

The State of Transportation in Hampton Roads 2012



the heartbeat of
HAMPTON
ROADS **TPO**
TRANSPORTATION PLANNING ORGANIZATION

June 2012

T12-07

HAMPTON ROADS TRANSPORTATION PLANNING ORGANIZATION

Dwight L. Farmer
Executive Director/Secretary

VOTING MEMBERS:

CHESAPEAKE

Alan P. Krasnoff

GLOUCESTER COUNTY

Christopher A. Hutson

HAMPTON

Molly J. Ward

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 Thomas K. Norment, Jr.

The Honorable Frank W. Wagner

MEMBERS OF THE VIRGINIA HOUSE OF DELEGATES

The Honorable John A. Cosgrove

The Honorable Christopher P. Stolle

TRANSPORTATION DISTRICT COMMISSION OF HAMPTON ROADS

William E. Harrell, President/Chief Executive Officer

WILLIAMSBURG AREA TRANSIT AUTHORITY

Anthony Conyers, Jr., Acting Executive Director

VIRGINIA DEPARTMENT OF TRANSPORTATION

Dennis W. Heuer, District Administrator – Hampton Roads District

VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

Thelma Drake, Director

VIRGINIA PORT AUTHORITY

Jerry A. Bridges, Executive Director

HAMPTON ROADS TRANSPORTATION PLANNING ORGANIZATION

NON-VOTING MEMBERS:

CHESAPEAKE
Amar Dwarkanath

GOULCESTER COUNTY
Brenda G. Garton

HAMPTON
Mary Bunting

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
William W. Harrison, Jr., Chair

MILITARY LIAISONS
David A. Culler, Captain, U.S. Navy
Mark S. Ogle, Captain, U.S. Coast Guard
Korvin D. Auch, Colonel, Langley
Thomas R. Wetherington, Colonel, Langley

ISLE OF WIGHT COUNTY
W. Douglas Caskey

JAMES CITY COUNTY
Robert C. Middaugh

NEWPORT NEWS
Neil A. Morgan

NORFOLK
Marcus Jones

POQUOSON
J. Randall Wheeler

PORTSMOUTH
Kenneth L. Chandler

SUFFOLK
Selena Cuffee-Glenn

VIRGINIA BEACH
James K. Spore

WILLIAMSBURG
Jackson C. Tuttle

YORK COUNTY
James O. McReynolds

FEDERAL TRANSIT ADMINISTRATION
Brigid Hynes-Cherin, Acting Regional Administrator, Region 3

VIRGINIA DEPARTMENT OF AVIATION
Randall P. Burdette, Director

NORFOLK AIRPORT AUTHORITY
Wayne E. Shank, Executive Director

FREIGHT TRANSPORTATION ADVISORY COMMITTEE
William Bell, Co-Chair (Nonvoting Board Member)
Robert Barclay, Co-Chair (Alternate Voting Board Member)

HRTPO PROJECT STAFF

Camelia Ravanbakht, Ph.D.
Robert B. Case, P.E.
Keith Nichols, P.E.
Michael Long
Kathlene Grauberger
Christopher Vaigneur

Deputy Executive Director, HRTPO
Principal Transportation Engineer
Senior Transportation Engineer
General Service Manager
Administrative Assistant II
Reprographics Coordinator

HAMPTON ROADS CONGESTION MANAGEMENT PROCESS:

THE STATE OF TRANSPORTATION IN HAMPTON ROADS 2012

PREPARED BY:



JUNE 2012

T12-07

REPORT DOCUMENTATION

TITLE

The State of Transportation in Hampton Roads 2012

AUTHOR/PROJECT MANAGER

Keith M. Nichols, PE

REPORT DATE

June 2012

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.

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	1
AIR TRAVEL.....	3
PORT DATA.....	8
RAIL TRAVEL.....	11
BRIDGES	14
PAVEMENT CONDITION	17
ROADWAY USAGE.....	18
CONGESTION DATA.....	22
COMMUTING	25
ROADWAY SAFETY.....	27
TRUCK DATA.....	31
RAIL SAFETY.....	31
PUBLIC TRANSPORTATION.....	33
ACTIVE TRANSPORTATION	36
TRANSPORTATION FINANCING	39
FUEL PRICES	43
ROADWAY PROJECTS	45
TRANSPORTATION OPERATIONS.....	47
AIR QUALITY	50
NATIONAL RANKING SUMMARY	52
REGIONAL PERFORMANCE MEASURES.....	53
ADDITIONAL INFORMATION	54

INTRODUCTION

The last year has seen many changes for the Hampton Roads transportation system. Of these changes, the most prominent was the introduction of light rail transit service in the region. Hampton Roads Transit began operating The Tide Light Rail Line in Norfolk in August 2011, and in its first months of service ridership has exceeded projections.

Other changes include the advent of the GoPass 365 program, an innovative program initiated by HRT that allows employers and schools to buy transit passes for their employees and students. Construction also continued on two major bridges across the Elizabeth River, the Gilmerton Bridge and the South Norfolk Jordan Bridge. And many roadway projects have been completed in the last year, including the widenings of Fort Eustis Boulevard and Witchduck Road and the new interchange at I-264 and London Bridge Road.

More big changes are on the horizon. Amtrak service is expected to return to the Southside by the end of 2012. VDOT plans to display travel times on message signs in Hampton Roads starting in summer 2012. And construction is expected to begin soon on a parallel Midtown Tunnel tube and extension of the Martin Luther King freeway.

However, there continues to be big challenges with the regional transportation system. National studies confirm that Hampton Roads has some of the worst roadway congestion in the country for a region of its size. And many of the funding challenges still remain that limit the ability to make needed improvements to the regional transportation system.



Image Source: VDOT

Ultimately, a viable transportation system is critical to the success of the Hampton Roads economy. All of the largest components of the regional economy – the military, the ports, and tourism – depend on the Hampton Roads transportation system to move goods, enlisted personnel, and visitors into, out of, and throughout 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 which includes biking and walking, highway funding, and operations. New in this year's edition of the State of Transportation report is data regarding ridership on the Tide Light Rail System, safety belt usage, a section devoted to fuel price trends, and more information on Active Transportation efforts in the region.

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 updated Congestion Management Process report, which was released in summer 2010, 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.

Copies of this report and all other CMP documents are available at the Hampton Roads Transportation Planning Organization's website at <http://www.hrtpo.org>.



Image Source: City of Chesapeake

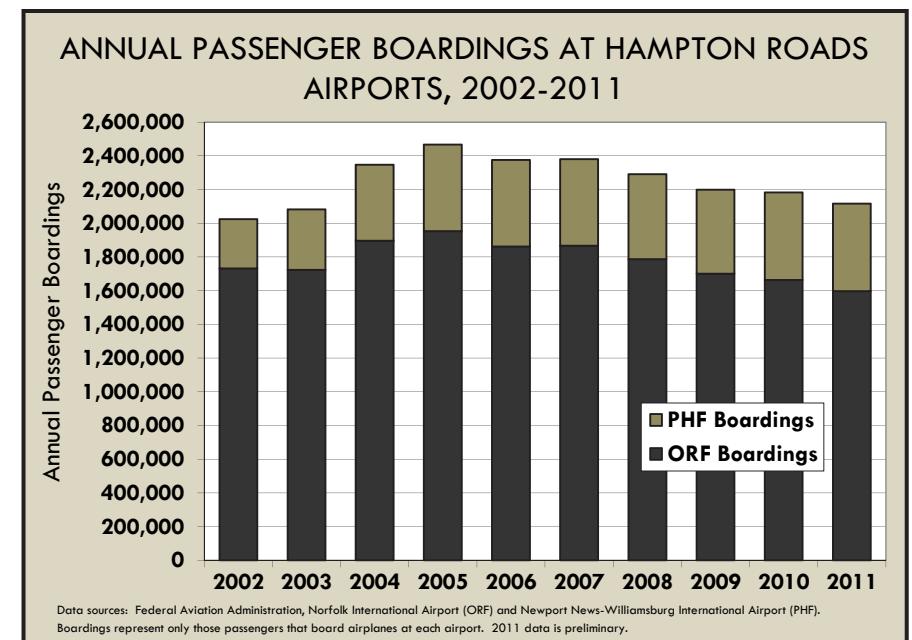
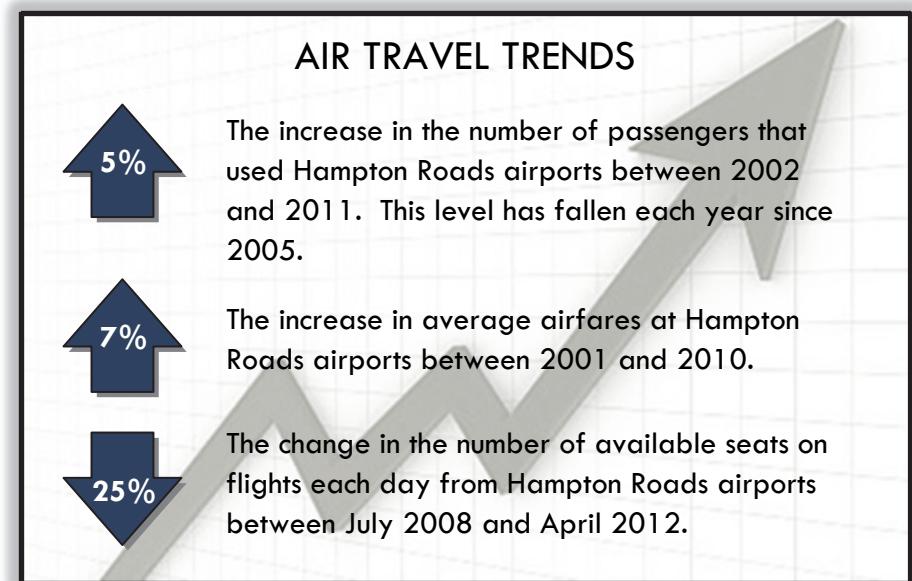
AIR TRAVEL

- The airline industry has fundamentally changed, with consolidation greatly reducing the number of carriers. This reduction in competition and higher fuel prices has impacted ticket prices and fees.

The number of passengers using commercial air service in Hampton Roads has decreased in recent years. A total of 2.1 million passengers boarded flights in 2011 at Hampton Roads two commercial service airports, Norfolk International Airport and Newport News-Williamsburg International Airport. Although the number of passengers at Hampton Roads airports increased 5% between 2002 and 2011, most of this growth occurred early in the last decade, and passenger levels have decreased from a high of 2.5 million passengers in 2005.



The 5% growth in passengers using Hampton Roads airports over the last decade is less than the 13% growth experienced at airports nationwide. While passenger levels at Hampton Roads airports grew at a much higher rate than national

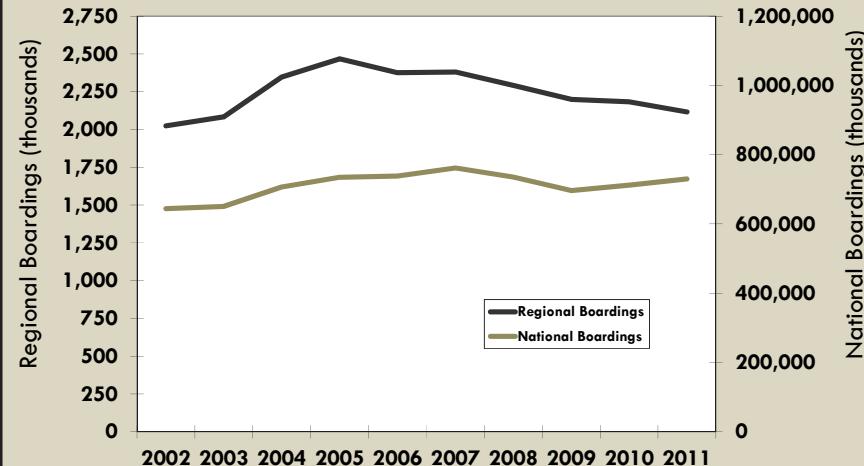


passenger levels early in the last decade, national passenger levels have increased in the last two years while regional passenger levels continued to decrease from the 2005 highs.

Much of the growth at Hampton Roads airports in the early 2000s was due to new and increased service from low-cost carriers such as Southwest Airlines and Airtran Airways. This growth in low-cost carrier service from Hampton Roads airports also contributed to a decrease in airfares. Between 2001 and 2002 the average airfare in Hampton Roads dropped 14%, and the regional average airfare remained below the national average through 2005. After 2005, however, airfares in Hampton Roads increased as fuel prices rose. In 2010, the average one-way airfare from Hampton Roads airports was \$191, which is equal to the national average airfare but is 18% higher than the levels seen in 2005. It should be noted that these airfares only reflect the costs associated with ticket fares and do not include those fees that have expanded in recent years for checked baggage, seat assignments, ticket changes, etc.

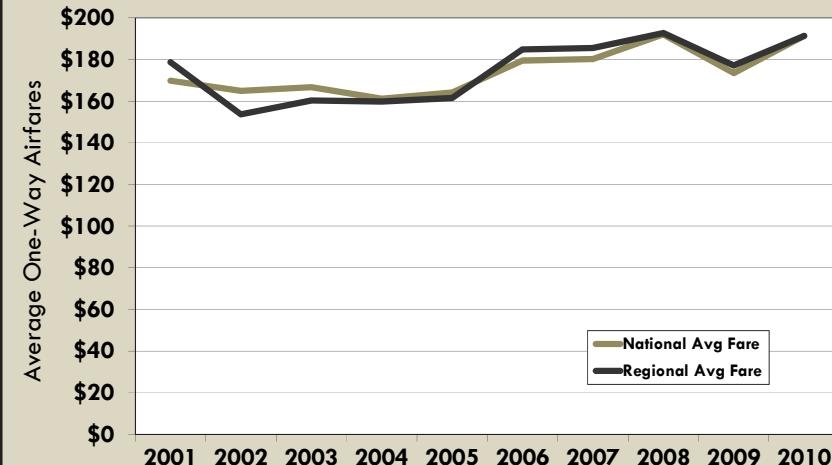


ANNUAL PASSENGER BOARDINGS AT HAMPTON ROADS AND NATIONAL AIRPORTS, 2002-2011



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. 2011 data is preliminary.

AVERAGE ONE-WAY AIRFARES FOR HAMPTON ROADS AND NATIONAL AIRPORTS, 2001-2010



Data source: Federal Aviation Administration. Average airfares reflect all routes that average at least 10 passengers per day, and all fare classes. Round trip fares are divided into two one-way fares.

Approximately 100 commercial flights depart Hampton Roads airports each day as of April 2012. The number of flights departing from Hampton Roads airports has decreased in recent years. At the end of 2006, 130 flights departed Hampton Roads airports each day. By the end of 2008, this number had decreased to 115 flights each day, and at the end of 2010 it was down to 110 daily flights.



These 100 flights serve a total of 23 airports in 19 markets nonstop from Hampton Roads. Norfolk International Airport has nonstop flights serving 22 airports in 18 markets, while 5 airports in 5 markets are served nonstop from Newport News/Williamsburg International Airport.

A number of markets have lost nonstop service from Hampton Roads airports since 2009. These markets include Cincinnati, Cleveland, Memphis, and St. Louis. Each of these four markets serve as hubs for airlines that have reduced service through

BEHIND THE NUMBERS

The airline industry has undergone many changes in recent years, and these changes have impacted Hampton Roads. The largest change in the airline industry involves consolidation. Many mergers and acquisitions have occurred in recent years, including Delta Air Lines with Northwest Airlines, United Airlines with Continental Airlines, and Southwest Airlines with Airtran Airways. These consolidations have impacted air travel in Hampton Roads, the most notable example of which is the departure of Airtran Airways, which was the largest carrier at Newport News-Williamsburg International Airport. In addition, four fewer markets are served nonstop from Hampton Roads airports and 30 fewer flights are offered each day as compared to the end of 2006, largely due to this consolidation.

Hampton Roads is not the only market impacted by these changes to the airline industry. One measure of the capacity of the national airline system, available domestic seat miles, decreased about 8% between 2007 and 2011.

In addition, the way airlines collect revenues has changed. In recent years, airlines have started collecting or increasing charges for checking baggage, making changes to tickets, meals, and premium seats. This has allowed airlines to collect additional revenue without increasing ticket prices.

The need for additional revenue has largely been driven by higher fuel costs and the condition of the economy, which has dampened the demand for air travel.

consolidation in the airline industry. Since 2009, only one market (Denver) has seen nonstop service added from Hampton Roads airports.

With the number of flights departing Hampton Roads airports each day decreasing, the number of available seats has also decreased. About 7,300 seats were available each day on flights departing from Hampton Roads in May 2012 according to data provided to USA Today by Official Airline Guide (OAG). Of these 7,300 seats, 6,200 were on flights departing from Norfolk International Airport and 1,100 were on flights departing from Newport News-Williamsburg International Airport. The number of available seats has decreased 17% from the 8,800 seats available each day on Hampton Roads flights in May 2011, and decreased 25% from a recent high of 9,800 available seats each day in July 2008.

The most popular final destination for passengers using Hampton Roads airports in 2010 was New York City, with a total of 253,800 passengers traveling between Hampton Roads and the three major New York area airports. Atlanta, which had been the most popular final destination

NEW DEVELOPMENTS

Decreased Service – Many airline mergers and acquisitions have occurred in recent years, including Delta Air Lines with Northwest Airlines, United Airlines with Continental Airlines, and Southwest Airlines with Airtran Airways. These consolidations have had an impact on Hampton Roads, leading to fewer carriers and a reduction in the number of nonstop markets. The most notable example is the departure of Airtran Airways, which was the largest carrier at Newport News-Williamsburg International Airport.



Image Source: NNW Airport.

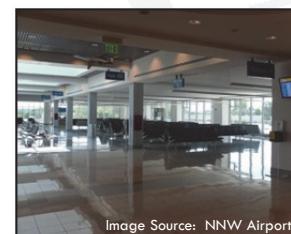


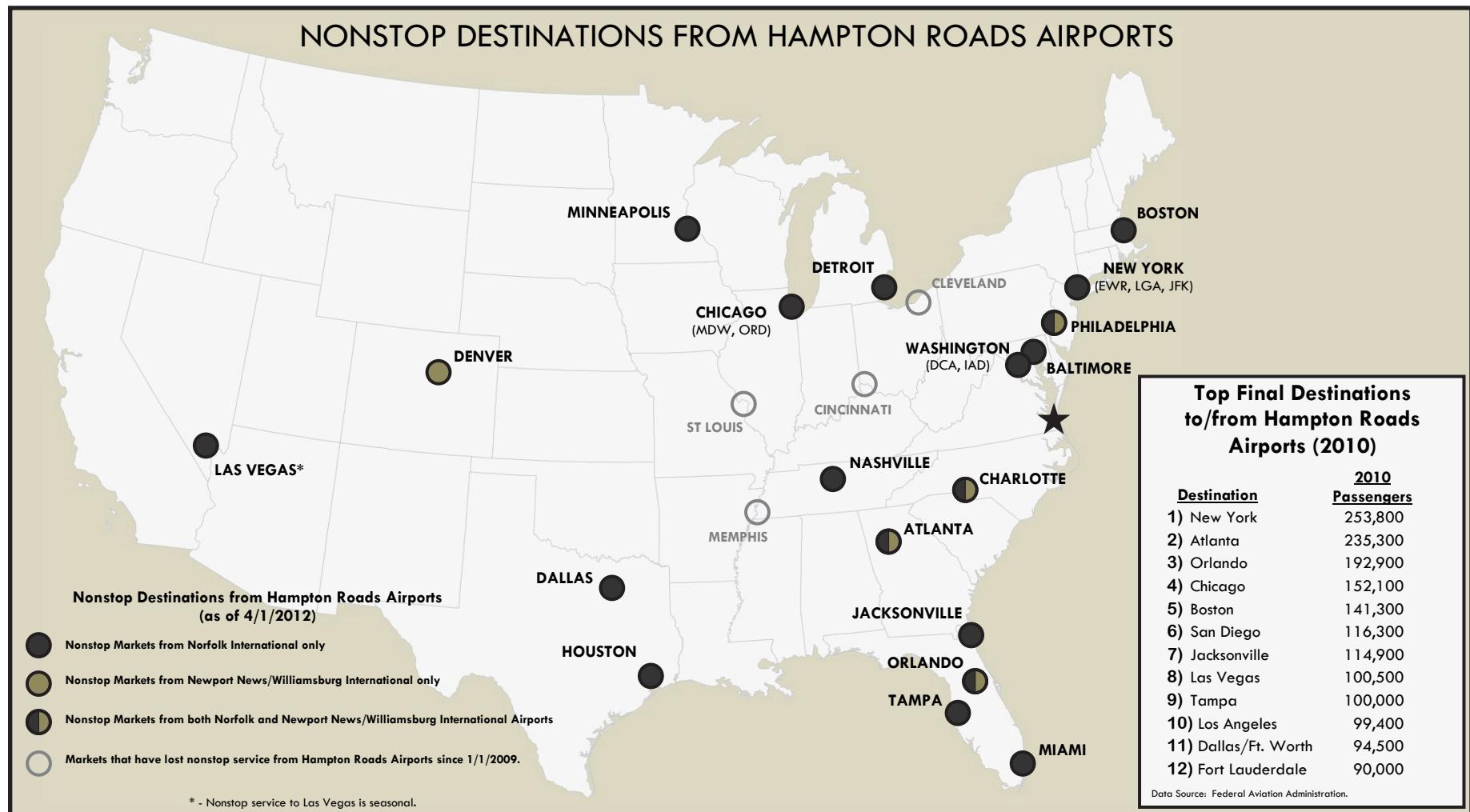
Image Source: NNW Airport.

Airport Improvements – Many improvements have been made at both Hampton Roads airports in recent years. In May 2010, the new Concourse A was opened at Newport News-Williamsburg International Airport. At Norfolk International Airport, parking improvements were completed in 2011. Norfolk International Airport will also begin terminal and passenger screening area renovations in 2012.

PeoplExpress – Officials announced in February 2012 the intent to start a new airline called PeoplExpress. The airline, which will have its corporate headquarters in Newport News, will serve multiple markets with nonstop service from Newport News-Williamsburg International Airport. Other markets that PeoplExpress currently plans to serve include Newark, Orlando, Pittsburgh, Providence, and West Palm Beach. Officials are planning to begin operations later this year.

for Hampton Roads travelers throughout most of the 2000s, was the #2 destination in 2010 with 235,300 passengers. The next most popular destinations for passengers traveling to or from Hampton Roads were Orlando, Chicago, and Boston.

Of the top twelve markets for Hampton Roads air travelers, only San Diego (#6), Los Angeles (#10), and Fort Lauderdale (#12) were not served by nonstop service from Hampton Roads airports as of April 2012.



PORT DATA

- The Port of Virginia is one of the drivers of the Hampton Roads and Virginia economies, and its impact, while expanding throughout the last decade, is expected to increase even further in the future.

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 APM Terminals facility in Portsmouth. The Virginia Port Authority also manages the Port of Richmond and owns 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.



More than 47 million tons of coal was shipped through the region in 2011, which makes Hampton Roads the largest exporter of coal in the country. In addition, nearly 16 million tons of general cargo, primarily transported in containers, was handled by the Port of Virginia in 2011. The amount of general cargo handled by the Port of Virginia increased 22%

PORT TRENDS

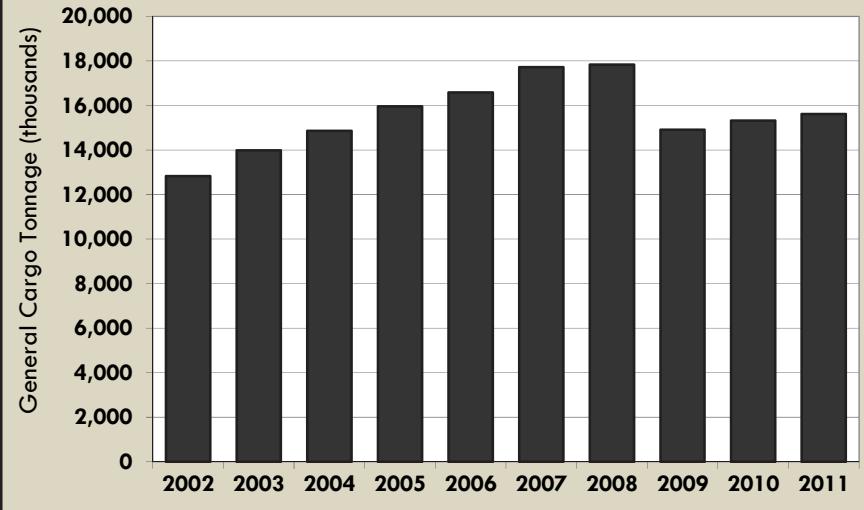


The increase in general cargo handled by the Port of Virginia between 2002 and 2011. This is despite a 16% decrease in general cargo at the height of the recession between 2008 and 2009.



The increase in the share of general cargo handled by the Port of Virginia that was transported by rail between 2005 and 2011. The majority of general cargo handled by the Port of Virginia is still transported by truck, at 66% in 2011.

GENERAL CARGO TONNAGE HANDLED BY THE PORT OF VIRGINIA, 2002-2011

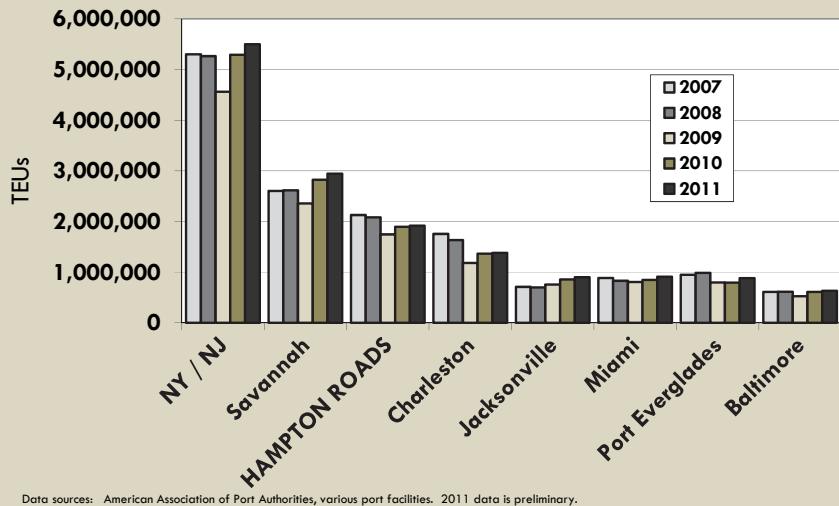


between 2002 and 2011, although most of this growth occurred in the middle of last decade. During the height of the recession, the amount of general cargo handled by the Port of Virginia decreased 16%, and freight levels have not recovered to pre-recession levels.

The maritime industry also measures containerized cargo using a standard called 20-foot container equivalent units, or TEUs. The Port of Virginia handled 1.92 million TEUs in 2011. This is up 33% from 1.44 million TEUs handled in 2002 but down from 2.13 million TEUs in 2008. The volume of containerized cargo ranked the Port of Virginia third highest among East Coast ports in 2011 and seventh highest among all U.S. ports.

In 2011, 66% of the general cargo handled by the Port of Virginia arrived or departed by truck, 30% by rail, and the remaining 4% arrived or departed by barge. The share of

GENERAL CARGO (in TEUs) HANDLED AT TOP EAST COAST PORTS, 2007-2011



NEW DEVELOPMENTS

Consolidation of APM Terminals with the Port of Virginia – In July 2010, the Virginia Port Authority completed an \$800 million deal to lease and manage the APM Terminals facility for 20 years. The APM Terminals facility is currently capable of handling one million TEUs annually.



Craney Island – Work started in December 2010 on a project to create a new marine terminal at Craney Island. The current phase of construction involves using dredged material to create cross dikes to the east of the current Craney Island dredging disposal site. The first phase of the marine terminal is not expected to be operational until after 2020.

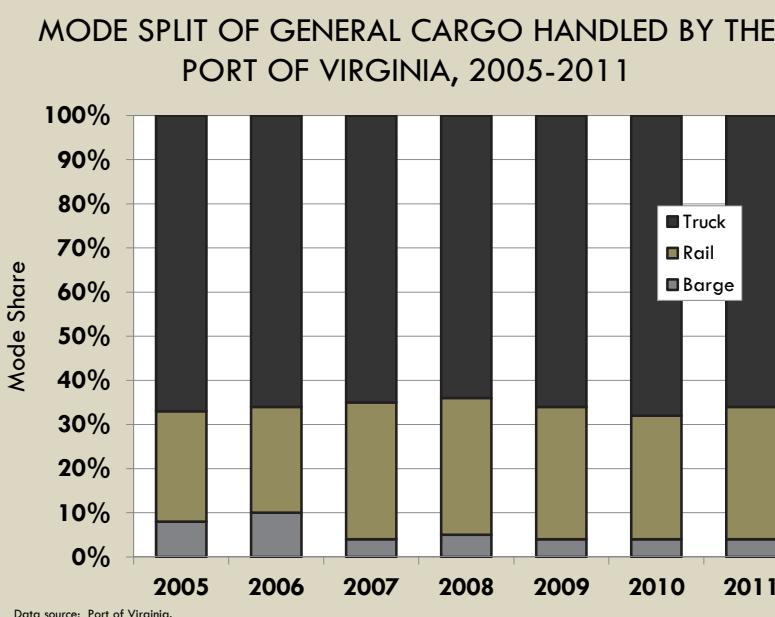
Norfolk International Terminals Overpass – Work started in August 2009 on a railroad overpass crossing Hampton Boulevard into Norfolk International Terminals (NIT). The project, which will greatly reduce the number of conflicts between trains entering and exiting NIT and Hampton Boulevard traffic, is expected to be complete in early 2013.



freight moved by rail through the Port of Virginia has increased, up from 25% in 2005. This has come at the expense of the share handled by barge, while the share of freight handled by truck has largely remained constant.

The cruise industry also has a presence in Hampton Roads, with the Half Moone Cruise and Celebration Center being constructed in Norfolk in 2007 to serve cruise traffic. Just over 29,000 cruise passengers on 11 vessels called in Norfolk in 2011. This is similar to the passenger levels seen a decade earlier but is down from a high of 105,000 cruise passengers calling in Norfolk in 2005.

HRTPO conducts a number of freight planning efforts, including the Regional Freight Study. More information on HRTPO's freight planning efforts is available at http://www.hrtpo.org/TPO_Intermodal.asp.



BEHIND THE NUMBERS

The amount of freight handled at the Port of Virginia is impacted by a number of factors, first and foremost being the condition of the global economy. However, competition from other East Coast facilities also impacts the Port. While the amount of containerized cargo handled by the Port of Virginia increased 33% between 2002 and 2011, the amount passing through the Port of Savannah more than doubled (+122%) during this time. The Port of New York/New Jersey experienced an increase of 47%, while Charleston experienced a decrease of 13% during this time. Also of note, the Ports in New York/New Jersey, Savannah, Jacksonville, Miami, and Baltimore all handled freight levels in 2011 that are higher than the pre-recession levels handled in 2007, while the Port of Virginia is still 10% below the highs seen in 2007.

In spite of the competition and recent economic downturn, the Port of Virginia appears to be well-positioned for the future. Norfolk Southern's Heartland Corridor rail project, which provides a shorter route for double-stacked trains between Hampton Roads and the Midwest, was recently completed. CSX's National Gateway project, which would further improve rail connections between the Mid-Atlantic ports and the Midwest, is also planned.

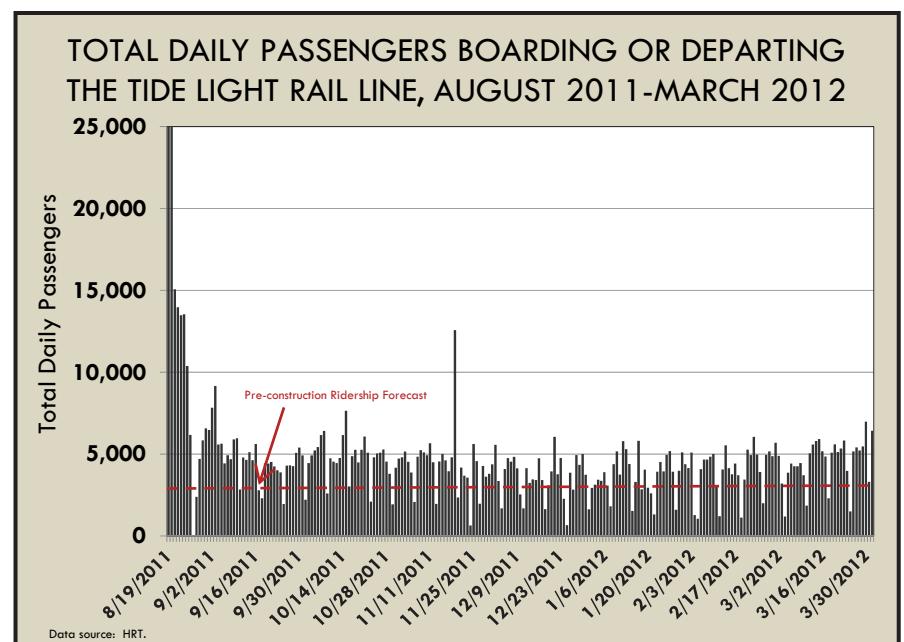
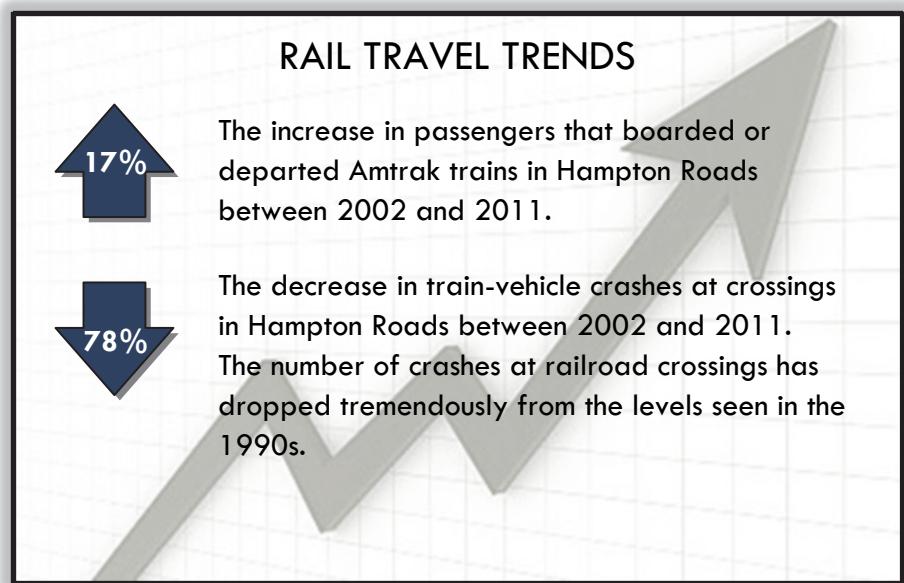
Expansion of the Panama Canal also continues, with completion expected in 2014. The Port of Virginia will be among the few East Coast ports that can serve the largest ships that will pass through the widened canal. The Ports in New York/New Jersey, Savannah, and Charleston all need infrastructure or dredging improvements to handle the newest Panamax ships.

- Rail travel has become much more prominent in Hampton Roads, with the introduction of light rail service, upcoming Amtrak service being provided to the Southside, and ongoing studies regarding additional and improved passenger rail service both into and throughout the region.

On August 19th, 2011, Hampton Roads Transit (HRT) commenced light rail service in the City of Norfolk. This light rail system, referred to as The Tide, serves a 7.4 mile corridor between the Medical Center Complex through Downtown Norfolk to Newtown Road at the Virginia Beach city line.



A total of just over one million passengers have used The Tide light rail system as of the end of March 2012. This comes out to an average of 4,680 daily passengers, or 5,054 passengers on average each weekday. The level of passengers using the Tide is much higher than the 2,900 passengers that HRT estimated would use The Tide each weekday.



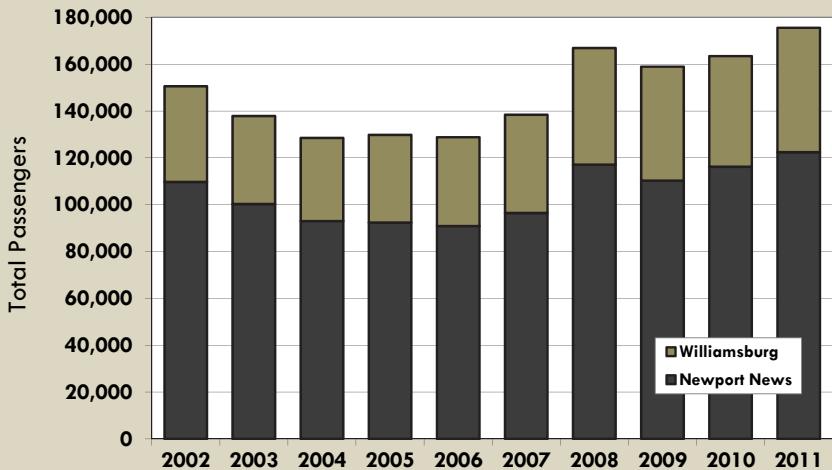
Intercity passenger rail service is provided to Hampton Roads by Amtrak at stations in Newport News and Williamsburg. There were a total of 175,500 passengers who boarded or departed Amtrak trains in Hampton Roads in 2011, with 122,400 passengers at the Newport News station and 53,100 passengers at the Williamsburg station. The number of Amtrak passengers boarding or departing trains in Hampton Roads increased 17% between 2002 and 2011, but has increased 36% since the lows seen in the middle of the 2000s. The number of passengers is likely to increase when direct Amtrak service to the Southside begins (expected in December 2012).



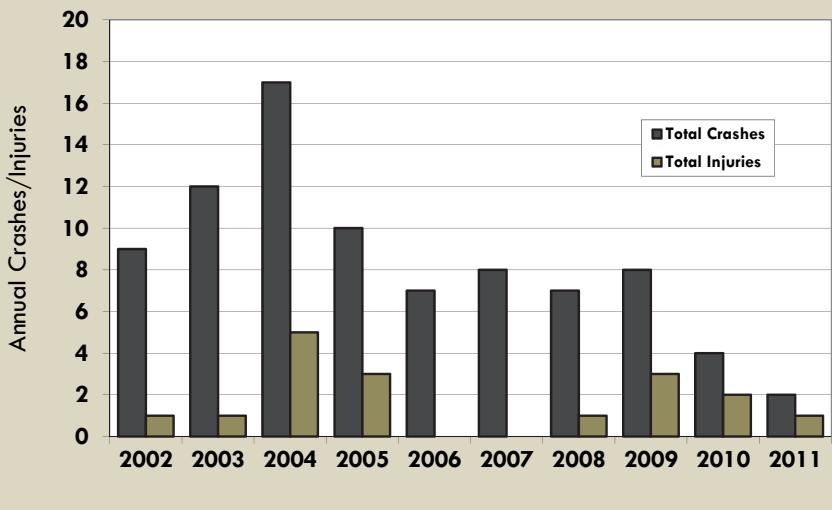
Rail is also one of the primary methods of transporting goods to and from the Port of Virginia, with 30% of all general cargo handled by the Port in 2011 being transported by rail as stated in the Port Data section of this report.

With the number of freight and passenger trains crossing the region each day, safety at highway-rail crossings is a concern. There were only two crashes between trains and vehicles at highway-rail crossings in Hampton Roads in 2011,

TOTAL PASSENGERS BOARDING OR DEPARTING AMTRAK TRAINS IN HAMPTON ROADS, FFY 2002-2011



TOTAL CRASHES AND INJURIES AT HIGHWAY-RAIL CROSSINGS IN HAMPTON ROADS, 2002-2011



resulting in one injury and no fatalities. Between 2002 and 2011, there were a total of 84 crashes at highway-rail crossings in Hampton Roads, or an average of just over 8 crashes each year. These 84 crashes resulted in 3 fatalities and 17 injuries. The number of crashes at highway-rail crossings in Hampton Roads has decreased significantly since the decade of the 1990s, when there were a total of 184 crashes that resulted in 9 fatalities and 106 injuries.



NEW DEVELOPMENTS

Light Rail – Service on The Tide Light Rail Line began in August 2011. The \$318 million starter line runs 7.4 miles between the Medical Center Complex through Downtown Norfolk to Newtown Road at the Virginia Beach city line. As of the end of March 2012, the system has carried over one million passengers.



Amtrak service to Southside Hampton Roads – The Commonwealth Transportation Board has approved \$87 million in funding to institute new Amtrak service between Richmond and Southside Hampton Roads. Service is expected to start in December 2012. Construction has commenced on the project, including improvements to the rail line and the construction of a platform at the future Norfolk station.

Rail Studies – Multiple studies are currently underway regarding additional passenger rail service to and throughout the region. These studies include:

- *Virginia Beach Transit Extension Study* – Hampton Roads Transit is currently studying the feasibility of extending transit from the end of The Tide line into Virginia Beach. The study is expected to be completed by the end of 2013.
- *Richmond/Hampton Roads Passenger Rail* – The Virginia Department of Rail and Public Transportation (DRPT) is exploring improved passenger rail service between Richmond and Hampton Roads as an extension of the Southeast High Speed Rail Corridor. DRPT developed and submitted the Tier I Draft Environmental Impact Statement (EIS) to the Federal Railroad Administration and is awaiting a Record of Decision.
- *HRTPO studies* – Expansion of intercity passenger rail is a priority of the HRTPO. The HRTPO Board commissioned two preliminary studies – the Hampton Roads Passenger Rail Preliminary Vision Plan (Phase 1 – July 2010) and the Hampton Roads Passenger Rail Plan Blueprint Study (Phase 1B – December 2010) – and work has started on the Hampton Roads Passenger Rail Study – Data Collection (Phase 2A).

- ▶ Hampton Roads unique topography makes bridges and tunnels a critical part of the regional transportation system. As the bridges throughout the region age, more are becoming deficient.

There are 1,214 bridges* in Hampton Roads, ranging in size from small culverts over drainage canals to some of the longest structures in the world. The median age of bridges in Hampton Roads is 37 years old, and one out of every five bridges in Hampton Roads (20%) is more than 50 years old. While many of these older bridges are periodically rehabilitated in order to remain in service, two high profile bridges 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 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.

BRIDGE TRENDS

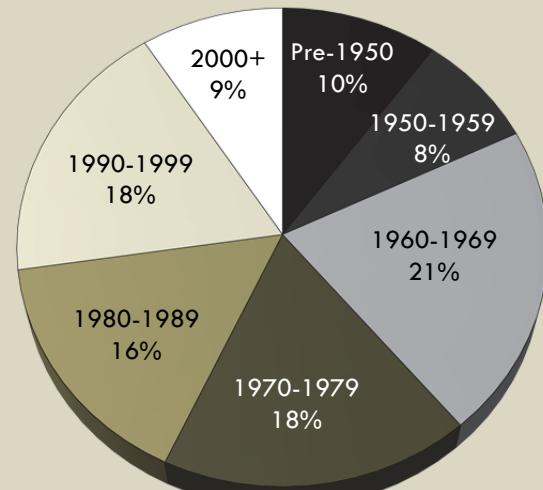


The increase in the number of bridges in Hampton Roads that are classified as structurally deficient between 2007 and 2012. The number of structurally deficient bridges in Hampton Roads increased from 54 bridges to 72 bridges during this time.



The change in the median age of bridges in Hampton Roads between 2007 and 2012. The median age of bridges increased from 34 years to 37 years during this time.

BRIDGES IN HAMPTON ROADS BY YEAR BUILT



Data sources: VDOT, FHWA. Data as of February 2012.

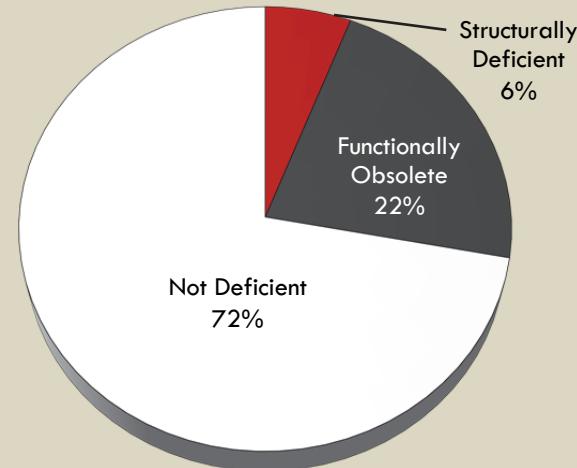
Functionally obsolete bridges are structures that were built to standards that are no longer used today. These bridges have narrow lanes, no shoulders, low vertical clearances, difficult approaches, or may occasionally be flooded.

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 1,214 bridges in Hampton Roads, 72 bridges (6%) are classified as structurally deficient as of February 2012. This is up from 54 bridges (4%) that were classified as structurally deficient in Hampton Roads in 2007. Another 267 bridges (22%) in Hampton Roads are classified as functionally obsolete. Combining structurally deficient and functionally obsolete bridges, 339 bridges (28%) in Hampton Roads are deficient as of February 2012.



STRUCTURALLY DEFICIENT AND FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS, 2012



Data sources: VDOT, FHWA. Data as of February 2012.

NEW DEVELOPMENTS

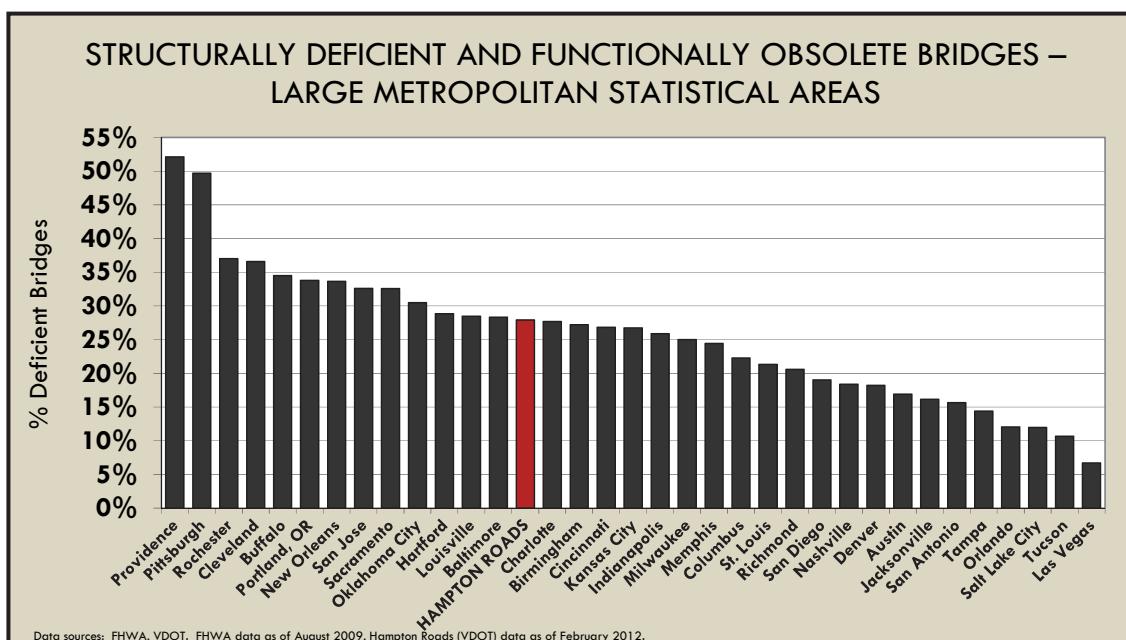
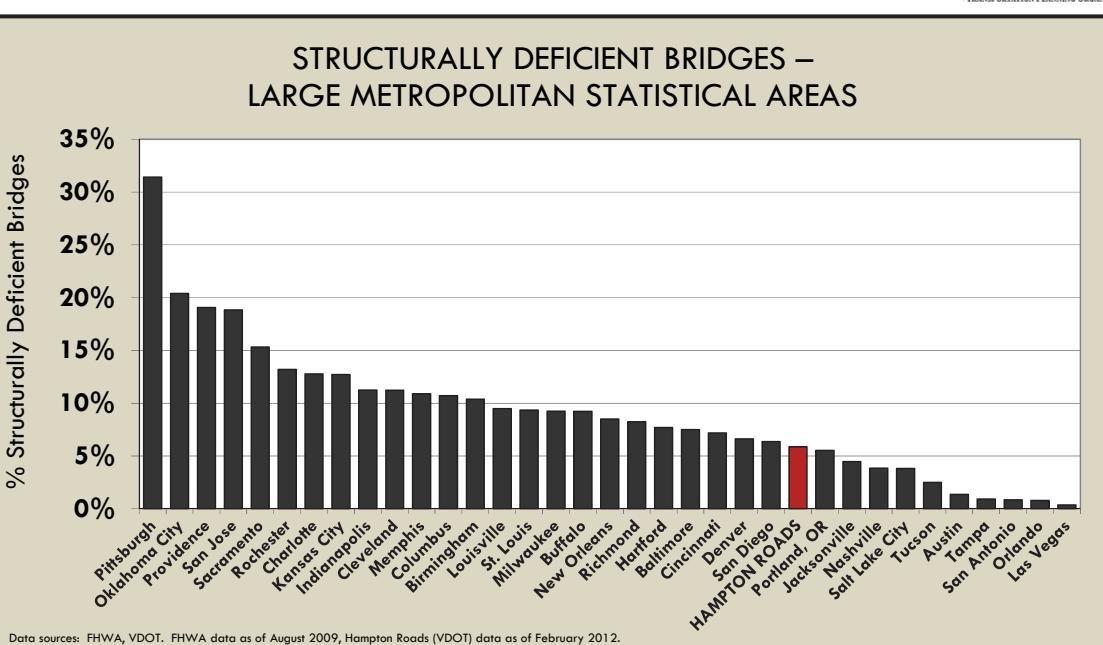
Gilmerton Bridge – A replacement for the Gilmerton Bridge, which carries Military Highway across the Southern Branch of the Elizabeth River in Chesapeake, is currently being constructed. Construction on the new Gilmerton Bridge began in 2009 and the new facility is expected to open to traffic in 2013.



Jordan Bridge - The Jordan Bridge, which crossed the Southern Branch of the Elizabeth River between Chesapeake and Portsmouth, was closed in 2008 after falling into disrepair. A replacement is currently under construction and the new South Norfolk Jordan Bridge is expected to open for traffic in Summer 2012.

The percentage of bridges that are classified as structurally deficient in Hampton Roads is below the average of other comparable metropolitan areas. Using the most recent bridge condition data provided by FHWA for localities, Hampton Roads ranks 25th among 35 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 much higher compared to other metropolitan areas. At 28%, Hampton Roads ranks 14th highest among the 35 large metropolitan areas between one and three million people in terms of the combined percentage of structurally deficient and functionally obsolete bridges.



PAVEMENT CONDITION

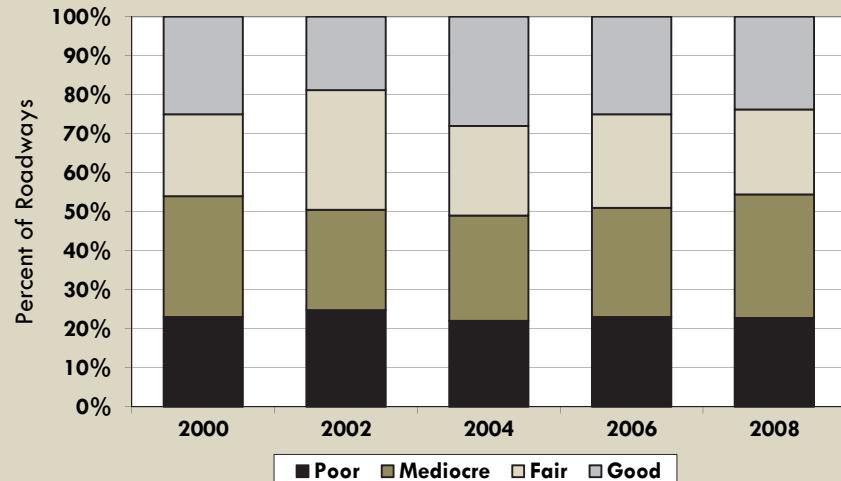
- ▶ Nearly a quarter of all major roadways in Hampton Roads have pavement that is in poor condition, a level that has stayed largely constant in recent years.

TRIP, an organization that researches, evaluates and distributes economic and technical data on surface transportation issues, regularly releases the Urban Roads Report, which details the condition of major roadways in metropolitan areas and the costs that deteriorating roadways have on the public.

According to TRIP, 23% of the major roadways in Hampton Roads had pavement that was in poor condition in 2008. Another 32% of Hampton Roads roadways were rated as mediocre in 2008, 22% were rated as fair, and only 24% were rated as good. Between the years 2000 and 2008, the percentage of poor pavement in Hampton Roads was stable, remaining between 22% and 25% of all major roadways.

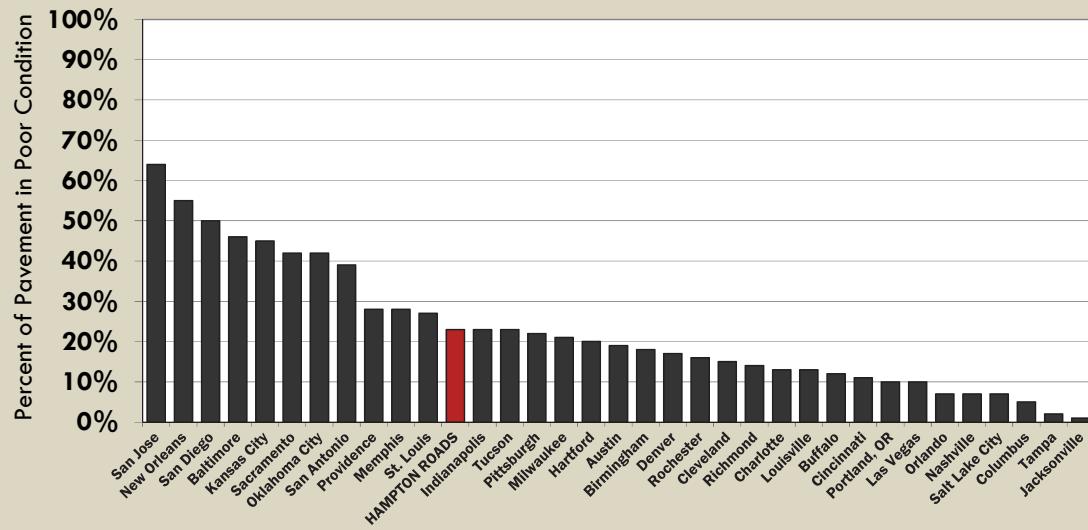
Among 35 large metropolitan areas with populations between one and three million people, Hampton Roads ranked 12th highest in terms of the percentage of roadways with pavement in poor condition in 2008. Some metropolitan areas such as San Jose, New Orleans, and San Diego had more than twice the percentage of poor roadways than Hampton Roads did.

PAVEMENT CONDITION IN HAMPTON ROADS, 2000-2008



Data source: TRIP. Data only includes Interstates, freeways, and other principal arterials.

PERCENT OF ROADWAYS WITH PAVEMENT IN POOR CONDITION IN LARGE URBANIZED AREAS, 2008



Data source: TRIP. Data only includes Interstates, freeways, and other principal arterials.

ROADWAY USAGE

- The growth in roadway travel in Hampton Roads has outpaced the growth in population and roadway capacity over the last decade. However, the amount of roadway travel in the region has leveled off in recent years.

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. There were over 40 million vehicle-miles of travel on the average day in Hampton Roads in 2010. Over the course of the entire year, this adds up to 15 billion vehicle-miles of travel throughout Hampton Roads.



HAMPTON ROADS BRIDGE-TUNNEL BACKUPS

Image Source: HRTPD

Between 2001 and 2010, the amount of daily roadway travel increased by over 4.5 million miles each day, or a total of 12.6%. However, most of this growth in regional roadway travel occurred early in the last decade. Since 2003, the amount of roadway travel in Hampton Roads has only increased 2.4% over the seven year period.

ROADWAY SAFETY TRENDS

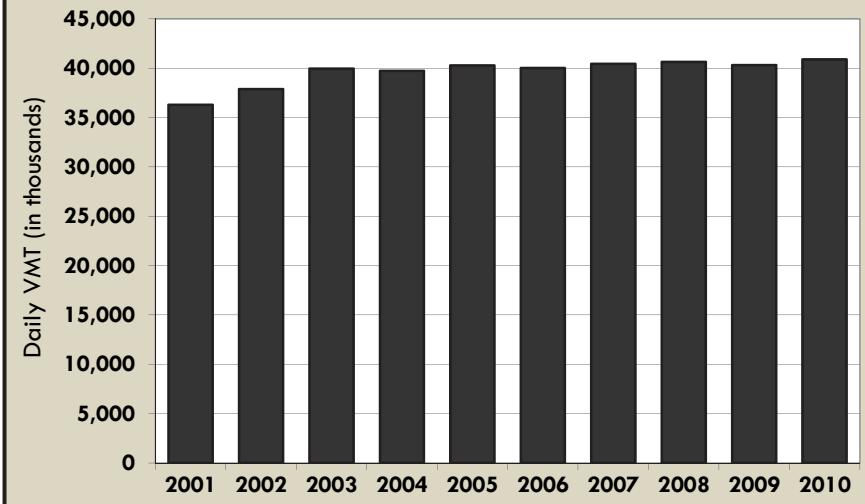


The growth in daily roadway travel in Hampton Roads from 2001 to 2010.

The growth in the amount of daily roadway travel per capita in Hampton Roads from 2001 to 2010.

The growth in regional roadway capacity, in terms of lane-miles, in Hampton Roads between 2001 and 2010. This is less than half the growth seen in vehicular travel.

DAILY VEHICLE-MILES OF TRAVEL IN HAMPTON ROADS, 2001-2010



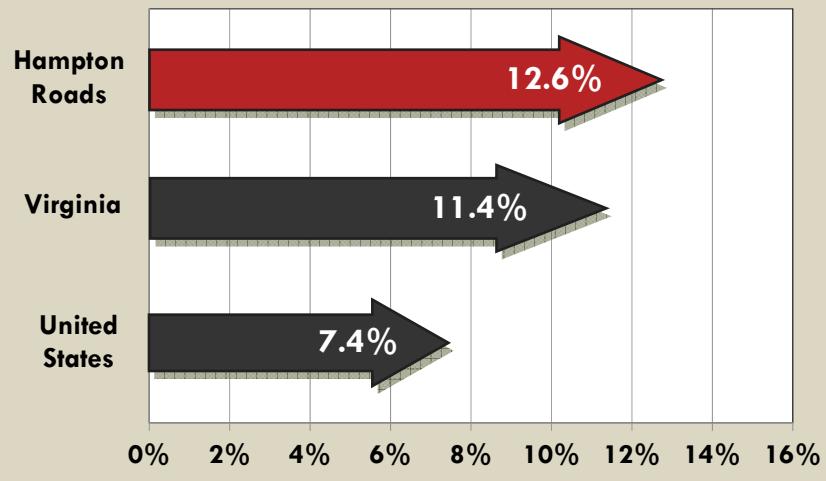
At 12.6%, the growth in vehicular travel in Hampton Roads between 2001 and 2010 was higher than the growth rates seen throughout Virginia (11.4%) and the United States (7.4%). Like Hampton Roads, both Virginia and the United States have also seen the amount of roadway travel level off in recent years. Between 2005 and 2010, roadway travel levels in Virginia have only increased 2.2%, while roadway travel throughout the United States actually decreased 0.2%.

The amount of vehicular travel per capita has also increased in Hampton Roads over the last decade. In 2010, the amount of vehicular travel per capita in Hampton Roads was 24.5 vehicle-miles per person per day. This is up 7.1% from 22.9 daily vehicle-miles per capita in the region in 2001.

Among 35 large metropolitan areas in the United States with populations between one and three million people, Hampton Roads ranked 21st highest in terms of vehicular travel per capita in 2008 (the most recent data available). Areas such as Birmingham, Oklahoma City, Charlotte and Nashville had travel levels of at least 10 more miles per person per day than Hampton Roads did.

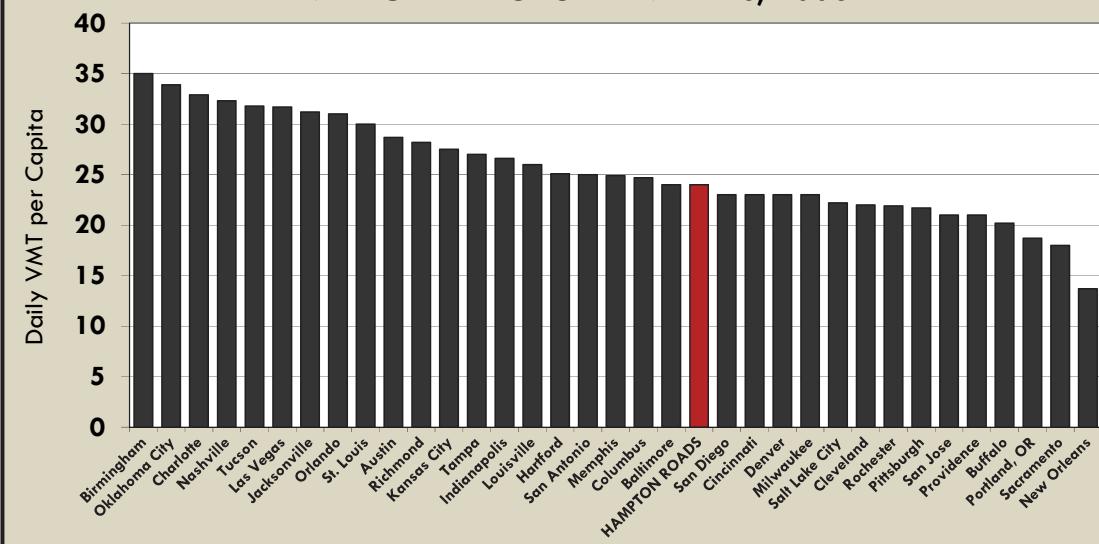
The growth in vehicle-miles of travel in Hampton Roads has outpaced the growth in population over the last decade. Hampton Roads had a population of 1,666,000 in 2010, up 5.2% from 2001. With roadway travel increasing 12.6% during this period, the growth in vehicle-miles of travel was more than twice the growth in the population of Hampton Roads.

GROWTH IN VEHICLE-MILES OF TRAVEL IN HAMPTON ROADS, VIRGINIA, AND THE UNITED STATES, 2001 TO 2010



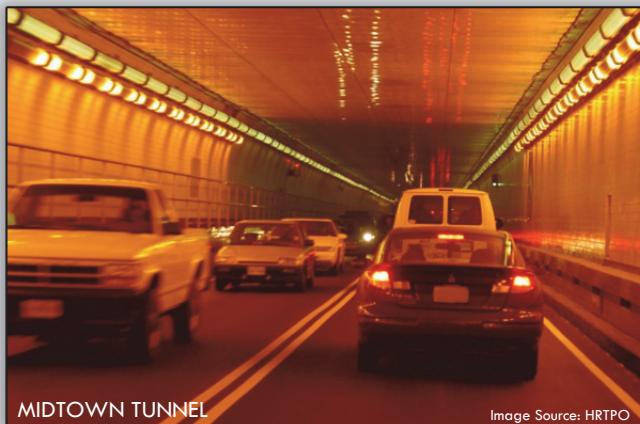
Data sources: VDOT, FHWA Highway Statistics.

DAILY VEHICLE-MILES OF TRAVEL PER CAPITA IN LARGE METROPOLITAN AREAS, 2008

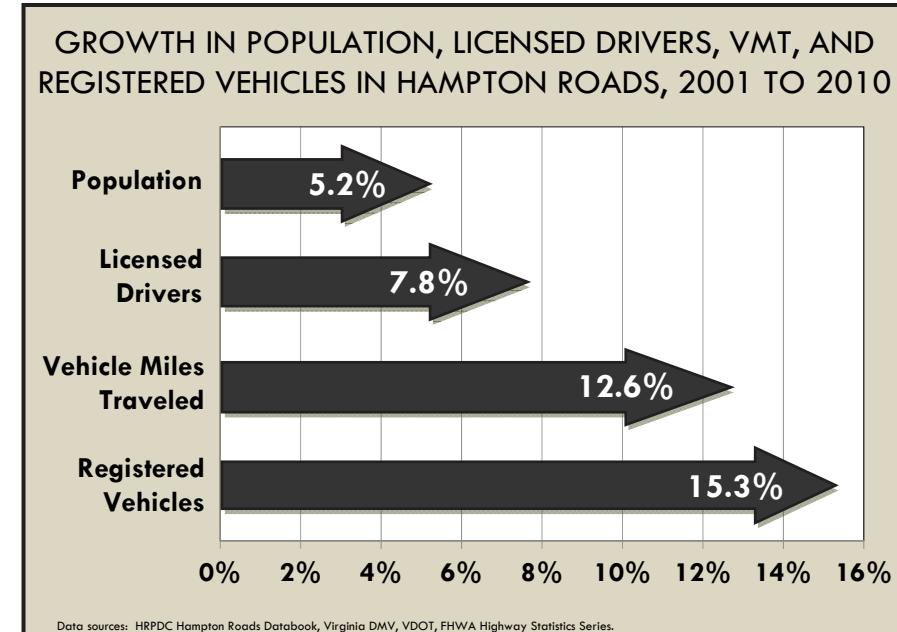
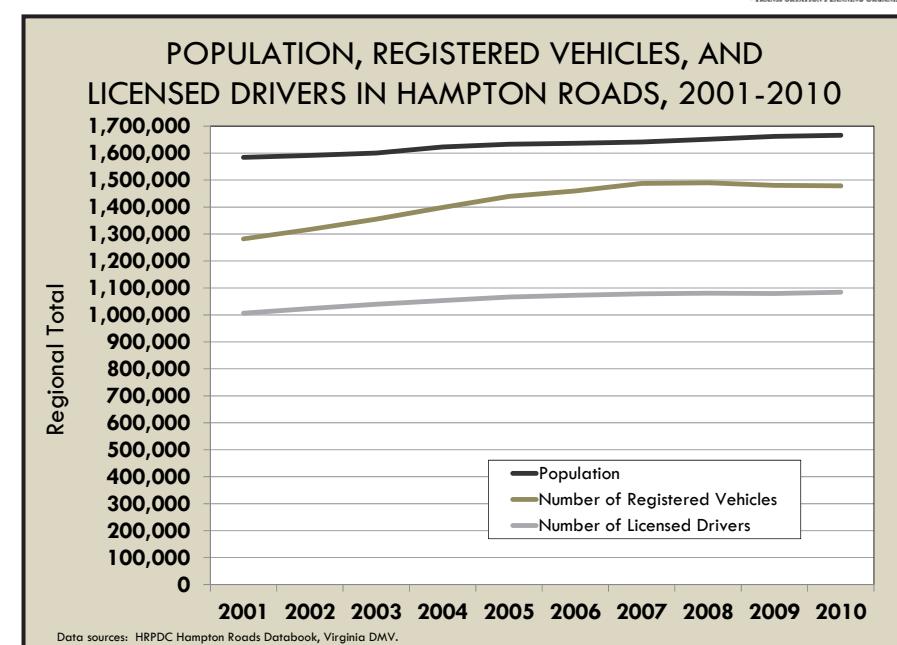


Data source: FHWA Highway Statistics.

There were 1,478,000 registered vehicles in Hampton Roads in 2010. Although the number of registered vehicles in Hampton Roads has actually decreased since 2007, the number of registered vehicles increased 15.3% between 2001 and 2010, far outpacing the growth in regional population and vehicle-miles of travel. The number of vehicles per resident in the region has also increased. In Hampton Roads, there was one vehicle for every 1.13 residents in 2010, as compared to one vehicle for every 1.24 residents in 2001.



The growth in licensed drivers in Hampton Roads has also outpaced population growth, but was less than the growth in registered vehicles and vehicle-miles of travel. There were 1,084,000 licensed drivers in Hampton Roads in 2010, up 7.8% from 2001. There were 1.36 registered vehicles for every licensed driver in Hampton Roads in 2010, up from 1.27 registered vehicles per licensed driver in 2001.

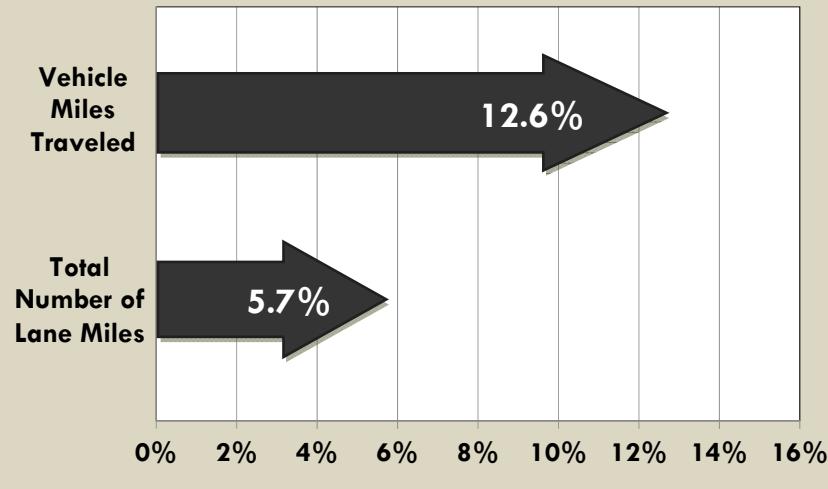


Roadway capacity improvements have not kept up with the growth in vehicular travel in Hampton Roads over the last decade. Between 2001 and 2010, the amount of roadway capacity in terms of lane mileage* only increased 5.7% in Hampton Roads. The growth in vehicle-miles traveled in Hampton Roads (12.6%) was more than twice the growth in the total roadway capacity during this time period.

It should be noted that of the total growth in regional roadway lane mileage, more than half was in local roadways. These local roadways, which typically serve neighborhoods, carry low traffic volumes. Despite comprising over 60% of the regional roadway network, local roadways only carry 12% of the total regional vehicular travel in 2010.

* - 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.

GROWTH IN VMT AND LANE MILEAGE IN HAMPTON ROADS, 2001 TO 2010



BEHIND THE NUMBERS

The amount of roadway travel, both in Hampton Roads and throughout the state and country, is impacted by a variety of factors. These factors include:

- **The condition of the economy** – In recent years, the condition of the economy has dampened roadway travel levels. Higher unemployment has resulted in fewer commuters on the road. The slower economy has also resulted in a decrease in the number of trucks hauling freight on the region's roadways, and the amount of leisure and business travel coming into the region. As the economy improves, this will likely result in more commuters and trucks on regional roadways.
- **Higher fuel prices** – Higher fuel prices have also had an impact on regional roadway travel, particularly when fuel prices first crossed the \$3 threshold in 2005 and the \$4 threshold in 2008. Roadway travel will likely be further impacted if higher thresholds are crossed in the near future.
- **Tourism** – The amount of roadway travel in Hampton Roads is also affected by a number of factors that are unique to the region. Vehicular travel increases greatly in the summer as tourists come to and pass through the region. At the region's bridges and tunnels as an example, traffic volumes were 12% higher in the summer than in the winter in 2011, largely due to the tourist industry.
- **The military** – Regional travel is also impacted by the military, with traffic volumes varying based on the number of military personnel in the region, military exercise activities, and the number of ships in port at any given time.

CONGESTION DATA

- Congestion in Hampton Roads is worse than in many other comparable large metropolitan areas according to national studies, and this congestion costs local residents hundreds of millions of dollars.

Two popular studies examine congestion on the regional level and compare congestion among metropolitan areas. These studies are prepared by INRIX and the Texas Transportation Institute at Texas A&M University.

INRIX has released the National Traffic Scorecard report each year since 2007. The National Traffic Scorecard report details the trends in congestion in the 100 largest metropolitan areas across the country. The data used in the study is collected using millions of probe vehicles, including taxis, delivery vans, trucks, and drivers with GPS-enabled cell phones.

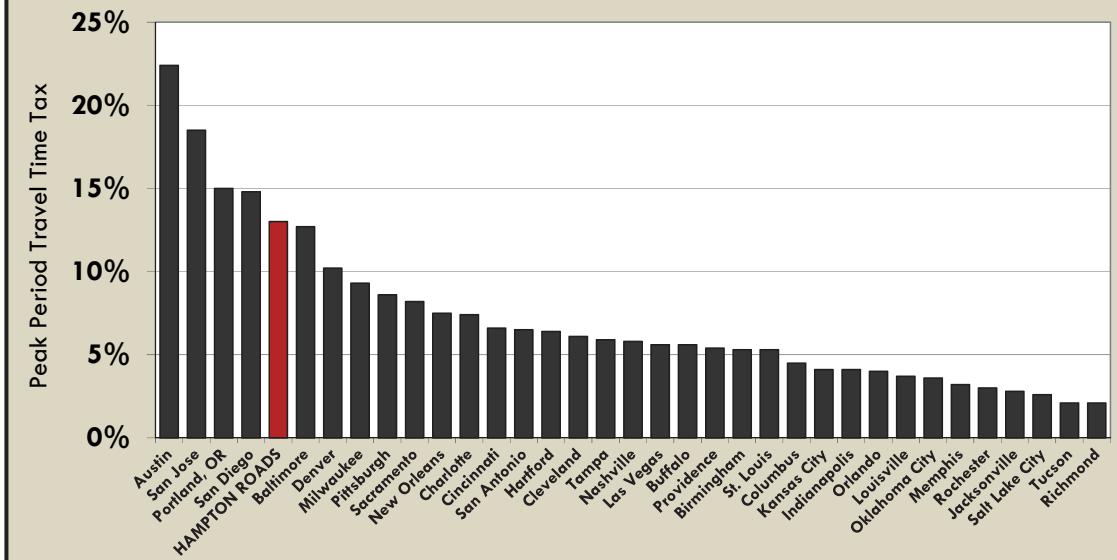
INRIX primarily uses two measures to compare congestion among metropolitan areas, the Peak Period Travel Time Tax and Worst Time Travel Time Tax. The Peak Period Travel Time Tax is defined by INRIX as the percentage of extra travel time the average trip takes during the peak travel period as compared to uncongested conditions. The Peak Period Travel Time Tax in Hampton Roads was 13.0% in 2010. This ranked the region 16th highest in the country, and 5th highest among 35 large metropolitan areas

CONGESTION TRENDS

The change in the Peak Period Travel Time Tax in Hampton Roads between 2007 (15.2%) and 2010 (13.0%). The Peak Period Travel Time Tax in Hampton Roads, however, was higher in 2010 than the levels seen in 2008 and 2009.

The increase in the Worst Time Travel Time Tax in Hampton Roads between 2007 (38%) and 2010 (42%).

INRIX PEAK PERIOD TRAVEL TIME TAX, LARGE METROPOLITAN AREAS, 2010



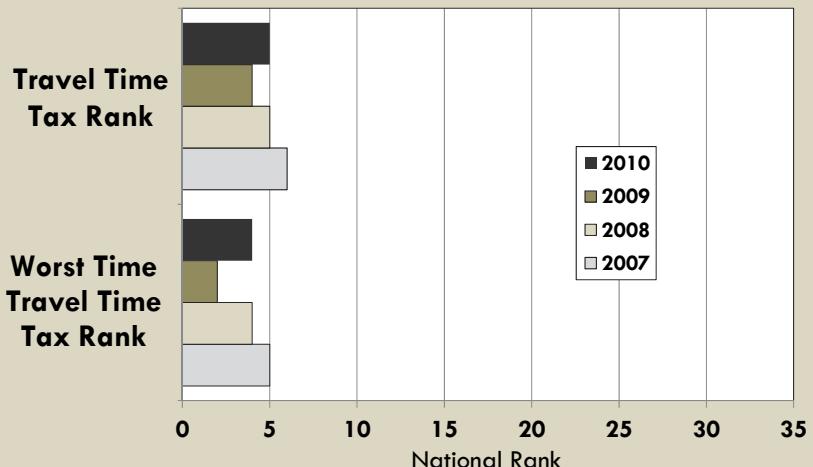
with populations between one and three million people.

The Worst Time Travel Time Tax is similar to the Peak Period Travel Time Tax, except that it represents the percentage of extra travel time a trip takes during the most congested 15-minute period of the week. According to INRIX, the most congested period in Hampton Roads in 2010 occurred on Fridays at 4:30 pm, with a Worst Time Travel Time Tax of 42%. This Worst Time Travel Time Tax ranked Hampton Roads 12th highest in the country, and 4th highest among the 35 large metropolitan areas.

In addition to the National Traffic Scorecard, The Texas Transportation Institute (TTI) at Texas A&M University regularly publishes the Urban Mobility Report. In this study, TTI publishes the amount of time that travelers in 101 urbanized areas spend in congestion, and the costs related to this congestion. TTI divides urbanized areas into four population groups for comparison purposes: very large, large, medium, and small. Hampton Roads was grouped with 30 other urbanized areas in the large group, which are those urbanized areas with between one and three million people.

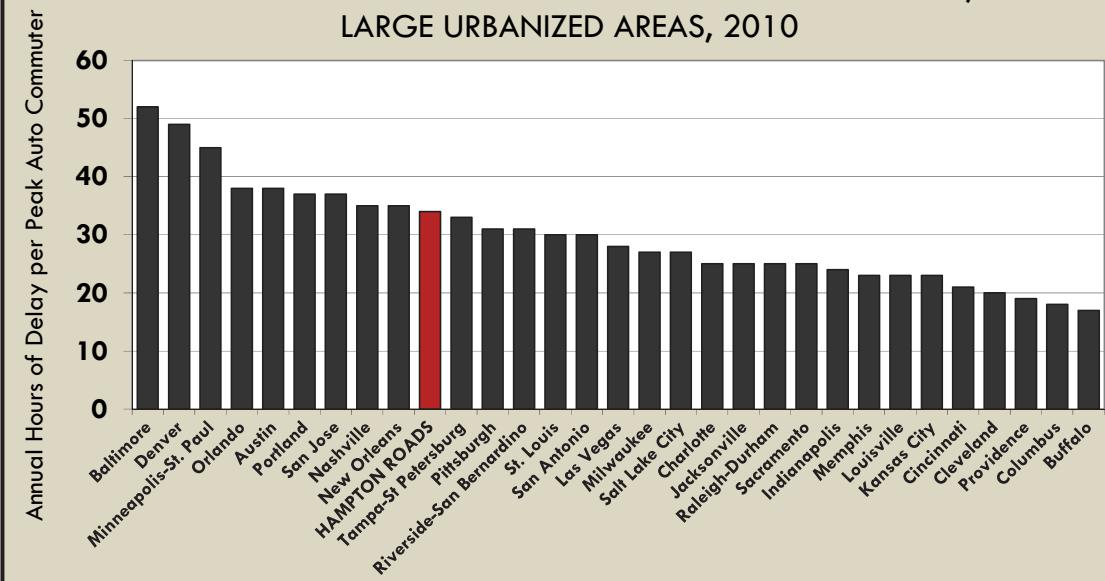
According to TTI, peak period commuters traveling by automobile spent an average of 34 hours stuck in congestion in Hampton Roads in 2010. This ranked the region 10th highest among the 31 large urbanized areas. TTI estimates that the amount of delay in Hampton Roads, and in other large metropolitan areas, decreased between 2001

HAMPTON ROADS INRIX CONGESTION RANKS AMONG LARGE METROPOLITAN AREAS, 2007-2010



Data source: INRIX. The Travel Time Tax is the percentage of extra travel time the average trip takes during the peak period as compared to uncongested conditions in each region. The Worst Time Travel Time Tax uses the most congested 15-minute period.

ANNUAL HOURS OF DELAY PER PEAK AUTO COMMUTER, LARGE URBANIZED AREAS, 2010

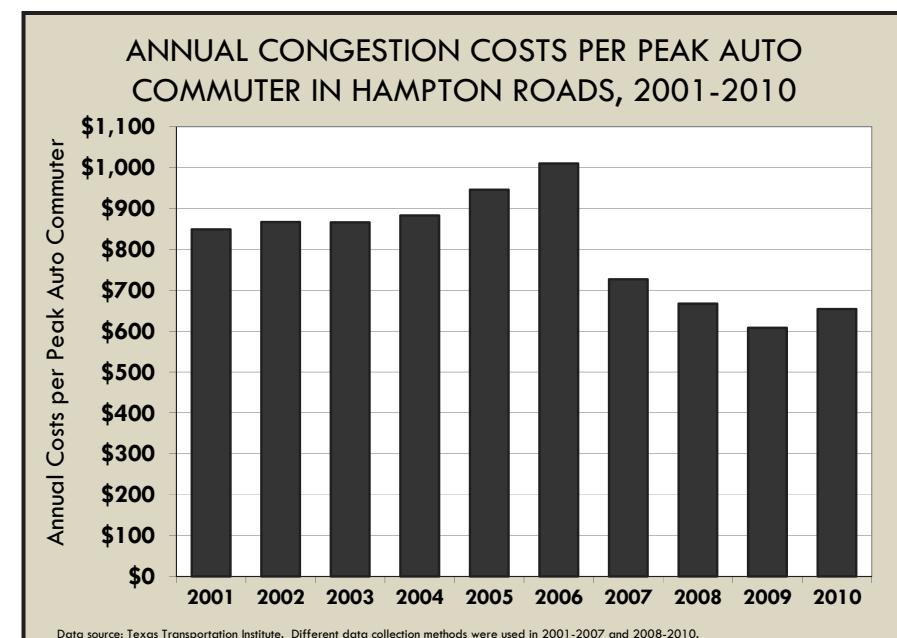
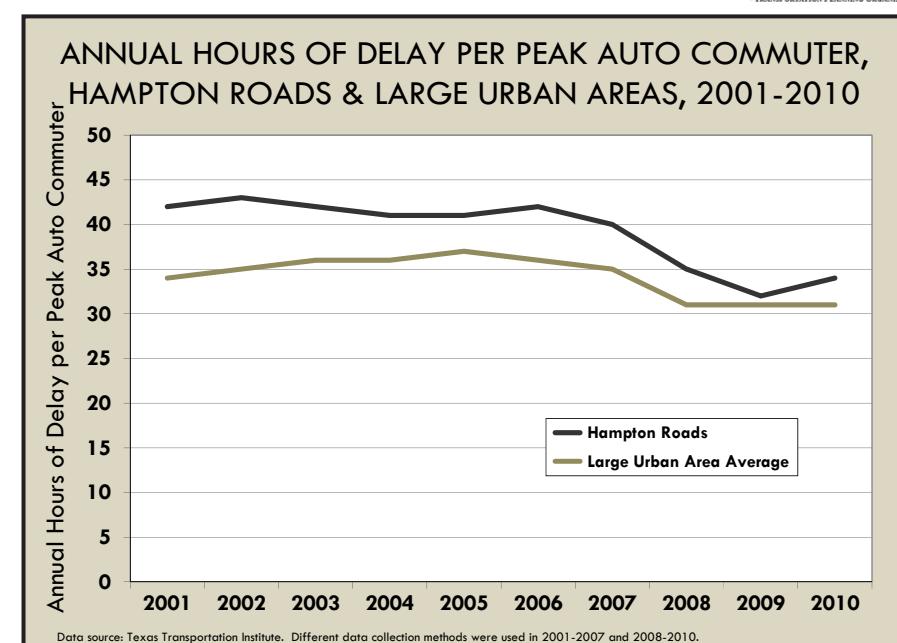


Data source: Texas Transportation Institute.

and 2010. This is likely due to the methodology used by TTI in the study. In the last three years of data, TTI used INRIX speed data and combined it with traffic volumes to produce delay values. Prior to 2008, INRIX speed data was not available for use by TTI, so regional delays were estimated by TTI based on traffic volumes and roadway characteristics. This means that the delay values prior to 2008 are less accurate than the recent data.



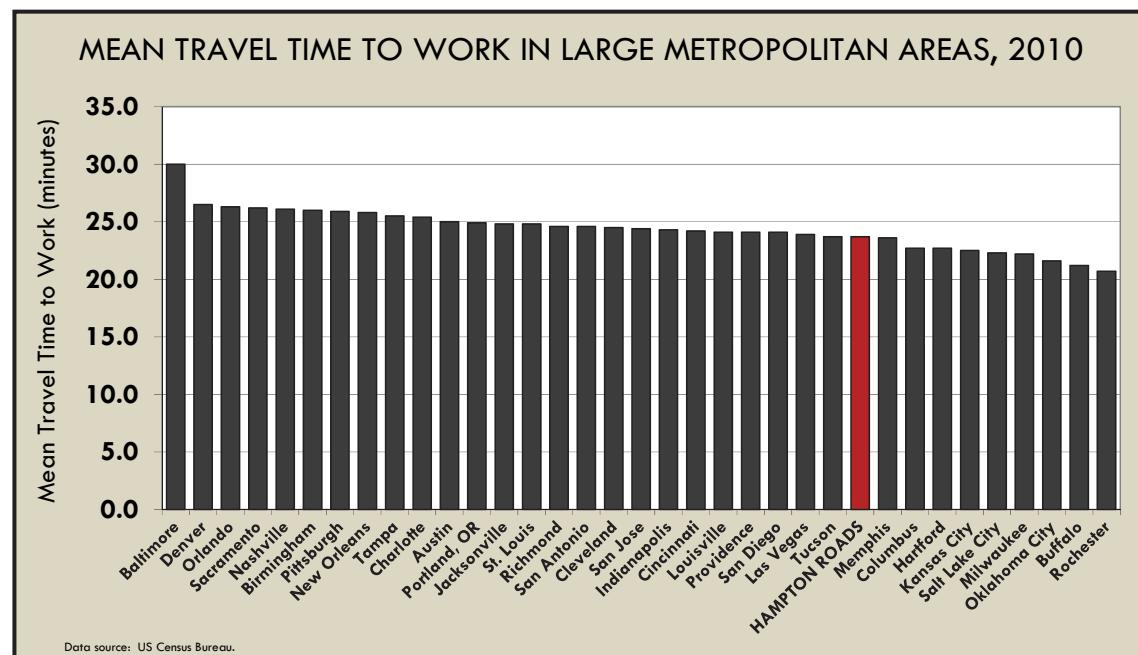
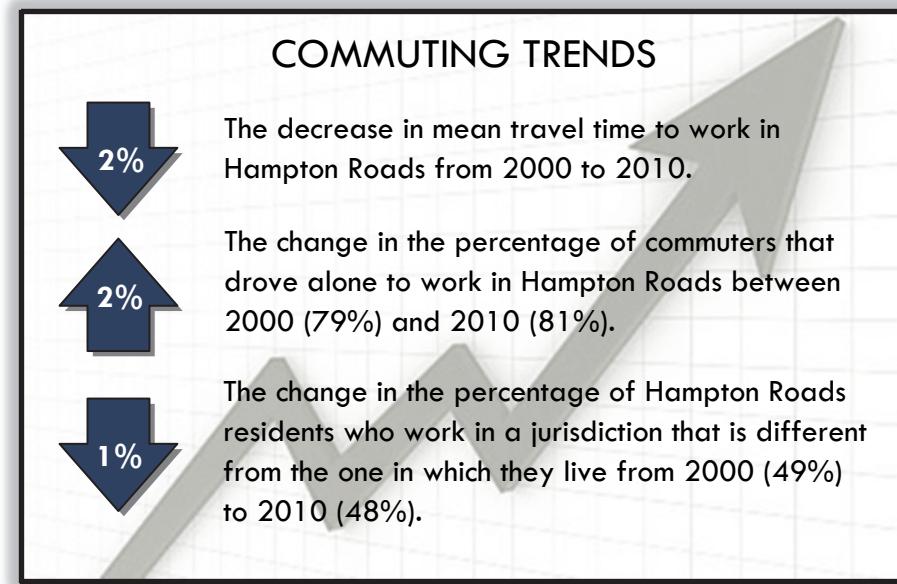
TTI also estimates the direct and indirect costs of being stuck in congestion. TTI estimates that being stuck in congestion cost each Hampton Roads peak period auto commuter an average of \$654 in 2010, which amounts to \$693 million for the entire region. These values take into account the costs associated with wasted fuel (of which TTI estimates that there were over 9 million gallons wasted in Hampton Roads in 2010), the value of a person's time, and the costs associated with operating commercial vehicles. These costs have decreased according to TTI, but, as with the delay values, this decrease is likely due to a change in study data collection methods.



- More than four of every five commuters in Hampton Roads drive to work by themselves in a single occupant vehicle, and nearly half of all regional commuters work in a different community than 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 in each metropolitan area.

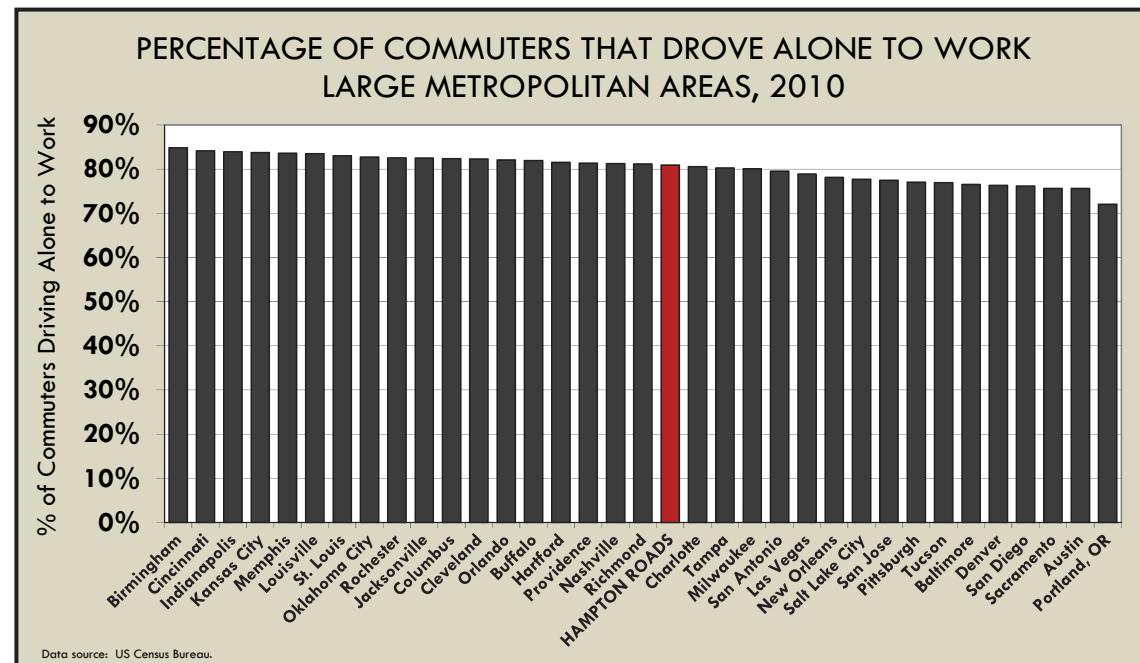
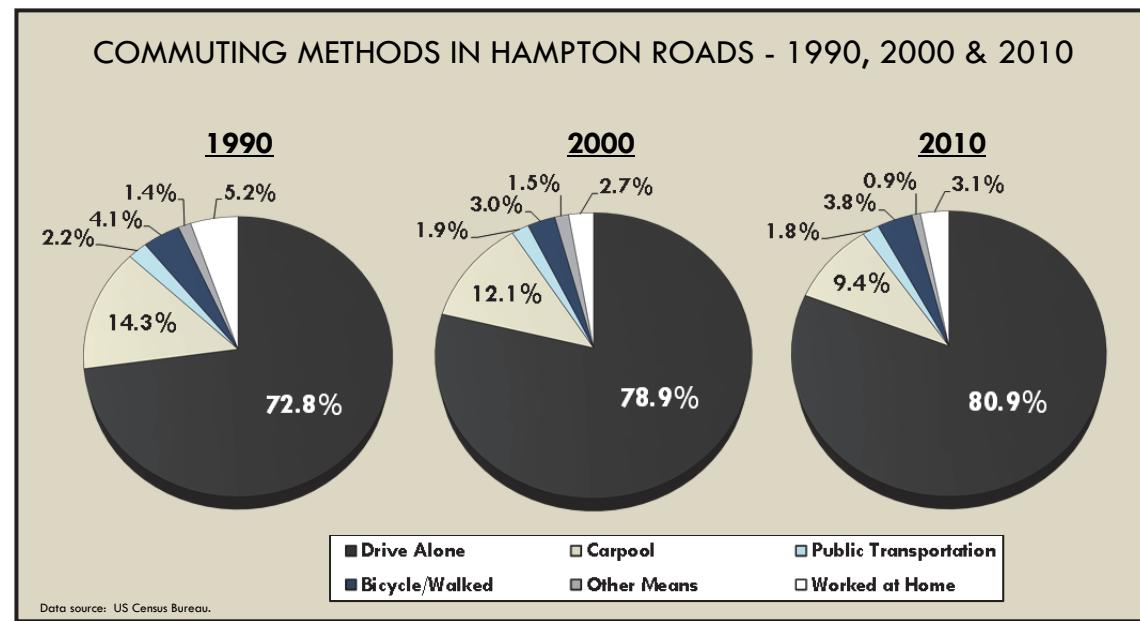
According to the ACS, the mean travel time to work in Hampton Roads was 23.7 minutes in 2010. This number decreased slightly from 2000, when the mean travel time to work was 24.1 minutes. Throughout the 2000s, the mean travel time to work in Hampton Roads varied little, mostly remaining between 23 and 24 minutes. Among the 35 large metropolitan areas throughout the United States with a population between one and three million people, Hampton Roads ranked 26th highest in mean travel time to work in 2010. The mean travel time to work in Hampton Roads was nearly one minute below the average in large metropolitan areas of 24.6 minutes.



Many Hampton Roads residents, however, have much longer commutes. In 2010, one out of every three Hampton Roads commuters (33%) traveled 30 minutes or longer to work, and approximately 5% had commutes of an hour or more.

Nearly half of all Hampton Roads residents work in a jurisdiction that is different from the one they reside in. In 2010, 48% of all workers in Hampton Roads worked in a jurisdiction that was different from the one they resided in. Although this is slightly lower than the percentage seen in 2000 (49%), it is higher than the percentage seen in 1990 (44%).

The number of commuters in Hampton Roads who drive alone to work has increased through the years. In 2010, 81% of commuters in Hampton Roads drove alone to work, up from 79% in 2000 and 73% in 1990. All other commuting modes (such as carpooling, public transportation, and walking) experienced a decrease in their percentage of commuters between 2000 and 2010 except for working at home. Hampton Roads ranked 19th highest among the 35 large metropolitan areas in terms of the percentage of commuters that drove alone to work in 2010.



- The number of crashes and injuries has decreased over the last decade in Hampton Roads as vehicles and roadways have become safer. However, a crash still occurs in Hampton Roads on average every 22 minutes, with an injury occurring every 37 minutes.

There were a total of 24,121 crashes in Hampton Roads in 2011 according to preliminary data from the Virginia Department of Motor Vehicles. Although this is much lower than the 33,000 crashes that occurred each year in the middle of last decade, it is higher than the 23,142 crashes experienced in Hampton Roads in 2010. Between 2002 and 2011, the number of crashes in Hampton Roads decreased 23%, which is more than the statewide decrease in crashes of 18%.

As the number of crashes in Hampton Roads decreased over the last decade, the number of injuries resulting from traffic crashes decreased as well. There were 14,036 injuries that resulted from traffic crashes in Hampton Roads in 2011. This is much lower than the nearly 18,000 injuries that occurred each year between 2002 and 2004, but is higher than the 13,449 injuries in Hampton Roads in 2010. Similar to crashes, the decrease in the number of injuries in Hampton Roads over the last decade (21%) is more than the decrease that was experienced across Virginia (19%) during this time.

In spite of the decrease in the number of crashes and injuries over the last decade, the number of fatalities in Hampton Roads has fluctuated. There were 136 fatalities resulting from traffic crashes in Hampton Roads in 2011, or one fatality every 2.7 days. The biggest factor in traffic crash fatalities in

ROADWAY SAFETY TRENDS

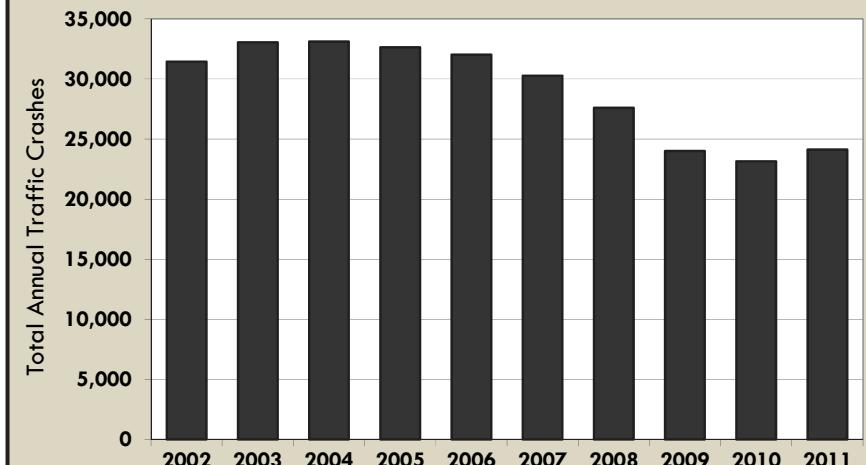


The decrease in the number of crashes in Hampton Roads between 2002 and 2011.

The decrease in the rate of crashes (per amount of travel) in Hampton Roads between 2001 and 2010.

The decrease in the rate of traffic crash fatalities (per amount of travel) in Hampton Roads between the 1999-to-2001 period and the 2008-to-2010 period.

CRASHES IN HAMPTON ROADS, 2002-2011



Data source: Virginia DMV. 2011 data is preliminary.

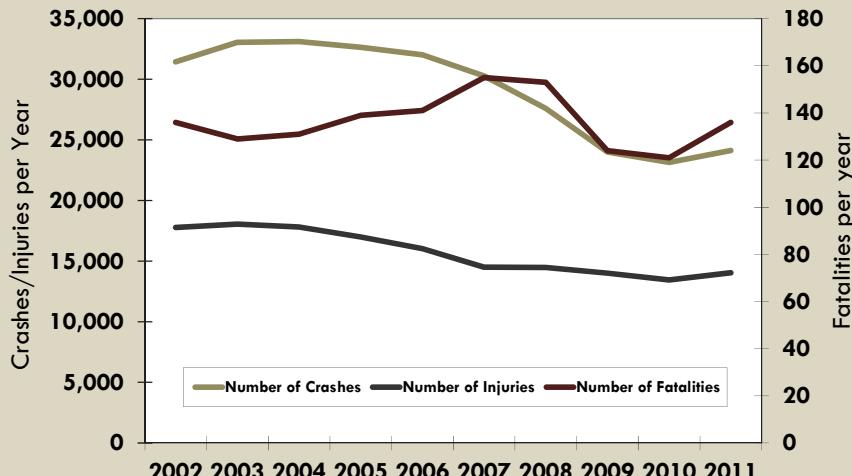
Hampton Roads is alcohol use, with 67 of the 136 fatalities (49%) in 2011 resulting from crashes involving alcohol.

Not only has the number of crashes in Hampton Roads decreased over the last decade, but the rate of crashes relative to the amount of travel has decreased as well. The crash rate in Hampton Roads decreased from 2.21 crashes per million vehicle-miles of travel (VMT) in 2001 to 1.55 crashes per million VMT in 2010, a 30% decrease (VMT data for 2011 was not available at the time of this report). This decrease in the crash rate is more than the decrease seen both across Virginia (28% decrease) and the United States (19% decrease) during this time.



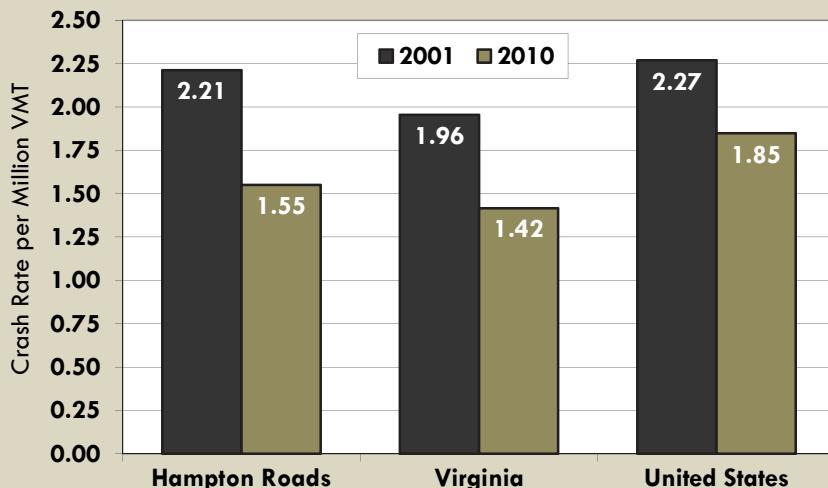
Despite the decrease, the crash rate in Hampton Roads was higher than the statewide rate in 2010, and was higher than the crash rate experienced in the Northern Virginia area. The Hampton Roads crash rate, however, was lower than the rate experienced in the Roanoke (1.59) and Richmond (1.60) metropolitan areas.

CRASHES, INJURIES, AND FATALITIES IN HAMPTON ROADS, 2002-2011



Data source: Virginia DMV. 2011 data is preliminary.

TRAFFIC CRASH RATES IN HAMPTON ROADS, VIRGINIA, AND THE UNITED STATES, 2001 and 2010



Data sources: VDOT, Virginia DMV, NHTSA.

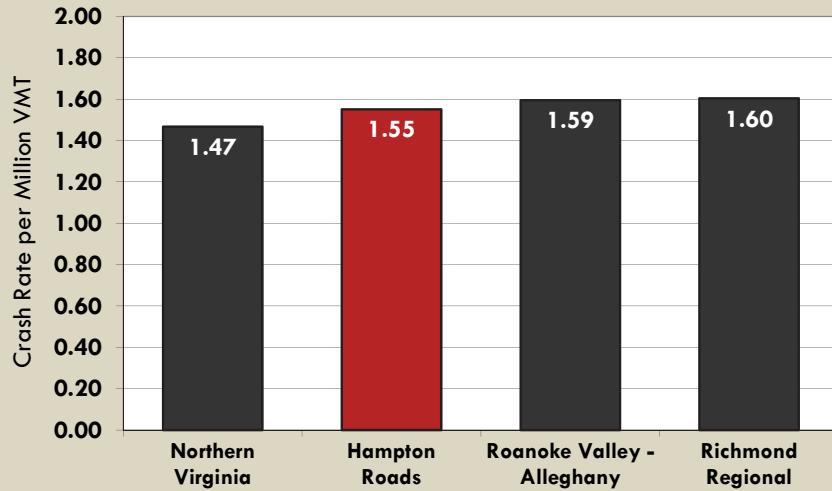
The fatality rate in Hampton Roads has also decreased over the last decade. The Hampton Roads fatality rate was 0.89 fatalities per 100 million VMT in the three-year period from 2008 to 2010, down from 1.02 fatalities per 100 million VMT in the 1999 to 2001 time period (fatalities are often

BEHIND THE NUMBERS

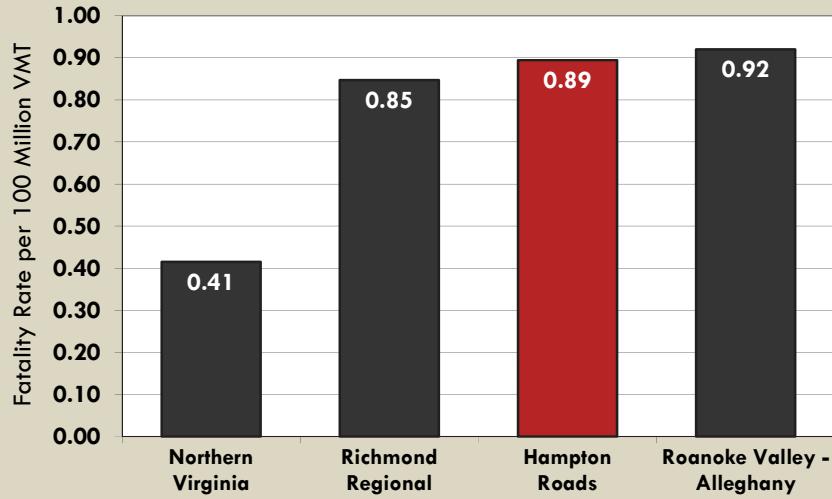
The recent decrease in traffic crashes in both Hampton Roads and across the country is unprecedented. Many factors have contributed to this decrease. Traffic volume levels have not increased significantly in Hampton Roads in recent years, which limits an increase in crashes based on additional travel. Improvements in vehicle technologies, such as sophisticated braking systems, airbags, and electronic stability control systems, have made crashes more avoidable and less severe when they do occur. Safety improvements to roadways, such as rumble strips and median guard cables, have also had the same impact.

There has also been an emphasis on roadway safety planning on the national, state, and local levels. The Highway Safety Improvement Program (HSIP) was created to fund projects that improve safety at hazardous locations. Many states, including Virginia, are also using Roadway Safety Audits (RSAs), which are formal safety examinations of hazardous locations by independent teams. These teams, which often include HRTPO staff, analyze and report on road safety issues at specific locations and identify possible improvements.

TRAFFIC CRASH RATES IN VIRGINIA METROPOLITAN AREAS, 2010



TRAFFIC CRASH FATALITY RATES IN VIRGINIA METROPOLITAN AREAS, 2008-2010

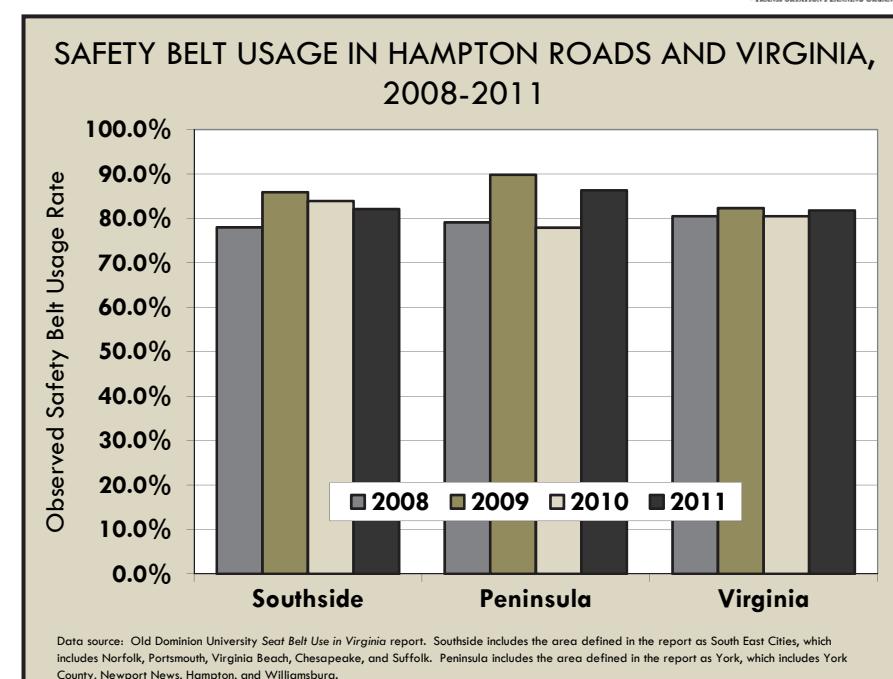


analyzed using three year periods due to the number that occur in any given year). The fatality rate in Hampton Roads from 2008 to 2010, however, was more than twice the rate experienced in Northern Virginia, and was also higher than the rate experienced in the Richmond area.

Safety belt use has an impact on the number of injuries and fatalities resulting from crashes. In 2011, Virginia had an observed safety belt usage rate of 81.8% according to an annual study done by Old Dominion University. Regional usage rates were higher than the statewide rate, with the Southside having an observed safety belt usage rate of 82.1% in 2011 and the Peninsula having a usage rate of 86.3%. Although both the Southside and Peninsula usage levels were higher in 2011 than the levels seen in 2008, they are also lower than levels seen in previous years.

Virginia's safety belt usage rate, however, is lower than the national rate of 84%, and in 2010 Virginia had the 38th highest usage rate in the country. This is primarily due to the fact that Virginia does not have 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 32 states with primary enforcement safety belt laws, 28 had a higher safety belt usage rate than Virginia.

The HRTPO regularly produces the General Crash Data and Trends report, which includes an analysis of the trends in crashes, injuries, and fatalities on a regional and jurisdictional level, and includes comparisons with statewide and national data. The 2011 version of this report, along with details of other HRTPO safety planning efforts, is available at http://www.hrtpo.org/TPO_Roadway_Safety.asp.



TRUCK DATA

- More than 16,000 trucks enter and exit Hampton Roads each weekday, serving as the lifeline to the third busiest port on the east coast and to the commerce of the region as well.

Freight movement is a critical component of the Hampton Roads economy, and, as mentioned previously in this report, trucks are the primary mode for moving freight to and from the Port of Virginia. But the trucks travelling throughout the region serve much more than the port. In fact, only about 10% of the weekday truck travel in Hampton Roads is directly related to trucks serving the region's port facilities.

Each weekday in 2011, 16,500 trucks entered or exited Hampton Roads through major gateways. This number is much lower than the levels seen before the recession started. About 19,100 trucks passed through major gateways each weekday in 2005 and this number increased to 20,100 trucks in 2007. By 2009, the number of trucks passing through regional gateways had dropped to 17,000 each weekday.

The primary gateway for trucks entering or exiting Hampton Roads is I-64. An average of 6,338 trucks used I-64 to enter or exit the region each weekday in 2011, which accounted for 38% of the trucks passing through the region's major gateways. Route 58 and Route 460 were the next most used gateways. An average of 3,228 trucks used the Route 58 gateway each weekday in 2011, and 1,955 trucks used the Route 460 gateway. Combined, I-64, Route 58, and Route 460 accounted for 70% of all trucks passing through the region's major gateways in 2011.

TRUCK DATA TRENDS



13%

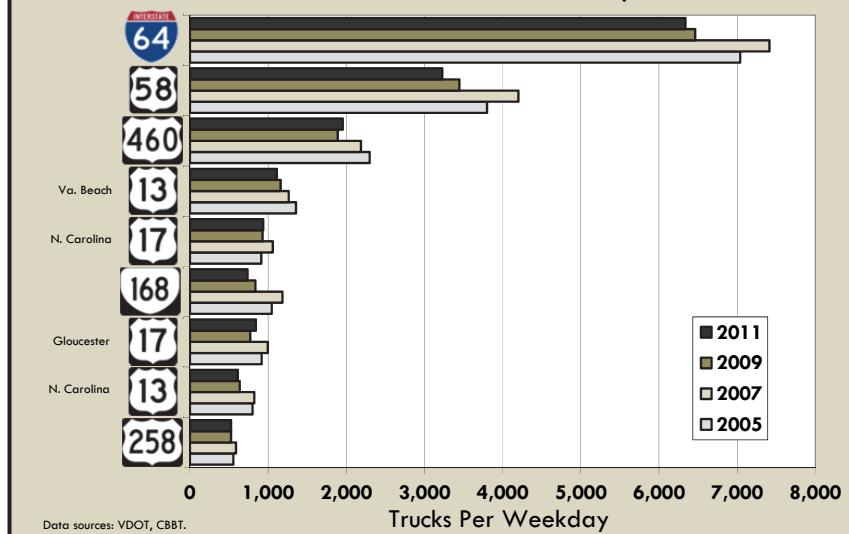


12%

The decrease in the number of trucks that entered or exited Hampton Roads each weekday at major gateways between 2005 and 2011. Most of this decrease occurred between 2007 and 2009 due to the impacts of the recession.

The decrease in the amount of truck travel each day in Hampton Roads between 2005 and 2010. Since reaching a high in 2007, the amount of truck travel in the region has decreased 18%.

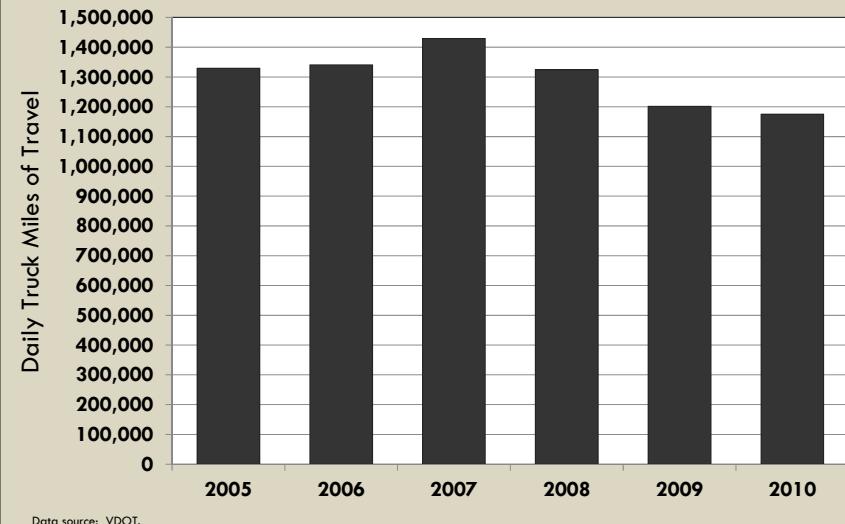
NUMBER OF TRUCKS PASSING THROUGH HAMPTON ROADS GATEWAYS EACH WEEKDAY, 2005-2011



There was a total of 1.17 million miles of truck travel each day in Hampton Roads in 2010 according to VDOT, which accounted for 2.9% of all travel throughout the region. This is 12% lower than the levels seen in 2005, and 18% lower than the highs in regional truck travel seen in 2007. It should be noted that most truck travel occurs outside of the peak travel periods. Only 31% of all truck travel in Hampton Roads occurred during the morning and afternoon peak travel periods in 2010.

One of the issues involving regional truck travel is overheight trucks at the tunnels. Overheight trucks turned around at tunnel entrances lead to traffic stoppages, which cause additional congestion and safety problems. This is especially an issue at the westbound Hampton Roads Bridge-Tunnel, which has a lower vertical clearance than other tunnels in the area. A total of 11,120 trucks were stopped, measured, and turned around at tunnels in Hampton Roads in 2011, 5,816 (52%) of which occurred at the westbound Hampton Roads Bridge-Tunnel. A total of 953 of these 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. After reaching a low of 528 turnarounds in 2008, as a result of higher fines and additional advance signage and sensors, the number of turnarounds on the south island has returned to levels seen in 2005.

DAILY TRUCK TRAVEL IN HAMPTON ROADS, 2005-2010



BEHIND THE NUMBERS

Similar to the region's ports, truck travel throughout Hampton Roads is largely impacted by the national and global economy. Trucks not only transport the majority of goods to and from the ports in Hampton Roads, but also serve many sectors that are highly dependent on the health of the economy such as manufacturing and retail.

There is a strong relationship between the amount of freight handled at the Port of Virginia and the number of trucks traveling into and throughout the region. Between 2007 and 2010, the amount of general cargo handled by the Port of Virginia decreased 14%, due to the economy. In the same period, the number of trucks passing through regional gateways decreased 16% and the amount of truck travel throughout Hampton Roads decreased 18%. In the future, the share of freight transported by truck at the Port of Virginia is anticipated to decrease, with up to half of all general cargo being transported by rail.

PUBLIC TRANSPORTATION

- Public transportation usage in Hampton Roads has grown in recent years, and will likely continue to grow with the addition of light rail and innovative ridership payment options.

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.

Both of these regional transit agencies provide a variety of public transportation options. 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 Hampton Roads Transit between various locations on the Peninsula and Southside.



Tourist Oriented Services – Special public transportation service is provided in tourist destinations around Hampton Roads. These services include the VB WAVE service at the Virginia Beach Oceanfront, shuttle services around Colonial Williamsburg, and the Williamsburg and Yorktown Trolleys.



PUBLIC TRANSPORTATION TRENDS



The increase in the number of passenger trips taken on public transportation in Hampton Roads between 2002 and 2011. Most of this growth occurred between 2007 and 2011.



The increase in public transportation use in Hampton Roads, on a passenger trips per capita basis, between 2002 and 2011.



Light Rail – As mentioned in the Rail Travel section of this report, HRT began operating light rail service in Norfolk in 2012.



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.

There were over 20 million unlinked trips* taken on public transportation in Hampton Roads in 2011. This number includes HRT and WATA ridership on regular and express buses, tourist oriented services, light rail, vanpools, and the passenger ferry. The number of trips on public transportation in Hampton Roads has increased significantly, with a 19% increase in ridership between 2002 and 2011. Most of this growth has occurred since 2007, likely due to the impacts of the recession. Over those four years, transit ridership in Hampton Roads has increased 24%.

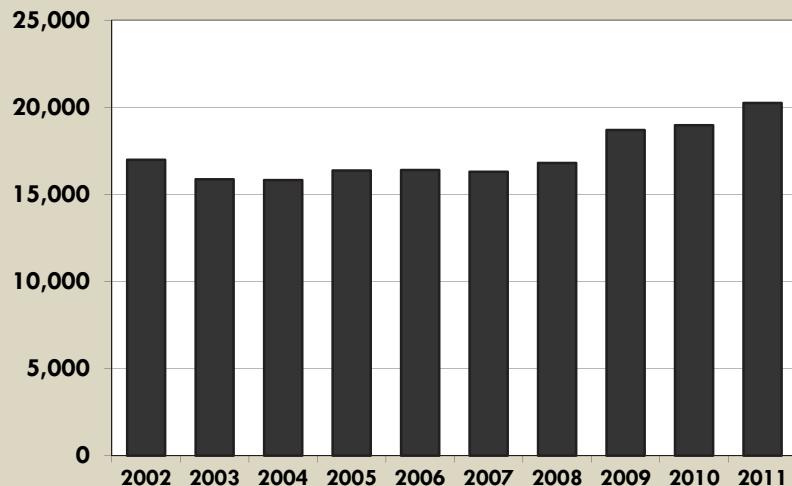
Most public transportation trips in Hampton Roads are taken on regular or express bus service. Looking from October 2011 through December 2011 (during which light rail service was in place), 89% of the public transportation trips in Hampton Roads were taken on regular or express bus service. Light rail comprised 7% of the transit trips, with all other modes comprising 4%.



Public transportation usage in Hampton Roads has lagged behind the usage in other comparable metropolitan areas. At just over 11 trips on public transportation per capita

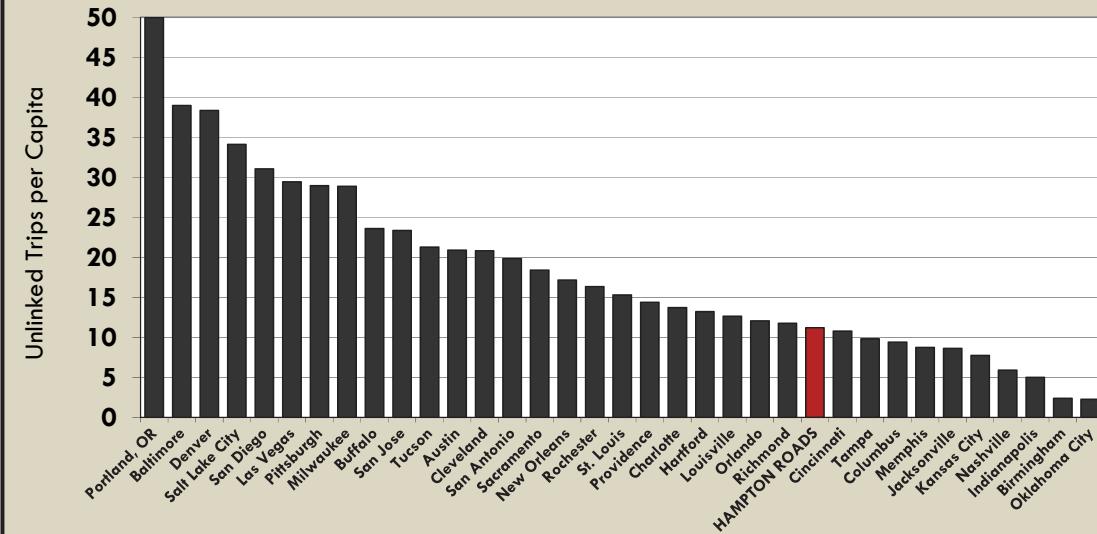
* - An unlinked trip is a passenger trip made on one transit vehicle. If a passenger boards two buses to get from origin to destination, that is considered to be two unlinked trips.

PASSENGER TRIPS TAKEN ON PUBLIC TRANSPORTATION IN HAMPTON ROADS, 2002-2011



Data source: American Public Transportation Association (APTA).

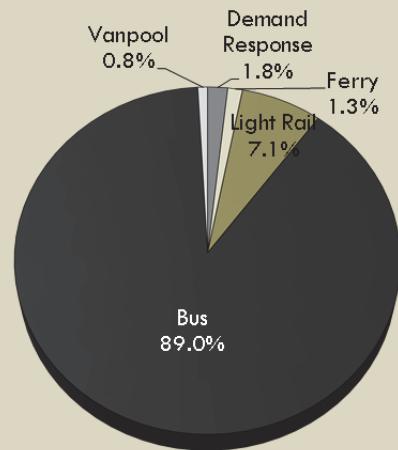
PASSENGER TRIPS PER CAPITA ON PUBLIC TRANSPORTATION IN LARGE METROPOLITAN AREAS, 2010



Data source: National Transit Database.

in 2010, Hampton Roads ranked 25th highest among the 35 large metropolitan areas with populations between one and three million people. Of the 24 areas with a higher number of trips per capita, 16 have a rail transit system in place in their region. The Hampton Roads ranking will likely improve in future years as the impacts of the Tide Light Rail system and innovative payment options such as GoPass 365 are reflected in the passenger levels.

TRANSIT USAGE BY MODE IN HAMPTON ROADS, OCTOBER 2011-DECEMBER 2011



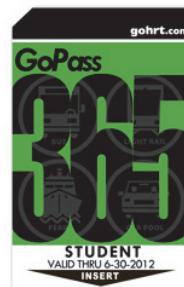
NEW DEVELOPMENTS

Light Rail – Service on The Tide Light Rail Line began in August 2011. The \$318 million starter line runs 7.4 miles between the Medical Center Complex through Downtown Norfolk to Newtown Road at the Virginia Beach city line. As of the end of March 2012, the system has carried over one million passengers.



Image Source: VDOT

GoPass 365 – In 2011, HRT instituted a new, innovative program called GoPass 365. In this program, employers and schools can purchase passes that allow all of their employees or students to use HRT transit services at no additional charge. Costs to participate in the program are charged to the employer/school annually on a per employee or per student basis and vary by the size of employer or school.



Williamsburg Trolley – The Williamsburg Area Transit Authority instituted the Williamsburg Trolley route in August 2009. The Williamsburg Trolley provides service between Colonial Williamsburg, Merchants Square, the College of William and Mary, High Street and New Town. Provided on replica trolleys that aim to be more attractive to users than typical buses, the service is geared towards area residents, visitors, and William and Mary students.



Image Source: WATA

ACTIVE TRANSPORTATION

- ▶ Active Transportation Planning, which aims to improve user 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.



There are currently thousands of miles of sidewalks and over 450 miles of bicycle facilities in Hampton Roads. These non-motorized facilities vary greatly in type and length, from secluded paths in city and state parks to dedicated lanes along major

NON-MOTORIZED FACILITIES IN HAMPTON ROADS

There are a number of types of non-motorized facilities in place in Hampton Roads. These non-motorized facilities include:

Bike Lanes

A portion of the right side of the roadway is designated by signs and pavement markings for the preferential use of bicycles.



Shared Use Paths

A facility physically separated from the roadway intended for the use of bicycles, pedestrians, and other active transportation users.



Wide Paved Shoulders

A paved portion of a highway to the right of the edge stripe on which bicyclists may ride and, to a lesser extent, pedestrians may walk.



Wide Outside Lanes

An outside travel lane wider than standard width that is shared by motor vehicles and bicycles.



Sidewalks

Non-motorized facilities designed primarily for foot traffic and users with smaller wheeled devices.



Shared Lanes

A travel lane of standard width that is shared by motor vehicles and bicycles. These should only be designated on low volume roadways.



Grade Separated Crossing

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



thoroughfares to 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.

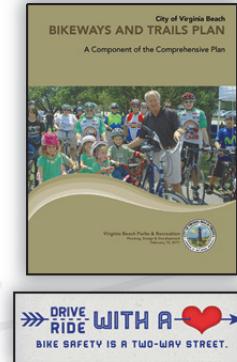
In recent years, several major non-motorized facilities have been added in Hampton Roads. Examples of these facilities include the conversion of the old section of Route 17 in Chesapeake into the Great Dismal Swamp Trail, bike lanes along a hazardous section of Shore Drive in Virginia Beach, and portions of the Virginia Capital Trail that, upon completion, will connect Williamsburg and Downtown Richmond with a 54-mile facility. In addition, many new roadway projects and developments across the region are incorporating sidewalks and multi-use trails, as encouraged by local policies and incentives.



NEW DEVELOPMENTS

Local Active Transportation Planning – In addition to including bicycle and pedestrian planning in their Comprehensive Plans, many localities in Hampton Roads have developed detailed bikeway and trail maps and plans. These efforts include:

- Officials in James City County, Williamsburg, and York County joined together to form a bicycle advisory committee and prepare a Regional Bicycle Facilities Plan and Regional Bikeway Map.
- Isle of Wight County produced the *Pedestrian and Bicycle Facilities Master Plan* for their county in 2009.
- The city of Newport News graphically displays all of its bicycle paths on the city's GIS mapping website.
- The city of Virginia Beach produced an update to the *Virginia Beach Bikeways and Trails Plan* in 2011. Bikeway and trail information is also accessible on the city's website, and the city is also running a bike safety campaign "The Two-Way Street".



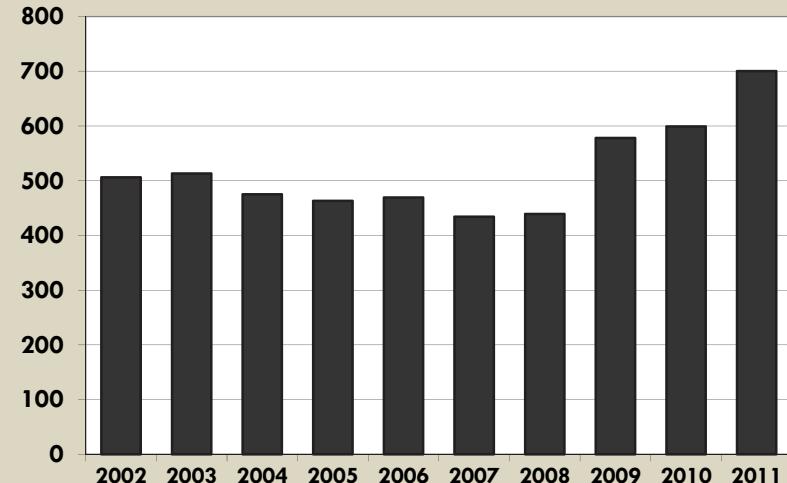
Regional Active Transportation Planning – HRTPO staff is currently preparing the Regional Active Transportation Research Scan. This effort, to be completed in Summer 2012, will document the state of the practice in Active Transportation Planning, highlight best practices in regions throughout the country and internationally, and outline a proposed methodology to develop a Regional Active Transportation Plan.

Once the Regional Active Transportation Research Scan is complete, HRTPO staff plans to collaborate with stakeholders to create a Non-Motorized Facility Inventory. This effort, expected to be completed in 2013, will document existing facilities throughout the region, which can then be used by regional and local stakeholders to identify potential improvements to the non-motorized transportation network as part of a Regional Active Transportation Plan.

With the emphasis on providing facilities for active transportation users, the safety of pedestrians and bicyclists is a major concern. There were 700 crashes involving pedestrians or bicyclists in Hampton Roads in 2011, resulting in 24 fatalities. The number of crashes in Hampton Roads involving pedestrians or bicyclists was higher in 2011 than in any other year in the last decade, and the number of fatalities matches the highs seen throughout the same period. Although pedestrian and bicyclist crashes comprised less than 2% of the total crashes in Hampton Roads between 2002 and 2011, over 12% of all fatalities in Hampton Roads during this time resulted from pedestrian and bicyclist crashes.

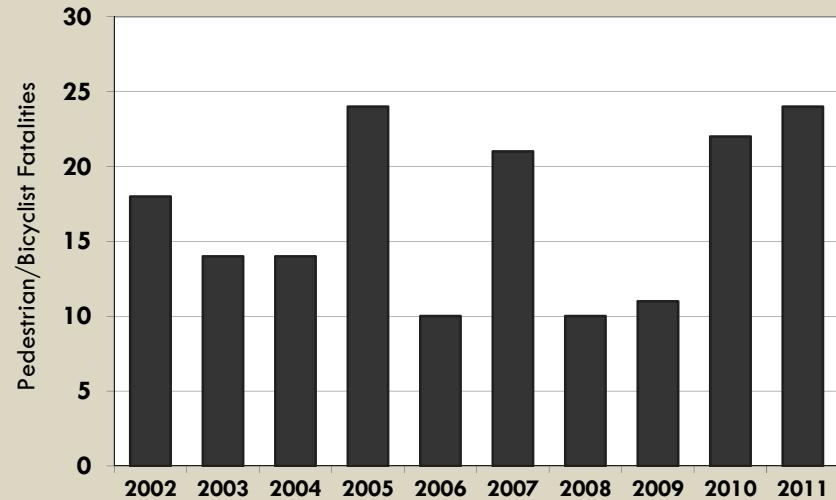


PEDESTRIAN/BICYCLIST CRASHES IN HAMPTON ROADS, 2002-2011



Data source: Virginia DMV. 2011 data is preliminary.

PEDESTRIAN/BICYCLIST FATALITIES IN HAMPTON ROADS, 2002-2011



Data source: Virginia DMV. 2011 data is preliminary.

TRANSPORTATION FINANCING

- Funding for transportation in Virginia reached a high point in 2012, although funding for transportation, particularly new roadway construction, is expected to return to lower levels in future years.

The Commonwealth Transportation Board (CTB) allocates funding for many aspects of the statewide transportation system, 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. In Fiscal Year 2012, the CTB approved a \$5.3 billion transportation budget for the State of Virginia. This is more than \$1.5 billion higher than the funding levels in FY 2011, largely due to an infusion of \$1.1 billion from newly issued bonds.

Future transportation budgets are projected to be slightly higher than the budgets in recent years. A total of \$26.8 billion is projected to be available for transportation statewide in Fiscal Years 2013-2018, which is 3% higher than the budgets from Fiscal Years 2007-2012. These projected budgets for transportation, however, are based on current legislation and may vary based on future legislation passed by the Virginia General Assembly and the U.S. Congress.

Revenues for Virginia's transportation budget come from a variety of sources. In FY 2012, the largest source of revenue for transportation is bonds. \$1.1 billion, or 24% of the total statewide transportation budget in FY 2012, is coming from the issuance of bonds. The next largest sources of transportation

TRANSPORTATION FINANCING TRENDS

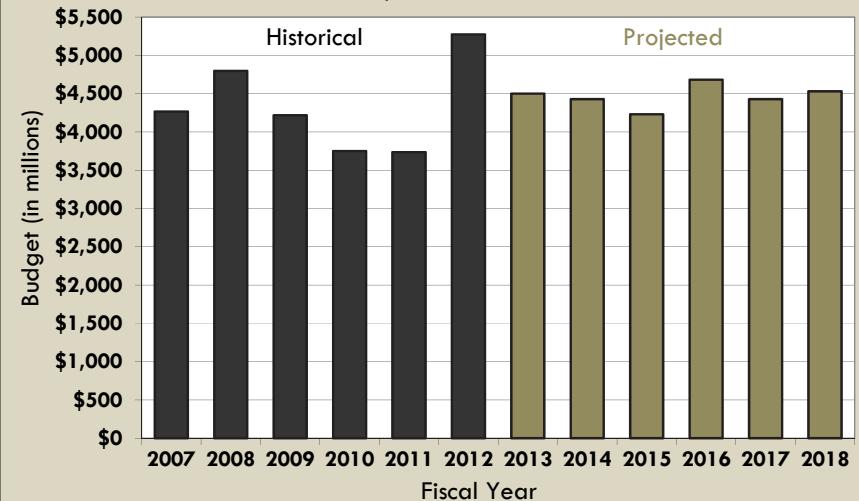


The projected increase in Virginia's transportation budget from FY 2007-2012 to FY 2013-2018.

The projected decrease in funding for statewide highway construction between FY 2007 and FY 2018.

The decrease in the purchasing power of Virginia's gas tax, per gallon, since the last time the tax was increased in 1986 according to a national study.

HISTORICAL AND PROJECTED TRANSPORTATION BUDGET, STATE OF VIRGINIA, FISCAL YEARS 2007-2018

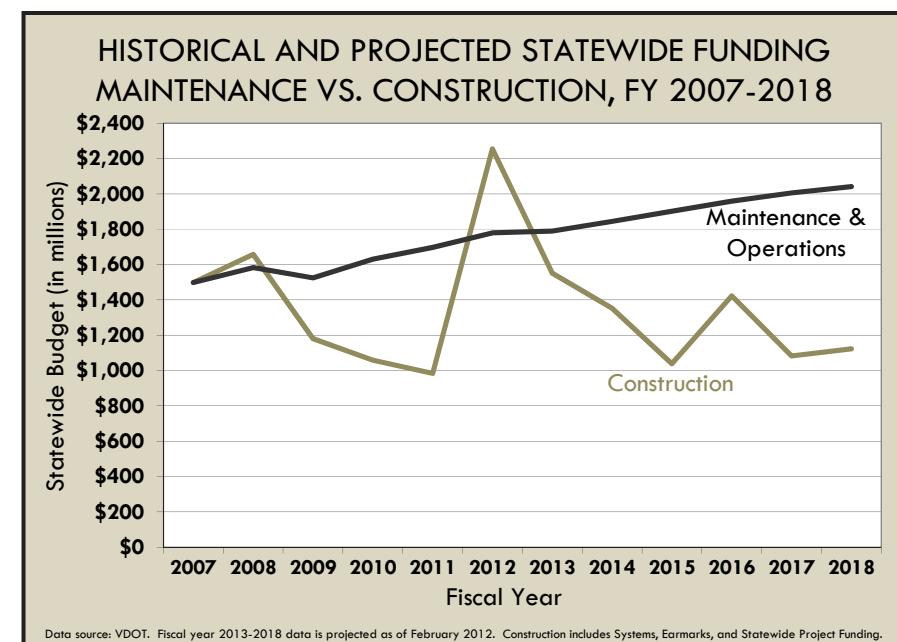
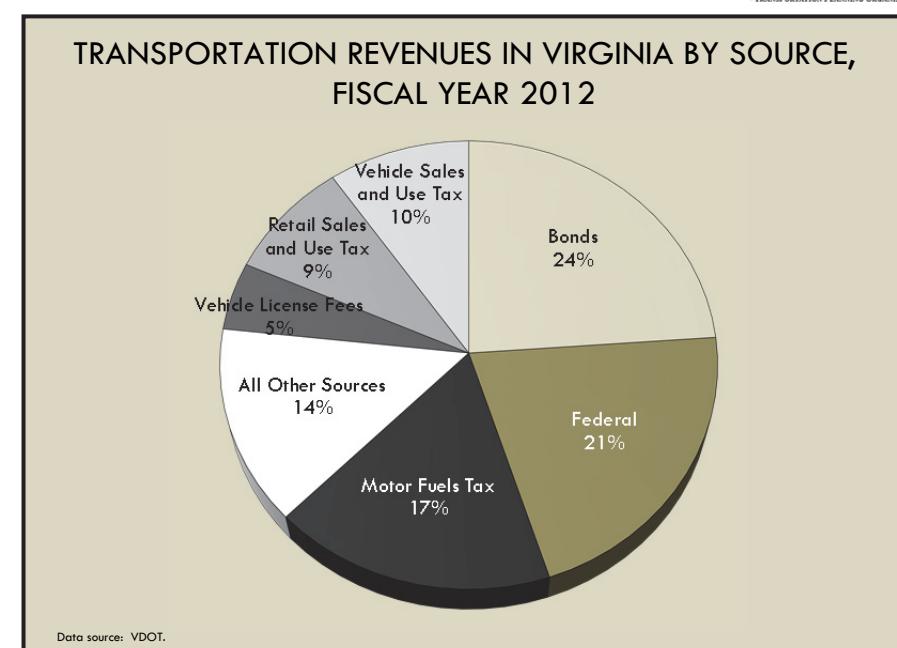


funding are federal sources (21%) and the state motor fuels excise tax (17%). Other major sources of transportation revenues include the vehicle sales and use tax, retail sales and use tax, and vehicle license fees.

In FY 2012, new roadway construction is the largest component of Virginia's transportation budget (43%). This is not typical, however, and is due to the large issuance of bonds. Between FY 2009 and 2011, funding for maintenance and operations was much higher than funding for new roadway construction, and this is also expected to occur again in Fiscal Years 2013 through 2018.

In terms of funding for new roadway construction in Hampton Roads, \$1.2 billion has been allocated to the Hampton Roads VDOT District in Six-Year Improvement Programs (SYIP) for the years FY 2007 to FY 2012. This constitutes 22% of the total allocated in the SYIP to VDOT Districts during this time.

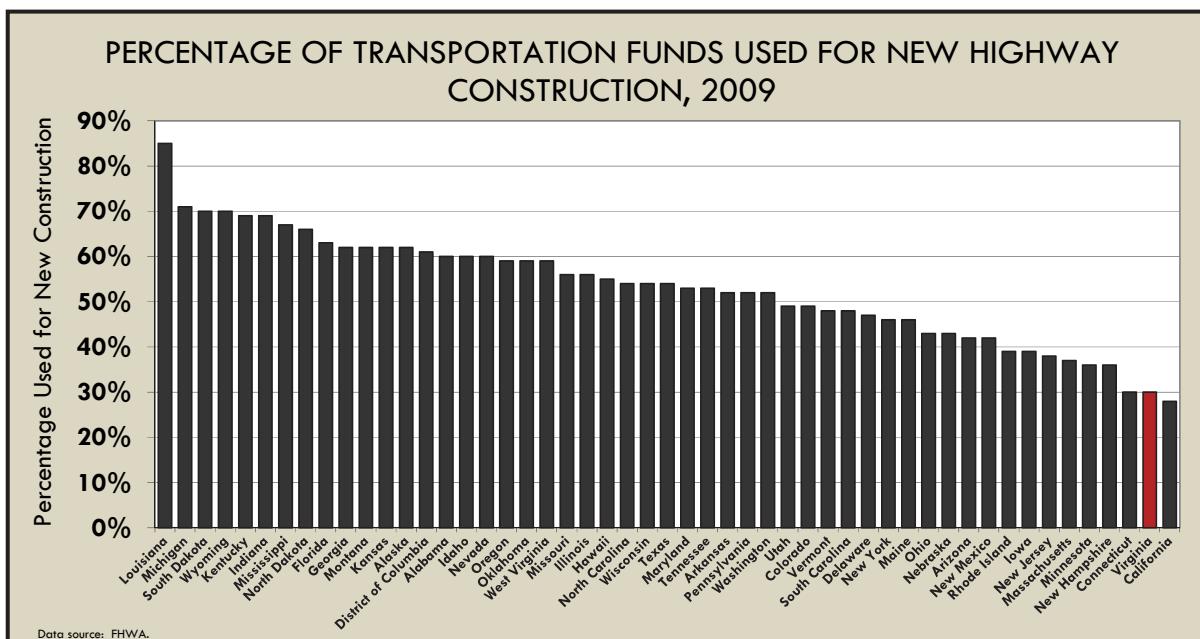
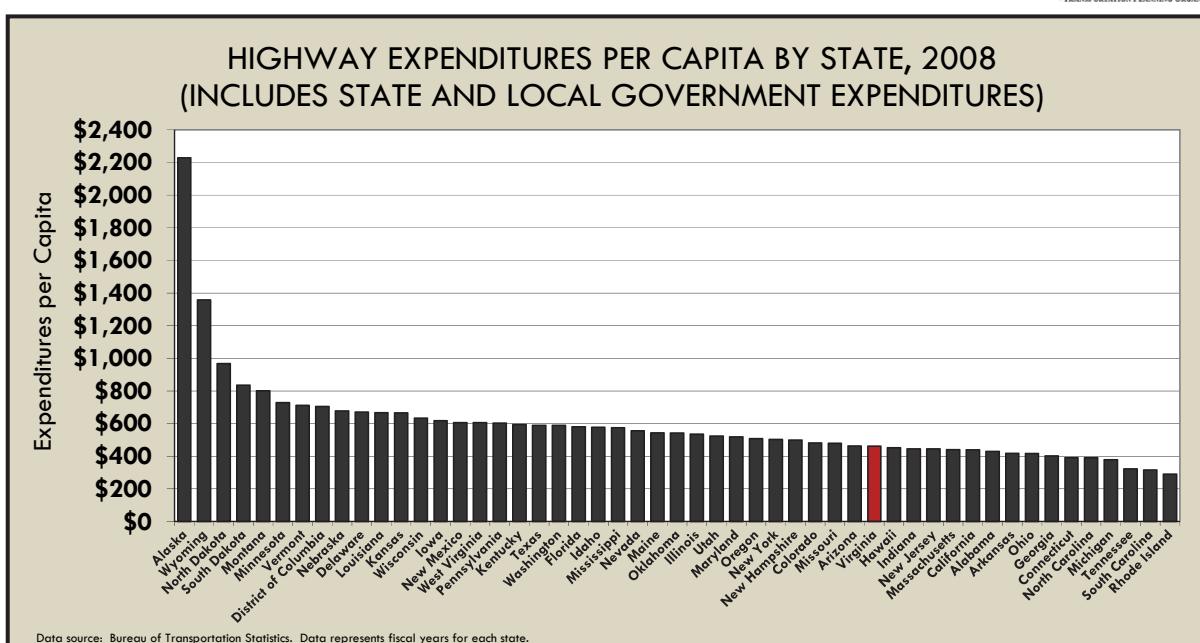
In future years, the funding that must be devoted to maintaining and operating the existing roadway infrastructure will increase, leaving less money available for new roadway construction. This is due to the aging of Virginia's roadways and bridges as well as the level of projected transportation funding. Between FY 2007 and FY 2018, the amount of funding devoted annually to roadway maintenance and operations is projected to increase 36%, while funding devoted to new roadway construction annually is projected to decrease 25%.



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, Virginia ranked 36th highest among the 50 states and the District of Columbia in highway expenditures per capita in 2008. As shown previously in this section, the state of Virginia actually spent more in Fiscal Year 2008 on transportation than in most other years. By means of comparison, Virginia ranked 41st in 2006 and 42nd in 2007.

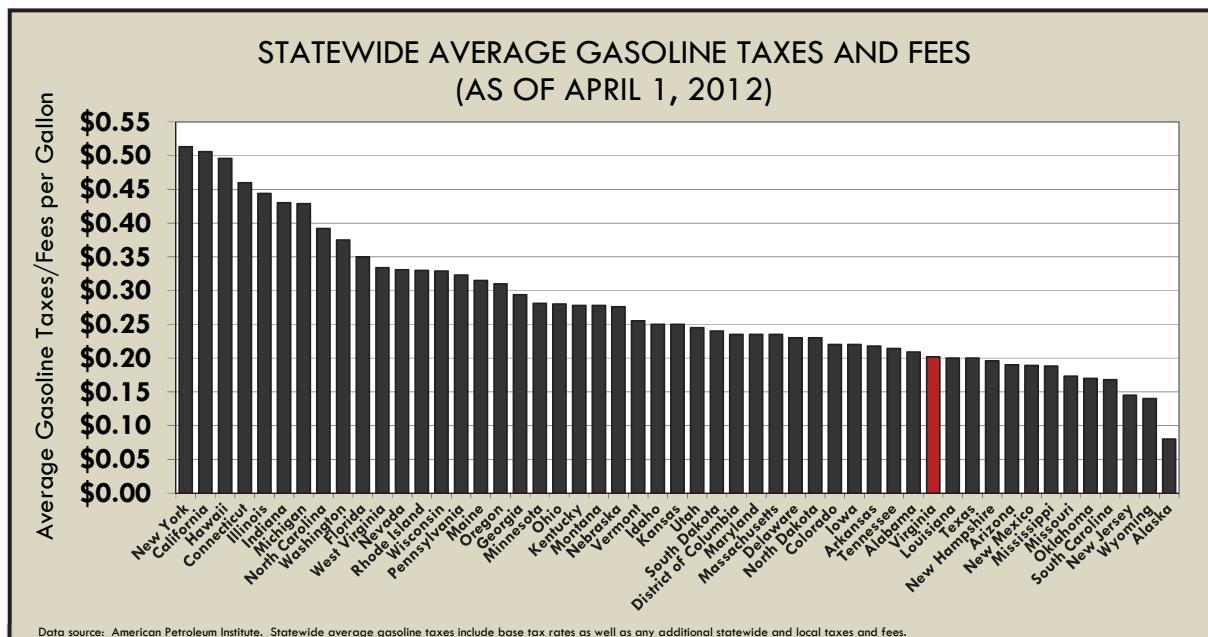
Looking only at transportation funds used for new highway construction, the state of Virginia ranks even lower. Virginia ranked 50th among the 50 states and District of Columbia in the percentage of transportation funds used for new highway construction in 2009 according to FHWA statistics. Previously, Virginia ranked 51st in 2006, and 48th in 2008 (2007 data was not available).

The primary reason that Virginia spends less on highway expenditures per capita than many other states is the level of gasoline taxes and fees collected in the state. As shown



previously, only 17% of Virginia's transportation revenue in FY 2012 comes from the statewide motor fuels tax. Currently the statewide tax on each gallon of unleaded gasoline is 17.5 cents, a level that has not been increased since 1986. In addition to the excise tax, 0.6 cents per gallon is collected statewide for the petroleum underground storage tank fund. An additional 2% sales tax is also collected on gasoline sold in Northern Virginia for public transportation improvements, a tax that is not collected in Hampton Roads.

Virginia had the 39th 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 1, 2012. Every state and district that borders Virginia has a higher fuel tax, and the state of North Carolina has a fuel tax that is 19 cents per gallon higher.



BEHIND THE NUMBERS

A report released in 2011 by the Institute on Taxation and Economic Policy (ITEP), titled "Building a Better Gas Tax: How to Fix One of State Government's Least Sustainable Revenue Sources", provides details on Virginia gas taxes and how they compare to state fuel taxes throughout the country. Some details from the report include:

- Virginia last increased its gasoline tax in 1986. Only Alaska has gone longer without increasing the statewide fuel tax.
- Inflation has greatly reduced the impact of the gas tax. In Virginia, the purchasing power of the gas tax, per gallon, has decreased 45% since the last time the tax was increased.
- In Virginia, the gas tax would need to be increased by 14.5 cents per gallon to have the same purchasing power, per gallon, as the tax did the last time it was increased.
- Each penny added to the gas tax in Virginia would be expected to produce an additional \$40 million in annual revenue.

This report is available on ITEP's website at <http://www.itepnet.org/bettergastax>.

FUEL PRICES

- Fuel prices have greatly fluctuated both in Hampton Roads and throughout the country in recent years, due to a variety of economic and geopolitical reasons.

As of April 1, 2012, the average cost of a gallon of regular unleaded fuel in Hampton Roads was \$3.90. The cost of fuel in Hampton Roads reached highs of \$3 a gallon in the summers of 2006 and 2007 and \$4 a gallon in the summer of 2008 before falling below \$1.50 a gallon at the height of the recession. Since the lows seen in January 2009, the cost of fuel has increased again, nearly reaching \$4 per gallon in 2011.



Fuel prices in Hampton Roads are comparable to other metropolitan areas in Virginia. As of April 1, 2012, fuel prices were slightly higher in Richmond (\$3.92), but were lower in Charlottesville (\$3.81) and Roanoke (\$3.85). Statewide, the average cost of fuel was

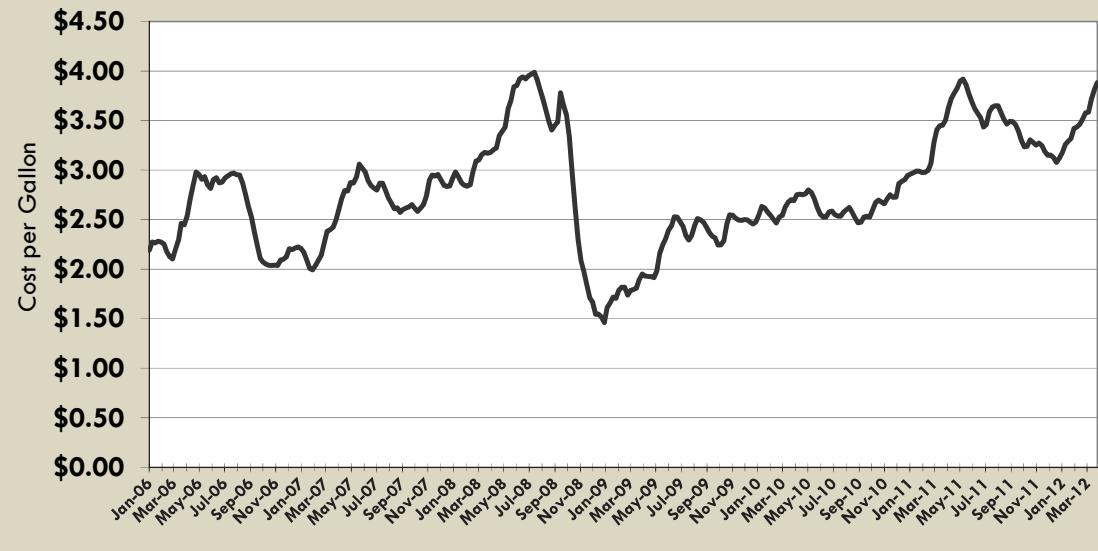
FUEL PRICE TRENDS



The increase in the cost of a gallon of unleaded fuel in Hampton Roads between January 1, 2006, and April 1, 2012. This is despite a large drop in prices during the recession in 2008.

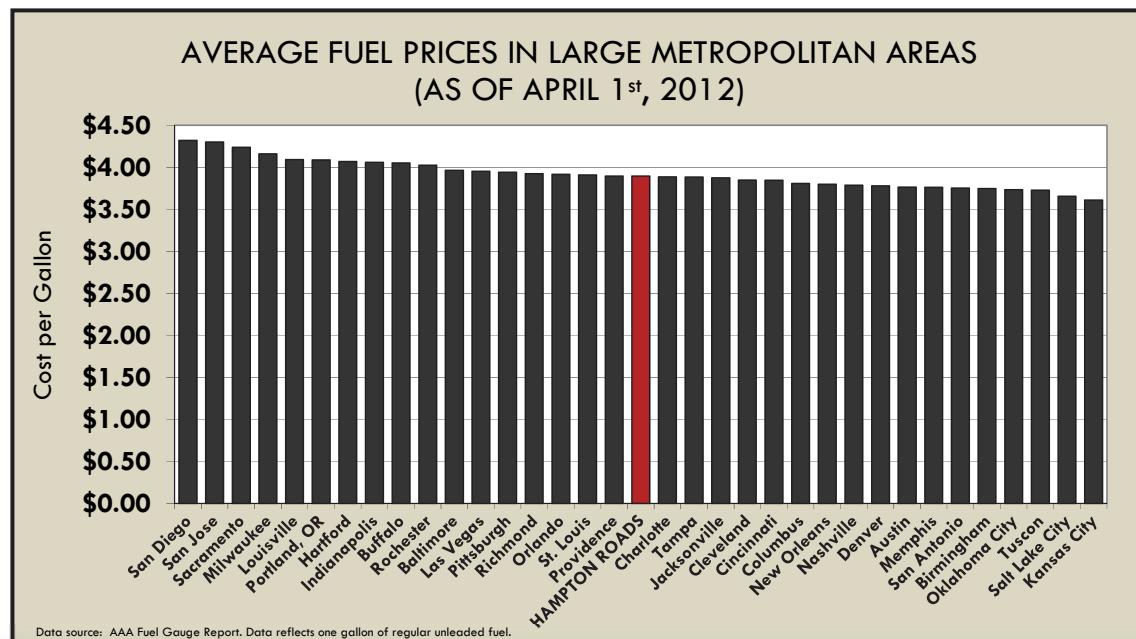
The increase in fuel prices in large metropolitan areas between January 1, 2006, and April 1, 2012, slightly lower than the increase seen in Hampton Roads.

AVERAGE FUEL PRICES IN HAMPTON ROADS, JANUARY 2006-MARCH 2012



\$3.91 per gallon on April 1, 2012, one cent higher than in Hampton Roads.

Among the 35 metropolitan areas with a population of one to three million people, Hampton Roads ranked 18th highest in terms of fuel prices as of April 1, 2012. This is not typical; Hampton Roads generally has fuel prices lower than most comparable large metropolitan areas. As an example, on January 1, 2012, Hampton Roads ranked 24th highest, and last summer the region also ranked 24th highest.

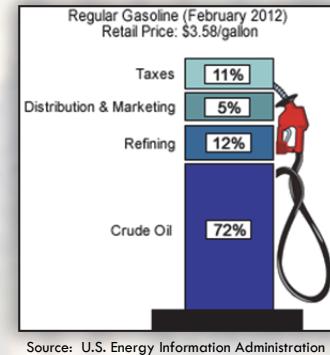


BEHIND THE NUMBERS

Fuel prices are impacted by a variety of factors. These factors include the costs of crude oil, refining, distribution, marketing, profit, and taxes. As a publicly traded commodity, crude oil prices are driven by market forces. In the case of crude oil, this includes supply and demand (especially as other nations around the world become more developed), geopolitical influences, speculation, the value of the U.S. dollar, etc.

The blend of gasoline used also impacts the price, and over a dozen different blends of fuel are used throughout the United States. A special reformulated gas is used in Hampton Roads, Richmond, and Northern Virginia to produce lower emissions, while the rest of Virginia uses a cheaper, conventional gas blend.

Taxes are another factor, although higher fuel taxes do not directly relate to higher fuel costs. For example, North Carolina's fuel tax rate is 19 cents per gallon higher than the rate in Virginia as of April 1, 2012, but the statewide average cost of gas in North Carolina was actually one and a half cents lower than Virginia on that date.



ROADWAY PROJECTS

- ▶ Despite varying levels of transportation funding, a number of major roadway projects have been completed in Hampton Roads in recent years, with a number also being programmed to begin construction in the near future.

These recent 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 17 major roadway projects have been completed throughout Hampton Roads since the beginning of 2007. These projects include widening I-64 in Chesapeake, constructing a new interchange at I-264 and London Bridge Road, and widening many city roadways including Birdneck Road, Fort Eustis Boulevard, Jefferson Avenue, Lynnhaven Parkway, Virginia Beach Boulevard, Warwick Boulevard, and Witchduck Road.

A few major roadway projects are also currently underway throughout the region. These projects include building replacements for the Gilmerton Bridge and the South Norfolk Jordan Bridge, constructing a new railroad overpass over Hampton Boulevard into Norfolk International Terminals, improving the I-64 ramp at Norview Avenue, relocating the intersection of Kempsville Road at Princess Anne Road/Witchduck Road, and widening



Image Source: VDOT

MAJOR ROADWAY PROJECTS COMPLETED IN HAMPTON ROADS, JANUARY 2007-APRIL 2012

Facility	Location	Improvement Type	Project 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
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
Convention Center Boulevard	Coliseum Dr to Armistead Ave	New 5 lane facility	2007
Fort Eustis Boulevard	Jefferson Ave to Route 17	Widen to 4 lanes	2012
Greenbrier Pkwy	Volvo Pkwy to Eden Way	Widen to 6 lanes	2009
I-64	Greenbrier Pkwy to I-464	Widen to 8 lanes	2009
I-264	London Bridge Rd	New Interchange	2012
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
Route 5	Dresser Bridge over Chickahominy River	Bridge Replacement	2009
Treyburn Drive	Monticello Ave to Ironbound Rd	New 2 lane facility	2007
Virginia Beach Boulevard	Jett St to Military Hwy	Widen to 6 lanes	2010
Volvo/Lynnhaven Parkway	Kempsville Rd to Centerville Tpke	New 4 lane facility	2007
Warwick Boulevard	J Clyde Morris Blvd to Nettles Dr	Widen to 6 lanes	2010
Witchduck Road	Princess Anne Rd to I-264	Widen to 6 lanes	2012

Data obtained from various sources. Includes projects completed as of April 2012.

Ironbound Road, Princess Anne Road, and Wesleyan Drive.

A number of roadway projects are also programmed for Hampton Roads in upcoming years. These projects are included 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 over the next few years include the addition of another tube at the Midtown Tunnel; the extension of the MLK Freeway; the Intermodal Connector; new sections of Lynnhaven Parkway, Middle Ground Boulevard and Nimmo Parkway; a replacement for the Lesner Bridge; and widening Dominion Boulevard, George Washington Highway, Holland Road, Military Highway, and Witchduck Road.

More information on these projects, as well as all other small and large roadway improvement projects, are included in the SYIP and TIP. VDOT's SYIP can be accessed at <http://syip.virginiadot.org>. HRTPO staff has developed a website devoted to the TIP (<http://www.hrtpotip.org>) that includes the TIP document, details on every programmed project, an overview of the TIP development process, and an Interactive Project Map.

PROGRAMMED MAJOR ROADWAY PROJECTS IN HAMPTON ROADS

Facility	Location	Improvement Type	Projected Construction Start
Commander Shepard Boulevard	Big Bethel Rd to North Campus Pkwy	New 4 lane facility	Underway
Dominion Blvd	Cedar Rd to Great Bridge Blvd	Widen to 4 lanes	FY 2013
George Washington Hwy	Hampton Hwy to Wolf Trap Rd	Widen to 6 lanes	FY 2014
Hampton Boulevard	Railroad into Norfolk International Terminals	New overpass	Underway
Holland Rd	Nimmo Pkwy to Dam Neck Rd	Widen to 4 lanes	FY 2014
I-64	Norview Ave	Ramp improvement	Underway
Intermodal Connector	I-564 to Naval Station Norfolk/Norfolk Int'l Terminals	New 4 lane facility	FY 2015
Ironbound Road	Strawberry Plains Rd to Longhill Connector Rd	Widen to 4 lanes	Underway
Jordan Bridge		Replace Bridge	Underway
Lesner Bridge		Replace Bridge	FY 2013
Lynnhaven Pkwy	Centerville Tpke to Indian River Rd	New 4 lane facility	FY 2014
Middle Ground Boulevard	Jefferson Ave to Warwick Blvd	New 4 lane facility	FY 2012
Midtown Tunnel		Widen to 4 lanes	FY 2013
Military Highway	Gilmerton Bridge	Replace Bridge	Underway
Military Highway	Lowery Rd to Northampton Blvd	Widen to 8 lanes	FY 2014
Military Highway	Northampton Blvd/Princess Anne Rd	Intersection Redesign	FY 2014
Military Highway	Northampton Blvd to Robin Hood Rd	Widen to 6 lanes	FY 2014
MLK Freeway	I-264 to High St	New 4 lane facility	FY 2013
Nansemond Parkway	Shoulders Hill Rd	Intersection Widening	Underway
Nansemond Parkway	Shoulders Hill Rd to Chesapeake CL	Widen to 4 lanes	FY 2016
Nimmo Parkway	Holland Rd to General Booth Blvd	New 4 lane facility	FY 2012
Nimmo Parkway	Princess Anne Rd to Holland Rd	New 4 lane facility	Underway
Portsmouth Blvd	Suffolk CL to Jolliff Rd	Widen to 4 lanes	FY 2017
Princess Anne Road	Dam Neck Rd to Nimmo Pkwy	Widen to 4 lanes	Underway
Princess Anne Road	Witchduck Rd	Intersection Relocation	Underway
Saunders Road	Newport News CL to Big Bethel Rd	Widen to 4 lanes	FY 2014
Turnpike Road	Portsmouth Blvd to County St	Widen to 4 lanes	FY 2014
Wesleyan Drive	Northampton Blvd to Baker Rd	Widen to 4 lanes	Underway
Witchduck Road	I-264 to Virginia Beach Blvd	Widen to 6 lanes	FY 2015

Data source: VDOT. Includes major projects expected to begin construction by the end of Fiscal Year 2017.

- ▶ **Transportation system operations and Intelligent Transportation Systems are cost-effective methods of maximizing the capacity of the existing roadway network.**

Transportation system operations (also referred to simply as transportation operations) and Intelligent Transportation Systems (ITS) technologies maximize the safety, security, and mobility of roadway users by actively managing the regional transportation system. Transportation operations become more important as funding for new roadway construction decreases and constructing major roadway projects becomes more difficult. Managing the system is done with trained and coordinated manpower and technology.

Examples of transportation operations include incident management, coordinating traffic signals, electronic toll collection, and providing traveler information.

Regional transportation operations are led by the VDOT Hampton Roads Transportation Operations Center (TOC). The TOC monitors traffic conditions throughout the region, maintains and operates ITS infrastructure on the regional Interstate system, operates the Safety Service Patrol which responds to and clears



HAMPTON ROADS
TRANSPORTATION OPERATIONS CENTER

Image Source: VDOT

BEHIND THE NUMBERS

The VDOT Hampton Roads Transportation Operations Center serves as the backbone for transportation operations in the region. Some facts about the regional Transportation Operations Center:

- The Hampton Roads Transportation Operations Center covers 113 miles, nearly the entire regional Interstate system.
- The system includes 276 closed-circuit cameras, 196 changeable message signs, 5 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.
- The Safety Service Patrol drove over 1.8 million miles, responded to 40,603 incidents, and assisted 22,919 motorists in 2011.
- In 2011, the average time for the Safety Service Patrol to respond to an incident was 9 minutes, and the average clearance time for incidents responded to by the Safety Service Patrol was 21 minutes.



crashes and other types of incidents, and distributes traveler information via changeable message signs, highway advisory radio, and the 511 Virginia phone and internet services.

Many Hampton Roads jurisdictions also operate their own transportation operations centers. The Cities of Chesapeake, Hampton, Newport News, Norfolk, and Virginia Beach have opened transportation operations centers in the last few years. In some cases, these centers are connected with the Hampton Roads Transportation Operations Center, allowing for data and video sharing and instant communication.



VIRGINIA BEACH TRAFFIC MANAGEMENT CENTER

Image Source: Va. Beach

Another service provided to improve roadway mobility is 511 Virginia. Launched in 2005, 511 Virginia provides traveler information via mobile or landline phones, email, text

ITS TECHNOLOGIES USED IN HAMPTON ROADS

Hampton Roads has been a national leader in the use of Intelligent Transportation Systems. 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 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 610 AM/1680 AM.

message, and <http://www.511virginia.org>.

The 511 Virginia service allows users to receive real-time traffic and roadway condition information for specific locations both in Hampton Roads and throughout the state.

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



Image Source: VDOT

NEW DEVELOPMENTS

Integrating Transportation Operations Centers –

VDOT has recently started an initiative to provide for the integration and interoperability of all five Transportation Operations Centers and their infrastructure. This would likely improve the efficiency of each center, insure that each center uses the same software platforms, and allow seamless communication between centers which would be beneficial in situations such as hurricane evacuations. VDOT plans to award a contract for this effort by August 2012.



Image Source: VDOT

Travel Times – VDOT will soon begin displaying travel times on changeable message signs in Hampton Roads. Travel time information is expected to be deployed on sections of I-64 in Summer 2012, with other routes in the region coming online in the following months.

Expanded Safety Service Patrol – The coverage provided and service area patrolled by the Hampton Roads Safety Service Patrol has expanded and contracted in recent years based on budget constraints. In December 2011, the Safety Service Patrol service was expanded, from 6 routes covering 73 miles to 8 routes covering 89 miles, including expanded service on the Peninsula.



Image Source: VDOT

- Regional air quality is greatly impacted by the automobiles, trucks, trains, and ships that travel throughout Hampton Roads, and planners must account for the impacts that these vehicles and transportation projects have on regional air quality.

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.

Since mobile sources contribute to these airborne pollutant levels, the metropolitan transportation planning process is required to meet mandates included in the Clean Air Act. Regional plans such as the Hampton Roads Transportation Improvement Program and the Long Range Transportation Plan must be tested to insure that they conform with emissions budgets.

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. EPA determines these designations based on an eight-

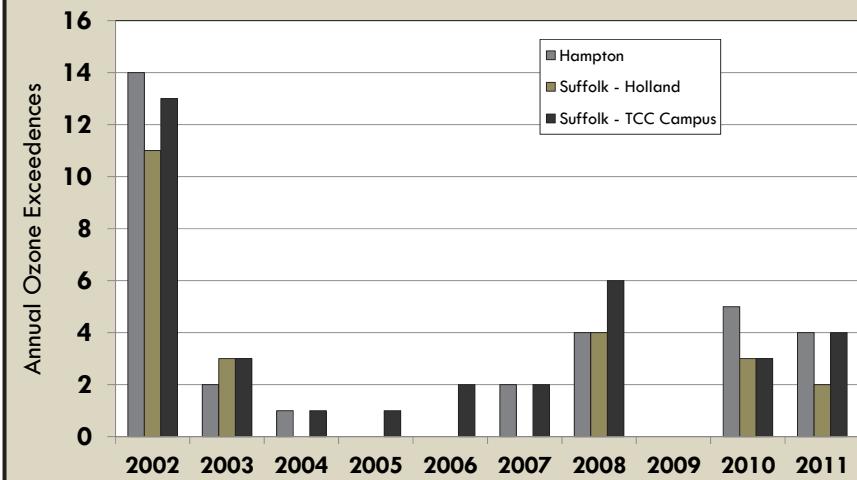
AIR QUALITY TRENDS



The decrease in the percentage of days with Air Quality Index (AQI) values above 100 in Hampton Roads between the start of last decade (2000-2002) and the most recent data (2008-2010).

The average decrease in the fourth highest daily maximum 8-hour ozone levels at Hampton Roads three ambient air quality monitoring stations between 2002 and 2010.

EIGHT HOUR OZONE EXCEEDENCES AT REGIONAL AIR QUALITY MONITORING STATIONS, 2002-2011



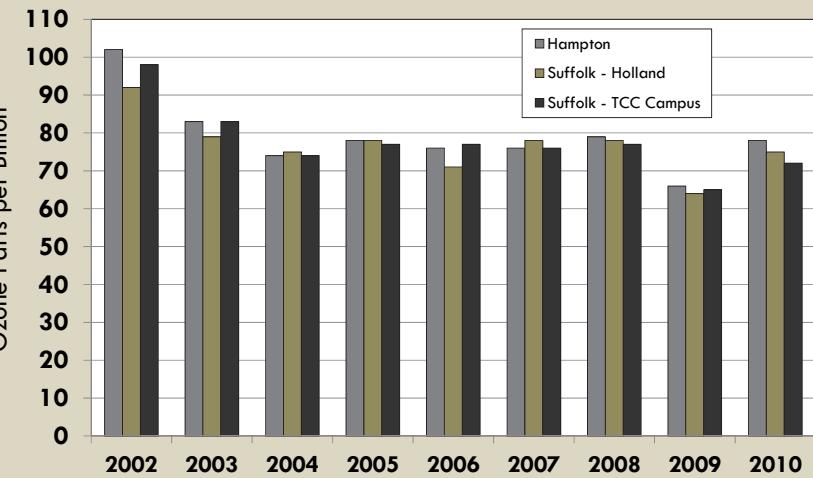
hour standard, under which violations are determined using the fourth-highest daily maximum eight-hour average ozone concentration over the course of the year, averaged over a three-year period.

Through the years Hampton Roads has alternated between being designated as “in attainment” and “non-attainment”. On July 1, 2007, the region was redesignated as an ozone attainment area based on the eight-hour standard, a designation it continues to maintain.

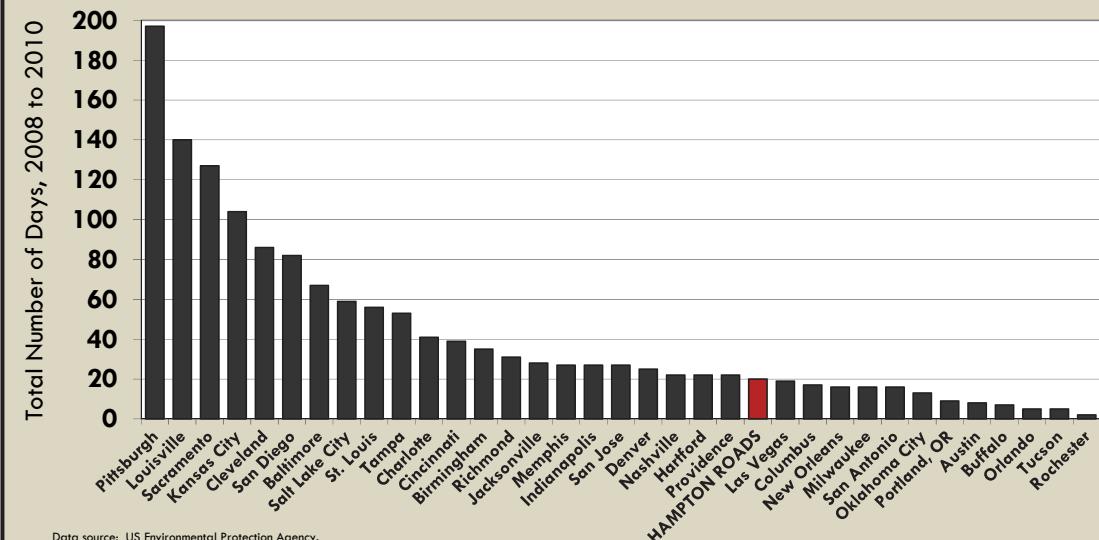
Prior to 2008, regions were classified as non-attainment if the fourth-highest eight-hour ozone averages were greater than 84 parts per billion (ppb) at any of the regional monitoring stations over a three-year period. This standard was lowered to 75 ppb in 2008. In Hampton Roads, the 2008-2010 three-year ozone averages at the three monitoring stations were between 71 and 74 ppb, just below the 75 ppb threshold.

Overall, the air quality in Hampton Roads is better than the air quality in many other comparable metropolitan areas. According to EPA data, Hampton Roads had a total of 20 days between 2008 and 2010 with Air Quality Index (AQI) values greater than 100, the level at which people in sensitive groups may begin experiencing impacts to their health. This ranked Hampton Roads 23rd highest among 35 large metropolitan areas. By comparison, Hampton Roads experienced 72 such days between 2000 and 2002.

FOURTH HIGHEST DAILY MAXIMUM 8-HOUR OZONE AVERAGES IN HAMPTON ROADS, 2002-2010



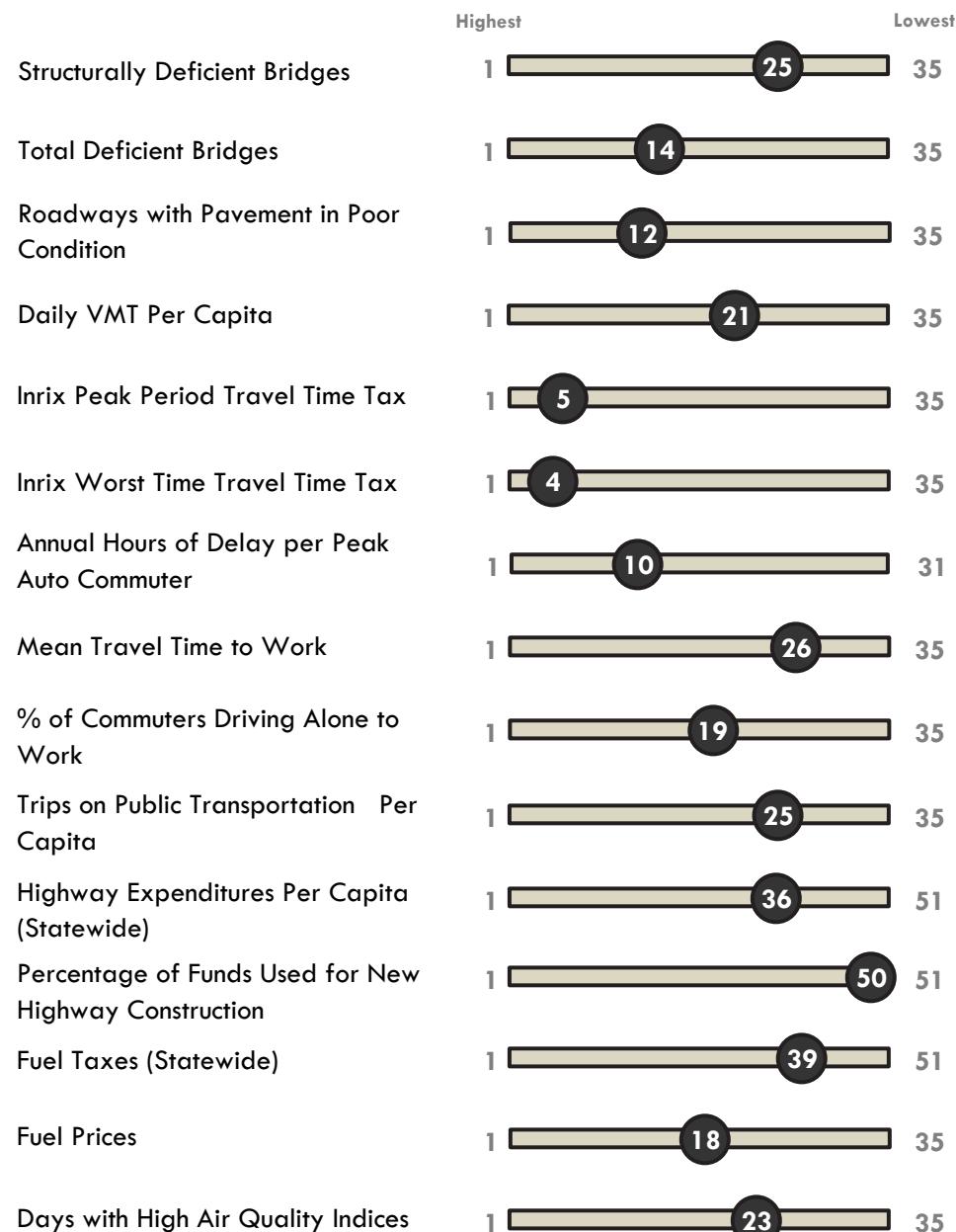
NUMBER OF DAYS IN LARGE METROPOLITAN AREAS WITH AIR QUALITY INDEX VALUES GREATER THAN 100, 2008 TO 2010



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 34 other metropolitan areas have similar transportation issues to the Hampton Roads area, from congestion to funding inadequacies.

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.



REGIONAL PERFORMANCE MEASURES

Hampton Roads has entered a new chapter in performance measurement for transportation. Although the HRTPO has been measuring the performance of the regional transportation system for years via the State of Transportation reports, the HRTPO now also prepares a standard set of regional performance measures according to a process led by the state.

In 2009, the General Assembly of Virginia passed legislation codifying regional transportation performance measurement. In response to the legislation, the HRTPO staff, in cooperation with other Virginia metropolitan areas and Virginia's Office of Intermodal Planning and Investment (OPII), developed a list of regional performance measures (RPM). The HRTPO Board approved this list on January 20, 2011 and the Commonwealth Transportation Board (CTB) approved it (along with lists from other large Virginia areas) in June 2011.

The HRTPO list contains the following categories of measures:

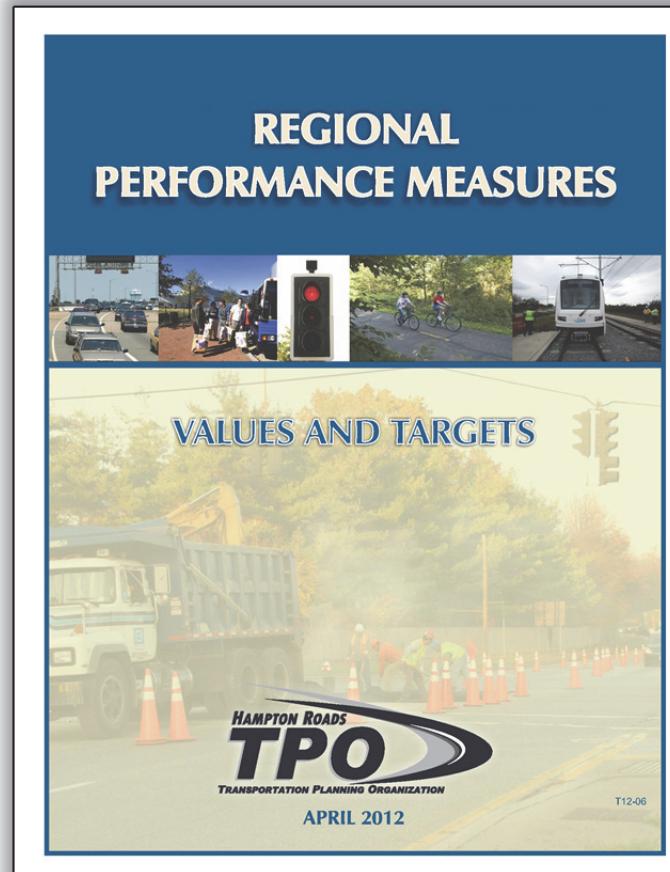
- Congestion reduction
- Safety
- Transit usage
- HOV usage
- Jobs-to-housing balance
- Access to transit
- Access to pedestrian facilities
- Air quality
- Movement of freight
- Vehicle Miles of Travel (VMT)
- Maintenance
- Financial system

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, based on the following options:



- goal: maintain value
- goal: increase value
- goal: decrease value

The Regional Performance Measures – Values and Targets report is available at http://hrtpo.org/TPO_Reports.asp.



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.nnwairport.com>.

Port Data – The Virginia Port Authority maintains up-to-date statistics regarding the Port of Virginia on their website <http://www.vaports.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 – TRIP regularly releases the Urban Roads Report, which details the condition of major roadways in metropolitan areas. The Urban Roads Report is available at <http://www.tripnet.org>.

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/index.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. releases the National Traffic Scorecard series, which details congestion trends in the 100 largest metropolitan areas across the country. The National Traffic Scorecard is available at <http://scorecard.inrix.com>.

The Texas Transportation Institute (TTI) at Texas A&M University releases the Urban Mobility Report, a nationally known study of mobility and traffic congestion on freeways and major streets in 85 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>.

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 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 efforts, including the Hampton Roads ITS Strategic Plan and Hampton Roads Transportation Operations Committee, is located at http://www.hrtpo.org/TPO_OpPlanning.asp.

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>. Air Quality Index information is available from the Environmental Protection Agency's website at http://www.epa.gov/airtrends/aqi_info.html.

For additional information regarding this report, previous Congestion Management 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>