extension to  
San Jose**



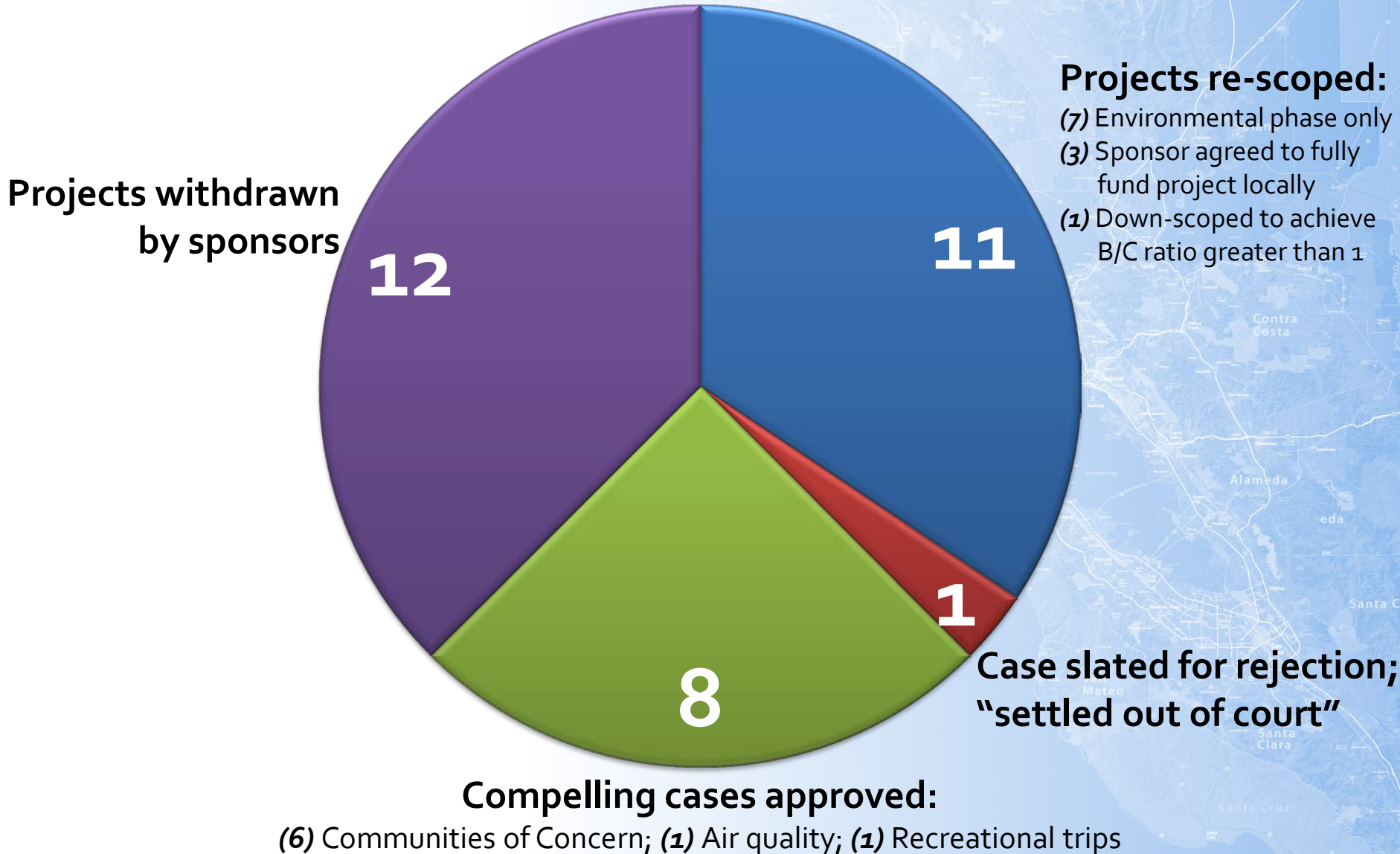
**Freeway  
Performance  
Initiative**

# Making a Compelling Case

- **Low-performing projects** – defined as having a benefit-cost ratio less than 1, or significant adverse impacts on the performance targets – **were required to make a compelling case to policymakers.**
- **This process led to a more efficient plan that better aligns with the region's goals and targets.**



# Low-Performing Projects (32)



## LOW-PERFORMING PROJECTS

*Impacts of Compelling Case  
Process*

### **SMART Commuter Rail Extensions**

*scaled back to include only the  
most cost-effective segments*



### **Dumbarton Rail**

*re-scoped to pursue only  
environmental studies*



### **Freeway Widening (US-101 & SR-239)**

*re-scoped to pursue only  
environmental studies*





## LOW-PERFORMING PROJECTS

*Approved Compelling Cases: primarily based on support for low-income and minority communities*



**Lifeline Program**



**Suburban/Rural Bus  
Frequency  
Improvements**



**Capitol Expressway  
Light Rail Extension  
(in East San Jose)**

# Lessons Learned

- **Given the limited budget for expansion projects, performance data is at a premium.**
- **Modeling capabilities are stretched thin for non-expansion projects.**
- **Performance results helped to advance good projects and weed out bad ones.**
- **Tread carefully when picking:**
  - (a) performance objectives
  - (b) which projects to evaluate





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# BayArea Plan