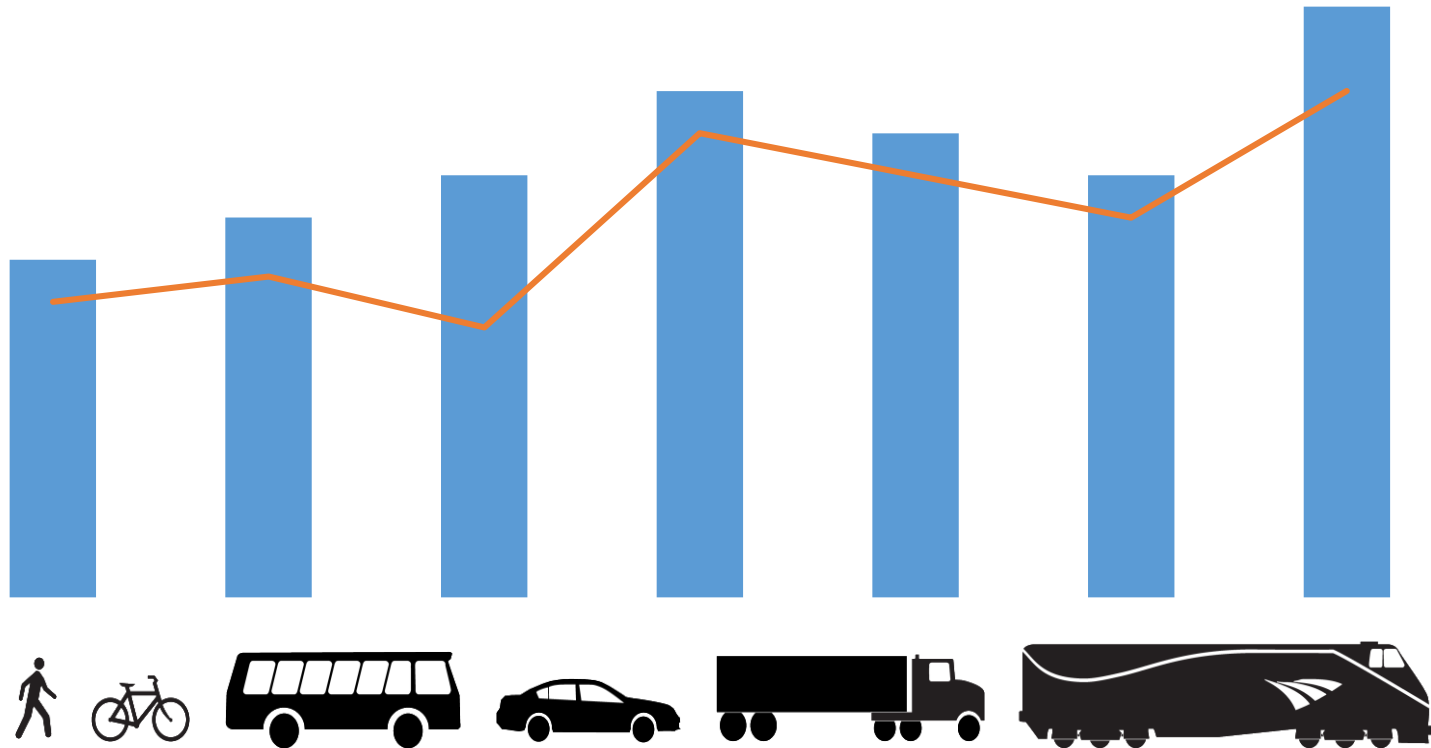


# Regional Performance Measures

Annual Progress Report • 2015



TPO Board - 2/4/2016  
Presentation by:  
Chris Wichman, Senior Planner



# Overview

- History and definition of performance-based planning & programming
- Review of *Regional Performance Measures – Annual Progress Report 2015*
- TPO Board Action Requested



## ***Where did ‘performance-based planning and programming’ approach come from?***

### *State*

- HB 2019, Chapter 670 of the 2009 Acts of General Assembly
- HB 30, Chapter 874 of the 2010 Acts of General Assembly  
(see VA Code §2.2-229, §33.2-353)

### *Federal*

- MAP-21, Moving Ahead for Progress in the 21<sup>st</sup> Century Act of 2012



# Definition

**Performance-based planning and programming** includes using transportation performance measures, setting targets, reporting performance, and programming transportation investments directed toward the achievement of transportation system performance outcomes. (FHWA)



# Process



Source: FHWA, "Performance-Based Planning and Programming Guidebook"



# Part 1 – Summary Table

Notes on the summary table:

- Measures are at ‘regional’ scale
- Geographic area defining ‘regional’ differs by measure
- Required no first-hand data collection, staff aggregated publicly available data sources
- Three types of measures: ‘Board Approved’; ‘Additional Measures’; ‘Future Measures’.



# Additional Measures

<b><i>MTP Goal</i></b>	<b><i>'Additional Measure'</i></b>	<b><i>Desired Trend</i></b>
Congestion Mitigation	INRIX Travel Time Index	Decrease
	Annual Congestion Costs per Commuter	Decrease
Transportation and Land Use Integration	Travel Time to Work	Decrease
	Population Density	Increase
Environmental and Air Quality	Air Quality Index Exceedances	Decrease
Freight Mobility	Port of Richmond Container Volumes	Increase
	Transportation/Warehousing Employment	Increase
Multimodal Connectivity	Bicycle to Work, percent of commuters	Increase
	Drive Alone to Work, percent of commuters	Decrease
	Commercial Air Boardings	Increase
	Commercial Air Available Seat Miles	Increase
	Commercial Air Non-Stop Destinations	Increase
Project Delivery	Transit operating expense per Passenger Trip	Decrease
	Transit operating expense per Revenue Mile	Decrease
	Transit operating expense per Passenger Mile	Decrease
Preservation and Maintenance	Interstate Pavement Condition, % fair or better	Increase
	Primary Pavement Condition, % fair or better	Increase
	Bridge Sufficiency Rating, number and percentage	Increase
	Deficient Bridges, number	Decrease
	Average Age of GRTC Bus Fleet	Decrease

Goal	Measure	2009	2010	2011	2012	2013	2014	Desired Trend	1-year Trend	5-year Trend	Measure Status
<b>Congestion Mitigation</b>	*Annual Delay per peak period commuter <sup>1</sup> , hours	33	33	33	33	34	34	🟡	➡	➡	Board Approved
	Fuel Loss per peak period commuter <sup>2</sup> , gallons	13	13	13	14	14	14	🟡	➡	➡	Board Approved
	*INRIX peak period travel time index <sup>3</sup>	1.12	1.12	1.12	1.12	1.13	1.13	n.a.	➡	➡	Additional Measure
	Annual congestion costs <sup>4</sup> , per peak period commuter	\$746	\$754	\$733	\$727	\$736	\$729	n.a.	🟡	🟡	Additional Measure
<b>Transportation and Land Use Integration</b>	*Daily VMT <sup>5</sup> , per capita	n.a.	27.9	27.7	27.6	27.4	n.a.	n.a.	🟡	🟡	Board Approved
	*Jobs/Housing Ratio <sup>6</sup>	n.a.	n.a.	n.a.	1.28	n.a.	n.a.	➡	n.a.	n.a.	Board Approved
	*Jobs/Housing Dissimilarity Index <sup>7</sup>	0.066	0.0596	0.061	0.0555	0.0485	n.a.	< .5	✅	✅	Board Approved
	*% Workers working in jurisdiction in which they live <sup>8</sup>	48.5%	48.8%	49.1%	48.9%	48.6%	n.a.	➡	🟡	➡	Board Approved
	Travel Time to Work <sup>9</sup>	23.4	23.6	23.6	23.9	24.0	n.a.	n.a.	➡	➡	Additional Measure
	Population Density <sup>10</sup> , persons per square mile	n.a.	n.a.	n.a.	475	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Environmental and Air Quality</b>	*Ozone Exceedances <sup>11</sup>	n.a.	n.a.	11	11	1	1	🟡	➡	n.a.	Board Approved
	*Air Quality Index Exceedances <sup>12</sup>	1	10	12	11	1	1	n.a.	➡	🟡	Additional Measure
	Wetlands Impact, acres	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Future Measure
	Fuel Usage, gallons per capita	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Future Measure
	Greenhouse Gas Emissions	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Future Measure
	Mobile Source Emissions	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Future Measure
<b>Freight Mobility</b>	*Commodity Flow, Freight Mode Share <sup>13</sup> , by tons										Board Approved
	Truck	n.a.	n.a.	n.a.	67%	n.a.	n.a.	n.a.	n.a.	n.a.	
	Rail	n.a.	n.a.	n.a.	30%	n.a.	n.a.	n.a.	n.a.	n.a.	
	*Commodity Flow, Freight Mode Share <sup>13</sup> , by dollar value										Board Approved
	Truck	n.a.	n.a.	n.a.	82%	n.a.	n.a.	n.a.	n.a.	n.a.	
	Rail	n.a.	n.a.	n.a.	5%	n.a.	n.a.	n.a.	n.a.	n.a.	
	*Port of Richmond Containers - Outbound <sup>14</sup>	n.a.	n.a.	n.a.	3,241	4,775	7,415	n.a.	➡	n.a.	Additional Measure
	*Port of Richmond Containers - Inbound <sup>14</sup>	n.a.	n.a.	n.a.	3,205	4,821	6,699	n.a.	➡	n.a.	Additional Measure
Transportation/Warehousing Sector Employment <sup>15</sup>	19,406	19,172	19,263	19,438	19,743	21,074	n.a.	➡	n.a.	Additional Measure	
Daily Truck Travel	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Future Measure
<b>Multimodal Connectivity</b>	Park and Ride Lots / Spaces <sup>16</sup> , number	n.a.	11 / 1,760	11 / 1,760	11 / 1,760	12 / 1,987	12 / 1,987	➡	➡	➡	Board Approved
	RideFinders Vanpools <sup>17</sup> , number	n.a.	n.a.	117	120	137	138	➡	➡	n.a.	Board Approved
	*Annual Passenger Rail Ridership <sup>18</sup> , number	296,216	313,026	375,226	404,700	439,525	427,426	➡	🟡	➡	Board Approved
	Annual Transit Trips <sup>19</sup> , per capita	30.7	31.6	28.5	22.3	19.5	n.a.	➡	🟡	🟡	Board Approved
	Transit Passenger Miles <sup>20</sup> , per capita	154.0	158.7	139.1	152.0	140.7	n.a.	➡	🟡	🟡	Board Approved
	Transit Revenue Miles <sup>21</sup> , number	10,894,167	11,310,381	11,319,872	11,486,456	11,418,456	n.a.	➡	🟡	➡	Board Approved
	Transit Revenue Miles <sup>22</sup> , per capita	24.2	25.2	25.2	25.5	25.4	n.a.	➡	🟡	➡	Board Approved
	*Pedestrian to Work <sup>23</sup> , percent	1.55%	1.57%	1.65%	1.47%	1.56%	n.a.	➡	➡	➡	Board Approved
	*Regional Households served by Transit <sup>24</sup> , percent	n.a.	n.a.	n.a.	42.83%	n.a.	n.a.	➡	n.a.	n.a.	Board Approved
	*Regional Employment served by Transit <sup>24</sup> , percent	n.a.	n.a.	n.a.	53.47%	n.a.	n.a.	➡	n.a.	n.a.	Board Approved
	*Disruptive Work <sup>25</sup> , percent	0.24%	0.46%	0.47%	0.51%	0.50%	n.a.	n.a.	🟡	🟡	Additional Measure



# Part 2 – Analysis Report

Notes on the analysis report:

- Sections organized by MTP Goals
- Description of RRTPO requirements (federal and state) and UWP tasks related to MTP goal
- Overview of ‘Related Studies, Programs and Projects’
- ‘Inside the Numbers’ for selected measures



# REPORT FORMAT EXAMPLE - CONGESTION MITIGATION

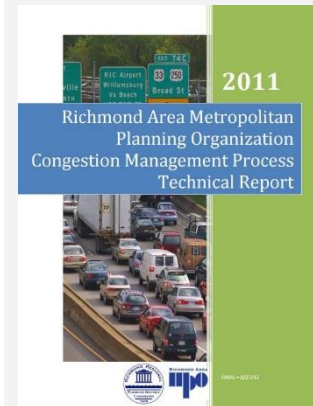
## RRTPO 2040 MTP Goal:

**“Support transportation system improvements that address existing and expected future traffic congestion”**

The RRTPO Congestion Management Process (CMP) is a core component of the agencies work program, and a federally mandated function of metropolitan planning organizations. The CMP, as defined by the Federal Highway Administration, is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance to assess alternative strategies for congestion management that meet state and local needs. For a thorough analysis of the region’s congestion issues and strategies see the [Congestion Management Process Technical Report](#) which is updated by the RRTPO every five years, in conjunction with the Metropolitan Transportation Plan (MTP).

The following performance measures provide a regional scale look at congestion, including trends over time and comparisons to peer and comparably sized metropolitan areas. This analysis relies on data from studies released by INRIX and the Texas Transportation Institute (TTI). At present, the annual TTI Urban Mobility Report is the industry standard for congestion data. The TTI report includes information on the amount of time travelers in 100 urbanized areas spend in congestion, fuel loss and other costs borne by auto commuters due to congestion.

## Related Studies, Programs & Projects



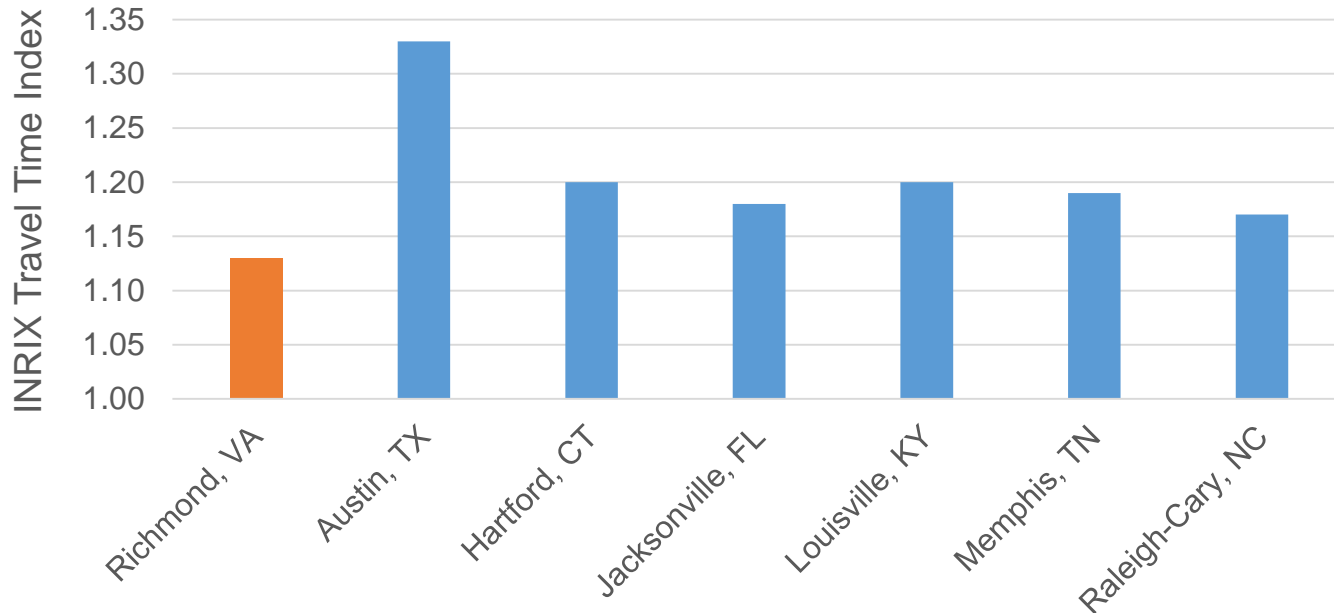
The **Congestion Management Process (CMP) Technical Report** is an evaluation of the current conditions of the Richmond region’s transportation network in terms of operations and safety. This thorough analysis of the regional roadway network is used to identify congested corridors and safety needs, and includes strategies to alleviate the identified issues.

The **Intelligent Transportation Systems Work Group** provides planning and programming support and assistance to the RRTPO Technical Advisory Committee (TAC) related to ITS projects in the Richmond region. ITS refers to the integration of advanced communications technologies into transportation infrastructure and/or in vehicles to improve transportation safety and mobility.



# Congestion Mitigation

INRIX Travel Time Index,  
Richmond & Peer Regions, 2014



**Travel Time Index** is a ratio measure of travel time in the peak period to travel time at free-flow conditions. As an example, a Travel Time Index of 1.13 in the Richmond region indicates that a 20-minute free-flow trip would be expected to take about 22 minutes and 36 seconds during the peak commuting period.

Figure 2: INRIX Travel Time Index by CEDS Peer Region , TTI 2015 Urban Mobility Report



# Freight Mobility

## Port of Richmond Container Volumes

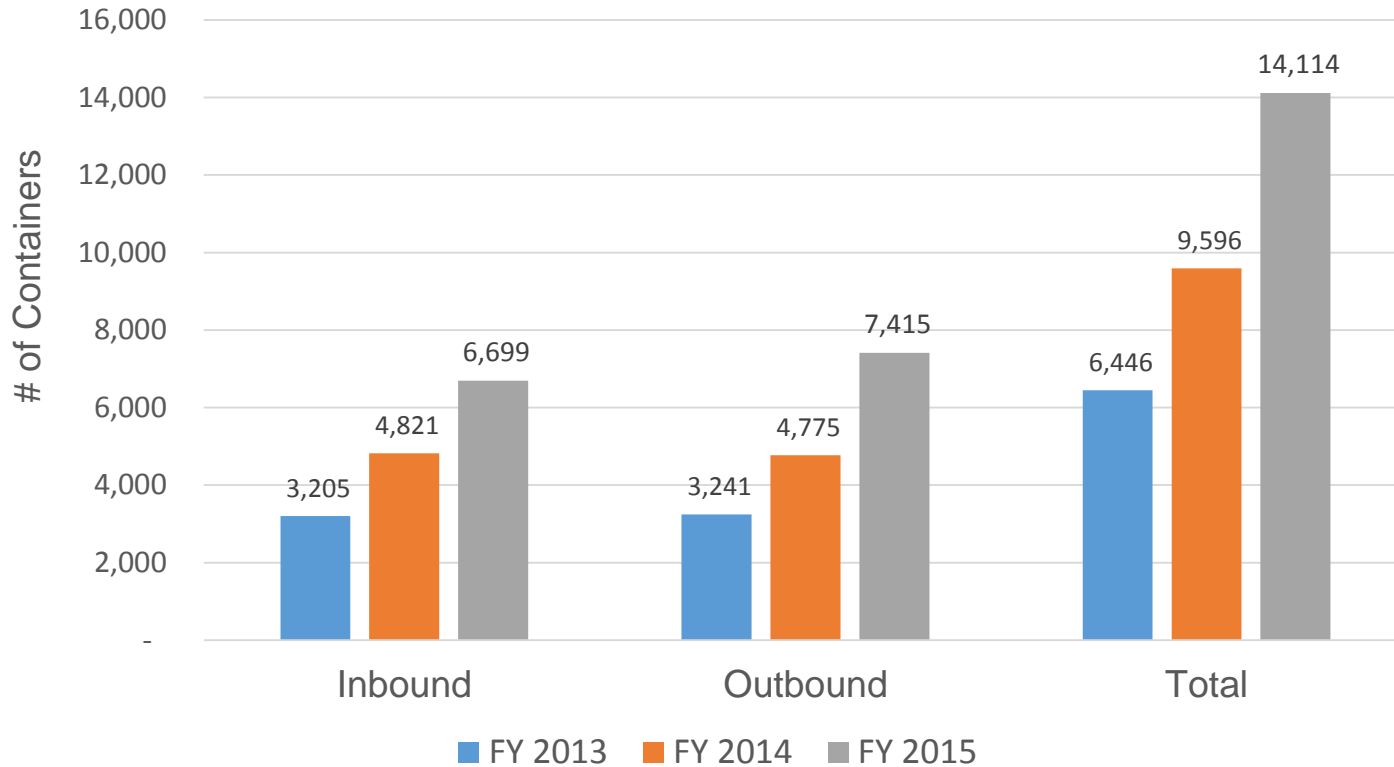


Figure 3: Container volumes at POR by Fiscal Year, data provided by the Port of Virginia



# Multimodal Connectivity

## Passenger Rail Boardings and Alightings

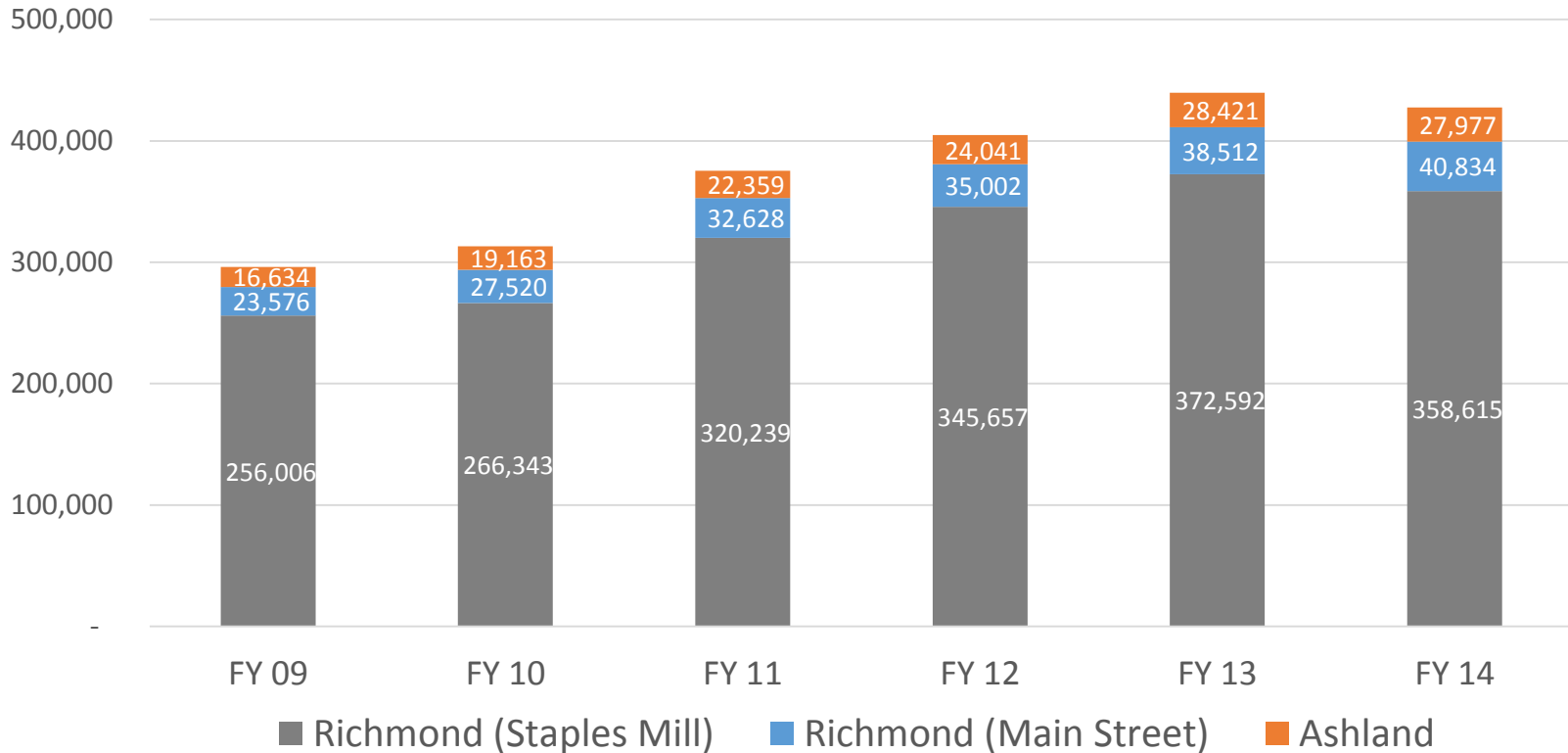


Figure 4: Total Passengers Boarding and Alighting at TPO area Amtrak Stations, Amtrak Fact Sheet 2010-2013



# Preservation and Maintenance

## Interstate Pavement Condition

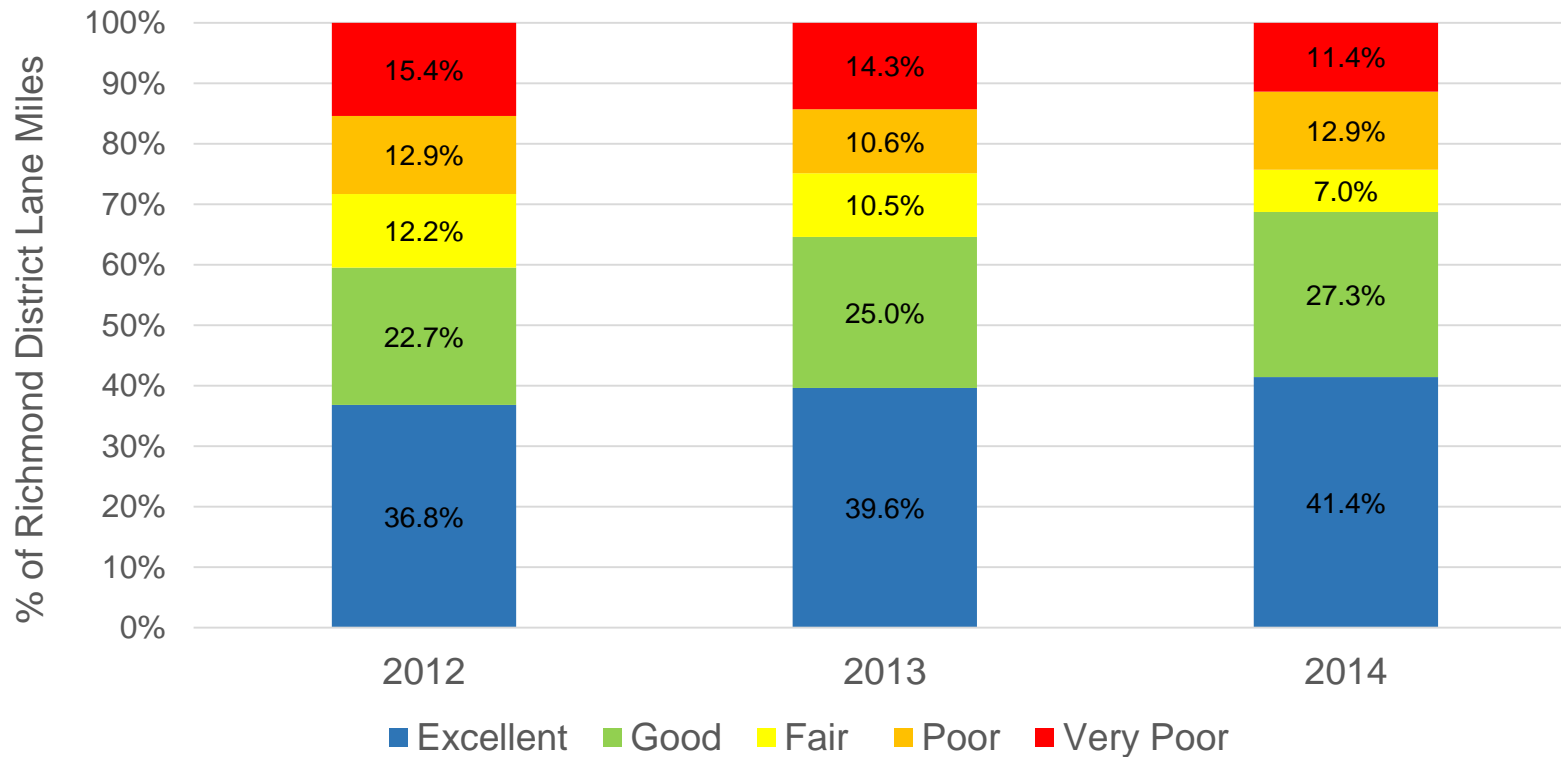


Figure 5: Interstate Pavement Condition in VDOT District, VDOT 'State of Pavement' reports (2012-2014)



# Requested Action

The following resolution is presented for TPO review and action:

**RESOLVED**, that the Richmond Regional Transportation Planning Organization (TPO) accepts the *Regional Performance Measures – Annual Progress Report 2015* as a FY 2016 work task complete; and

**BE IT FURTHER RESOLVED**, that the TPO approves changing the status of ‘Additional Measures’ to ‘Board Approved’ measures for the next annual report to be completed in FY 2017.

