

CROSSINGS

A QUARTERLY PUBLICATION OF THE HAMPTON ROADS METROPOLITAN PLANNING ORGANIZATION • Summer '08

HAMPTON ROADS MPO AGENDA



June 2008

Did you see...

Virginia's Secretary of Transportation, Pierce Homer spoke at the June 18, 2008, Hampton Roads Metropolitan Planning Organization (HRMPO) meeting. Secretary Homer spoke about Governor Kaine's Transportation Plan that was submitted to the Virginia General Assembly Special Session on Transportation June 23, 2008, and improvements to the Hampton Roads Bridge Tunnel.



CROSSINGS is published quarterly and is available at no cost. It is funded by the Federal Highway Administration, the Virginia Department of Transportation, and local area governments. For more information contact the HRMPO at 757.420.8300.

Editor: Joe Turner;
Graphic Designer: Brian Miller

MAIN OFFICE:
The Regional Building
723 Woodlake Drive
Chesapeake, VA 23320
Ph: 757.420.8300
Fax: 757.523.4881

PENINSULA OFFICE:
(Visit by appointment)
2101 Executive Drive, Suite 1-C
Tower Box 8
Hampton, VA 23666
Ph: 757.420.8300

From the Editor's Desk...

Welcome to the transitional issue of *CROSSINGS*, a new quarterly publication from the Hampton Roads Metropolitan Planning Organization (HRMPO).

We're calling it transitional because next quarter *CROSSINGS* will launch its inaugural issue. For this issue, *CROSSINGS* is combined with the *Hampton Roads Review* which begins on page 13. Our vision for *CROSSINGS* is to distinctly highlight the HRMPO's work on behalf of the region's 1.6 million residents. It is but one of a number of exciting changes underway at the HRMPO.

This brings me to another point. While a majority of what *CROSSINGS* will cover will be the work of the HRMPO, we want this publication to be more topical and more of an instrument of dialogue with stakeholders in the transportation process. We're going to invite our readers, sister regional organizations, localities, and state and federal partners, to contribute to *CROSSINGS*. I've included my email address below. Feel free to drop me an email with comments and suggestions.

We envision *CROSSINGS* evolving as we go forward. Essentially, if it's HRMPO; if it's transportation related; if it's Hampton Roads; it'll be in *CROSSINGS*.

Stay Tuned...



A handwritten signature in black ink that reads "Joe".

Joe Turner,
Editor

E-mail: jturner@hrpdca.gov

Transit Service Literature Review

In March 2007, the city of Newport News ended the transit shuttle project, known as “Jump over Jeff.” The shuttle service crossed Jefferson Avenue connecting the City Center and Port Warwick areas, and began operating in June 2006. It was started to provide an alternative travel option between and within the retail, business, and residential communities. With only a dozen people using it per day, the shuttle service was terminated due to a lack of ridership. The city of Newport News requested the HRMPO conduct a review of transit shuttle projects in different regions of the country and determine what makes them successful. HRMPO staff examined available literature from successful transit shuttles services from across the country and within Virginia.

Best practices from individual transit service in Virginia and other regions in the country were divided into four categories with two best practices from each category:

1. Urban/Commercial Centers

- A. Downtown Norfolk, VA: Norfolk Electric Transit
- B. Old Town Alexandria, VA: King Street Trolley

2. Visitor-Oriented Markets

- A. Virginia Beach, VA: VB Wave
- B. Historic Triangle, VA: Historic Triangle Shuttle

3. Special Events

- A. Historic Triangle, VA: America’s 400th Anniversary Weekend Shuttle
- B. Indianapolis, IN: Indy 500 Park and Ride Shuttle Service

4. Transit-Captive Markets

- A. Houston, TX: METROLift
- B. Norfolk, VA: Naval Station Norfolk Shuttle

Staff discovered that these successful transit shuttle services share several key components that could contribute to their success. Transit shuttles are most complementary in activity centers including large commercial and employment centers, college campuses, and resort communities. Many expand basic mobility options by providing transport to education, employment and medical services. Some shuttles provide affordable mobility to transit-captive market riders such as the lower-income, elderly, disabled persons, and transportation disadvantaged people.

Staff concluded that because shuttle services can operate in many different types of communities and serve a wide variety of users, it is crucial that the characteristics of a shuttle service be customized to match the needs of the community it is servicing. The shuttle service markets that are intended to be served must be thoroughly evaluated in order to establish parameters such as span of service, frequency, types of vehicles, marketing strategies, and funding sources.



Courtesy of Norfolk Convention and Visitors Bureau (NCVB).

A Transit Vision Plan for Hampton Roads

In February 2008, the Virginia Department of Rail and Public Transportation (VDRPT) requested that the HRMPO produce a regional transit plan. At its March 19, 2008 meeting, the MPO voted to produce the plan. VDRPT is providing funding and usage of its on-call consultants. The HRMPO will manage the development of the plan.

In order that the plan not be limited by any specific horizon year, HRMPO staff recommends that the regional transit plan be a “vision” plan. The heart of the vision plan would be maps and descriptions of a system of transit corridors and districts comprised of the following two symbiotically related elements:

- Route-based public transportation services (including station locations for rapid transit)
- Land use requirements necessary for the financial feasibility of those services

This plan will become a part of Virginia’s 2035 Statewide Transit Plan. Following completion of this project, the HRMPO will constrain the vision plan in accordance with 2034 land use and 2034 finances to develop the transit component of its 2034 Long-Range Transportation Plan (LRP).

The State of Transportation in Hampton Roads

UPDATE

Mobility of Non-Drivers Study Expanded

HRMPO staff is preparing the latest report in its multi-year effort to improve the mobility of non-drivers, assumed generally to be adult persons without driver's licenses. Previous HRMPO research indicated that the mobility of non-drivers is dependent in part on the proximity of their homes to destinations and to bus stops. For this latest report HRMPO staff developed a method of locating non-drivers by residence.

The research indicates that:

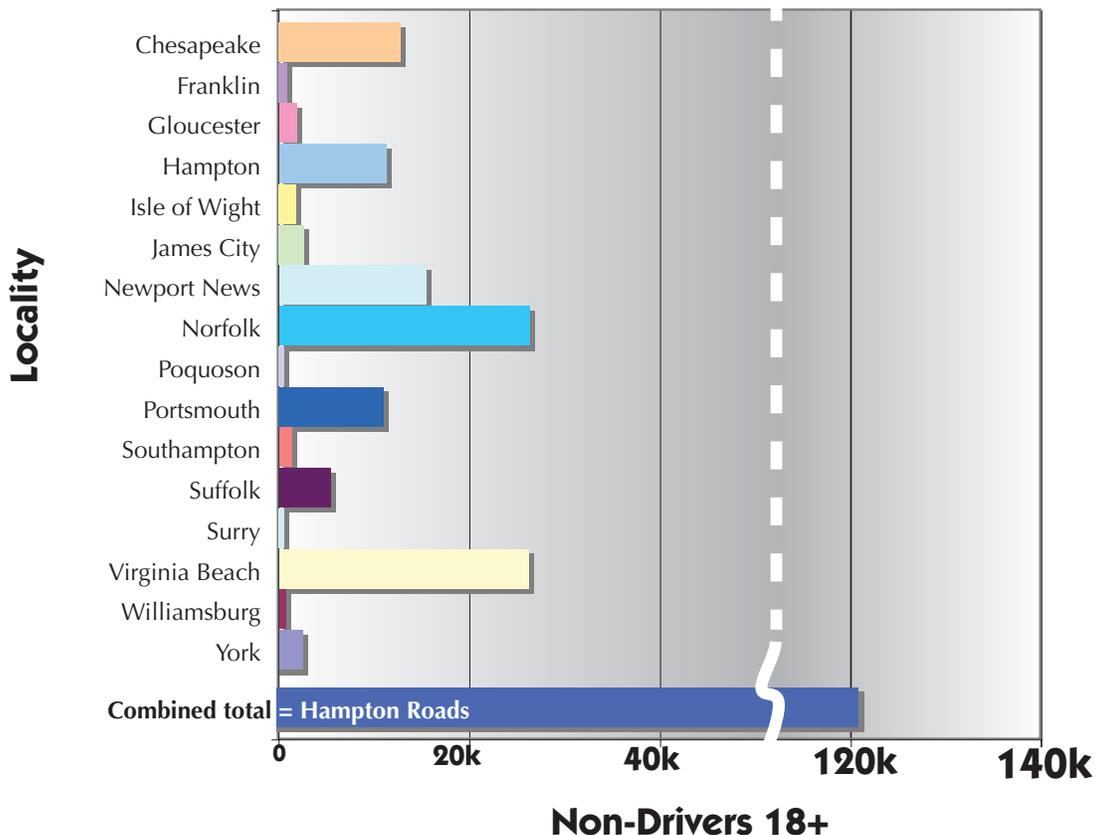
- There are over 121,000 non-driving adults in Hampton Roads. (See chart for location by jurisdiction.)
- One out of nine adults in Hampton Roads is a non-driver.
- Better-walking non-drivers living in high business activity locations in Hampton Roads have odds of leaving home

five times higher than those living in low business activity locations, and

- Better-walking non-drivers living within one mile of a bus stop have twice the odds of leaving home than those living away from routes.

The latest report includes maps of non-driver residential locations for each locality, as well as maps showing the proximity of non-drivers to business activity locations and bus stops. Local governments can use these maps to identify areas where the proximity of non-drivers to these two mobility-enhancing factors could be improved through zoning changes affecting residential and/or business locations and transit system modification and enhancement.

Non-Drivers by Locality

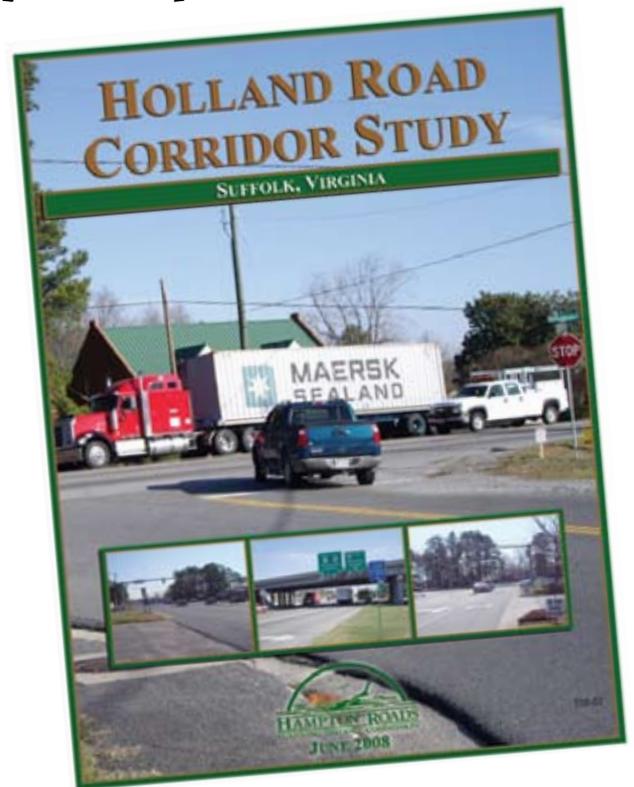


Holland Road Corridor Study Complete

The city of Suffolk requested that the HRMPO examine a portion of the Holland Road corridor for any roadway improvements, including traffic signal and access management improvements that may be needed in the next ten years. Holland Road is also known as US Route 58, and is a gateway route to and from Hampton Roads. It serves a great deal of commercial traffic as well as everyday commuters. In fact, the area surrounding the study corridor, from the western terminus of the Route 58 Bypass around Suffolk to one mile past the Holland Road/Manning Bridge Road intersection, is transitioning from an agricultural to commercial/industrial area, creating a mix of cars, trucks, and agricultural equipment along this corridor. Suffolk planners expect growth to continue along this corridor for the next ten years, and are concerned about the capacity, performance, and safety.

The study specifically applied four improvement scenarios to six significant intersections located in the corridor and analyzed the safety and performance within the corridor. The improvement scenarios applied include: No Build (including developer-funded improvements), Spot Improvements, Six Lane Widening, and Bypass. The scenarios were compared to determine what benefits each would provide. The study found that by the year 2017, additional capacity will be necessary. Currently the corridor carries between 25,000 and 30,000 vehicles a day. By 2017 that number is expected to be 53,000 vehicles. Of the four alternative scenarios, only the Six Lane Widening and Bypass options increase capacity. The other alternatives do not provide acceptable levels of service for the corridor.

Widening the corridor to a divided six-lane facility would improve traffic separation via a raised median, and increase through traffic capacity by one lane in both directions. Turning traffic would be controlled via turn signals at major intersections or directional median openings for minor side streets and driveways. During right-of-way negotiations, the city could institute safer standards for driveway spacing. The study also recommends pavement overlay for the existing four lanes and rumble strips in the western portion of the study area, near Kenyon Road, to improve safety and reduce crashes along the corridor. Right-of-way for the six lane widening option would be costly, not because of the amount of land required for the expansion, but due to the heavily developed eastern area of the corridor.



Right-of-way acquisition would be considerably more expensive for the Bypass option due to the amount of land required for constructing a new limited-access, divided four-lane highway. Interchanges would be needed at both termini and its intersection with Kenyon Road. The Bypass scenario would provide a high speed alternative to the current corridor, and the City would have the opportunity to enact guidelines to manage development along the new Bypass corridor. Safety would be expected to improve along the existing corridor as traffic moved to the new bypass. Only the additions of turn lanes at the intersection of Holland Road and Manning Bridge Road would be necessary along the existing corridor.

VDOT provided the HRMPO with planning-level costs for the two scenarios that increase facility capacity. The Six-Lane Widening scenario costs, in 2008 dollars, would include construction of the additional lanes, traffic signals, sidewalks and right-of-way. The Bypass scenario costs include construction of a new four-lane facility, right-of-way, and interchange construction costs. The city of Suffolk will decide whether or not to implement any of the HRMPO recommendations based upon further study and funding availability.

Regional Bridge Study

The city of Chesapeake requested that the HRMPO perform a Regional Bridge Study for the inventory of such structures in Hampton Roads. HRMPO staff began work on this study before the collapse of the I-35W Bridge in Minnesota last year, but as a result of that tragedy, the Hampton Roads Regional Bridge Study has taken on greater priority.

In order to perform the study, the staff needed to determine what would be considered a bridge in Hampton Roads. Our region's geography requires that roadways traverse over, or under, waterways, inlets, creeks, culverts and other facilities such as railroad tracks and other roadways. HRMPO staff settled on the bridge definition used by the National Bridge Inventory (NBI) which is maintained by the Federal Highway Administration (FHWA). According to the NBI, a bridge:

- Either carries or traverses a public roadway.
- Is greater than 20 feet in length.
- Includes culverts.
- Includes tunnels.

Using that definition, Hampton Roads has 1,237 bridges. Surprisingly, Hampton Roads is not the Virginia region with the most bridges: Northern Virginia has 1,482. What makes Hampton Roads unique is the number of long bridges and tunnels in our region, resulting in a higher number of bridge lane-miles than other areas. (See graphic on page 7.) A bridge lane-mile is the length of each bridge multiplied by the number of lanes.

All bridges in Virginia are inspected at least once every two years. Depending upon their condition and design, some bridges are inspected every year. (See companion article on page 8.) Based on these inspections, bridge inspectors rate various components of each bridge on a scale from zero to nine, with nine representing excellent condition and zero representing a failed condition. (See page 7 for bridge components and explanation.)

These ratings determine if a bridge is classified as structurally deficient or functionally obsolete. (See sidebar.) **A structurally deficient bridge is not necessarily an unsafe bridge.** Rather, it is a bridge that has elements that must be monitored, inspected and maintained. Often such bridges are posted with weight limits to insure continued safe service. Functionally obsolete bridges are bridges that were built to geometric standards that are not used today. Such bridges often have inadequate lane widths, shoulder widths, or vertical clearance for current traffic demand. Bridges with the potential to flood occasionally are also considered functionally obsolete. Bridges that are classified as structurally deficient cannot also be classified functionally obsolete, and bridges that have been built or rehabilitated in the last 10 years cannot be classified as either.

Findings:

- 54 of the 1,237 bridges in Hampton Roads are classified as structurally deficient (4.4%)
- 284 of the 1,237 bridges in Hampton Roads are classified as functionally obsolete (23.0%)

Determining Structurally Deficient Bridges

A structurally deficient bridge has elements that must be monitored, inspected and maintained. Often such bridges are posted with weight limits to insure continued safe service. A structurally deficient bridge is not necessarily an unsafe bridge.

Technical Definition

A bridge is classified as structurally deficient if any of the following is true:

- Deck condition rating ≤ 4
- Superstructure condition rating ≤ 4
- Substructure condition rating ≤ 4
- Culvert condition rating ≤ 4
- Structural condition rating ≤ 2
- Waterway adequacy rating ≤ 2

Determining Functionally Obsolete Bridges

A functionally obsolete bridge is a bridge that was built to geometric standards that are not used today.

Technical Definition

A bridge is classified as functionally obsolete if any of the following is true:

- Structural condition rating = 3
- Waterway adequacy rating = 3
- Deck geometry rating ≤ 3
- Underclearances rating ≤ 3
- Approach roadway alignment rating ≤ 3

Rated Bridge Components

1. **Deck Condition** - The overall condition of the driving surface.
2. **Superstructure Condition** - The physical condition of all of the bridge's structural members such as beams and girders.
3. **Substructure Condition** - The physical condition of all of the bridge's piers, abutments, piles, footings, and other foundation components.
4. **Culvert Condition** - The overall condition of the entire culvert.
5. **Deck Geometry** - The width of the bridge as well as the vertical clearance over the bridge roadway.
6. **Underclearances** - The height from the transversed road or railway to the bottom of the structure, and the lateral clearance between the transversed road and the supports.
7. **Waterway Adequacy** - The passage of water flow underneath a bridge.
8. **Approach Roadway Alignment** - The alignment of the roadway approaches to the bridge as compared to the general alignment for the section of highway the bridge is on.

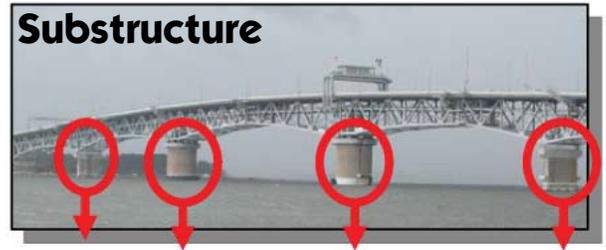
Deck



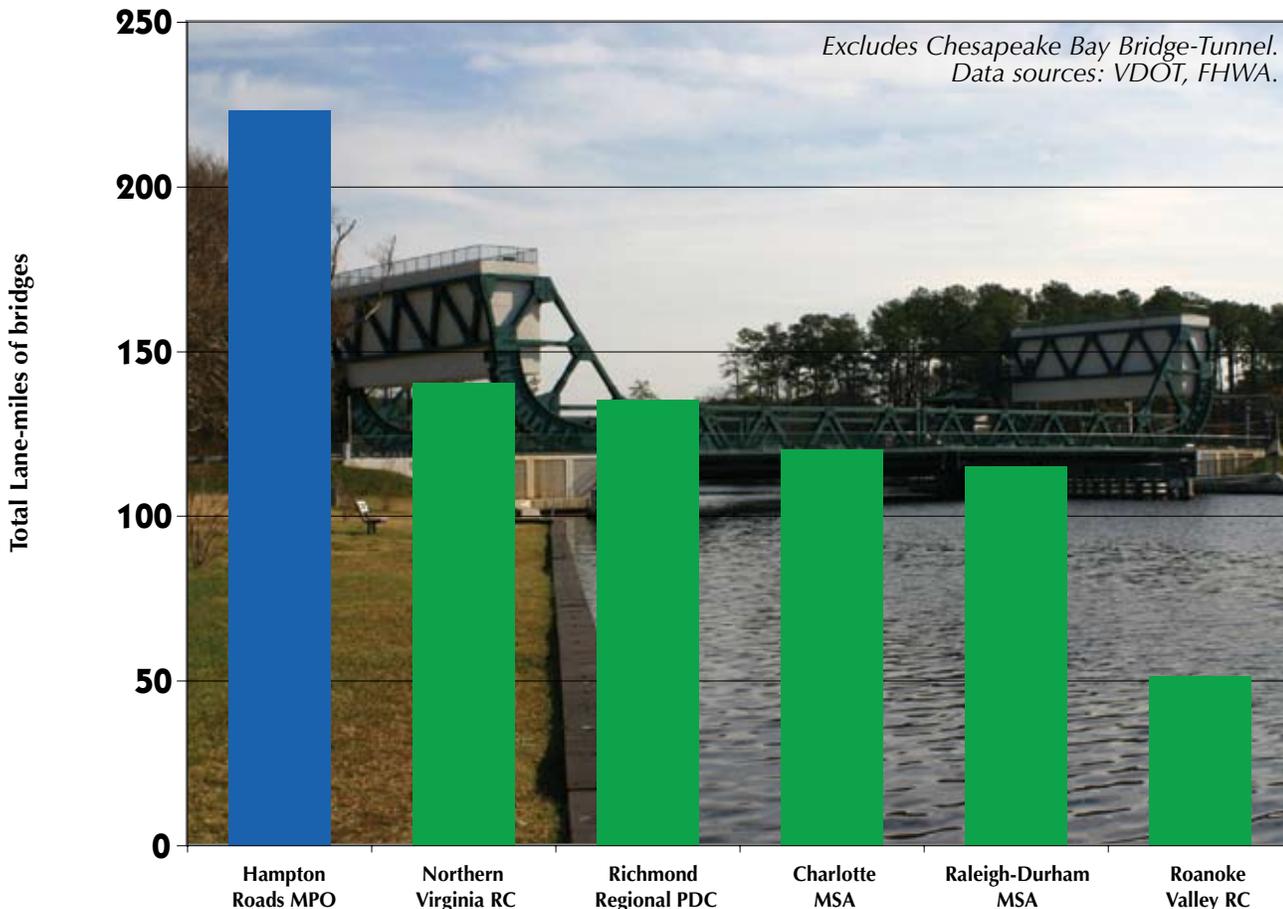
Superstructure



Substructure



Lane-Miles of Bridges



Regional Bridge Study: Bridge Design and Sufficiency Ratings

With 1,237 bridges to study, the HRMPO staff has examined numerous types of bridges found in the region. Nearly 60% of Hampton Roads' bridges involve highways crossing waterways. Although most bridges in Virginia are inspected every two years, there are also bridges where the design warrants more frequent inspections. These bridges are classified as Fracture Critical Bridges. **Fracture Critical Bridges are not necessarily unsafe.** It means that the bridge's design does not allow for redundancy. If a key structural member on the bridge failed, the bridge could be in danger of collapsing. Fracture Critical Bridges are inspected thoroughly on an annual basis to assure that they are safe and can remain in service. There are 40 Fracture Critical Bridges in Hampton Roads, including the Berkley Bridge, the Jordan Bridge, the James River Bridge, and the Coleman Bridge.

With Hampton Roads' current congestion levels, a mechanical issue at one of the region's draw bridges can set off a cascading chain of events that cause traffic snarls for miles all across the region. The mechanical issue at the Berkley Bridge in May 2004 is a prime example. Because public dependency of a facility is such an important issue, the Federal Highway Administration (FHWA) takes it into consideration when it establishes a bridge's sufficiency rating.

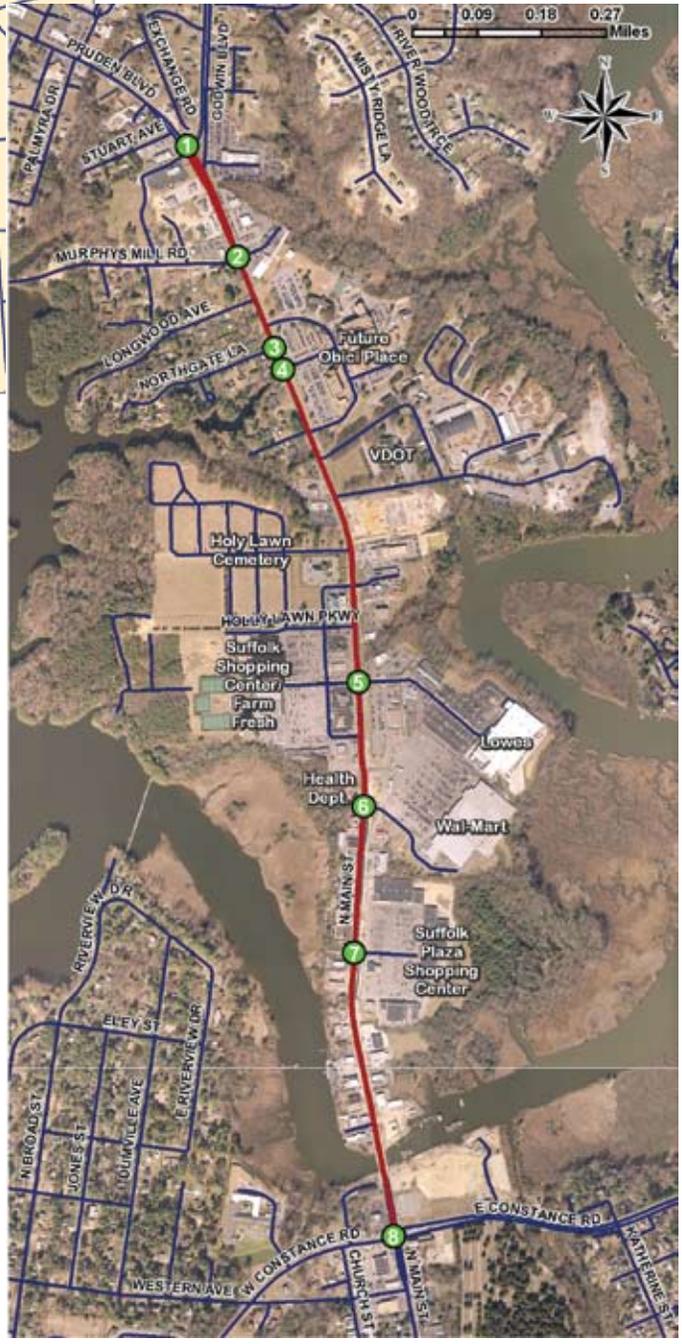
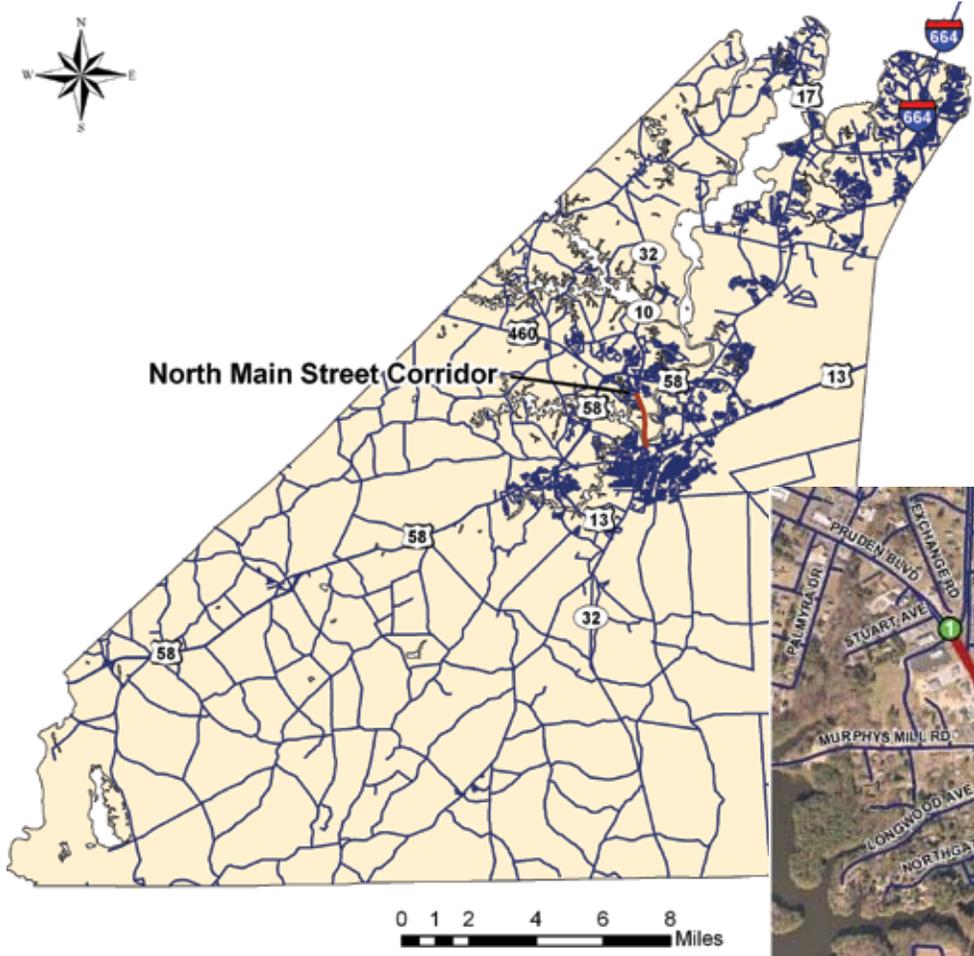
Contrary to popular belief and media hype, a bridge's sufficiency rating is not based solely on its structural condition. According to the FHWA, the sufficiency rating is "a numerical rating of a bridge based on its structural adequacy and safety, essentiality for public use, and its serviceability and functional obsolescence." Ratings are percentages from 0-100% with a 100% rating being an entirely sufficient bridge. **Bridges with low sufficiency ratings are not necessarily unsafe.** The ratings were created to determine which bridges receive Federal funding for repair or replacement. Bridges that are classified as structurally deficient or functionally obsolete and have sufficiency ratings of less than or equal to 80 are eligible for federal rehabilitation funds. Structurally deficient or functionally obsolete bridges with sufficiency ratings of less than 50 qualify for federal replacement funds.

The Regional Bridge Study will be wrapped up later this summer with a look at bridge funding, an analysis of the region's major bridges, and recommendations for the future.

Sufficiency Ratings of Hampton Roads' 1,237 Bridges:

- 75 bridges (6.1%) have a rating of <50.
- 403 bridges (32.6%) have a rating of >50 and <80.
- 729 bridges (58.9%) have a rating of >80.0.
- 30 bridges (2.4%) have no rating (pedestrian and rail bridges).





North Main Street Study Being Readied

The HRMPO staff is putting the finishing touches on a report for the city of Suffolk. The report analyzes the North Main Street (Business US Route 460/32/10) corridor for any possible roadway, traffic signal, and access management improvements that will be necessary along North Main Street within the next ten years. The study corridor begins at North Main Street’s intersection with Constance Road and continues north approximately 1.5 miles to its terminus at Pruden and Godwin Boulevards. (See Map.) This is a largely commercial corridor that is expected to grow to include a mixed-use development (Obici Place) on the northern end. The corridor carries between 30,000 and 31,000 vehicles per day.

The report should be completed later this summer.

Regional Approach to Transportation Operations

The Federal Highway Administration (FHWA) has recognized Hampton Roads' regional approach to transportation operations and will include the region's operation plan as part of an upcoming "Best Practices" guide for regional cooperation. A Regional Concept for Transportation Operations (RCTO), as defined by the FHWA, is a management tool that assists in planning and implementing management and operations strategies in a collaborative and sustained manner.

The Hampton Roads RCTO Charter was formulated in October of 2005, at which time the HR RCTO Working Group was convened. The Working Group includes representatives from the HRMPO, Virginia State Police, Virginia Department of Transportation, local fire and rescue agencies, local traffic engineers and local public works departments. As part of the planning process, these stakeholders identified improving freeway incident management (FIM) as the focus of the region's initiative.

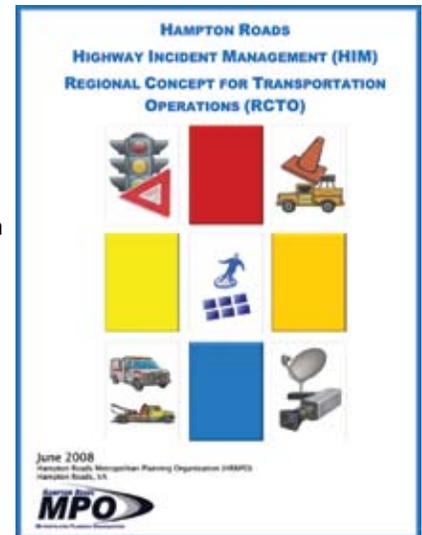
The Hampton Roads RCTO charter identified the following guiding principles:

- Broaden the operational coordination of emergency response agencies as it pertains to traffic incident management (TIM).
- Elevate the awareness of quick clearance principles and procedures through cross-agency training and key incident reviews.
- Begin the development of an RCTO using, expanding, and editing the existing Memoranda of Understanding (MOU) on Hampton Roads Highway Incident Management (HRHIM).
- Battle congestion caused by crashes and other disabled vehicles — an estimated 50 percent of congestion in urban areas.

The motivation for Hampton Roads' RCTO is to reduce the number of injuries incurred by responders, and to improve the operational coordination among those same responders for the purpose of reducing congestion related to roadway incidents. The Working Group defined the various challenges facing the incident management community through interviews with all of the agencies who comprise this community. The roles these agencies play in the incident management process were also identified.

The desire to improve the state of FIM is not unique to Hampton Roads. In major metropolitan areas across the country, FIM is a hot transportation topic. As such, the Working Group researched trends and best practices from other regions to gauge which solutions might be applied to this RCTO. The group also identified data to be collected and created effective performance measures to gauge the success of the Hampton Roads RCTO. The RCTO also identifies tools, such as MOUs among participants, a website for participants to track RCTO progress, and cross-agency training, to name a few, that could be utilized to reach the objectives.

Hampton Roads RCTO will be a "living document" that is designed to be updated and expanded as goals are achieved.



Input Objective

Goal

Increase responder safety, by decreasing responder accidents

Reduce incident responder accidents by 15 percent over the next three years (quantify via agency data)

Decrease incident clearance time

Annually reduce incident clearance time by 5.5 percent or 1.5 minutes

Decrease secondary incident occurrences

Decrease secondary incidents by 25 percent over the next three years (quantify via agency data)

Identify existing regional incident management resources and establish plan for inter-agency utilization and acquisition

Identify resource arrangements, mutual training agreements and information sharing, annually updating for all stakeholder agencies

Improve inter-agency communication during incidents

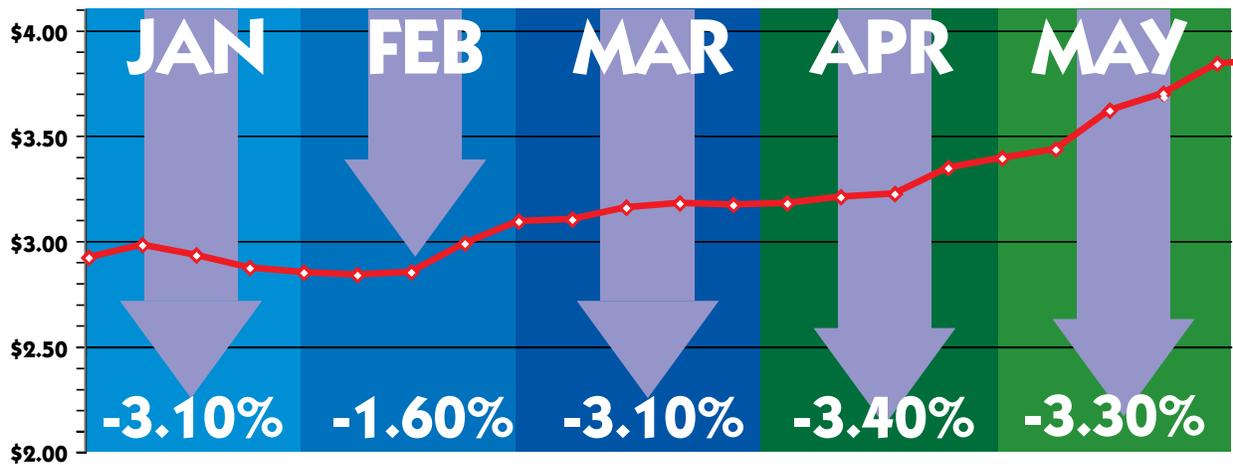
Annual recurring survey of stakeholder agencies (with a predefined baseline)

Establish an active, regional incident management proactive and post incident review consortium

Design a (multi-agency) quarterly post-incident review process and schedule routine regional incident management awareness committee meetings (aka RCTO Working Group)

Did you know...

Percentage Change in Traffic Volumes Compared to Fuel Costs, 2007 Versus 2008



Data sources: VDOT, Chesapeake Expressway and AAA Fuel Gauge Report

FHWA Recognizes Hampton Roads' Collaborative Efforts

The Federal Highway Administration (FHWA) cited Hampton Roads' regional efforts to improve transportation operations in a recently published reference manual, *The Collaborative Advantage: Realizing the Tangible Benefits of Regional Transportation Operations Collaboration*. The manual serves as a "best-practices" guide for other regions to follow. FHWA cited the activities of the Hampton Roads Intelligent Transportation System (ITS) Committee and Regional Concept of Transportation Operations (RCTO) Incident Management Working Group.

The Hampton Roads ITS Committee is one of the first cooperative, inter-agency, multi-jurisdictional transportation groups in the nation. The accomplishments of the Hampton Roads ITS Committee serve as a model for the advancement of ITS throughout the country. The ITS Committee consists primarily of traffic engineers and traffic operations staff from all sixteen local jurisdictions, the local transit agencies, the Virginia Department of Transportation (VDOT), the Virginia State Police, the Virginia Port Authority, the Department of Navy, the Federal Highway Administration, and the Hampton Roads Metropolitan Planning Organization (HRMPO).

FHWA noted that the Hampton Roads ITS Committee's collaborative approach to project analysis, selection, and recommendation improves the probability that a project

will be included in the region's Transportation Improvement Program (TIP) and receive funding via the HRMPO. The ITS Committee reviews the technical merit of a project and weighs all projects against each other before selecting and submitting projects that best serve the region to the HRMPO for regional Congestion Mitigation Air Quality (CMAQ) funds. Hampton Roads receives \$16 to \$17 million dollars in CMAQ funding each year and historically half of those funds have been allocated to ITS/operations projects.

The RCTO Incident Management Working Group holds monthly meetings to review selected incidents, and discuss how inter-agency interactions transpired and how they can be improved future incidents. The Working Group includes personnel from local and state police departments, local fire and rescue agencies, as well as transportation departments. FHWA cited the Group's recent attention to hazardous materials (HAZMAT) incident reporting as an area needing improvement. The Working Group developed standard procedures for HAZMAT reporting which has improved the efficiency of response to such incidents.

HRMPO Voting Members

Chesapeake

Clifton E. Hayes, Jr., City Council Member

Gloucester County

Lane B. Ramsey, Interim County Administrator

Hampton

Randall A. Gilliland, Vice Mayor

Isle of Wight County

Stan D. Clark, Member, Board of Supervisors

James City County

Bruce C. Goodson, Board of Supervisors

Newport News

Joe S. Frank, Mayor

Norfolk

Paul D. Fraim, Mayor

Poquoson

Charles W. Burgess Jr., City Manager

Portsmouth

Douglas L. Smith, City Council Member

Suffolk

Selena Cuffee-Glenn, City Manager

Virginia Beach

Louis R. Jones, Vice Mayor

Williamsburg

Jackson C. Tuttle, II, City Manager

York County

James O. McReynolds, County Administrator

Williamsburg Area Transport

Mark D. Rickards, Executive Director

Transportation District Commission of Hampton Roads

Michael S. Townes, President/Chief Executive Officer

Virginia Department of Transportation

Dennis W. Heuer, District Administrator, VDOT-Hampton Roads District

HRMPO Non-voting Members

Federal Highway Administration, U.S. Department of Transportation

Roberto Fonseca Martinez, Division Administrator

Federal Transit Administration

Letitia A. Thompson, Federal Transit Administrator

Federal Aviation Administration

Terry Page, Manager

Virginia Department of Aviation

Randall P. Burdette, Director

Virginia Port Authority

Jerry A. Bridges, Executive Director

Hampton Roads Planning District Commission

Dwight L. Farmer, Executive Director/Secretary



JUL 16	Metropolitan Planning Organization
held at:	The Regional Board Room
AUG 20	Metropolitan Planning Organization
held at:	The Regional Board Room
SEP 17	Metropolitan Planning Organization
held at:	The Regional Board Room

MEETING
CALENDAR

HRMPO
The Regional Building
723 Woodlake Drive
Chesapeake, VA 23320
RETURN SERVICE
REQUESTED

PRSRT STD
US POSTAGE PAID
NORFOLK VA
PERMIT NO.#3024