

DRAFT Overview of HRTPO Performance Management, Including FY14 RPM Update

July 2014



Measurement vs. Management

- “Performance Management”:
 - Management using “Performance Measurement”

HRTPO Performance Management

– 1. System Performance Measurement:

- to identify needs and to determine the impact of earlier efforts, HRTPO **measures the performance** of the transportation network
 - have measured congestion (LOS and V/C) **for approx. 30 years.**

– 2. Project Performance Estimation:

- to aid in the selection of effective projects, HRTPO **estimates impact** of candidate transportation projects:
 - have tested candidates with 4-step model **for approx. 30 years.**
 - have used quantitative selection for CMAQ & RSTP **for approx. 20 years.**

– 3. Promoting Effective Projects:

- Placing selected projects in Long-Range Transportation Plan (LRTP) making them **eligible** for construction
- Allocating CMAQ and RSTP dollars to selected projects (TIP)

– repeat

Recent Additions

- 1. System Performance Measurement:
 - measure **safety, congestion, freight, military, etc.**

- 2. Project Performance Estimation:
 - using **Prioritization Tool**

- 3. Promoting Effective Projects:
 - TIP project **visualization**

- repeat

1. System Performance Measurement

- **Volumes, Speeds, and Congestion**
 - Annual report
- **Regional Performance Measures (RPMs)**
 - Annual report (today's report for FY14)
- **State of Transportation**
 - Annual report
- **Congestion Management Process (CMP)**
 - Four year process
 - Final report includes project recommendations
- **Historical Analysis of Census Transp. Data**
 - Updated decennially

1. System Performance Measurement

- Sept. 2012: **Military Trans. Needs**- survey of needs w/ recommended projects
- Sept. 2012: **Regional Freight Study**- flows w/ recommended project
- Nov. 2012: **Regional Bridge Study**- conditions
- July 2013: **Military Trans. Needs**- sea level rise w/ low roadways
- July 2013: **Travel Time Reliability**- by hwy. segment

1. System Performance Measurement

- Sept. 2013: **Existing and Future Truck Delay**- w/ recommended projects
- 2013/2014: **Safety Study**- by hwy. segment w/ recommended projects
- Mar. 2014: **Positioning HR for Freight Infra. Funding**- condition by segment w/ recommended projects
- July 2014: **Pavement Performance Measurement**- condition by highway segment
- Sept. 2014: **Congestion Management Process** final report- score by hwy. segment w/ rec'd projects

Annual RPM Update

- Highlights:

- 2013 congestion (INRIX) lower than 2009-2011
- 2012 fatalities (99) below 100 for first time in years
- 2013 days with ozone exceedences: 0

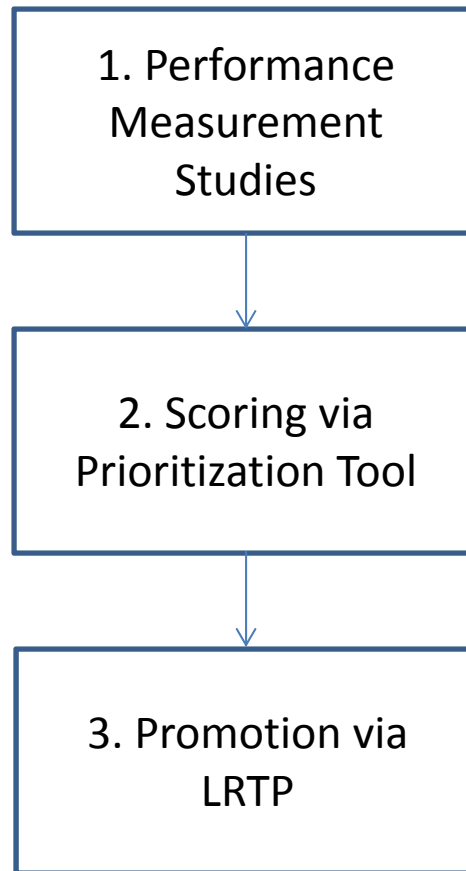
2. Project Performance Estimation

- Jan. 2012: **CMAQ/RSTP Projects and Allocations-**
 - emissions (CMAQ) and scores (RSTP)
- Mar. 2014: **Prioritizing Hwy Projects for Improvement of Evacuation-**
 - cost effectiveness w/ recommended projects
- Sept. 2014: **Congestion Management Process** final report-
 - Potential for Intersection Congestion Improvement (PICA) w/ recommended projects
- Late 2014: Prioritization Tool scores for candidate **2040 LRTP** projects

3. Promoting Effective Projects

- RSTP/CMAQ project scoring and selection
 - Annually
- Long-Range Transportation Plan (LRTP)
 - every four years

Performance Management: LRTP



Compatibility Between Components

- Selected Components
 - Prioritization Tool
 - Regional Performance Measures (RPMs)
 - State of Transportation categories
 - MAP-21 Planning Factors

Compatibility Between Prioritization Tool and System Performance Measures

Prioritization Tool	RPMs	State of Trans.
Congestion	✓	✓
System continuity	---	---
Safety & Security	✓	✓
Cost Effectiveness	---	---
Land Use Compatibility	---	---
Infrastructure Condition	✓	✓
Project Viability	---	---
Labor Market Access	✓	---
Needs of Basic Industries	✓	✓

Compatibility Between Prioritization Tool and System Performance Measures

Prioritization Tool	RPMs	State of Trans.
Opportunity	---	---
Modal Enhancements	✓	✓
Air Quality	✓	✓
Regional Significance	---	---
TDM Measures	✓	✓
Transit Ridership & Coverage	✓	✓
Transit Time Savings	---	---
Transit- Economic Distress Factors	---	---
Intermodal Movement (conflicts)	---	---

Compatibility Between Prioritization Tool and System Performance Measures

Prioritization Tool	RPMs	State of Trans.
Access Improvements (to key sites)	---	---
Truck Movement	---	✓
Interaction Between Freight Modes	✓	✓

MAP-21 Planning Factors vs. RPMs, Tool

MAP-21 Planning Factors	Prioritization Tool	RPMs
System Preservation	✓	✓
Safety	✓	✓
Security	✓	---
Access/Mobility	✓	✓
Environmental Coordination	✓	✓
Integration & Connectivity	✓	---
Economic Vitality	✓	---
System Management	✓	✓

Next Steps: Performance Management in FY15

- Task 1.0 LRTP:
 - project selection via Prior. Tool
- Task 2.0 TIP:
 - CMAQ/RSTP allocation via scores
- Task 3.0 Performance Management:
 - annual congestion report
 - annual State of Transportation report
 - annual state/federal PMs (e.g. RPMs)
- Task 4.0 Public Participation:
 - measure performance of public involvement program

Next Steps: Performance Management in FY15

- Task 5.0 UPWP:
 - FY16 UPWP based on MAP-21+ performance management
- Task 6.0 Freight:
 - annual measurement of freight performance
 - special report: impact of key projects on trucks
- Task 7.0 Safety/Security:
 - assist VDOT and localities in preparing candidate HSIP projects
- Task 8.0 Tech Support:
 - special report: impact of MTT/DTT tolls
 - special report: impact of SLR/storms on performance of regional roadways

FY14 Update of Hampton Roads Regional Performance Measures (RPMs)

July 2014



Hampton Roads Regional Performance Measures

	Value, year 2000	Value, year 2001	Value, year 2002	Value, year 2003	Value, year 2004	Value, year 2005	Value, year 2006	Value, year 2007	Value, year 2008	Value, year 2009	Value, year 2010	Value, year 2011	Value, year 2012	Value, year 2013	Value, year 2014	Desired Trend
A. Transportation System Performance Measures¹³																
																goal: maintain value
																goal: increase value
																goal: decrease value
<u>1. congestion reduction</u>																
Annual Delay, hours per peak auto commuter	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	44	40	43	43	n.a.	n.a.	n.a.	
Annual Excess Fuel Consumed, gallons per peak auto commuter	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	17	17	19	19	n.a.	n.a.	n.a.	
INRIX Index (extra time during peak period), %	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	12.6	17.5	13.3	10.4	10.5	n.a.	
<u>2. safety</u>																
Annual Roadway Fatalities, number	132	153	136	129	131	139	141	155	153	124	121	136	99	n.a.	n.a.	
Annual Roadway Fatalities, per 100 million VMT ²⁵	n.a.	n.a.	1.04	1.00	0.92	0.91	0.94	0.99	1.01	0.97	0.89	0.86	0.81	n.a. ²⁸	n.a.	
Annual Roadway Injuries, number	17,860	17,563	17,785	18,065	17,815	16,999	16,026	14,494	14,465	14,004	13,449	14,038	15,034	n.a.	n.a.	
Annual Roadway Injuries, per million VMT	1.33	1.33	1.29	1.24	1.23	1.16	1.10	0.98	0.97	0.95	0.90	0.96	1.04	n.a. ²⁸	n.a.	
Annual Roadway Crashes, number	29,432	29,393	31,442	33,047	33,108	32,629	32,019	30,276	27,599	24,005	23,142	24,115	25,192	n.a.	n.a.	
Annual Roadway Crashes, per million VMT	2.20	2.22	2.27	2.27	2.28	2.22	2.19	2.05	1.86	1.63	1.55	1.65	1.74	n.a. ²⁸	n.a.	
Annual Transit Fatalities, number	n.a.	n.a.	0	0	0	0	0	0	0	0	0	1	1	0	n.a.	
Annual Transit Fatalities, per 100 million PMT	n.a.	n.a.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.81	n.a. ²⁹	n.a.	
Annual Transit Injuries, number	n.a.	n.a.	104	47	58	98	40	71	81	109	135	113	73	95	n.a.	
Annual Transit Injuries, per 100 million PMT	n.a.	n.a.	127	54	62	91	37	69	69	102	118	96	59	n.a. ²⁹	n.a.	
Annual Transit Collisions ¹⁹ , number	n.a.	n.a.	73	27	27	70	19	25	15	27	40	30	26	35	n.a.	
Annual Transit Collisions ¹⁹ , per 100 million PMT	n.a.	n.a.	89	31	29	65	17	24	13	25	35	26	21	n.a. ²⁹	n.a.	
Annual Aviation Fatalities, number ²³	n.a.	0	0	1	0	1	3	3	0	0	1	2	0	8	n.a.	
Annual Aviation Accidents ²² , number ²³	n.a.	5	2	4	4	2	5	10	5	6	8	3	1	5	n.a.	
Annual Highway-Rail Crossing Accidents ²⁰ , per million population	6.3	8.8	5.7	7.5	10.5	6.1	4.3	4.9	4.2	4.8	2.4	1.2	3.5	3.5	n.a.	
<u>3. transit usage</u>																
Annual Unlinked Passenger Trips (UPT), number	n.a.	n.a.	1.8.E+07	1.8.E+07	2.0.E+07	2.4.E+07	2.4.E+07	2.7.E+07	2.9.E+07	1.9.E+07	1.9.E+07	1.9.E+07	2.1.E+07	n.a. ²⁹	n.a.	
Annual Unlinked Passenger Trips (UPT), per capita ²¹	n.a.	n.a.	12	12	14	17	16	18	20	13	13	13	14	n.a. ²⁹	n.a.	
Annual Vehicle Revenue Miles (VRM), number	n.a.	n.a.	1.3.E+07	1.3.E+07	1.3.E+07	1.5.E+07	1.5.E+07	1.6.E+07	1.7.E+07	1.6.E+07	1.6.E+07	1.6.E+07	1.6.E+07	n.a. ²⁹	n.a.	
Annual Vehicle Revenue Miles (VRM), per capita ²¹	n.a.	n.a.	9	9	9	9	10	10	11	11	11	11	11	n.a. ²⁹	n.a.	
Annual Passenger Miles Traveled (PMT), number	n.a.	n.a.	8.2.E+07	8.7.E+07	9.3.E+07	1.1.E+08	1.1.E+08	1.0.E+08	1.2.E+08	1.1.E+08	1.1.E+08	1.2.E+08	1.23E+08	n.a. ²⁹	n.a.	
Annual Passenger Miles Traveled (PMT), per capita ²¹	n.a.	n.a.	58	61	64	74	75	70	80	72	77	78	82	n.a. ²⁹	n.a.	
Passengers Boarding or Departing Amtrak Trains (HR) ³²	n.a.	n.a.	150,575	137,835	128,511	129,832	128,837	138,414	166,839	158,914	163,405	175,494	195,263	229,524	n.a.	
On-Time Performance, Amtrak (Rich/NN/Nor) ⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	76%	85%	84%	n.a.	
Operating Cost Ratio ³⁰ , Amtrak ("Washington-Newport News") ⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.99	0.87	0.98	n.a.	

	Value, year 2000	Value, year 2001	Value, year 2002	Value, year 2003	Value, year 2004	Value, year 2005	Value, year 2006	Value, year 2007	Value, year 2008	Value, year 2009	Value, year 2010	Value, year 2011	Value, year 2012	Value, year 2013	Value, year 2014	Desired Trend
4. HOV usage																
Persons per Hour per HOV Ln During Peak Period, avg of count stations	n.a.	n.a.	582	583	554	747	572	703	598	637	685	n.a.	n.a.	n.a.	n.a.	
# of Park and Ride Spaces	n.a.	n.a.	n.a.	2,544	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	4,423	n.a.	n.a.	
# of Occupied Park and Ride Spaces, per 100,000 population	n.a.	n.a.	n.a.	34	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
% of Commuters with Journey-to-Work via Carpool ¹⁰	12.1%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9.4%	8.1%	8.9%	n.a.	n.a.	
5. job-to-housing ratios																
Ratio of Jobs to Labor Force ²																
Hampton Roads	1.00	0.99	0.97	0.96	0.97	0.97	0.97	0.96	0.95	0.94	0.93	0.93	0.93	n.a.	n.a.	
Chesapeake city	0.85	0.86	0.84	0.88	0.88	0.88	0.90	0.90	0.89	0.87	0.88	0.86	0.86	n.a.	n.a.	n.a.
Gloucester county	0.51	0.51	0.51	0.50	0.51	0.51	0.51	0.50	0.49	0.49	0.47	0.51	0.51	n.a.	n.a.	n.a.
Hampton city	1.00	0.99	0.96	0.92	0.91	0.92	0.90	0.89	0.90	0.90	0.90	0.93	0.93	n.a.	n.a.	n.a.
Isle of Wight county	0.85	0.82	0.77	0.78	0.77	0.74	0.66	0.65	0.65	0.63	0.57	0.55	0.57	n.a.	n.a.	n.a.
James City county	0.91	0.89	0.87	0.88	0.82	0.84	0.84	0.84	0.87	0.85	0.85	0.80	0.82	n.a.	n.a.	n.a.
Newport News city	1.17	1.15	1.14	1.15	1.16	1.18	1.18	1.16	1.16	1.08	1.08	1.18	1.18	n.a.	n.a.	n.a.
Norfolk city	1.63	1.62	1.56	1.55	1.55	1.57	1.55	1.49	1.51	1.51	1.50	1.45	1.44	n.a.	n.a.	n.a.
Poquoson city	0.29	0.29	0.30	0.30	0.33	0.34	0.33	0.33	0.33	0.34	0.30	0.29	0.29	n.a.	n.a.	n.a.
Portsmouth city	0.97	0.95	0.98	1.01	1.01	0.99	0.98	0.97	0.98	1.02	1.02	1.08	1.09	n.a.	n.a.	n.a.
Suffolk city	0.72	0.72	0.68	0.65	0.65	0.65	0.64	0.65	0.65	0.65	0.66	0.64	0.69	n.a.	n.a.	n.a.
Virginia Beach city	0.83	0.82	0.81	0.79	0.81	0.82	0.83	0.82	0.80	0.79	0.79	0.76	0.77	n.a.	n.a.	n.a.
Williamsburg city	4.28	4.43	4.44	4.24	4.02	3.73	3.67	3.29	3.11	2.98	2.99	2.48	2.52	n.a.	n.a.	n.a.
York county	0.59	0.58	0.58	0.60	0.64	0.66	0.69	0.74	0.72	0.73	0.72	0.68	0.66	n.a.	n.a.	n.a.
Jobs - Labor Force ³ Regional Linear Dissimilarity Index, 0.0 to 1.0 ³	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.12	0.12	n.a.	n.a.	
% of Workers Working in Locality (City/County) in Which They Live	49.0%	n.a.	n.a.	n.a.	n.a.	50.4%	48.8%	49.7%	48.3%	48.6%	47.9%	46.6%	48.5%	n.a.	n.a.	
Mean Travel Time to Work, minutes	24.1	n.a.	n.a.	n.a.	n.a.	23.4	23.5	23.3	23.6	23.2	23.7	23.3	24.0	n.a.	n.a.	
6. job and housing access to transit																
% of Employment in TAZs ¹ Served by Transit ¹⁸	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	84%	84%	84%	84%	
% of Households in TAZs ¹ Served by Transit ¹⁸	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	73%	73%	73%	73%	
7. job and housing access to pedestrian facilities																
% of Housing Units ⁹ in TAZs ¹⁷ with 1%+ Walk-To-Work Mode Share	49%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	43%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
8. air quality																
Annual # of Days when Ozone Levels were Above 8-Hour Standard	23	14	31	10	4	12	10	9	7	0	6	7	3	0	n.a.	0
NOx ⁷ (from motor vehicles), tons per day (near future) ¹⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	43.1	n.a.	n.a.	n.a.	31.9
NOx ⁷ (from motor vehicles), grams per capita per day (near future) ¹⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	23.2	n.a.	n.a.	n.a.	
VOC ⁷ (from motor vehicles), tons per day (near future) ¹⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	35.1	n.a.	n.a.	n.a.	27.6
VOC ⁷ (from motor vehicles), grams per capita per day (near future) ¹⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	18.9	n.a.	n.a.	n.a.	
CO ₂ (greenhouse gas, from motor veh's), tons per day (near future) ¹⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	22,464	n.a.	n.a.	n.a.	
CO ₂ (greenhouse gas, from motor veh's), grams/capita/day (near future) ¹⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	12,076	n.a.	n.a.	n.a.	

	Value, year 2000	Value, year 2001	Value, year 2002	Value, year 2003	Value, year 2004	Value, year 2005	Value, year 2006	Value, year 2007	Value, year 2008	Value, year 2009	Value, year 2010	Value, year 2011	Value, year 2012	Value, year 2013	Value, year 2014	Desired Trend	
9. movement of freight																	
Barge, Rail, and Truck Shares (%) of General Cargo Handled by Port of Virginia, by weight																	
Barge	n.a.	n.a.	n.a.	n.a.	n.a.	8%	10%	4%	5%	4%	4%	4%	4%	4%	4%	n.a.	
Rail	n.a.	n.a.	n.a.	n.a.	n.a.	25%	24%	31%	31%	30%	28%	30%	32%	34%	34%	n.a.	
Truck	n.a.	n.a.	n.a.	n.a.	n.a.	67%	66%	65%	64%	66%	68%	66%	64%	62%	62%	n.a.	
Rail Mode Share (%), freight with Hampton Roads origins, by value and tonnage																	
by tonnage ²⁶	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	29%	n.a.	n.a.	35%	n.a.	n.a.	n.a.	n.a.	n.a.	
by value ²⁶	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3%	n.a.	n.a.	3%	n.a.	n.a.	n.a.	n.a.	n.a.	
Rail Mode Share (%), freight with Hampton Roads destinations, by value and tonnage																	
by tonnage ²⁶	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	40%	n.a.	n.a.	44%	n.a.	n.a.	n.a.	n.a.	n.a.	
by value ²⁶	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	4%	n.a.	n.a.	5%	n.a.	n.a.	n.a.	n.a.	n.a.	
10. per capita vehicle miles traveled																	
Daily Vehicle Miles Traveled (VMT) per capita	n.a.	n.a.	23	25	24	24	24	24	24	24	24	24	24	23	n.a.	n.a.	
% of Commuters with Journey-to-Work by Alternate Modes ⁸	21.1%	n.a.	n.a.	n.a.	n.a.	17.3%	21.4%	20.1%	20.0%	17.5%	19.0%	18.8%	19.1%	n.a.	n.a.	n.a.	
11. maintenance																	
% of Pavement in Non-Deficient Condition, VDOT-maintained roads ²⁷	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	69.5%	69.2%	65.6%	n.a.	74.6%	82.9%	n.a.	n.a.	
% of Bridges Not Structurally Deficient	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	95.6%	n.a.	94.7%	94.4%	93.9%	93.7%	93.6%	93.7%	n.a.	
Total Transit Revenue Service Interruptions (mechanical) per million PMT	n.a.	n.a.	63	n.a.	82	62	59	56	40	34	45	38	29	n.a.	n.a.	n.a.	
B. Financial System Performance Measures																	
Actual Obligations / Planned Obligations ¹¹	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.28	0.95	n.a.	n.a.
Average Age of Federal Dollars Spent on TIP Projects ¹⁴	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mid-Fiscal-Year Total of Unspent Obligations for TIP Projects ¹²	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
% of Total District Allocations in SYIP (i.e. omitting Statewide ³¹), by District, current year ⁴																	
Bristol	n.a.	n.a.	n.a.	n.a.	n.a.	8%	7%	10%	8%	8%	8%	10%	10%	11%	8%	n.a.	
Culpeper	n.a.	n.a.	n.a.	n.a.	n.a.	3%	2%	4%	4%	3%	3%	2%	3%	8%	5%	n.a.	
Fredericksburg	n.a.	n.a.	n.a.	n.a.	n.a.	4%	4%	5%	5%	3%	4%	3%	6%	5%	4%	n.a.	
Hampton Roads	n.a.	n.a.	n.a.	n.a.	n.a.	19%	26%	25%	18%	18%	13%	16%	21%	29%	28%		
Lynchburg	n.a.	n.a.	n.a.	n.a.	n.a.	5%	5%	4%	4%	3%	3%	2%	2%	2%	1%	n.a.	
Northern VA	n.a.	n.a.	n.a.	n.a.	n.a.	34%	23%	29%	35%	39%	46%	51%	37%	25%	31%	n.a.	
Richmond	n.a.	n.a.	n.a.	n.a.	n.a.	15%	20%	13%	12%	13%	11%	8%	8%	8%	7%	n.a.	
Salem	n.a.	n.a.	n.a.	n.a.	n.a.	7%	8%	5%	8%	7%	7%	3%	7%	8%	8%	n.a.	
Staunton	n.a.	n.a.	n.a.	n.a.	n.a.	5%	4%	5%	7%	5%	6%	5%	6%	4%	7%	n.a.	
total						100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

Footnotes

- ¹ Transportation Analysis Zone (TAZ) data from regional 4-step model
- ² Data: -employment by job location (Quarterly Census of Employment and Wages, QCEW) as "jobs" measure
-employment by home location (Local Area Unemployment Statistics, LAUS) as "labor force" measure
- ³ Linear Dissimilarity Index: Calculated via equation 2 in "Feasibility of Using Jobs/Housing Balance in Virginia Statewide Planning", VTRC, Aug 2010, pg. 26, rendering a value between 0 (perfectly balanced) and 1 (perfectly unbalanced) for the region.
See above footnote for source of data.
- ⁴ First fiscal year shown in SYIP, e.g. the "2013" number shown herein comes from the FY13 column of the FY13-18 SYIP.
- ⁵ New performance measure for FY13 evaluation (i.e. not included in FY12 evaluation).
- ⁶ FTA's National Transit Database
- ⁷ These two pollutants (NOx and VOC)--precursors of ground-level ozone--are measured in several Va. MPOs for AQ conformity.
Note: "2011" numbers are from VDOT's MOBILE 6.2 model; subsequent numbers will be calculated using MOVES model, making comparison to earlier numbers difficult.
- ⁸ Sum of all modes other than Drove Alone (i.e. including bike, ped, transit, work-at-home, carpool, etc.).
- ⁹ Given the necessary proximity of jobs to houses of persons who walk to work, this measure is intended to cover both job and housing access to pedestrian facilities.
- ¹⁰ The goal of HOV lanes--carpooling--is measured herein.
- ¹¹ Actual obligations ("Obligated") / planned obligations ("TIP"); source: Annual Obligation Report (AOR).
- ¹² "Total" = "Unspent Obligations" for each project, summed over all projects in TIP.
Due to large amount of funds typically obligated near end of fiscal years, "Total" calculated via financial "snapshot" taken near middle of subject fiscal year.
"Unspent Obligations" for a project = (total obligations for any year up to and including FY of snapshot) - (total spent in any year up to snapshot date).
Because the "total obligations" will exclude matching funds, the "total spent" should exclude matching funds.
- ¹³ The source of the first ten category names is Section 33.1-23.03 Code of Va. [amended via Chapter 670],
except that "movement of freight" is used herein instead of original "movement of freight by rail"; category 11 and financial RPMs were added by HRTPO.
- ¹⁴ This calculation covers all federal transportation dollars spent during the subject fiscal year.
"Average Age" is a weighted average of the ages of each payment made during the subject fiscal year.
The age of a specific payment is calculated by comparing the date of the payment to the date of the appropriate obligation for that payment.
To calculate "Average Age", weight the age of each payment by the amount of that payment.
If the actual dates are not available, monthly or FY data may be used, e.g. the age of a payment made in FY11 for an obligation made in FY09 is 2.0 years.
- ¹⁵ For air quality conformity, VDOT estimates emissions for various future years including one near future year, e.g. "2011" estimated in 2010.
Note that VDOT estimates NOx and VOC emissions for the ozone season, and CO₂ emissions as annual averages.
- ¹⁶ In addition to the pollutants required for AQ conformity, VDOT calculates CO₂ when it conducts analyses for conformity.
- ¹⁷ Transportation Analysis Zones (TAZs) are the smallest Census areas for which journey-to-work data is reported for Hampton Roads.
- ¹⁸ Due to the relatively large size of a typical TAZ, consider only those TAZs which are bordered or penetrated by transit as being served by transit.
- ¹⁹ FTA's "National Transit Database" uses the term "collisions" ("Collision_Total"), instead of "crashes".
- ²⁰ FRA uses the term "accidents".
- ²¹ Using July estimates from Weldon Cooper for nine localities (Ches., Norf., Ports., Suf., VaB., Hamp., JCC, NN, Wlmbg.).
Note: The Urbanized Area (UZA) population (which is typically used by FTA) could not be found for inter-census years.
For year 2000, the HR9 Weldon Cooper population (1,413,272) is similar to the Urbanized Area (UZA) population (1,394,439).
- ²² NTSB and FAA use the term "accidents".
- ²³ No rate (e.g. "per PMT") is included here because the number of person-miles-of-travel (PMT) in the airspace above Hampton Roads is not known.
- ²⁴ "NHTSA": National Highway Traffic Safety Administration.
- ²⁵ Rate shown is for a 3-year period ending in year shown.
- ²⁶ Including domestic portion of international freight movement.
- ²⁷ VDOT-maintained roadways only.
- ²⁸ 2013 VMT was not available as of June 2014.
- ²⁹ The "2013" transit usage numbers in the National Transit Database being the same as the "2012" numbers in that database, true 2013 numbers were not available.
- ³⁰ OCR = "Total Costs excl. OPEB's, Capital Charge and Other Costs" / "Total Revenue". (OPEB: other post-employment benefits)
- ³¹ Note: Some large projects (e.g. US 460, I-95 HOT Lanes) are in "Statewide".
- ³² Note: Because Norfolk Amtrak began on 12-12-12, 2013 HR value (covering FFY13) includes only approx. 9 months of Norfolk service.