



VDOT's Dashboard and Operations Measures

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Overview

- **Goals of the Dashboard**
- **Background**
- **Dashboard Architecture**
- **Lessons Learned**
- **Operations Measures**
- **Next Steps**

Goals of the Dashboard

- Increase accountability and performance
- Provide a platform to measure, monitor, evaluate and report performance
- Establish clear business rules
- Increase public transparency

Background

Public Perception Of VDOT - 2002

- Confused lines of responsibility and accountability
- Needed “a room full of people” to assess project status
- Prevailing refrains:
 - *“It costs what it costs”*
 - *“It’ll be done when it’s done”*
- Public perception was of poor management and promises not kept

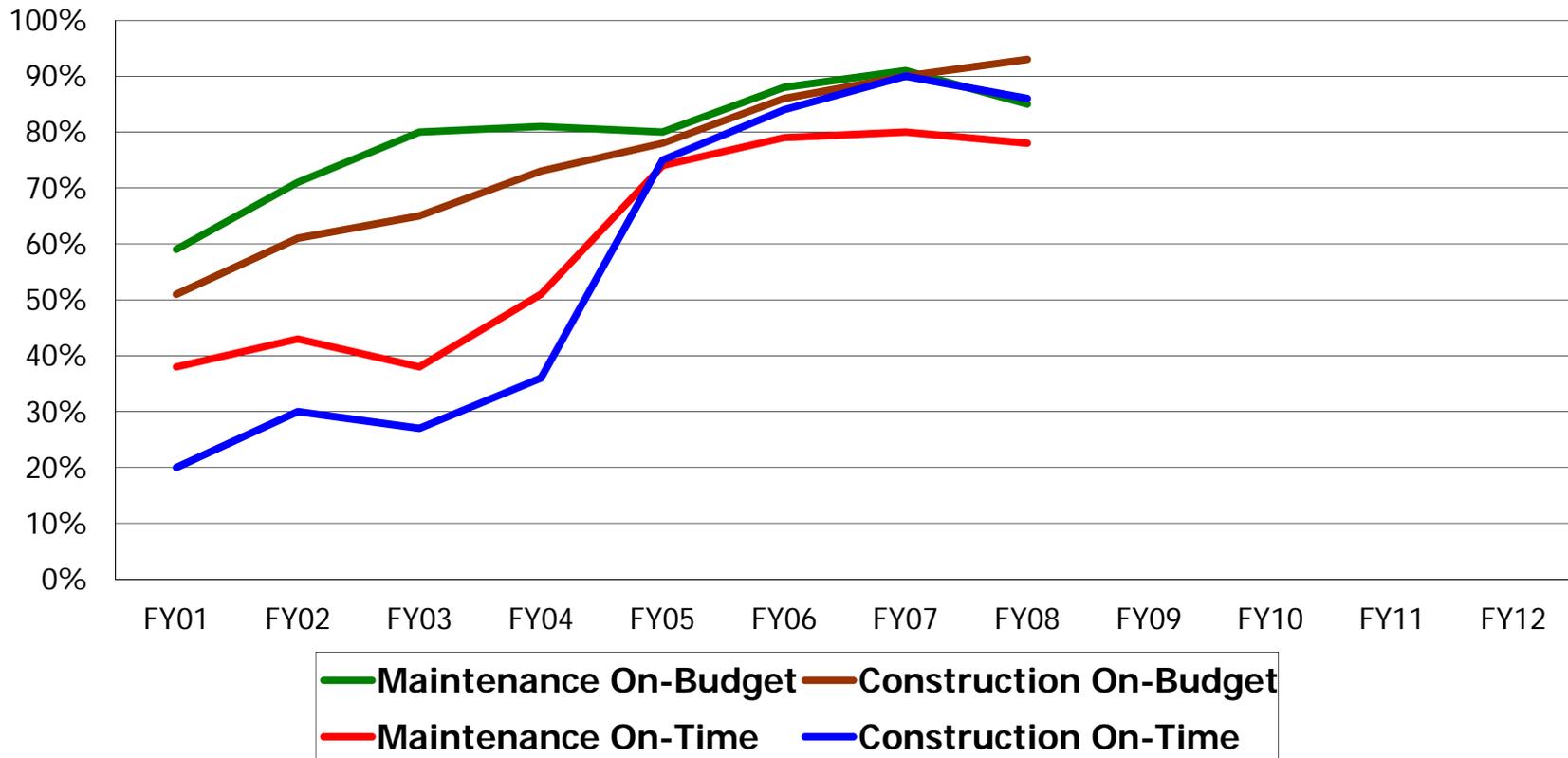
“VDOT is in shambles with little credibility left either inside or outside the agency.” (Washington Post; April 10, 2002)

Strategies for Sustaining Success

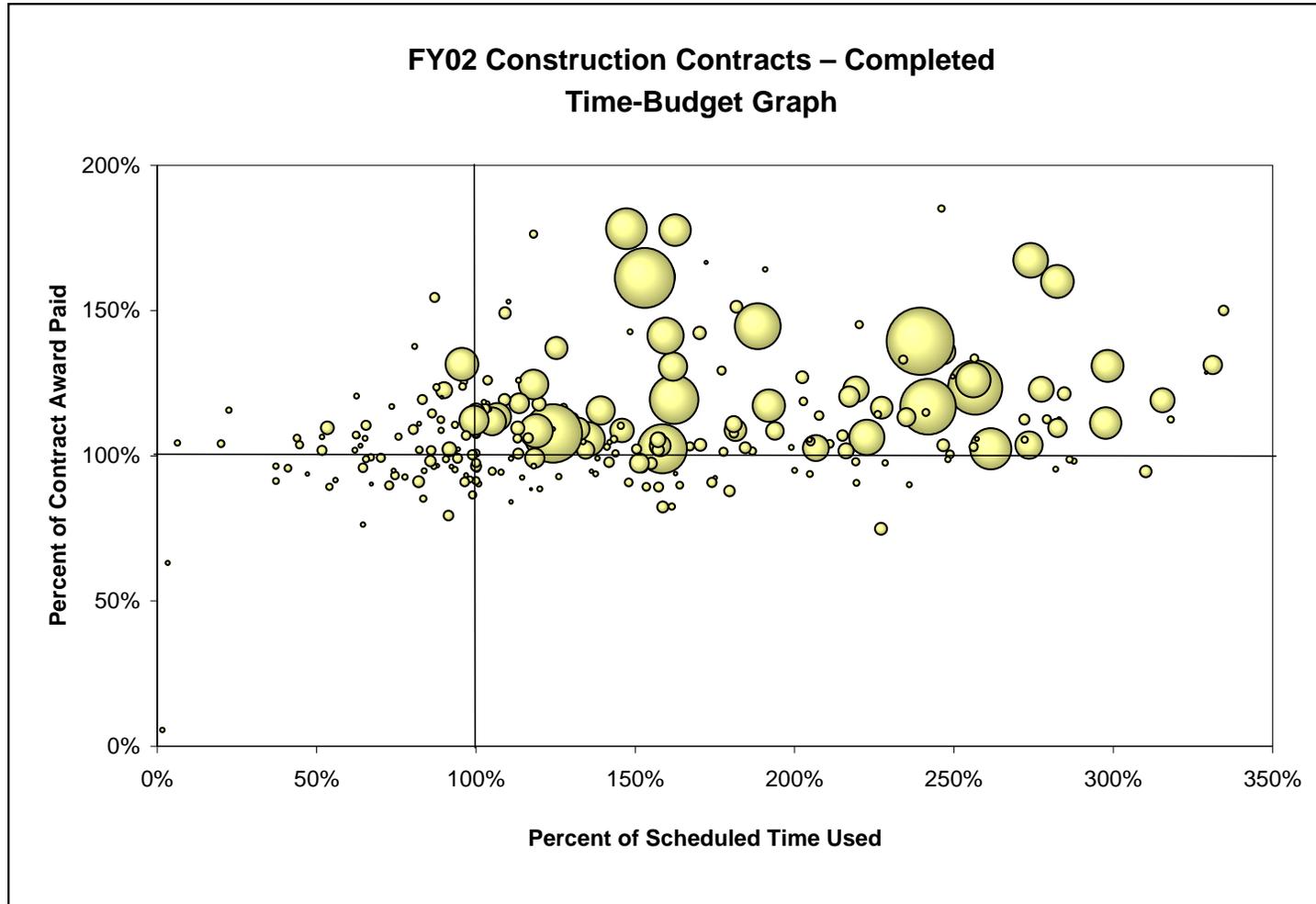
- Operate in the open
...let the public in, create public trust
- Measure and communicate performance
- Manage expectations through target setting
...then it's hard to go back
- Change the culture
... to be sensitive to public needs

Step 1: Improve Core Development and Delivery Performance

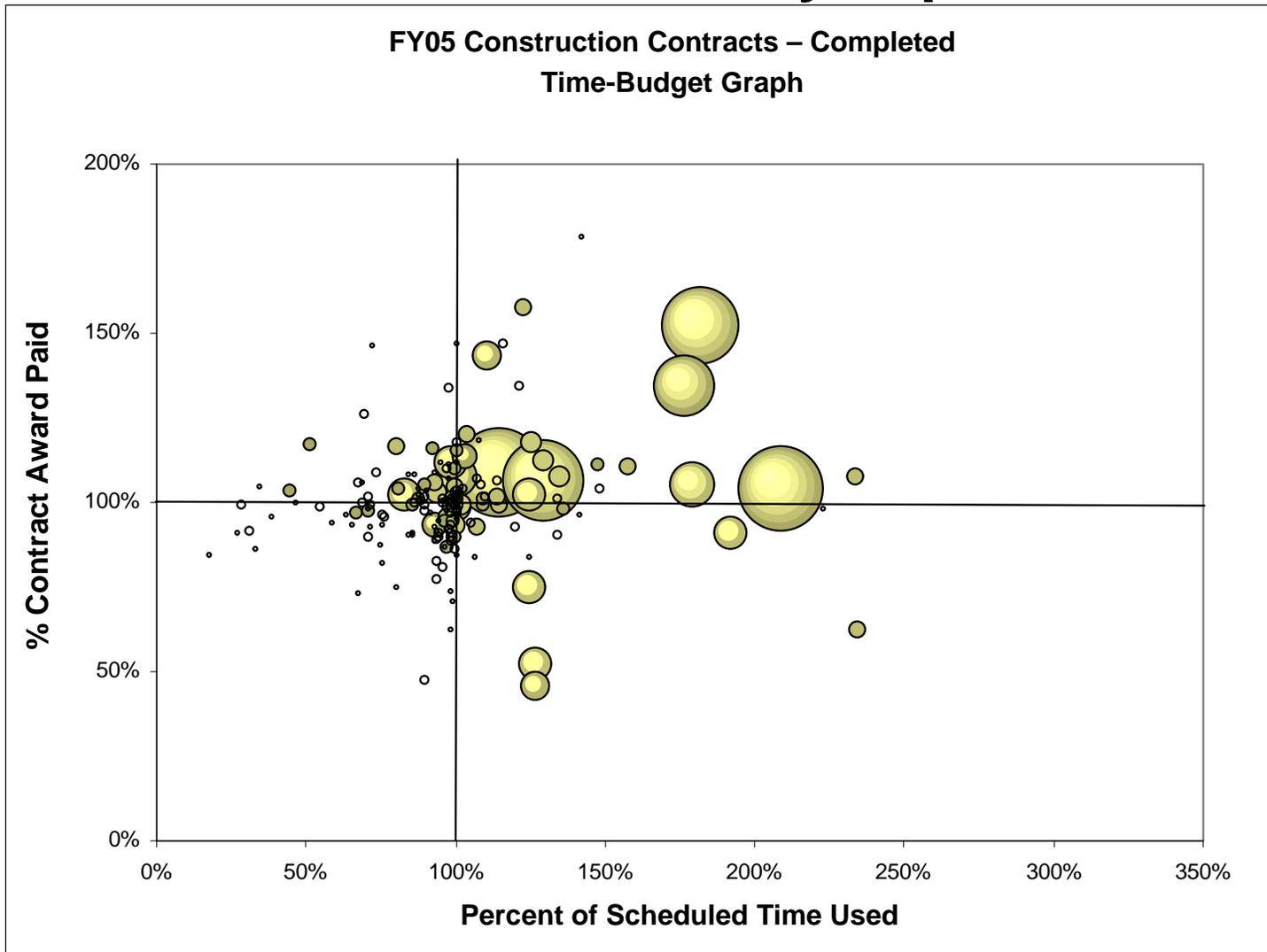
VDOT On-Budget and On-Time Performance



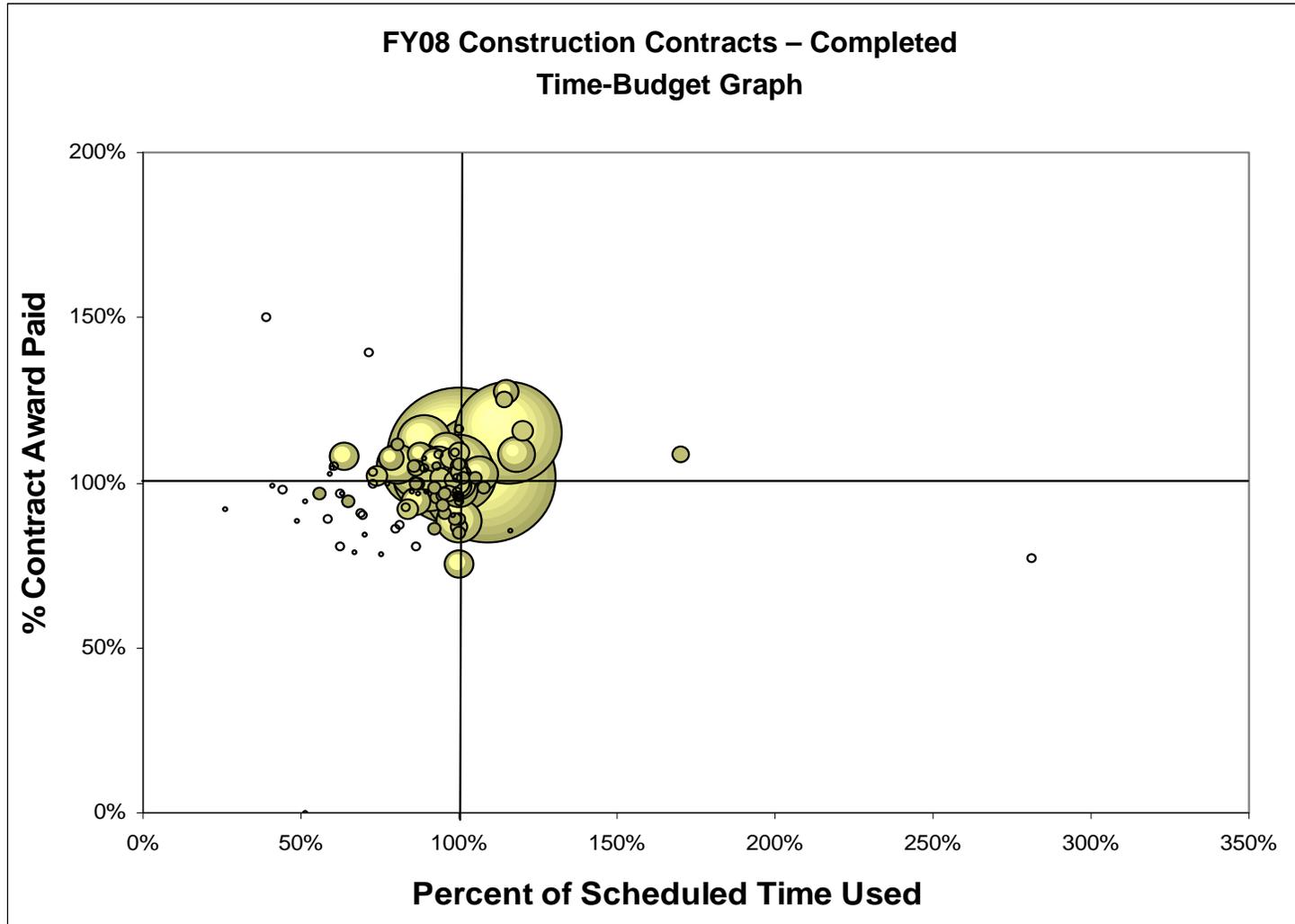
FY02 Annual On-Time and On-Budget Construction Delivery Improvement



FY05 Annual On-Time and On-Budget Construction Delivery Improvement



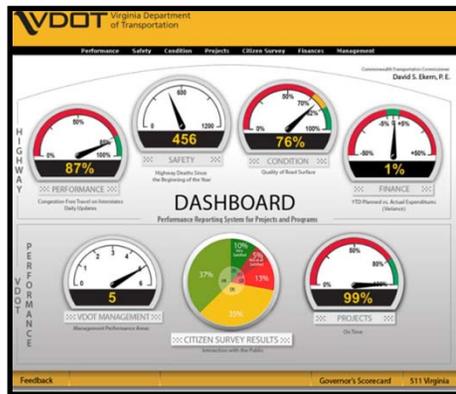
FY08 Annual On-Time and On-Budget Construction Delivery Improvement



Step 2: Enhanced Public Access to Planning Information and Performance Results

VDOT began reporting periodic performance to the public, Governor and the Secretary of Transportation in three ways...

VDOT Dashboard



Virginia Performs

<http://www.vaperforms.virginia.gov/agencylevel/stratplan/publicindex.cfm>

The Virginia Performs website provides a comprehensive overview of state agency performance. Key features include:

- Navigation:** Online Services, Commonwealth Sites, Help, Governor, Search Virginia.gov
- Key Objectives at a Glance:** Executive Branch Agencies
- State Agency Planning & Performance Measures:**
 - How does Virginia plan and measure the performance of state agencies?** Virginia state government agencies develop and implement **Strategic and Service Area Plans** to support achievement of their long-term objectives and fulfill their missions and mandates.
 - Agencies measure their performance in two ways: **Agency Performance Measures** (program measures) and the **Management Scorecard** (administrative measures).
 - As part of its commitment to transparency in government, details on these plans and measures are available online through Virginia Performs. Learn what objectives each state agency has set and view how agencies are measuring progress against those objectives. Learn also how state agencies are measuring up on key management criteria. Explore the data for yourself. Discover why Virginia has earned the title of best-managed state in America.

VDOT Quarterly Report Card

The VDOT Quarterly Report Card (Fourth Quarter FY 2012, APR-JUN 2012) provides a detailed overview of transportation performance. Key sections include:

- Commissioner's Message:** The Virginia Department of Transportation (VDOT) continued its path to renewed excellence with a third straight quarter of exceeding its targets for completing construction and maintenance contracts both on time and on budget. The agency will be able to fund more projects as the Commonwealth Transportation Board (CTB) approved an \$11.4 billion Six-Year Improvement Plan, \$800 million more than last year's program. The new program provides \$9 billion for roads, highways, bridges and debt service, with the remainder going to rail, transit and other improvements. Most of this year's increase came from public and private-sector contributions for the Interstate 95 Express Lanes project, which recently broke ground in Northern Virginia. Additionally, \$160 million in financing from the Virginia Transportation Infrastructure Bank will help advance a critical link of the Gloucester Parkway in Loudoun County and support the U.S. 460 corridor improvements linking the Port of Virginia to Interstate 95 and beyond to proceed. When completed, these projects will reduce congestion and improve driver safety.
- Statewide Construction Quality Compliance:**
 - YTD Construction CQIP Rating:** 92.1% (FY 2011) vs 91.4% (FY 2012)
 - Construction quality, as evaluated by VDOT's Construction Quality Improvement Program (CQIP), measures project compliance with contract quality requirements. The evaluation is made through a critical assessment, guided by a checklist of more than 1,100 construction quality checkpoints. The results show VDOT's commitment to building quality roads and bridges while seeking opportunity for continuous improvement. Annual compliance results through the end of FY 2012 were 91.4 percent, ahead of the 91 percent target. This compares with the FY 2011 year-end rating of 92.1 percent.
- Contracts Completed Both on Time and Within Budget:**
 - 402 construction and maintenance contracts were due for completion by the end of the fourth quarter of FY 2012. Of those 402 contracts, 314 (78.1 percent) were completed both on time and within budget.
- Scheduled Contracts Completed on Time:**
 - Construction On-Time Performance:** 71% (FY 2011) vs 86% (FY 2012)
 - Maintenance On-Time Performance:** 66% (FY 2011) vs 80% (FY 2012)
 - 77 construction contracts were due for completion by the end of the quarter. Of those 77 contracts, 66 (85.7 percent) were completed on time.
 - 325 maintenance contracts were due for completion by the end of the quarter. Of those 325 contracts, 259 (79.7 percent) were completed on time.

Performance Improvements and Enhanced Communications Improved Public Perception Of VDOT

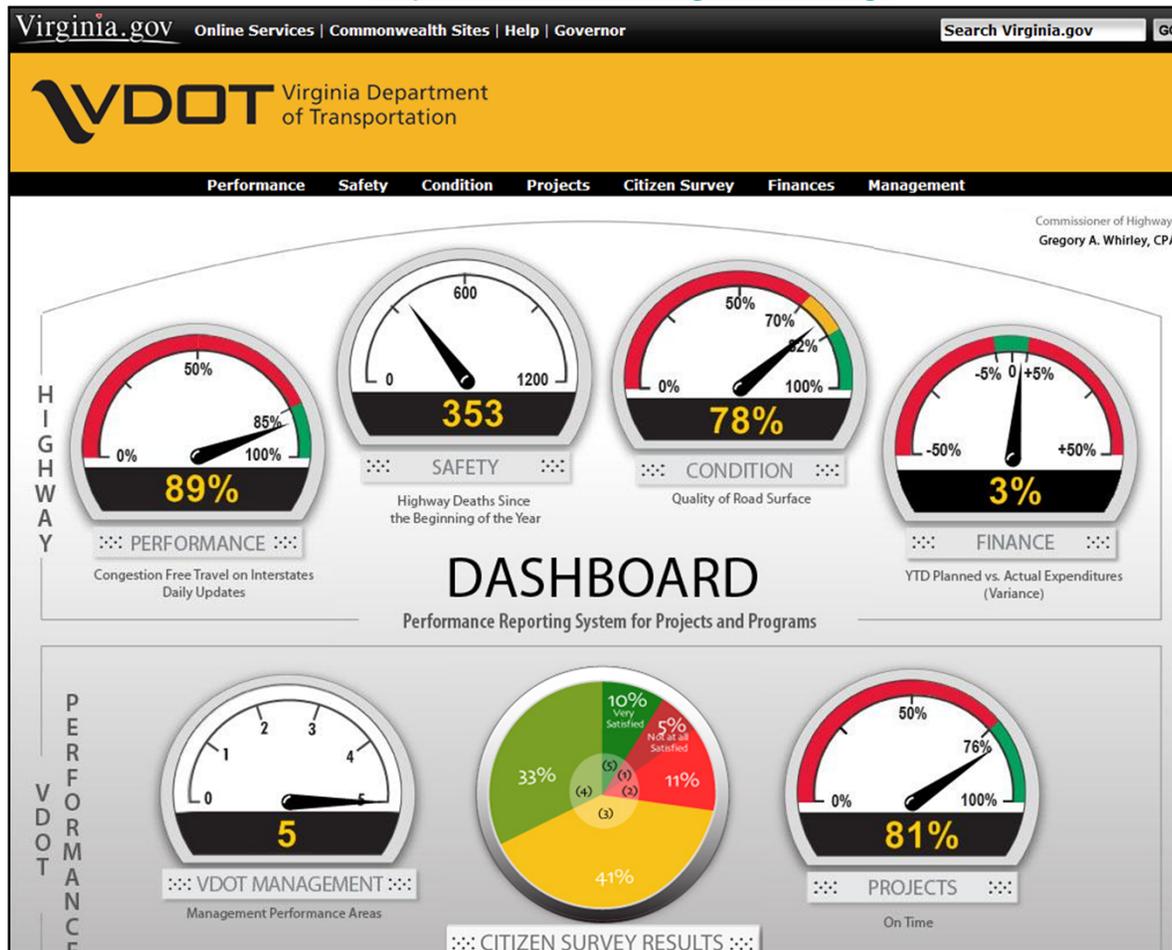
- *“With a smaller but abler workforce and with solid managers, the agency that used to promise projects it could not afford has improved its score ... VDOT is up to the job.”*
(Washington Post; June 5, 2005)
- *“... continues to improve the performance of an agency that long has resisted attempts at reform...”*
(Richmond Times Dispatch; July 18, 2004)
- *“Many drivers, frustrated by mounting traffic and construction delays ... never got the message that VDOT has become a more trustworthy organization. But it has.”*
(Virginian Pilot; June 3, 2005)

The Dashboard

VDOT Dashboard Homepage

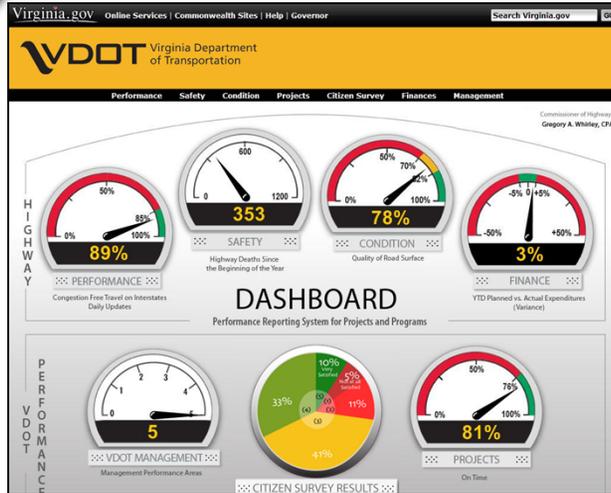
A majority of publicly reported performance measures may be found within the Dashboard

<http://dashboard.virginiadot.org/>



Dashboard 3.0 Architecture

Project Delivery Example



Level 0 shows current On-Time status of all Construction and Maintenance contracts

Drilling down to Level 1 allows the viewer to find information on on-time and on-budget performance by Fiscal Year, District, and Funding Source (CN or MN)

Going further down to Level 2 allows the viewer to see & search contract-level performance and information

Virginia Department of Transportation

Condition Projects Citizen Survey Finances Management

PTA/Design Build Projects LAP Data Target Values

Project Development Project Delivery District Watchlist CDIP On Time & Budget

Malcolm T. Kerley, P.E. Chief Engineer

Project Delivery

Project Search

District: Counties Residencies Cities Road System: Date Range: FY2008 Show More Filters

All Districts All Counties All Road Systems

On Time: 82%				On Budget: 89%				Environmental Compliance	
(FY2008 Target: 76%)				(FY2008 Target: 85%)				Cumulative Statewide Average: 99.1%	
	Active	Completed	Total		Active	Completed	Total		
R	8	43	51	R	1	25	26		
Y	0	0	0	Y	0	4	4		
G	0	229	229	G	7	243	250		
Total	8	272	280	Total	8	272	280		

Export To Excel Advanced Report Print

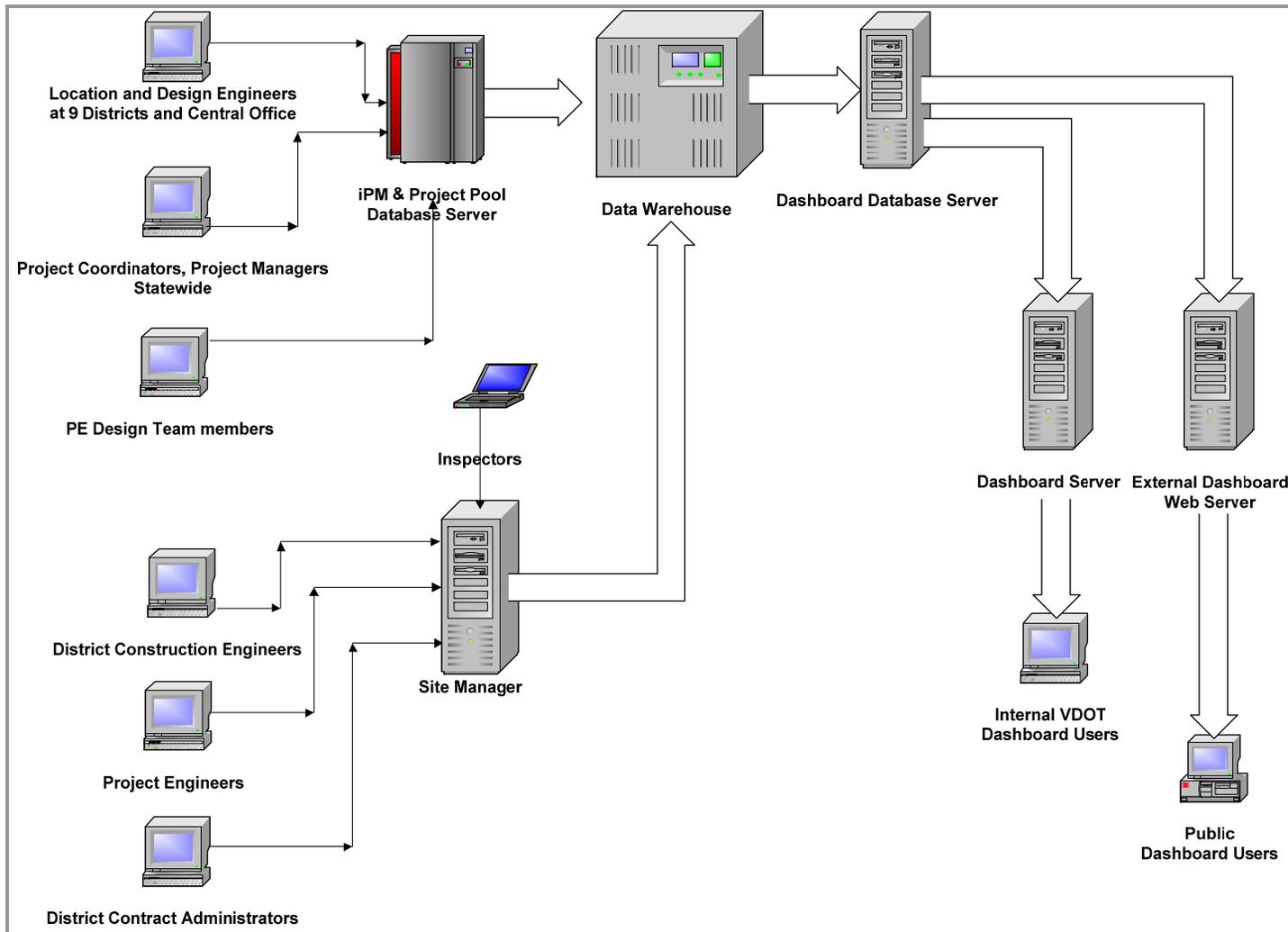
Description	Contract ID	Original Award Amount	Cost of Work		Current Contract Amount	On Time	On Budget
			Current	Final			
PLANT MIX AND PAVEMENT MARKINGS (Fairfax, *** (PM06-BA-156,M400)	AM906PMJ79730	\$2,791,742	Completed	\$2,526,056	\$2,791,742	G	G
PLANT MIX AND PAVEMENT MARKINGS (Fairfax, Arlington) ((INFO)PM06-000-158,M400)	AM906PMM79732	\$1,295,983	Completed	\$1,430,474	\$1,295,983	G	R
PLANT MIX AND PAVEMENT MARKINGS (Fairfax, Fairfax) (PM06-029-157,M400)	CM906PMK79731	\$4,099,079	Completed	\$4,356,524	\$4,100,564	G	G
PAVEMENT REHABILITATION (*** (PR-9A-07)	CM907PR939673	\$818,662	Completed	\$788,086	\$818,662	G	G
3.42 MI. GRADE, DRAIN, ASP. PAVE., SIGNS, SIGNALS, (Manassas, Prince William)	B00003790C02	\$20,736,199	Completed	\$20,705,074	\$22,841,333	G	G

Level 3: Project Detail Level

Construction Dashboard	
Project Details	
UPC	18860
Contract Id:	A00018860C01
State Project #	(NFO)0120-000-118,C501
Summary	
Description	BRIDGE DECK REPLACEMENT AND WIDENING AT GLEBE ROAD (Fairfax, Arlington County) ((NFO)0120-000-118,C501)
District	Northern Virginia
County	ARLINGTON
Road System	Primary (Arterial)
Contract Type	CONSTRUCTION/MAINTENANCE HYBRID RAAP (CMMR)
Comments	
Contact Information	
VDOT Contact	Charles Harvey
Construction Company	FORT MYER CONSTRUCTION CORPORATION
	Phone (703) 259-3234
Budget	Schedule
Award	Contract Execution Date *
Cost of Work To Date	Original Specified Completion Date
Un-audited Final Cost	Current Estimated Completion Date
Current Contract Amount	Current Specified Completion Date
Y 7.8% OVER ORIGINAL CONTRACT AWARD AMOUNT	Acceptance Date
	% Work Completed
	% Original Time Spent
	Days Charged To Date
	Original # Days Allowed
	Type of Schedule Days
	* Actual work on this project may begin at any time after contract execution
	G TODAY <= PROJECTED COMPLETION DATE AND PROJECTED COMPLETION DATE <= ORIGINAL COMPLETION DATE
Map Information	
	

Dashboard 3.0 Architecture

Data Flow and Process



Lessons Learned

Lessons Learned

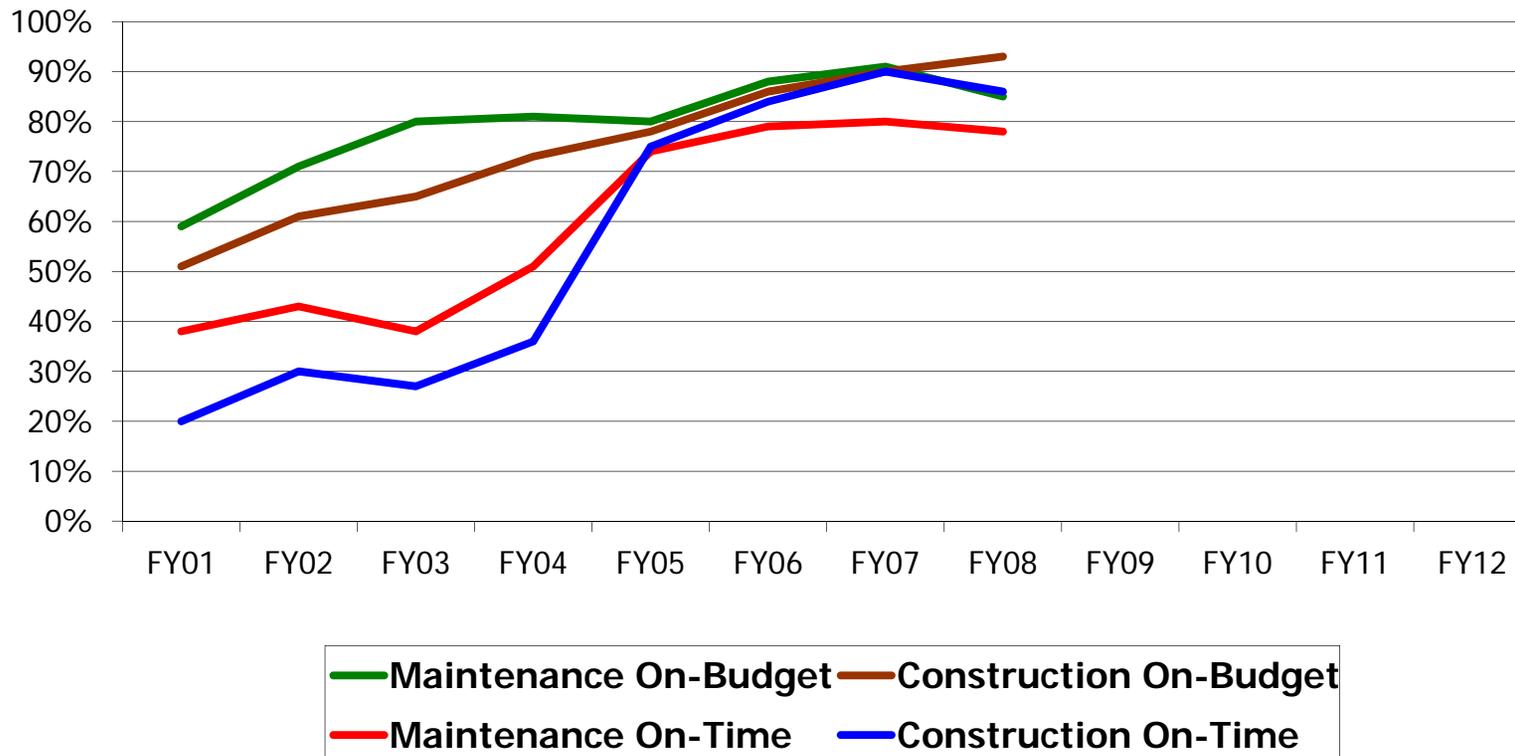
- Choose Measures that...
 - Are outcome oriented and support key decision making
 - Promote openness, honesty, transparency
 - Demonstrate good stewardship of the public's funds
- Keep it Simple – the public should be able to grasp the concept easily
- The most valuable measures are often the hardest to get
 - Best information often comes from combining data from various systems and developing 'actionable intelligence'
- In addition to outcome measures – include leading indicators that are predictors of performance

Lessons Learned

- “Cascade” performance metrics through the organization
 - Everyone has a role to play – measurement helps clarify those roles
- Aim for Continuous Improvement: Plan – Do – Check – Act
 - The easier it is to “Check,” the more improvements you’ll be able to make
- Keep your eye on the ball...

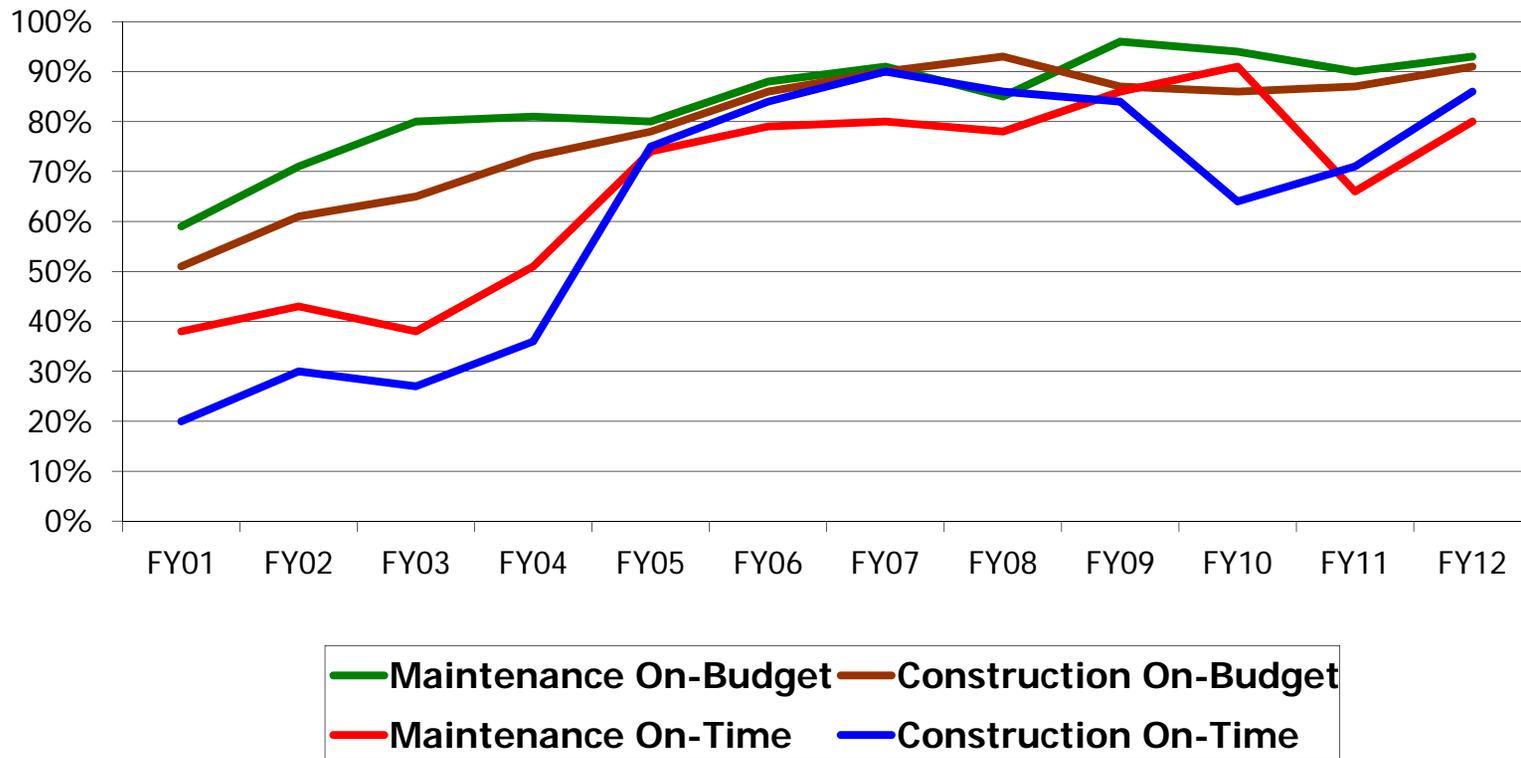
Lessons Learned... Keep your eye on the ball

VDOT On-Budget and On-Time Performance



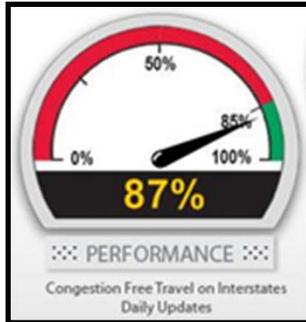
Lessons Learned... Keep your eye on the ball

VDOT On-Budget and On-Time Performance



Operations Measures

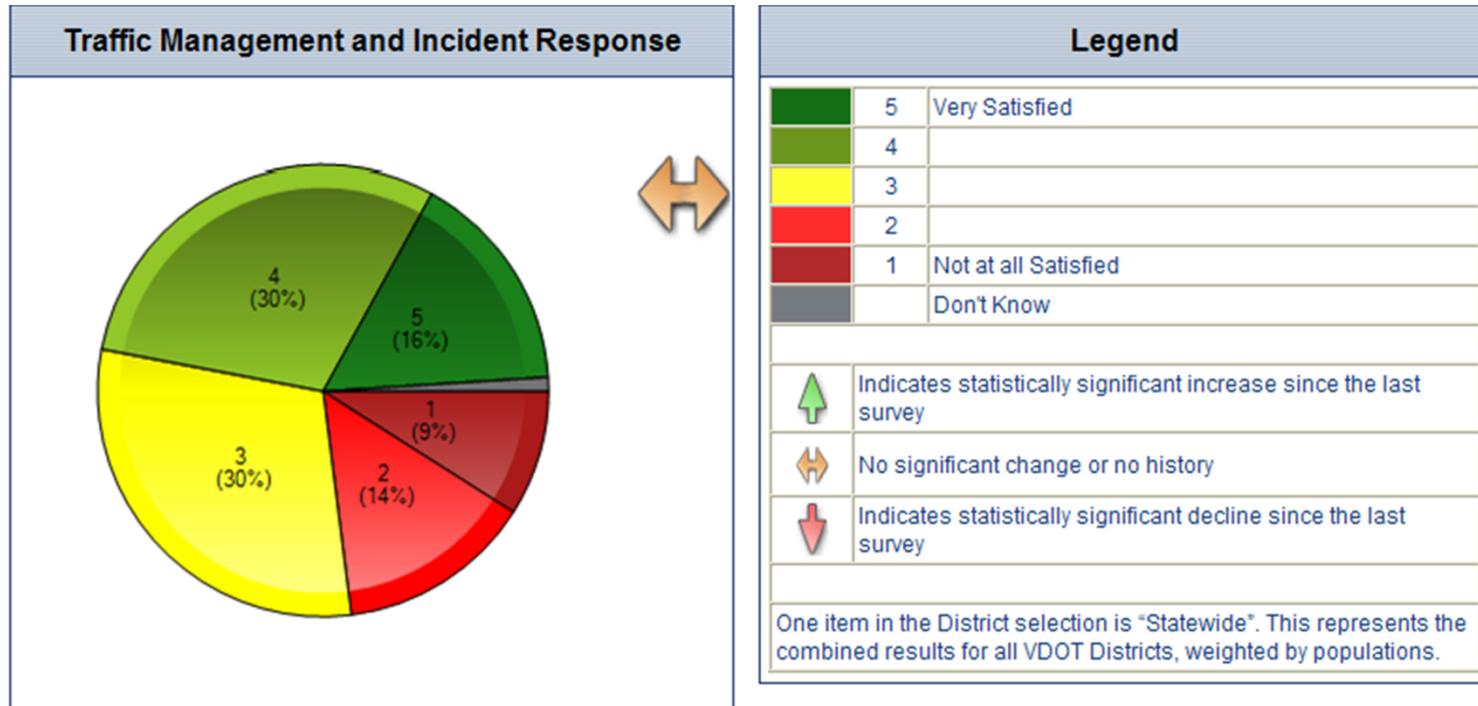
Step 3: Developing Operational Measures Beyond On-Time and On-Budget



System Performance

<u>Measure</u>	<u>Target</u>	<u>FY12 Result</u>
▪ Congestion Free Travel on Interstates	87%	89%
▪ Annual Hours of Delay Reported by Texas Transportation Institute (TTI) Target = Maintain at 2003 level		
○ Northern Virginia	82	74
○ Virginia Beach metro	42	34
○ Richmond metro	15	20
Results are TTI 2012 reporting of CY2011 data		
▪ Percent of Incidents taking more than 30 minutes to clear	5% reduction	by July 2013

Citizen Satisfaction in Operations Traffic Management and Incident Response



- 5. Very Satisfied = 16%
- 4. 30%
- 3. 30%
- 2. 14%
- 1. Not at all Satisfied = 9%
- Don't Know = 1%

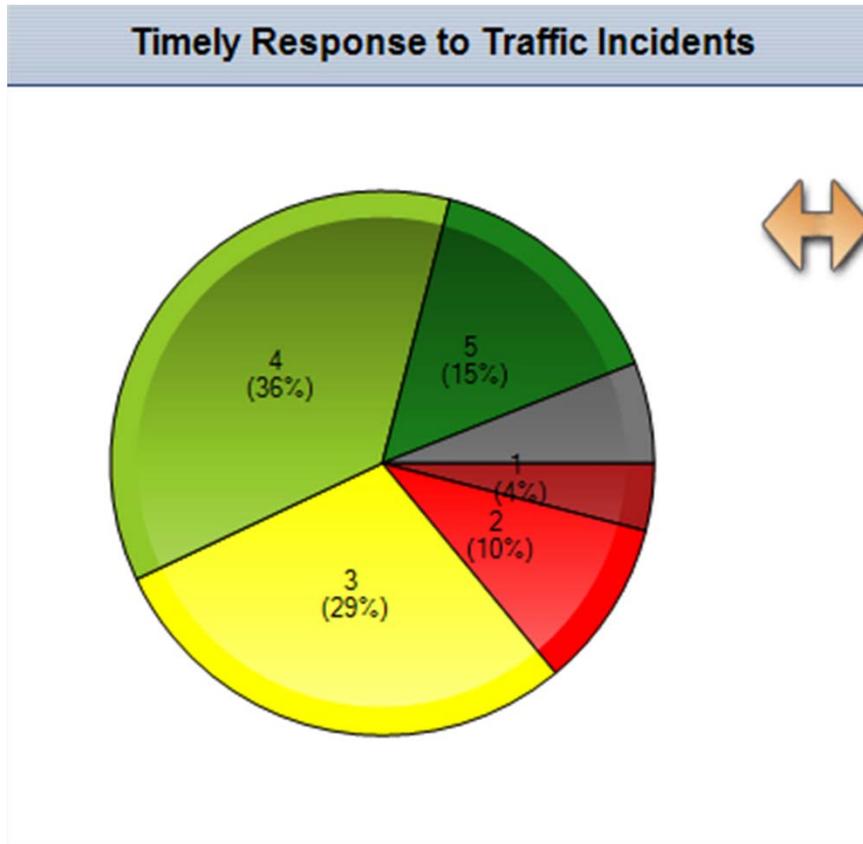
46% customers are satisfied

30% of customers are neutral

24% are unsatisfied

Citizen Satisfaction in Operations

Timely Response to Traffic Incidents



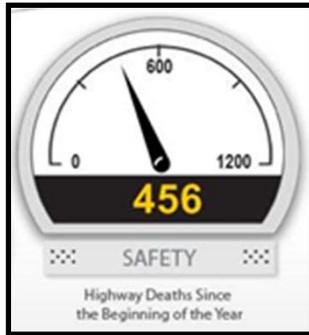
51% customers are satisfied

29% of customers are neutral

20% are unsatisfied

- 5. Very Satisfied = 15%
- 4. 36%
- 3. 29%
- 2. 10%
- 1. Not at all Satisfied = 4%
- Don't Know = 6%

Utilizing Operational Measures Beyond On-Time and On-Budget...



Safety

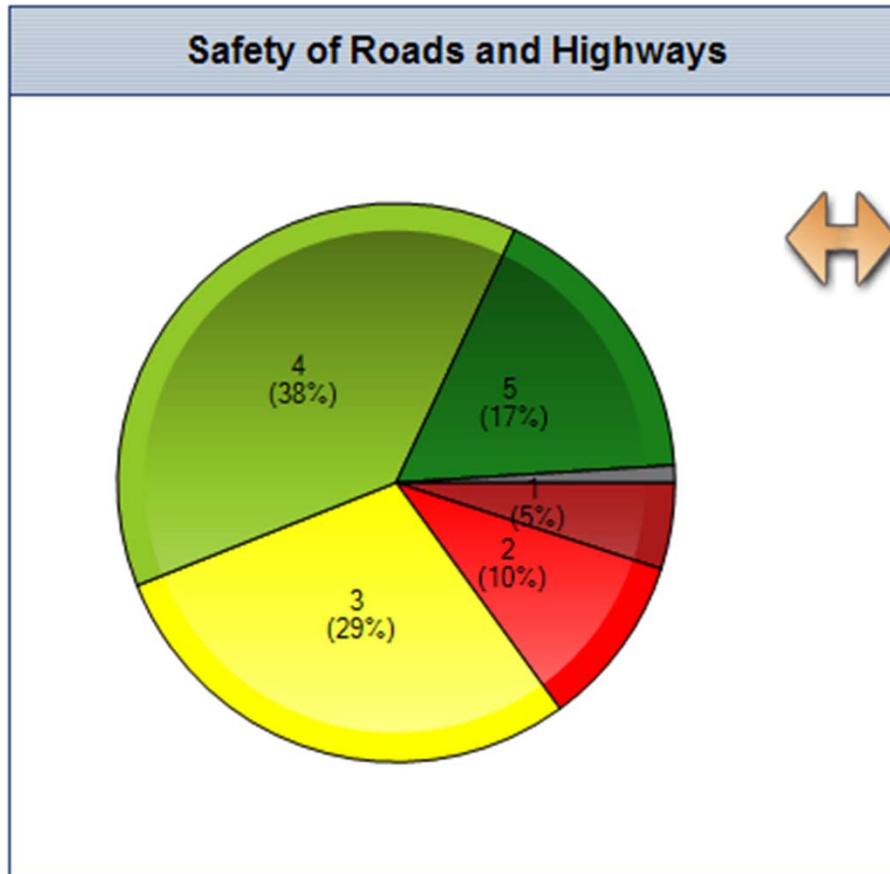
<u>Measure</u>	<u>Target</u>	<u>CY11 Result</u>
▪Traffic crash injuries	<72,023	63,382
▪Traffic crash deaths	<846	764

Results are from DMV for CY2011
Targets per historical Highway Safety Plan

Strategic discussion example: Statewide CY2011 traffic crashes increased 3.5% and crash related injuries grew 3.2%, while deaths increased by almost 3.2% from CY2010 levels. VDOT and its partners (State Police, DMV) will continue to communicate and educate the public in safe driving practices, and all three partners. To date in CY2012 crashes, injuries and deaths continue to trend slightly up from CY2011 levels.

Citizen Satisfaction in Operations

Safety of Roads and Highways



55% customers are satisfied

29% of customers are neutral

16% are unsatisfied

- 5. Very Satisfied = 17%
- 4. 38%
- 3. 29%
- 2. 10%
- 1. Not at all Satisfied = 5%
- Don't Know = 1%

Dashboard Demo

Next Steps

Next Steps

- Update data sources for key operations measures
 - Currently using traffic count stations
 - VDOT is now utilizing Inrix data to provide traffic information on its 511 site.

Weather [Log in to Customize](#)

Traffic Alerts [+20 New](#)

Info

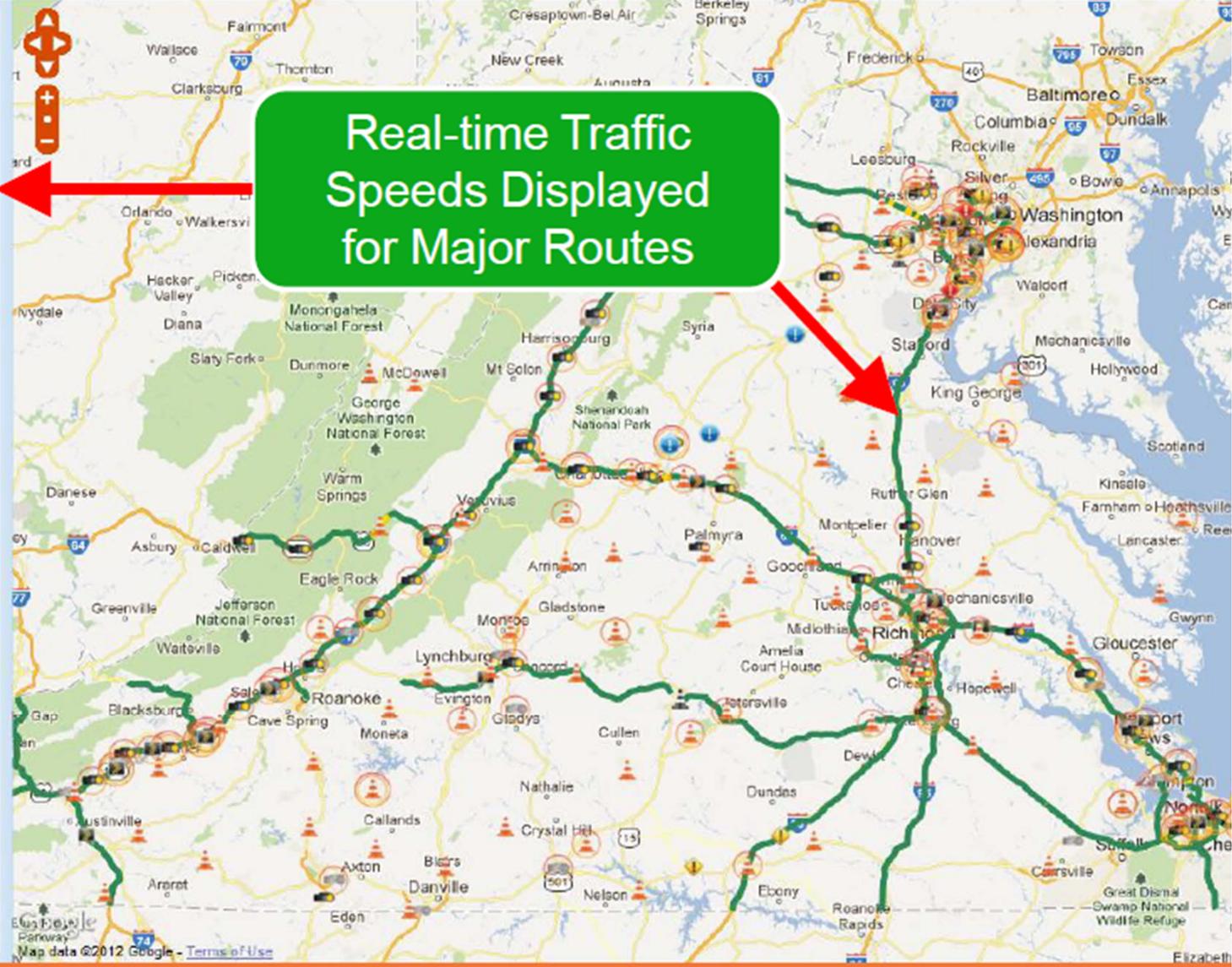
I-95

Northbound Lane	Southbound Lane
Speed 65 mph	Speed 65 mph

I-95 from Plank Road Fredericksburg to The Capital Beltway (41.2 miles)

Northbound Lane	Southbound Lane
Speed 60 mph	Speed 30 mph
Travel Time 40 min	Travel Time 72 min

Legend [more info](#)



Real-time Traffic
Speeds Displayed
for Major Routes

My 511 | Map Views | Text Views | Resources | Reach the Beach | Contact Us | Help

Weather [Log in to Customize](#)

Traffic Alerts [+20 New](#)

Info

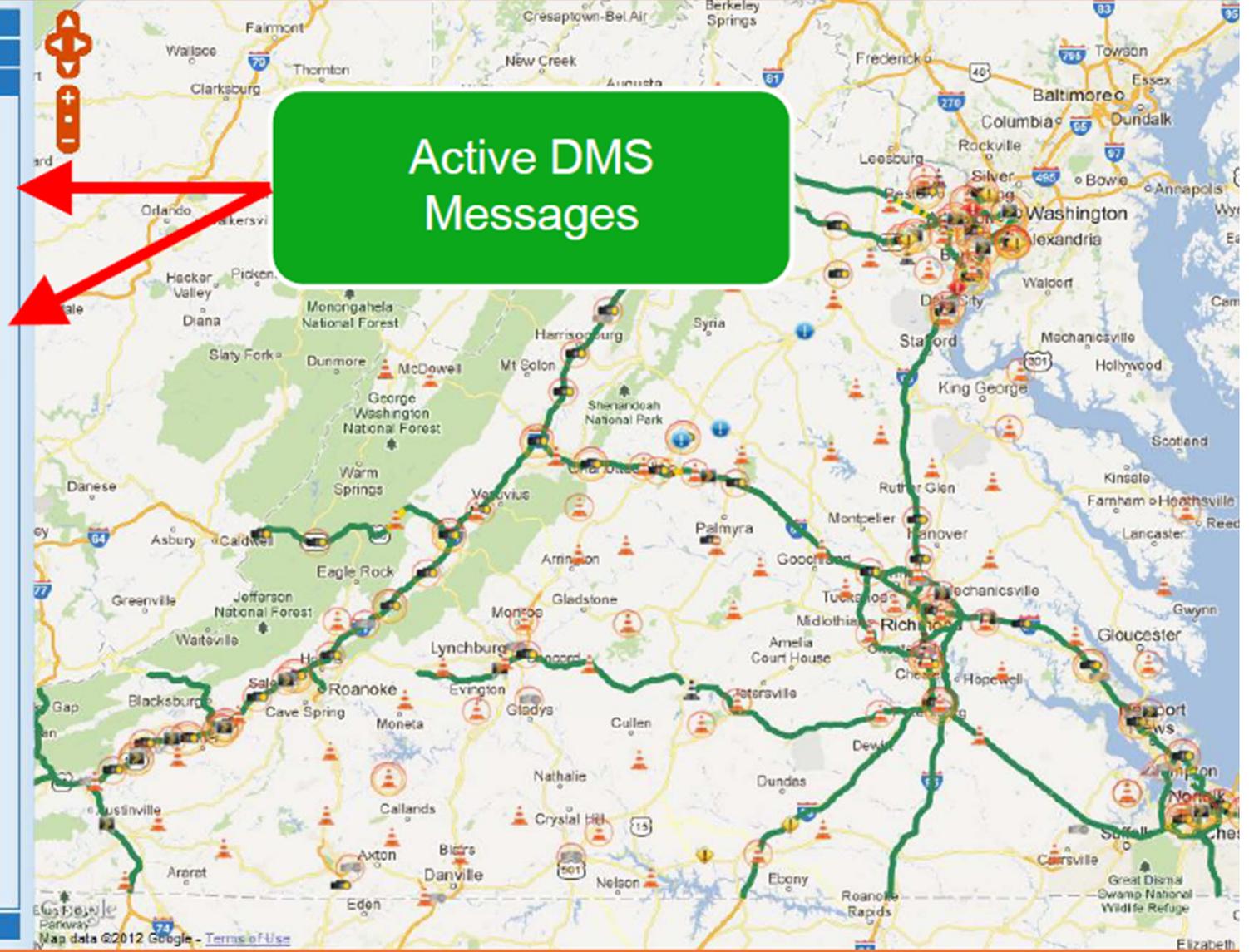
I-295 south at MM 38.1

BRIDGE WORK
THIS
WEEKEND
I-64 WEST
NEAR EXIT 193
EXPECT DELAYS

I-64 west at MM 194.4

BRIDGE WORK
THIS WEEKEND
NEAR EXIT 193
EXPECT MAJOR
DELAYS

Legend [more info](#)



Reach the Beach

Info

Demo

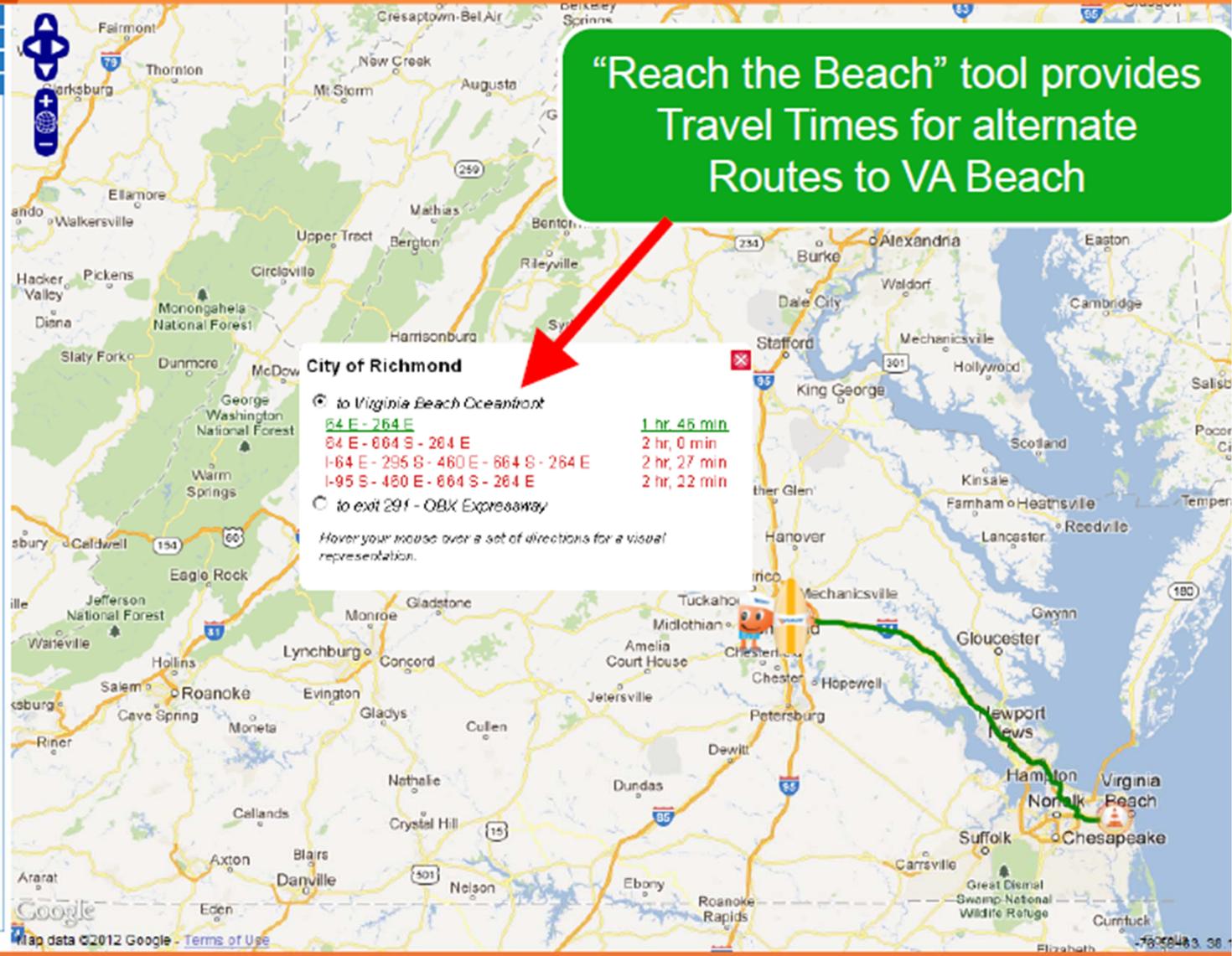
Legend

Trip-Planning Tools

- Origin Point
- Reach the Beach Sign
- Fastest Route
- Slower / Alt. Route

Road & Weather Info

- Road Work
- Inactive Road Work
- Message Sign
- High Priority Incidents
- Other Incidents
- Open Bridges
- Special Events
- Weather Closures
- Other Weather Events
- Cameras
- Inactive Cameras



“Reach the Beach” tool provides
Travel Times for alternate
Routes to VA Beach

Next Steps

- Update data sources for key operations measures
 - Currently using traffic count stations
 - VDOT is now utilizing Inrix data to provide traffic information on its 511 site.
- Develop “cascading measures” that support the key outcomes. Examples may include:
 - Traveler information available within 10 minutes from the time an incident is verified (within MPO areas)
 - Traveler information available within 20 minutes from the time an incident is verified – outside MPO areas
 - Travel time information that is less than 10 minutes old
 - No more than 15% error in travel time information
 - Travel time information available 90% of the time



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