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Measuring What We Value: Using Performance Measures to Achieve Goals

Chris Rall

Transportation For America

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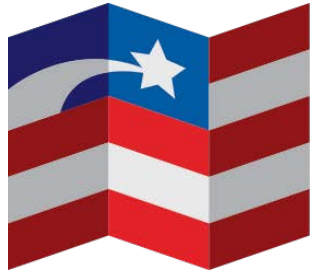
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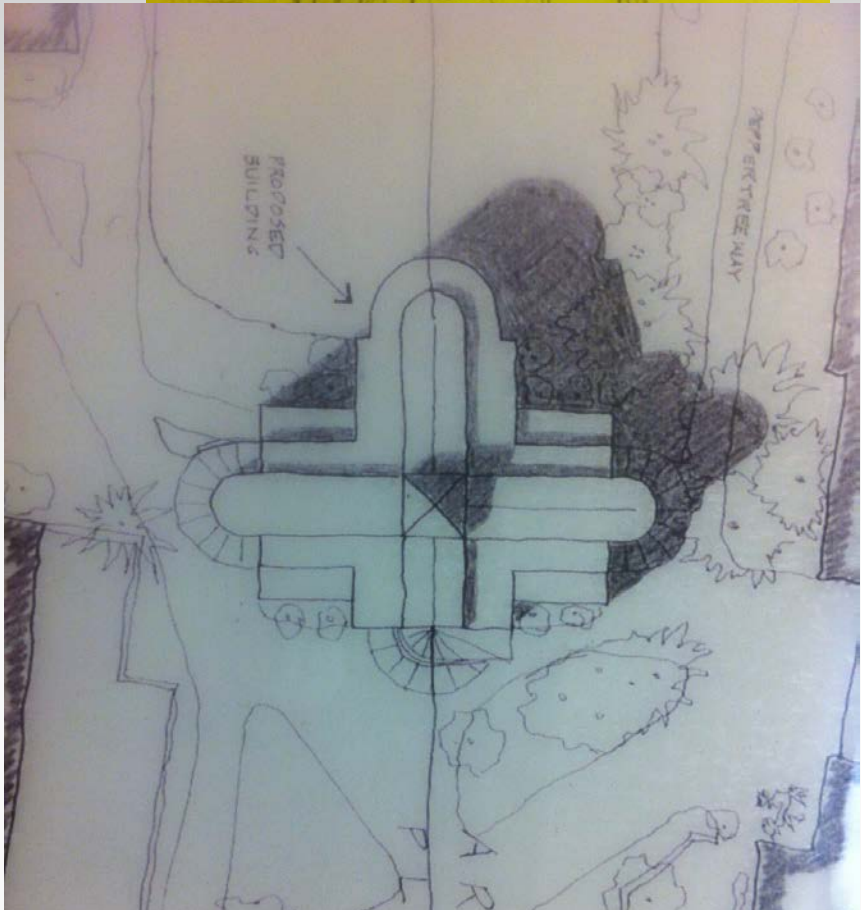
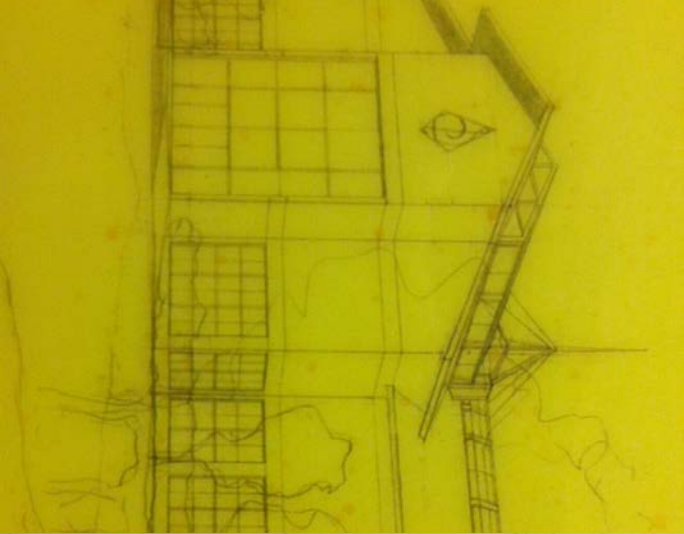
Transportation for America

Measuring What We Value Using Performance Measures to Achieve Goals

Chris Rall, May 6, 2016
Portland State University

www.T4america.org
@t4america







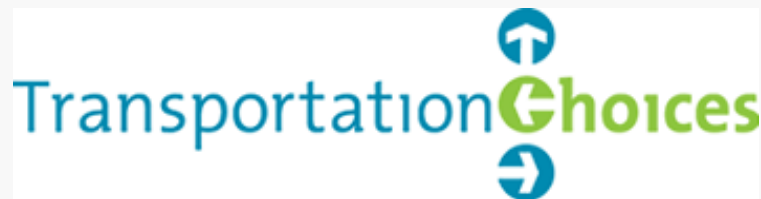
About Us

Transportation for America is the alliance of elected, business and civic leaders from communities across the country, united to ensure that states and the federal government invest in smart, locally-driven transportation solutions —because these are the investments that hold the key to our future economic prosperity.

T4A is committed to helping your community create the transportation investments necessary for a prosperous future.

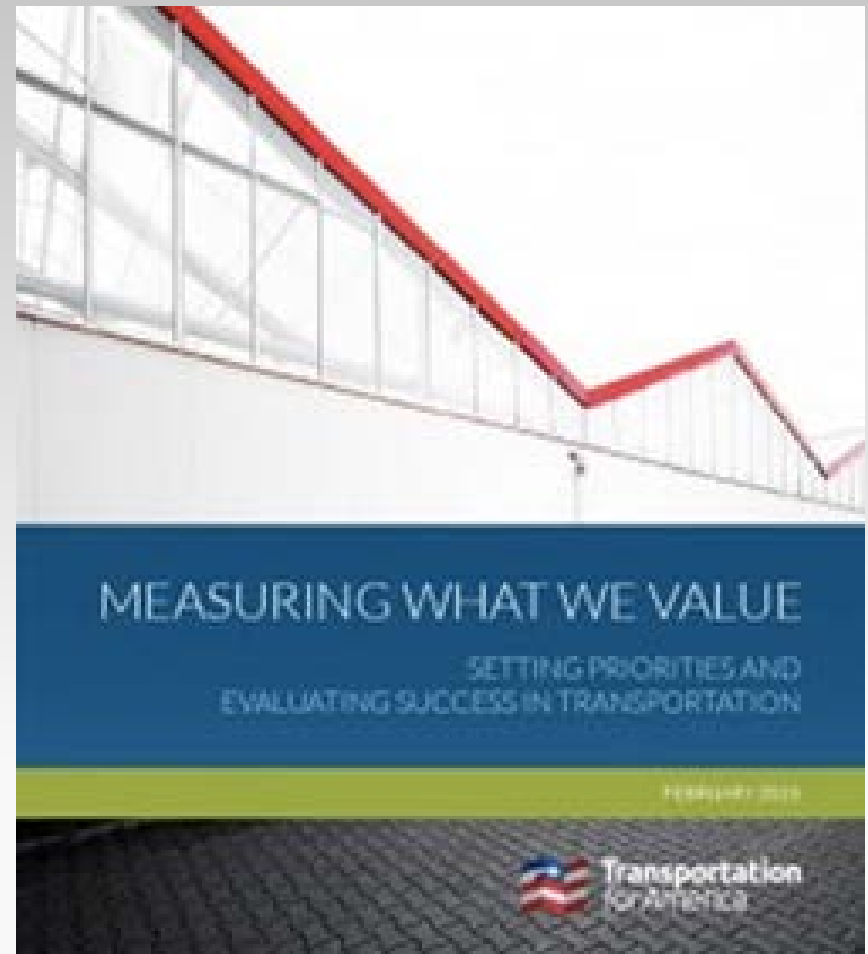
Our Members Include:

T4A's members are cities, counties, non-profit organizations and businesses of various shapes and sizes.



Reports: Performance Measures

<http://t4america.org/2015/02/18/better-bang-for-the-buck-learn-more-about-performance-measurement/>



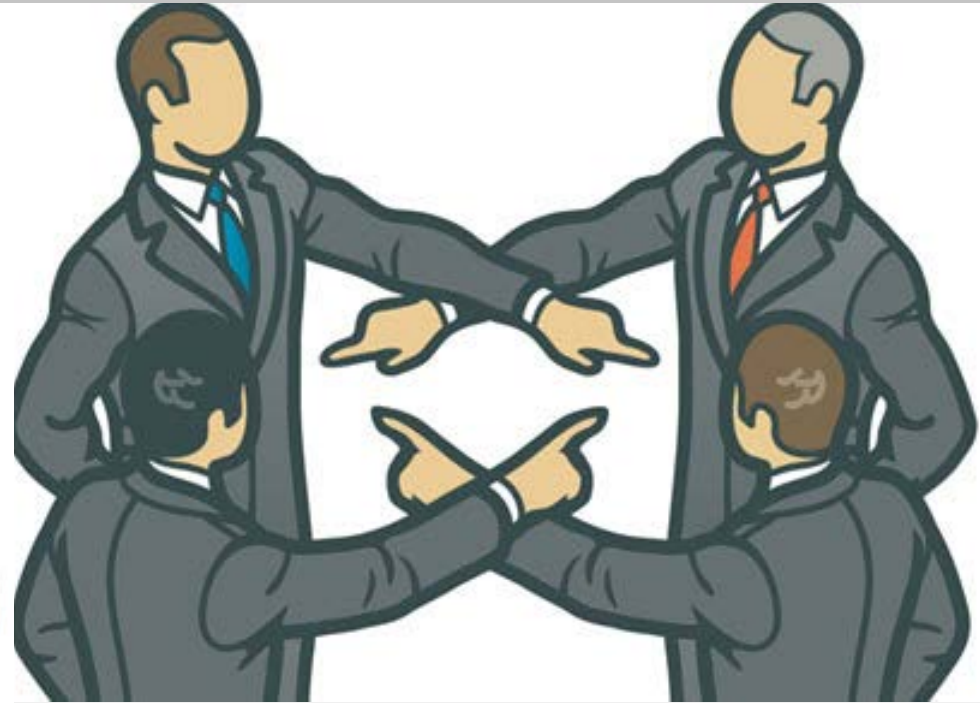
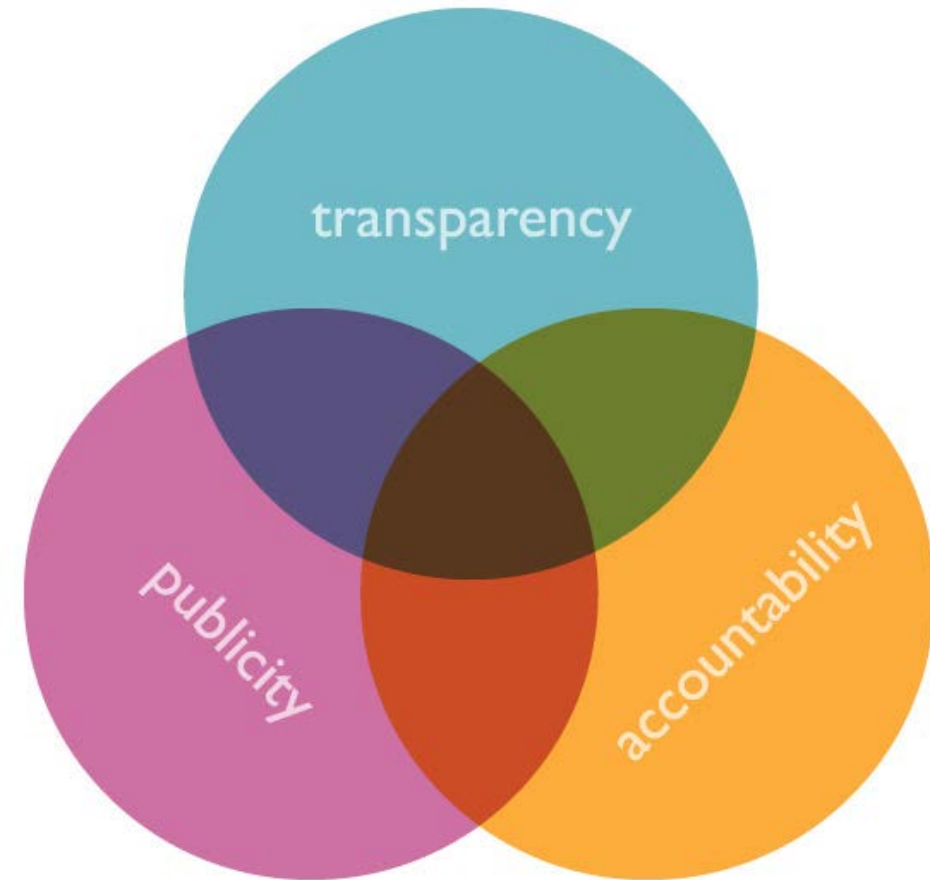
What Are Performance Measures?

Performance measurement is the process of collecting, analyzing and/or reporting information regarding the **performance** of an individual, group, organization, system or component.

MAP-21 Requirements

1. Condition of pavements on the Interstate System
2. Condition of pavements on the National Highway System
3. Condition of bridges on the National Highway System, including the Interstate System
4. Performance of the Interstate System
5. Performance of the National Highway System
6. Number of serious injuries (in common with NHTSA)
7. Number of fatalities (in common with NHTSA)
8. Number of fatalities per vehicle miles traveled (in common with NHTSA)
9. Number of serious injuries per vehicle miles traveled
10. Traffic congestion
11. On-road mobile source emissions
12. Freight movement on the Interstate System

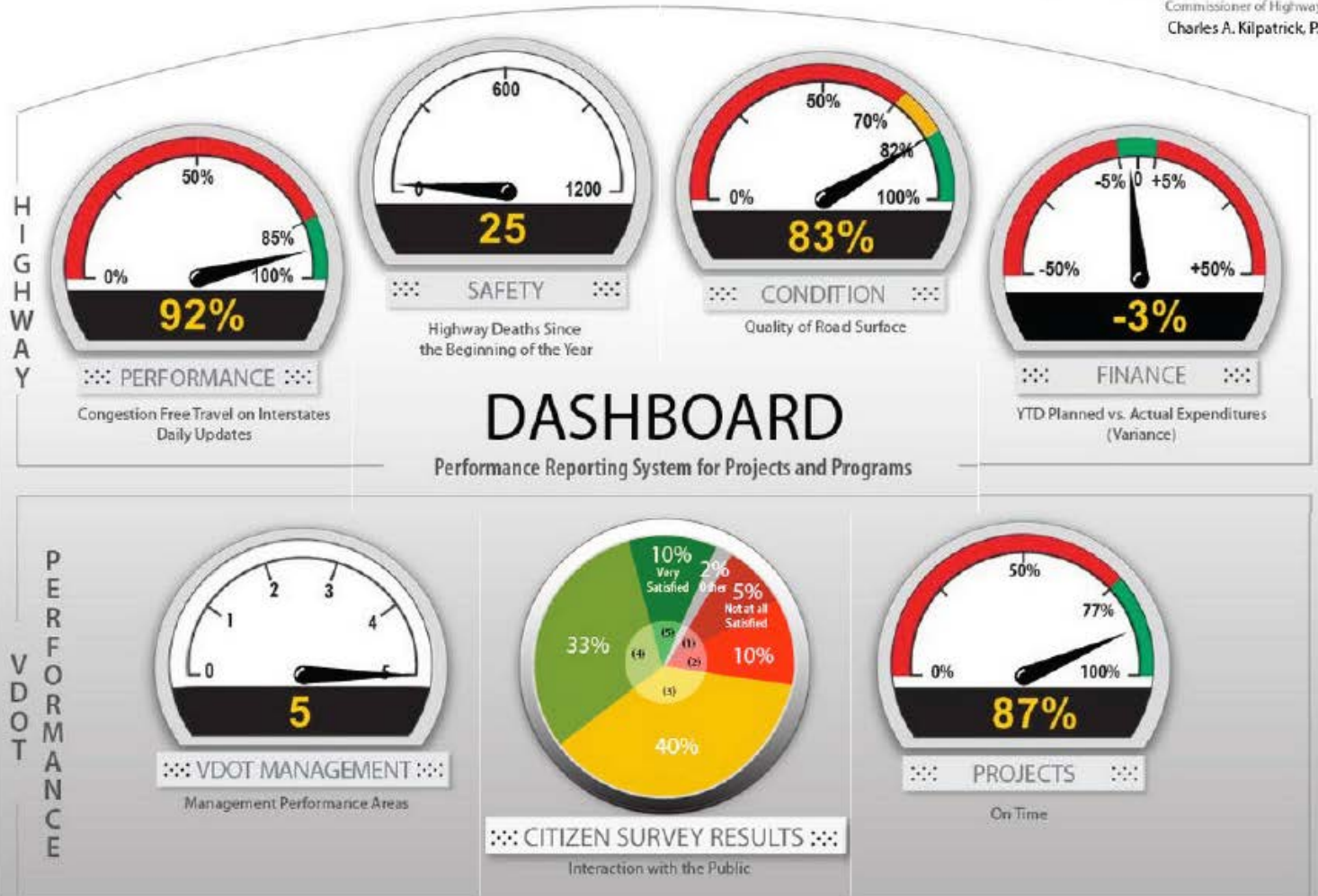
Benefits of Performance-based Decision Making



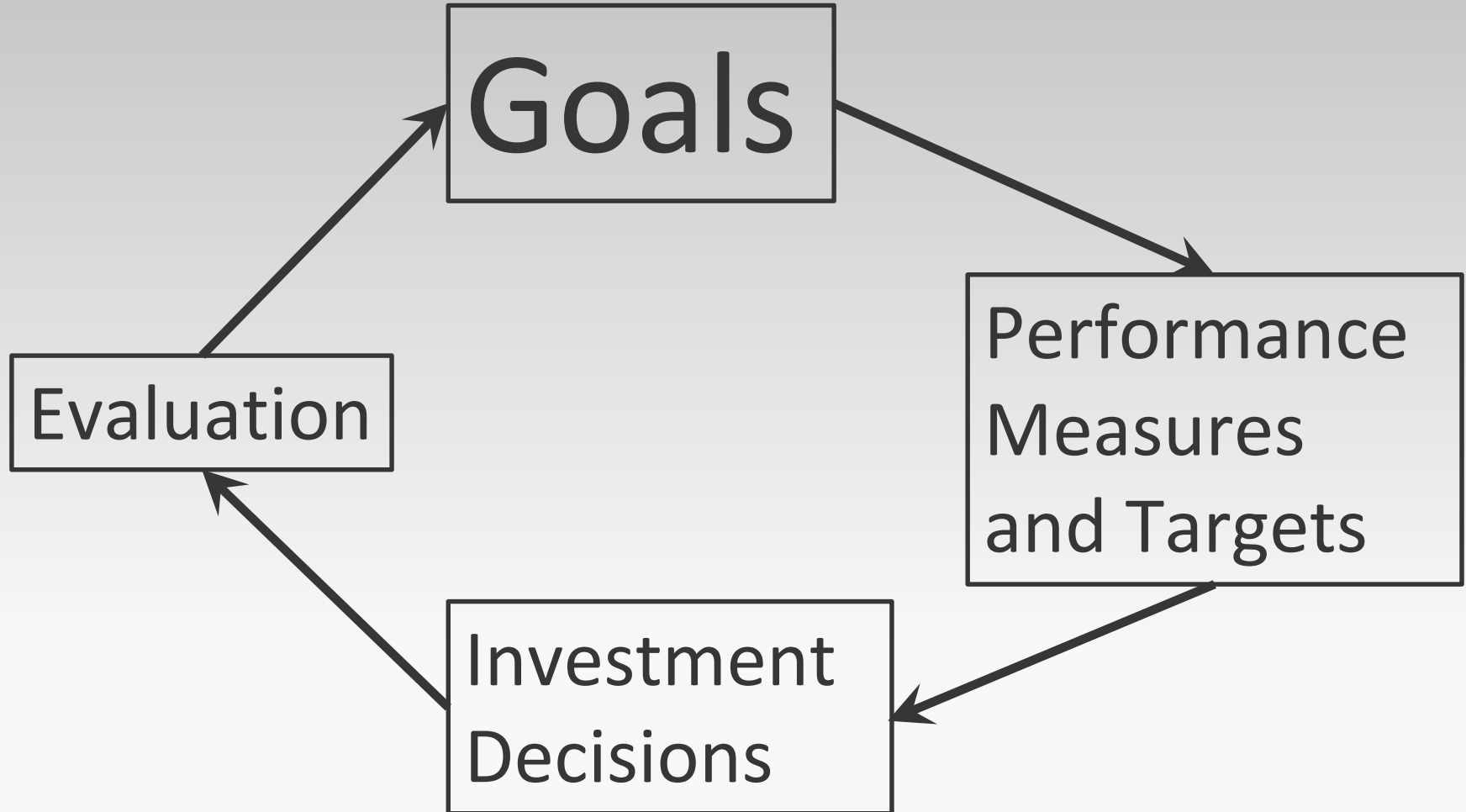
What Are Performance Measures?

Sample dashboard from the Virginia Department of Transportation. Screenshot taken January 26, 2015 from <http://dashboard.virginiadot.org>.

Commissioner of Highways
Charles A. Kilpatrick, PE.

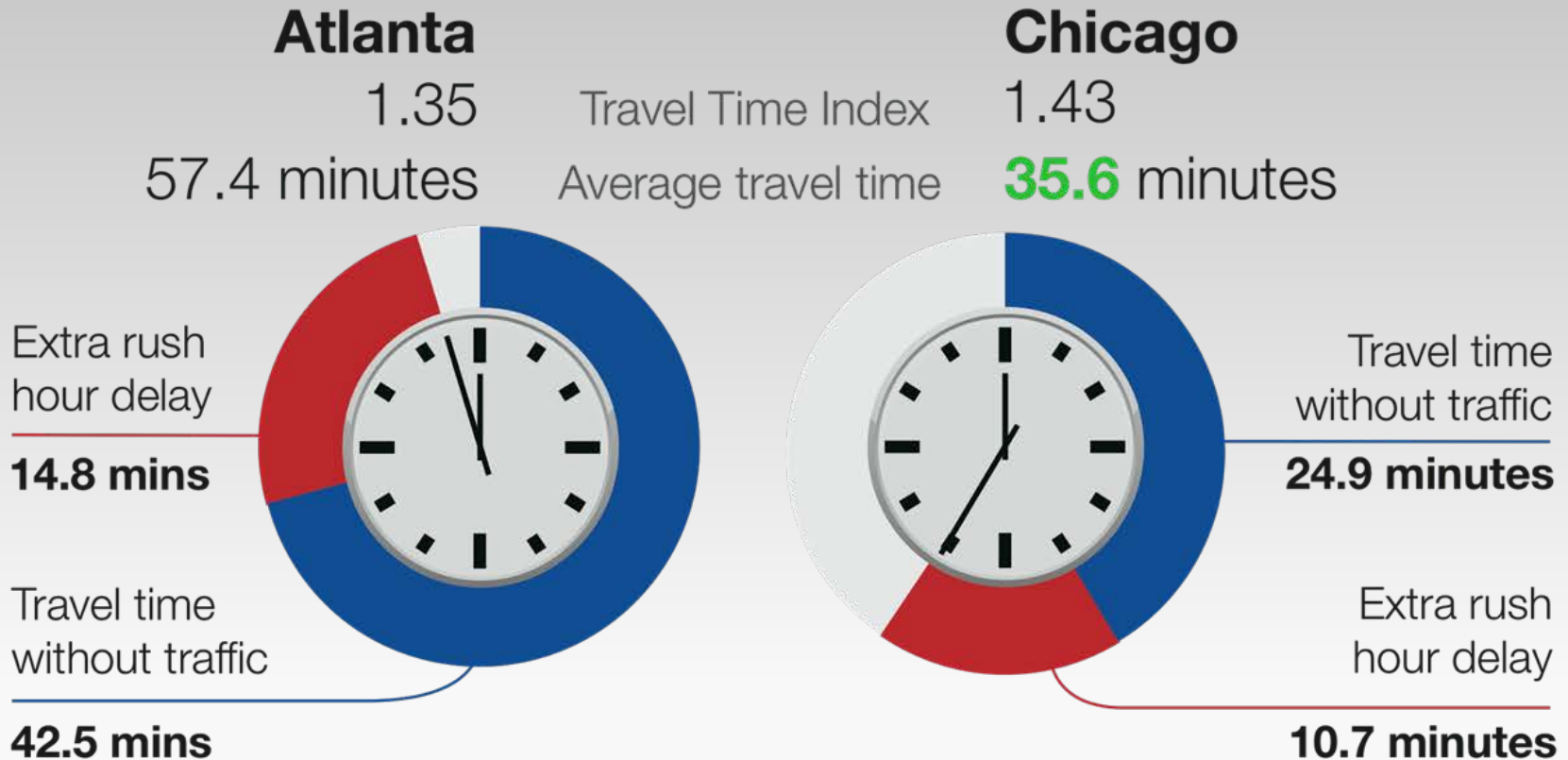


Framework





MAP-21 Performance Measures



Though Atlanta has a much lower (better) Travel Time Index (TTI), Chicago commuters spend 20 minutes less per peak period trip.

MAP-21 Performance Measures

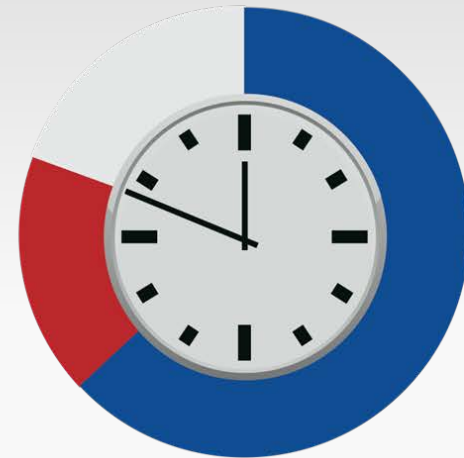
Denver 1982

1.09
50.6 minutes
46.4 mins
4.2 mins

Travel Time Index
Average travel time
Travel time without traffic
Extra rush hour delay

Denver 2007

1.31
49.6 minutes
37.9 minutes
11.7 minutes



USDOT NHS Performance



2018 Regional Transportation Plan

We've all got places to go. Metro works across the region to help people and goods get there safely, affordably and reliably.

[Overview](#) [Getting there](#) [Design](#) [Equity](#) [Finance](#) [Freight](#) [Performance](#) [Safety](#)

[Transit](#)





ECONOMY



Increase gross regional product



Increase non-auto mode share and 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



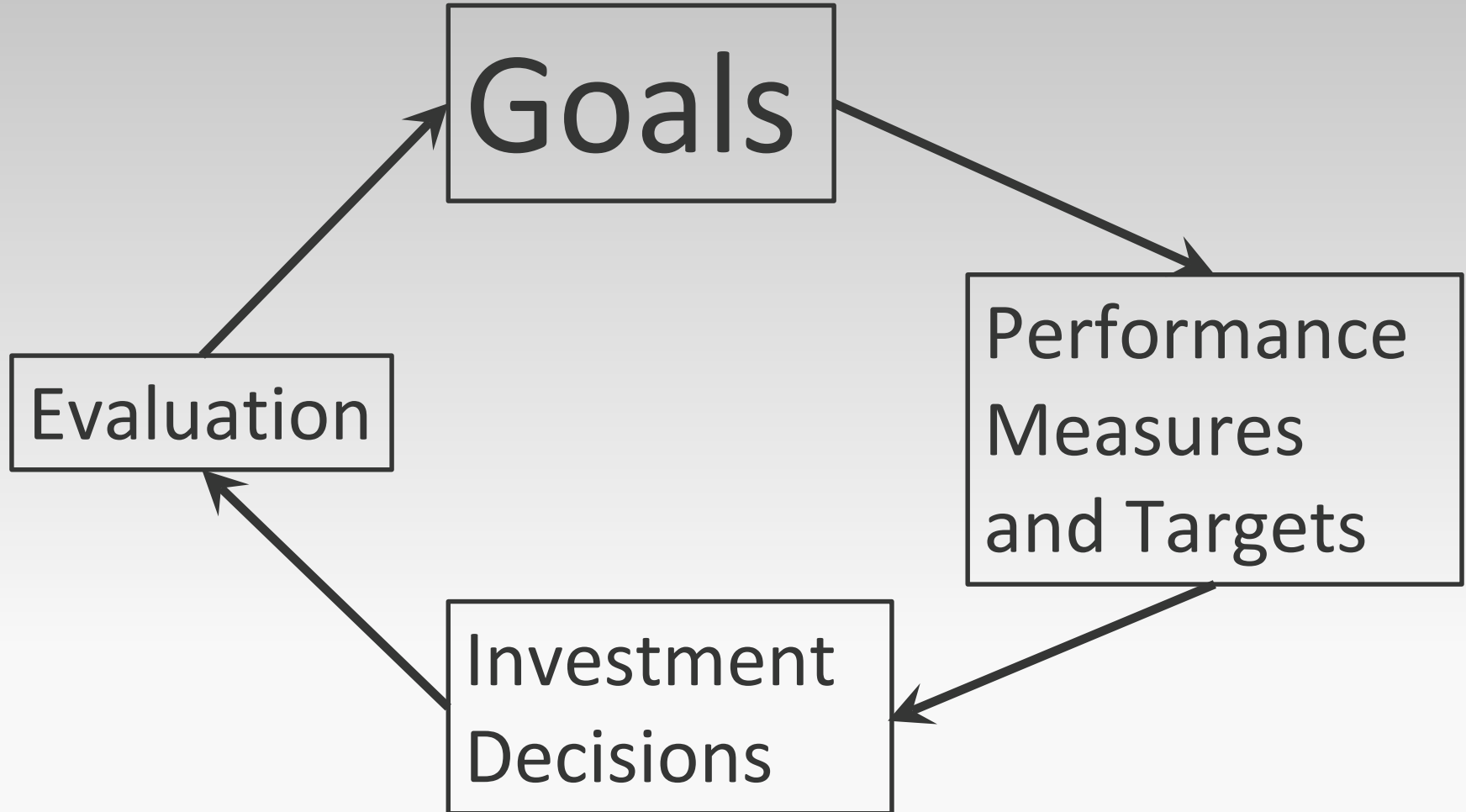
Decrease housing and transportation costs as a share of low-income household budgets

Taking Health into Account



Steve Morgan

Framework



VDOT – scoring projects

Category A	Congestion		Safety		Accessibility			Environment		Econ. Dev			Land Use
	Throughput	Delay	F&SI Crashes	F&SI Crash Rate	Access to Jobs	Access to Jobs (Disadvantaged Pop)	Multimodal Choices	Air Quality	Natural and Cult. Resources	Economic Development	Intermodal Access	Travel Time Reliability	Future Land Use Policy Consistency
Measure Score	62	48	20	32	10	20	10	38	28	30	20	20	17
Measure Weight	50%	50%	50%	50%	60%	20%	20%	50%	50%	60%	20%	20%	100%
Weighted Measure Score	31	24	10	16	6	4	2	19	14	18	4	4	17
Raw Factor Score	55		26		12			33		26			17
Factor Weighting	45%		5%		15%			10%		5%			20%
Weighted Factor Score	24.8		1.3		1.8			3.3		1.3			3.4
Project Score													35.9
Total Project Cost													\$20,000,000
Score Divided by Total Cost													18.0

Communication

☰ House Bill 2 Project Ap... 🔍 ⋮

▼ Each dot represents an application submitted under the House Bill 2 program as of September 30, 2015. All applications are 14,447 views
[SHARE](#)

High Priority Program Projects

▼ All items

District Grant Program

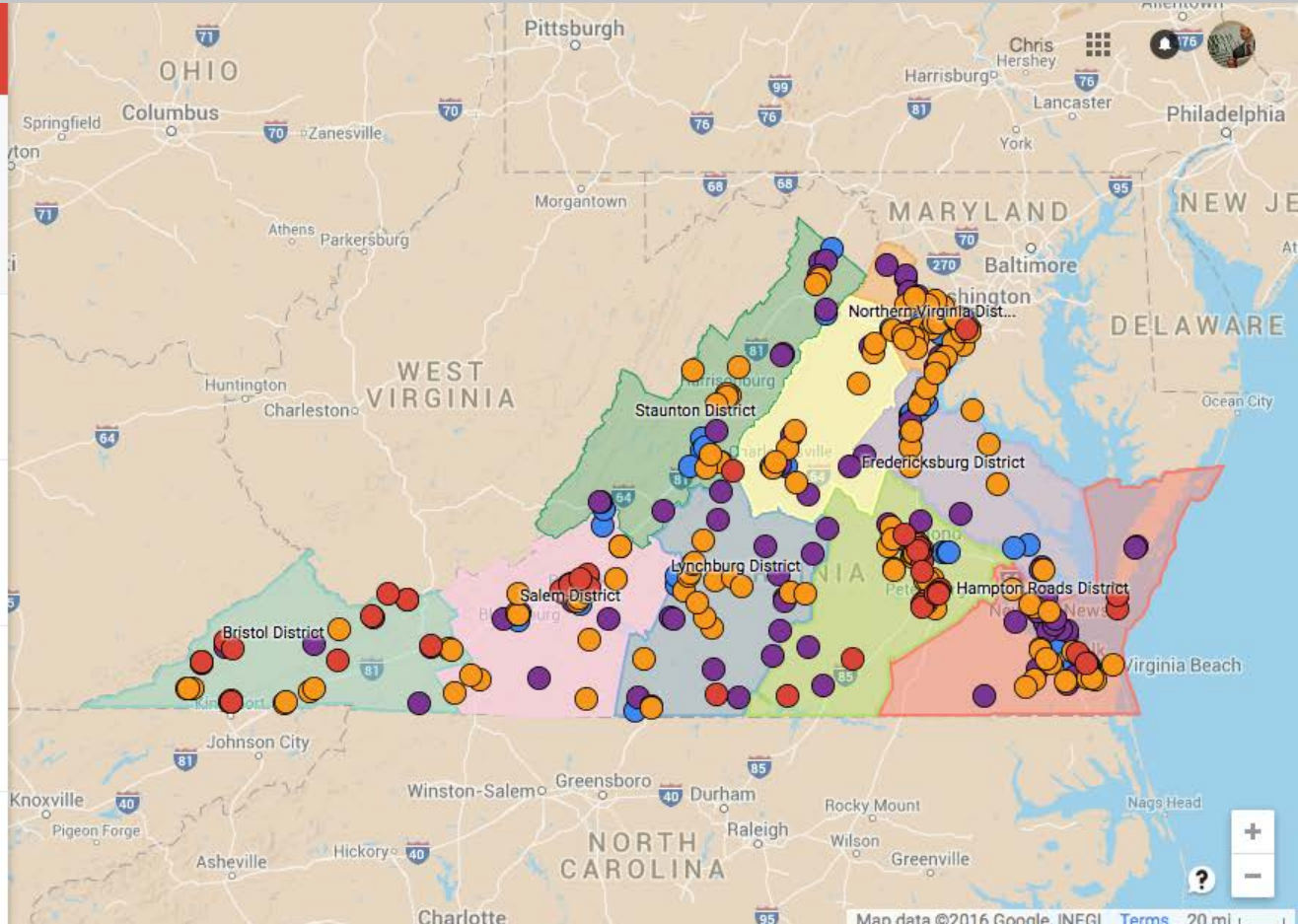
▼ All items

Both

▼ All items

Screened Out

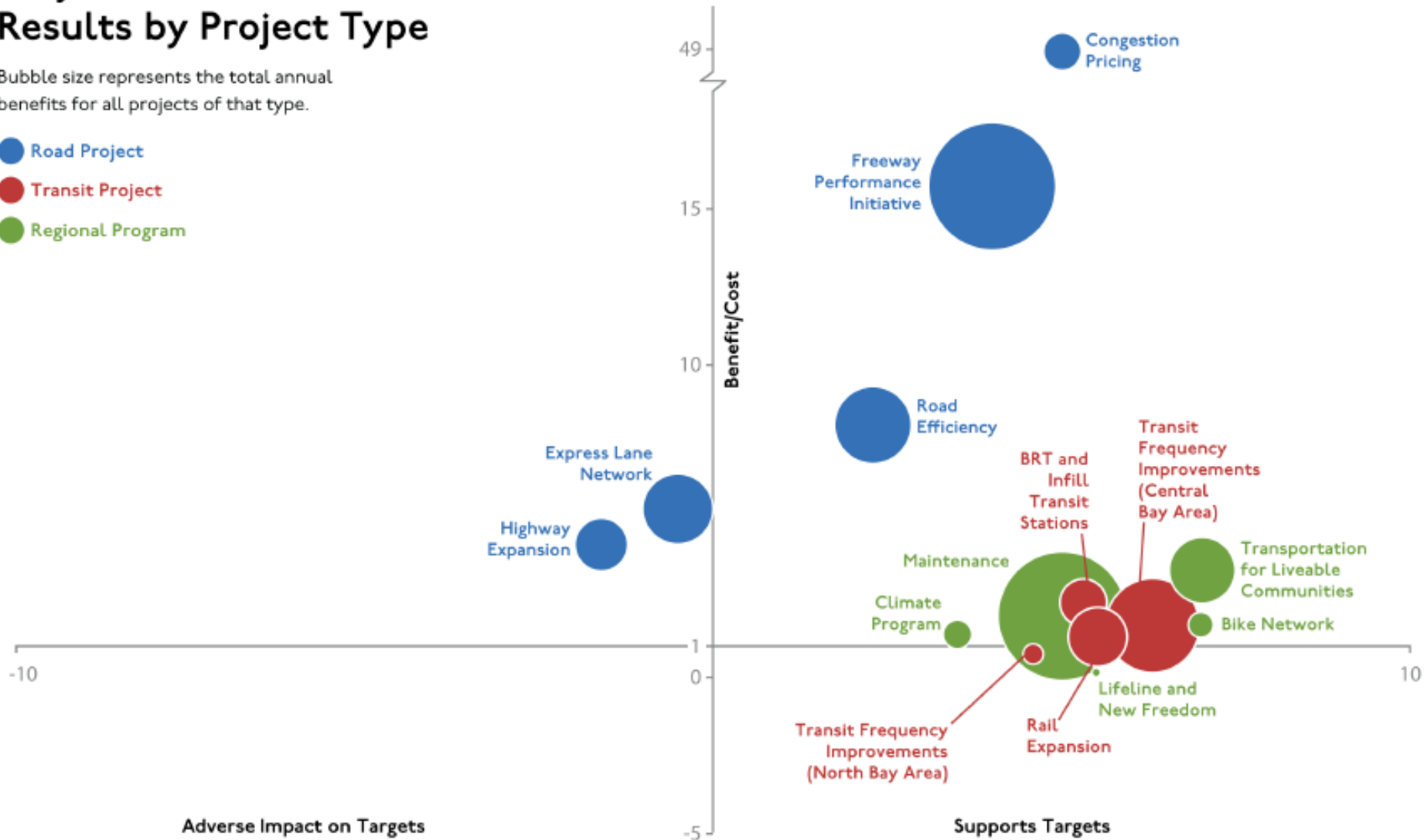
▼ All items



Project Performance Assessment: Results by Project Type

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

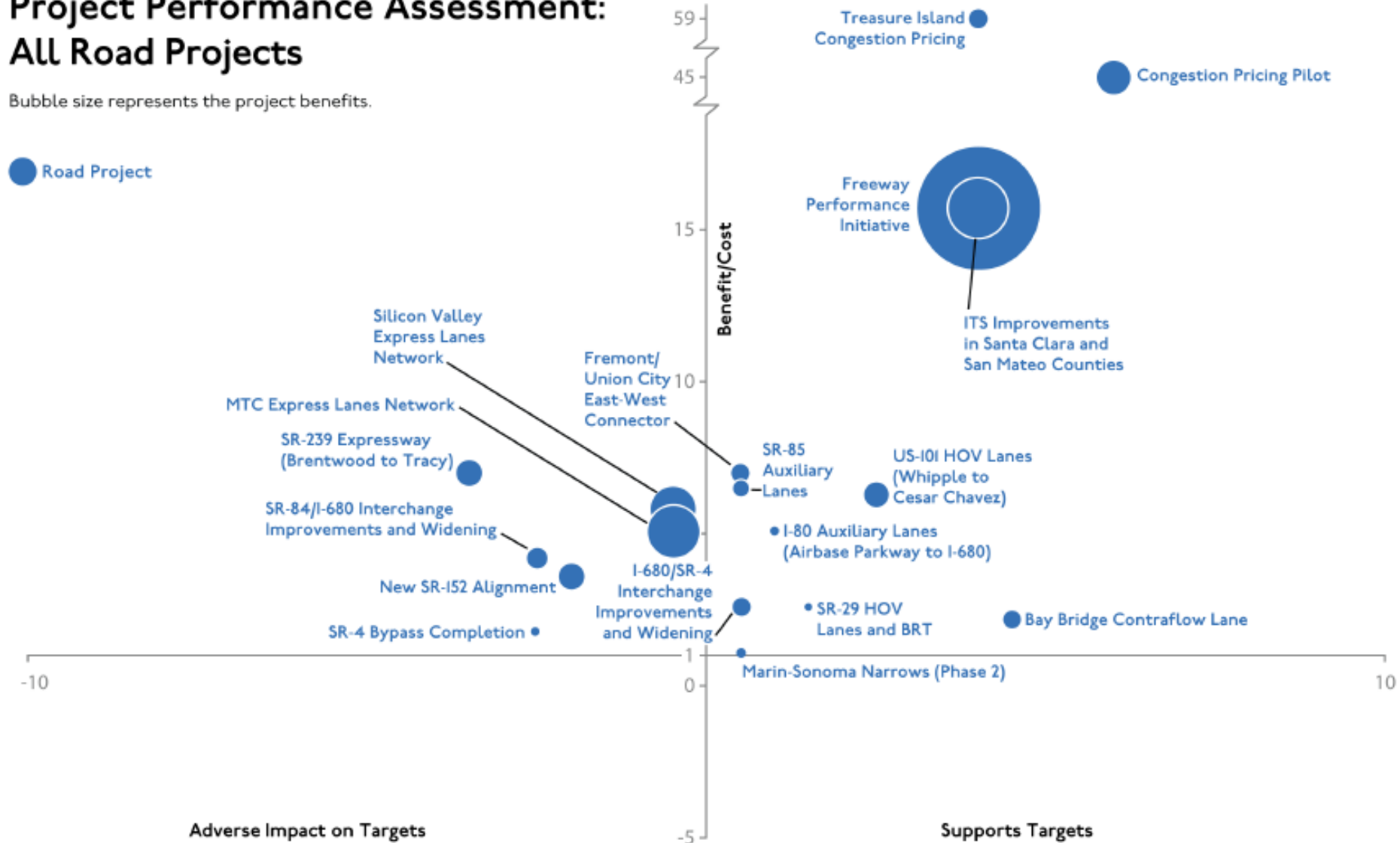
- Road Project
- Transit Project
- Regional Program



Project Performance Assessment: All Road Projects

Bubble size represents the project benefits.

● Road Project



SAMPLE HIGH-PERFORMING PROJECTS

PRIORITIZED FOR REGIONAL FUNDING



BART METRO



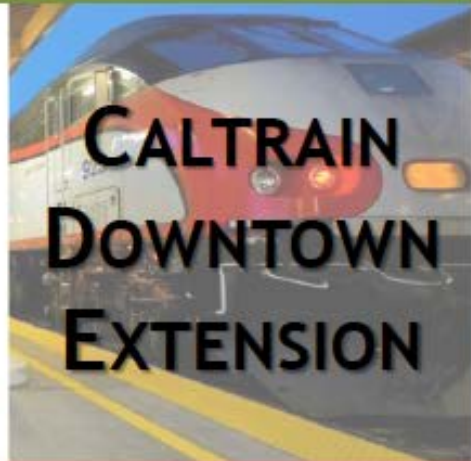
URBAN BRT SYSTEMS



FREEWAY PERFORMANCE INITIATIVE

SAMPLE MODERATE-PERFORMING PROJECTS

"NOTHING TO SEE HERE, MOVE ALONG"



CALTRAIN DOWNTOWN EXTENSION



URBAN BUS FREQUENCY IMPROVEMENTS



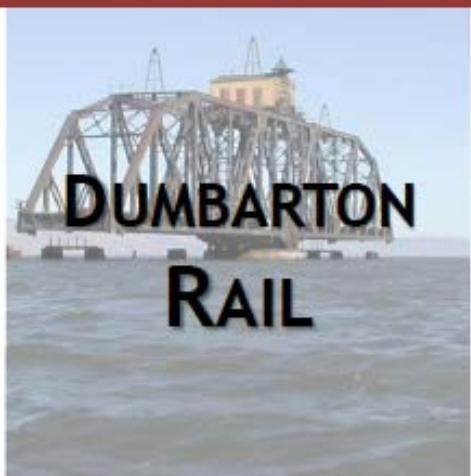
EXPRESS LANE NETWORK

SAMPLE LOW-PERFORMING PROJECTS

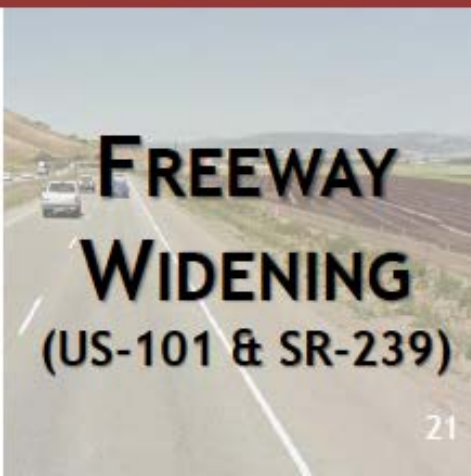
REQUIRED COMPELLING CASE FOR INCLUSION IN PLAN



SMART EXPANSION



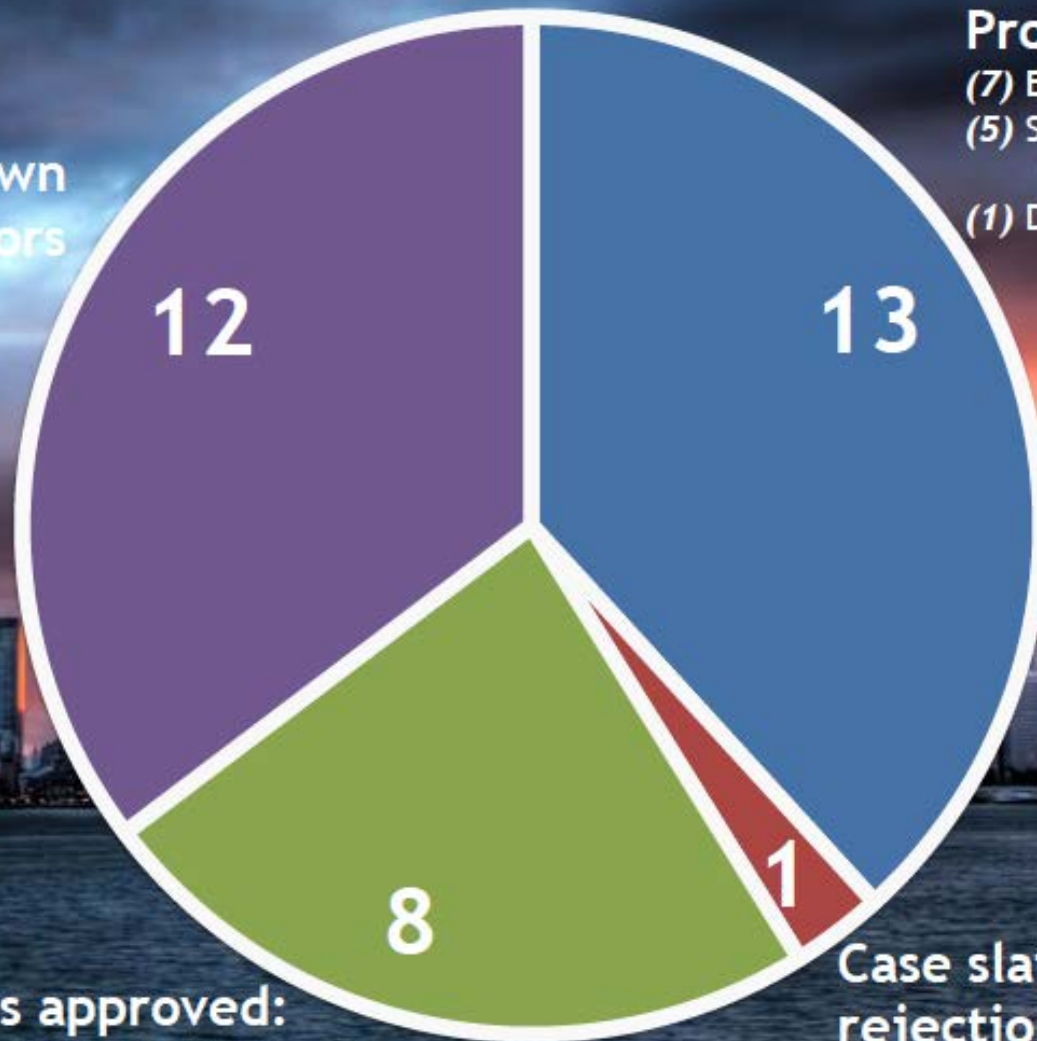
DUMBARTON RAIL



FREEWAY WIDENING (US-101 & SR-239)

IMPLICATIONS OF COMPELLING CASE REQUIREMENT FOR LOW-PERFORMING PROJECTS

Projects withdrawn
by sponsors



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

Compelling cases approved:

- (6) Communities of Concern
- (1) Air quality
- (1) Recreational trips

Case slated for
rejection; "settled
out of court"

Project Prioritization





Transportation for America



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[org](http://t4america.org)