The State of Transportation in Hampton Roads 2015

the *heartbeat* of HAMPTON ROADS TPO

TRANSPORTATION PLANNING ORGANIZATION

SEPTEMBER 2015

T15-12

HAMPTON ROADS TRANSPORTATION PLANNING ORGANIZATION

Robert A. Crum, Jr.
Executive Director

VOTING MEMBERS:

CHESAPEAKE
Alan P. Krasnoff

GLOUCESTER COUNTY
John C. Meyer, Jr.

HAMPTON
George Wallace

ISLE OF WIGHT COUNTY
Delores Dee-Dee Darden

JAMES CITY COUNTY
Mary K. Jones

NEWPORT NEWS
McKinley Price

NORFOLK
Paul D. Fraim

POQUOSON
W. Eugene Hunt, Jr.

PORTSMOUTH
Kenneth I. Wright

SUFFOLK
Linda T. Johnson

VIRGINIA BEACH
William D. Sessoms, Jr.

WILLIAMSBURG
Clyde Haulman

YORK COUNTY
Thomas G. Shepperd, Jr.

MEMBERS OF THE VIRGINIA SENATE
The Honorable Mamie E. Locke.
The Honorable Frank W. Wagner

MEMBERS OF THE VIRGINIA HOUSE OF DELEGATES
The Honorable Christopher P. Stolle
The Honorable David Yancey

TRANSPORTATION DISTRICT COMMISSION OF HAMPTON ROADS
William E. Harrell, President/Chief Executive Officer

WILLIAMSBURG AREA TRANSIT AUTHORITY
William C. Porter, Jr., Interim Executive Director

VIRGINIA DEPARTMENT OF TRANSPORTATION
James Utterback, Hampton Roads District Administrator

VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION
Jennifer Mitchell, Director

VIRGINIA PORT AUTHORITY
John Reinhart, CEO/Executive Director

HAMPTON ROADS TRANSPORTATION PLANNING ORGANIZATION

NON-VOTING MEMBERS:

CHESAPEAKE
James E. Baker

GLOUCESTER COUNTY
Sanford B. Wanner

HAMPTON
Mary Bunting

ISLE OF WIGHT COUNTY
Anne Seward

JAMES CITY COUNTY
Bryan J. Hill

NEWPORT NEWS
James M. Bourey

NORFOLK
Marcus Jones

POQUOSON
J. Randall Wheeler

PORTSMOUTH
Lydia Pettis-Patton

SUFFOLK
Patrick Roberts

VIRGINIA BEACH
James K. Spore

WILLIAMSBURG
Marvin E. Collins

YORK COUNTY
Neil Morgan

FEDERAL HIGHWAY ADMINISTRATION
Irene Rico, Division Administrator, Virginia Division

FEDERAL AVIATION ADMINISTRATION
Jeffrey W. Breeden, Airport Planner, Washington Airports Office District

PENINSULA AIRPORT COMMISSION
Ken Spirito, Executive Director

CITIZEN TRANSPORTATION ADVISORY COMMITTEE
Gregory Edwards, Chair

MILITARY LIAISONS
Robert Geis, Captain, U.S. Navy
Vacant, U.S. Coast Guard
William S. Galbraith, Colonel, Langley-Eustis

INVITED PARTICIPANT
John Malbon, Commonwealth Transportation Board

FEDERAL TRANSIT ADMINISTRATION
Terry Garcia-Crews, Regional Administrator, Region 3

VIRGINIA DEPARTMENT OF AVIATION
Randall P. Burdette, Director

NORFOLK AIRPORT AUTHORITY
Wayne E. Shank, Executive Director

FREIGHT TRANSPORTATION ADVISORY COMMITTEE
Arthur Moye, Jr., Co-Chair (Nonvoting Board Member)
Delegate Christopher P. Stolle, Co-Chair (Voting Board Member)

HRTPO PROJECT STAFF

Camelia Ravanbakht, P.E., Ph.D.	Deputy Executive Director
Keith Nichols, P.E.	Principal Transportation Engineer
Kathlene Grauberger	Senior Administrative Assistant
Michael Long	General Services Manager
Christopher Vaigneur	Assistant General Services Manager

THE STATE OF TRANSPORTATION IN HAMPTON ROADS 2015

PREPARED BY:

the heartbeat of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

SEPTEMBER 2015

T15-12

REPORT DOCUMENTATION

TITLE
The State of Transportation in Hampton Roads 2015

AUTHOR/PROJECT MANAGER
Keith M. Nichols, PE

REPORT DATE
September 2015

ORGANIZATION CONTACT INFORMATION
Hampton Roads Transportation Planning Organization
723 Woodlake Drive
Chesapeake, Virginia 23320
(757) 420-8300
http://www.hrtpo.org

ABSTRACT

This report details the current status of all facets of the transportation system in Hampton Roads, including air, rail, water, and highways. Many aspects of the highway system are highlighted, including roadway usage, bridge conditions, costs of congestion, commuting characteristics, roadway safety, truck data, transit usage, bicycle and pedestrian facilities, highway funding, and operations.

This report is produced as part of the region's Congestion Management Process (CMP). The Congestion Management Process is an on-going process that identifies, develops, evaluates, and implements transportation strategies to enhance mobility regionwide. This report is also produced as part of the HRTPO's Performance Management effort.

NON-DISCRIMINATION

The HRTPO assures that no person shall, on the ground of race, color, national origin, handicap, sex, age, or income status as provided by Title VI of the Civil Rights Act of 1964 and subsequent authorities, be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any program or activity. The HRTPO Title VI Plan provides this assurance, information about HRTPO responsibilities, and a Discrimination Complaint Form.

ACKNOWLEDGMENTS

This document was prepared by the Hampton Roads Transportation Planning Organization (HRTPO) in cooperation with the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Virginia Department of Transportation (VDOT), Virginia Department of Rail and Public Transportation (DRPT), Transportation District Commission of Hampton Roads (TDCHR), and Williamsburg Area Transit Authority (WATA). The contents of this report reflect the views of the HRTPO. The HRTPO staff is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the FHWA, FTA, VDOT or DRPT. This report does not constitute a standard, specification, or regulation. FHWA, FTA, VDOT or DRPT acceptance of this report as evidence of fulfillment of the objectives of this program does not constitute endorsement/approval of the need for any recommended improvements nor does it constitute approval of their location and design or a commitment to fund any such improvements. Additional project level environmental impact assessments and/or studies of alternatives may be necessary.

TABLE OF CONTENTS

Image Source: VDOT

INTRODUCTION

A number of changes have happened in recent years that will significantly impact transportation in Hampton Roads for years to come. Two changes in particular are the creation of regional transportation funds and the Midtown Tunnel/Downtown Tunnel /MLK Freeway Extension project.

First and foremost among recent changes are the pieces of landmark legislation that have recently been passed by the Virginia General Assembly. House Bill 2313 is the first comprehensive overhaul of the way Virginia pays for its transportation system since 1986. Among other things, this legislation created a regional transportation funding mechanism – the Hampton Roads Transportation Fund (HRTF).

House Bill 1253 and Senate Bill 513 created the Hampton Roads Transportation Accountability Commission (HRTAC) to manage HRTF funds. HRTAC has endorsed a list of roadway projects, including widening I-64 on the Peninsula, constructing the Third Crossing (which includes the Patriots Crossing), widening I-64 in Chesapeake (including the High Rise Bridge), improving the I-64/I-264 interchange in Norfolk and Virginia Beach, and improving Route 460/58/13 to interstate standards. Construction has begun on Phase I of the I-64 widening on the Peninsula, and Phase I of improvements to the I-64/I-264 interchange are expected to begin in 2016.

Meanwhile, construction continues on the Midtown Tunnel/ Downtown Tunnel/MLK Freeway Extension project, with completion of the project expected in 2017. To fund the project, tolls were implemented at the Midtown and Downtown Tunnels on February 1, 2014, and these tolls had an impact on regional travel patterns, particularly during the non-peak travel periods.


DOMINION BOULEVARD PROJECT

Image Source: City of Chesapeake.

Other major projects across the region are currently under construction, such as the widening of Dominion Boulevard (Route 17) in the City of Chesapeake. The project, which includes a new fixed span across the Elizabeth River that replaces the Steel Bridge, is expected to be complete in 2017.

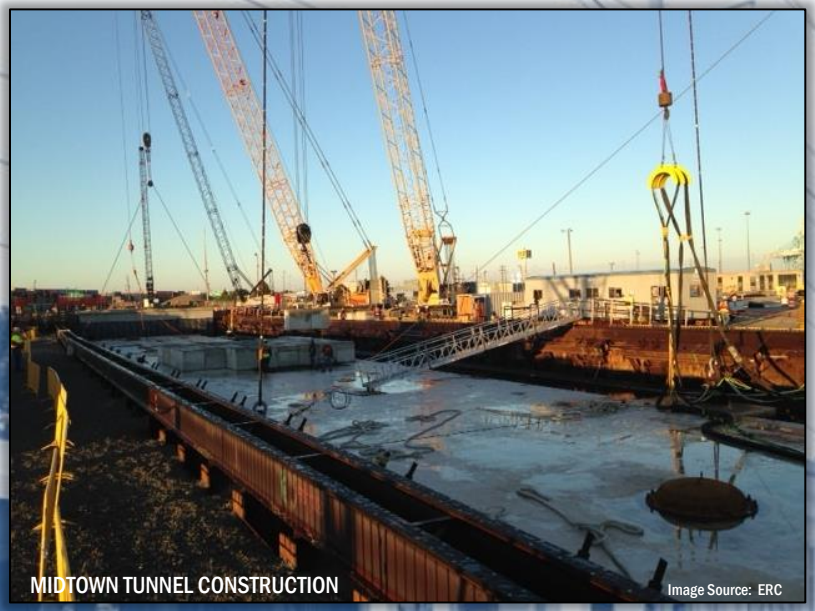
Changes have not been limited to highways. Four years ago the Tide Light Rail Line opened in the City of Norfolk, and in recent months the Virginia Beach City Council voted in support of further studying extending the light rail line to Town Center. And in late 2012, Amtrak resumed intercity passenger rail service to the Southside.

INTRODUCTION (continued)

However, in spite of all the changes happening to the Hampton Roads transportation system, there continues to be challenges. In spite of the infusion of regional monies, funding levels will still be short of meeting all of the needed improvements to the regional transportation system, and lower gasoline prices have decreased the amount of funding available. Roadway operations and maintenance needs will continue to increase, especially as transportation infrastructure continues to age. And roadway congestion continues to be a problem in many areas of the region.

This State of Transportation report details the current status of all facets of the transportation system in Hampton Roads, including air, rail, water, and highways. Many aspects of the highway system are highlighted, including roadway usage, pavement condition, bridge conditions, costs of congestion, commuting characteristics, roadway safety, truck data, transit usage, active transportation (such as biking and walking), transportation financing, and transportation operations.

This report is produced as part of the region's Congestion Management Process (CMP), which is an ongoing program that identifies, develops, evaluates, and implements transportation strategies to enhance mobility regionwide. The Congestion Management Process report includes a comprehensive congestion analysis of the region's highway system, congestion management strategies with an analysis of their impacts, and identification of the most congested corridors and areas of Hampton Roads. This report and all other CMP documents are available at the Hampton Roads Transportation Planning Organization's website at http://www.hrtpo.org/page/congestion-management.



MIDTOWN TUNNEL CONSTRUCTION

Image Source: ERC

This report is also produced as part of HRTPO's Performance Management effort. In 2009, the Virginia General Assembly passed legislation codifying regional transportation performance measurement and in response, HRTPO staff developed a new list of regional performance measures including those it was already producing through State of Transportation reports. The new federal surface transportation authorization program, Moving Ahead for Progress in the 21st Century (MAP-21), also requires that states and metropolitan areas use performance measures and set targets in areas such as pavement and bridge condition, congestion levels, and safety. More information on HRTPO's Performance Management effort is available at the end of this report and on HRTPO's website at http://www.hrtpo.org/page/performance-management.

AIR TRAVEL

Passenger levels continue to decrease at Hampton Roads two commercial service airports – Norfolk International and Newport News-Williamsburg International – as the number of nonstop flights drop and average airfares continue to increase.

The number of passengers using commercial air service in Hampton Roads has decreased greatly in recently years. A total of 1.75 million passengers boarded flights at the two commercial service airports in Hampton Roads, Norfolk International Airport and Newport News-Williamsburg International Airport, in 2014. The number of passengers using the region's airports annually is down over 700,000 passengers (-29%) over the last decade.

NEWPORT NEWS-WILLIAMSBURG INTERNATIONAL AIRPORT

Image Source: NNWIA.

The decrease in passenger levels over the last decade was much larger at Newport News-Williamsburg International Airport (-50%) than at Norfolk International (-24%). This is primarily due to the departure of the dominant carrier, Airtran Airways, from the airport in 2012. In addition, Frontier Airlines dropped service from Newport News-Williamsburg in 2015.

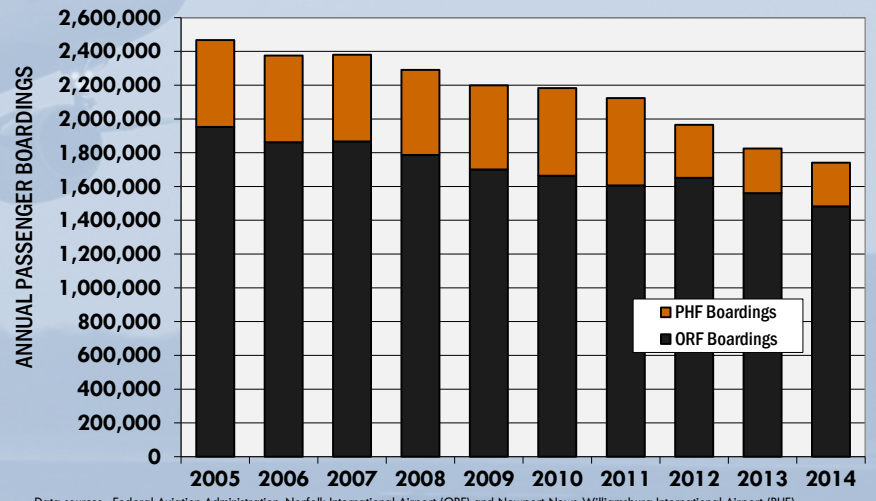
NOTABLE AIR TRAVEL NUMBERS

-29% The decrease in the number of passengers that used Hampton Roads airports between 2005 and 2014.

-42% The decrease in the number of daily flights departing from Hampton Roads airports between 2006 and March 2015.

52% The increase in average airfare at Norfolk International Airport between 2005 and 2014. At Newport News-Williamsburg International Airport, the average airfare increase was 86%.

ANNUAL PASSENGER BOARDINGS AT HAMPTON ROADS AIRPORTS, 2005-2014



Data sources: Federal Aviation Administration, Norfolk International Airport (ORF) and Newport News-Williamsburg International Airport (PHF).
Boardings represent only those passengers that board airplanes at each airport. 2014 data is preliminary.

AIR TRAVEL (continued)

While passenger levels at Hampton Roads airports decreased by 29% over the last decade, passengers levels at Richmond International airport increased by 16%. Nationally, passenger levels increased by 3% between 2005 and 2014.

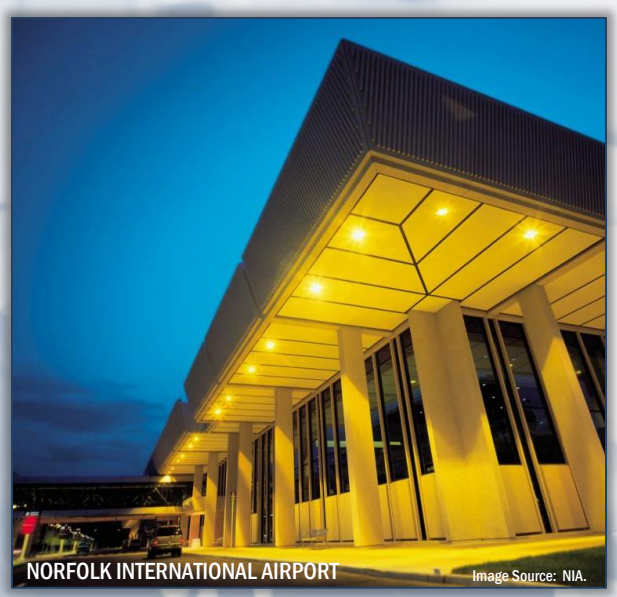
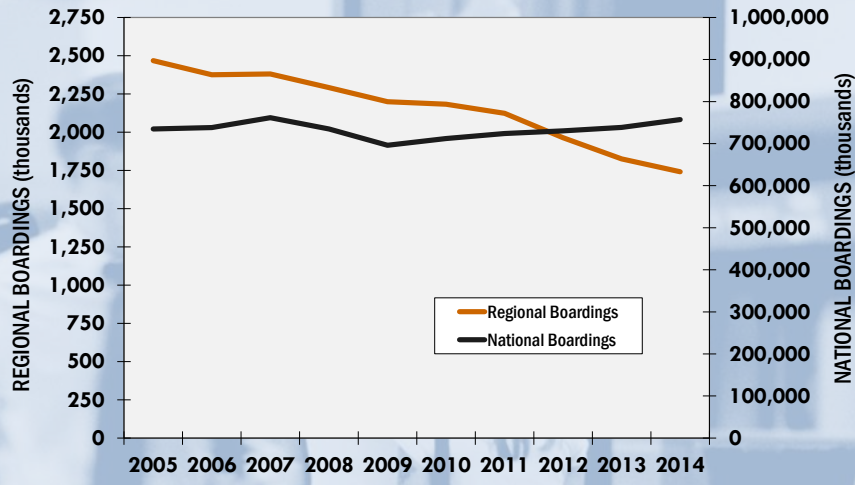

NORFOLK INTERNATIONAL AIRPORT

Image Source: NIA.

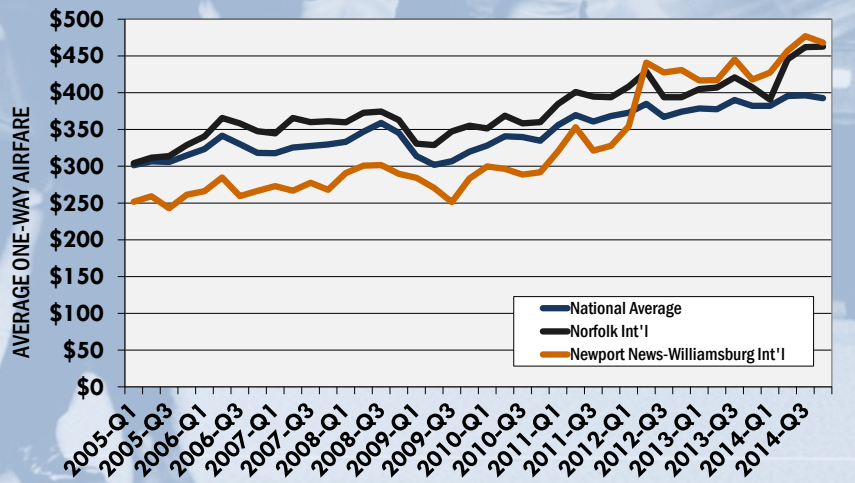
There are many factors contributing to the decrease in the number of passengers using airports in Hampton Roads. One of the primary reasons is that average airfares in the region have increased. Early in 2005, average airfares at Norfolk International Airport were $304, which was similar to the national average. Airfares at Newport News-Williamsburg International Airport ($252) were well below the national average at that time, driven by low-cost carrier Airtran Airways. By the end of 2014, the average airfare at Norfolk International Airport had increased 52% to $463, and 86% at Newport News-Williamsburg International Airport to $468. Both were well above the national average airfare of $393.

ANNUAL PASSENGER BOARDINGS AT HAMPTON ROADS AND NATIONAL AIRPORTS, 2005-2014



Data sources: Federal Aviation Administration, Norfolk International Airport (ORF) and Newport News-Williamsburg International Airport (PHF). Boardings represent only those passengers that board airplanes at each airport. 2014 data is preliminary.

AVERAGE AIRFARES FOR HAMPTON ROADS AND NATIONAL AIRPORTS BY QUARTER, 2005-2014



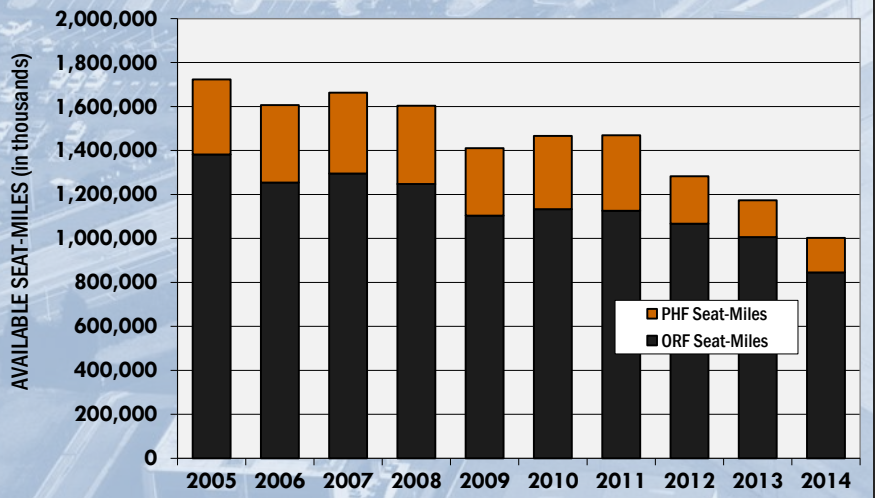
Data source: Bureau of Transportation Statistics. Average fares are based on domestic itinerary fares consisting of round-trip fares unless the customer does not purchase a return trip, in which case the one-way fare is included. Fares are based on the total ticket value (including any additional taxes and fees) and do not include other fees (such as baggage fees) paid at the airport or onboard the aircraft.

It should be noted that these airfares only reflect the costs associated with ticket fares and do not include additional fees that have expanded in recent years for checked baggage, seat assignments, ticket changes, early check-in, etc.

The number of flights departing from Hampton Roads airports has greatly decreased in recent years. As of March 2015, a total of 76 commercial flights depart Hampton Roads airports each day. This compares to 83 flights departing each day in March 2014, 110 flights each day in 2010, and 130 flights each day at the end of 2006.

This decrease in the number of flights departing Hampton Roads has resulted in a decrease in the number of available seat-miles, a common method of measuring an airport's person carrying capacity. There were just over one billion seat-miles

ANNUAL AVAILABLE SEAT-MILES AT HAMPTON ROADS AIRPORTS, 2005-2014



Data source: Bureau of Transportation Statistics. Available seat-miles is a common method of measuring an airport's person carrying capacity and is equal to the number of seats available multiplied by the number of miles flown.

BEHIND THE NUMBERS

There are a number of factors impacting passenger levels at Hampton Roads airports. Some of these factors are specific to the region, such as fewer trips being made by the military, while others are a symptom of the state of the airline industry.

Consolidation continues to impact the airline industry. The merger involving American Airlines and U.S. Airways was completed in December 2013, joining a list of mega mergers that includes Delta Air Lines with Northwest Airlines, United Airlines with Continental Airlines, and Southwest Airlines with Airtran Airways.

These consolidations have greatly impacted air travel in Hampton Roads. For example, the departure of Airtran Airways contributed to a 38% drop in passenger levels at Newport News-Williamsburg International Airport between 2011 and 2012. Additionally, nine fewer markets are served nonstop from Hampton Roads airports and 54 fewer daily flights are offered compared to 2006, partly due to consolidation.

Hampton Roads is not the only market with decreasing passenger levels. This is particularly a problem at the 104 airports classified as "small" or "medium" hubs by the FAA (which includes Norfolk International), which are those serving between 0.05% and 1.00% of all domestic passengers. While the number of U.S. domestic passengers increased slightly between 2005 and 2013, passenger levels decreased by 13% at these small and medium airports. 57% of small and medium airports experienced a decrease in passengers in this time, and 23% experienced a decrease of more than 20%.

available on flights departing Hampton Roads in 2014, down from a high of 1.7 billion in 2005.

The 76 flights that depart Hampton Roads airports each day serve a total of 17 airports in 13 markets. Norfolk International Airport has nonstop flights serving 17 airports in 13 markets, while 3 airports/markets are served nonstop from Newport News-Williamsburg International Airport.

Since 2010, a number of markets have lost nonstop service from Hampton Roads airports. These markets include Boston, Cincinnati, Cleveland, Denver, Jacksonville, Las Vegas, Nashville, and Tampa. Many of these markets served as hubs for airlines that have reduced service through consolidation in the airline industry.

The most popular final destination for passengers using Hampton Roads airports in 2014 was Atlanta, with a total of 189,700 passengers traveling either to or from Atlanta. The second most popular final destination from Hampton Roads airports in 2014 was Orlando with 134,600 passengers, and the third most population final destination was Chicago with 129,700 passengers.

NEW DEVELOPMENTS

Airport Improvements – Major terminal renovations are underway at Norfolk International Airport. In 2014, renovations to the main lobby atrium area, concourses, and Concourse B security checkpoint were completed. Upcoming renovations include a new security checkpoint in Concourse A, expanded restrooms, and upgraded interior facilities in all areas of the airport.


Image Source: NIA.


Image Source: NNW Airport.

PeoplExpress – After years in the making, a new airline called PeoplExpress began serving Newport News-Williamsburg International Airport in June 2014. Initial service was provided non-stop from Newport News-Williamsburg to Atlanta, Newark, New Orleans, Pittsburgh, St. Petersburg and West Palm Beach, with service to other cities planned to begin later in the year. However, service was suspended in September 2014 and has yet to resume.

Departure of Frontier and Allegiant – Frontier Airlines ended its service to Newport News-Williamsburg International Airport in January 2015. The airline, which was sold to low cost carrier Spirit Airlines last year, removed many cities from its service. Frontier Airlines began service at Newport News-Williamsburg International Airport in 2010, flying four to six times a week to Denver during the peak travel season.

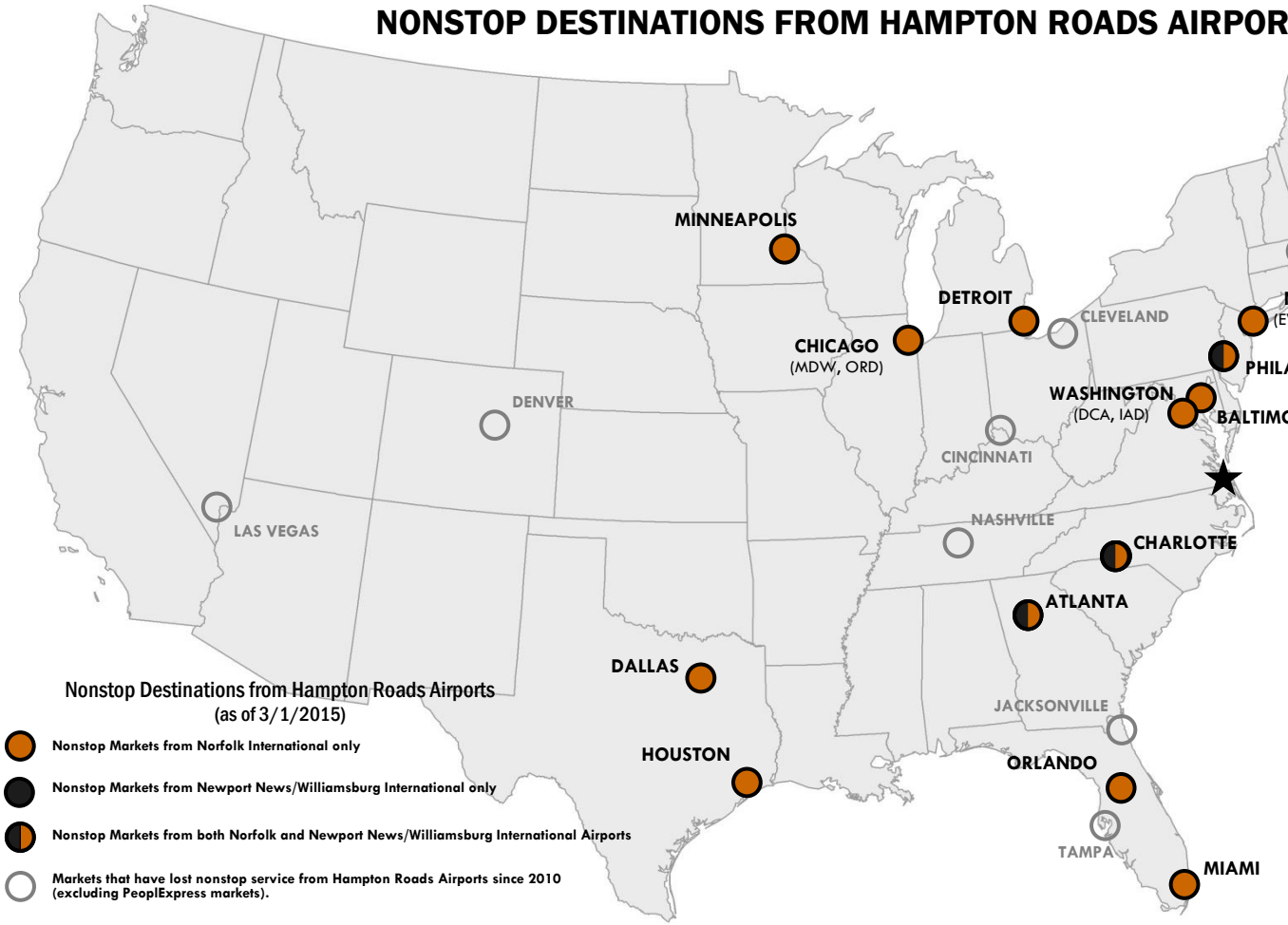
In August 2014, Allegiant Air ended their two-to-four day a week service from Newport News-Williamsburg International Airport to the Orlando area.

AIR TRAVEL (continued)

New York City, which had been the most popular final destination from Hampton Roads as recently as 2011, dropped to fourth-highest in 2014 with 114,500 passengers. More than 100,000 fewer passengers traveled this route in 2014 than in 2011.

Of the top twelve markets for Hampton Roads air travelers, half (Los Angeles, Boston, San Diego, Denver, San Francisco, and Las Vegas) were not served by nonstop service from Hampton Roads airports as of March 2015.

NONSTOP DESTINATIONS FROM HAMPTON ROADS AIRPORTS



Top Final Destinations to/from Hampton Roads Airports (2014)

Destination	2014 Passengers
1) Atlanta	189,700
2) Orlando	134,600
3) Chicago	129,700
4) New York	114,500
5) Los Angeles	110,000
6) Boston/Providence	105,800
7) Miami/Ft Lauderdale	102,000
8) San Diego	96,500
9) Denver	85,400
10) Dallas/Ft. Worth	83,700
11) San Francisco	67,800
12) Las Vegas	67,200

Data Source: Federal Aviation Administration.

PORT DATA

Although coal exports have decreased, general cargo levels handled by the Port of Virginia continue to grow each year, reaching record levels in 2014. This growth provides a boost to both the Hampton Roads and Virginia economies.

The Port of Virginia is comprised of four facilities in Hampton Roads: Norfolk International Terminals, Newport News Marine Terminal, Portsmouth Marine Terminal, and – through a lease agreement – the Virginia International Gateway facility in Portsmouth. The Virginia Port Authority also manages the Port of Richmond and operates an inland port facility near Front Royal. In addition, there are a number of private terminals in the region, such as Lambert's Point Docks and Elizabeth River Terminals.

Nearly 42 million tons of coal was shipped through the region in 2014, which makes Hampton Roads the largest exporter of coal in the country. However, the amount of coal shipped through Hampton Roads decreased in 2014, down from 51 million tons in 2013.

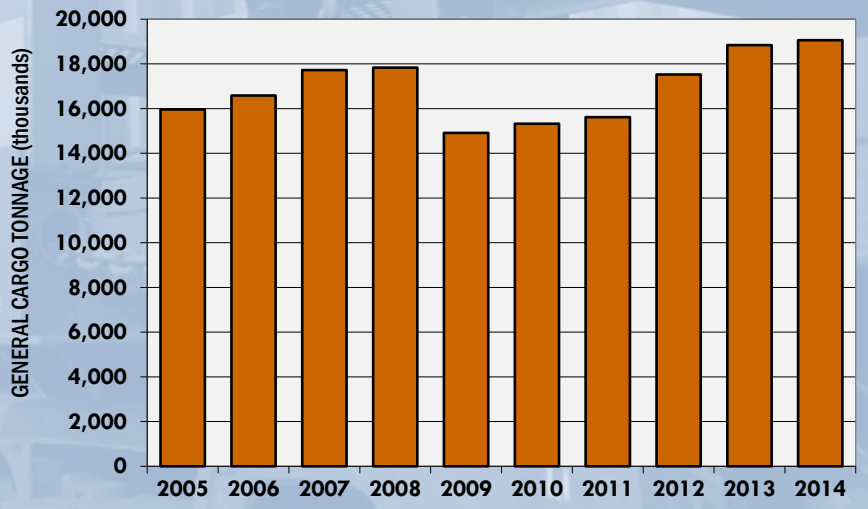
NOTABLE PORT DATA NUMBERS

19% The increase in general cargo tonnage handled by the Port of Virginia between 2005 and 2014.

-18% The decrease in the amount of coal shipped through Hampton Roads from 2013 to 2014.

3rd The rank of the Port of Virginia among East Coast ports in the volume of containerized cargo handled in 2014. Nationally, the Port of Virginia ranked 7th highest.

GENERAL CARGO TONNAGE HANDLED BY THE PORT OF VIRGINIA, 2005-2014



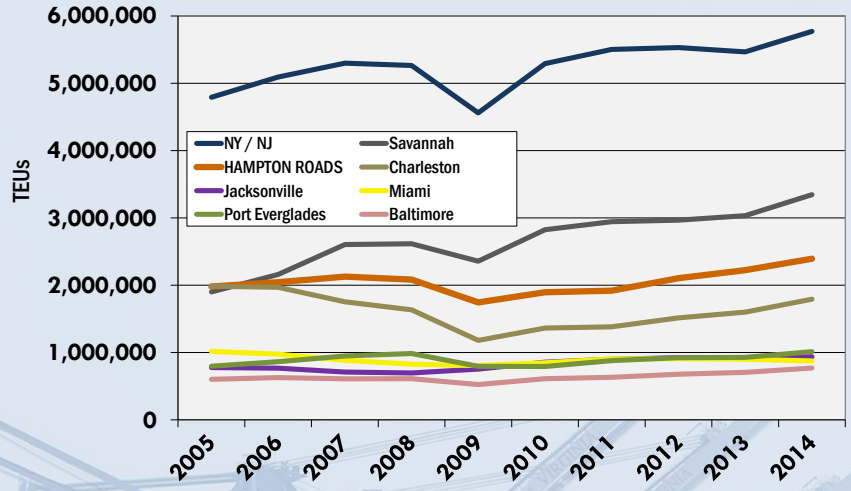
Data source: Virginia Port Authority. Data does not include Virginia Inland Port tonnage.

PORT DATA (continued)

Over 19 million tons of general cargo, primarily transported in containers, was handled by the Port of Virginia in 2014, a record for the Port. The amount of general cargo handled by the Port of Virginia increased 19% between 2005 and 2014, with a 28% increase occurring from the levels seen during the recession in 2009.

The maritime industry also measures containerized cargo using a standard called "20-foot container equivalent units", or TEUs. The Port of Virginia handled 2.39 million TEUs in 2014. This is up 21% from 1.98 million TEUs handled in 2005. The Port of Virginia ranked third highest among East Coast ports in the volume (in terms of TEUs) of containerized cargo handled in 2014, and seventh highest among all U.S. ports.

GENERAL CARGO (in TEUs) HANDLED AT TOP EAST COAST PORTS, 2005-2014



Data sources: American Association of Port Authorities, various port facilities. TEUs are twenty-foot container equivalent units, a common method of measuring freight.

NEW DEVELOPMENTS

Virginia International Gateway – The APM Terminals facility in Portsmouth was sold to a partnership made up of Alinda Capital Partners and Universities Superannuation Scheme Limited in 2014. The facility was renamed Virginia International Gateway after the sale.

NIT North Gate Improvements – The Virginia Port Authority was awarded a $15 million Transportation Investment Generating Economic Recovery (TIGER) grant for a new gate complex at Norfolk International Terminals. Construction on the new 22-lane semi-automated complex – which will ultimately connect with the planned Intermodal Connector – is expected to be completed in late 2016.

Craney Island – Construction continues on a project to create a new marine terminal at Craney Island. The current phase of construction involves using dredged material to create a site to the east of the current Craney Island. The first phase of the marine terminal is not expected to be operational until late next decade at the earliest.

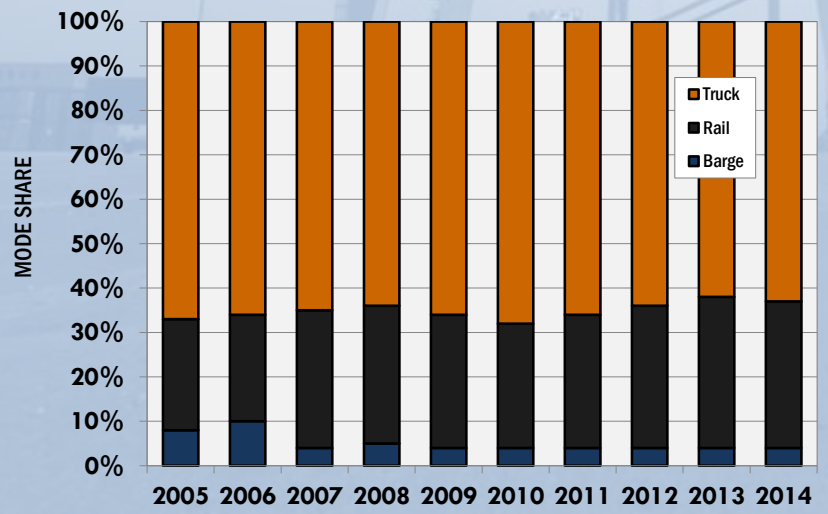
Norfolk International Terminals Overpass – Construction is nearing completion on a railroad overpass crossing Hampton Boulevard into Norfolk International Terminals (NIT). The project, which will greatly reduce the number of conflicts between trains entering and exiting NIT and Hampton Boulevard traffic, will be complete in 2015.

In 2014, 63% of the general cargo handled by the Port of Virginia arrived or departed by truck, 33% by rail, and 4% by barge. The share of freight moved by rail through the Port of Virginia has increased, up from 25% in 2005.

The cruise industry also has a presence in Hampton Roads. Ten vessels with 13,000 passengers called in Norfolk in 2014. Although this is down from a high of 105,000 cruise passengers in 2005, it will likely increase in 2015 and 2016 with Carnival Cruise Lines providing cruises from Norfolk, in addition to a number of other cruise lines scheduling a stop in Norfolk.

HRTPO conducts a number of freight planning efforts, such as the Freight Transportation Advisory Committee (FTAC) and the Regional Freight Study. More information on these efforts is available at http://www.hrtpo.org/page/freight.

MODE SPLIT OF GENERAL CARGO HANDLED BY THE PORT OF VIRGINIA, 2005-2014



Data source: Port of Virginia.

BEHIND THE NUMBERS

The amount of freight handled by the Port of Virginia is impacted by a number of factors. These factors include the condition of the national and global economy, business decisions by global shipping lines, and competition from other East Coast facilities such as Savannah and Charleston.

In recent years labor issues at West Coast ports have also caused shipping lines to shift more freight to East Coast ports. In 2011, ports on the West Coast of the United States handled 3.9 million more TEUs than East Coast ports. In 2013, this was down to 3.6 million more TEUs than East Coast ports, and in 2014 this was down further to 2.9 million TEUs.

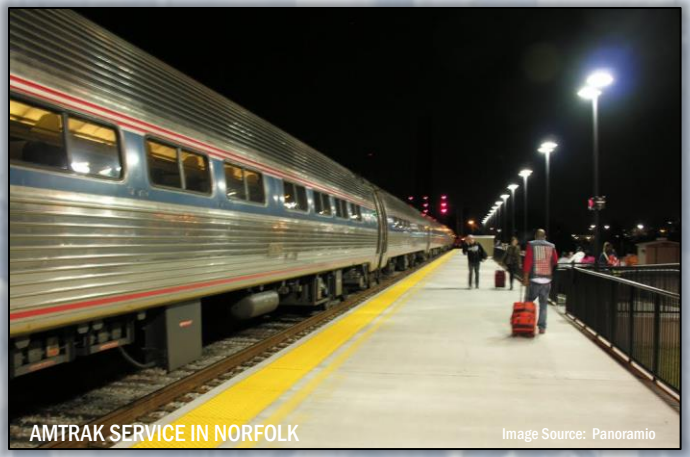
The Port of Virginia should be well-positioned for additional growth in future years. Expansion of the Panama Canal continues, with completion expected in late 2015 or early 2016. The Port of Virginia will be among the few East Coast ports that can serve the largest ships that will pass through the widened canal when expansion is completed. Rail connections have also been improved though the Norfolk Southern's Heartland Corridor and CSX's National Gateway projects.

In addition, shipping channels in the Hampton Roads harbor are currently dredged to a depth of 50 feet, which along with Baltimore is deeper than any other East Coast port. This, along with no overhead restrictions, currently allows for the largest ships in the world to use the Port of Virginia. The Army Corps of Engineers has authorized a depth of up to 55 feet for the Hampton Roads harbor – deeper than any other East Coast port – and the Port is in the early stages of permitting for a project to dredge to this depth.

RAIL TRAVEL

Passenger rail travel options have expanded in Hampton Roads, with direct Amtrak service recently resuming to the Southside, and studies underway for the expansion of the Tide light rail line.

New passenger rail travel options have been added to the Hampton Roads transportation system in recent years. In December 2012, Amtrak began providing service to the Southside of Hampton Roads, connecting the Southside directly with the Northeast Corridor. A year earlier the Tide, a 7.4-mile light rail starter line operated by Hampton Roads Transit (HRT), began operation in the city of Norfolk.



AMTRAK SERVICE IN NORFOLK Image Source: Panoramio

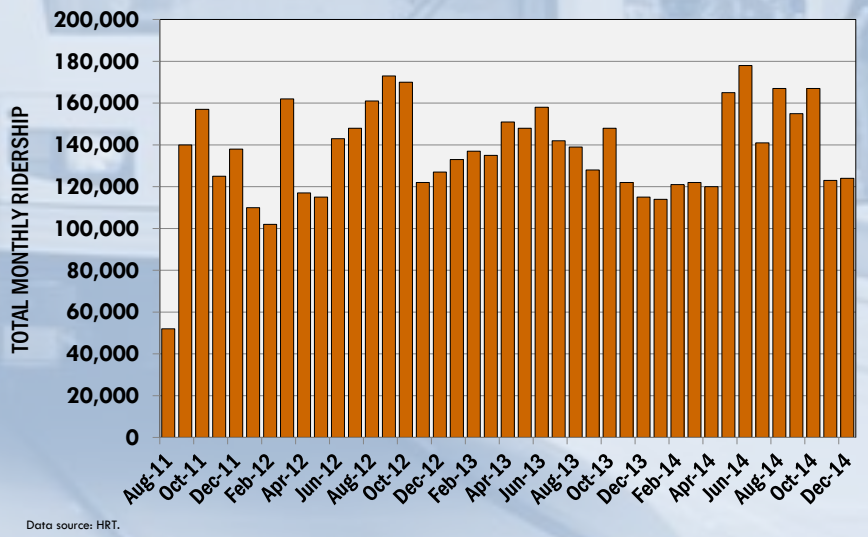
A total of 1.70 million passengers used The Tide light rail line in 2014 according to HRT data. Ridership on the Tide changed little between 2013 and 2014, but is 3% higher than the levels seen in 2012.

NOTABLE RAIL TRAVEL NUMBERS

66% The increase in passengers that boarded or departed Amtrak trains in Hampton Roads between Federal Fiscal Years 2005 and 2014.

3% The increase in ridership on the Tide light rail line between 2012 and 2014.

MONTHLY RIDERSHIP ON THE TIDE LIGHT RAIL LINE, AUGUST 2011-DECEMBER 2014



Data source: HRT.

RAIL TRAVEL (continued)

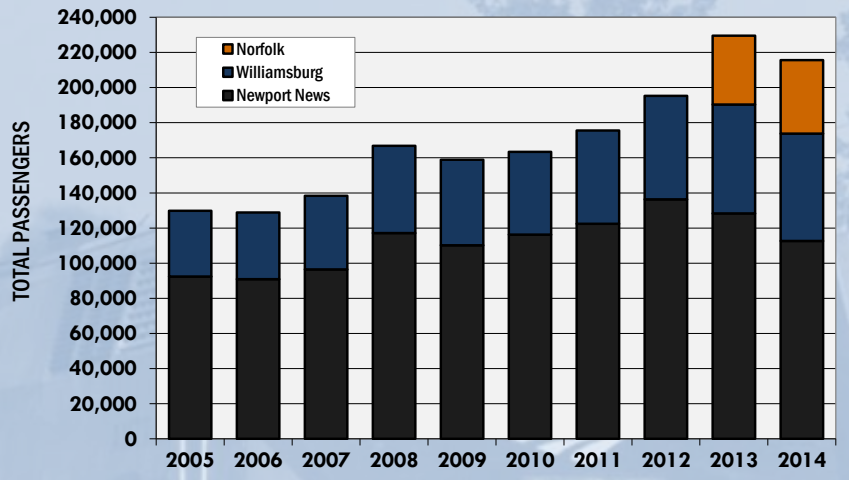
The number of passengers using Amtrak service in Hampton Roads has increased greatly over the last decade, led by the new service to the Southside. There were a total of 215,600 passengers who boarded or departed Amtrak trains in Hampton Roads in Federal Fiscal Year (FFY) 2014, with 112,700 passengers at the Newport News station, 61,100 passengers at the Williamsburg station, and 41,800 passengers at the Norfolk station. The number of passengers boarding or departing Amtrak trains in Hampton Roads increased 66% between FFY 2005 and 2014, and increased 10% since service resumed to the Southside in late 2012.

LIGHT RAIL IN NORFOLK

Image Source: VDOT

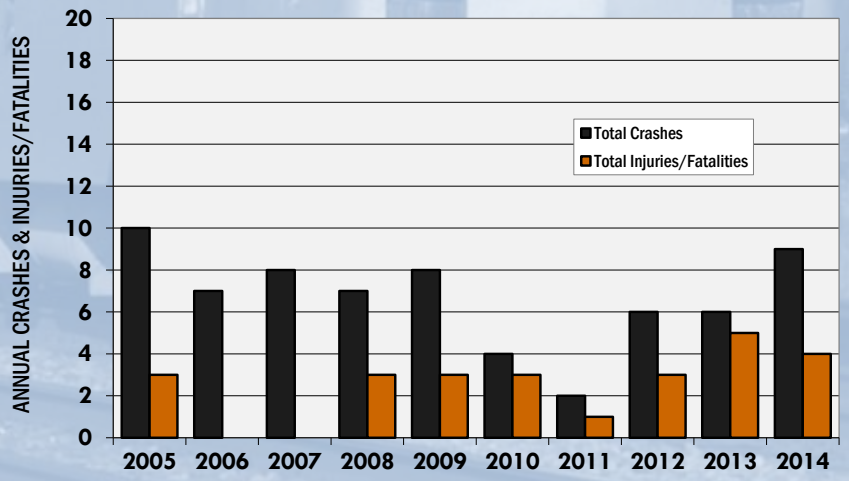
With the number of freight and passenger trains crossing the region each day, safety at highway-rail crossings is a concern. There were nine crashes between trains and vehicles at highway-rail crossings in Hampton Roads in 2014, resulting in four injuries and no fatalities. Between 2005 and 2014 there were a total of 67 crashes at highway-rail crossings in

TOTAL PASSENGERS BOARDING OR DEPARTING AMTRAK TRAINS IN HAMPTON ROADS, FFY 2005-2014



Data source: Amtrak. Federal Fiscal Years run from October to September.

TOTAL CRASHES AND INJURIES/FATALITIES AT HIGHWAY-RAIL CROSSINGS IN HAMPTON ROADS, 2005-2014



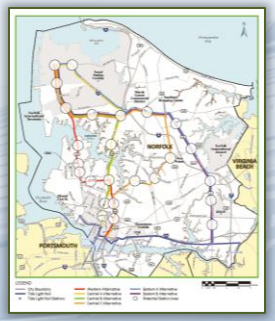
Data source: Federal Railroad Administration.

Hampton Roads, an average of 6.7 crashes per year. These 67 crashes resulted in 5 fatalities and 20 injuries. The number of crashes at highway-rail crossings in Hampton Roads has decreased significantly from the 1990s, when there were a total of 184 crashes that resulted in 9 fatalities and 106 injuries.

AMTRAK SERVICE IN NEWPORT NEWS
Image Source: HRTPO

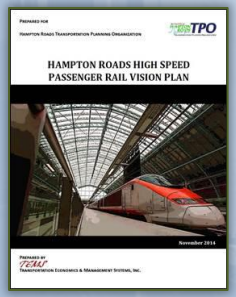
NEW DEVELOPMENTS

Multi-modal Stations – In December 2013, the Norfolk Passenger Rail Station opened at Harbor Park. The multi-modal station provides connectivity between Amtrak and the Tide, as well as HRT bus service. In addition, plans are underway for a new multi-modal station near Bland Boulevard in Newport News, replacing the current Amtrak station near Mercury Boulevard.



Transit Extension Studies - HRT is currently conducting two transit extension studies. The Naval Station Norfolk Transit Extension Study is examining potential high capacity transit methods to connect The Tide with Naval Station Norfolk. The Virginia Beach Transit Extension Study (VBTES) is examining the best high capacity transit options for the former Norfolk Southern rail line connecting the end of the current Tide light rail line with the Oceanfront area. The VBTES draft environmental impact study was released by HRT in early 2015.

Virginia Beach – The Virginia Beach City Council voted in May 2015 in support of further studying extending light rail to Town Center. This allows HRT to focus on this segment and produce engineering design plans and cost estimates.



Hampton Roads Passenger Rail Vision Plan – To complement Virginia Department of Rail and Public Transportation (DRPT) work in the Richmond to Hampton Roads corridor, the HRTPO Board approved a resolution to support High-Speed and Intercity Passenger Rail in 2009. Based on the resolution, a consultant specializing in passenger rail planning was secured for the HRTPO, in coordination with DRPT and VDOT, to evaluate the potential of high speed and enhanced passenger rail service in the corridor. The Hampton Roads High Speed Passenger Rail Vision Plan was produced by the consultant in 2014, which tied together information included in four previous technical reports. The plan is available at http://hrtpo.org/page/high-speed-passenger-rail.

BRIDGES

The large number of bays, rivers, and streams makes bridges a prominent part of the Hampton Roads landscape. As bridges in Hampton Roads age, however, maintaining these structures will continue to be financially difficult.

There are 1,226 bridges* in Hampton Roads, ranging in size from small culverts to some of the longest structures in the world. The median age of bridges in Hampton Roads is 40 years old, and 333 bridges in Hampton Roads (27%) are at least 50 years old. While many of these older bridges are periodically rehabilitated in order to remain in service, two high profile structures in Hampton Roads — the Kings Highway Bridge and the Jordan Bridge — have been closed in recent years due to their deteriorating condition.

All bridges in Hampton Roads are inspected regularly by qualified inspectors. Depending on the condition and design of each bridge, these inspections occur every one or two years. Based on these inspections, deficient bridges may be classified as "structurally deficient" or "functionally obsolete".

Structurally deficient bridges are structures with elements that need to be monitored and/or repaired. Structurally deficient bridges typically need to be rehabilitated or replaced to address deficiencies. It must be noted, however, that structurally deficient bridges are not necessarily unsafe, and bridge inspectors will close or impose weight limits on any bridge that is judged to be unsafe.

* - Bridges are defined by the National Bridge Inventory as any structure that carries or spans vehicular traffic on a public roadway and has a length of more than 20 feet. Bridges less than or equal to 20 feet in length are not included in these statistics, nor are bridges on military bases and private property.

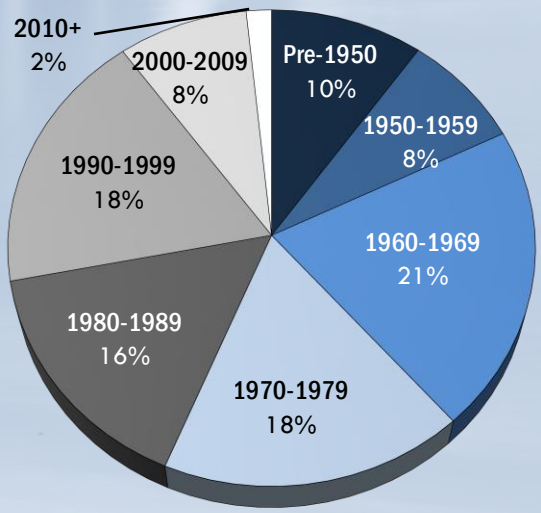
NOTABLE BRIDGE NUMBERS

6.6% The percentage of bridges in Hampton Roads that are classified as structurally deficient as of February 2015.

27% The percentage of bridges in Hampton Roads that are at least 50 years old.

21st Hampton Roads rank among 36 large metropolitan areas with populations between one and three million people in terms of the percentage of structurally deficient bridges.

BRIDGES IN HAMPTON ROADS BY YEAR BUILT



Data sources: VDOT, FHWA. Data as of February 2015.

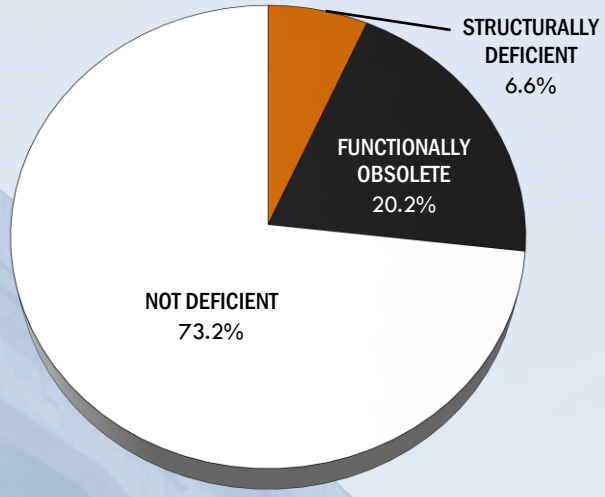
BRIDGES (continued)

Functionally obsolete bridges are structures that were built to standards that are no longer used today. These bridges have narrow lanes, no shoulders, low vertical clearances, difficult approaches, or may occasionally be flooded.

It should be noted that bridges cannot be classified as both structurally deficient and functionally obsolete. Structures that qualify as both structurally deficient and functionally obsolete are classified as structurally deficient.

Of the 1,226 bridges in Hampton Roads, 81 bridges (6.6%) are classified as structurally deficient as of February 2015. This is up from 54 bridges (4.4%) that were classified as structurally deficient in Hampton Roads in 2007. Another 248 bridges (20.2%) in Hampton Roads are classified as

STRUCTURALLY DEFICIENT AND FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS, 2015



Data sources: VDOT, FHWA. Data as of February 2015.

NEW DEVELOPMENTS

Gilmerton Bridge – Construction on the replacement of the Gilmerton Bridge has recently been completed. The new 4-lane facility replaces the original facility that was constructed in the 1930s. The new Gilmerton Bridge – which has more than three times the vertical clearance as the previous structure – was dedicated in November 2013, and construction on the new structure was completed in 2015.


Image Source: VDOT


Image Source: City of Virginia Beach

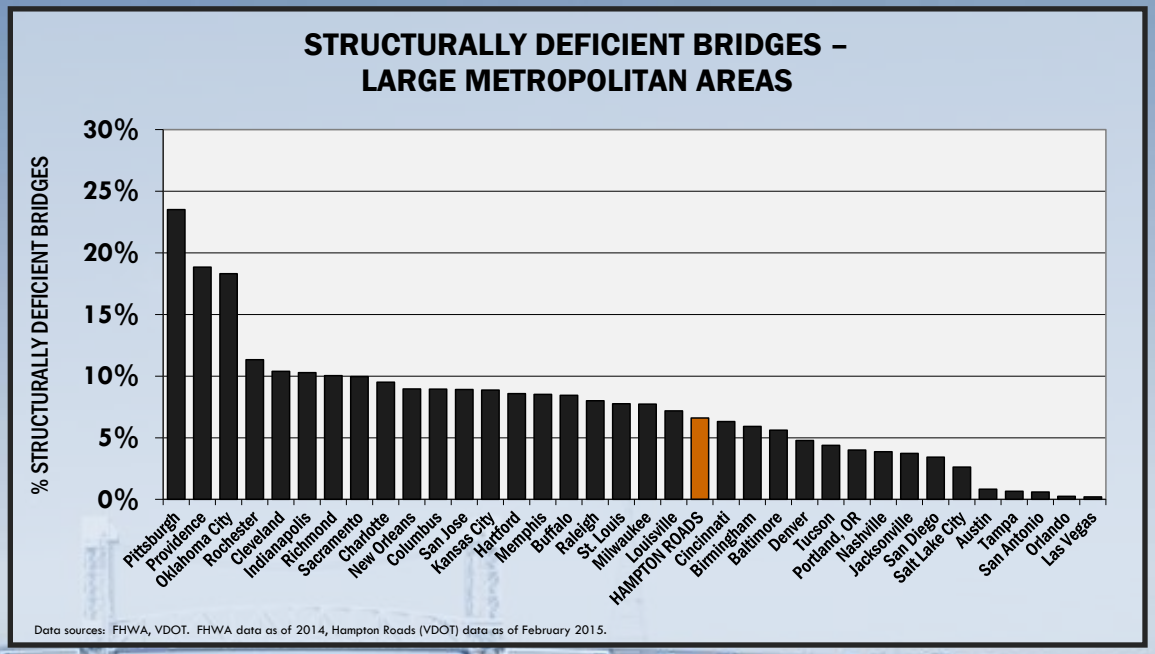
Lesner Bridge – Construction on a replacement for the Lesner Bridge, which spans Shore Drive across the Lynnhaven Inlet in Virginia Beach, began in June 2014. The new facility is being built to accommodate the possibility of 6 lanes in the future, provide an increased vertical clearance from 35 feet to 45 feet, provide a wider distance between bridge piers, and include a new 10 foot wide multi-use path for pedestrian and cyclists. The new $117 million structure is expected to be completed by May 2017.

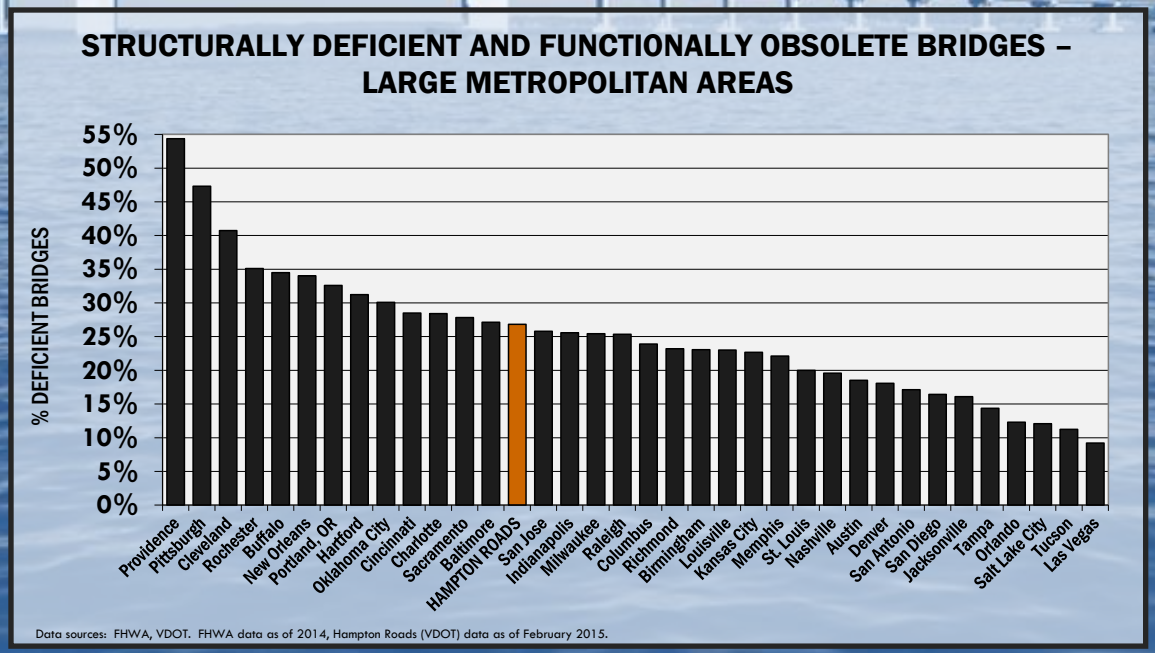
functionally obsolete. Combining structurally deficient and functionally obsolete bridges, 329 bridges (26.8%) in Hampton Roads are deficient as of February 2015.

The percentage of bridges that are classified as structurally deficient in Hampton Roads is below the average of other comparable metropolitan areas. Hampton Roads ranks 21st highest among 36 large metropolitan areas with populations between one and three million people in terms of the percentage of structurally deficient bridges in each region.

When structurally deficient and functionally obsolete bridges are combined, however, Hampton Roads ranks higher. At 26.8%, Hampton Roads ranks 14th highest among the 36 comparable metropolitan areas between one and three million people in terms of the percentage of deficient bridges.

HRTPO regularly prepares the *Hampton Roads Regional Bridge Study*, which looks at many aspects of the region's bridges. The Regional Bridge Study is available on HRTPO's website at http://www.hrtpo.org.





PAVEMENT CONDITION

The deteriorating condition of I-264 in Norfolk and Virginia Beach made headlines early in 2013. Since then, the condition of state-maintained roadways has been steadily improving in Hampton Roads, exceeding VDOT's pavement condition goals.

VDOT annually releases the State of the Pavement report, which details the condition and ride quality of state-maintained roadways. VDOT produces this report using data collected annually on each mile of Interstate and Primary roadway throughout the state and on a nearly 20% sample of Secondary roadways. Based on this data, VDOT categorizes both the pavement condition and ride quality of roadways.

Pavement condition describes the amount of pavement distresses – such as cracking, patching, and rutting – on each roadway. The Critical Condition Index (CCI) is a measure that is determined based on these distresses, and pavement condition is rated as excellent, good, fair, poor, or very poor based on the CCI. Roadways that are in poor or very poor condition are considered to be deficient, and VDOT has a goal that no more than 18% of Interstate and Primary roadways be classified as deficient.

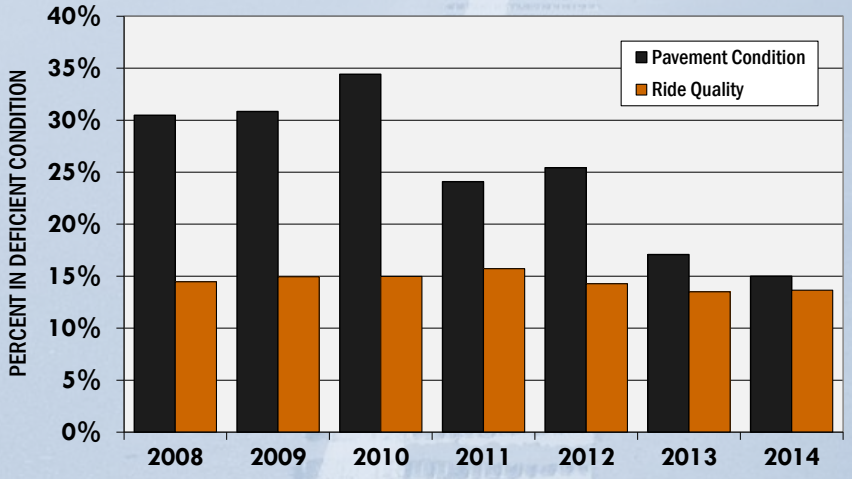
The percentage of state-maintained roadways in deficient condition in Hampton Roads has decreased in recent years. As recently as 2010, more than a third of state-maintained Interstate and Primary roadways in Hampton Roads had a deficient pavement condition. In 2014, only 15% of state-maintained Interstates and Primary roadways in Hampton Roads had a deficient pavement condition.

NOTABLE PAVEMENT CONDITION NUMBERS

15% Percent of state-maintained Interstate and Primary roadway lane-miles in Hampton Roads that had a deficient pavement condition in 2014. This is down from 34% as recently as 2010.

14% Percent of state-maintained Interstate and Primary roadway lane-miles in Hampton Roads that had a deficient ride quality in 2014.

PERCENT OF VDOT-MAINTAINED INTERSTATE AND PRIMARY ROADWAY PAVEMENT IN DEFICIENT CONDITION IN HAMPTON ROADS, 2008-2014



Data source: VDOT. Pavement with poor or very poor pavement condition or ride quality is considered deficient.

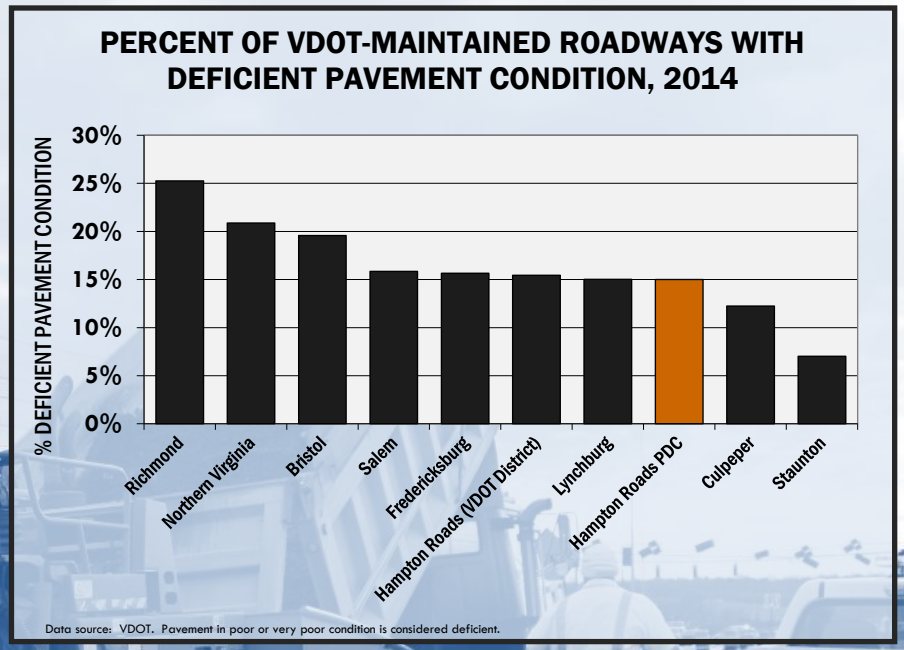
PAVEMENT CONDITION (continued)

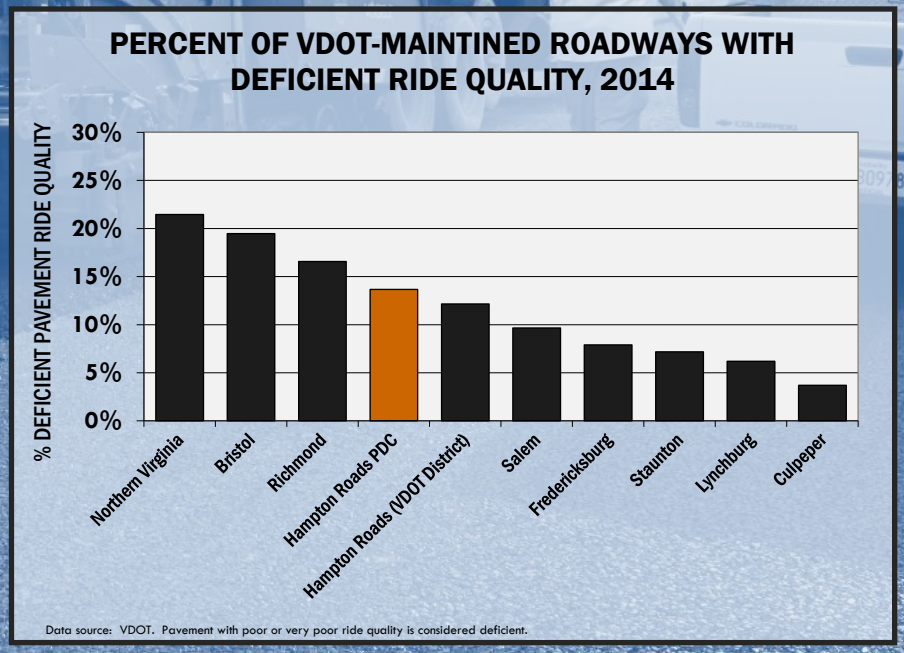
The pavement condition is better in Hampton Roads than in other large metropolitan areas of the state. Looking only at state-maintained Interstate and Primary roadways, the 15% of lane-miles in Hampton Roads that have a deficient pavement condition is better than the Richmond (25%) and Northern Virginia (21%) VDOT Districts, and is also better than many other VDOT Districts throughout the state.

VDOT also collects data regarding the ride quality of roadway pavement. Ride quality describes the roughness of pavement based on a sum of the irregularities in the pavement surface. The International Roughness Index (IRI) is a measure that describes these irregularities, and ride quality is rated as excellent, good, fair, poor, or very poor based on the IRI. Roadways with a poor or very poor ride quality are considered to be deficient, and VDOT has a goal that no more than 15% of Interstate and Primary roadways be classified as deficient in terms of ride quality.

The ride quality of pavement in Hampton Roads has slightly improved in recent years. In 2014, 14% of state-maintained Interstate and Primary roadways in Hampton Roads had a deficient ride quality, down from 16% in 2011.

Similar to pavement condition, the pavement ride quality is better in Hampton Roads than in other large metropolitan areas of the state. The 14% of state-maintained Interstate and Primary lane-miles in Hampton Roads that have a deficient pavement ride quality is better than the Northern Virginia (21%) and Richmond (17%) VDOT Districts. However, all other VDOT Districts other than Bristol have a better pavement ride quality than Hampton Roads.





ROADWAY USAGE

There has been little change in the amount of roadway travel in Hampton Roads in recent years, and a decrease in the amount of travel per capita. This trend is similar to the trend seen throughout Virginia and the United States.

The amount of roadway travel is measured in terms of vehicle-miles of travel, which is the total number of miles every vehicle in the region travels over a period of time. VDOT annually estimates jurisdictional roadway travel levels based on traffic counts collected on a regular basis. VDOT estimates that there were just over 39 million vehicle-miles of travel (VMT) on the average day in Hampton Roads in 2013.

MONITOR-MERRIMAC MEM. BRIDGE- TUNNEL

Image Source: VDOT

The amount of roadway travel in Hampton Roads has decreased slightly over the last decade according to VDOT estimates. Between 2004 and 2013, there was a 1.0% decline in vehicular travel in Hampton Roads. This is a variation from historical trends, as prior to 2003 regional traffic volumes typically grew at about a 2% rate annually.

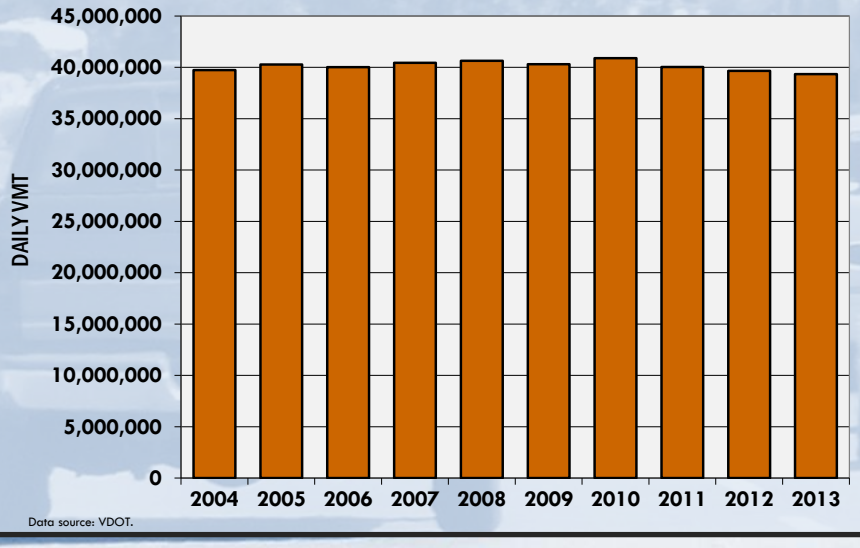
NOTABLE ROADWAY USAGE NUMBERS

-1% The decline in daily roadway travel in Hampton Roads between 2004 to 2013.

-6% The decrease in the amount of daily roadway travel per capita in Hampton Roads between 2004 to 2013.

29th Hampton Roads rank among 36 large metropolitan areas with populations between one and three million people in terms of vehicular travel per capita in 2013.

DAILY VEHICLE-MILES OF TRAVEL (VMT) IN HAMPTON ROADS, 2004-2013



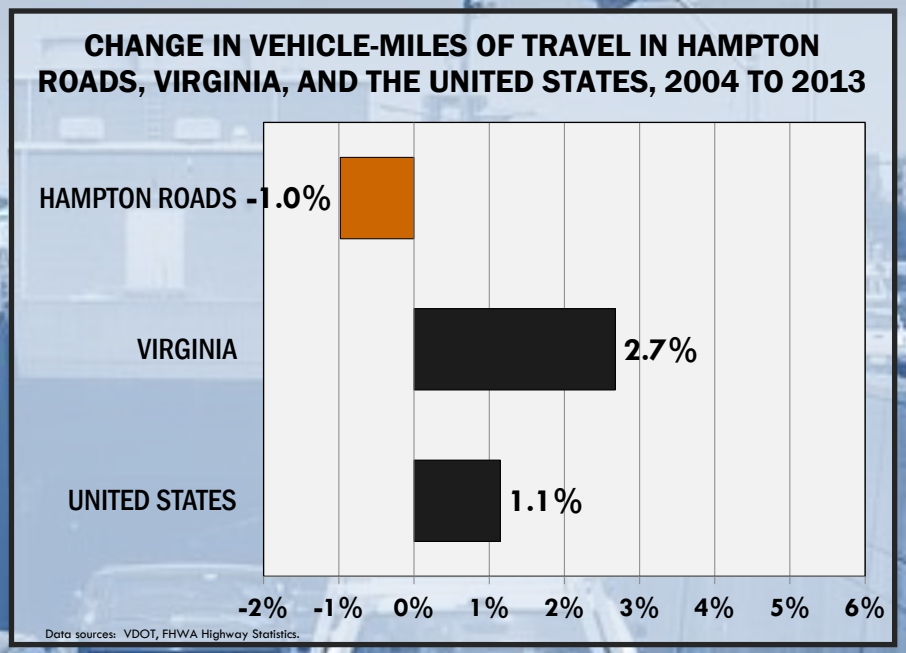
Data source: VDOT.

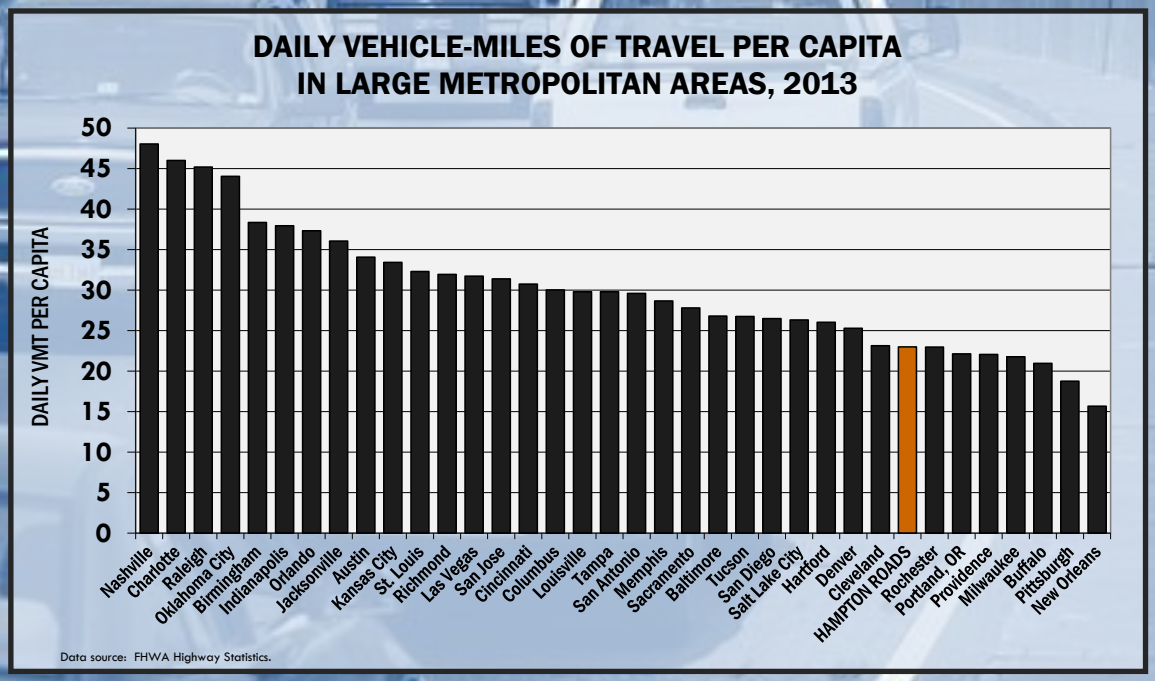
ROADWAY USAGE (continued)

Similar to Hampton Roads, both Virginia and the United States have seen the amount of roadway travel level off. Between 2004 and 2013, roadway travel only grew by 2.7% in the Commonwealth and 1.1% across the country. However, since 2006, volumes have not only decreased in Hampton Roads (-1.7%) but in Virginia (-0.4%) and the United States (-0.9%) as well.

This leveling off of roadway travel in Hampton Roads occurred as the regional population continued to increase. This combination produced a decrease in vehicular travel per capita. The vehicular travel per capita in Hampton Roads was 23.0 vehicle-miles per person per day in 2013, down 5.9% from 24.5 daily vehicle-miles per capita in 2004.

Among 36 large metropolitan areas in the United States with populations between one and three million people, Hampton Roads ranked 29th highest in term of vehicular travel per capita in 2013. Areas such as Nashville, Charlotte, Raleigh, and Oklahoma City have travel levels of at least 20 more miles per person per day than Hampton Roads. By comparison, Hampton Roads ranked 26th highest among these 36 areas back in 2004.





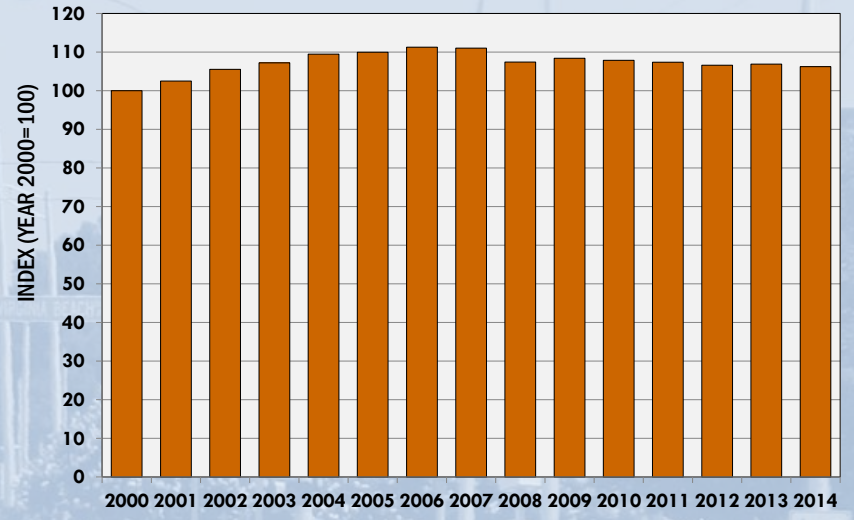
ROADWAY USAGE (continued)

Another method of measuring the change in roadway travel is by using count stations that continuously collect traffic volume data throughout the entire year. In Hampton Roads there are approximately 100 locations equipped with continuous count stations, primarily on major roadways such as freeways and principal arterials. Based on the data collected at these locations, regional traffic volumes grew 6.2% between 2000 and 2014. However, these regional counts have declined 4.8% since 2007 when the economic downturn started, and the decline continued last year with another 0.6% decrease in volumes between 2013 and 2014.

There were 1,520,000 vehicles registered in Hampton Roads in 2014. This equates to 0.89 vehicles for every Hampton Roads resident. The growth in the number of registered vehicles between 2005 and 2014 (+5.6%) slightly outpaced the growth in population (+5.1%), meaning the number of vehicles per resident in the region has increased.

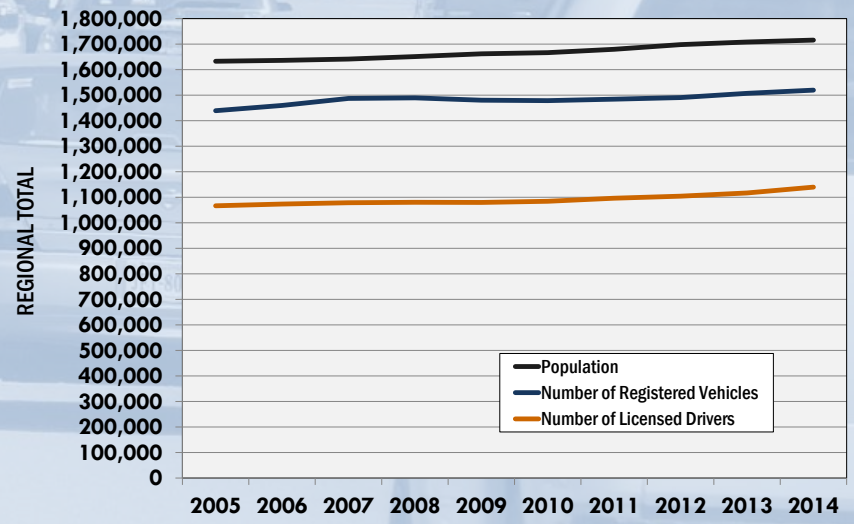
The growth in licensed drivers in Hampton Roads has also outpaced population growth. There were 1,139,760 licensed drivers in Hampton Roads in 2014, up 6.9% from 2005. With the growth in licensed drivers outpacing the growth in registered vehicles, the number of vehicles per licensed driver has decreased. There were 1.33 registered vehicles for every licensed driver in Hampton Roads in 2014, down from 1.35 registered vehicles per licensed driver in 2005.

CHANGE IN REGIONAL ROADWAY TRAVEL BASED ON CONTINUOUS COUNT STATIONS, 2000-2014



Data sources: VDOT, CBBT, various localities.

POPULATION, REGISTERED VEHICLES, AND LICENSED DRIVERS IN HAMPTON ROADS, 2005-2014



Data sources: HRPDC Hampton Roads Databook, Virginia DMV.

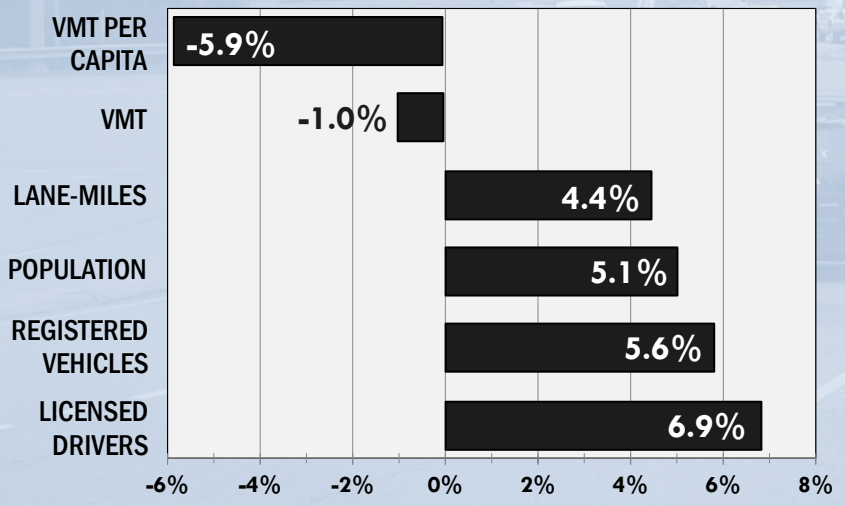
ROADWAY USAGE (continued)

Between 2004 and 2013, the amount of roadway capacity in Hampton Roads in terms of lane mileage* increased by 4.4%. This is lower than the growth in regional population (+5.1%) but is much higher than the change in regional vehicle-miles traveled (-1.0%).

It should be noted, however, that of the total growth in regional roadway lane mileage, the majority was in local roadways. These local roadways, which typically serve neighborhoods, carry low traffic volumes. Despite comprising over 60% of the lane mileage of the regional roadway network, local roadways only carried 13% of the total vehicular travel in Hampton Roads in 2013.

* - A lane-mile is defined as the length of a roadway times the number of lanes and is commonly used to describe the amount of roadway capacity. A one mile section of a roadway that is 6 lanes wide comprises 6 lane-miles.

CHANGE OVER THE LAST DECADE IN VMT PER CAPITA, VMT, LANE-MILES, POPULATION, REGISTERED VEHICLES, AND LICENSED DRIVERS IN HAMPTON ROADS



Data sources: HRPDC Hampton Roads Databook, Virginia DMV, VDOT.

BEHIND THE NUMBERS

As stated previously in this section, roadway travel in Hampton Roads and throughout the country has leveled off in recent years, and roadway travel per capita has decreased. There are a variety of causes for this decrease, including the condition of the economy, changing land use patterns, increased use of public transportation, and the retirement of Baby Boomers.

Another reason for this decrease is the travel patterns of Millennials – those currently aged roughly between 18 and 34 years old. Recent national data has shown that Millennials drive less than previous generations did at the same age. For example, according to the U.S. Public Interest Research Group, Millennials drove almost one-quarter less than their counterparts eight years earlier, while at the same time their number of miles traveled per capita on public transportation rose 40%.

In addition, many Millennials are embracing new technologies that reduce their need for driving, such as online shopping, social networking, and using new ridesharing services such as Uber and Lyft in place of traditional car ownership.

HRTPO is currently preparing an analysis of the travel habits of Millennials. This report – *Mode Choices of Millennials: How Different? How Enduring?* – will determine the impact that demographic characteristics such as time period, age, and generation have on workers' mode choice. It is anticipated that the report will be released in Fall 2015.

CONGESTION DATA

Congestion is more prevalent in Hampton Roads than in many other comparable metropolitan areas, and this congestion directly and indirectly costs local residents hundreds of millions of dollars.

Two national studies – prepared by INRIX and the Texas Transportation Institute – examine regional congestion levels and compare congestion among metropolitan areas.

INRIX releases regional congestion data for the 100 largest metropolitan areas as part of their National Traffic Scorecard. This data is collected using millions of probe vehicles, including taxis, delivery vans, trucks, and smartphone users.

INRIX produces the INRIX Index to compare congestion levels among metropolitan areas. The INRIX Index is defined as the percentage of extra travel time the average trip takes during the peak travel period as compared to uncongested conditions. The Hampton Roads INRIX Index was 10.5 in 2013, which is down from 12.6 in 2009 and 13.3 in 2011 but is still higher than many other metropolitan areas. Hampton Roads had the 8th highest INRIX Index among the 36 large metropolitan areas with populations between one and three million people in 2013.

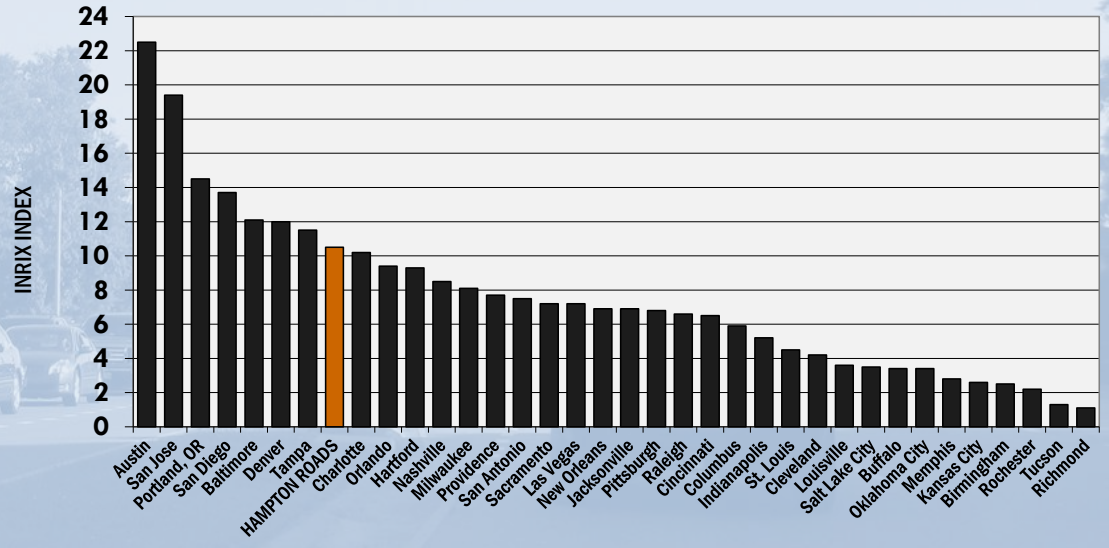
NOTABLE CONGESTION NUMBERS

10.5 The INRIX Index in Hampton Roads in 2013, which means the average trip in the region takes 10.5% longer during the peak travel period compared to uncongested conditions.

8th Hampton Roads rank among the 36 large metro areas with populations between 1 and 3 million people in terms of the INRIX Index in 2013.

$877 The average cost of being stuck in congestion for each Hampton Roads peak period auto commuter in 2011 according to TTI.

INRIX INDEX, LARGE METROPOLITAN AREAS, 2013

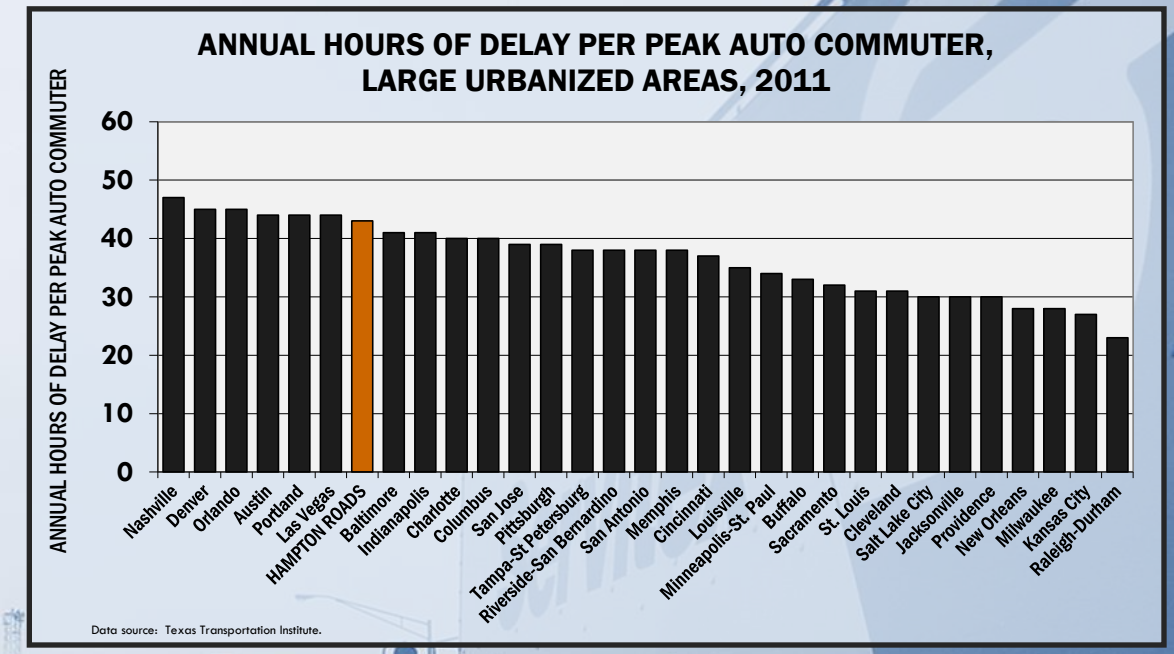


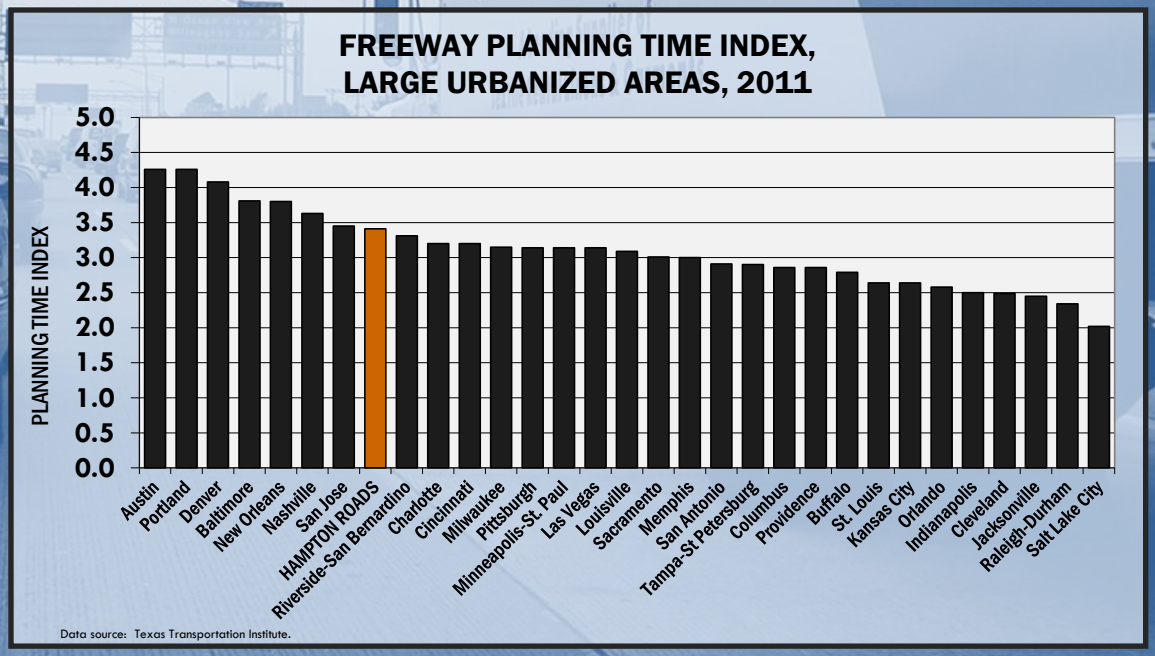
Data source: INRIX. The INRIX Index is the percentage of extra travel time the average trip takes during the peak period as compared to uncongested conditions in each region.

CONGESTION DATA (continued)

The Texas Transportation Institute (TTI) at Texas A&M University publishes the Urban Mobility Report. In this study, TTI publishes the amount of time that travelers in over 100 urbanized areas spend in congestion, and the costs related to this congestion. TTI divides urbanized areas into population groups for comparison purposes: very large, large, medium, and small. Hampton Roads is grouped with 30 other urbanized areas in the large group.

According to the most recent TTI data available, peak period commuters traveling by automobile spent an average of 43 hours stuck in congestion in Hampton Roads in 2011. This ranked the region 7th highest among the 31 large urbanized areas. TTI estimates that the amount of delay in Hampton Roads, and in other large metropolitan areas, decreased between 2002 and 2011. This is likely due to the methodology used by TTI in the study. Since 2008, TTI used INRIX speed data and combined it with traffic volumes to produce delay values. Prior to 2008, INRIX speed data was not available, so regional delays were estimated by TTI based on traffic volumes and roadway characteristics. This means that the delay values prior to 2008 are likely less accurate than the recent data.

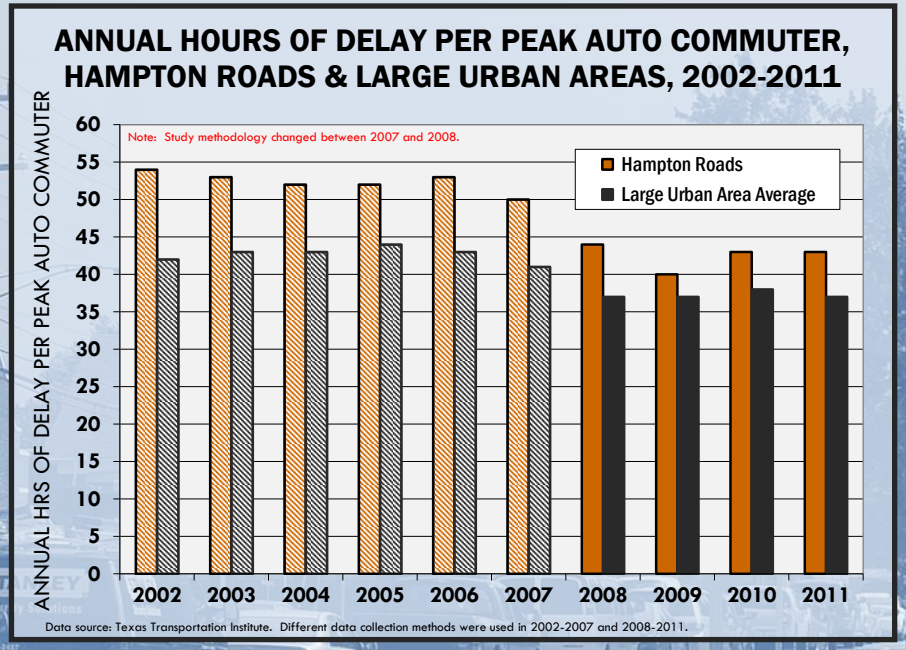


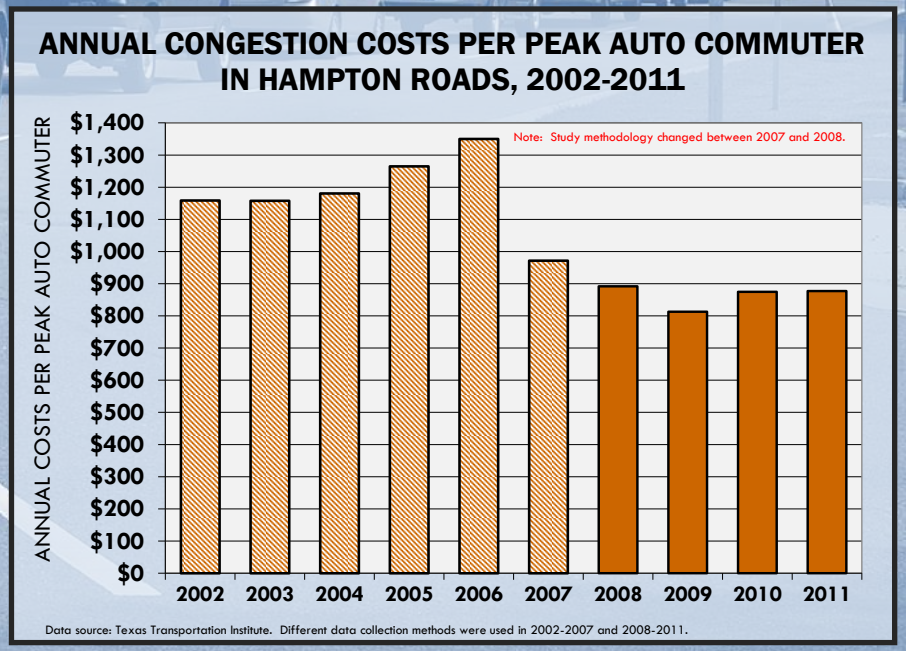


CONGESTION DATA (continued)

TTI also publishes a measure in the Urban Mobility Report called the Planning Time Index, which details the travel time reliability of the freeway network. The Planning Time Index represents the total time that should be planned for a trip so that the driver would only be late 5% of the time. The Freeway Planning Time Index in Hampton Roads in 2011 was 3.41, meaning that for an average uncongested 20-minute trip, a total of 68 minutes should be allocated during peak periods to be on time 95% of the time. At 3.41, the Hampton Roads Planning Time Index ranked 8th highest among the 31 large urbanized areas in 2011.

TTI also estimates the costs of being stuck in congestion. TTI estimates that being stuck in congestion cost each Hampton Roads peak period auto commuter an average of $877 in 2011, which amounts to nearly one billion dollars ($932 million) for all commuters. These values take into account the costs associated with wasted fuel (TTI estimates that over 19 million gallons were wasted in Hampton Roads in 2011), the value of a person's time, and the costs associated with operating commercial vehicles. These congestion costs have decreased according to TTI, but this is likely due to the change in study data collection methods.





COMMUTING

Hampton Roads has a lower commuting time compared to other areas, even though nearly half of all workers in the region work in a jurisdiction that is different than the one they reside in.

The United States Census Bureau annually collects and releases socioeconomic data through the American Community Survey (ACS). As part of the ACS, information regarding the commuting characteristics of residents, including commuting modes, travel time to work, and where commuters work and live, is collected for each metropolitan area.

According to the ACS, the mean travel time to work in Hampton Roads was 24.0 minutes in 2013. This number has increased from 1990, when the mean travel time to work was 21.8 minutes, but has largely remained unchanged throughout the 2000s, remaining between 23 and 24 minutes.

Among the 36 large metropolitan areas throughout the United States with a population between one and three million people, Hampton Roads has a relatively low travel time to work, ranking 26th highest in 2013. Since 2005, Hampton Roads has ranked between 24th highest and 29th highest in terms of travel time to work among the 36 large metropolitan areas.

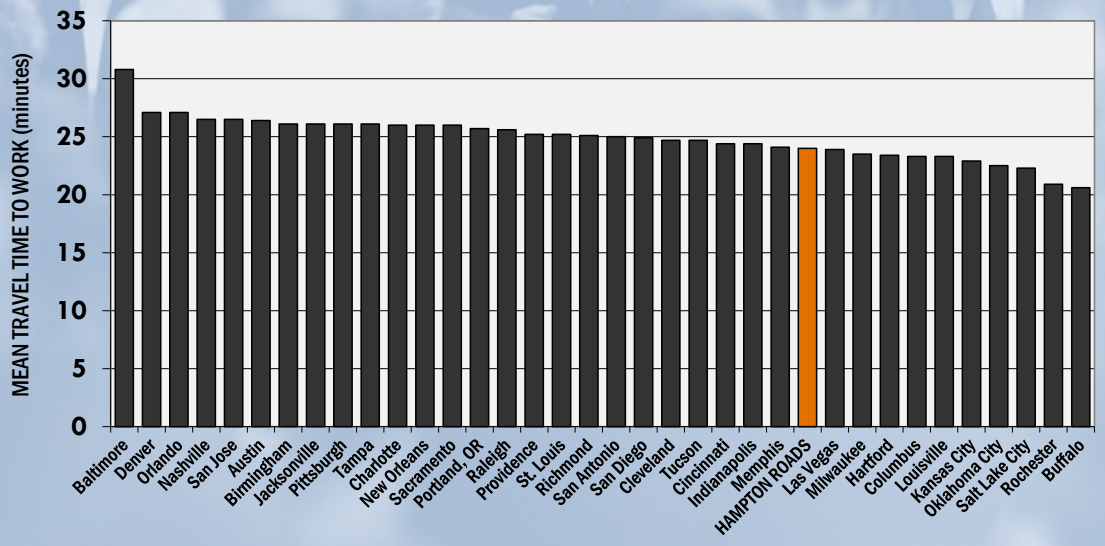
NOTABLE COMMUTING NUMBERS

82% The percentage of commuters in Hampton Roads that drove alone to work in 2013.

46% The percentage of all workers in Hampton Roads that worked in a jurisdiction that was different from the one they resided in in 2013.

24 The mean travel time to work in minutes in Hampton Roads in 2013.

MEAN TRAVEL TIME TO WORK IN LARGE METROPOLITAN AREAS, 2013



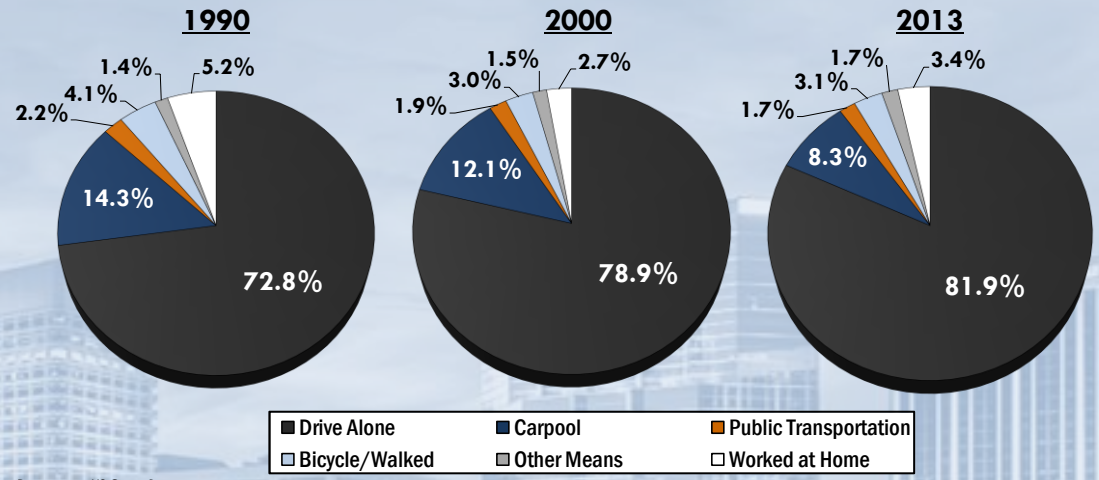
Data source: US Census Bureau.

COMMUTING (continued)

Many Hampton Roads residents, however, have much longer commutes. In 2013, nearly one out of every three Hampton Roads commuters (32%) traveled 30 minutes or longer to work, and over 5% had commutes of an hour or more.

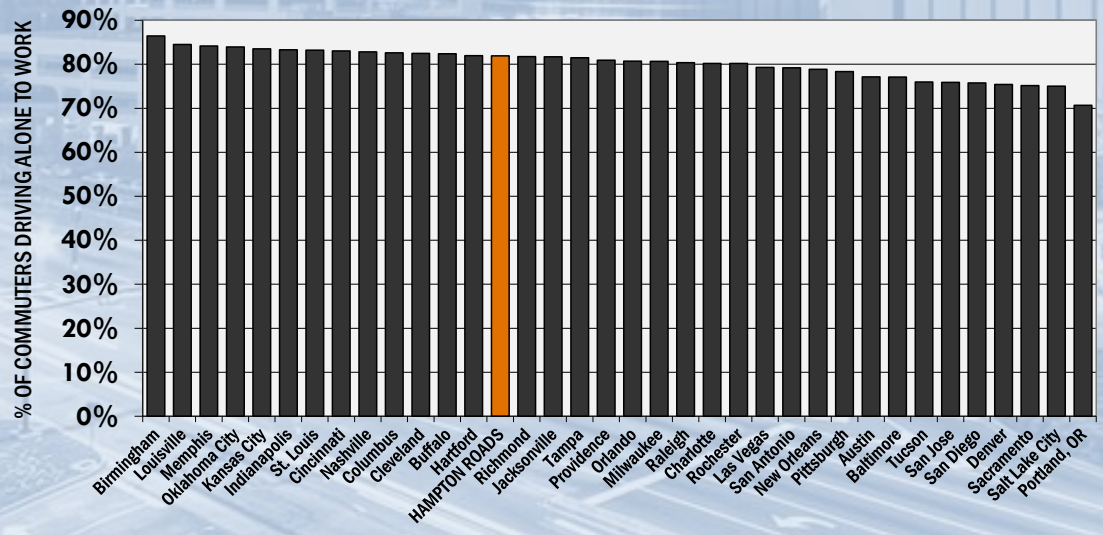
The percentage of commuters in Hampton Roads who drive alone to work has increased through the years. In 2013, 82% of commuters in Hampton Roads drove alone to work. This is up from 73% in 1990 and 79% in 2000, but has varied between 79% and 83% since 2000. In turn, the percentage of commuters in Hampton Roads carpooling to work decreased from 14% in 1990 to 12% in 2000 and to 8% in 2013, while the percentage of commuters in Hampton Roads using public transportation and bicycling/walking remained nearly the same.

COMMUTING METHODS IN HAMPTON ROADS - 1990, 2000 & 2013



Data source: US Census Bureau.

PERCENTAGE OF COMMUTERS THAT DROVE ALONE TO WORK LARGE METROPOLITAN AREAS, 2013

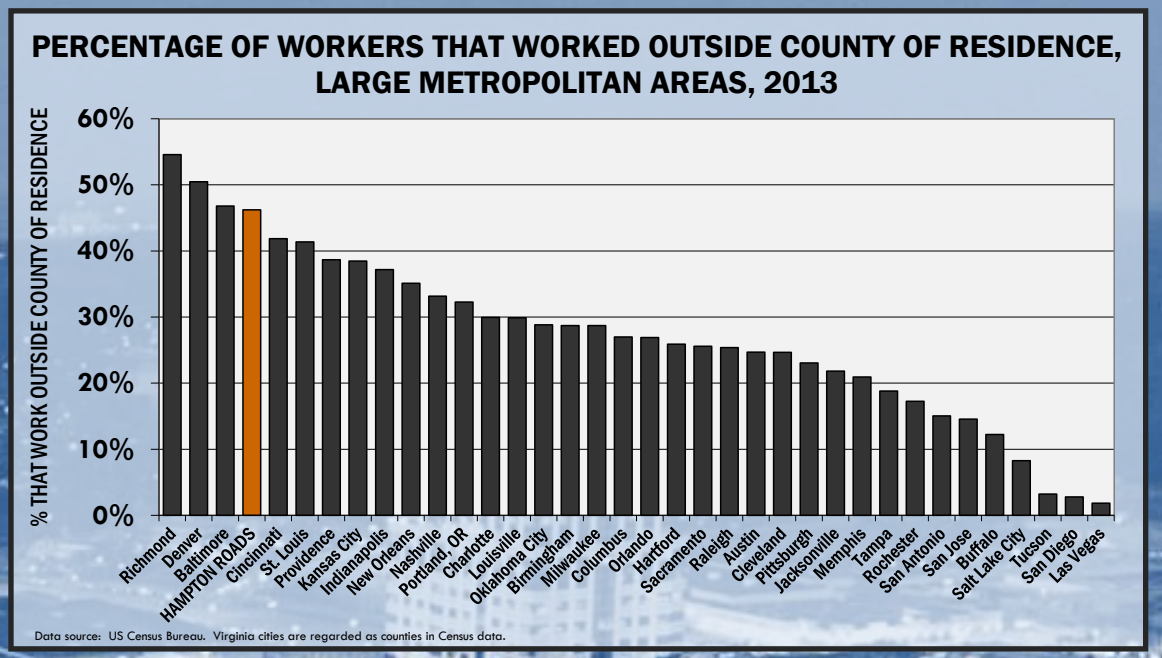


Data source: US Census Bureau.

COMMUTING (continued)

In spite of the increase in commuters driving alone to work, the percentage of commuters driving alone to work in Hampton Roads is typical of other areas. Hampton Roads ranked 14th highest among the 36 large metropolitan areas in terms of the percentage of commuters that drove alone to work in 2013.

An area where Hampton Roads isn't typical, however, is in the percentage of workers that work outside of their locality of residence. In 2013, 46% of all workers in Hampton Roads worked in a jurisdiction that was different from the one they resided in. Although this percentage is higher than that seen in 1990 (44%), it is lower than the percentage seen in 2000 (49%), and the high that was experienced in 2005 (50%). It is higher than the percentage seen in many other areas, ranking 4th highest among the 36 large metropolitan areas with populations between one and three million people.



ROADWAY SAFETY

The number of crashes and injuries in Hampton Roads decreased significantly at the end of the last decade. However, since the start of this decade, the number of crashes and injuries suffered throughout the region has increased.

There were a total of 24,874 crashes in Hampton Roads in 2014 according to data provided by the Virginia Department of Motor Vehicles. Although this is much lower than the 33,000 crashes that occurred yearly in the middle of last decade, it is 8% higher than the 23,142 crashes experienced in the region in 2010. Between 2005 and 2014, the number of crashes in Hampton Roads decreased 24%, which is slightly larger than the statewide 22% decrease.

As the number of crashes decreased in Hampton Roads during the latter half of the last decade, the number of injuries resulting from traffic crashes decreased as well. There were 14,715 injuries that resulted from traffic crashes in Hampton Roads in 2014. This is much lower than the 17,000 injuries that occurred in 2005, but is 9% higher than the 13,449 injuries in the region in 2010. Unlike crashes, the decrease in the number of injuries in Hampton Roads over the last decade (-13%) is less than the decrease that was experienced across the Commonwealth (-17%) during this time.

The number of fatalities in Hampton Roads has fluctuated over the last decade. There were 125 fatalities resulting from traffic crashes in Hampton Roads in 2014, or one fatality every 2.9 days. This is down 10% from 139 fatalities in 2005, and 19% from the high of 155 fatalities in 2007. The biggest

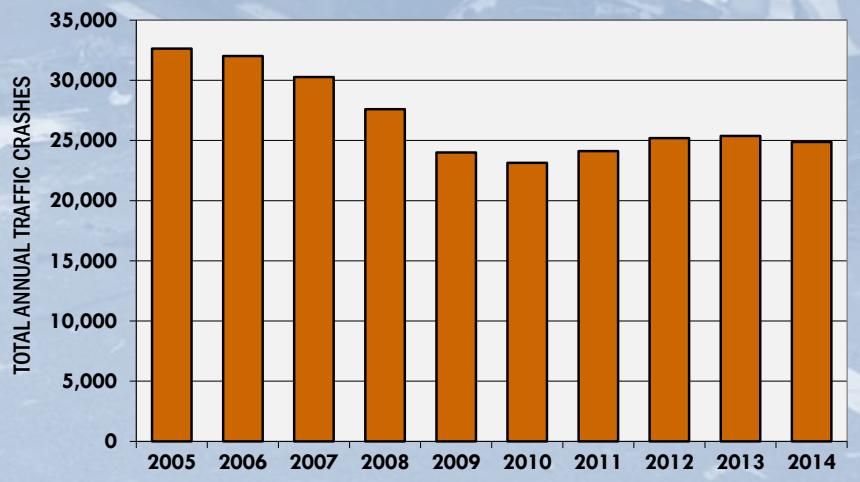
NOTABLE ROADWAY SAFETY NUMBERS

-24% The decrease in the number of crashes in Hampton Roads between 2005 and 2014.

-13% The decrease in the number of injuries in Hampton Roads between 2005 and 2014.

-10% The decrease in the number of fatalities in Hampton Roads between 2005 and 2014.

CRASHES IN HAMPTON ROADS, 2005-2014

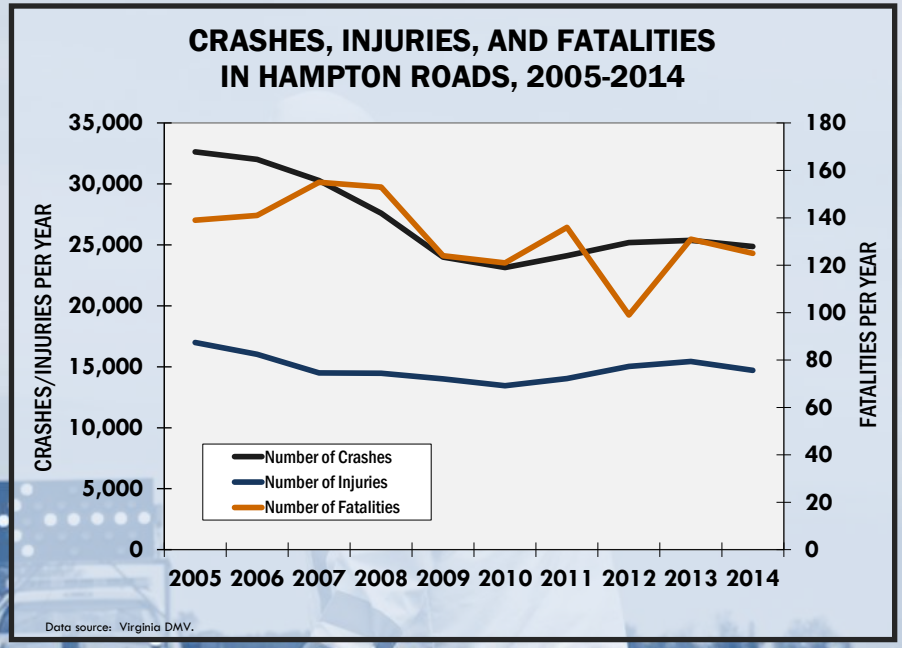


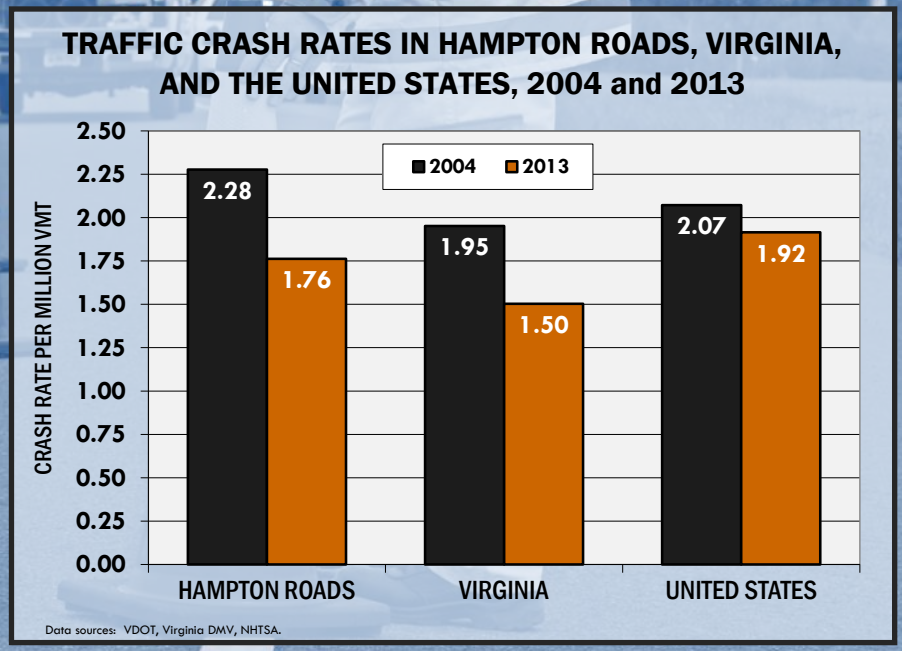
Data source: Virginia DMV.

factors in traffic crash fatalities in Hampton Roads are not wearing a seat belt (33% of all fatalities in 2013), alcohol use (37%), and speeding (35%).

With the number of crashes decreasing in Hampton Roads over the last decade, the rate of crashes relative to the amount of travel has decreased as well. The crash rate in Hampton Roads decreased from 2.28 crashes per million vehicle-miles of travel (VMT) in 2004 to 1.76 crashes per million VMT in 2013, a 23% decrease. This decrease in the crash rate is equal to the decrease seen across Virginia and higher than the decrease seen across the United States (-8%) during this period.

Despite the decrease, the crash rate in Hampton Roads was higher than the statewide rate in 2013, and was higher than the crash rate experienced in the Northern Virginia area (1.57 crashes per million VMT). The Hampton Roads crash rate was also slightly higher than the rate experienced in the Richmond (1.70) and Roanoke (1.74) metropolitan areas.





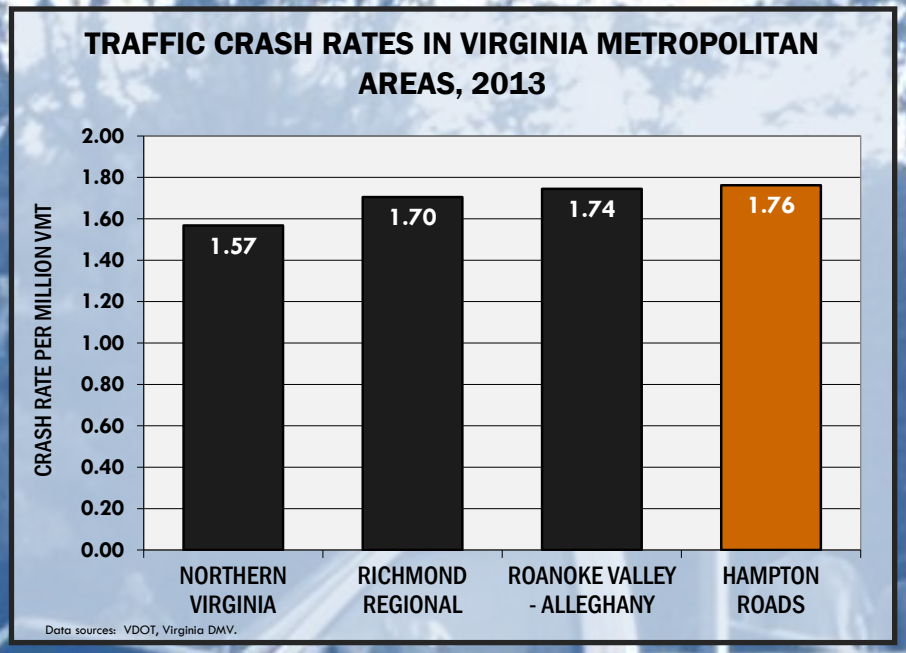
ROADWAY SAFETY (continued)

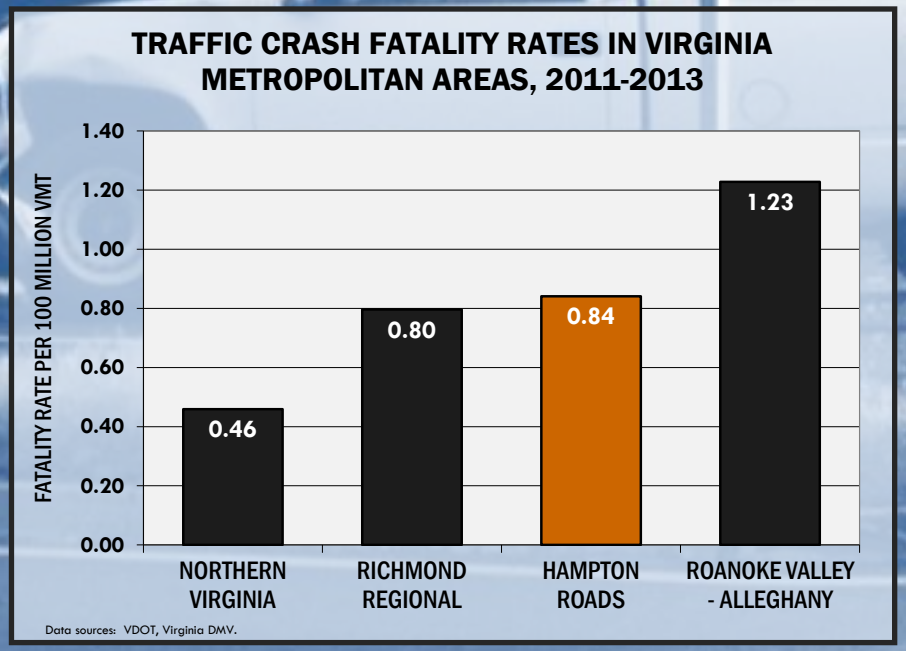
The fatality rate in Hampton Roads has also decreased over the last decade. The Hampton Roads crash fatality rate was 0.84 fatalities per 100 million VMT in the three-year period from 2011 to 2013, down 9% from 0.92 fatalities per 100 million VMT in the 2002 to 2004 time period (fatality rates are often reported over three year periods due to the number of fatalities that occur in any given year). The fatality rate in Hampton Roads from 2011 to 2013 was nearly twice the rate experienced in the Northern Virginia area (0.46 fatalities per 100 million VMT), was comparable to the rate in the Richmond area (0.80), and was much lower than the fatality rate in the Roanoke area (1.23).

VDOT SAFETY SERVICE PATROL

Image Source: VDOT

Safety belt use has an impact on the number of injuries and fatalities resulting from crashes. In 2013, Virginia had an observed safety belt usage rate of 79.7% according to a study done for the DMV by Old Dominion University. Hampton Roads usage rates were higher than the statewide rate, with the cities on the Southside having an observed safety belt usage rate of 83.7% in 2013. This rate is lower than the





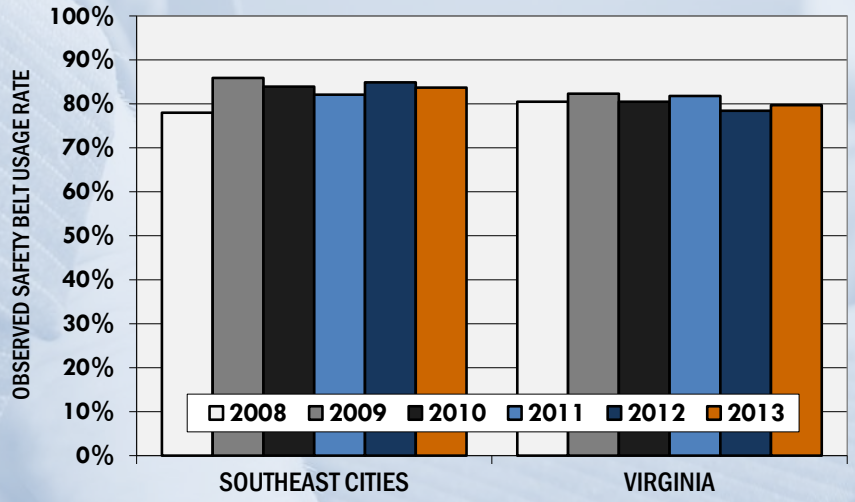
85.9% rate seen in 2009 but higher than the 78.0% usage rate seen on the Southside in 2008.

Virginia's safety belt usage rate in 2013 (79.7%) was lower than the national rate of 87.0%, and only eight states had a lower statewide usage rate than Virginia. This may be due to Virginia not having a primary enforcement safety belt law, which allows law enforcement officers to ticket a driver for not wearing a safety belt without any other traffic offense occurring. Of the 33 states/districts that had primary enforcement safety belt laws in 2013, only two had lower safety belt usage rates than Virginia.


Image Source: AAA

HRTPO recently produced an update to the Hampton Roads Regional Safety Study. This update examines regional crash trends, the location of crashes throughout the region, and countermeasures to improve roadway safety. Information regarding the Hampton Roads Regional Safety Study is available at http://www.hrtpo.org/page/roadway-safety.

SAFETY BELT USAGE RATE IN SOUTHSIDE HAMPTON ROADS AND VIRGINIA, 2008-2013



Data source: Old Dominion University *Seat Belt Use in Virginia* report. Southside includes the area defined in the report as South East Cities, which includes Norfolk, Portsmouth, Virginia Beach, Chesapeake, and Suffolk. The sampling methodology was updated in 2012 to match NHTSA standards, so caution should be exercised for comparisons with data prior to 2012 according to the study's authors.

TRUCK TRAVEL

Although still below pre-recession levels, more than 17,000 trucks enter and exit Hampton Roads each weekday, serving not only the third busiest port on the east coast but also serving the commerce and economic vitality of the region.

Freight movement is a critical component of the Hampton Roads economy, and trucks are the primary mode for moving freight to and from the Port of Virginia. They also supply the goods used by each resident and business in the region.

In 2014, 17,100 trucks entered or exited Hampton Roads through major gateways each weekday. This number of trucks passing through Hampton Roads gateways has increased each of the last two years, but the number of trucks is still much lower than the levels seen before the economic downturn started. About 19,100 trucks passed through major gateways each weekday in 2005, and this number increased to over 20,000 trucks in 2007, prior to the recession.

The primary gateway for trucks entering or exiting Hampton Roads is I-64. An average of 6,000 trucks used I-64 to enter or exit the region each weekday in 2014, which accounted for 35% of the trucks passing through the region's major gateways. The number of trucks using I-64, however, has decreased each of the last 7 years and is down from 7,400 trucks each weekday in 2007. The next most used gateways to the region are Route 58 (3,900 trucks each weekday in 2014) and Route 460 (2,000 trucks). Combined, I-64, Route 58, and Route 460 accounted for 69% of all trucks passing through the region's major gateways in 2014.

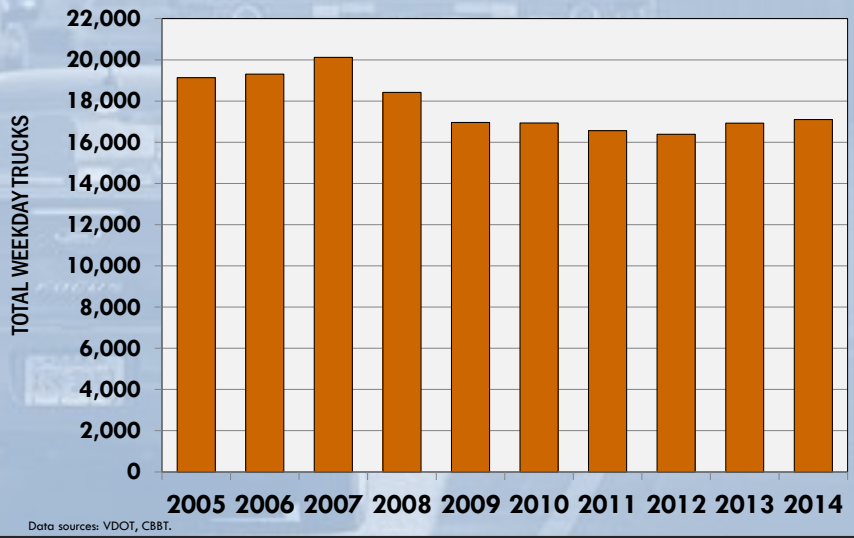
NOTABLE TRUCK TRAVEL NUMBERS

-15% The decrease in the amount of truck travel each day in Hampton Roads between 2007, before the downturn in the economy began, and 2013.

-11% The decrease in the number of trucks that entered or exited Hampton Roads each weekday at major gateways between 2005 and 2014.

63% The percentage of all freight handled by the Port of Virginia that was transported by truck in 2014.

NUMBER OF TRUCKS PASSING THROUGH HAMPTON ROADS GATEWAYS EACH WEEKDAY, 2005-2014



Data sources: VDOT, CBBT.

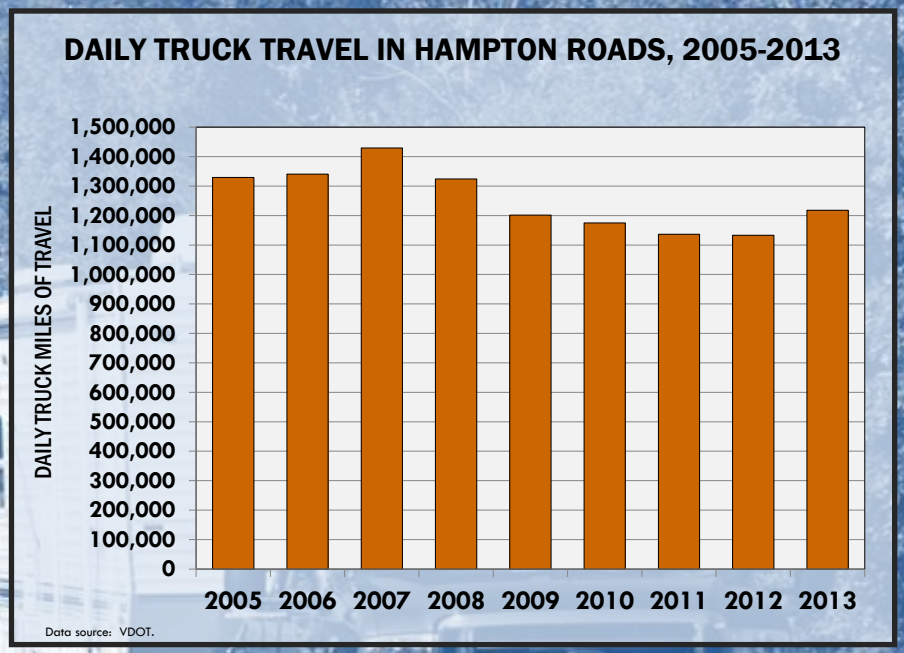
TRUCK TRAVEL (continued)

There was a total of 1.22 million miles of truck travel each day in Hampton Roads in 2013 according to VDOT estimates, which accounted for 3.1% of the 39 million vehicle-miles of travel experienced each day throughout the region. Although regional truck travel increased 7% from 2012 to 2013, truck travel levels are still 15% lower than those seen in 2007.

A major issue involving truck travel in Hampton Roads is overheight trucks at the tunnels. This is especially an issue at the Downtown Tunnel and at the westbound Hampton Roads Bridge-Tunnel (HRBT), an older tunnel with a lower vertical clearance than other tunnels in the area. A total of 12,291 trucks were stopped, measured, and turned around at tunnels in Hampton Roads in 2014, 6,550 of which occurred at the Downtown Tunnel and 4,535 of which occurred at the westbound Hampton Roads Bridge-Tunnel. A total of 931 of these HRBT turnarounds occurred at the tunnel entrance on the south island, which greatly impacts congestion and safety since traffic has to be stopped in both directions to complete the turnaround.

TRUCKS ON HAMPTON BLVD

Image Source: HRTPO.



BEHIND THE NUMBERS

Although the amount of freight handled by the Port of Virginia now exceeds the levels prior to the economic downturn, the amount of truck travel both in Hampton Roads and at the gateways to the region is still well below pre-recession levels. One reason is that port trucks only represent a small percentage of all regional truck travel. Around 10% of all regional truck travel is originating from or destined to the Port according to an HRTPO analysis of Port data.

Another reason for this discrepancy is that the modes of transporting freight through the Port is changing. In 2005, 67% of all freight handled by the Port was transported by truck while 25% was transported by rail. In 2014, freight transported by truck decreased to 63%, with rail's share increasing to 33%. Port officials anticipate that the share of freight transported by truck at the Port of Virginia will continue to decrease in the future, and that 40% to as much as half of all general cargo handled by the Port may eventually be transported by rail.

PUBLIC TRANSPORTATION

Public transportation usage increased sharply in Hampton Roads at the height of the economic downturn, fueled by increased options such as The Tide light rail and the Go Pass 365 ridership payment option. Ridership levels, however, have decreased over the last two years.

Public transportation services in Hampton Roads are primarily provided by two agencies. The Williamsburg Area Transit Authority (WATA) provides transit service in James City County, Williamsburg, and northern York County, while Hampton Roads Transit (HRT) provides service in urbanized areas on the Peninsula and Southside. Other smaller transit agencies also provide service in the area, including Virginia Regional Transit in Suffolk.

There were nearly 20 million unlinked trips* taken on public transportation in Hampton Roads in 2014. This number includes HRT and WATA ridership on regular and express buses, tourist oriented services, light rail, vanpools, and the passenger ferry. These public transportation trips help reduce congestion, resulting in 1.6 million fewer hours of delay and $33 million less in congestion costs in 2011 according to estimates from the Texas Transportation Institute.

The number of trips on public transportation in Hampton Roads has increased significantly, with a 22% increase in annual ridership levels from 2005 to 2014. During the same time period, national transit ridership levels increased by 9%. Most of this growth in transit usage in Hampton Roads occurred

* - An unlinked trip is a passenger trip made on one transit vehicle. If a passenger boards two buses to get from origin to destination that is considered to be two unlinked trips.

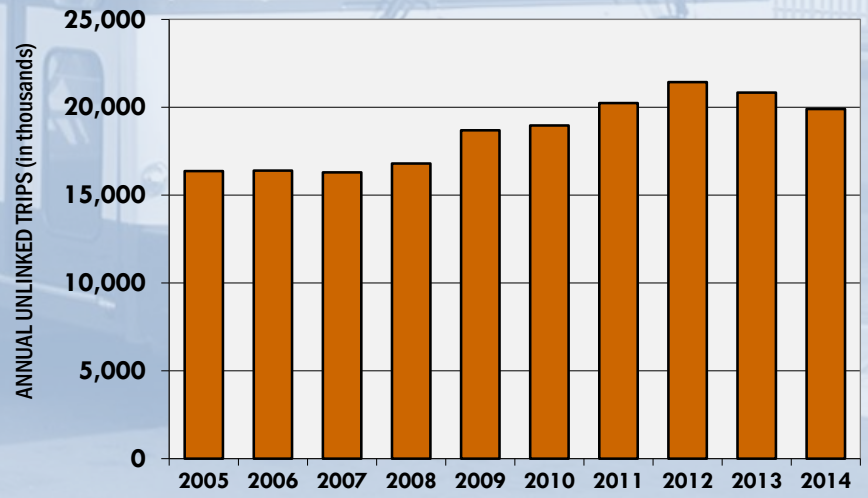
NOTABLE PUBLIC TRANSPORTATION NUMBERS

22% The increase in the annual number of passenger trips taken on public transportation in Hampton Roads from 2005 to 2014.

25th Hampton Roads rank among the 36 large metropolitan areas with populations between one and three million people in terms of public transportation use per capita in 2014.

29th Hampton Roads rank among the 36 large metropolitan areas in terms of transit operating and capital expenses per capita in the most recent National Transit Database data.

PASSENGER TRIPS TAKEN ON PUBLIC TRANSPORTATION IN HAMPTON ROADS, 2005-2014



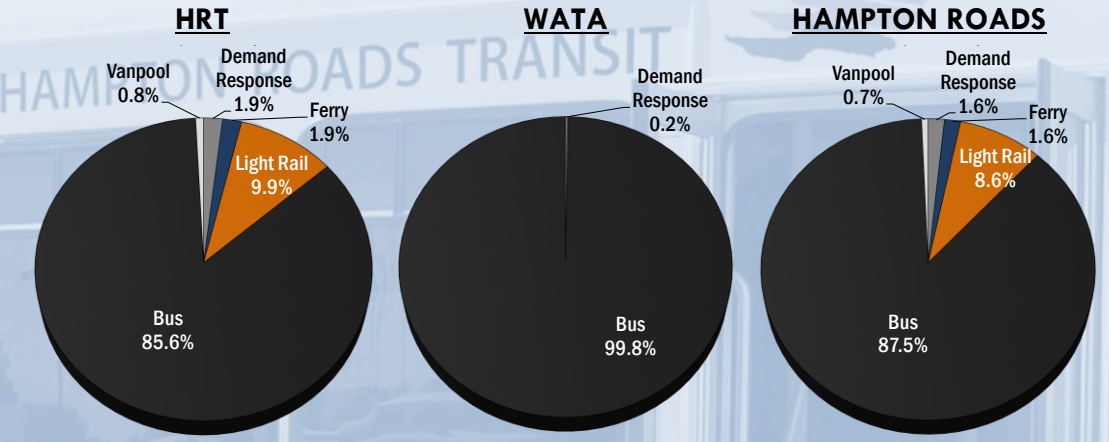
Data source: American Public Transportation Association (APTA).

PUBLIC TRANSPORTATION (continued)

between 2008 and 2012, at the height of the economic downturn. Transit usage has decreased recently in Hampton Roads, with a 7% decrease between 2012 and 2014.

Most public transportation trips in Hampton Roads are taken on regular or express bus service. In 2014, 87% of the public transportation trips in Hampton Roads were taken on regular or express bus service. Light rail comprised 10% of all HRT transit trips and 9% of all regional transit trips, and all other modes (including ferry, demand response, and vanpools) comprised the remaining 4%.

TRANSIT USAGE BY MODE AND AGENCY IN HAMPTON ROADS, 2014



Data sources: HRT, WATA, and APTA.

PUBLIC TRANSPORTATION OPTIONS IN HAMPTON ROADS

A variety of public transportation options are available in Hampton Roads. These options include:

Conventional Bus

Conventional bus service is provided on an extensive regional network by both WATA and HRT.

Express Bus

Regional express bus service, known as the MAX, is provided by HRT between various locations on the Peninsula and Southside.

Tourist Oriented Services

Tourist-oriented public transportation service is provided in Hampton Roads, including the VB WAVE at the Oceanfront, Colonial Williamsburg shuttle services, and the Williamsburg and Yorktown Trollies.

Light Rail

HRT began operating light rail service on a 7.4 mile starter line in Norfolk in 2011. More information on The Tide is included in the Rail Travel section of this report.

Ferries

Passenger ferry service is provided by HRT between Downtown Norfolk and Portsmouth, and vehicular ferry service is provided by VDOT across the James River between Surry County and Jamestown.

Commuting Alternatives

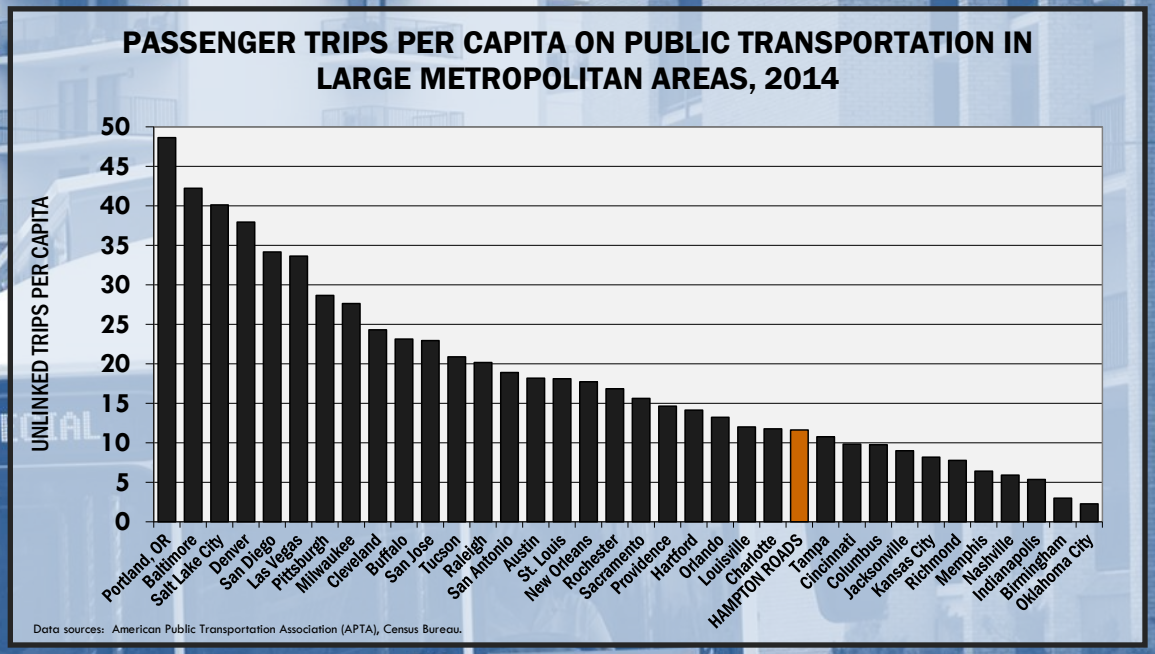
Commuting alternatives in Hampton Roads are provided by Traffix. These commuting alternatives include ridesharing, telecommuting, van leasing, and guaranteed ride programs.

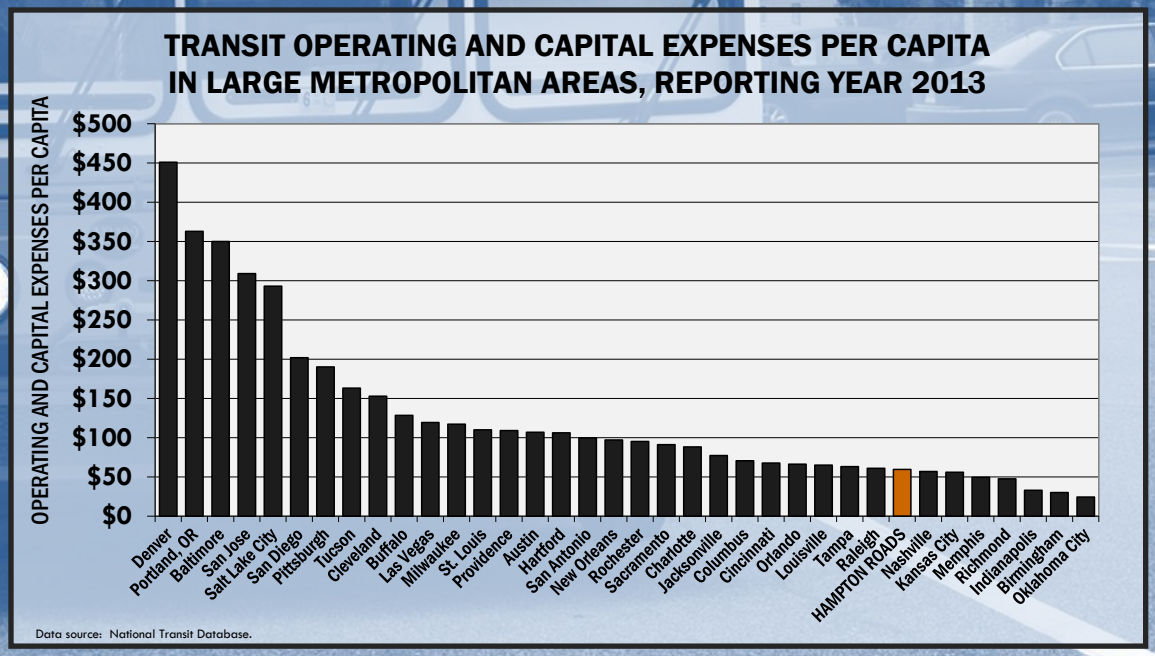
PUBLIC TRANSPORTATION (continued)

In spite of the recent growth in public transportation usage, usage in Hampton Roads still lags behind other metropolitan areas. At 11.6 passenger trips on public transportation per capita in 2014, Hampton Roads ranked 25th highest among the 36 large metropolitan areas with populations between one and three million people. Metropolitan areas such as Portland, Baltimore, Salt Lake City, and Denver have transit usage rates three to four times higher than Hampton Roads.

Hampton Roads spends less on public transportation per capita than many other comparable metropolitan areas. According to the National Transit Database, $60 was spent per capita on transit operating and capital expenses in Hampton Roads in Reporting Year 2013. This ranked Hampton Roads 29th highest among the 36 large metropolitan areas. Metropolitan areas including Denver, Portland, and Baltimore spent more than six times per capita on transit than was spent in Hampton Roads.

This level of spending on transit in Hampton Roads contributes to an aging vehicle fleet. The average age of HRT buses was 9.1 years in 2014, and many buses used by HRT are up to 15 years old. WATA also





has an aging fleet; the average age of WATA buses was 9.5 years in 2014.

Transit buses are older in Hampton Roads than in other comparable metropolitan areas. Among large metropolitan areas throughout the country with populations between one and three million people, the median age of transit buses was 6.7 years in Reporting Year 2013 according to the National Transit Database. Only five areas (Portland, Indianapolis, Louisville, San Antonio, and San Jose) had an average age of transit buses of greater than 9 years in Reporting Year 2013.

NEW DEVELOPMENTS

Trolleys Return – Trolley-style buses returned to the Virginia Beach Oceanfront in 2015 after a seven year absence. The new fleet of 14 open-air trolleys is replacing the current VB Wave buses this summer.

Connect Hampton Roads – Connect Hampton Roads is a new initiative from HRT that aims to start a conversation about what regional transportation options the public desires. The goals of Connect Hampton Roads are shaping a new plan for better regional mobility, connecting communities, and supporting economic prosperity and quality of life across Hampton Roads.

An important component of this initiative is a regional survey that was conducted in 2014 to gather input from the public on their transportation needs. Over 13,800 participants took part in the Connect Hampton Roads survey.

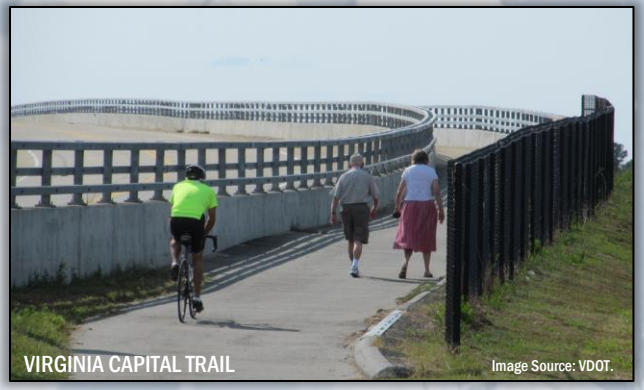
Transit Extension Studies – As mentioned in the Rail Travel section of this report, HRT is currently conducting two transit extension studies: the Naval Station Norfolk Transit Extension Study and the Virginia Beach Transit Extension Study.

Fare Increases – On October 5, 2014, Hampton Roads Transit increased fares for the first time since HRT was formed in 1999. The base fare for bus, light rail, and ferry trips increased by 25 cents, to $1.75. Fares are expected to increase by another 25 cents in 2016, up to $2.00.

ACTIVE TRANSPORTATION

Active Transportation Planning, which aims to improve the safety and mobility of all types of non-motorized transportation options, has expanded both in Hampton Roads and across the country.

The term Active Transportation refers to transportation such as walking or using a bicycle, tricycle, wheelchair, scooter, skates, skateboard, push scooter, or similar devices. Bicycle lanes, multi-use paths, sidewalks, crosswalks, and trails are all non-motorized transportation facilities designed to improve the mobility and safety of active transportation users.



VIRGINIA CAPITAL TRAIL Image Source: VDOT.

There are currently over 1,300 miles of shared use paths, bike lanes, paved shoulders, wide sidewalks, signed shared roadways, shared roadways and trails that comprise the bicycle and pedestrian network across Hampton Roads. These

TYPES OF ACTIVE TRANSPORTATION FACILITIES

There are various types of non-motorized facilities in place in Hampton Roads. Examples of these non-motorized facilities include:

Bike Lanes
A portion of the roadway is designated by signs and pavement markings for the preferential or exclusive use of bicycles.

Shared Use Paths
A facility physically separated from motorized vehicular traffic intended for the use of bicycles, pedestrians, and other active transportation users.

Paved Shoulders
A paved portion of a roadway to the right of the edge stripe on which bicyclists may ride. These areas are not to be marked as bike lanes.

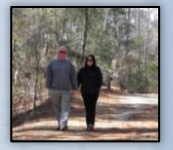
Wide Outside Lanes
An outside travel lane with a width of at least 14 feet.

Signed Shared Roadway
A roadway designated by bike route signs that serve to provide continuity to other bicycle facilities.

Grade Separated Crossing
Facilities that are designed to continue non-motorized facilities through high volume roadways, railroads, or natural barriers.

Sidewalks
Non-motorized facilities between the curb line and adjacent property line that are designed primarily for foot traffic and users with smaller wheeled devices.

Trails
Routes developed primarily for outdoor recreational purposes.



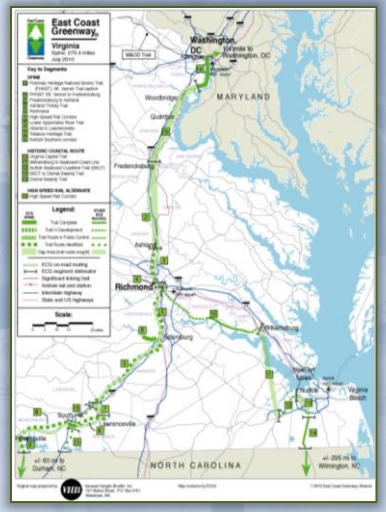
non-motorized facilities vary greatly in type and length, from secluded paths in city and state parks to dedicated lanes along major thoroughfares to popular facilities at the Virginia Beach Oceanfront. There are many different types of non-motorized facilities in Hampton Roads, as shown in the figure on the previous page.

BOARDWALK TRAIL Image Source: HRTPO.

In recent years, several major non-motorized facilities have been added in Hampton Roads. Examples of these facilities include the conversion of the old section of Route 17 in Chesapeake into the Great Dismal Swamp Trail, the addition of bike lanes along a hazardous section of Shore Drive in Virginia Beach, and the construction of portions of the Virginia Capital Trail which, upon completion later this year, will connect Williamsburg and Downtown Richmond with a 53-mile facility.

NEW DEVELOPMENTS

Virginia Capital Trail – Construction continues on the Virginia Capital Trail, which will connect Williamsburg with Downtown Richmond when complete. The Hampton Roads portion of the trail was completed in 2007. In 2014, a 13-mile section in Charles City County was opened, meaning 29 miles are currently complete. The final 24 miles are expected to be complete later this year.



Regional and National Trails – Planning is underway on a number of regional and national bicycle trail projects. The South Hampton Roads Trail is planned as a 41 mile trail connecting Suffolk with the Virginia Beach Oceanfront. The first portion of the trail, a 2.3-mile section of the Suffolk Seaboard Coastline trail near Driver, is under construction with completion expected in summer 2015.

The East Coast Greenway is a 3,000 mile trail network, of which 81 miles run through the Hampton Roads region. The Hampton Roads alignment, which spans from James City County to the NC Line, aims to provide an off-road trail incorporating waterfront esplanades, park paths, abandoned railroad corridors, canal towpaths, and pathways along highway corridors wherever possible.

There is also a bi-state planning effort to develop the Dismal Swamp Connector Trail. This 15 mile multi-use trail parallels the eastern portion of the Dismal Swamp Canal from Deep Creek in Chesapeake to South Mills, North Carolina. Planning and design for the final 3-mile segment at the VA/NC line is underway.

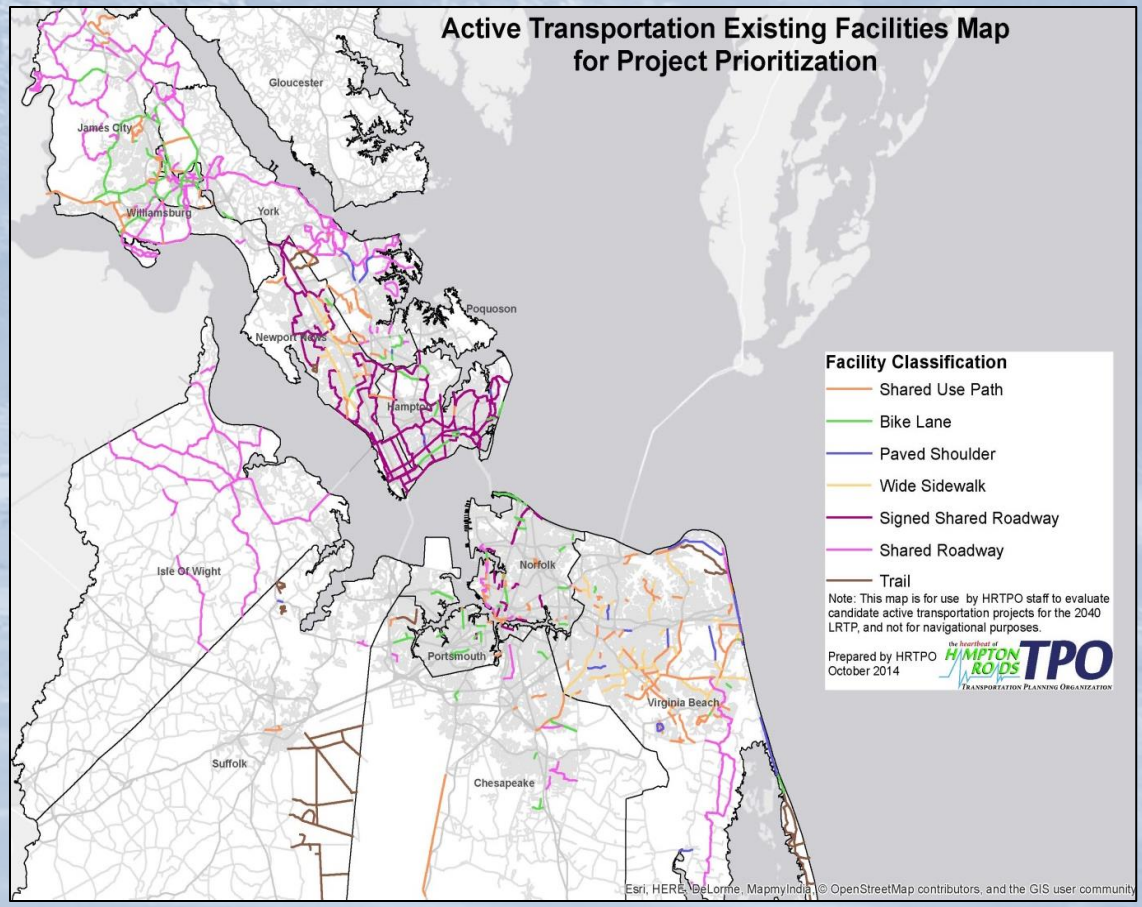
Nearly all jurisdictions in Hampton Roads incorporate active transportation in their planning efforts. Examples include a bicycle advisory committee that helped prepare a Regional Bicycle Facilities Plan and Bikeway Map in the Historic Triangle, the city of Virginia Beach producing an update to their Bikeways and Trails Plan, and Isle of Wight County producing a Pedestrian and Bicycle Facilities Master Plan.

Many Hampton Roads jurisdictions have also incorporated policies into their comprehensive plans (or bicycle and pedestrian master plans) known as Complete Streets. Complete Streets policies ensure that corridors are planned, designed, and maintained to enable safe usage for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete Streets also increase connectivity between neighborhoods and streets and encourage the use of alternative modes of transportation.

HRTPO ACTIVE TRANSPORTATION EFFORTS

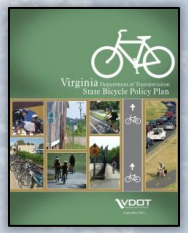
HRTPO has expanded incorporating active transportation into its planning process in recent years. After completing a Regional Active Transportation Scan in 2012, HRTPO evaluated active transportation projects in the 2040 Long-Range Transportation Plan for the first time. A total of 30 candidate projects were evaluated, with 11 projects included in the draft plan.

The HRTPO has also developed a regional active transportation map. This map will be the basis for identifying gaps in the system, and will ultimately become a part of developing a regional active transportation plan.



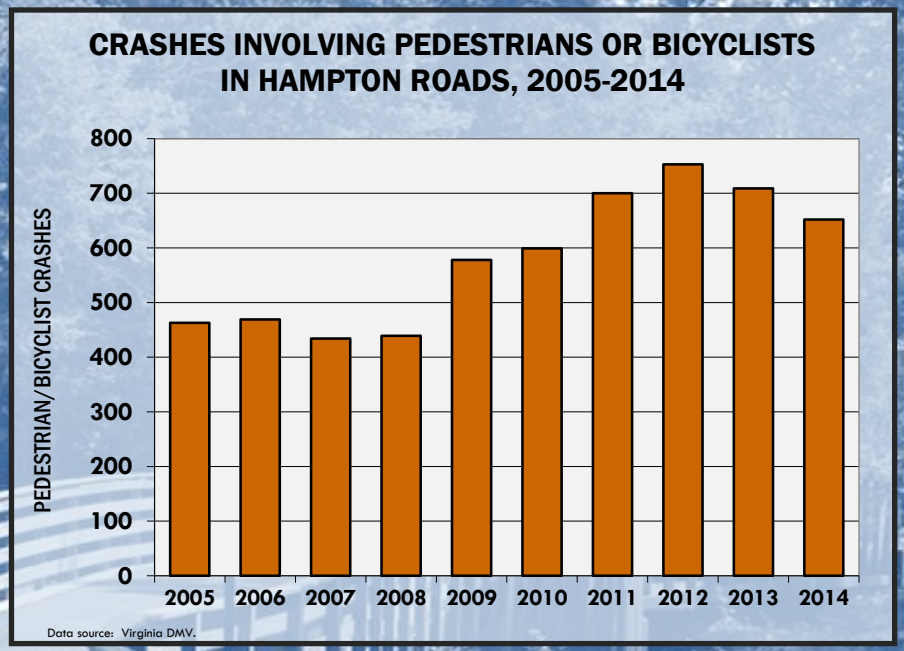
ACTIVE TRANSPORTATION (continued)

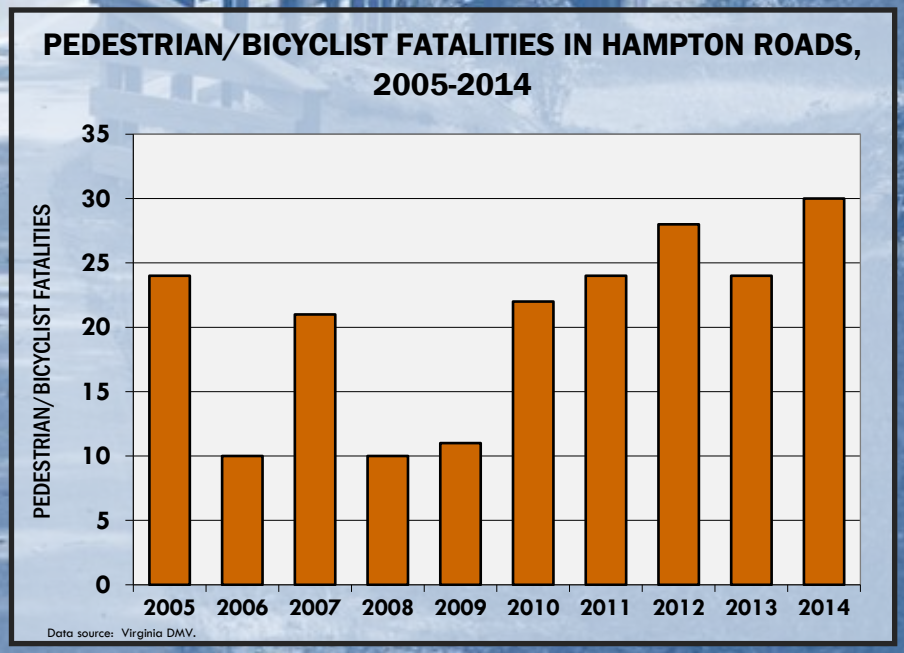
In addition, VDOT has developed the State Bicycle Policy Plan, which includes bicycle policy recommendations that will guide the planning, design, construction, operation and maintenance of bicycle accommodations.



With the emphasis on providing facilities for active transportation users, improving the safety of pedestrians and bicyclists is critical. There were 652 crashes involving pedestrians or bicyclists in Hampton Roads in 2014, resulting in a total of 30 fatalities. Although the number of crashes in Hampton Roads involving pedestrians or bicyclists has decreased since 2012, it is 41% higher than the number seen in 2005. The number of pedestrian or bicyclist fatalities in Hampton Roads, however, reached a high in 2014. Pedestrian and bicyclist crashes comprised just over 2% of the total crashes in Hampton Roads between 2005 and 2014, but comprised over 15% of all roadway fatalities in the region during this time.

More information on HRTPO's expanding Active Transportation planning efforts is available at http://www.hrtpo.org/page/active-transportation.





TRANSPORTATION FINANCING

Landmark legislation has been passed by the Virginia General Assembly in recent years that comprehensively reforms how transportation projects are funded and selected, and created a funding source specifically devoted to major projects in Hampton Roads.

With statewide transportation funding levels not keeping up with all of the needs in recent years, the Virginia General Assembly passed House Bill (HB) 2313 in 2013. HB 2313 comprehensively reformed how transportation is funded, and increased funding levels starting with Fiscal Year (FY) 2014.

Funding for many aspects of the statewide transportation system is allocated by the Commonwealth Transportation Board (CTB), including the construction and maintenance of Virginia's highway system, transportation operations, debt payments, administration, and support for the ports, aviation, public transportation, and rail. For Fiscal Year 2016, the CTB approved a $5.9 billion transportation budget for the State of Virginia. This is the largest yearly transportation budget in the Commonwealth's history, largely due to the infusion of funding from HB 2313. The CTB projects that a total of $33.4 billion will be available in the statewide transportation budget for FY 2016-2021, which is 21% higher than the budgets from Fiscal Years 2010-2015.

HB 2313 also created a dedicated regional funding stream for Hampton Roads. Increases in regional sales and fuel wholesale taxes has generated $282 million as of April 2015, and is projected to produce $1.1 billion from FY 2016-2021 for use on regional roadway, bridge, or tunnel projects.

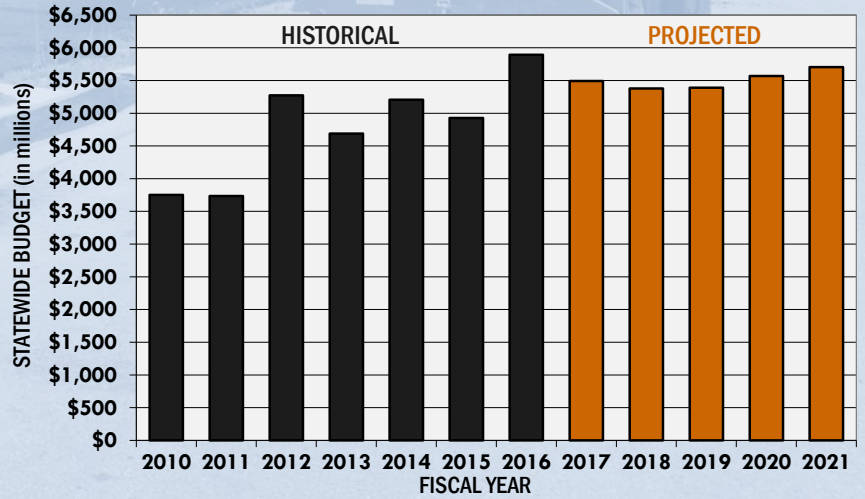
NOTABLE TRANSPORTATION FINANCING NUMBERS

21% The projected increase in Virginia's statewide transportation budget from Fiscal Year (FY) 2010-2015 to FY 2016-2021.

23% The projected increase in funding that will be available for new highway construction statewide from FY 2010-2015 to FY 2016-2021.

37th Virginia's rank among the 50 states and D.C. in terms of average taxes and fees collected on each gallon of unleaded gasoline as of April 1st, 2015.

HISTORICAL AND PROJECTED STATE TRANSPORTATION BUDGET, FY 2010-2021



Data source: VDOT. State fiscal year runs from July 1 to June 30 of the listed year. Projected budgets as of July 1, 2015. Includes all revenues from HB2313, including regional revenues.

TRANSPORTATION FINANCING (continued)

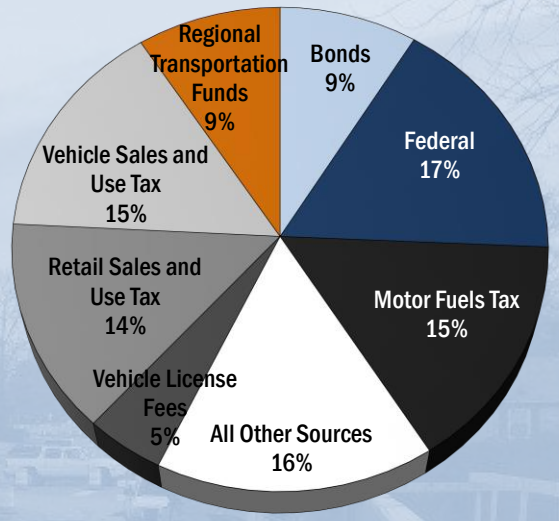
The amount of revenue by source for Virginia's transportation budget was changed by HB 2313. The motor fuel tax was the most impacted source, decreasing from 20% of transportation revenues in FY 2013 to 15% in FY 2016. Federal sources, the vehicle sales and use tax, the retail sales and use tax, and the tax of motor fuels all comprise between 14%-17% of Virginia's transportation revenues in FY 2016. The regional transportation taxes levied in Hampton Roads and Northern Virginia comprise another 9% of Virginia's transportation revenue.

The amount of money necessary to operate and maintain Virginia's aging roadways and bridges continues to increase. Between FY 2016-2021, $12.6 billion will be allocated statewide to maintenance and operations. This is up 17% from the $10.8 billion allocated between FY 2010-2015.

The funding available for roadway construction is higher than in past years. Including the regional roadway funds, $11.4 billion is projected to be available for new roadway construction in Virginia between FY 2016-FY 2021. This is up 23% over the $9.3 billion in funding that was allocated to construction in FY 2010-2015.

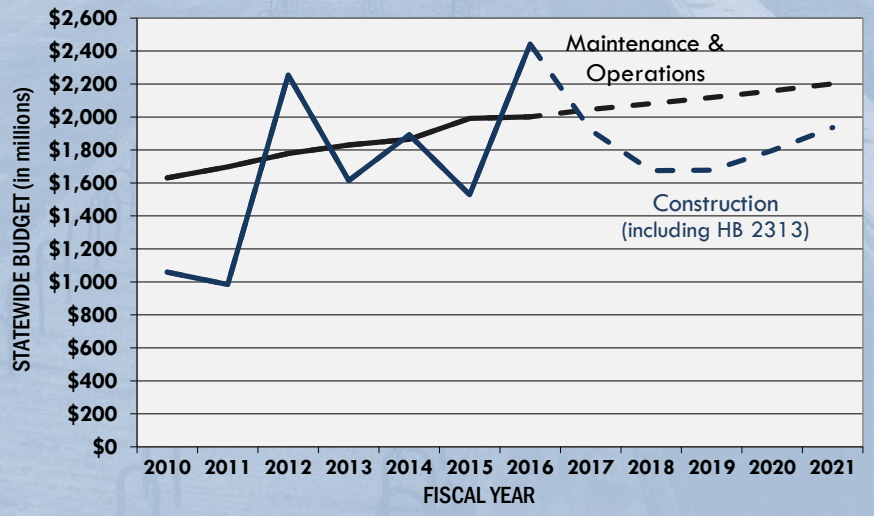
Historically, the amount of funding allocated to roadways in Virginia has lagged behind other states. Using the most recent data available from the Bureau of Transportation Statistics (2011), Virginia ranked 35th highest among the 50 states and the District of Columbia in highway expenditures per capita. Between 2005 and 2011, Virginia did not rank higher than 33rd in terms of highway expenditures per capita. This has likely changed with the implementation of HB 2313, although

TRANSPORTATION REVENUES IN VIRGINIA BY SOURCE, FISCAL YEAR 2016



Data source: VDOT.

HISTORICAL AND PROJECTED STATEWIDE FUNDING MAINTENANCE VS. CONSTRUCTION, FY 2010-2021



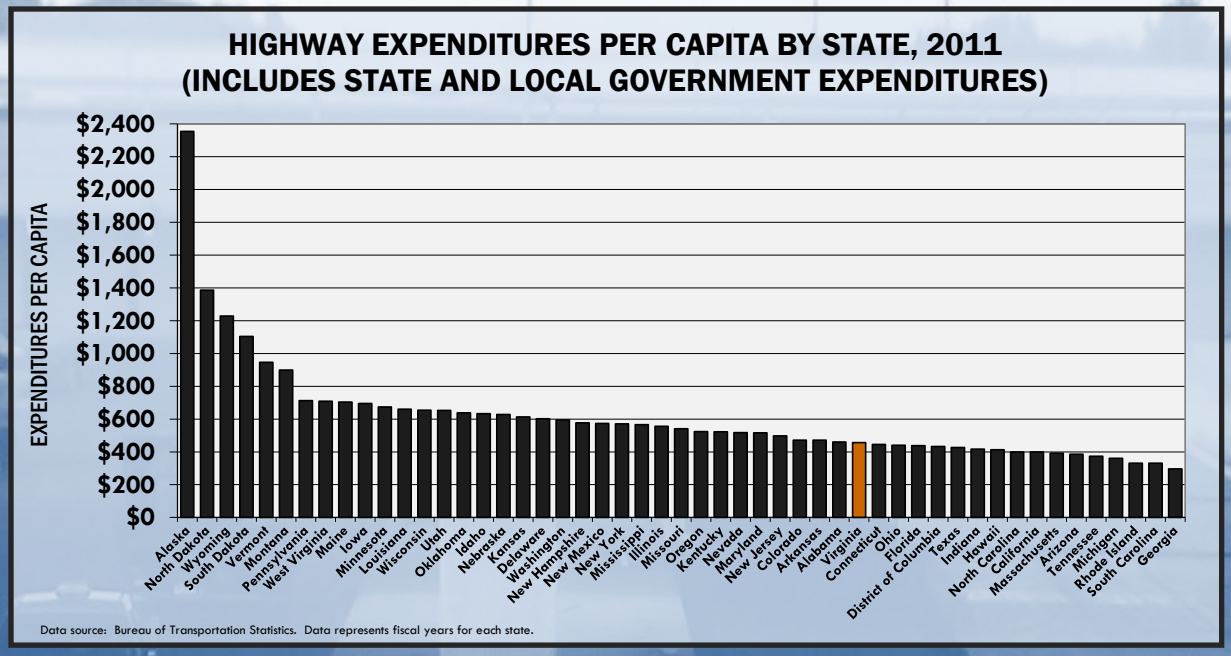
Data source: VDOT. FY 2017-2021 data is projected as of July 1, 2015. Includes all revenues from HB 2313, including regional revenues.

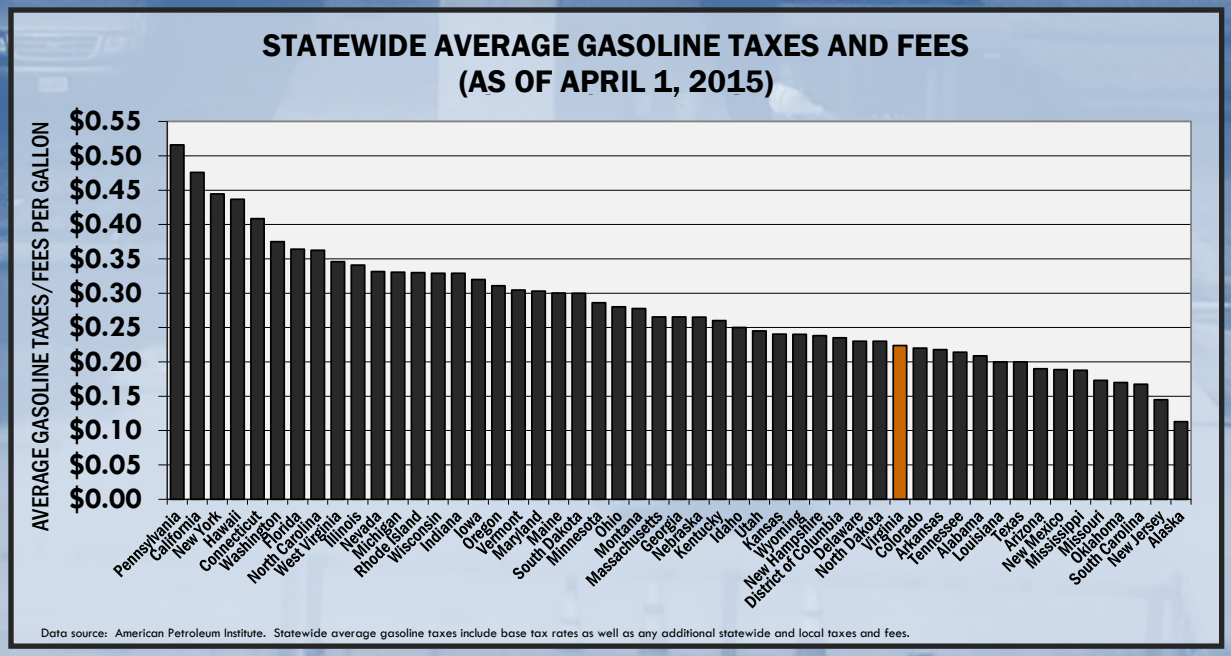
TRANSPORTATION FINANCING (continued)

national expenditure data post-HB 2313 implementation is not available yet.

Virginia has ranked even lower when only transportation funds used for new highway construction are considered. Virginia ranked 50th among the 50 states and District of Columbia in the percentage of transportation funds used for new highway construction in 2009 according to the most recent FHWA statistics. Virginia ranked 51st in 2006, and 48th in 2008.

Historically, the level of gasoline taxes and fees collected in Virginia was lower than most other states, and this continues under HB 2313. The current gasoline tax is comprised of 5.1% of the statewide average wholesale price of gasoline, 0.6 cents per gallon statewide for the petroleum underground storage tank fund, and an additional 2.1% regional tax on the gasoline wholesale price in Hampton Roads and Northern Virginia. The tax increased by just over 5 cents per gallon on January 1st, 2015, due to language in HB 2313 that took effect when Congress did not pass legislation permitting Virginia to require internet





businesses to collect state and local taxes.

As of April 2015 the average statewide tax on each gallon of unleaded gasoline in Virginia was 22.4 cents. Even with the tax increase, Virginia's tax rate on fuel is lower than many other states. Virginia had the 37th highest statewide average taxes and fees collected on each gallon of unleaded gasoline among the 50 states and the District of Columbia as of April 1st, 2015.

NEW DEVELOPMENTS

House Bill 2313 – The Virginia General Assembly passed House Bill (HB) 2313, a comprehensive long-term transportation funding and reform package, in 2013. HB 2313 was designed to raise nearly a billion dollars annually in additional statewide revenue. HB 2313 also includes a regional component that increases funding for roads, bridges, and tunnels in Hampton Roads. As of April 2015, $282 million had accumulated in the Hampton Roads Transportation Fund through the regional sales and use tax, fuels tax, and interest. Key components of HB 2313 include:

- Replacing the 17.5 cents per gallon gasoline tax with a 3.5% tax on motor fuel at the wholesale level. This tax was raised to 5.1% on January 1st, 2015, due to a lack of federal legislation permitting Virginia to require internet businesses to collect state and local taxes.
- Implementing a 6% tax on diesel at the wholesale level.
- Increasing the statewide sales and use tax from 5% to 5.3%.
- Increasing the motor vehicle titling tax from 3% to 4.15%.
- Increasing the share of the sales tax dedicated to transportation from 0.5% to 0.675%.
- Providing a dedicated funding source for the Mass Transit and Intercity Passenger Rail Fund.
- Implementing a 2.1% regional tax in Hampton Roads on the gasoline wholesale price.
- Providing for a 0.7% regional sales tax increase in Hampton Roads.

HRTAC – The General Assembly passed legislation in 2014 that created the Hampton Roads Transportation Accountability Commission (HRTAC) to allocate the HB 2313 Hampton Roads Transportation Fund (HRTF) revenues. HRTAC – which became effective on July 1st, 2014 – also has the authority to issue bonds and other debts as well as to set toll rates on regional projects. HRTAC voting members include the chief elected officers from each of the 14 HRTAC jurisdictions and five General Assembly members.

Other Legislation – The Virginia General Assembly has recently passed other legislation impacting transportation financing, including:

- **HB 2 (2014)** - Directs the Commonwealth Transportation Board (CTB) to develop and use a prioritization process to score projects based on an objective analysis, which will provide guidance to the CTB for project selection and funding.
- **HB 1886 (2015)** - Changes the structure and processes that manage the way Public-Private Partnership (P3) transportation projects are developed.
- **HB 1887 (2015)** - Replaces the formula for the way funds are allocated. The new allocation will be 45% to rebuild deteriorated pavement and bridges (State of Good Repair), 27.5% for high priority projects along statewide corridors and within regional networks, and 27.5% to the district highway construction grant programs.

FUEL PRICES

Fuel prices have decreased both in Hampton Roads and throughout the country since the summer of 2014. In spite of new regional fuel taxes implemented in 2013, fuel prices in Hampton Roads remain lower than in most comparable areas.

The cost of fuel has decreased since the middle of summer in 2014, both in Hampton Roads and throughout the country. The average cost of a gallon of regular unleaded fuel in Hampton Roads was $2.54 on June 1, 2015, down $1.00 per gallon from $3.54 one year earlier. Average fuel prices in Hampton Roads topped $3.50 per gallon every summer between 2011 and 2014, but bottomed out just below $2.00 per gallon in January 2015.

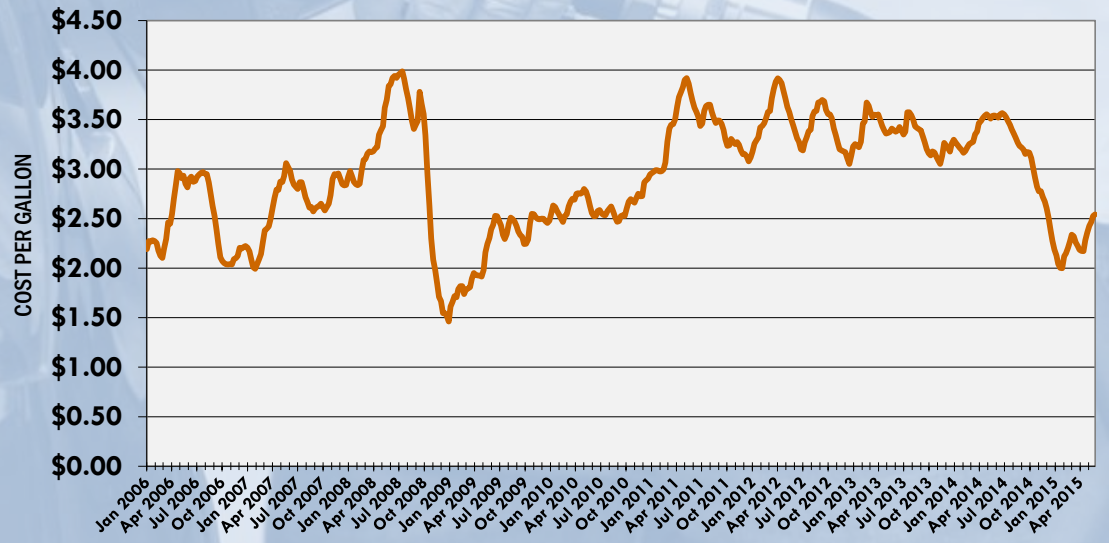
Fuel prices are slightly higher in Hampton Roads than in other metropolitan areas in Virginia, largely due to the higher regional taxes imposed on fuel in the region under HB 2313. As of June 1st, 2015, fuel prices were five cents per gallon lower in Richmond and Charlottesville ($2.49), and

NOTABLE FUEL PRICES NUMBERS

-28% The decrease in the cost of a gallon of unleaded fuel in Hampton Roads between June 1st, 2014, and June 1st, 2015.

25th Hampton Roads rank, among the 36 large metropolitan areas with populations between one and three million people, in terms of the cost per gallon of regular unleaded fuel as of June 1st, 2015.

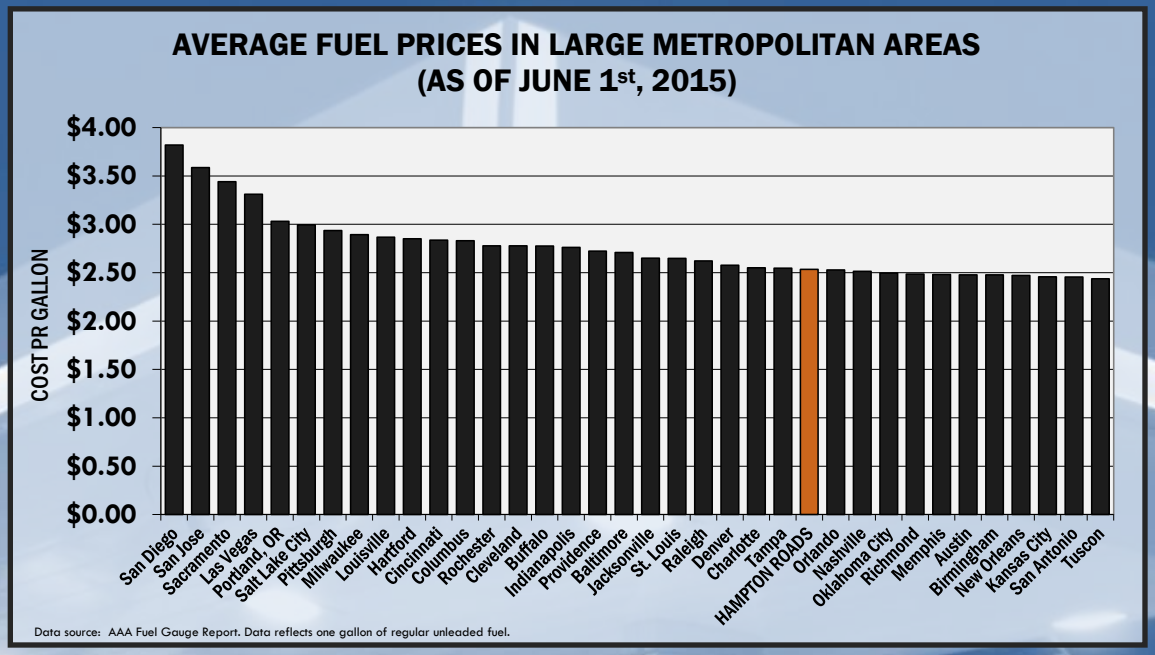
AVERAGE FUEL PRICES IN HAMPTON ROADS, JANUARY 2006-JUNE 2015



Data source: AAA Fuel Gauge Report. Data reflects one gallon of regular unleaded fuel.

nine cents per gallon lower in Roanoke ($2.45). Statewide, the average cost of fuel was $2.52 per gallon on June 1st, 2015, slightly lower than in Hampton Roads.

In spite of the regional fuel taxes, fuel prices in Hampton Roads remain below national averages. Among the 36 metropolitan areas with a population between one and three million people, Hampton Roads ranked 25th highest in terms of average fuel prices as of June 1st, 2015. Fuel prices in Hampton Roads were 22 cents per gallon lower than the large metropolitan area average.

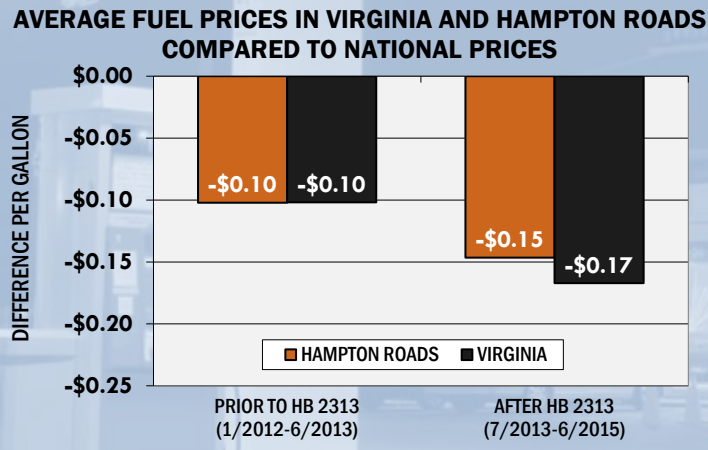


BEHIND THE NUMBERS

House Bill 2313 changed the way gasoline is taxed in Virginia by replacing the previous statewide gasoline tax with a smaller fuel wholesale tax, and by imposing an additional 2.1% regional tax on the gasoline wholesale price in Hampton Roads and Northern Virginia.

Fuel prices decreased relative to the rest of the country after the changes to the gasoline tax occurred. Prior to HB 2313, statewide gasoline prices were 10 cents per gallon lower than the national average. After HB 2313, statewide fuel prices have been an average of 17 cents per gallon lower.

In spite of additional regional taxes being imposed in Hampton Roads under HB 2313, fuel prices in Hampton Roads have decreased relative to the rest of the country, from 10 cents per gallon lower to 15 cents lower.



Data source: AAA Fuel Gauge Report. Data reflects one gallon of regular unleaded fuel.
The Hampton Roads data refers to the difference between Hampton Roads and the 36 metropolitan areas between one and three million people. The Virginia data refers to the difference between Virginia and national averages.

ROADWAY PROJECTS

A number of important roadway projects have been completed throughout Hampton Roads in recent years, and with the creation of the Hampton Roads Transportation Fund, many major projects will be constructed throughout the region in the next few years.

The recently completed roadway projects vary greatly in size and type, including constructing new roadways, widening existing roadways, replacing bridges, and smaller projects such as constructing turn lanes or adding traffic signals.

A total of 23 major roadway projects have been completed throughout Hampton Roads since the beginning of 2010. These projects include constructing a new interchange at I-264 and London Bridge Road, replacing the Gilmerton and South Norfolk Jordan Bridges, opening new facilities such as City Center Boulevard and Nimmo Parkway, and widening many roadways including sections of Fort Eustis Boulevard, Jefferson Avenue, Lynnhaven Parkway, Virginia Beach Boulevard, Warwick Boulevard, and Witchduck Road.

A few major roadway projects are currently underway throughout the region. These projects include building a second tube at the Midtown Tunnel, constructing an extension to the MLK Freeway, widening Route 17 in York County, upgrading Dominion Boulevard, and extending Lynnhaven Parkway.

NIMMO PARKWAY

Image Source: VDOT

MAJOR ROADWAY PROJECTS COMPLETED IN HAMPTON ROADS, JANUARY 2010 – JUNE 2015

FACILITY	LOCATION	IMPROVEMENT TYPE	COMPLETION DATE
Birdneck Road	General Booth Blvd to Norfolk Ave	Widen to 4 lanes	2010
Buckner Boulevard	Rosemont Rd and Holland Rd	New 2 lane facility	2010
City Center Boulevard	Warwick Blvd to Jefferson Ave	New 4 lane facility	2015
Commander Shepard Boulevard	Big Bethel Rd to North Campus Pkwy	New 4 lane facility	2014
Commander Shepard Boulevard	North Campus Pkwy to Magruder Blvd	New 4 lane facility	2010
Constitution Drive	Bonney Rd to Columbus St	New 4 lane facility	2010
Fort Eustis Boulevard	Jefferson Ave to Route 17	Widen to 4 lanes	2012
George Washington Highway	Mill Creek Pkwy to Willowood Dr	Widen to 4 lanes	2012
I-64	Norview Ave	Ramp improvement	2013
I-264	London Bridge Rd	New Interchange	2012
Ironbound Road	Strawberry Plains Rd to Longhill Connector Rd	Widen to 4 lanes	2013
Jefferson Avenue	Buchanan Dr to Green Grove Ln	Widen to 6 lanes	2010
Lynnhaven Pkwy	Holland Rd to South Lynnhaven Rd	Widen to 6 lanes	2010
Military Highway	Gilmerton Bridge	Replace Bridge	2013
Nimmo Parkway	Princess Anne Rd to Holland Rd	New 4 lane facility	2012
Nimmo Parkway	Holland Rd to General Booth Blvd	New 4 lane facility	2014
Princess Anne Road	Dam Neck Rd to Nimmo Pkwy	Widen to 4 lanes	2014
Princess Anne Road	Witchduck Rd	Intersection Relocation	2012
South Norfolk Jordan Bridge	Between Portsmouth and Chesapeake	Replace Bridge	2012
Virginia Beach Boulevard	Jett St to Military Hwy	Widen to 6 lanes	2010
Warwick Boulevard	J Clyde Morris Blvd to Nettles Dr	Widen to 6 lanes	2010
Wesleyan Drive	Northampton Blvd to Baker Rd	Widen to 4 lanes	2013
Witchduck Road	Princess Anne Rd to I-264	Widen to 6 lanes	2012

Data obtained from various sources.

ROADWAY PROJECTS (continued)

A number of Hampton Roads roadway projects are programmed in VDOT's Six-Year Improvement Program (SYIP) and HRTPO's Transportation Improvement Program (TIP). Examples of major roadway projects that are expected to begin construction in 2015 include widening I-64 between Yorktown Road and Bland Boulevard and the Intermodal Connector. In the near future, other major projects will begin construction such as widening additional segments of I-64 on the Peninsula, improving the I-64/I-264 interchange in Norfolk, and widening sections of Military Highway, Witchduck Road, and Wythe Creek Road.

Starting with the FY 2017 SYIP, construction projects will be scored using a prioritization process based on an objective analysis of congestion mitigation, economic development, safety, environmental quality, accessibility, and land use. The CTB will use this scoring as guidance when selecting projects for funding.

More information on programmed roadway improvement projects is included in the SYIP and TIP. VDOT's SYIP can be accessed at http://syip.virginiadot.org. HRTPO has developed a website devoted to the TIP (http://www.hrtpotip.org) that includes the TIP document, details on programmed roadway projects, an overview of the TIP development process, and an Interactive Project Map.

PROGRAMMED MAJOR ROADWAY PROJECTS IN HAMPTON ROADS

FACILITY	LOCATION	IMPROVEMENT TYPE	PROJECTED COMPLETION DATE
Atkinson Boulevard	Warwick Blvd to Jefferson Ave	New 4 lane facility	2019
Centerville Turnpike	Kempsville Rd to Indian River Rd	Widen to 4 lanes	2019
Croaker Road	Route 60 to Library	Widen to 4 lanes	2022
Dominion Boulevard	Cedar Rd to Great Bridge Blvd	Widen to 4 lanes	2017
Dominion Boulevard	GW Highway to Cedar Rd	Widen to 4 lanes	2020
George Washington Highway	Hampton Hwy to Wolf Trap Rd	Widen to 6 lanes	2016
Hampton Boulevard	Railroad into Norfolk International Terminals	New overpass	2015
High Street	Churchland Bridge	Replace Bridge	2019
Holland Road	Nimmo Pkwy to Dam Neck Rd	Widen to 4 lanes	2017
Holland Road/Route 58	Manning Bridge Rd to Suffolk Bypass	Widen to 6 lanes	2026
I-64	Yorktown Rd to Bland Blvd	Widen to 6+ lanes	2017
I-64	Route 199 (Exit 242) to Yorktown Rd	Widen to 6 lanes	2019
I-264 Eastbound	I-64 off ramp to East of Witchduck Road	Widening	various
Indian River Road	Kempsville Rd	Intersection Redesign	2017
Intermodal Connector	I-564 to Naval Station Norfolk/NIT	New 4 lane facility	2018
Lynnhaven Pkwy	Centerville Tpke to Indian River Rd	New 4 lane facility	2016
Midtown Tunnel	Between Portsmouth and Norfolk	Widen to 4 lanes	2018
Military Highway	Lowery Rd to Northampton Blvd	Widen to 8 lanes	2018
Military Highway	Northampton Blvd/Princess Anne Rd	Intersection Redesign	2018
Military Highway	Northampton Blvd to Robin Hood Rd	Widen to 6 lanes	2018
MLK Freeway	I-264 to High St	New 4 lane facility	2016
Nansemond Parkway	Shoulders Hill Rd to Chesapeake CL	Widen to 4 lanes	2018
NAS Norfolk Air Terminal Interchange	I-564 at Air Terminal	New interchange	2019
Portsmouth Boulevard	Suffolk CL to Jolliff Rd	Widen to 4 lanes	2018
Princess Anne Road	General Booth Blvd to Upton Dr	Widen to 4 lanes	2020
Route 58	Business Route 58 East of Courtland	New interchange	2017
Saunders Road	Newport News CL to Big Bethel Rd	Widen to 4 lanes	2016
Shore Drive	Lesner Bridge	Replace Bridge	2017
Turnpike Road	Frederick Blvd to Constitution Ave	Widen to 4 lanes	2018
Witchduck Road	I-264 to Virginia Beach Blvd	Widen to 6 lanes	2018
Wythe Creek Road	Commander Sheppard Blvd to Alphus St	Widen to 4 lanes	2021

Data source: VDOT, HRTPO, various localities.

TRANSPORTATION OPERATIONS

Hampton Roads has been a leader in managing transportation infrastructure through transportation operations, which is a cost-effective method of maximizing the safety and capacity of the existing roadway network.

The safety, security, and mobility of roadway users in Hampton Roads are enhanced by the active management of the regional transportation system through transportation operations. Transportation operations become more important as funding for new roadway construction decreases and constructing major roadway projects becomes more challenging. Trained and coordinated personnel manage the system with Intelligent Transportation Systems (ITS) technologies. Examples of transportation operations include incident management, coordinating traffic signals, electronic toll collection, and providing traveler information.

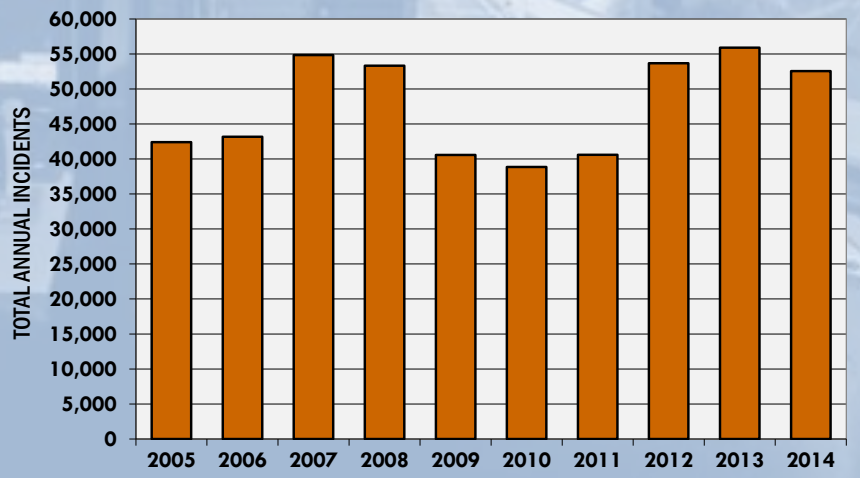
In Hampton Roads, the freeway system is managed by the VDOT Hampton Roads Transportation Operations Center (HRTOC). The Hampton Roads TOC monitors traffic conditions throughout the region, maintains and operates ITS infrastructure on the regional Interstate system, responds to and clears crashes and other types of incidents with the Safety Service Patrol, and informs travelers of roadway conditions via changeable message signs, highway advisory radio, and the 511 Virginia phone and online services. As of November 2013, Serco operates the five state TOCs (including Hampton Roads) through a six-year contract with VDOT.

HAMPTON ROADS TOC

The VDOT Hampton Roads Transportation Operations Center (TOC) serves as the backbone for transportation operations in the region. Some facts about the TOC and its Safety Service Patrol:

- Covers **140 miles**, nearly the entire regional Interstate system.
- Includes **308 closed-circuit cameras**, **202 dynamic message signs**, 13 highway advisory radio transmitters, 5 reversible roadway gate entrances, and hundreds of vehicle detection devices, all linked together by 552 miles of fiber optic cable.
- Drove over 3 million miles, responded to **53,677 incidents**, and **assisted 11,750 motorists** in 2014. The average time to respond to an incident was **8 minutes**, and the average clearance time for incidents was **23 minutes** in 2014.

TOTAL INCIDENTS RESPONDED TO BY THE HAMPTON ROADS TOC SAFETY SERVICE PATROL, 2005-2014



Data source: VDOT.

In addition to VDOT's Hampton Roads Transportation Operations Center, most Hampton Roads localities maintain their own traffic management centers. These centers operate local traffic signal systems, changeable message signs, and CCTV cameras. In some cases, these centers are connected with the Hampton Roads TOC, allowing for data and video sharing.

Another service provided to improve roadway mobility is 511 Virginia. 511 Virginia provides real-time traveler information via mobile or landline phones, email, text message, smartphone app, and the http://www.511virginia.org website. The 511 Virginia phone service is an interactive, voice-activated system that provides traffic information by route or locality. Information is also provided on tourist destinations, rest areas and welcome centers, and transit. The website and smartphone app provide information on traffic speeds, work zones, camera images, changeable message sign messages, weather closures, and incidents.

ITS TECHNOLOGIES IN HAMPTON ROADS

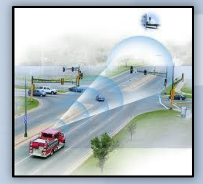
Hampton Roads has been a national leader in the use of Intelligent Transportation Systems (ITS). Nearly every mile of Interstate in the region is instrumented with ITS technologies, and various cities throughout the region maintain ITS infrastructure as well. The following are examples of ITS technologies in use throughout Hampton Roads:

Transportation Operations Centers
Centers that incorporate various ITS technologies to assist staff with traffic monitoring, incident response, and information dissemination.

Vehicle Detection Devices
Records traffic volumes and speeds. Also notifies transportation operations center staff of congestion and incidents.

Reversible Roadway Gates
Allows traffic on limited access roadways to be reversed based on commuting patterns, maximizing the use of the existing roadway.

Emergency Vehicle Signal Preemption
Changes the traffic signal when emergency vehicles approach, improving the safety and response time of emergency vehicles.



Advanced Signal Systems
Improves the coordination and timing of traffic signals in a corridor or throughout an entire city, reducing the number of stops and delays.

CCTV Cameras
Provides roadway images to transportation operations centers and the public.

Electronic Toll Collection
Allows travelers to pass quickly through special lanes, avoiding backups and delays due to paying tolls.

511 Virginia
Provides up-to-date traveler information via telephone, the internet, and other methods.

Transit Automatic Vehicle Location (AVL)
Provides the location of transit vehicles, aiding on-time performance.

Changeable Message Signs
Provides up-to-date information to the traveling public.

Highway Advisory Radio
Provides up-to-date traveler information through radio broadcasts on 1680 AM.

Traveler information is also provided on many private sector platforms. Examples include Google Maps, INRIX, and local radio and television channels.


HAMPTON ROADS TOC Image Source: VDOT

Regional transportation operations planning and coordination is conducted through multiple committees including the Hampton Roads Transportation Operations (HRTO) Subcommittee. The HRTO Subcommittee meets bimonthly to facilitate peer-to-peer information sharing and to advise the HRTPO Transportation Technical Advisory Committee on transportation operations issues. HRTO is comprised of transportation professionals from Hampton Roads jurisdictions, VDOT, transit agencies, Virginia Port Authority, and other invited participants such as local police and fire/EMS personnel. More information on HRTO and regional transportation operations efforts is available at http://www.hrtpo.org/page/operations-and-its.

NEW DEVELOPMENTS

Reach the Beach – VDOT created the "Reach the Beach" initiative to provide information on the fastest routes to the Virginia Beach Oceanfront and to the Chesapeake Expressway for Outer Banks traffic. Real-time travel time information is provided for two routes on each sign so travelers have the option of choosing the quicker route.

In 2012, VDOT installed and activated six signs in the region, and installed monitors with travel time information at Welcome Centers. Three additional signs were installed in 2015, detailing travel times on I-64 and alternate routes to I-295 near Richmond from locations in Chesapeake, James City County, and Virginia Beach. VDOT has also created a "Reach the Beach" feature on the 511 Virginia smartphone app that provides travel time information for multiple routes.

Travel Time Information – In addition to its Reach the Beach efforts, VDOT displays travel time information on changeable message signs. In February 2014, VDOT began posting current travel times on six existing changeable message signs, and more signs were added in 2015. Travel times are displayed on weekdays from 5 am to 9 pm.

Regional Operations Strategy – The HRTPO Board recently allocated funds to produce an update to the region's ITS Strategic Plan. Rather than a static plan, this update will be a Regional Operations Strategy that will guide the sustainable implementation of Transportation System Management and Operations activities. The Operations Strategy is expected to be a balanced focus between policy initiatives, maintenance and operational activities, and technology advancements. Work on the Hampton Roads Operations Strategy will begin later this year.

AIR QUALITY

Air quality in Hampton Roads is impacted by the automobiles, trucks, trains, and ships that travel around the region. Through a number of national, statewide, and regional efforts, the air quality of Hampton Roads has improved, and is better than in many other areas.

The Environmental Protection Agency (EPA) regulates the amount of airborne pollutants in each region. These airborne pollutants come from a variety of stationary sources such as factories and power plants, and mobile sources such as passenger cars, trucks, trains, and ships.

Ground-level ozone and other pollutants are measured in Hampton Roads at three ambient air quality stations maintained and monitored by the Virginia Department of Environmental Quality (DEQ). These stations are located in Downtown Hampton, the Holland community in Suffolk, and the Tidewater Community College campus site in Northern Suffolk.

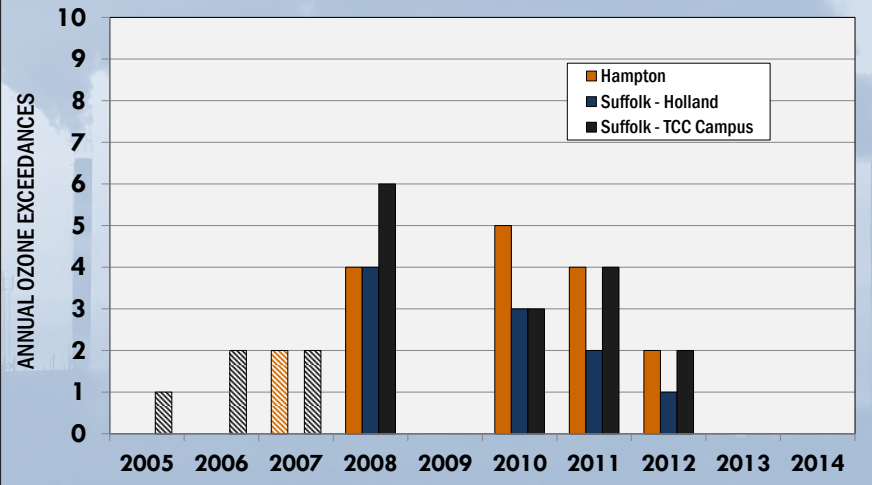
Each metropolitan area is designated as being in attainment or non-attainment of federal ozone air quality standards based on the amount of ground-level ozone recorded at monitoring stations and the National Ambient Air Quality Standards. EPA determines these designations based on an eight-hour standard, under which violations are determined using the fourth-highest daily maximum eight-hour average ozone concentration over the course of the year, averaged over a three-year period. According to EPA regulations, if an area is in non-attainment, the area's Long-Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) must be tested for conformity with the state's air quality plan.

NOTABLE AIR QUALITY NUMBERS

0 The number of eight hour ozone exceedances at Hampton Roads air quality monitoring stations in 2014.

9th Hampton Roads rank, among the 36 large metropolitan areas with populations between one and three million people, in terms of the best fourth-highest daily maximum 8-hour ozone averages.

EIGHT HOUR OZONE EXCEEDANCES AT REGIONAL AIR QUALITY MONITORING STATIONS, 2005-2014



Data source: Virginia DEQ. 2014 data is unofficial. In 2008, the ozone exceedance standard was reduced from greater than 84 parts per billion to greater than 75 parts per billion.

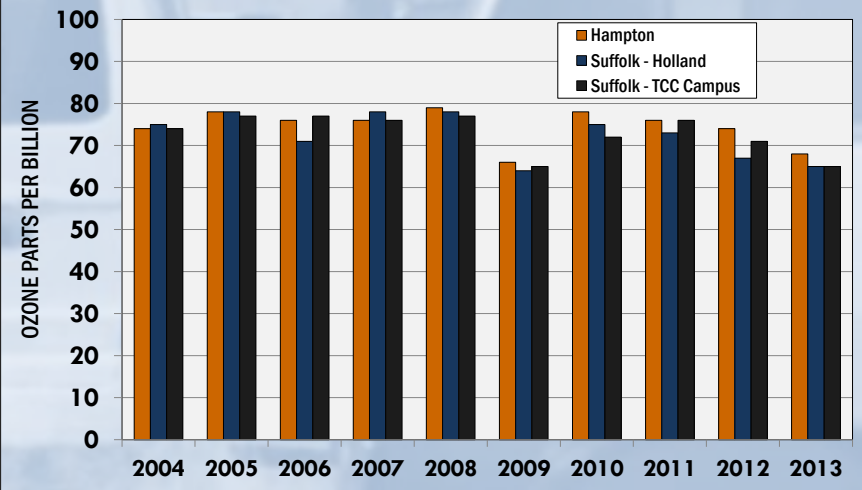
AIR QUALITY (continued)

Prior to 2008, regions were classified as non-attainment if the fourth-highest eight-hour ozone averages were greater than 84 parts per billion (ppb) at any of the regional monitoring stations over a three-year period. This standard was lowered to 75 ppb in 2008. In Hampton Roads, the 2011-2013 three-year ozone averages at the three monitoring stations were between 68 and 72 ppb, all below the 75 ppb threshold. Based on this, Hampton Roads is currently designated as an ozone attainment/maintenance area, and this designation means VDOT and the HRTPO currently do not have to test for air quality conformity in the LRTP and TIP.

The air quality in Hampton Roads is better than the air quality in many other comparable metropolitan areas based on the eight-hour ozone standard. The fourth-highest eight-hour ozone level was 68 ppb in Hampton Roads in 2013. This ranked the region 9th best among the 36 large metropolitan areas with populations between one and three million people.

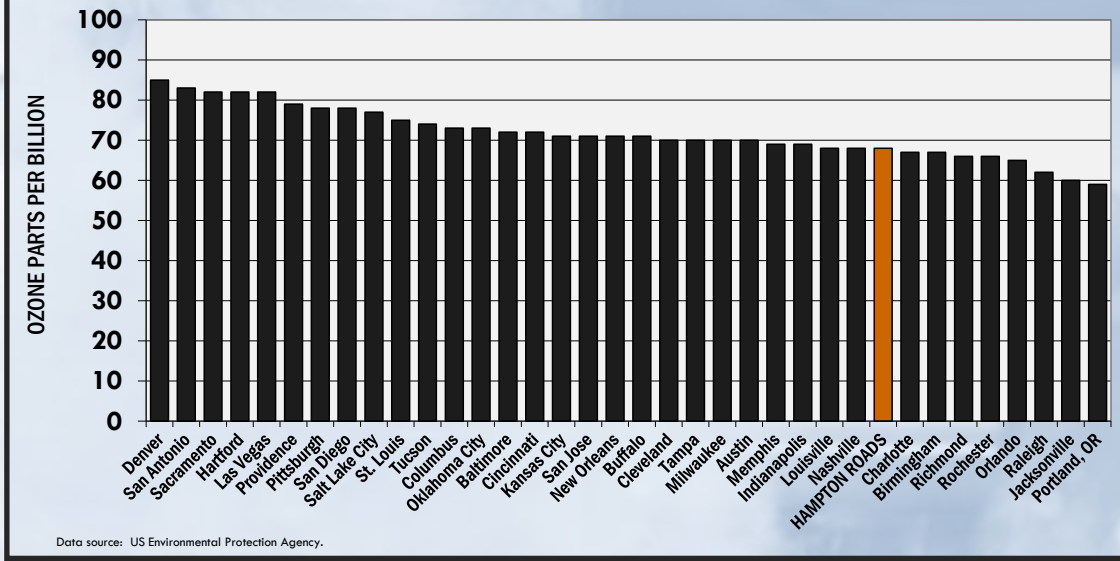
Hampton Roads has taken several measures to achieve cleaner air in accordance with the Ozone Action Plan approved by the EPA in 2013. This includes retiring the coal-fired Chesapeake Energy Center and performing fuel conversions at other power facilities, implementing pollution lowering programs at the Port of Virginia including barge service between Hampton Roads and Richmond, and promoting other renewable energy and energy efficiency programs.

FOURTH-HIGHEST DAILY MAXIMUM 8-HOUR OZONE AVERAGES IN HAMPTON ROADS, 2004-2013



Data source: Virginia DEQ. A temporary station was used in Newport News in 2009 in place of the Hampton station.

FOURTH-HIGHEST DAILY MAXIMUM 8-HOUR OZONE AVERAGES IN LARGE METROPOLITAN AREAS, 2013



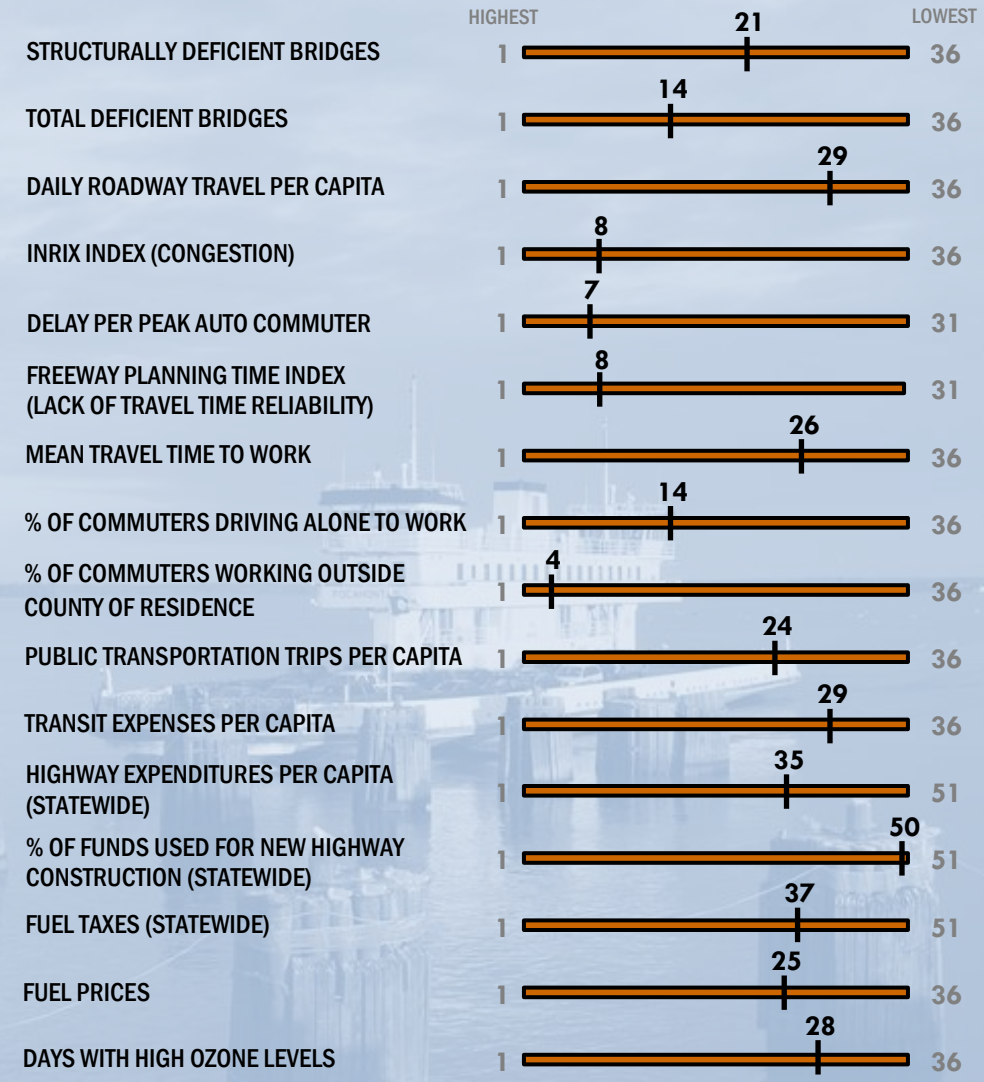
Data source: US Environmental Protection Agency.

NATIONAL RANKING SUMMARY

In many sections of this report, Hampton Roads is compared to other large metropolitan areas throughout the United States with populations between one and three million people. Many of these 35 other metropolitan areas have similar transportation issues to the Hampton Roads area, from congestion to funding shortfalls.

The figure to the right summarizes where Hampton Roads ranks in various transportation measures compared to the other large metropolitan areas, or in some cases where Virginia ranks compared to other states, based on the most recent data available.

HAMPTON ROADS CURRENT RANK AMONG LARGE METROPOLITAN AREAS



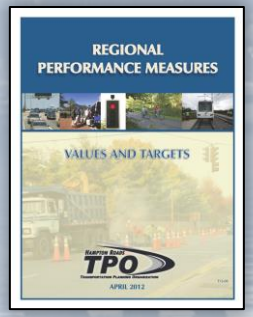
PERFORMANCE MANAGEMENT

Hampton Roads has entered a new chapter in performance management for transportation. Performance management is a cyclical process where:

1. The HRTPO measures the performance of the transportation network to identify needs.
2. The HRTPO estimates the impact of candidate transportation projects, then a) plans transportation projects (via its Long-Range Transportation Plan, or LRTP), b) allocates funds under its purview to transportation projects, and c) programs transportation projects (via its Transportation Improvement Program) to improve the performance of the transportation network.
3. The HRTPO measures the performance of the transportation network to determine the impact of projects implemented in step 2; then the HRTPO repeats these 3 steps.

Although the HRTPO has been measuring the performance of the regional transportation system for years via the State of Transportation reports, the HRTPO now prepares a standard set of regional performance measures according to a process led by the state, and will also prepare a set of regional performance measures and targets based on federal legislation.

In 2009, the General Assembly of Virginia passed legislation codifying regional transportation performance measurement. In response to the legislation, HRTPO staff, in cooperation with other Virginia metropolitan areas and Virginia's Office of Intermodal Planning and Investment (OIPI), developed a list of regional performance measures (RPM). The HRPTO Board approved this list in January 2011 and the Commonwealth Transportation Board (CTB) approved it in June 2011.



The HRTPO list contains the following categories of measures:

- Congestion reduction
- Safety
- Transit usage
- HOV usage
- Jobs-to-housing balance
- Access to transit
- Access to pedestrian facilities
- Air quality
- Movement of freight
- Vehicle Miles of Travel (VMT)
- Maintenance
- Financial system

In April 2012, the HRTPO Board approved a set of targets for its Regional Performance Measures. Lacking a basis for setting numerical targets, the HRTPO, with the approval of the Transportation Technical Advisory Committee's RPM Task Force, decided to set trend targets – increasing a particular value, decreasing a particular value, or maintaining that particular value.

The current federal surface transportation authorization program, MAP-21, also requires that states and metropolitan areas use performance measures and set targets. These measures and targets will be required in the following areas:

- Pavement condition on the Interstate System and the remainder of the National Highway System (NHS)
- Performance of the Interstate System and the remainder of the NHS
- Bridge condition on the NHS
- Transit usage
- Fatalities and serious injuries – both number and rate per vehicle miles traveled – on all public roads
- Traffic congestion
- On-road mobile source emissions
- Freight movement on the Interstate System

More information on HRTPO's Performance Management effort is available at http://hrtpo.org/page/performance-management.

ADDITIONAL INFORMATION

The information provided in this report was compiled from a variety of sources, most of which are easily accessible via the internet. Data from the following sources were included in this report and can be accessed for additional information:

Air Travel – The Federal Aviation Administration (FAA) updates air passenger data for both the nation and individual airports at http://www.faa.gov. Passenger data is also provided by each of the Hampton Roads airports at http://www.norfolkairport.com and http://www.flyphf.com.

Port Data – The Virginia Port Authority maintains up-to-date statistics regarding the Port of Virginia on their website http://www.portofvirginia.com. The Virginia Maritime Association also releases the Port of Hampton Roads Annual Report, which contains extensive information regarding all aspects of the port. Their website is http://www.vamaritime.com.

Rail Travel – Amtrak maintains a list of passenger volumes by station at their website http://www.amtrak.com. Hampton Roads Transit publishes light rail passenger levels on their website http://www.gohrt.com. Information regarding high speed rail and other rail improvements throughout Virginia is available at http://www.drpt.virginia.gov.

Bridges – VDOT maintains information on their website regarding most bridges throughout Virginia. This information is available at http://www.virginiadot.org/info/Bridge.asp.

Pavement Condition – VDOT releases pavement condition data on an annual basis as part of the State of the Pavement report. This report is available at http://www.virginiadot.org/info/state_of_the_pavement.asp.

Roadway Usage – The Highway Statistics Series contains data on motor fuel, motor vehicles, driver licensing, highway finance, highway mileage, and federal aid for highways. The reports are released annually by the Federal Highway Administration and are located at http://www.fhwa.dot.gov/policyinformation/statistics.cfm.

VDOT also releases roadway usage data on an annual basis for every Virginia jurisdiction. This data is available at http://www.virginiadot.org/info/ct-TrafficCounts.asp.

Congestion – Inrix, Inc. collects congestion data for the 100 largest metropolitan areas across the country. This congestion data is available at http://scorecard.inrix.com/scorecard.

The Texas Transportation Institute (TTI) at Texas A&M University releases the Urban Mobility Report, a study of mobility and traffic congestion on freeways and major streets in urbanized areas. The report is located at http://mobility.tamu.edu.

Commuting – The Bureau of the Census annually collects and distributes socioeconomic data via the American Community Survey (ACS). The ACS includes commuting characteristics data for each city and region. Data from the American Community Survey is available at http://www.census.gov/acs.

ADDITIONAL INFORMATION (continued)

Roadway Safety – The Virginia Department of Motor Vehicles (DMV) annually releases the Virginia Traffic Crash Facts document, which is a comprehensive overview of traffic crashes occurring throughout Virginia. The DMV also maintains a crash query tool on their website. The document and crash query tool are located at http://dmvnow.com/webdoc/safety/crash_data/index.asp.

Public Transportation – The Federal Transit Administration collects and disseminates data on public transportation via the National Transit Database (NTD) program. The National Transit Database is located at http://www.ntdprogram.gov. The American Public Transportation Association also includes transit data on their website at http://www.apta.com.

Bike and Pedestrian Facilities – A wide variety of information regarding bicycling and walking in Virginia is provided on VDOT's website at http://www.virginiadot.org/programs/bk-default.asp. The DMV also maintains bicyclist and pedestrian crash data at http://dmvnow.com/webdoc/safety/crash_data/index.asp.

Transportation Financing – Information regarding transportation financing in Virginia is available at http://www.virginiadot.org and http://www.ctb.virginia.gov. A list of fuel taxes and fees by state is available on the American Petroleum Institute website http://www.api.org.

Fuel Prices – National, statewide, and regional fuel prices are available via the AAA's Fuel Gauge Report website http://www.fuelgaugereport.com.

Roadway Projects – Information regarding transportation projects in Virginia's Six-Year Improvement Program is available at http://syip.virginiadot.org. HRTPO maintains the regional Transportation Improvement Program, which can be accessed at http://www.hrtpotip.org.

Transportation Operations – VDOT maintains ITS infrastructure and manages traffic on the regional freeway system. More information is available at http://www.virginiadot.org. Information detailing HRTPO's Transportation Operations planning efforts, including the Hampton Roads Transportation Operations Committee, is located at http://hrtpo.org/page/operations-and-its.

Air Quality – Virginia's Department of Environmental Quality maintains information regarding national air quality standards and regional air quality data. Their website is http://www.deq.state.va.us. National air quality information is available from the Environmental Protection Agency's website at http://www.epa.gov.

For additional information regarding this report, previous Congestion Management Process studies, or other transportation questions or concerns, please contact the Hampton Roads Transportation Planning Organization (TPO):

Hampton Roads Transportation Planning Organization
723 Woodlake Drive
Chesapeake, Virginia 23320
757.420.8300
http://www.hrtpo.org