

ITS Work at MPOs

Hillsborough MPO
Tampa, Florida

planhillsborough.org

The Role of MPOs

- Forum for agencies to coordinate on ITS initiatives
- Provide info to decision-makers on the impact ITS investments can have on the transportation system
- Identify unmet needs for ITS and help decision-makers set priorities among all multimodal needs
- Track area-wide performance, and benefits of ITS investments, over time



MPO as a forum: What should be on the agenda?



Planners need:

- Familiarity with elements of ITS (sensors, controllers, communication systems...) & their limitations and benefits
- Understanding of how ITS deployments can help achieve community multimodal goals
- Awareness of trends as technology continues to rapidly evolve



MPO as a storyteller re: benefits of ITS

**2040
Transportation
Plan =
Many Kinds of
Investments**



**Preserve
the
System**



**Reduce
Crashes &
Vulnerability**



**Manage
Traffic for
Drivers &
Shippers**



**Real Choices
When Not
Driving**



**Grow
Economic
Activity
Centers**



MPO as a storyteller re: benefits of ITS

What can we get if we invest in Managing Traffic for Drivers & Shippers

Level 1 – CURRENT SPENDING

- Peak-hour travel time is how much less reliable than today?
- Hours of truck delay

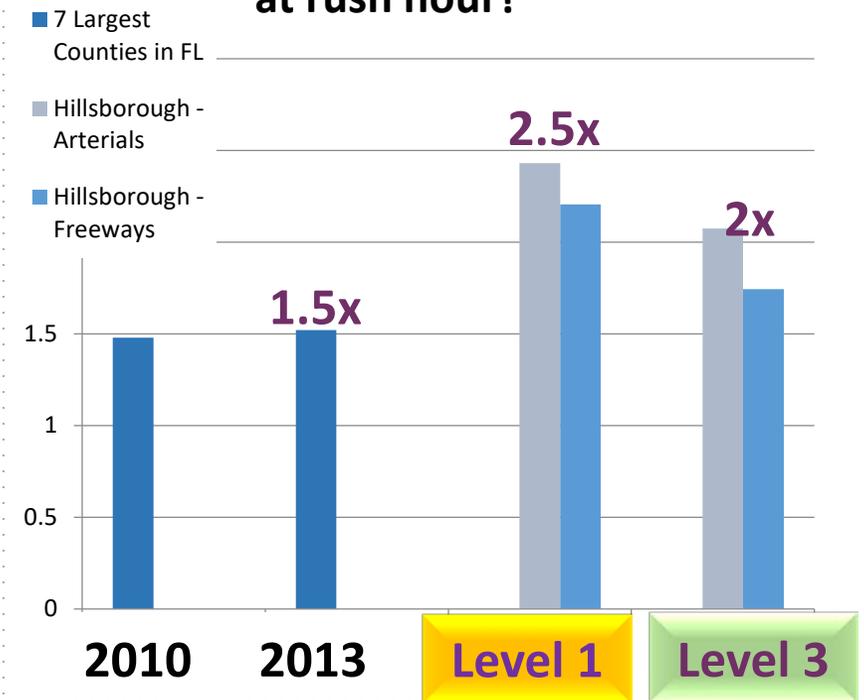
Level 2 – ATMS FULLY FUNDED

- Travel time % more reliable on major roads
- Reduced truck “hot spots” by %

Level 3 – FREEWAY ATMS FUNDED TOO

- Level 2, plus increased reliability on freeways

Travel Time Variability: How much longer could it take you at rush hour?



MPO as a storyteller re: benefits of ITS

Investment Programs Comment See Instructions

- Preserve the System
- Reduce Crashes and Vulnerability
- Minimize Traffic for Drivers and Shippers**
- Real Choices When Not Driving

Click on the amount to invest, over 20 years, in each program:
Low, Medium or High to **minimize traffic for drivers & shippers**.

Your plan exceeds current budget.

Low \$285

- Traffic signal upgrades reduce delay 7% on major roads
- Adjust curbs to move trucks through intersections better

Medium \$872

- Low level, plus more & better turn lanes at 640 intersections – reducing delay 17% on major roads
- Build 1 railroad overpass – remove 5 hours of stopped traffic each day

High \$1,060

- Medium level, + 120 miles of freeways have smart tech & real-time traffic controls, reducing delay there 10%
- Build 2 railroad overpasses – remove 10 hours of stopped traffic each day

Raise Taxes/
Fees: \$10,921

Current Budget: \$5,503

\$6,563
(dollars in millions)

[Your plan exceeds current budget. Click for info on revenue options.](#) Next

WELCOME | 2 PLANS | PROGRAMS | PROJECTS | 4 | 5 STAY INVOLVED

help

Share

Imagine
2040 .
Org
Public
Engage-
ment
website



MPO as a storyteller re: benefits of ITS

To tell the story, planners need:

- Ability to use new travel demand modeling tools/ post-processors that can estimate the benefits of ITS projects, at the long-range, macrosimulation scale

Safety and Reliability TDM Model

Bundles

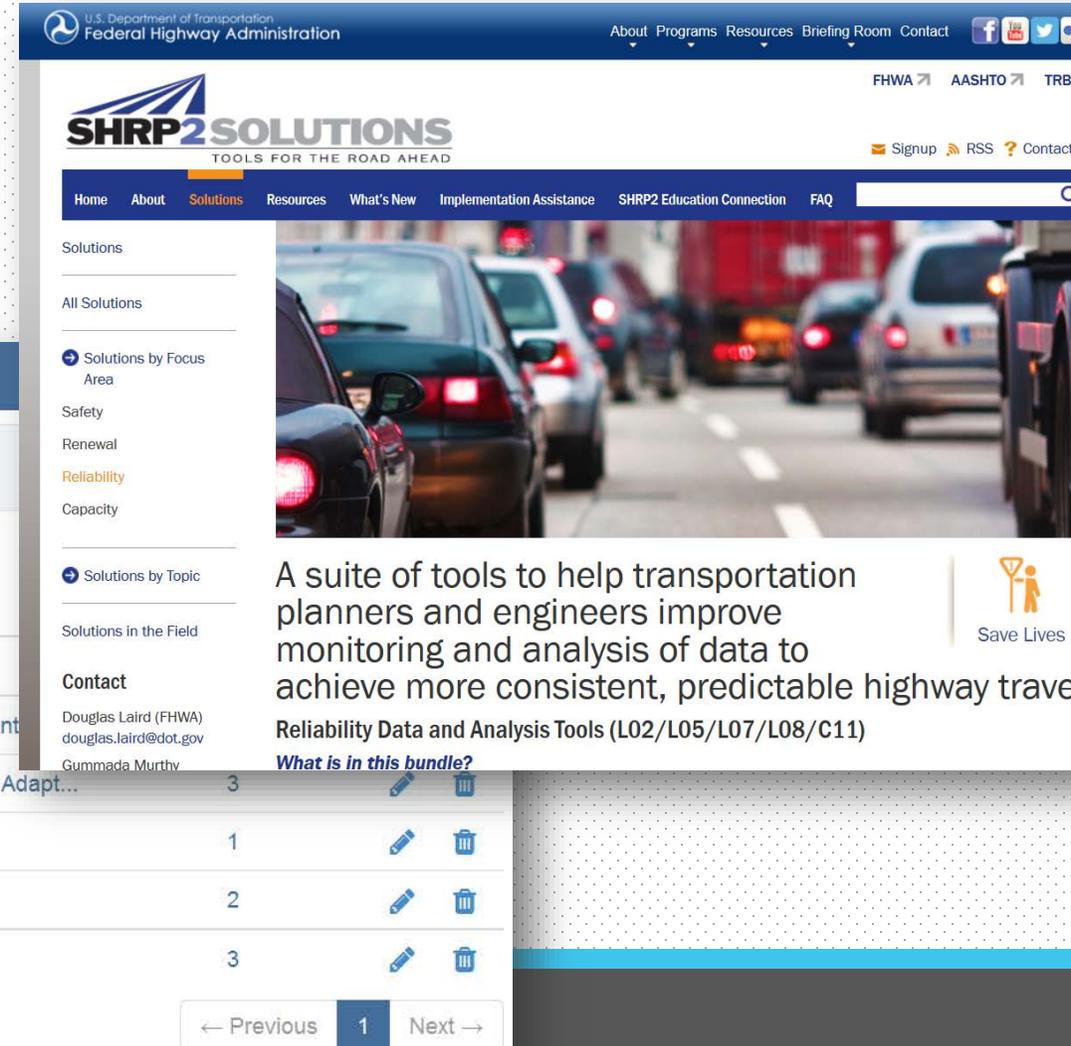
10 records per page

Name	Category	Improvement Type(s)
Operations Bundle - Complete Streets	Operations	Complete Streets
Operations Bundle 1	Operations	Dynamic message signs; Hard Shoulder Running; Incident Management
Operations bundle demo	Operations	Integrated Corridor Management; Signal Coordination; and Real-Time Adapt...
Safety Bundle - Complete Streets	Safety	Complete Streets
Safety Bundle 1	Safety	Delineation; and Bike lanes
Safety Bundle 2	Safety	Delineation; Bike lanes; and Ramp Metering

Showing 1 to 6 of 6 entries

New Operations Bundle

New Safety Bundle



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Federal Highway Administration

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TOOLS FOR THE ROAD AHEAD

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Safety

Renewal

Reliability

Capacity

Solutions by Topic

Solutions in the Field

Contact

Douglas Laird (FHWA)
douglas.laird@dot.gov

Gummada Murthy

3

1

2

3

← Previous 1 Next →

A suite of tools to help transportation planners and engineers improve monitoring and analysis of data to achieve more consistent, predictable highway travel.

Reliability Data and Analysis Tools (L02/L05/L07/L08/C11)

What is in this bundle?

Save Lives

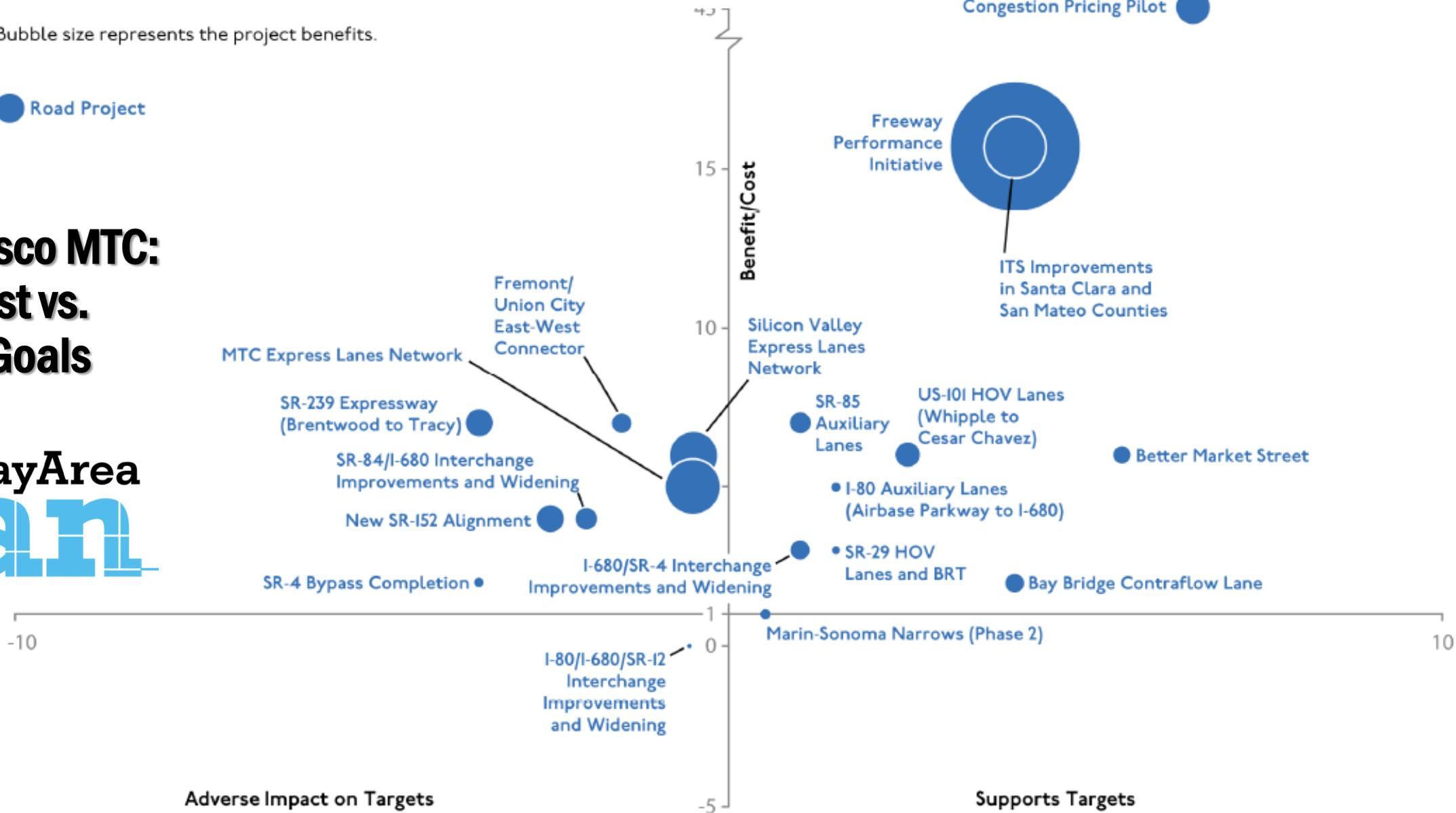
MPO: identifying & prioritizing needs

San Francisco MTC: Benefit-Cost vs. Achieving Goals



Bubble size represents the project benefits.

Road Project

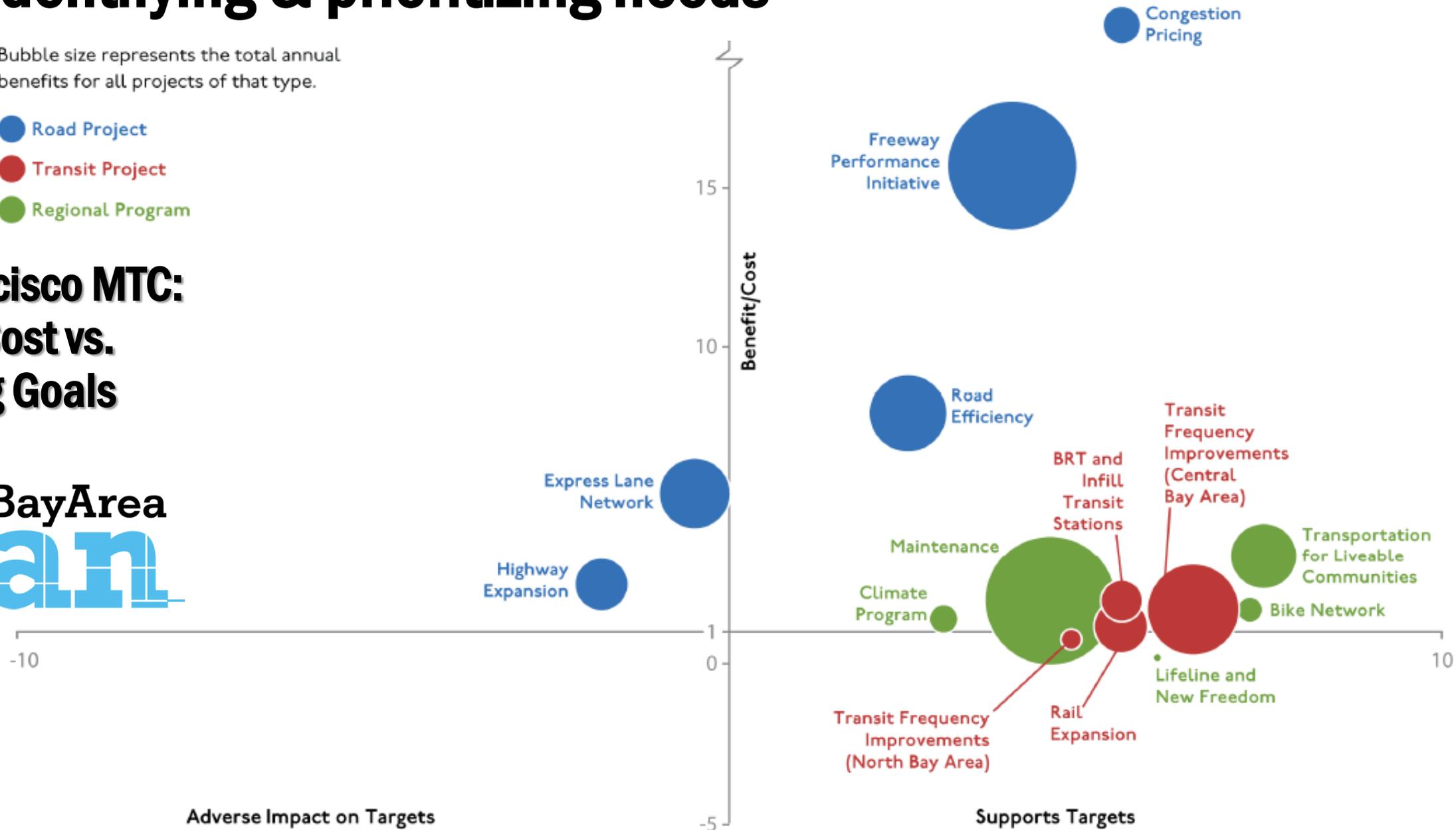


MPO: identifying & prioritizing needs

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

- Road Project
- Transit Project
- Regional Program

San Francisco MTC: Benefit-Cost vs. Achieving Goals



MPO: identifying & prioritizing needs

San Francisco MTC: Summary Observations



- 1. The best performers are pricing projects and transit and road efficiency projects in the central Bay Area.**
- 2. Transit expansion projects achieve the highest target ratings but many have B/C less than 1.**
 - Results are mixed for Resolution No. 3434 projects.
 - Many projects have high operating costs.
 - Many have large benefits but also have very large costs.
- 3. Roadway expansion projects are middle of the pack for B/C but rate lowest for targets.**



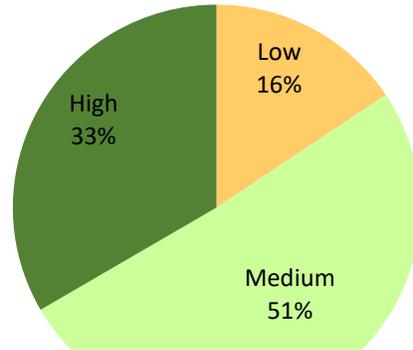
MPO: identifying & prioritizing needs

Planners should have a general understanding of where ITS strategies fall on various scales, such as cost per mile, cost/benefit ratio, environmental and community impact, public opinion, in order to help their communities choose the right tool from the multimodal transportation toolbox.



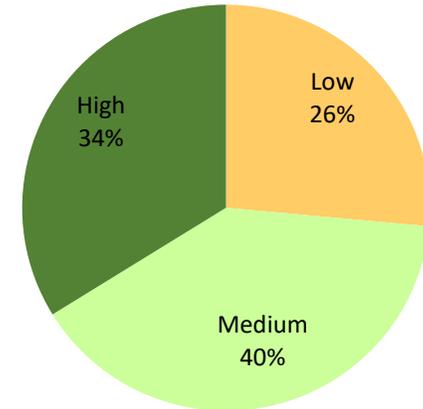
Preserve the System

1964 responses



Min. Traffic for Drivers & Shippers

1920 responses

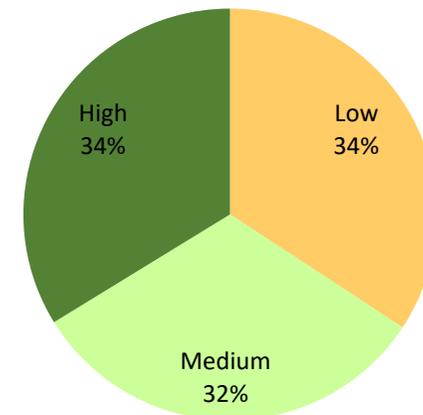


Public engagement survey says the right level of investment is



Real Choices When Not Driving

1886 responses



MPO performance targets: monitoring progress

TRAVEL TIME RELIABILITY

PERFORMANCE TARGETS

Actual,
2018

≥75%

INTERSTATE NHS NETWORK WITH A LEVEL OF TRAVEL TIME RELIABILITY LESS THAN 1.50

71%

≥50%

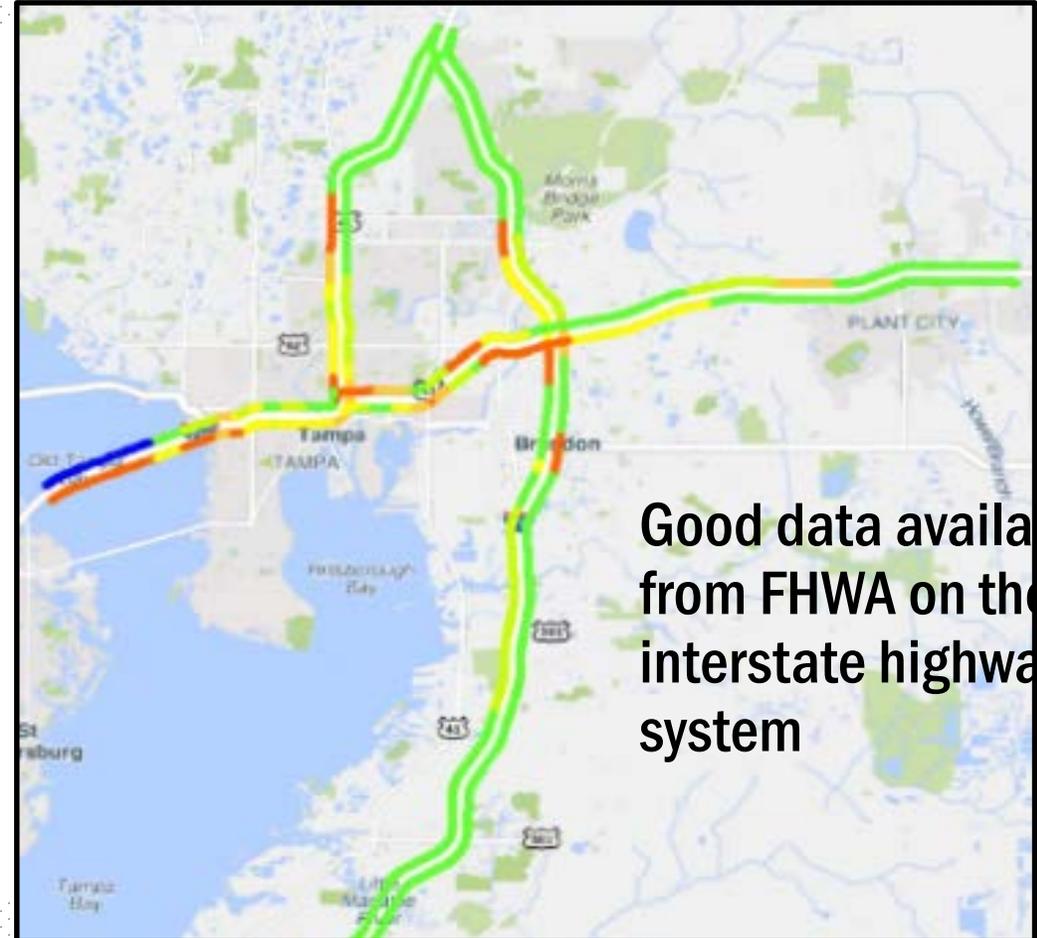
NON-INTERSTATE NHS NETWORK WITH A LEVEL OF TRAVEL TIME RELIABILITY LESS THAN 1.50

62.5%

≤2.00

TRUCK TRAVEL TIME RELIABILITY INDEX SCORE

2.08

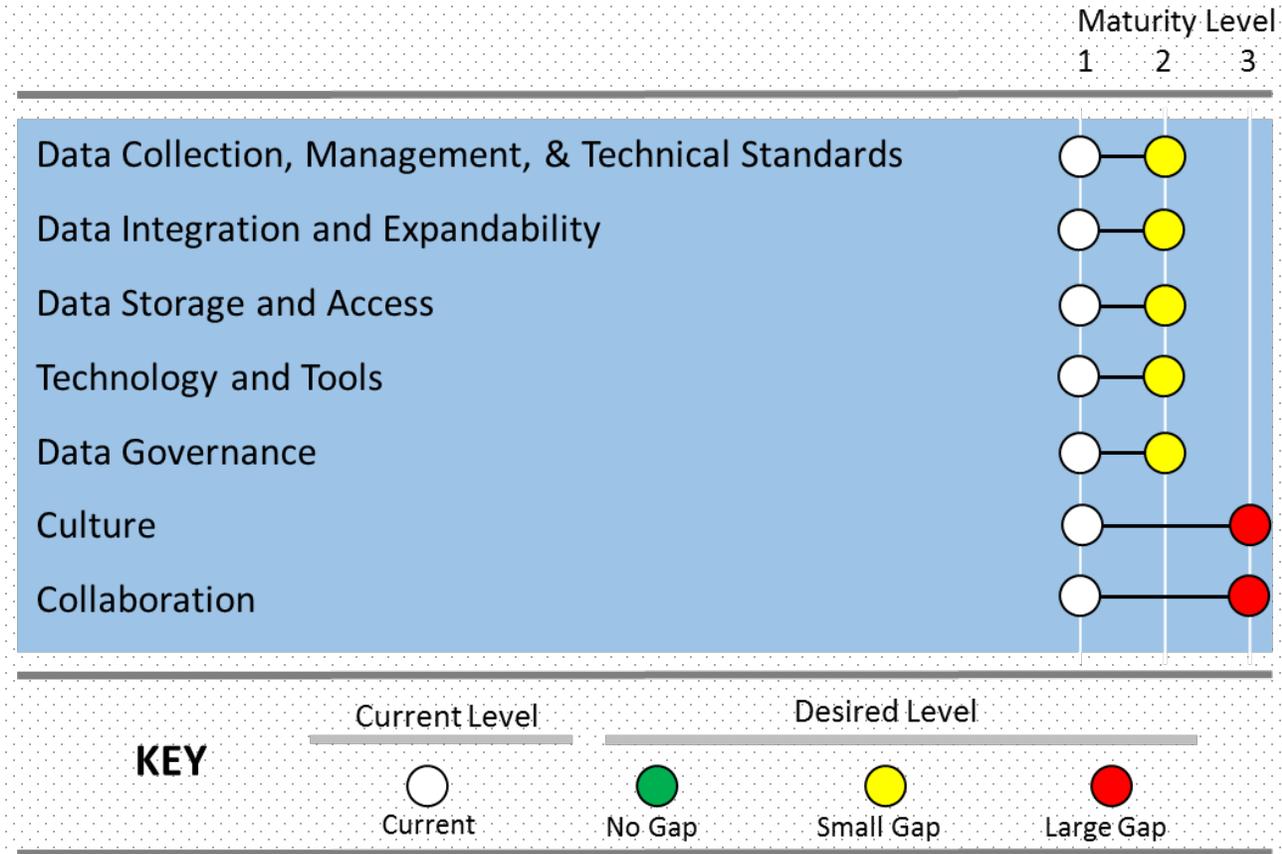


MPO performance targets: monitoring progress

Segment-level data on average speed by time of day is available on most roads of interest for a price

What about sharing data among TMCs? Requires data business planning:

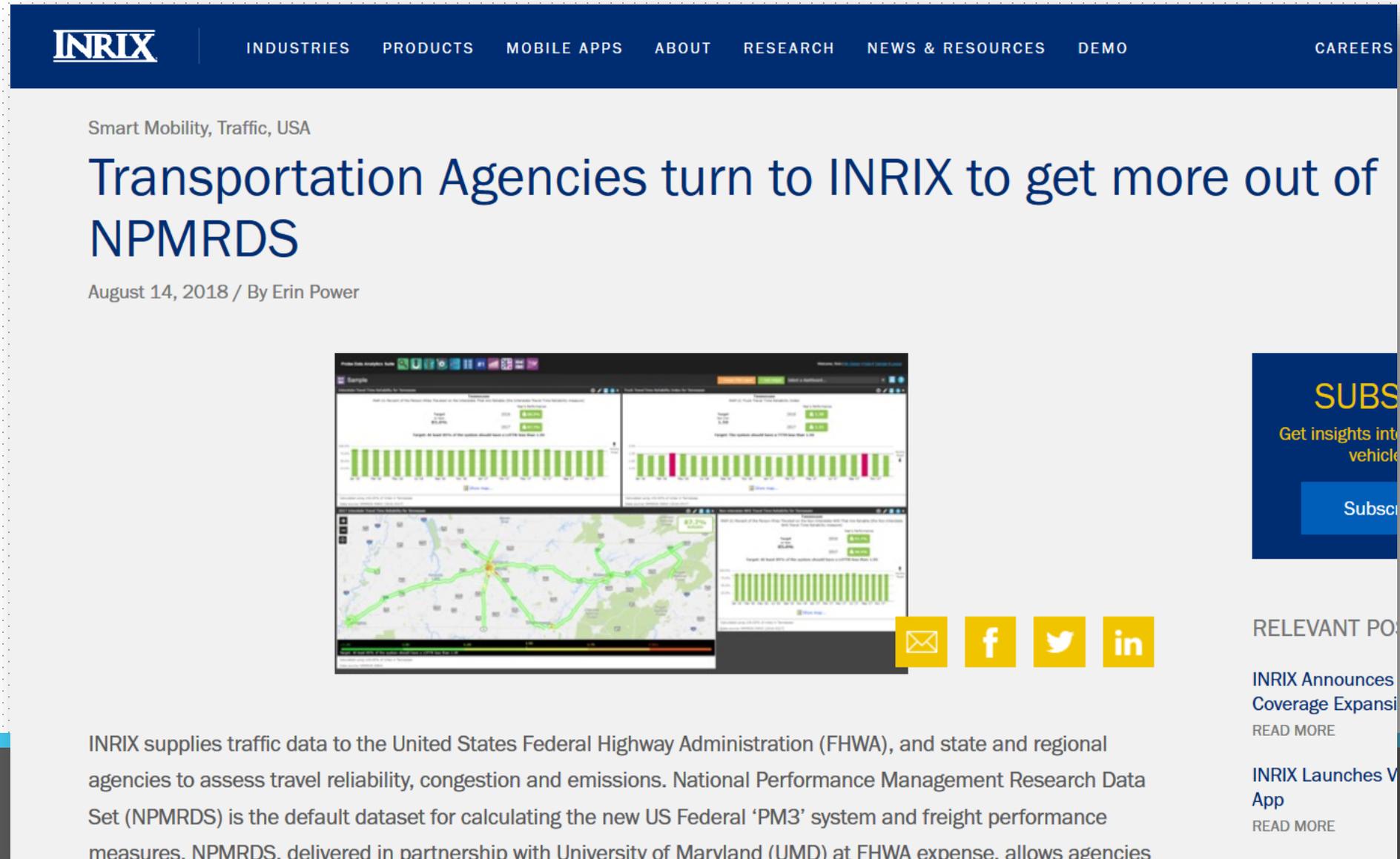
- Inventory of datasets and formats
- Interlocal agreements for data-sharing
- Software to manage enormous data sets (beyond Excel's capacity)
- Programming of analysis functions



MPO performance targets: monitoring progress

Planners need:

- Strong data management and statistical analysis skills
- Capacity to interpret data and create data visualizations that convey key messages



The screenshot shows the INRIX website header with navigation links: INDUSTRIES, PRODUCTS, MOBILE APPS, ABOUT, RESEARCH, NEWS & RESOURCES, DEMO, and CAREERS. The main content area features the article title "Transportation Agencies turn to INRIX to get more out of NPMRDS" dated August 14, 2018, by Erin Power. Below the title is a screenshot of the INRIX traffic data dashboard, which includes a map of a road network with green and red lines indicating traffic flow, and several bar charts showing performance metrics. To the right of the dashboard are social media icons for email, Facebook, Twitter, and LinkedIn. On the far right, there is a blue sidebar with a "SUBSCRIBE" button and a "Subscribed" button, along with a "RELEVANT POSTS" section listing two articles: "INRIX Announces Coverage Expansion" and "INRIX Launches V App".

INRIX supplies traffic data to the United States Federal Highway Administration (FHWA), and state and regional agencies to assess travel reliability, congestion and emissions. National Performance Management Research Data Set (NPMRDS) is the default dataset for calculating the new US Federal 'PM3' system and freight performance measures. NPMRDS, delivered in partnership with University of Maryland (UMD) at FHWA expense, allows agencies





Thank you!

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