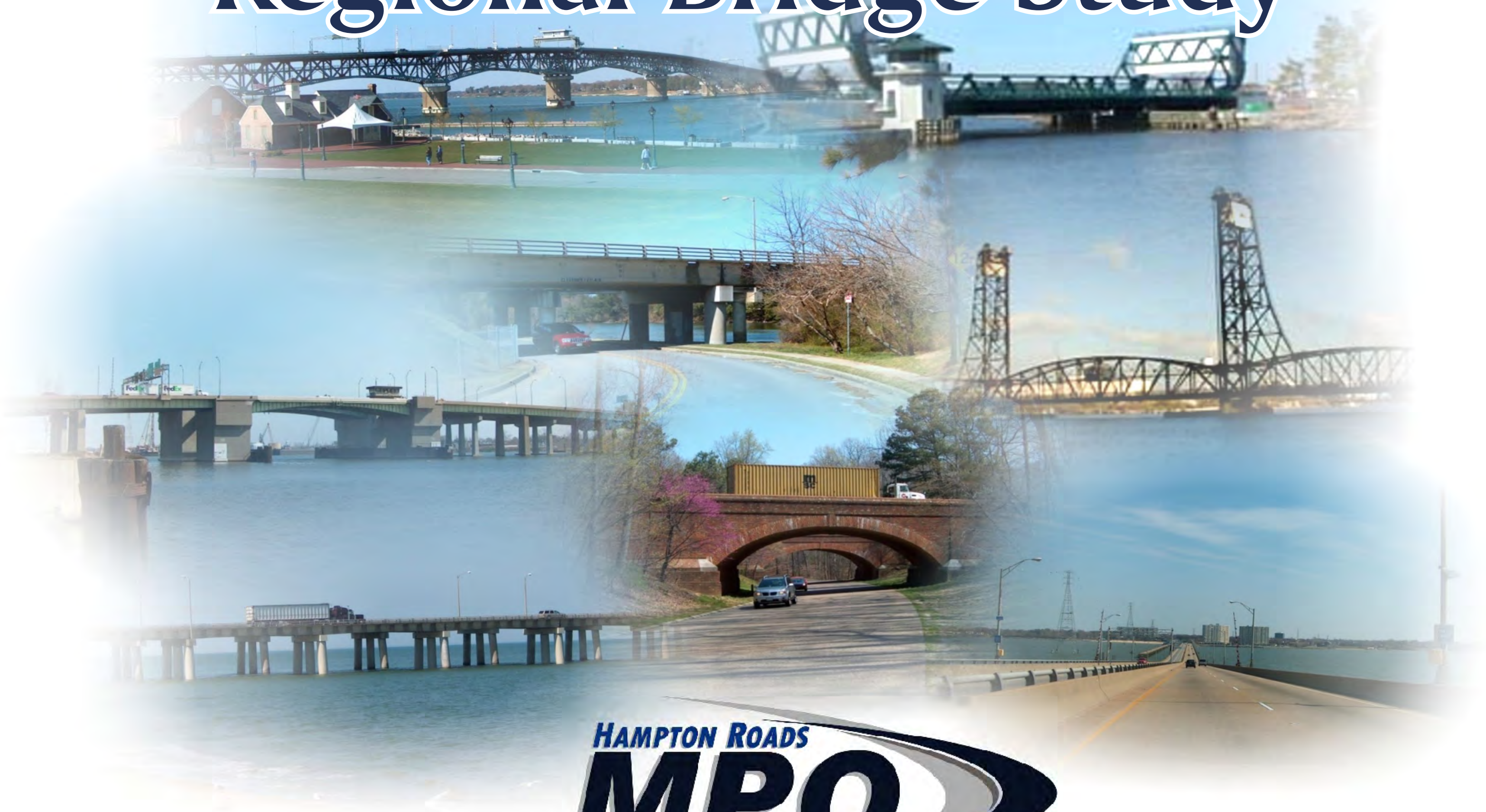
Hampton Roads Regional Bridge Study



HAMPTON ROADS MPO
METROPOLITAN PLANNING ORGANIZATION

SEPTEMBER 2008

T08-06

HAMPTON ROADS METROPOLITAN PLANNING ORGANIZATION

PROJECT STAFF

Dwight L. Farmer	Executive Director/Secretary
Camelia Ravanbakht	Deputy Executive Director
Keith M. Nichols	Senior Transportation Engineer
Andy C. Pickard	Senior Transportation Engineer
Marla K. Frye	Administrative Assistant
Robert C. Jacobs	General Services Manager
Michael R. Long	Assistant General Services Manager
Christopher W. Vaigneur	Reprographics Coordinator

HAMPTON ROADS
REGIONAL BRIDGE STUDY

This report was included in the Work Program
for Fiscal Year 2007-2008, which was approved by the
Commission and the Metropolitan Planning Organization
at their meetings of March 21, 2007.

PREPARED BY:

HAMPTON ROADS
MPO
METROPOLITAN PLANNING ORGANIZATION

SEPTEMBER 2008

T08-06

TITLE:
Hampton Roads Regional Bridge Study

AUTHOR:
Keith M. Nichols

PROJECT MANAGER:
Camelia Ravanbakht, PhD

REPORT DATE:
September 2008

GRANT/SPONSORING AGENCY:
FHWA/VDOT/Local Funds

ORGANIZATION NAME, ADDRESS, & TELEPHONE
Hampton Roads Metropolitan Planning Organization
723 Woodlake Drive
Chesapeake, Virginia 23320
757.420.8300
http://www.hrpdcva.gov

ABSTRACT

The condition of bridges both throughout the country and in Hampton Roads has taken on a much higher profile since the collapse of the I-35W bridge in Minneapolis, MN in August 2007. Various concerns that have come to the forefront in the aftermath of that tragedy include the condition of our nation's and our region's bridges, the structural design of some bridges, the bridge inspection process, and the lack of funding devoted to bridge maintenance.

This study looks at various issues regarding bridges in Hampton Roads, including a summary of regional bridges, bridge inspections and ratings, sufficiency ratings, structurally deficient and functionally obsolete bridges, fracture and scour critical bridges, bridge funding and projects, and a thorough analysis of major bridges throughout Hampton Roads. In many cases comparisons are made between bridges in Hampton Roads and those in other metropolitan areas.

ACKNOWLEDGMENTS

This report was prepared by the Hampton Roads Metropolitan Planning Organization (HRMPO) in cooperation with the Federal Highway Administration (FHWA), and the Virginia Department of Transportation (VDOT). Portions of this report encompassing areas outside of the MPO boundary were prepared with funds supplied by the Hampton Roads Planning District Commission (HRPDC). The contents of this report reflect the views of the Hampton Roads Area Metropolitan Planning Organization (MPO). The HRMPO 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, VDOT, or HRMPO. This report does not constitute a standard, specification, or regulation. FHWA or VDOT acceptance of this report as evidence of fulfillment of the objectives of this planning study 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

LIST OF MAPS, FIGURES AND TABLES

LIST OF MAPS

LIST OF FIGURES

LIST OF TABLES

Glossary of Bridge Terms

Bridge – For the purposes of this study, a bridge is defined as any structure that carries or spans vehicular traffic on a public roadway and has a length of more than 20 feet. This definition includes both culverts and tunnels. Bridges less than or equal to 20 feet in length are not included in this report, nor are bridges on military bases and private property.

This is similar to the definition that is used for bridges in the National Bridge Inventory.

Culvert – A culvert is a smaller drainage structure, such as a drain, pipe, or channel, that allows water to pass under a roadway. Culverts are included in this report if the opening is more than 20 feet.

Deck – The portion of the bridge that directly supports motorized and pedestrian traffic.

Fracture Critical – A fracture critical bridge is a structure that is designed with few or no redundant supporting elements. If a key structural member fails in a fracture critical bridge, the bridge is in danger of collapsing. **Despite this lack of redundancy, fracture critical bridges are not inherently unsafe**. Fracture critical bridges undergo more frequent and more extensive inspections than non-fracture critical bridges, and bridge inspectors will close or impose limits on bridges that they feel are unsafe.

Functionally Obsolete – A functionally obsolete bridge is a structure that was built to standards that are no longer used today. Functionally obsolete bridges are not inherently unsafe; they are those bridges that do not have adequate lane widths, shoulder widths, or vertical clearances to serve current traffic volumes or meet current geometric standards.

Inventory Rating – The inventory rating is the load level for the type of vehicle used in the rating that can safely utilize an existing structure for an indefinite period of time.

National Bridge Inspection Standards (NBIS) – Federal regulations establishing the requirements for all facets of bridge inspections and reporting.

National Bridge Inventory (NBI) – A database compiled by FHWA containing bridge characteristics provided by State DOTs for structures meeting the definition of a bridge listed above.

Operating Rating – The operating rating is the maximum permissible load level for the type of vehicle used in the rating that can safely utilize an existing structure.

Glossary of Bridge Terms (continued)

Scour Critical – A scour critical bridge is a structure that could fail or become structurally unstable due to scouring, or the exposure of portions of the substructure of the bridge due to changes in the river bed.

Structurally Deficient – A structurally deficient bridge is a structure with elements that need to be monitored and/or repaired. **A structurally deficient bridge is not necessarily unsafe. Bridge inspectors will close or impose limits on bridges they feel are unsafe.** Rather they must be monitored, inspected and maintained. In many cases, structurally deficient bridges are posted with weight limits to insure that the bridge can safely remain in service.

Substructure – The parts of a bridge, such as the piers, abutments, piles, and footings, that support the superstructure of the bridge.

Sufficiency Rating – Sufficiency rating is the numerical rating of a bridge based on its structural adequacy and safety, essentiality for public use, and its serviceability and functional obsolescence. Sufficiency ratings range from 0 to 100%, with a sufficiency rating of 100% representing an entirely sufficient bridge.

Sufficiency ratings were developed primarily as a method of prioritizing federal bridge funds for allocation. As such, a bridge's sufficiency rating does not reflect the ability of a bridge to handle traffic loads, and **bridges with low sufficiency ratings are not necessarily unsafe**. Sufficiency ratings help determine which bridges may need repair or replacement, not which bridges are in danger of collapsing.

Superstructure - The structural members of a bridge, such as beams and girders, that carry the load from the deck to the substructure.

Ten year rule – Any bridges built or reconstructed within the last ten years can not by regulation be classified as structurally deficient or functionally obsolete. This is to prevent recently constructed bridges from receiving additional federal funding.

Underclearances – The height of the underside of a bridge that passes over a road and/or a railroad. The underclearance rating evaluates the adequacy of this height.

Waterway Adequacy – The ability of a waterway under a bridge to handle floodwaters, and the potential for these floodwaters to overtop the bridge.

Introduction

Hampton Roads unique topography makes bridges a prominent part of the regional landscape. From crossing over and under major waterways to carrying railroads filled with trains leaving the port to traversing busy freeways, bridges are one of the most vital portions of the regional transportation network.

The condition of bridges both throughout the country and in our region has taken on a much higher profile since the collapse of the I-35W bridge in Minneapolis, MN in August 2007. Various concerns that have come to the forefront in the aftermath of that tragedy include the condition of our nation's and our region's bridges, the structural design of some bridges, the bridge inspection process, and the lack of funding devoted to bridge maintenance.

With that in mind, the purpose of this study is to look at various issues regarding bridges in Hampton Roads. Sections of this study include:

- **Regional Bridge Summary –** This section of the report includes the definition of a bridge that is used in this study. Summaries of bridges in Hampton Roads by type, service, and year built are included. Comparisons between bridges in Hampton Roads and those in other metropolitan areas are also included.
- **Bridge Inspections and Ratings –** Based on their detailed inspections, bridge inspectors give ratings to various components of each bridge. This section further describes both these bridge components as well as how they are rated.
- **Sufficiency Rating –** Sufficiency ratings are numerical ratings given to each bridge based on a variety of factors. This section details these factors and provides a summary of Hampton Roads bridges by sufficiency rating. Comparisons with other metropolitan areas are also included.
- **Structurally Deficient Bridges –** This section describes how bridges become classified as structurally deficient, and lists those bridges throughout Hampton Roads that are classified as structurally deficient. Comparisons with other metropolitan areas are also included.
- **Functionally Obsolete Bridges –** This section describes how bridges become classified as functionally obsolete, and lists those bridges throughout Hampton Roads that are classified as functionally obsolete. Comparisons with other metropolitan areas are also included.
- **Bridges Needing Repair or Rehabilitation –** The Virginia Department of Transportation (VDOT) classifies bridges that need repair or rehabilitation based on the ratings of certain bridge components. This section includes a summary by

PICTURE 1 – The Coleman Bridge is a fixture of the Yorktown Waterfront.

Hampton Roads jurisdiction, and comparisons with other metropolitan areas are also included.

- **Bridge Location Maps –** These maps show the location of every bridge in Hampton Roads. Those bridges that are classified as structurally deficient, functionally obsolete, or in need of repair or rehabilitation are also shown.
- **Fracture and Scour Critical Bridges –** Definitions of fracture critical and scour critical bridges are given, and a list of fracture critical bridges in Hampton Roads is included.
- **Bridge Funding –** This section details federal, state, and local bridge funding sources and levels.
- **Bridge Projects –** Bridge projects that were completed in recent years are included in this section, as well as planned bridge projects that are included in state and city improvement programs.
- **Previous Bridge Closures –** Various bridges have been temporarily or permanently closed in Hampton Roads, and this section looks at the effects of the closure of the Midtown Tunnel during Hurricane Isabel and the closure of the Kings Highway Bridge. The traffic management response to the I-35W bridge collapse is also detailed.
- **Major Regional Bridge Analysis –** This section provides an analysis of what the effect would be on regional traffic patterns throughout Hampton Roads if one of the major bridges were taken out of service.
- **Conclusions**

Bridge Data

The analysis performed for this study required a large amount of data for each bridge. Bridge data for Hampton Roads was obtained from the Virginia Department of Transportation's (VDOT) Structure and Bridge Division. Additional data for federally-maintained bridges and those bridges in areas outside of Virginia were obtained from the Federal Highway Administration's (FHWA) National Bridge Inventory (NBI) database.

Both the VDOT and NBI databases contain a vast amount of data that is collected for each bridge. The VDOT bridge database contains over 170 fields of data for each bridge; the NBI database contains over 90. Examples of information within these databases include the bridge location, design type, geometric characteristics, roadway classifications, traffic volumes, condition and appraisal ratings, inspection dates, etc.

Most of the data included in this report was obtained in August 2007, although some data in this report is more recent. With bridges throughout the region being inspected on a regular basis, bridge ratings are constantly being updated. As such, some bridges may currently have different ratings than are included in this report due to these recent inspections. Up-to-date bridge ratings are available on the VDOT website at http://www.virginiadot.org/info/Bridge.asp.

Regional Bridge Summary

This study analyzes most structures in Hampton Roads that are included in the National Bridge Inventory (NBI). To be included in the National Bridge Inventory, a structure must meet the National Bridge Inspection Standards definition:

"A structure including supports erected over a depression or an obstruction, such as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet (or 6.1 meters) between undercopings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening."

Based on the definition listed above, the following conditions must be met for a bridge to be included in this study:

- The bridge must be located on a public roadway. Bridges located on non-public areas of military bases are not included in this study, although they may be included in the NBI.
- The bridge must be more than 20 feet in length. Culverts are included, so long as their opening is more than 20 feet in length.
- The bridge must either carry or transverse a roadway. Bridges that carry railroads and pedestrians over roadways are included in this study. Railroad and pedestrian bridges over waterways, however, are not included.
- Tunnels are considered bridges in this study.

This study will include all 1,237 bridges in Hampton Roads that meet this definition as of August 2007. These bridges, if laid end-to-end, would stretch for 115 miles, and on average 24 million vehicles cross these bridges each day.

Bridges in Hampton Roads and Other Metropolitan Areas

In this and other sections of this report, bridges in Hampton Roads were compared to those in other selected planning districts and metropolitan areas. Those areas include the Northern Virginia, Richmond Regional, and Roanoke Valley-Alleghany planning districts in Virginia as well as the Raleigh-Durham and Charlotte metropolitan statistical areas (MSAs) in North Carolina. The number of bridges that meet the previous definition in each of these areas are:

- Hampton Roads PDC – 1,237 bridges
- Northern Virginia RC – 1,482 bridges
- Richmond Regional PDC – 1,120 bridges
- Roanoke Valley-Alleghany RC – 959 bridges
- Raleigh-Durham-Cary MSA – 1,882 bridges
- Charlotte-Gastonia-Concord MSA – 1,811 bridges

Comparing Hampton Roads with these five other areas (**Table 1**), Hampton Roads actually has a low number of bridges on a per person, per square mile, and per mile of roadway basis. Only Northern

TABLE 1 – Bridges in Hampton Roads and Other Selected Metropolitan Areas

METROPOLITAN AREAS	TOTAL NUMBER OF BRIDGES	NUMBER OF BRIDGES PER		
		100,000 PEOPLE	SQUARE MILE	MILE OF ROADWAY
HAMPTON ROADS	1,237	75.1	0.43	0.15
NORTHERN VIRGINIA RC	1,482	71.2	1.13	0.24
RICHMOND REGIONAL PDC	1,120	117.5	0.52	0.18
ROANOKE VALLEY RC	959	354.0	0.41	0.25
RALEIGH-DURHAM MSA	1,882	129.0	0.48	0.17
CHARLOTTE MSA	1,811	114.4	0.58	0.16

Data sources: VDOT, FHWA.

Virginia has fewer bridges per person, only Roanoke Valley has fewer bridges per square mile, and none of the other selected areas has fewer bridges per mile of roadway than Hampton Roads.

Instead, the bridges in Hampton Roads are on average much longer than those in other areas (**Figure 1**). The average bridge length in Hampton Roads is 373 feet, which is 140 feet longer than the next closest metropolitan area analyzed in this study. This is not surprising with the massive bridge-tunnel facilities that are located throughout the region, along with the major river crossings such as the James River Bridge and the Coleman Bridge.

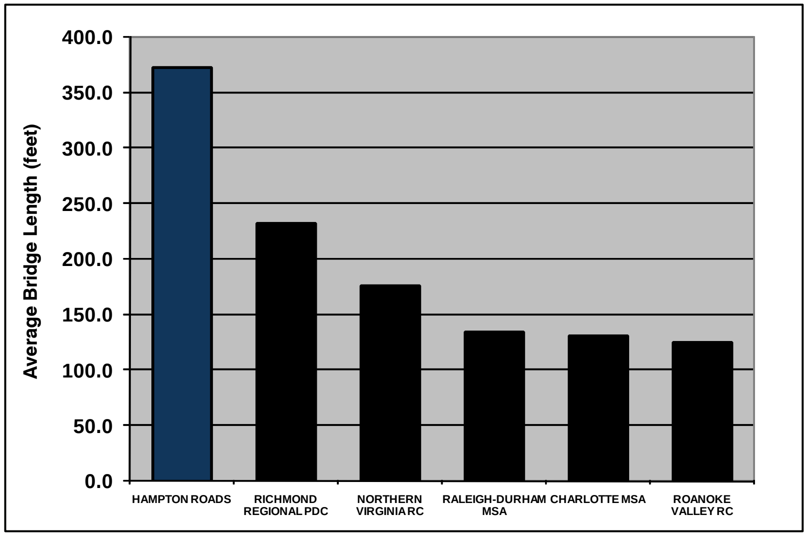
These longer bridges result in more lane-miles of bridges (defined as the total of the length of each bridge in the region multiplied by the number of lanes) in Hampton Roads than in other areas. With 223 lane-miles of bridges, Hampton Roads has 83 more lane-miles of bridges than the next closest metropolitan area analyzed in this study (**Figure 2**). These extra lane-miles mean that more money is required to maintain and reconstruct the bridge infrastructure in our region than is required in other regions.

Bridge Types

Bridge types are defined by FHWA based on the predominant type of design and/or type of construction, with bridges being divided into 22 different classes. **Figure 3** on pages 5 - 8 describes and includes a picture of each bridge type, and includes the number of each type of bridge in Hampton Roads.

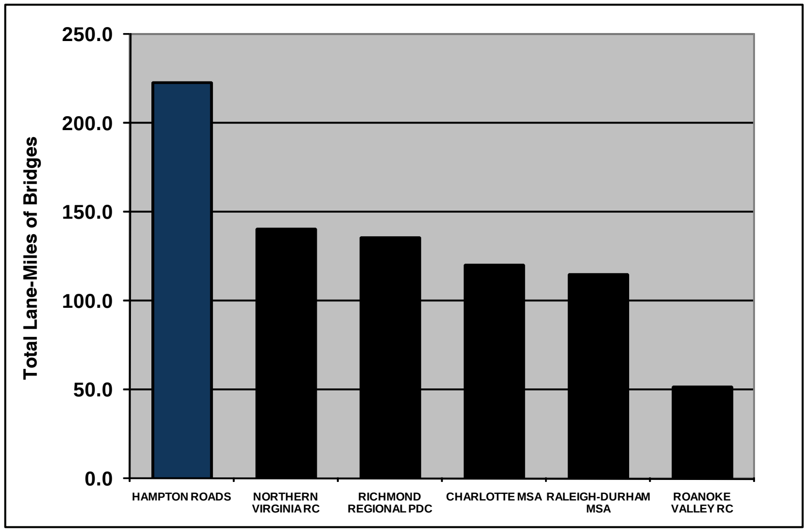
Of the 1,237 bridges in Hampton Roads, 802 (64.8%) are some type of beam or girder bridge. Beam or girder bridges are one of the simplest design types and are usually made of steel or prestressed concrete.

FIGURE 1 – Average Bridge Length in Hampton Roads and Selected Areas



Data sources: VDOT, FHWA. Hampton Roads data does not include the CBBT.

FIGURE 2 – Total Lane-Miles of Bridges in Hampton Roads and Selected Areas



Data sources: VDOT, FHWA. Hampton Roads data does not include the CBBT.

FIGURE 3 - Bridges in Hampton Roads by Type

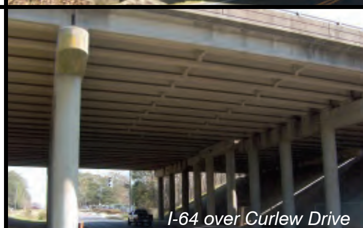
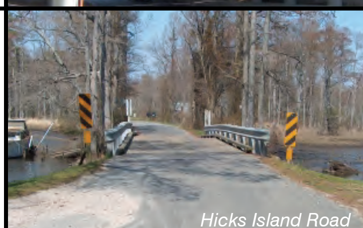
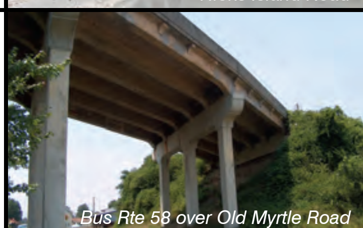
Codes	Type	Photo	Description	# in Hampton Roads
1	Slab	 *Colonial Pkwy over Hubbard Lane*	A slab bridge is a structure where the slab serves as both the superstructure and the deck of the bridge. This type of bridge is well-suited for shorter spans.	105 total 60 concrete 44 prestressed concrete 1 wood
2	Stringer/Multi-beam or Girder	 *I-64 over Curlew Drive*	This type of bridge uses three or more parallel beams or girders (generally in the shape of an "I") that transfer the load between the deck and the substructure. This type of bridge is commonly used on the Interstate system.	802 total 10 concrete 595 steel 191 prestressed concrete 6 wood
3	Girder and Floorbeam System	 *Hicks Island Road*	This type of bridge uses two girders parallel to the roadway, with the deck on top of floorbeams that are connected to the girders. The roadway can be located either above or through the girders.	9 total 9 steel
4	Tee Beam	 *Bus Rte 58 over Old Myrtle Road*	A tee beam bridge is similar to other beam bridges except that the concrete beams are shaped in the form of a "T".	41 total 38 concrete 3 prestressed concrete
5/6	Box Beam or Girder	 *Hampton Blvd over Lafayette River*	A box beam or girder bridge is similar to other beam and girder bridges except that the beams or girders have a void in the middle.	43 total 4 concrete 2 steel 37 prestressed concrete

FIGURE 3 - Bridges in Hampton Roads by Type (continued)

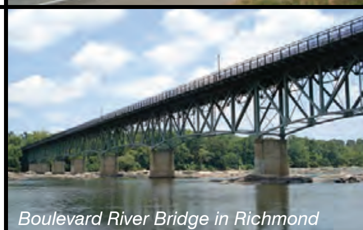
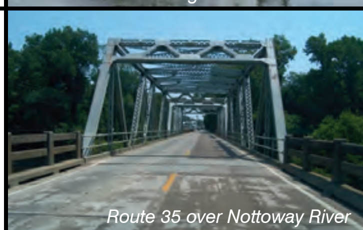
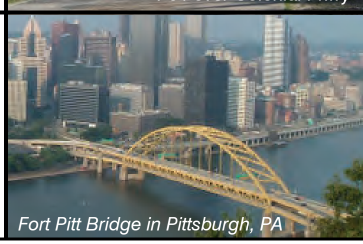
Codes	Type	Photo	Description	# in Hampton Roads
7	Frame	 Barlow Road over I-64	A frame bridge is a structure where the piers and deck are one integrated solid structure.	3 total 2 concrete 1 steel
9	Deck Truss	 Boulevard River Bridge in Richmond	A truss bridge is a simple skeletal structure that usually uses a series of triangles to transfer the load from the deck to the piers. In a deck truss bridge the roadway surface is located above the truss.	0 total
10	Through Truss	 Route 35 over Nottoway River	A truss bridge where the deck is located below the truss and traffic travels through the truss system.	3 total 3 steel
11	Deck Arch	 I-64 over Colonial Pkwy	An arch bridge spans an opening with a curved structural member. Arch bridges are often used where design and aesthetics are particularly important. In a deck arch bridge the roadway surface is located above the arch.	10 total 10 concrete
12	Through Arch	 Fort Pitt Bridge in Pittsburgh, PA	An arch bridge where the deck is hung from a segment of the arch that rises above the deck.	3 total 2 concrete 1 wood

FIGURE 3 - Bridges in Hampton Roads by Type (continued)

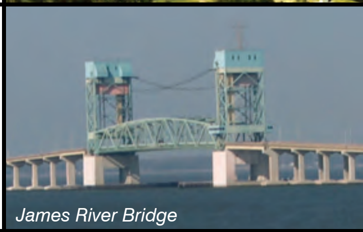
Codes	Type	Photo	Description	# in Hampton Roads
13	Suspension	 *Golden Gate Bridge*	A suspension bridge is a structure where the deck is supported by cables. These cables transfer loads over two towers to the anchorages at either end of the bridge. The longest bridges in the world are suspension bridges.	0 total
14	Stayed Girder	 *I-295 over James River near Richmond*	A stayed girder bridge is a structure where the deck is supported by cables that are attached to one or more towers.	0 total
15	Movable - Lift	 *James River Bridge*	A movable lift bridge is a type of bridge where the span is raised vertically to allow for passage below. The lifted span remains parallel to the roadway deck.	2 total 2 steel
16	Movable - Bascule	 *Great Bridge Bridge*	A movable bascule bridge is a type of bridge where portions of the bridge deck rotate upward to allow for passage below.	7 total 7 steel
17	Movable - Swing	 *Coleman Bridge*	A movable swing bridge is a type of bridge where segments of the bridge deck rotate horizontally to allow for passage below.	5 total 5 steel

FIGURE 3 - Bridges in Hampton Roads by Type (continued)

Codes	Type	Photo	Description	# in Hampton Roads
18	Tunnel	 *Downtown Tunnel*	Tunnels are underground roadway passages. 8 tunnels in Hampton Roads are underwater crossings, with the remaining tunnel passing below a runway at Naval Station Norfolk.	9 total
19	Culvert	 *Woodlake Drive*	A culvert is a channel that allows water to flow under a roadway. Culverts are often used for smaller streams and drainage canals.	192 total (only includes those > 20' in length) 146 concrete 43 steel 3 aluminum
21	Segmental Box Girder	 *Military Hwy over Va. Beach Blvd*	A segmental box girder bridge has a deck that is supported by a closed box formed from two sloping side walls that are attached on the bottom with a slab. This closed box acts as a beam spanning between the piers.	1 total 1 steel
22	Channel Beam	 *Underside of channel beam bridge*	Channel beam bridges are constructed with precast beams that resemble inverted channels. They are similar in appearance to tee beam bridges.	0 total
X	Unclassified			2 total

Data sources: VDOT, FHWA.

Beam or girder bridges are commonly used on the Interstate system; 89% of the bridges on or over the Interstate system in Hampton Roads use this type of design.

Culverts are the second most prominent type of bridge in Hampton Roads, with 192 qualified culverts (15.5%) located throughout the region. This number accounts for only those culverts that meet the NBI definition, meaning they are greater than 20 feet in length. There are hundreds of additional culverts located throughout Hampton Roads that are too short to qualify as a bridge under the NBI definition.

Bridges by Type of Service

Table 2 shows the number of bridges in Hampton Roads based on the type of facility served. This table only includes those bridges that meet NBI's definition, meaning that the bridge must carry or transverse a roadway. Bridges that do not involve a roadway (i.e. pedestrian or railroad bridges over waterways) are not included.

With the abundance of waterways in the region it's not surprising that the majority of bridges in Hampton Roads involve roadways crossing over waterways. 733 bridges (59%) in Hampton Roads involve highways crossing over or under a waterway. Another 36% of bridges involve highways crossing other highways.

TABLE 2 – Type of Service On and Under Bridges in Hampton Roads

TYPE OF SERVICE ON BRIDGE	NUMBER OF BRIDGES	TYPE OF SERVICE UNDER BRIDGE	NUMBER OF BRIDGES
HIGHWAY	1207	HIGHWAY	364
		RAILROAD	57
		HIGHWAY & RAIL	54
		WATERWAY	697
		HIGHWAY & WATERWAY	22
		RAIL & WATERWAY	2
		HIGHWAY, RAIL & WATERWAY	3
		OTHER	8
TUNNEL	9	N/A	9
RAILROAD	13	HIGHWAY	12
		HIGHWAY & WATERWAY	1
PEDESTRIAN ONLY	8	HIGHWAY	7
		HIGHWAY & WATERWAY	1

Data sources: VDOT, FHWA.

Bridges by Year Built

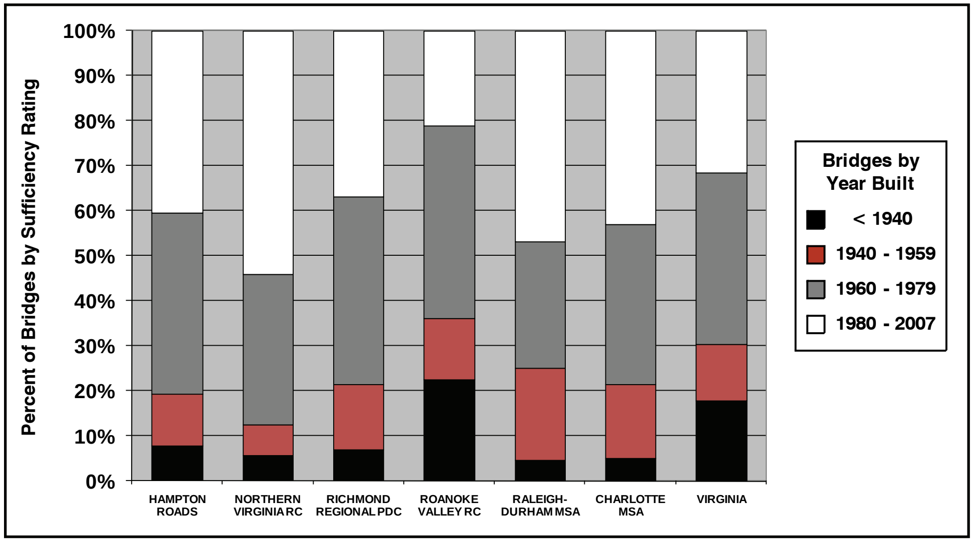
Aging infrastructure is a concern in the United States, and bridges are no exception. The median bridge age in the United States is 37 years, and nearly 30% of the bridges in the United States are more than 50 years old. Almost 2% of all bridges in the United States are 100 years old or older. In Virginia, the median bridge age is 39 years, and 30% of all bridges were built before 1960. Nearly 20% of all bridges throughout Virginia were built before 1940.

Bridges in Hampton Roads on average are not as old as the national and statewide figures listed above. The median age of bridges in Hampton Roads, at 34 years, is lower than the national and statewide median age. However, of the 1,237 bridges in Hampton Roads, 97 (7.8%) were built before 1940. Another 141 bridges (11.4%) were built between 1940 and 1959. Combined, nearly 20% of all bridges in Hampton Roads were built before 1960.

Compared to other metropolitan areas (**Figure 4**), bridges in Hampton Roads are slightly older. Of the five other metropolitan areas studied, only the Roanoke Valley area had a higher median bridge age and higher percentage of bridges built prior to 1940 than Hampton Roads. However, only Northern Virginia had a lower percentage of bridges built before 1960 than Hampton Roads.

Table 3 has the bridges by year built for each jurisdiction in Hampton Roads. Among Hampton Roads jurisdictions, Williamsburg has the highest median bridge age at 51 years, while Southampton County has by far the largest number of bridges that were built before 1940.

FIGURE 4 – Bridges by Year Built in Selected Areas



Data sources: VDOT, FHWA. Data as of 2007.

TABLE 3 – Bridges in Hampton Roads by Jurisdiction and Year Built

JURISDICTION	NUMBER OF BRIDGES	NUMBER OF BRIDGES BY YEAR CONSTRUCTED				Median Age (years)
		< 1940	1940-1959	1960-1979	1980-2007	
CHESAPEAKE	160	9	5	43	103	23.5
GLOUCESTER	24	6	5	9	4	46.5
HAMPTON	85	2	14	19	50	25
ISLE OF WIGHT	84	3	30	21	30	38
JAMES CITY	63	8	11	24	20	33
NEWPORT NEWS	83	5	3	29	46	24
NORFOLK	203	2	16	111	74	36
POQUOSON	0	-	-	-	-	-
PORTSMOUTH	42	0	3	19	20	31
SOUTHAMPTON/FRANKLIN	138	28	11	63	36	39
SUFFOLK	141	10	20	58	53	34
SURRY	32	9	8	11	4	49.5
VIRGINIA BEACH	118	4	2	58	54	32.5
WILLIAMSBURG	11	4	2	4	1	51
YORK	53	7	11	28	7	43
HAMPTON ROADS	1,237	97	141	497	502	34

Data sources: VDOT, FHWA. Data as of August 2007.

Bridge Inspections and Ratings

The collapse of the I-35W bridge in Minnesota has brought extra attention to the bridge inspection process. In Virginia and throughout the United States, bridges are inspected in accordance with National Bridge Inspection Standards by qualified inspectors. Federal law requires that inspections be performed on most bridges at least once every two years. Some bridges are inspected more frequently, depending on factors such as the design and the condition of the bridge. For example, structurally deficient and fracture critical bridges are usually inspected on an annual basis to assure that they may remain in service. Underwater inspections are also performed where necessary at least once every five years on most bridges.

VDOT employs more than 100 bridge inspectors to conduct between 11,000 and 12,000 inspections each year on VDOT-maintained bridges. In addition, qualified consultants are also used to conduct additional bridge inspections. In Fiscal Year 2008, VDOT budgeted $16 million to inspect VDOT-maintained bridges throughout the state.

In Virginia, while VDOT is responsible for the inspections of VDOT-maintained bridges, cities are responsible for inspecting the bridges that they maintain. Inspections performed on city bridges must also be done in accordance with National Bridge Inspection Standards, including the requirement that inspections be conducted on most bridges at least once every two years. Although VDOT does not specifically provide funding for this purpose, Urban Maintenance Program funds can be used for each city's bridge inspection costs.

Based on their measurements and observations, bridge inspectors assign ratings to describe the existing condition of each structure. These ratings are divided into general condition and appraisal ratings. Each of these general condition and appraisal components is rated by the bridge inspector from 0 to 9, with 9 representing a component in excellent condition and 0 representing a failed condition or a closed bridge.

PICTURE 2 - Bridge inspectors examine the Norris Bridge connecting the Middle Peninsula and Northern Neck. Photo source: VDOT.

General condition ratings are used to describe the physical condition of the existing bridge. General condition ratings are given to three components of each bridge:

- Deck – The overall condition rating of the bridge's driving surface.

- Superstructure – The physical condition of all of the bridge's structural members such as beams and girders.
- Substructure – The physical condition of all of the bridge's piers, abutments, piles, footings, and other components of the bridge's foundation.

For culverts, a single condition rating is given in place of the deck, superstructure, and substructure ratings. The culvert condition rating evaluates the overall general condition of the entire culvert.

Appraisal Ratings are used to evaluate a bridge in relation to the level of service it provides on the highway system it is located on. Each structure is compared to a new structure that is built to current design standards for that type of roadway. Appraisal ratings are given to the following components of each bridge:

- Structural evaluation – This rating is generally equal to the lowest general condition rating among the superstructure and substructure, as described previously. The structural evaluation rating, however, can be lower based on the capacity of the bridge and the volume of traffic it carries. This is also sometimes called the structural condition rating.
- Deck geometry – The width of the bridge as well as the vertical clearance over the bridge roadway.
- Vertical and horizontal underclearances – The height from the transversed roadway or railway to the bottom of the bridge structure, and the lateral clearance between the transversed roadway or railway and the bridge supports.
- Waterway adequacy – The ability of the bridge opening to allow passage of water flow, and the frequency of water overtopping the bridge.
- Approach roadway alignment - The alignment of the roadway approaches to the bridge as compared to the general highway alignment for the section of highway the bridge is on.

These general condition and appraisal ratings are used in a variety of ways, including to determine if a bridge is classified as structurally deficient or functionally obsolete, to determine whether the bridge needs repair or rehabilitation, to calculate the sufficiency rating for each bridge, as well as to prioritize state and federal funding levels and projects.

More detailed descriptions of these general condition and appraisal components and ratings are included in **Appendix B**.

Sufficiency Rating

A sufficiency rating is a numerical rating for each bridge based on its structural adequacy and safety, essentiality for public use, and its serviceability and functional obsolescence. These factors are used to obtain a numeric value between 0% and 100%, with a sufficiency rating of 100% representing an entirely sufficient bridge.

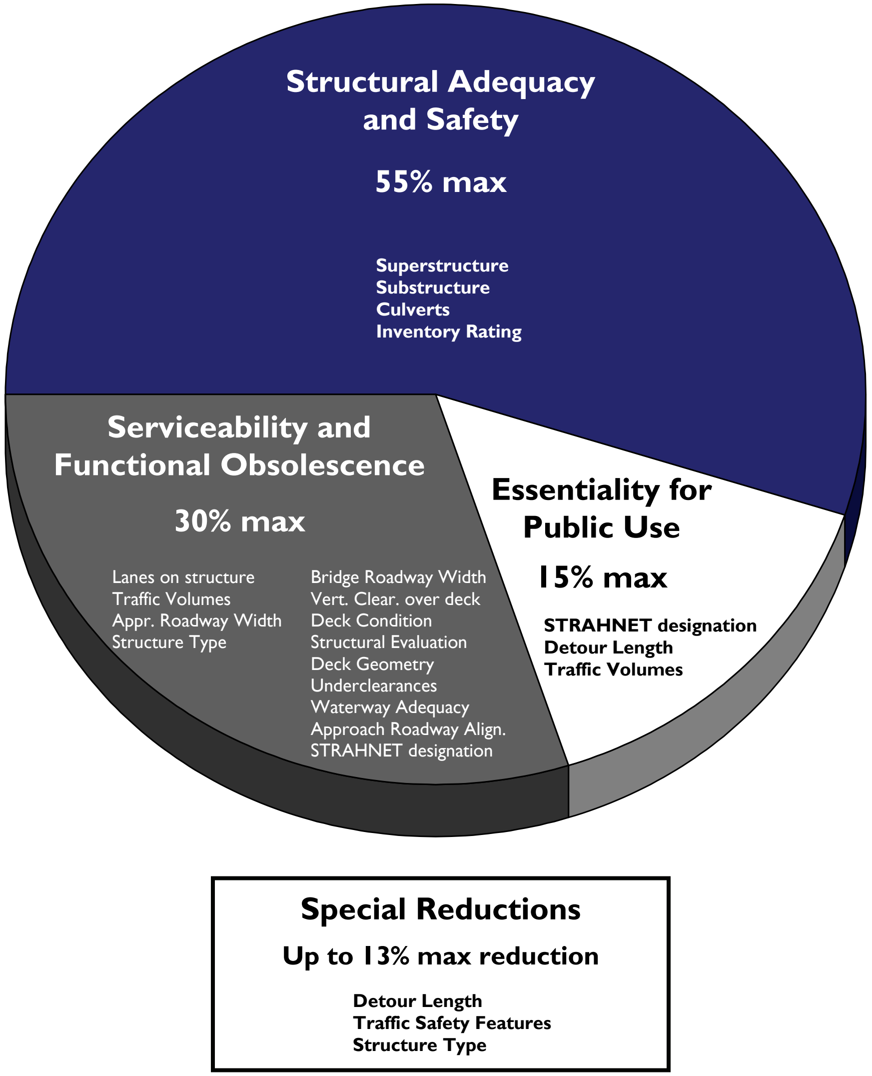
It must be emphasized that a bridge's sufficiency rating does not reflect the ability of the bridge to handle traffic loads. **Those bridges with low sufficiency ratings are not necessarily unsafe**. A sufficiency rating helps determine which bridges may need repair or replacement, not which bridges are in danger of collapsing.

In fact, sufficiency ratings were developed and are used by FHWA as a method of prioritizing federal bridge funds for allocation. Deficient bridges with sufficiency ratings of less than 50.0 qualify for federal bridge replacement funds, while deficient bridges with sufficiency ratings of greater than 50.0 and less than or equal to 80.0 qualify for federal bridge rehabilitation funds. Federal bridge funding mechanisms are described in further detail in the Bridge Funding section of this report.

Four factors are each assigned a specific percentage towards the overall sufficiency rating. These factors, as shown in **Figure 5**, are:

- Structural Adequacy and Safety – 55%
- Serviceability and Functional Obsolescence – 30%
- Essentiality for Public Use – 15%
- Special Reductions – Up to a 13% reduction

FIGURE 5 - Summary of Sufficiency Rating Factors and Components



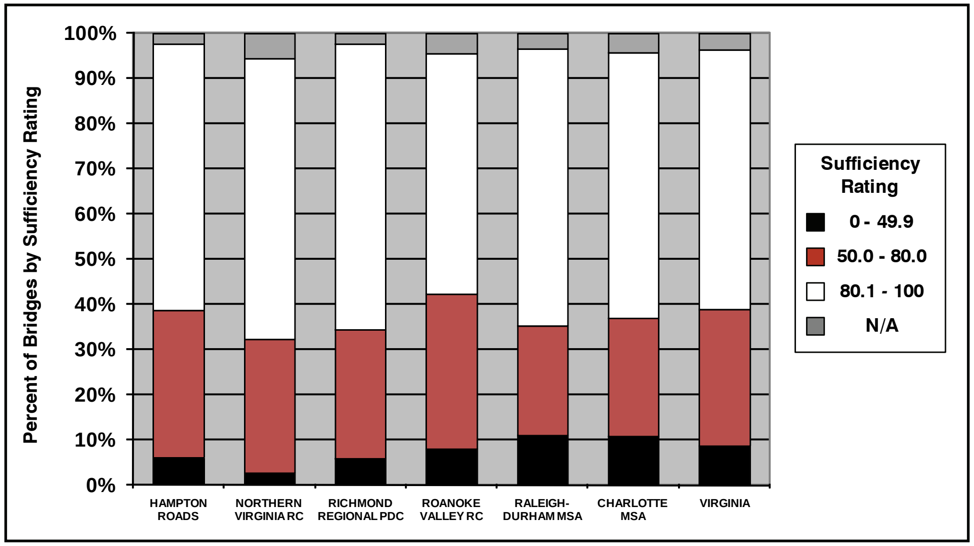
The method for calculating a bridge's sufficiency rating is complex. Each of the four factors is comprised of a variety of components that must be measured or rated. **Appendix C** shows the method for calculating a bridge's sufficiency rating, and includes an example sufficiency rating calculation for the James River Bridge.

Of the 1,237 bridges in Hampton Roads, 75 (6.1%) have a sufficiency rating of less than 50. Another 403 bridges (32.6%) have a sufficiency rating between 50 and 80. Compared with other metropolitan areas (**Figure 6**), Hampton Roads has a lower percentage of bridges with sufficiency ratings of less than 50, but a higher percentage of bridges with sufficiency ratings between 50 and 80.

Table 4 has the bridge sufficiency ratings for Hampton Roads by jurisdiction. Southampton County and the City of Chesapeake have the most bridges in the region with sufficiency ratings of less than 50, and the City of Virginia Beach has the highest number of bridges with sufficiency ratings of 80 or less. Southampton County and Gloucester County have the highest percentage of bridges with sufficiency ratings of less than 50, and both Gloucester and Isle of Wight have more than half of their bridges with sufficiency ratings of 80 or less.

Table 5 on page 15 lists the bridges with the 50 lowest sufficiency ratings in Hampton Roads. The bridge with the lowest sufficiency rating in the region is the 22nd Street Bridge in Chesapeake (2.0), followed by the Gilmerton Bridge (3.0), the Jordan Bridge (4.0), and the Route 5 Bridge over the Chickahominy River (6.0). Of these bridges, a replacement to the Route 5 Bridge is currently being constructed and a replacement to the Gilmerton Bridge is expected to begin construction in 2009.

FIGURE 6 – Bridge Sufficiency Ratings for Selected Areas



Data sources: VDOT, FHWA. Data as of 2007. N/A indicates that sufficiency ratings are not available for those bridges. In most cases, bridges with no sufficiency ratings listed are railroad or pedestrian bridges or tunnels.

TABLE 4 – Bridge Sufficiency Ratings by Jurisdiction

JURISDICTION	TOTAL BRIDGES	SUFFICIENCY RATING 0-49.9	50.0-80.0	80.1-100	N/A
CHESAPEAKE	160	15	29	116	0
GLOUCESTER	24	3	10	11	0
HAMPTON	85	1	35	45	4
ISLE OF WIGHT	84	10	34	40	0
JAMES CITY	63	3	27	33	0
NEWPORT NEWS	83	3	35	42	3
NORFOLK	203	2	43	143	15
POQUOSON	0	-	-	-	-
PORTSMOUTH	42	2	11	28	1
SOUTHAMPTON/FRANKLIN	138	17	43	78	0
SUFFOLK	141	12	40	84	5
SURRY	32	2	14	16	0
VIRGINIA BEACH	118	3	52	61	2
WILLIAMSBURG	11	0	6	5	0
YORK	53	2	24	27	0
HAMPTON ROADS	1,237	75	403	729	30

Data sources: VDOT, FHWA. Data as of August 2007.
N/A indicates that sufficiency ratings are not available for those bridges. In most cases, bridges with no sufficiency ratings listed are railroad or pedestrian bridges or tunnels.

TABLE 5 – Bridges in Hampton Roads with the Lowest Sufficiency Ratings

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	SUFFICIENCY RATING	STRUCT-URALLY DEFICIENT?	FUNCTION-ALLY OBSOLETE?	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1	CHES	21879	166	22ND STREET	SEABOARD AVENUE & N&W R/R	2	1938		2.0	Y		-/5/5
2	CHES	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER	16	1938	1958	3.0	Y		-/14/20
3	CHES	21931	337	JORDAN BRIDGE	S BR ELIZABETH RIVER	15	1926		4.0	Y		-/3/3
4	JCC	4801	5	JOHN TYLER HWY	CHICKAHOMINY RIVER	17	1939		6.0	Y		-/-/-
5	CHES	1826	165	MOUNT PLEASANT ROAD	CHESAPEAKE & ALBEMARLE CANAL	17	1951		17.5	Y		13/-/-
6	NN	20727	173	DENBIGH BLVD	I-64 & CSX R/R	2	1965	1977	18.5	Y		-/-/-
7	NN	20659	0	WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR	3	1946		20.9		Y	-/18/28
8	SH	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	17	1940	1962	21.4	Y		-/22/28
9	GLO	8535	602	BURKE'S POND ROAD	BURKES POND	2	1940		24.2	Y		-/18/27
10	HAM	20294	0	BRIDGE STREET	SALTERS CREEK	2	1934	1996	25.6	Y		12/-/-
11	CHES	21811	0	BELLS MILL ROAD	BELLS MILL CREEK	2	1974		27.0	Y		-/17/28
12	CHES	21830	13	MILITARY HIGHWAY	NS R/R	2	1938		27.0	Y		-/19/31
13	CHES	21838	17	GEORGE WASHINGTON HWY	YADKINS ROAD & N&W R/R	2	1992	1992	27.6	Y		8/-/-
14	SH	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER	5	1960		28.3		Y	-/-/-
15	SH	17866	671	GENERAL THOMAS HWY	NOTTOWAY RIVER OVERFLOW	5	1960		28.3		Y	-/-/-
16	PORT	21199	17	HIGH STREET	W BR ELIZABETH RIVER	2	1951	1975	30.2	Y		-/-/-
17	SUF	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY	2	1957		30.8	Y		-/25/33
18	SUR	18239	40	MLK HWY	BLACKWATER RIVER	2	1952		30.9	Y		-/27/40
19	IW	10383	602	LONGVIEW DRIVE	PAGAN CREEK	2	1945		31.8	Y		10/-/-
20	SH	17751	58	CAMP PARKWAY	BLACKWATER RIVER	2	1932	1961	35.2	Y		-/27/40
21	VB	22183	0	SANDBRIDGE ROAD	HELLS POINT CREEK	5	1961		35.2		Y	-/-/-
22	CHES	21801	0	SAINT BRIDES ROAD	LEAD DITCH	2	1978		35.3	Y		-/21/30
23	YC	19860	143	ROUTE 143	QUEENS CREEK	2	1941	1944	35.6	Y		-/19/30
24	NN	20679	60	WARWICK BLVD	LAKE MAURY	4	1931	1960	35.8	Y		-/-/-
25	SUF	22151	669	ROBBIE ROAD	MILL SWAMP	2	1955		35.9	Y		12/-/-
26	IW	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH	2	1945		36.6	Y		10/-/-
27	SH	17813	635	TUCKER SWAMP ROAD	N&W R/R	3	1915		37.6		Y	11/-/-
28	SUF	22111	616	MINERAL SPRINGS ROAD	JONES SWAMP	2	1955	1977	38.6			10/-/-
29	SH	17826	645	TRINITY CHURCH ROAD	INDIAN BRANCH	2	1932		39.2	Y		16/-/-
30	SH	17781	614	SEACOCK CHAPEL ROAD	SEACOCK SWAMP	2	1953		39.4			21/-/-
31	IW	10427	646	GARRISON DRIVE	BURNT MILL SWAMP	2	1945	1978	39.6	Y		10/-/-
32	SUF	22099	604	LAKE PRINCE DRIVE	LAKE PRINCE	2	1954		40.0		Y	18/-/-
33	SH	17768	608	MILL NECK ROAD	RACOON SWAMP	2	1932		40.2	Y		9/-/-
34	CHES	21797	0	CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL	17	1955	1990	40.4		Y	-/-/-
35	SUF	22091	337	NANSEMOND PARKWAY	BEAMONS MILL POND	2	1920		41.2	Y		-/-/-
36	SH	17752	186	HUGO ROAD	OVERFLOW MEHERRIN RIVER	4	1937	1993	41.3			-/-/-
37	IW	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK	2	1945		41.7		Y	9/-/-
38	GLO	8538	610	OLD PINETTA ROAD	BLAND CREEK	2	1960		42.0		Y	18/-/-
39	CHES	21834	17	GEORGE WASHINGTON HWY	DEEP CREEK	2	1933	1942	42.6	Y		-/12/18
40	YC	90001	0	YORKTOWN BATTLEFIELD TOUR ROAD	BEAVERDAM CREEK	2	1975		43.0		Y	-/-/-
41	PORT	21217	239	VICTORY BLVD	PARADISE CREEK	1	1944		43.2			-/-/-
42	SH	17835	652	BARHAMS HILL ROAD	ANGELICO CREEK	2	1932		44.1			12/-/-
43	VB	22264	60	SHORE DRIVE WB	LYNNHAVEN INLET	2	1967		44.5	Y		-/-/-
44	CHES	21827	13	MILITARY HIGHWAY	BAINBRIDGE BLVD & NS R/R	4	1948	1960	44.9	Y		-/-/-
45	IW	10389	612	FREEMAN DRIVE	CORROWAUGH SWAMP	2	1954		44.9		Y	10/-/-
46	CHES	21825	0	BLACKWATER ROAD	POCATY CREEK	2	1969	1984	45.3	Y		-/-/-
47	SUF	22122	641	HARVEST DRIVE	KINGSALE SWAMP	2	1956	1983	45.3	Y		23/-/-
48	IW	10438	680	STALLINGS CREEK DRIVE	STALLINGS CREEK	2	1952		45.7		Y	18/-/-
49	SUF	22132	643	MANNING BRIDGE ROAD	STREAM	2	1945		46.0		Y	10/-/-
50	SH	17757	308	THREE CREEK ROAD	THREE CREEK	4	1948		46.2	Y		-/-/-

Data sources: VDOT, FHWA. Data as of August 2007. Descriptions of how sufficiency ratings are calculated are included in Appendix C. Descriptions of span types are shown beginning on page 5. Descriptions of structurally deficient and functionally obsolete bridges are included on pages 16-19. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

Structurally Deficient Bridges

A structurally deficient bridge is a structure with elements that need to be monitored and/or repaired. Structurally deficient bridges typically require maintenance and repair and eventually need to be rehabilitated or replaced to address deficiencies.

In spite of these deficiencies, **a structurally deficient bridge is not necessarily unsafe. Bridge inspectors will close or impose limits on bridges they feel are unsafe.** Structurally deficient bridges need to be monitored, inspected and maintained, and as such are inspected more frequently and thoroughly than other bridges.

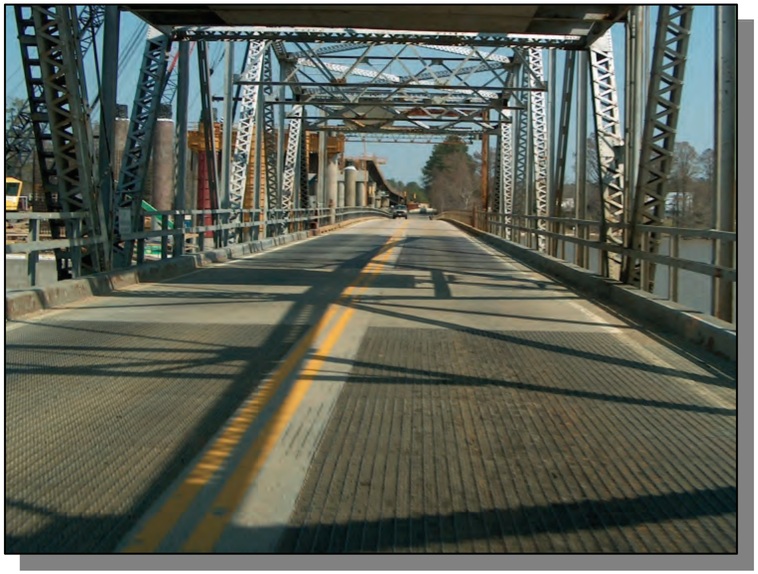
In many cases, structurally deficient bridges are posted with weight limits to insure that the bridge can safely remain in service.

For a bridge to be classified as structurally deficient, at least one of the following conditions must be 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

For definitions of these terms and ratings, see **Appendix B**.

By rule, bridges built or reconstructed within the last ten years can not be classified as structurally deficient. This rule prevents a bridge from remaining deficient after major reconstruction and also prevents a bridge from continuing to receive federal funding after major reconstruction. This rule is described further in the Bridge Funding portion of the report.



PICTURE 3 – The Route 5 (Dresser) Bridge is classified as structurally deficient. Structurally deficient bridges are those bridges that have elements in need of monitoring and/or repair.

Based on this definition, 54 bridges in Hampton Roads are classified as structurally deficient (**Table 6** on page 17). Over 400,000 vehicles cross these structurally deficient bridges in Hampton Roads each day. The structurally deficient bridges that carry the highest traffic volumes are the Lesner Bridge (38,000 vpd on 2 structures), the Gilmerton Bridge (32,000 vpd), Denbigh Boulevard over I-64 (32,000 vpd), Warwick Boulevard over Lake Maury (32,000 vpd), the Churchland Bridge (31,000 vpd), and Military Hwy over Bainbridge Blvd (31,000 vpd).

The 54 structurally deficient bridges comprise just over 4% of all bridges in Hampton Roads. By comparison, 9% of all bridges in Virginia and 12% of all bridges in the United States are classified as structurally deficient as of 2007.

TABLE 6 – Structurally Deficient Bridges in Hampton Roads

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	DECK CONDITION RATING	SUPER-STRUCTURE CONDITION RATING	SUB-STRUCTURE CONDITION RATING	CULVERT CONDITION RATING	STRUCT-URAL CONDITION RATING	WATERWAY ADEQUACY RATING	SUFF RATING	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1	CHES	21879	166	22ND STREET	SEABOARD AVENUE & N&W R/R	2	1938		5	3	4	N	2	N	2.0	-/5/5
2	CHES	21811		BELLS MILL ROAD	BELLS MILL CREEK	2	1974		7	5	4	N	4	8	27.0	-/17/28
3	CHES	21825		BLACKWATER ROAD	POCATY CREEK	2	1969	1984	4	4	5	N	4	8	45.3	-/-/-
4	CHES	21838	17	GEORGE WASHINGTON HWY	YADKINS ROAD & N&W R/R	2	1992	1992	7	5	4	N	2	N	27.6	8/-/-
5	CHES	21834	17	GEORGE WASHINGTON HWY	DEEP CREEK	2	1933	1942	4	4	5	N	4	8	42.6	-/12/18
6	CHES	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER	16	1938	1958	4	3	5	N	2	5	3.0	-/14/20
7	CHES	21799		INDIAN CREEK ROAD	INDIAN CREEK	2	1972		7	7	4	N	4	8	48.6	-/-/-
8	CHES	21931	337	JORDAN BRIDGE	S BR ELIZABETH RIVER	15	1926		4	4	4	N	2	7	4.0	-/3/3
9	CHES	21827	13	MILITARY HIGHWAY	BAINBRIDGE BLVD & NS R/R	4	1948	1960	4	5	7	N	5	N	44.9	-/-/-
10	CHES	21830	13	MILITARY HIGHWAY	NS R/R	2	1938		3	5	5	N	2	N	27.0	-/19/31
11	CHES	1826	165	MOUNT PLEASANT ROAD	CHES. & ALBEMARLE CANAL	17	1951		6	7	5	N	2	9	17.5	13/-/-
12	CHES	21801		SAINT BRIDES ROAD	LEAD DITCH	2	1978		5	4	4	N	4	9	35.3	-/21/30
13	GLO	8535	602	BURKE'S POND ROAD	BURKES POND	2	1940		6	4	4	N	4	7	24.2	-/18/27
14	GLO	8545	627	CUNNINGHAM LANE	WILSON CREEK	2	1963		7	6	4	N	4	7	65.8	-/-/-
15	HAM	20294		BRIDGE STREET	SALTERS CREEK	2	1934	1996	4	5	5	N	3	8	25.6	12/-/-
16	IW	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R	4	1936	1956	3	3	4	N	3	N	46.3	-/27/40
17	IW	10427	646	GARRISON DRIVE	BURNT MILL SWAMP	2	1945	1978	6	6	7	N	2	7	39.6	10/-/-
18	IW	10443	691	JAMESTOWN LANE	CSX RAILROAD	4	1938		4	4	4	N	4	N	48.2	-/-/-
19	IW	10383	602	LONGVIEW DRIVE	PAGAN CREEK	2	1945		7	6	4	N	4	6	31.8	10/-/-
20	IW	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH	2	1945		7	6	7	N	2	4	36.6	10/-/-
21	IW	10371	258	ROUTE 258	CHAMPION SWAMP	1	1932	1976	7	7	4	N	4	7	56.0	-/-/-
22	JCC	4801	5	JOHN TYLER HWY	CHICKAHOMINY RIVER	17	1939		5	4	3	N	2	8	6.0	-/-/-
23	JCC	10486	60	ROUTE 60 EB	C&O R/R	2	1964		4	6	5	N	5	N	65.2	-/-/-
24	JCC	10487	60	ROUTE 60 WB	C&O R/R	2	1968		4	6	5	N	5	N	65.2	-/-/-
25	NN	20727	173	DENBIGH BLVD	I-64 & CSX R/R	2	1965	1977	5	5	4	N	4	N	18.5	-/-/-
26	NN	20679	60	WARWICK BLVD	LAKE MAURY	4	1931	1960	6	4	5	N	4	7	35.8	-/-/-
27	NOR	21039	460	GRANBY STREET	MASONS CREEK	19	1936	1975	N	N	N	4	4	7	46.8	-/-/-
28	PORT	21199	17	HIGH STREET	W BR ELIZABETH RIVER	2	1951	1975	4	5	4	N	4	5	30.2	-/-/-
29	SH	17821	640	BEREA CHURCH ROAD	BRANCH	2	1932		7	4	4	N	4	6	66.9	23/-/-
30	SH	17751	58	CAMP PARKWAY	BLACKWATER RIVER	2	1932	1961	4	4	4	N	4	8	35.2	-/27/40
31	SH	17766	607	FARMERS BRIDGES ROAD	ASSAMOOSIC SWAMP	19	1975		N	N	N	4	4	7	71.9	-/-/-
32	SH	17768	608	MILL NECK ROAD	RACOON SWAMP	2	1932		6	5	4	N	4	8	40.2	9/-/-
33	SH	17891	688	ROSE VALLEY ROAD	BRANCH	19	1983		N	N	N	4	4	8	72.7	-/-/-
34	SH	17729	58	ROUTE 58 EB	NOTTOWAY SWAMP	2	1930	1978	6	7	4	N	4	8	64.8	-/-/-
35	SH	17783	614	SEACOCK CHAPEL ROAD	ROUND HILL SWAMP	1	1967		7	7	4	N	4	8	65.6	-/-/-
36	SH	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	17	1940	1962	5	4	5	N	4	8	21.4	-/22/28
37	SH	17853	663	THE HALL ROAD	FLAT SWAMP	4	1968		7	7	4	N	4	8	64.7	-/-/-
38	SH	17757	308	THREE CREEK ROAD	THREE CREEK	4	1948		6	4	5	N	4	8	46.2	-/-/-
39	SH	17826	645	TRINITY CHURCH ROAD	INDIAN BRANCH	2	1932		7	6	4	N	4	7	39.2	16/-/-
40	SH	17849	659	VICKS MILLPOND ROAD	FLAT SWAMP	2	1932		7	4	4	N	4	7	48.4	20/-/-
41	SH	17855	665	WHITE MEADOW ROAD	TARRARA CREEK	2	1974		7	6	4	N	4	7	61.8	-/-/-
42	SUF	22027	32	CAROLINA ROAD	CYPRESS SWAMP	2	1924	1972	5	4	5	N	4	5	68.1	-/-/-
43	SUF	22146	667	CORINTH CHAPEL ROAD	MARCH SWAMP	19	1984		N	N	N	4	4	7	72.8	-/-/-
44	SUF	22122	641	HARVEST DRIVE	KINGSALE SWAMP	2	1956	1983	3	5	4	N	4	6	45.3	23/-/-
45	SUF	22121	639	LAKE CAHOON ROAD	SBD SYS & NS R/R	2	1962	1974	4	6	6	N	5	N	67.1	-/-/-
46	SUF	22091	337	NANSEMOND PARKWAY	BEAMONS MILL POND	2	1920		5	4	5	N	4	6	41.2	-/-/-
47	SUF	22115	632	OLD MYRTLE ROAD	COHOON CREEK	2	1949	1980	5	6	4	N	4	6	57.7	20/-/-
48	SUF	22151	669	ROBBIE ROAD	MILL SWAMP	2	1955		6	5	4	N	4	7	35.9	12/-/-
49	SUF	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY	2	1957		5	4	5	N	4	8	30.8	-/25/33
50	SUR	18239	40	MLK HWY	BLACKWATER RIVER	2	1952		4	4	4	N	4	6	30.9	-/27/40
51	VB	22252	58	LASKIN ROAD	LINKHORN BAY	2	1938	1956	5	5	4	N	4	8	54.1	-/-/-
52	VB	22260	60	SHORE DRIVE EB	LYNNHAVEN INLET	2	1958		6	4	6	N	4	8	48.9	-/-/-
53	VB	22264	60	SHORE DRIVE WB	LYNNHAVEN INLET	2	1967		6	4	6	N	4	8	44.5	-/-/-
54	YC	19860	143	ROUTE 143	QUEENS CREEK	2	1941	1944	5	6	4	N	4	7	35.6	-/19/30

Data sources: VDOT, FHWA. Data as of August 2007. Ratings that classify each bridge as structurally deficient are shown in red. Descriptions of each rating are included in Appendix B. Descriptions of span types are shown beginning on page 5. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

The percentage of structurally deficient bridges in Hampton Roads is also lower than in most other metropolitan areas (**Table 7**). Only Northern Virginia has a lower number and percentage of structurally deficient bridges than Hampton Roads among the selected areas, whereas the Roanoke Valley area and the Raleigh-Durham and Charlotte MSAs have more than twice the percentage of structurally deficient bridges than Hampton Roads.

In Hampton Roads, Chesapeake and Southampton County are the localities with the highest number of structurally deficient bridges (**Table 8**). In fact, nearly half of the structurally deficient bridges in Hampton Roads (25 of 54) are in one of these two jurisdictions.

Maps 1 through 12 on pages 29 – 40 show the location of structurally deficient bridges in Hampton Roads. The Bridge Inventory tables in **Appendix A** also detail which bridges are classified as structurally deficient.

TABLE 7 – Structurally Deficient Bridges in Selected Areas

JURISDICTION	NUMBER OF BRIDGES	STRUCTURALLY DEFICIENT BRIDGES	
		Number	Percent
HAMPTON ROADS	1,237	54	4.4%
NORTHERN VIRGINIA RC	1,482	31	2.1%
RICHMOND REGIONAL PDC	1,120	86	7.7%
ROANOKE VALLEY RC	959	96	10.0%
RALEIGH-DURHAM MSA	1,882	194	10.3%
CHARLOTTE MSA	1,811	194	10.7%
VIRGINIA	13,357	1,197	9.0%
UNITED STATES	599,766	72,524	12.1%

Data sources: VDOT, FHWA. Data as of 2007.

TABLE 8 – Structurally Deficient Bridges in Hampton Roads by Jurisdiction and Maintenance Responsibility

JURISDICTION	NUMBER OF BRIDGES	STRUCTURALLY DEFICIENT BRIDGES		MAINTENANCE RESPONSIBILITY OF STRUCT. DEFICIENT BRIDGES		
		Number	Percent	Locality	VDOT	Other
CHESAPEAKE	160	12	7.5%	11	-	1
GLOUCESTER	24	2	8.3%	-	2	-
HAMPTON	85	1	1.2%	1	-	-
ISLE OF WIGHT	84	6	7.1%	-	6	-
JAMES CITY	63	3	4.8%	-	3	-
NEWPORT NEWS	83	2	2.4%	1	1	-
NORFOLK	203	1	0.5%	1	-	-
POQUOSON	0	-	-	-	-	-
PORTSMOUTH	42	1	2.4%	1	-	-
SOUTHAMPTON/FRANKLIN	138	13	9.4%	-	13	-
SUFFOLK	141	8	5.7%	8	-	-
SURRY	32	1	3.1%	-	1	-
VIRGINIA BEACH	118	3	2.5%	3	-	-
WILLIAMSBURG	11	0	0.0%	-	-	-
YORK	53	1	1.9%	-	1	-
HAMPTON ROADS	1237	54	4.4%	26	27	1

Data sources: VDOT, FHWA. Data as of August 2007.

Functionally Obsolete Bridges

A functionally obsolete bridge is a structure that was built to geometric standards that are no longer used today. Functionally obsolete bridges may not have adequate lane widths, shoulder widths, or vertical clearances for the current traffic demand on the bridge. Functionally obsolete bridges may also occasionally be flooded, or have approaches that are difficult to navigate.

In spite of these geometric deficiencies, **functionally obsolete bridges are not inherently unsafe. Inspectors will close or impose limits on bridges that they feel are unsafe**.

For a structure to be classified as functionally obsolete, at least one of the following conditions must be true:

- Structural Condition Rating = 3
- Waterway Adequacy Rating = 3
- Deck Geometry Rating ≤ 3
- Underclearances Rating ≤ 3
- Approach Roadway Alignment Rating ≤ 3

For definitions of these terms and ratings, see **Appendix B**.

By rule, any structure that is classified as structurally deficient can not also be classified as functionally obsolete. Structures that have ratings that would qualify the bridge to be classified as both structurally deficient and functionally obsolete are classified as structurally deficient. Also similar to structurally deficient bridges, bridges built or reconstructed within the last ten years can not be classified as functionally obsolete.

PICTURE 4 – The Route 35 bridge over the Nottoway River in Courtland is classified as functionally obsolete. Functionally obsolete bridges are those bridges that don't meet current design standards.

Based on this definition, 284 bridges in Hampton Roads are classified as functionally obsolete (**Table 9** on pages 20-25). This comprises 23% of all bridges in Hampton Roads. By comparison, 17% of all bridges in Virginia and 13% of all bridges in the United States were classified as functionally obsolete in 2007.

TABLE 9 – Functionally Obsolete Bridges in Hampton Roads

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	STRUCT-URAL CONDITION RATING	WATERWAY ADEQUACY RATING	DECK GEOMETRY RATING	UNDER-CLEARANCES RATING	APPROACH ROADWAY ALIGNMENT RATING	SUFF RATING	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1	CHES	21840	58	AIRLINE BLVD	BR GOOSE CREEK	1	1932		6	7	2	N	6	70.2	-/-/-
2	CHES	23762	166	BAINBRIDGE BLVD	MAINS CREEK	5	1993		7	7	2	N	3	75.7	-/-/-
3	CHES	21813		BALLAHACK ROAD	NEWLAND SWAMP	2	1974		7	7	3	N	6	80.3	-/-/-
4	CHES	21885	168	BATTLEFIELD BLVD	MILITARY HIGHWAY	2	1990		7	N	9	3	8	88.7	-/-/-
5	CHES	24003	168	BATTLEFIELD BLVD	POPLAR BRANCH	1	1993		7	8	3	N	8	95.4	-/-/-
6	CHES	21804		BENEFIT ROAD	LEAD DITCH	2	1958	1976	6	9	3	N	9	73.6	-/-/-
7	CHES	21791		CAMPOSTELLA ROAD	I-464	2	1966		7	N	4	2	8	76.5	-/-/-
8	CHES	21797		CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL	17	1955	1990	4	7	2	N	6	40.4	-/-/-
9	CHES	24206	168	CHESAPEAKE EXPRESSWAY NB	POPLAR BRANCH	5	1993		8	9	3	N	8	93.2	-/-/-
10	CHES	24207	168	CHESAPEAKE EXPRESSWAY SB	POPLAR BRANCH	5	1993		8	9	3	N	8	93.2	-/-/-
11	CHES	21812		DOCK LANDING ROAD	BAILEY CREEK	2	1970		7	7	3	N	6	77.5	-/-/-
12	CHES	21824		ELBOW ROAD	STUMPY LAKE SPILLWAY	2	1975		6	8	2	N	8	74.5	-/-/-
13	CHES	21809		FENTRESS AIRFIELD ROAD	POCATY CREEK	2	1973		5	7	2	N	5	48.6	-/20/28
14	CHES	21810		FENTRESS AIRFIELD ROAD	POCATY CREEK	2	1963		6	7	2	N	8	69.3	-/-/-
15	CHES	24202		FOREST ROAD	COOPER'S DITCH	1	1993		7	9	3	N	8	89.4	-/-/-
16	CHES	1818	17	GEORGE WASHINGTON HWY	DISMAL SWAMP CANAL	16	1934		6	9	2	N	6	57.9	20/29/39
17	CHES	21894	168	GREAT BRIDGE BYPASS NB	MOUNT PLEASANT ROAD	2	1981		7	N	6	3	8	89.6	-/-/-
18	CHES	21896	168	GREAT BRIDGE BYPASS SB	MOUNT PLEASANT ROAD	2	1981		7	N	9	3	8	89.6	-/-/-
19	CHES	21798		LAND OF PROMISE ROAD	POCATY CREEK	2	1971		6	7	3	N	5	75.9	-/-/-
20	CHES	24742		LURAY STREET	DISMAL SWAMP CANAL SPLWY	5	1996		6	8	2	N	7	72.9	-/-/-
21	CHES	24180		MILLSTONE ROAD	COOPERS DITCH	1	1993		7	9	3	N	8	96.0	-/-/-
22	CHES	21816		NUMBER TEN LANE	LINDSEY DRAINAGE CANAL	2	1979		5	8	3	N	8	59.1	-/-/-
23	CHES	21937	460	RAMP TO BAINBRIDGE BLVD & NS R/R	BAINBRIDGE BLVD	2	1948	1960	5	N	7	2	5	76.0	-/-/-
24	CHES	21817		ROSEMONT AVENUE	I-464	2	1983		6	N	3	6	8	93.8	-/-/-
25	GLO	10588	14	ADNER ROAD	PORPOTANK CREEK	1	1938		4	6	2	N	8	62.0	-/-/-
26	GLO	8552	662	ALLMONDSVILLE ROAD	FOX CREEK	2	1937		4	8	3	N	8	53.2	14/-/-
27	GLO	8533	198	DUTTON ROAD	HARPER CREEK	4	1941		5	6	2	N	8	55.3	-/-/-
28	GLO	12085	17	GEORGE WASHINGTON HWY NB	DRAGON RUN	4	1931		5	5	2	N	8	57.2	-/-/-
29	GLO	12086	17	GEORGE WASHINGTON HWY SB	DRAGON RUN	4	1957		6	8	3	N	8	79.0	-/-/-
30	GLO	8527	17	MAIN STREET SB	FOX MILL RUN	1	1917	1949	4	7	2	N	6	48.5	-/-/-
31	GLO	8538	610	OLD PINETTA ROAD	BLAND CREEK	2	1960		4	7	3	N	8	42.0	18/-/-
32	HAM	20376	172	COMMANDER SHEPARD BLVD EB	MAGRUDER BLVD	2	1964		5	N	3	2	5	61.1	-/-/-
33	HAM	20374	172	COMMANDER SHEPARD BLVD WB	MAGRUDER BLVD	2	1964		5	N	3	2	5	62.3	-/-/-
34	HAM	20362	152	CUNNINGHAM DRIVE EB	I-64	2	1974		6	N	3	6	5	75.9	-/-/-
35	HAM	20364	152	CUNNINGHAM DRIVE WB	I-64	2	1974		6	N	3	6	5	75.7	-/-/-
36	HAM	20324	64	I-64	ARMISTEAD AVENUE	2	1957	1986	5	N	9	2	8	64.0	-/-/-
37	HAM	20318	64	I-64	KING STREET	5	1959	1984	6	N	9	2	8	76.0	-/-/-
38	HAM	20326	64	I-64	LASALLE AVENUE	2	1959	1984	6	N	9	2	8	75.0	-/-/-
39	HAM	20316	64	I-64 EB	PEMBROKE AVENUE & HAMPTON RIVER	2	1958	1987	5	8	7	2	8	69.0	-/-/-
40	HAM	20346	64	I-64 WB	PEMBROKE AVENUE & HAMPTON RIVER	2	1985		6	8	6	3	8	80.0	-/-/-
41	HAM	20320	64	I-64	RIP RAP ROAD	2	1959	1984	6	N	9	3	8	76.0	-/-/-
42	HAM	20367	167	LASALLE AVENUE NB	NEWMARKET CREEK	2	1965		7	7	3	N	7	76.7	-/-/-
43	HAM	20368	167	LASALLE AVENUE SB	NEWMARKET CREEK	2	1965		6	7	3	N	7	75.8	-/-/-
44	HAM	20279		MALLORY STREET	I-64	2	1985		6	N	9	3	8	96.0	-/-/-
45	HAM	20361	143	MELLEN STREET	MILL CREEK	5	1961	1982	5	7	2	N	6	61.9	-/-/-
46	HAM	20381	258	MERCURY BLVD	MILL CREEK (NORTHERN BRIDGE)	2	1989		7	9	2	N	9	76.7	-/-/-
47	HAM	20382	258	MERCURY BLVD	MILL CREEK (SOUTHERN BRIDGE)	2	1989		6	9	2	N	9	77.7	-/-/-
48	HAM	20292		POWHATAN PKWY	INDIAN RIVER	1	1929	1997	6	7	3	N	4	77.9	-/-/-
49	HAM	20390	415	POWER PLANT PKWY	NEWMARKET CREEK	5	1962		6	8	2	N	8	74.4	-/-/-
50	IW	10419	641	BARRETT TOWN ROAD	ANTIOCH SWAMP	2	1955	1984	6	6	2	N	5	70.2	18/-/-

Data sources: VDOT, FHWA. Data as of August 2007. Ratings that classify each bridge as functionally obsolete are shown in red. Descriptions of each rating are included in Appendix B. Descriptions of span types are shown beginning on page 5. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

TABLE 9 – Functionally Obsolete Bridges in Hampton Roads (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	STRUCT-URAL CONDITION RATING	WATERWAY ADEQUACY RATING	DECK GEOMETRY RATING	UNDER-CLEARANCES RATING	APPROACH ROADWAY ALIGNMENT RATING	SUFF RATING	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
51	IW	24600	630	BEAVERDAM ROAD	BEAVERDAM SWAMP	1	1996		8	7	3	N	6	92.7	-/-/-
52	IW	10420	641	BOWS & ARROWS ROAD	DUCKS SWAMP	2	1952		5	7	2	N	6	51.7	12/-/-
53	IW	10431	654	CARROLL BRIDGE ROAD	CHAMPION SWAMP	2	1966		5	7	2	N	6	68.2	18/-/-
54	IW	10440	681	COMET ROAD	COMET SWAMP	2	1955	1991	8	6	3	N	6	77.8	-/-/-
55	IW	10441	683	DEWS PLANTATION ROAD	STALLINGS CREEK	2	1954		5	7	2	N	6	60.8	16/-/-
56	IW	10442	690	ENNIS MILL ROAD	ENNIS POND	2	1961		5	8	3	N	6	49.1	15/-/-
57	IW	25069	710	FAIRWAY DRIVE	ROUTE 10 BYPASS	2	1997		7	N	3	7	8	94.0	-/-/-
58	IW	10424	644	FIRE TOWER ROAD	POPE SWAMP	2	1948	1979	6	7	2	N	4	69.4	-/-/-
59	IW	10389	612	FREEMAN DRIVE	CORROWAUGH SWAMP	2	1954		4	7	2	N	8	44.9	10/-/-
60	IW	10422	641	HARVEST DRIVE	KINGSALE SWAMP	2	1955		4	6	2	N	6	56.2	18/-/-
61	IW	10394	615	JENKINS MILL ROAD	KINGSALE SWAMP	2	1964	1978	6	6	3	N	6	67.6	18/-/-
62	IW	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK	2	1945		4	6	3	N	6	41.7	9/-/-
63	IW	10413	637	JONES TOWN DRIVE	BR. RATTLESNAKE SWAMP	2	1945		4	7	2	N	8	51.5	9/-/-
64	IW	24659	611	JOYNER'S BRIDGE ROAD	CORROWAUGH SWAMP	1	1996		7	7	3	N	8	87.9	-/-/-
65	IW	10382	602	LONGVIEW DRIVE	CHUCKATUCK CREEK	2	1951		5	7	3	N	6	57.2	15/-/-
66	IW	10403	621	MILL SWAMP ROAD	MILL SWAMP	2	1952	1987	5	6	3	N	6	56.6	14/-/-
67	IW	10406	626	MILL SWAMP ROAD	STALLINGS CREEK	2	1945		4	7	2	N	8	57.1	18/-/-
68	IW	10435	669	NIKE PARK ROAD	JONES CREEK	5	1961		6	8	2	N	8	73.1	-/-/-
69	IW	10411	632	OLD MYRTLE ROAD	STREAM	2	1953		4	6	2	N	6	67.9	-/-/-
70	IW	10429	647	POPE SWAMP TRAIL	POPE SWAMP	2	1952		7	6	2	N	6	92.2	17/-/-
71	IW	24466	681	RAYNOR ROAD	RATTLESNAKE SWAMP	5	1996		8	8	3	N	8	92.5	-/-/-
72	IW	10370	258	ROUTE 258	GREAT SWAMP	2	1952	1980	6	6	3	N	8	76.6	-/-/-
73	IW	10398	620	SCOTT'S FACTORY ROAD	CHAMPION SWAMP	2	1976		7	6	3	N	8	77.6	-/-/-
74	IW	10384	603	SHILOH DRIVE	ENNIS POND	2	1955		5	7	2	N	6	58.1	12/-/-
75	IW	10438	680	STALLINGS CREEK DRIVE	STALLINGS CREEK	2	1952		4	6	3	N	6	45.7	18/-/-
76	IW	10434	668	TITUS CREEK DRIVE	TITUS CREEK	5	1966		7	7	2	N	8	78.2	-/-/-
77	JCC	24057	31	GLASS HOUSE FERRY	JAMES RIVER	3	1994	1995	7	8	2	N	8	69.7	-/16/28
78	JCC	10533	629	HICKORY SIGNPOST ROAD	MILL CREEK	2	1932	1997	7	7	2	N	6	77.9	18/-/-
79	JCC	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK	3	1932	1974	5	5	2	N	6	47.9	15/-/-
80	JCC	10476	31	JAMESTOWN ROAD	POWHATAN CREEK	2	1957		6	8	2	N	8	73.2	-/-/-
81	JCC	90026		JAMESTOWN ISLAND TOUR ROAD	KINGSMILL CREEK	2	1957		5	8	2	N	8	58.9	-/-/-
82	JCC	10508	199	ROUTE 199 WB	COLONIAL PKWY	11	1976		7	N	6	3	8	87.8	-/-/-
83	JCC	10511	199	ROUTE 199 EB	TOUR ROAD	1	1976		6	N	6	3	8	86.5	-/-/-
84	JCC	10513	199	ROUTE 199 WB	TOUR ROAD	1	1976		6	N	6	3	8	86.5	-/-/-
85	JCC	10515	600	SIX MOUNT ZION ROAD	WARE CREEK SPILLWAY	2	1932		5	8	3	N	7	55.3	22/-/-
86	JCC	10531	622	STEWARTS ROAD	BRANCH OF DIASCUND CREEK	2	1937	1997	7	7	2	N	8	77.9	-/-/-
87	JCC	10532	622	STEWARTS ROAD	DIASCUND CREEK	2	1937	1997	7	7	2	N	7	77.9	-/-/-
88	NN	25086		20TH STREET	SALTERS CREEK	1	1997		8	7	3	N	6	95.9	-/-/-
89	NN	20653		23RD-25TH STREET	I-664/WARWICK BLVD/CSX R/R	2	1988		5	N	2	6	8	68.6	-/-/-
90	NN	25396	60	25TH STREET	SALTERS CREEK	1	1997		9	7	3	N	7	94.5	-/-/-
91	NN	20651		26TH STREET	I-664 & CSX R/R	2	1987		6	N	2	6	8	79.1	-/-/-
92	NN	20649		34TH STREET WB	I-664/WARWICK BLVD/CSX R/R	2	1988		7	N	2	6	8	75.6	-/-/-
93	NN	20668		BLAND BLVD	I-64 & CSX R/R	2	1991		7	N	2	N	8	75.7	-/-/-
94	NN	20661		HUNTINGTON AVENUE	FORMER SHIPYARD R/R SPUR	3	1899		6	N	6	2	6	80.7	-/-/-
95	NN	20710	64	I-64 EB	FORT EUSTIS BLVD	2	1965		5	N	6	3	8	73.3	-/-/-
96	NN	20712	64	I-64 WB	FORT EUSTIS BLVD	2	1965		5	N	6	2	7	74.2	-/-/-
97	NN	20740	664	I-664	39TH STREET	2	1987		5	N	9	3	8	70.0	-/-/-
98	NN	20757	664	I-664 SB ON RAMP	RAMP GH	2	1990		7	N	9	3	8	94.6	-/-/-
99	NN	20754	664	I-664 ON RAMP	TERMINAL AVENUE & CSX R/R	2	1990		7	N	9	3	8	95.9	-/-/-
100	NN	20759	664	I-664 RAMP	RAMP A	2	1990		6	N	9	3	8	95.4	-/-/-

Data sources: VDOT, FHWA. Data as of August 2007. Ratings that classify each bridge as functionally obsolete are shown in red. Descriptions of each rating are included in Appendix B. Descriptions of span types are shown beginning on page 5. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

TABLE 9 – Functionally Obsolete Bridges in Hampton Roads (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	STRUCT-URAL CONDITION RATING	WATERWAY ADEQUACY RATING	DECK GEOMETRY RATING	UNDER-CLEARANCES RATING	APPROACH ROADWAY ALIGNMENT RATING	SUFF RATING	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
101	NN	20761	664	I-664 RAMP	TERMINAL AVENUE	2	1990		6	N	9	3	8	95.6	-/-/-
102	NN	20731	312	J CLYDE MORRIS BLVD NB	CSX R/R	2	1975		5	N	3	N	6	63.5	-/-/-
103	NN	20729	312	J CLYDE MORRIS BLVD SB	CSX R/R	2	1958	1975	5	N	3	N	6	62.5	-/-/-
104	NN	24986		OLD COURTHOUSE WAY	STONEY RUN	12	1997		7	9	2	N	8	75.4	-/-/-
105	NN	20643		OLD OYSTER POINT ROAD	I-64	2	1991		6	N	4	3	8	83.7	-/-/-
106	NN	20681	60	WARWICK BLVD WB	FORT EUSTIS BLVD	2	1960	1985	5	N	6	2	8	81.7	-/-/-
107	NN	20659		WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR	3	1946		3	N	2	3	8	20.9	-/18/28
108	NOR	20943	247	26TH STREET	LAFAYETTE RIVER	1	1938		6	8	2	N	6	75.0	-/-/-
109	NOR	21021	337	ADMIRAL TAUSSIG BLVD	I-564 RAMPS	2	1977		6	N	9	3	8	86.0	-/-/-
110	NOR	20781	407	BERKLEY AVENUE EB	NS R/R	2	1985		6	N	2	N	8	80.6	-/-/-
111	NOR	20782	407	BERKLEY AVENUE WB	NS R/R	2	1985		6	N	2	N	8	80.6	-/-/-
112	NOR	20961	264	BERKLEY AVENUE RAMP	EMERGENCY VEHICLE RAMP	2	1988		7	N	9	3	8	89.0	-/-/-
113	NOR	20768		FIRST VIEW STREET	TIDEWATER DRIVE	2	1958		4	N	4	2	6	69.7	-/-/-
114	NOR	20770		GOVERNMENT AVENUE	TIDEWATER DRIVE	2	1956		6	N	4	2	6	83.8	-/-/-
115	NOR	21034	460	GRANBY STREET	TIDEWATER DRIVE	2	1958		4	N	9	2	6	64.8	-/-/-
116	NOR	21023	337	HAMPTON BLVD SB	LAFAYETTE RIVER	5	1994		6	8	2	N	7	69.3	-/-/-
117	NOR	21019	337	HAMPTON BLVD SB RAMP	HAMPTON BLVD NB	2	1962		5	N	4	2	8	73.3	-/-/-
118	NOR	20909	64	I-64 EB	13TH VIEW STREET	2	1972		5	N	7	2	8	77.9	-/-/-
119	NOR	20911	64	I-64 WB	13TH VIEW STREET	2	1972		5	N	7	2	8	79.2	-/-/-
120	NOR	20819	64	I-64 EB	CHESAPEAKE BLVD	2	1965	1977	6	N	4	3	8	86.1	-/-/-
121	NOR	20821	64	I-64 WB	CHESAPEAKE BLVD	2	1965	1977	6	N	4	3	8	85.7	-/-/-
122	NOR	20902	64	I-64 EB	GRANBY STREET	2	1971	1991	7	N	5	3	8	87.3	-/-/-
123	NOR	20883	64	I-64 EB	I-264 EB	2	1968		6	N	5	3	8	87.5	-/-/-
124	NOR	20885	64	I-64 WB	I-264 EB	2	1968	1992	7	N	5	3	8	87.2	-/-/-
125	NOR	20900	64	I-64 EB	I-564 NB	2	1971		6	N	4	2	8	74.7	-/-/-
126	NOR	20862	64	I-64 EB	KEMPSVILLE RD	2	1967	1986	5	N	6	3	8	75.1	-/-/-
127	NOR	20864	64	I-64 WB	KEMPSVILLE RD	2	1967	1991	5	N	6	3	8	75.5	-/-/-
128	NOR	20894	64	I-64 WB	LITTLE CREEK ROAD	2	1971		6	N	6	3	8	82.8	-/-/-
129	NOR	20858	64	I-64 EB	NORTHAMPTON BLVD	2	1967	1977	5	N	6	2	8	74.6	-/-/-
130	NOR	20860	64	I-64 WB	NORTHAMPTON BLVD	2	1967	1977	5	N	6	2	8	75.3	-/-/-
131	NOR	20852	64	I-64 EB	RAMP FROM NORTHAMPTON BLVD	2	1967	1977	6	N	6	2	8	87.7	-/-/-
132	NOR	20854	64	I-64 WB	RAMP FROM NORTHAMPTON BLVD	2	1964	1977	6	N	6	2	8	82.8	-/-/-
133	NOR	20845	64	I-64 EB	RAMP FROM NB TIDEWATER DRIVE	2	1967		6	N	6	3	8	83.0	-/-/-
134	NOR	20827	64	I-64 EB	ROBIN HOOD ROAD	2	1966		6	N	5	3	8	86.3	-/-/-
135	NOR	20829	64	I-64 WB	ROBIN HOOD ROAD	2	1966		6	N	5	3	8	85.8	-/-/-
136	NOR	20815	64	I-64 EB	SEWELLS POINT ROAD	2	1965	1977	6	N	6	3	8	88.5	-/-/-
137	NOR	20817	64	I-64 WB	SEWELLS POINT ROAD	2	1965		6	N	6	3	8	88.7	-/-/-
138	NOR	20875	64	I-64 EB	VA BEACH BLVD	2	1968	1986	6	N	6	3	8	87.2	-/-/-
139	NOR	20877	64	I-64 WB	VA BEACH BLVD	2	1968	1992	6	N	6	3	8	87.5	-/-/-
140	NOR	20898	64	I-64 EB RAMP	I-64 WB RAMP AT TIDEWATER DR	2	1971		7	N	9	3	8	95.2	-/-/-
141	NOR	20856	64	I-64 EB RAMP	NORTHAMPTON BLVD	2	1967		6	N	9	3	8	81.0	-/-/-
142	NOR	23342	64	I-64 HOV LANES	CNW R/R & CURLEW DR	2	1992		7	N	3	9	8	91.0	-/-/-
143	NOR	23306	64	I-64 HOV LANES	I-264 EB	2	1992		7	N	3	6	8	94.0	-/-/-
144	NOR	23304	64	I-64 HOV LANES	I-264 WB	2	1992		7	N	3	3	8	90.0	-/-/-
145	NOR	23214	64	I-64 HOV LANES	I-564 & LITTLE CREEK ROAD	2	1992		7	N	4	3	8	92.0	-/-/-
146	NOR	23284	64	I-64 HOV LANES	KEMPSVILLE ROAD	2	1992		7	N	7	3	8	91.6	-/-/-
147	NOR	23074	64	I-64 HOV LANES	NORTHAMPTON BLVD	2	1992		7	N	7	3	8	93.5	-/-/-
148	NOR	23132	64	I-64 HOV LANES	NORTHAMPTON BLVD SB RAMP	2	1992		7	N	7	3	8	93.5	-/-/-
149	NOR	23061	64	I-64 HOV LANES	ROBIN HOOD ROAD	2	1992		7	N	7	3	8	94.0	-/-/-
150	NOR	23059	64	I-64 HOV LANES	SEWELLS POINT ROAD	2	1992		7	N	7	3	8	94.0	-/-/-

Data sources: VDOT, FHWA. Data as of August 2007. Ratings that classify each bridge as functionally obsolete are shown in red. Descriptions of each rating are included in Appendix B. Descriptions of span types are shown beginning on page 5. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

TABLE 9 – Functionally Obsolete Bridges in Hampton Roads (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	STRUCT-URAL CONDITION RATING	WATERWAY ADEQUACY RATING	DECK GEOMETRY RATING	UNDER-CLEARANCES RATING	APPROACH ROADWAY ALIGNMENT RATING	SUFF RATING	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
151	NOR	23272	64	I-64 HOV LANES	VA BEACH BLVD	2	1992		7	N	7	3	8	91.6	-/-/-
152	NOR	20971	264	I-264 EB	I-264 EB RAMP	2	1990		7	N	7	3	8	91.5	-/-/-
153	NOR	20955	264	I-264 WB	I-264 & I-464 RAMPS	2	1988		6	N	9	3	8	94.0	-/-/-
154	NOR	20953	264	I-264 EB & I-464 NB	I-264 & I-464 RAMPS	2	1986		6	N	7	3	8	94.0	-/-/-
155	NOR	20795	264	I-264 EB	KEMPSVILLE ROAD	2	1967	1983	6	N	9	2	8	80.7	-/-/-
156	NOR	20793	264	I-264 WB	KEMPSVILLE ROAD	2	1967	1992	6	N	9	3	8	86.2	-/-/-
157	NOR	20797	264	I-264	NEWTOWN ROAD	2	1967	1983	6	N	9	2	8	75.0	-/-/-
158	NOR	23046	460	I-264 WB RAMP	CITY HALL AVENUE	2	1952	1991	6	N	2	4	8	89.8	-/-/-
159	NOR	20959	264	I-264 WB RAMP	I-264 WB	2	1988		7	N	7	3	8	94.0	-/-/-
160	NOR	21037	460	I-264 RAMP	WATERSIDE DRIVE	2	1990		6	8	7	3	8	93.5	-/-/-
161	NOR	21065	464	I-464 SB	EMERGENCY VEHICLE RAMP	2	1988		6	N	7	3	8	94.0	-/-/-
162	NOR	21057	464	I-464 SB	I-264 EB	2	1987		6	N	6	3	8	94.0	-/-/-
163	NOR	21061	464	I-464 SB	I-264 WB	2	1989		7	N	9	3	8	94.0	-/-/-
164	NOR	21051	464	I-464 SB	I-264 & I-464 RAMPS	2	1988		7	N	7	3	8	94.0	-/-/-
165	NOR	21063	464	I-464 SB	I-264 WB RAMP	2	1988		6	N	7	3	8	93.0	-/-/-
166	NOR	21059	464	I-464 NB	I-464 SB RAMP	2	1987		6	N	7	3	8	92.1	-/-/-
167	NOR	21049	464	I-464 RAMP	I-464 SB RAMP	2	1989		7	N	9	3	8	93.6	-/-/-
168	NOR	21074	564	I-564 NB	GRANBY STREET	2	1972		6	N	7	3	8	86.7	-/-/-
169	NOR	23216	564	I-564 HOV LANES	LITTLE CREEK ROAD	2	1992		7	N	2	4	8	87.0	-/-/-
170	NOR	21028	406	INT TERMINAL BLVD EB	I-564 & NS R/R	2	1975		7	N	4	2	8	67.7	-/-/-
171	NOR	21026	406	INT TERMINAL BLVD WB	I-564 & NS R/R	2	1975		6	N	2	2	8	68.2	-/-/-
172	NOR	20934	165	LITTLE CREEK ROAD	TIDEWATER DRIVE	2	1959		6	N	8	2	6	82.9	-/-/-
173	NOR	20777		NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1	1979		5	8	2	N	6	62.0	-/-/-
174	NOR	20778		NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1	1979		5	8	2	N	6	61.0	-/-/-
175	NOR	24432	13	NORTHAMPTON BLVD NB	LAKE WRIGHT	2	1995		7	8	3	N	8	79.2	-/-/-
176	NOR	24433	13	NORTHAMPTON BLVD SB	LAKE WRIGHT	2	1995		7	8	3	N	8	79.2	-/-/-
177	NOR	20811	60	OCEAN VIEW AVENUE EB	TIDEWATER DRIVE	2	1958		5	N	2	5	6	71.6	-/-/-
178	NOR	20767		ROBIN HOOD ROAD	NORFOLK WATER SUPPLY CANAL	4	1944	1987	5	6	2	N	6	68.4	-/-/-
179	NOR	24148	58	VA BEACH BLVD	N&S R/R	2	1995		6	N	3	N	8	88.2	-/-/-
180	NOR	20949		WATERSIDE DRIVE EB	EAST MAIN STREET	2	1972	1990	6	N	9	3	8	93.2	-/-/-
181	NOR	20776		WILLOW WOOD DRIVE	BRANCH OF LAFAYETTE RIVER	2	1987		6	8	2	N	8	77.3	-/-/-
182	PORT	21193		COURT STREET	I-264 WB	1	1951	1990	7	N	4	3	8	86.2	-/-/-
183	PORT	21190		GREENWOOD DRIVE	I-264	2	1976		6	N	5	3	8	85.9	-/-/-
184	PORT	21240	264	I-264	EFFINGHAM STREET	2	1966	1985	6	N	9	2	8	81.0	-/-/-
185	PORT	21220	264	I-264	MCLEAN AVENUE	2	1964	1979	7	N	9	2	8	78.6	-/-/-
186	PORT	21235	264	I-264	RAMP FROM FREDERICK BLVD	2	1964	1979	6	N	9	3	8	89.0	-/-/-
187	PORT	21242	264	I-264	WB RAMP FROM EFFINGHAM STREET	2	1966	1985	6	N	5	2	8	75.0	-/-/-
188	PORT	21202	58	LONDON BOULEVARD	MLK FREEWAY	2	1971		5	N	9	3	6	77.5	-/-/-
189	PORT	21200	58	LONDON BOULEVARD	N&P R/R & VIRGINIA AVE	2	1971		5	N	9	2	8	76.7	-/-/-
190	SH	17785	615	ADAMS GROVE ROAD	BROWNS BRANCH	2	1932		4	7	2	N	7	49.0	10/-/-
191	SH	17901	743	BURNT REED ROAD	TARRARA CREEK	2	1932	1997	6	8	3	N	7	66.2	-/-/-
192	SH	17846	658	CEDAR VIEW ROAD	ANGELICO CREEK	2	1932		5	6	5	N	3	56.5	15/-/-
193	SH	17832	649	COUNTRY CLUB ROAD	NOTTOWAY SWAMP	2	1965		5	7	3	N	8	65.5	26/-/-
194	SH	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER	5	1960		4	8	2	N	8	28.3	-/-/-
195	SH	17866	671	GENERAL THOMAS HWY	NOTTOWAY RIVER OVERFLOW	5	1960		4	8	2	N	8	28.3	-/-/-
196	SH	17812	634	INDIAN BRANCH LANE	INDIAN BRANCH	2	1932		4	7	5	N	2	48.2	11/-/-
197	SH	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER	10	1929		5	5	2	N	8	49.5	-/27/40
198	SH	17728	35	MEHERRIN ROAD	OVERFLOW NOTTOWAY RIVER	19	1979		5	3	N	N	7	82.0	-/-/-
199	SH	17727	35	ROUTE 35	TARRARA CREEK	4	1946		5	7	2	N	8	59.0	-/-/-
200	SH	17795	618	SADLER ROAD	BAR B Q RUN	2	1932		5	7	3	N	7	49.8	15/-/-

Data sources: VDOT, FHWA. Data as of August 2007. Ratings that classify each bridge as functionally obsolete are shown in red. Descriptions of each rating are included in Appendix B. Descriptions of span types are shown beginning on page 5. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

TABLE 9 – Functionally Obsolete Bridges in Hampton Roads (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	STRUCT-URAL CONDITION RATING	WATERWAY ADEQUACY RATING	DECK GEOMETRY RATING	UNDER-CLEARANCES RATING	APPROACH ROADWAY ALIGNMENT RATING	SUFF RATING	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
201	SH	17782	614	SEACOCK CHAPEL ROAD	BRANCH	2	1932		5	7	2	N	7	56.8	19/-/-
202	SH	17833	650	STORYS STATION ROAD	FLAGGY RUN	2	1932		7	7	3	N	7	77.6	-/-/-
203	SH	17813	635	TUCKER SWAMP ROAD	N&W R/R	3	1915		4	N	2	N	2	37.6	11/-/-
204	SH	17848	659	VICKS MILLPOND ROAD	VICKS CREEK	2	1932		7	6	3	N	7	77.5	-/-/-
205	SH	17881	682	WOODLAND ROAD	BR DARDEN MILL RUN	2	1932		5	6	3	N	7	66.8	-/-/-
206	SUF	22131	643	ARTHUR DRIVE	LANGSTON SWAMP	2	1945		4	6	3	N	7	52.8	10/-/-
207	SUF	22130	643	ARTHUR DRIVE	SPIVEY SWAMP	2	1960		5	5	3	N	6	47.6	12/-/-
208	SUF	22154	674	BADGER ROAD	WASHINGTON DITCH	2	1945		5	7	3	N	8	50.7	11/-/-
209	SUF	22139	662	BOX ELDER ROAD	NORFLEETS SWAMP	2	1958	1994	5	7	3	N	8	47.3	20/-/-
210	SUF	22110	613	ELWOOD ROAD	KINGSALE SWAMP	2	1962		5	7	3	N	6	49.1	12/-/-
211	SUF	22117	634	KINGS FORK ROAD	COHOON CREEK	2	1968		6	7	3	N	7	78.6	-/-/-
212	SUF	22099	604	LAKE PRINCE DRIVE	LAKE PRINCE	2	1954		4	8	3	N	6	40.0	18/-/-
213	SUF	22018	13	MAIN STREET	HALL AVE, POPLAR AVE, & N&W R/R	2	1978		6	N	5	3	7	93.0	-/-/-
214	SUF	22002	10	MAIN STREET	NANSEMOND RIVER	2	1935	1987	5	6	2	N	8	53.0	-/-/-
215	SUF	22132	643	MANNING BRIDGE ROAD	STREAM	2	1945		4	7	2	N	6	46.0	10/-/-
216	SUF	22105	607	OLD MILL ROAD	COHOON CREEK	2	1955	1981	5	3	4	N	5	71.1	-/-/-
217	SUF	22163	759	PINEVIEW ROAD	CHAPEL SWAMP	4	1949		6	7	2	N	3	61.7	-/27/38
218	SUF	23098	164	ROUTE 164 EB	ROUTE 17	2	1991		6	N	7	3	8	96.0	-/-/-
219	SUF	22107	608	SIMONS DRIVE	COHOON CREEK	2	1945		5	7	3	N	8	47.3	14/-/-
220	SUF	22166	1310	SOUTH 6TH STREET	SHINGLE CREEK	19	1960		7	8	2	N	8	75.2	-/-/-
221	SUF	22138	661	SOUTHWESTERN BLVD	CHAPEL SWAMP	2	1956		4	7	3	N	8	51.0	16/-/-
222	SUF	22088	337	WASHINGTON STREET	JERICO CANAL	1	1932		6	7	3	N	8	78.8	-/-/-
223	SUF	22125	642	WILROY ROAD	SHINGLE CREEK	1	1958		6	7	2	N	8	72.3	-/-/-
224	SUR	18206	626	BEAVERDAM ROAD	SUNKEN MEADOW CREEK	2	1932		4	6	3	N	8	52.9	15/-/-
225	SUR	18220	650	HOG ISLAND ROAD	VEPCO DISCHARGE CANAL	2	1969		6	7	2	N	8	60.0	-/-/-
226	SUR	18213	630	LOAFERS OAK ROAD	CYPRESS SWAMP	2	1932		4	6	3	N	7	48.3	8/-/-
227	SUR	23137	31	SCOTLAND WHARF	JAMES RIVER	3	1991	1995	7	8	2	N	8	67.1	-/16/28
228	VB	23523		BLACKWATER ROAD	MILLDAM CREEK	1	1992		7	8	2	N	8	79.4	-/-/-
229	VB	24508		BOW CREEK BLVD	LONDON BRIDGE CREEK	1	1996		7	9	3	N	8	93.1	-/-/-
230	VB	12747	13	CBBT NB	CHESAPEAKE BAY	4	1964		6	6	2	2	8	72.5	-/-/-
231	VB	12750	13	CBBT NB	CHESAPEAKE BAY	2	1964		7	8	3	N	8	78.6	-/-/-
232	VB	12752	13	CBBT NB	CHESAPEAKE BAY	10	1964		6	8	3	N	8	69.5	-/-/-
233	VB	12754	13	CBBT NB	CHESAPEAKE BAY	4	1964		7	6	3	N	8	78.2	-/-/-
234	VB	12755	13	CBBT NB	CHESAPEAKE BAY	4	1964		7	6	3	N	8	78.2	-/-/-
235	VB	12753	13	CBBT SB	FISHERMAN'S INLET	2	1964		7	8	3	N	8	78.6	-/-/-
236	VB	22271	166	DIAMOND SPRINGS ROAD NB	WATERWORKS CANAL	2	1937		5	8	2	N	8	60.8	-/-/-
237	VB	22176		ELBOW ROAD	NORTH LANDING RIVER	2	1960		5	8	2	N	8	63.0	-/-/-
238	VB	23694		FERRELL PARKWAY	PRINCESS ANNE ROAD	2	1993		6	N	9	3	6	93.2	-/-/-
239	VB	24173		GENERAL BOOTH BLVD NB	RUDEE INLET	2	1995		6	8	2	N	8	75.8	-/-/-
240	VB	22191		GENERAL BOOTH BLVD SB	RUDEE INLET	5	1968		7	8	3	N	8	78.0	-/-/-
241	VB	22280	279	GREAT NECK ROAD NB	BROAD BAY ROAD & LONG CREEK	2	1988		7	8	3	9	8	78.0	-/-/-
242	VB	22278	279	GREAT NECK ROAD SB	BROAD BAY ROAD & LONG CREEK	2	1988		7	8	3	9	8	78.0	-/-/-
243	VB	22267	64	I-64 EB	E BR ELIZABETH RIVER	2	1967	1992	6	8	5	3	8	89.2	-/-/-
244	VB	22265	64	I-64 WB	E BR ELIZABETH RIVER	2	1967	1992	6	8	9	3	8	88.5	-/-/-
245	VB	22243	264	I-264	BIRDNECK ROAD	2	1967	1996	5	N	9	2	8	75.5	-/-/-
246	VB	22239	264	I-264	FIRST COLONIAL ROAD	2	1967	1986	6	N	9	2	8	88.0	-/-/-
247	VB	22222	264	I-264	INDEPENDENCE BLVD	2	1967	1992	5	N	9	2	8	70.0	-/-/-
248	VB	22232	264	I-264	LONDON BRIDGE ROAD	2	1967	1982	6	N	9	3	8	76.0	-/-/-
249	VB	22228	264	I-264	LYNNHAVEN PARKWAY	2	1967	1986	5	N	9	3	8	65.0	-/-/-
250	VB	22226	264	I-264	PLAZA TRAIL	2	1967	1977	6	N	9	3	8	77.4	-/-/-

Data sources: VDOT, FHWA. Data as of August 2007. Ratings that classify each bridge as functionally obsolete are shown in red. Descriptions of each rating are included in Appendix B. Descriptions of span types are shown beginning on page 5. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

TABLE 9 – Functionally Obsolete Bridges in Hampton Roads (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	STRUCT-URAL CONDITION RATING	WATERWAY ADEQUACY RATING	DECK GEOMETRY RATING	UNDER-CLEARANCES RATING	APPROACH ROADWAY ALIGNMENT RATING	SUFF RATING	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
251	VB	22237	264	I-264	VA BEACH BLVD	2	1967	1982	5	N	9	2	8	64.0	-/-/-
252	VB	22217	264	I-264 EB RAMP	BAXTER ROAD	2	1990		6	N	9	3	8	81.0	-/-/-
253	VB	22274	225	INDEPENDENCE BLVD NB	NORTHAMPTON BLVD	2	1969		7	N	4	2	8	76.8	-/-/-
254	VB	22276	225	INDEPENDENCE BLVD SB	NORTHAMPTON BLVD	2	1969		7	N	4	2	8	75.8	-/-/-
255	VB	25480		INLET ROAD	INLET OF LYNNHAVEN RIVER	2	1982		5	7	2	N	6	61.9	-/-/-
256	VB	22212		INTERNATIONAL PARKWAY EB	DRAINAGE CANAL #2	2	1987		7	8	2	N	8	80.3	-/-/-
257	VB	26138		INTERNATIONAL PARKWAY WB	DRAINAGE CANAL #2	2	1997		7	8	3	N	7	80.3	-/-/-
258	VB	22186		POTTERS ROAD	LONDON BRIDGE CREEK	2	1977		7	8	3	N	8	75.1	-/-/-
259	VB	24949	149	PRINCESS ANNE ROAD	WEST NECK CREEK	1	1997		7	8	2	N	8	69.9	-/-/-
260	VB	22287		PROVIDENCE ROAD EB	I-64	2	1967		7	N	3	4	8	75.9	-/-/-
261	VB	22285		PROVIDENCE ROAD WB	I-64	2	1967		6	N	3	3	8	73.8	-/-/-
262	VB	22183		SANDBRIDGE ROAD	HELLS POINT CREEK	5	1961		4	8	2	N	8	35.2	-/-/-
263	VB	22180		W GREAT NECK ROAD	LONG CREEK & BROAD BAY ROAD	2	1961		6	8	3	2	8	74.4	-/-/-
264	WMB	22328		CAPITOL LANDING ROAD	CSX R/R	1	1977		7	N	2	N	6	79.3	-/-/-
265	WMB	90016	5	LAFAYETTE STREET	COLONIAL PARKWAY	11	1936		4	8	2	3	6	53.0	-/-/-
266	WMB	22338	143	MERRIMAC TRAIL	COLONIAL PARKWAY	11	1948		8	N	2	4	7	78.2	-/-/-
267	WMB	90017		NEWPORT AVENUE	COLONIAL PARKWAY	11	1957		4	N	4	3	6	55.3	-/-/-
268	WMB	90015	60	PAGE STREET	COLONIAL PARKWAY	11	1936		5	N	4	3	6	67.4	-/-/-
269	WMB	23768		QUARTERPATH ROAD	TUTTERS NECK POND	5	1993		8	6	2	N	6	80.9	-/-/-
270	YC	90009		COLONIAL PARKWAY	INDIAN FIELD CREEK	2	1933	1981	4	8	3	N	6	52.2	-/-/-
271	YC	90007		COLONIAL PARKWAY	NORTH PIER ACCESS ROAD	1	1962		6	N	5	3	6	88.0	-/-/-
272	YC	90008		COLONIAL PARKWAY	NAVAL WEAPONS ROAD	1	1931	1981	5	N	5	3	8	70.4	-/-/-
273	YC	19828	64	I-64 EB	PENNIMAN ROAD	2	1965	1977	5	N	6	2	6	80.4	-/-/-
274	YC	19830	64	I-64 WB	PENNIMAN ROAD	2	1965	1977	5	N	6	2	8	80.7	-/-/-
275	YC	19832	64	I-64 EB	WB RAMP TO ROUTE 143	2	1965	1982	7	N	6	2	8	82.3	-/-/-
276	YC	19818	17	GEORGE WASHINGTON HWY SB	POQUOSON RIVER	4	1924	1952	5	8	3	N	8	62.9	-/-/-
277	YC	19820	17	GEORGE WASHINGTON HWY NB	YORKTOWN BATTLEFIELD TOUR ROAD	1	1968		6	N	6	2	8	92.2	-/-/-
278	YC	19822	17	GEORGE WASHINGTON HWY SB	YORKTOWN BATTLEFIELD TOUR ROAD	1	1968		6	N	6	2	8	92.2	-/-/-
279	YC	19855	134	MAGRUDER BLVD WB	BRICK KILN CREEK	4	1930		5	8	2	N	8	64.5	-/-/-
280	YC	90006	238	OLD WILLIAMSBURG ROAD	COLONIAL PARKWAY	11	1956		5	N	2	6	6	61.7	-/-/-
281	YC	90027		SURRENDER ROAD	WORMLEY POND SPILLWAY	2	1942		6	7	3	N	8	73.8	-/-/-
282	YC	90001		YORKTOWN BATTLEFIELD TOUR ROAD	BEAVERDAM CREEK	2	1975		4	8	2	N	8	43.0	-/-/-
283	YC	90002		YORKTOWN BATTLEFIELD TOUR ROAD	CRAWFORD ROAD	7	1956		6	N	5	3	8	74.1	-/-/-
284	YC	90003		YORKTOWN BATTLEFIELD TOUR ROAD	ROUTE 17	2	1959	1968	5	N	2	4	6	58.4	-/-/-

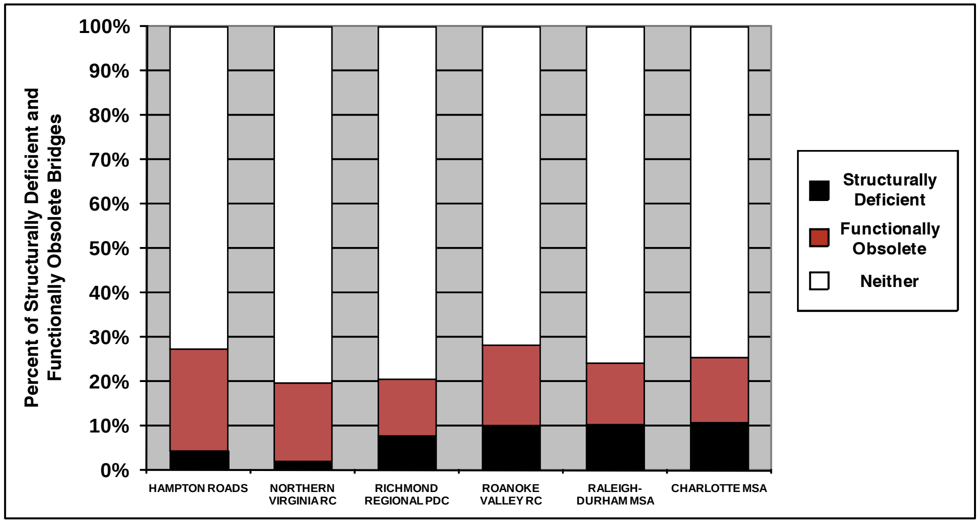
Data sources: VDOT, FHWA. Data as of August 2007. Ratings that classify each bridge as functionally obsolete are shown in red. Descriptions of each rating are included in Appendix B. Descriptions of span types are shown beginning on page 5. SU Trucks = Single Unit Trucks, ST Trucks = Single Trailer Trucks.

When combined with structurally deficient bridges, 338 bridges (27%) in Hampton Roads are classified as either structurally deficient or functionally obsolete. **Figure 7** shows the percentage of bridges that are classified as structurally deficient and functionally obsolete in Hampton Roads and other metropolitan areas. Although the number and percentage of structurally deficient bridges in Hampton Roads is lower than in other areas, Hampton Roads has a higher percentage of functionally obsolete bridges than any of the other areas. When structurally deficient and functionally obsolete bridges are combined, only the Roanoke Valley area has a higher percentage than Hampton Roads.

Among Hampton Roads localities, the City of Norfolk by far has the highest number of structurally deficient or functionally obsolete bridges (**Table 10**). This is largely due to the high number of bridges on I-64 that are classified as functionally obsolete due to substandard underclearances. 34 of the 81 bridges on I-64 in the City of Norfolk are functionally obsolete, 32 of the 34 due to underclearances. Of the 75 structurally deficient or functionally obsolete bridges in the City of Norfolk, 58 are maintained by VDOT, not the city.

Maps 1 through 12 on pages 29 – 40 show the location of functionally obsolete bridges in Hampton Roads. The Bridge Inventory tables in **Appendix A** also detail which bridges are classified as functionally obsolete.

FIGURE 7 – Structurally Deficient and Functionally Obsolete Bridges in Selected Areas



Data sources: VDOT, FHWA. Data as of 2007.

TABLE 10 – Combined Structurally Deficient & Functionally Obsolete Bridges by Jurisdiction

JURISDICTION	NUMBER OF BRIDGES	COMBINED STRUCTURALLY DEFICIENT & FUNCTIONALLY OBSOLETE BRIDGES		MAINTENANCE RESPONSIBILITY OF STRUCTURALLY DEFICIENT & FUNCT. OBSOLETE BRIDGES		
		Number	Percent	Locality	VDOT	Other
CHESAPEAKE	160	36	22.5%	32	2	2
GLOUCESTER	24	9	37.5%	-	9	-
HAMPTON	85	19	22.4%	12	7	-
ISLE OF WIGHT	84	33	39.3%	-	33	-
JAMES CITY	63	14	22.2%	-	13	1
NEWPORT NEWS	83	22	26.5%	10	12	-
NORFOLK	203	75	36.9%	17	58	-
POQUOSON	0	-	-	-	-	-
PORTSMOUTH	42	9	21.4%	3	6	-
SOUTHAMPTON/FRANKLIN	138	29	21.0%	-	28	1
SUFFOLK	141	26	18.4%	25	1	-
SURRY	32	5	15.6%	-	5	-
VIRGINIA BEACH	118	39	33.1%	21	12	6
WILLIAMSBURG	11	6	54.5%	2	-	4
YORK	53	16	30.2%	-	8	8
HAMPTON ROADS	1237	338	27.3%	122	194	22

Data sources: VDOT, FHWA. Data as of August 2007.

Bridges Needing Repair or Rehabilitation

VDOT uses general condition ratings to determine which bridges statewide are in need of repair or rehabilitation. VDOT considers any bridge to require more than regular maintenance and be in need of repair or rehabilitation if any of the following conditions are true:

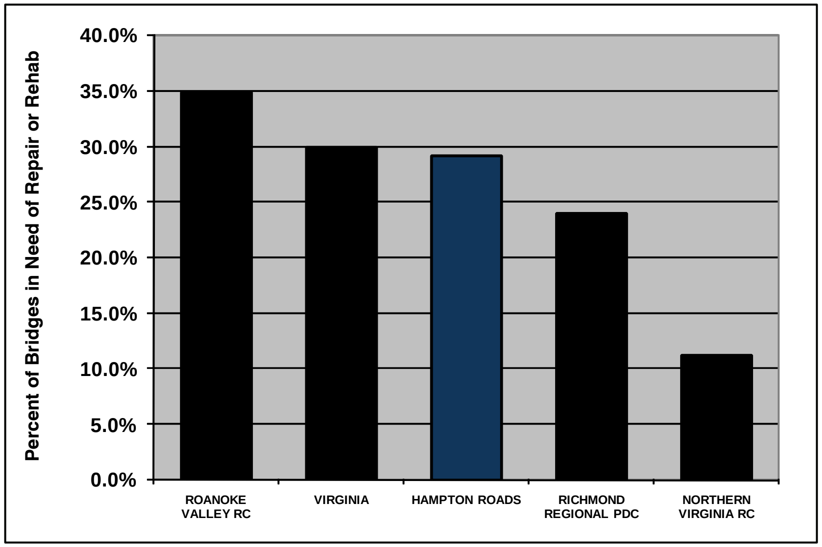
- Deck Condition Rating ≤ 5
- Superstructure Condition Rating ≤ 5
- Substructure Condition Rating ≤ 5
- Culvert Condition Rating ≤ 5

VDOT maintains a target that less than 40% of bridges statewide be in need of repair or rehabilitation. In Hampton Roads 361 of the 1,237 bridges (29%) are classified by VDOT as needing repair or rehabilitation. This number is well below the statewide target and is comparable to the current statewide percentage. However, the percentage of bridges needing repair or rehabilitation in Hampton Roads is significantly higher than the percentage in the Northern Virginia and Richmond Regional planning districts (**Figure 8**).

Among Hampton Roads localities, Southampton County and the City of Suffolk have the highest number of bridges that need repair or rehabilitation (**Table 11**). These two localities, along with Gloucester and Surry Counties, all have more than 40% of their bridges in need of repair or rehabilitation.

Maps 1 through 12 on pages 29 – 40 show the location of bridges in Hampton Roads that need repair or rehabilitation. The Bridge Inventory tables in **Appendix A** also detail which bridges are in need of repair or rehabilitation.

FIGURE 8 – Bridges Needing Repair or Rehabilitation in Selected Areas



Data sources: VDOT, FHWA. Data as of 2007.

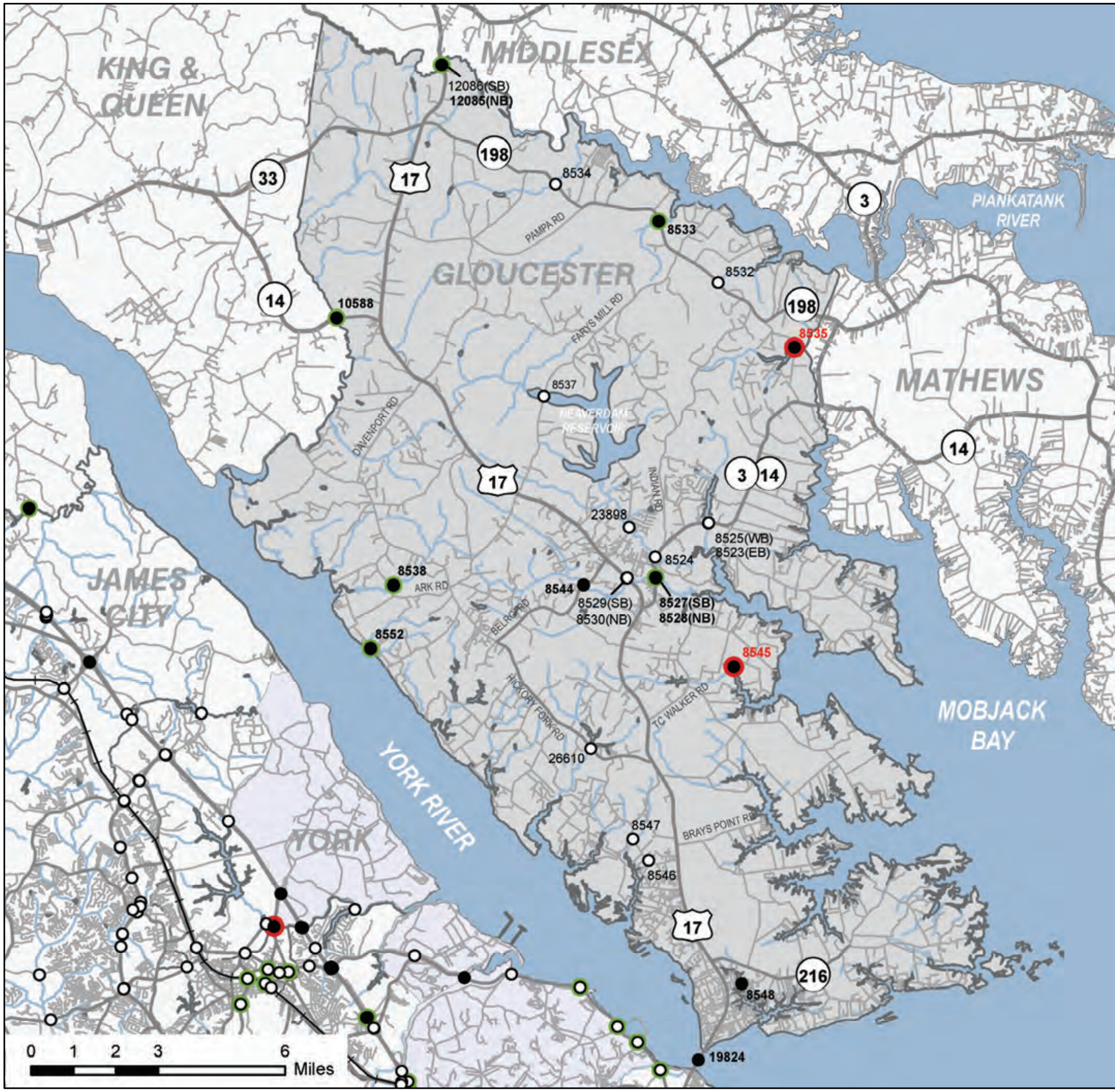
TABLE 11 – Bridges in Hampton Roads Needing Repair or Rehabilitation by Jurisdiction

JURISDICTION	NUMBER OF BRIDGES	BRIDGES NEEDING REPAIR OR REHABILITATION		MAINTENANCE RESPONSIBILITY		
		Number	Percent	Locality	VDOT	Other
CHESAPEAKE	160	31	19.4%	20	10	1
GLOUCESTER	24	11	45.8%	-	11	-
HAMPTON	85	28	32.9%	13	15	-
ISLE OF WIGHT	84	24	28.6%	-	24	-
JAMES CITY	63	13	20.6%	-	12	1
NEWPORT NEWS	83	28	33.7%	7	21	-
NORFOLK	203	46	22.7%	16	30	-
POQUOSON	0	-	-	-	-	-
PORTSMOUTH	42	9	21.4%	4	5	-
SOUTHAMPTON/FRANKLIN	138	61	44.2%	-	60	1
SUFFOLK	141	59	41.8%	55	4	-
SURRY	32	15	46.9%	-	15	-
VIRGINIA BEACH	118	18	15.3%	13	5	-
WILLIAMSBURG	11	0	0.0%	-	-	-
YORK	53	18	34.0%	-	14	4
HAMPTON ROADS	1237	361	29.2%	128	226	7

Data sources: VDOT, FHWA. Data as of August 2007.

Bridge Location Maps

The following pages contain maps with the locations of all 1,237 bridges in Hampton Roads. Structurally deficient, functionally obsolete, and bridges needing repair or rehabilitation are also indicated on these maps. The maps are broken down into the following 12 subregions:



MAP 1
Gloucester County Bridges

LEGEND

23898 — Federal Bridge ID

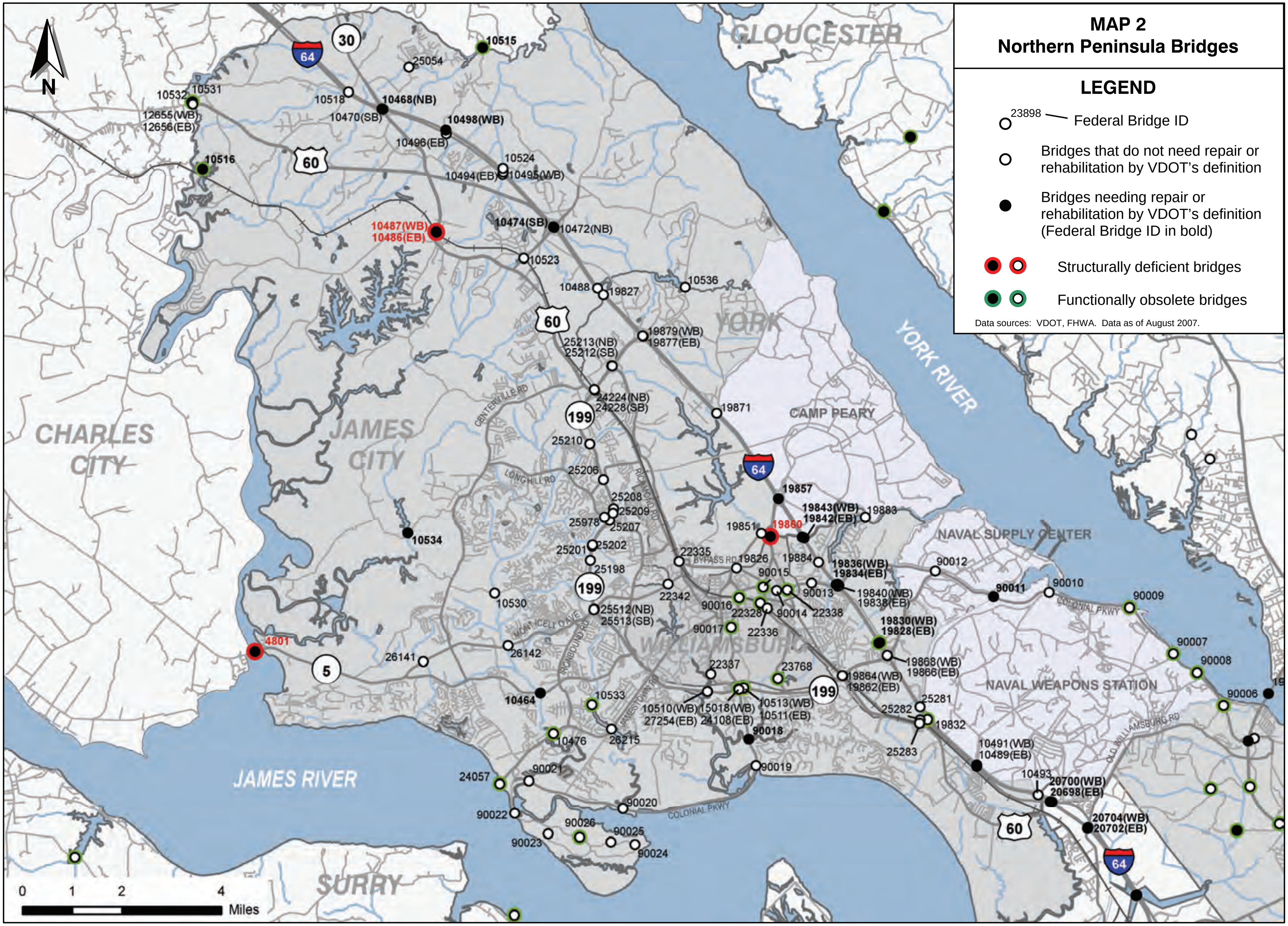
Bridges that do not need repair or rehabilitation by VDOT's definition

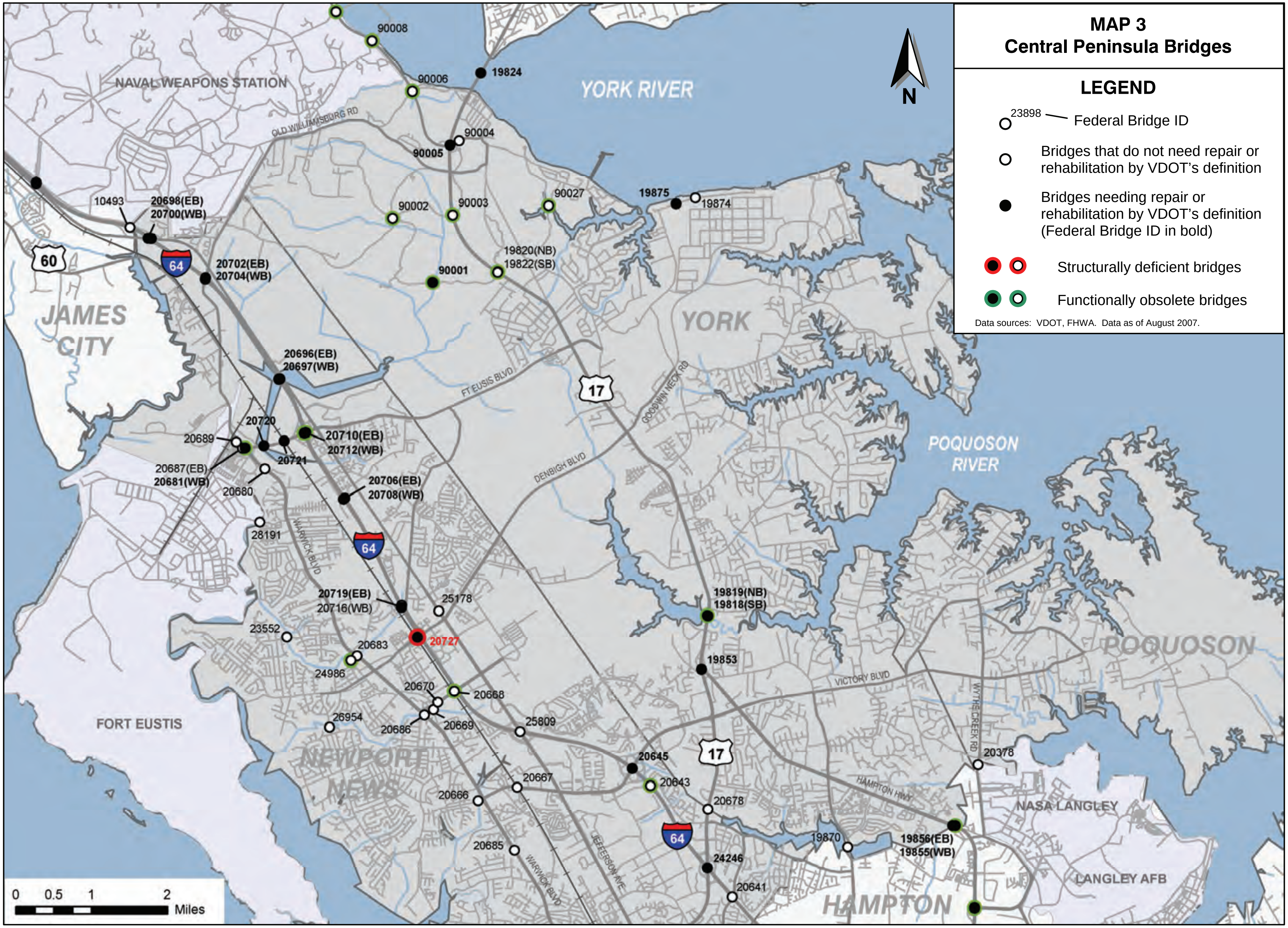
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)

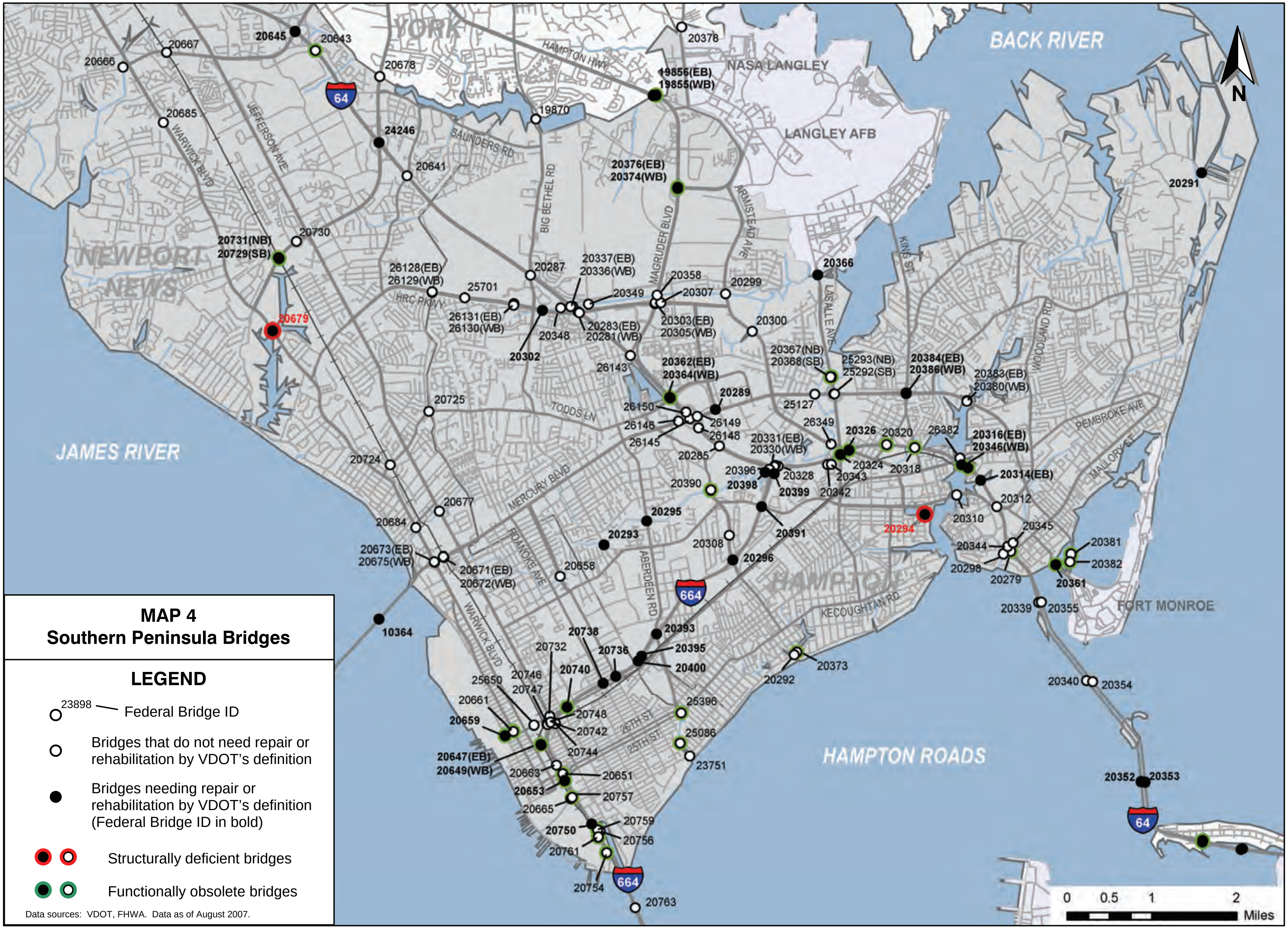
Structurally deficient bridges

Functionally obsolete bridges

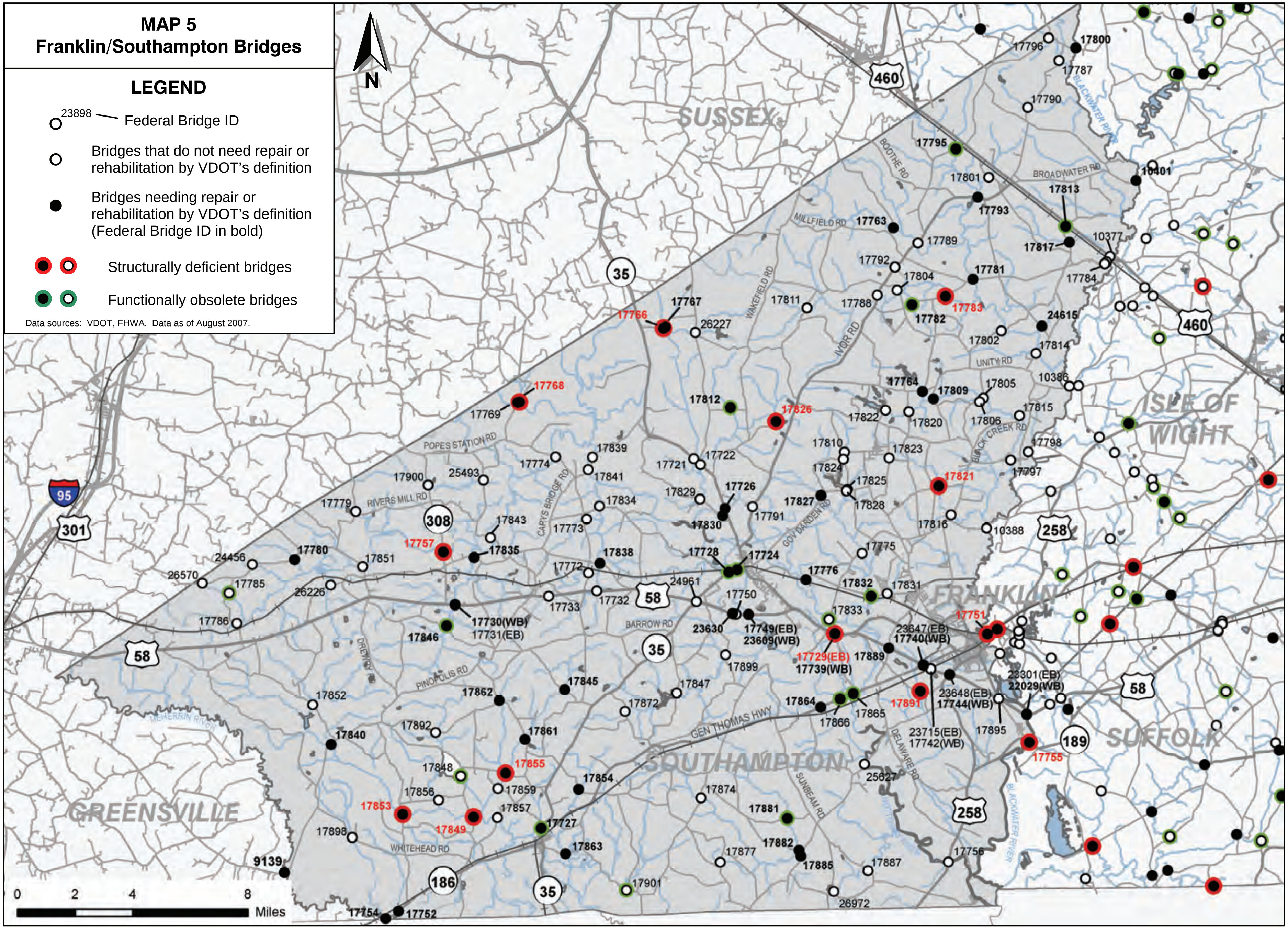
Data sources: VDOT, FHWA. Data as of August 2007.

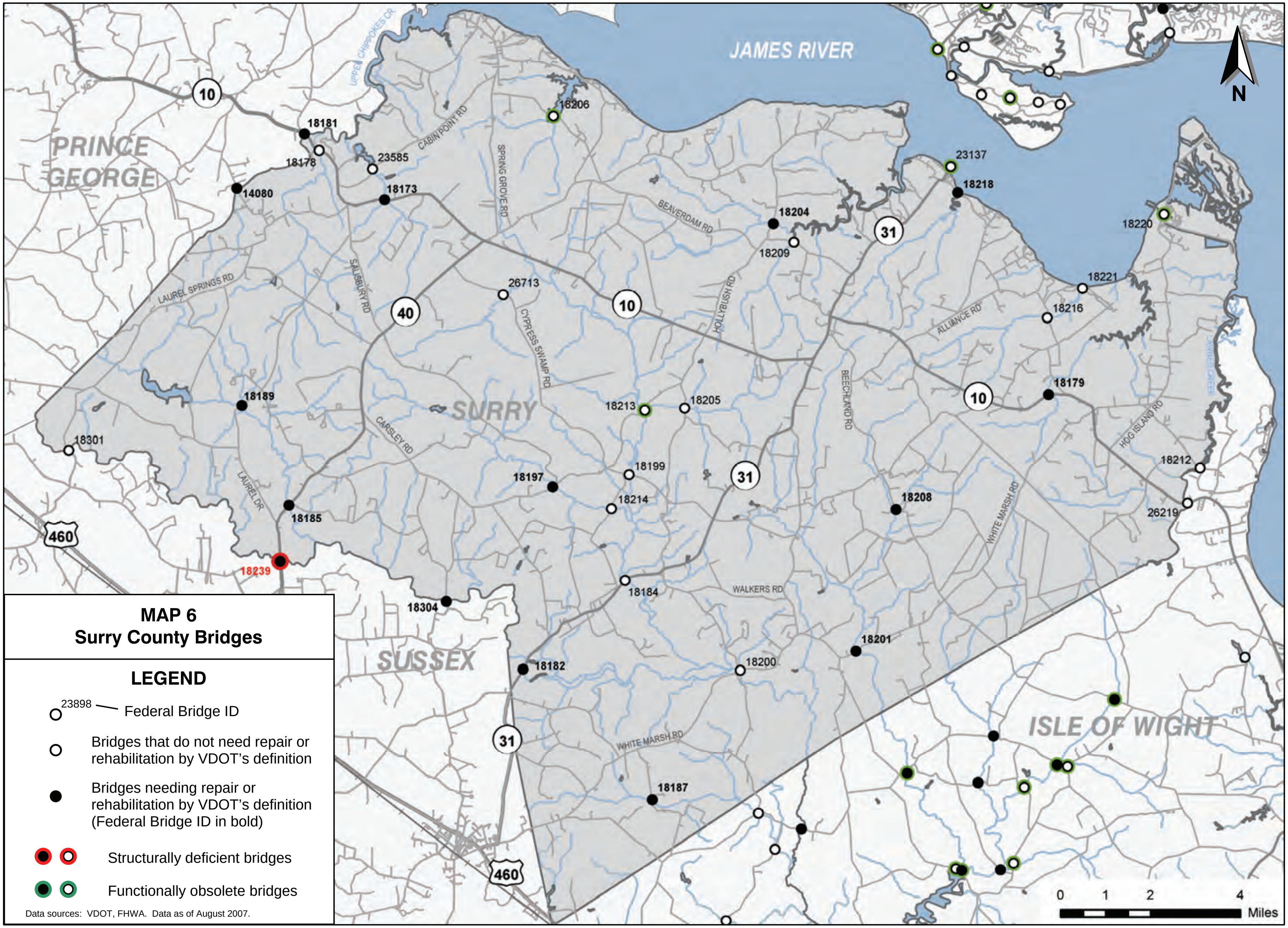

MAP 2
Northern Peninsula Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
GLOUCESTER
YORK
YORK RIVER
CAMP PEARY
CHARLES CITY
JAMES CITY
WILLIAMSBURG
NAVAL SUPPLY CENTER
NAVAL WEAPONS STATION
JAMES RIVER
SURRY
0 1 2 4 Miles

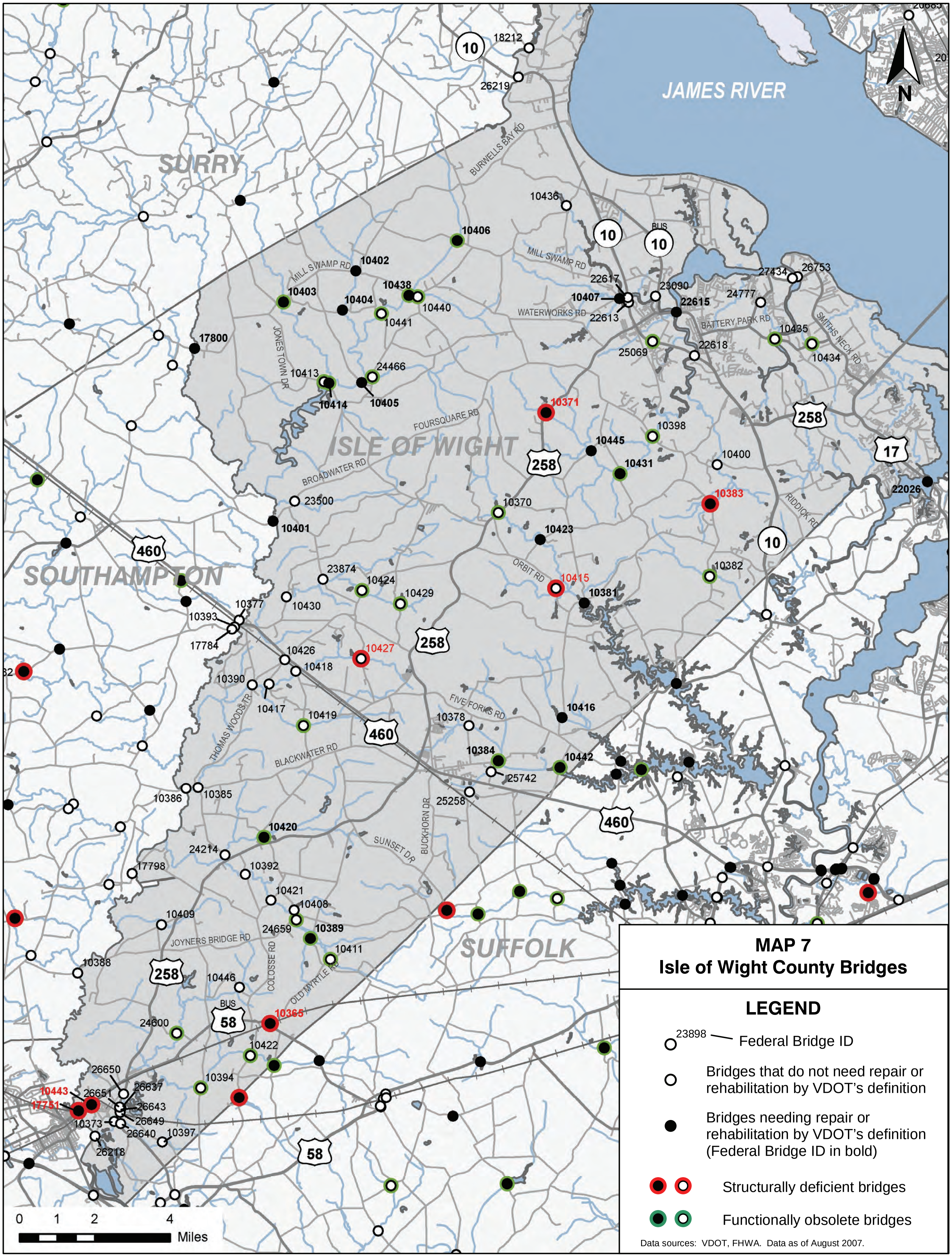

MAP 3
Central Peninsula Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
N
YORK RIVER
NAVAL WEAPONS STATION
OLD WILLIAMSBURG RD
JAMES CITY
YORK
POQUOSON RIVER
POQUOSON
FORT EUSTIS
NEWPORT NEWS
NASA LANGLEY
LANGLEY AFB
HAMPTON
FT EUSIS BLVD
DENBIGH BLVD
GOODWIN NECK RD
WARWICK BLVD
JEFFERSON AVE
VICTORY BLVD
WYTHE CREEK RD
HAMPTON HWY
60
64
17
90008
90006
19824
90004
90005
90027
19875
19874
90002
90003
10493
20698(EB)
20700(WB)
19820(NB)
19822(SB)
20702(EB)
20704(WB)
90001
20696(EB)
20697(WB)
20720
20710(EB)
20712(WB)
20689
20721
20687(EB)
20681(WB)
20680
20706(EB)
20708(WB)
28191
20719(EB)
20716(WB)
25178
19819(NB)
19818(SB)
23552
20727
20683
24986
19853
20670
20668
26954
20686
20669
25809
20378
20645
20643
20667
20666
20678
19870
19856(EB)
19855(WB)
20685
24246
20641
0 0.5 1 2
Miles


MAP 4
Southern Peninsula Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
BACK RIVER
JAMES RIVER
HAMPTON ROADS
NEWPORT NEWS
HAMPTON
YORK
NASA LANGLEY
LANGLEY AFB
FORT MONROE
N
0 0.5 1 2 Miles
64
664
HAMPTON HWY
JEFFERSON AVE
WARWICK BLVD
SAUNDERS RD
BIG BETHEL RD
MAGRUDER BLVD
ARMISTEAD AVE
KING ST
LASALLE AVE
WOODLAND RD
PEMBROKE AVE
MALLORY ST
HRC PKWY
TODDS LN
MERCURY BLVD
ROANOKE AVE
ABERDEEN RD
KECOUGHTAN RD
26TH ST
25TH ST
20645
20643
20667
20666
20678
20685
24246
19870
20641
20378
19856(EB)
19855(WB)
20376(EB)
20374(WB)
20291
20731(NB)
20729(SB)
20730
20679
26128(EB)
26129(WB)
25701
26131(EB)
26130(WB)
20287
20337(EB)
20336(WB)
20349
20358
20307
20299
20366
20302
20348
20283(EB)
20281(WB)
20303(EB)
20305(WB)
20300
26143
20362(EB)
20364(WB)
20367(NB)
20368(SB)
25293(NB)
25292(SB)
20384(EB)
20386(WB)
20383(EB)
20380(WB)
20725
20289
26150
26149
26146
26148
26145
25127
26349
20326
20320
26382
20316(EB)
20346(WB)
20331(EB)
20330(WB)
20285
20396
20398
20328
20324
20318
20343
20314(EB)
20390
20399
20342
20312
20724
20677
20295
20310
20294
20345
20684
20293
20391
20308
20344
20381
20673(EB)
20675(WB)
20671(EB)
20672(WB)
20658
20296
20298
20279
20382
20361
10364
20339
20355
20738
20393
20732
20736
20395
20740
20400
20373
20746
20747
25650
20292
20340
20354
20661
20748
25396
20659
20742
25086
20744
20647(EB)
20649(WB)
23751
20663
20651
20352
20353
20653
20757
20665
20759
20750
20756
20761
20754
20763

MPO


MAP 5
Franklin/Southampton Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
N
0 2 4 8 Miles
SUSSEX
ISLE OF WIGHT
FRANKLIN
SOUTHAMPTON
SUFFOLK
GREENSVILLE


JAMES RIVER
PRINCE GEORGE
SURRY
SUSSEX
ISLE OF WIGHT
N
MAP 6
Surry County Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
0 1 2 4 Miles
18181
18178
23585
18173
14080
18206
23137
18218
18204
18209
18220
26713
18221
18216
18179
18189
18301
18213
18205
18199
18197
18214
18212
26219
18208
18185
18239
18304
18184
18201
18200
18182
18187
10
40
31
460
CABIN POINT RD
SPRING GROVE RD
BEAVERDAM RD
LAUREL SPRINGS RD
SALISBURY RD
CYPRESS SWAMP RD
HOLLYBUSH RD
ALLIANCE RD
BEECHLAND RD
CARSLEY RD
LAUREL DR
HOG ISLAND RD
WHITE MARSH RD
WALKERS RD
UPPER CHIPPOKES CR
LAWNES CREEK



MAP 7
Isle of Wight County Bridges

LEGEND

23898 — Federal Bridge ID

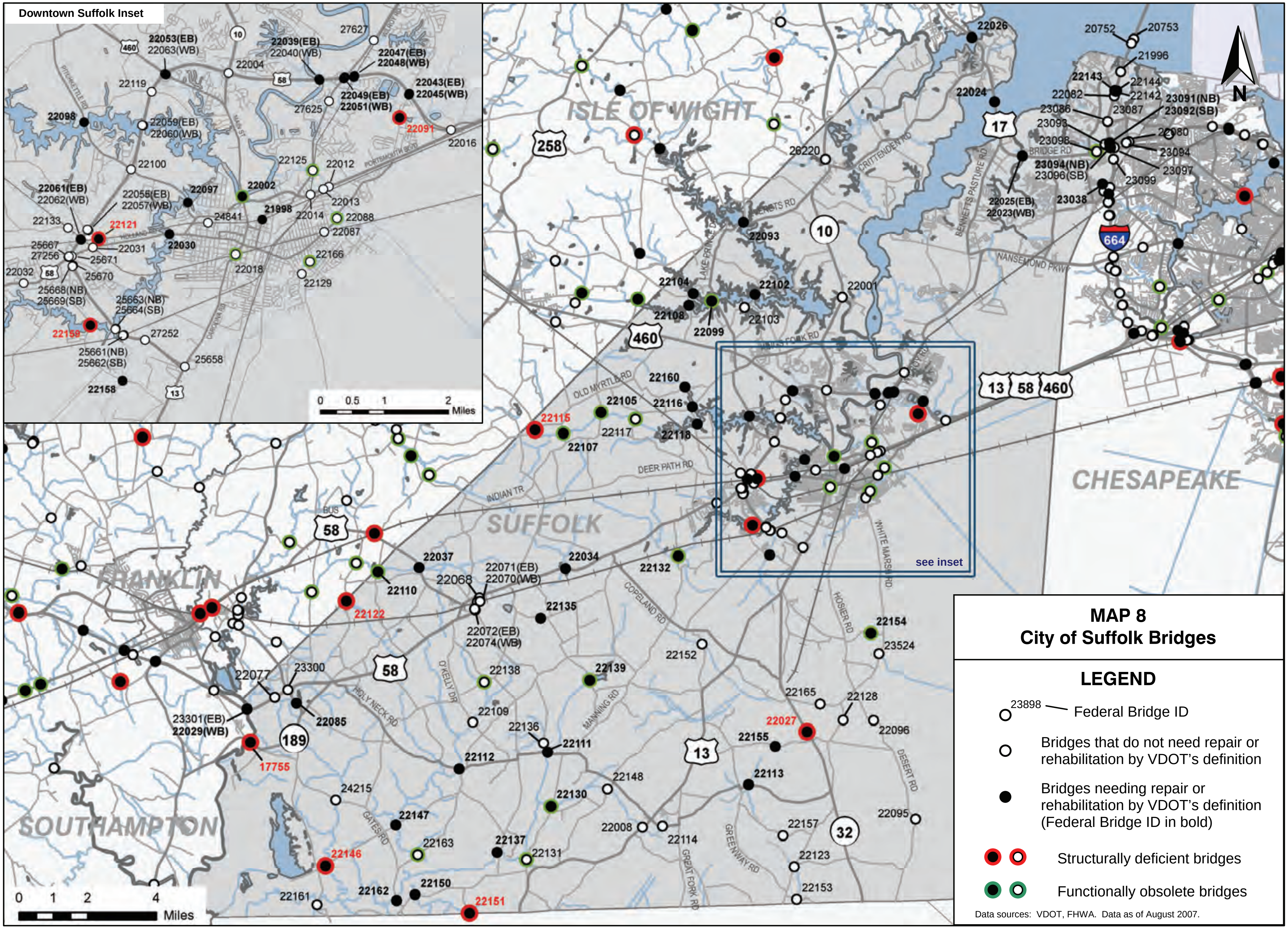
Bridges that do not need repair or rehabilitation by VDOT's definition

Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)

Structurally deficient bridges

Functionally obsolete bridges

Data sources: VDOT, FHWA. Data as of August 2007.

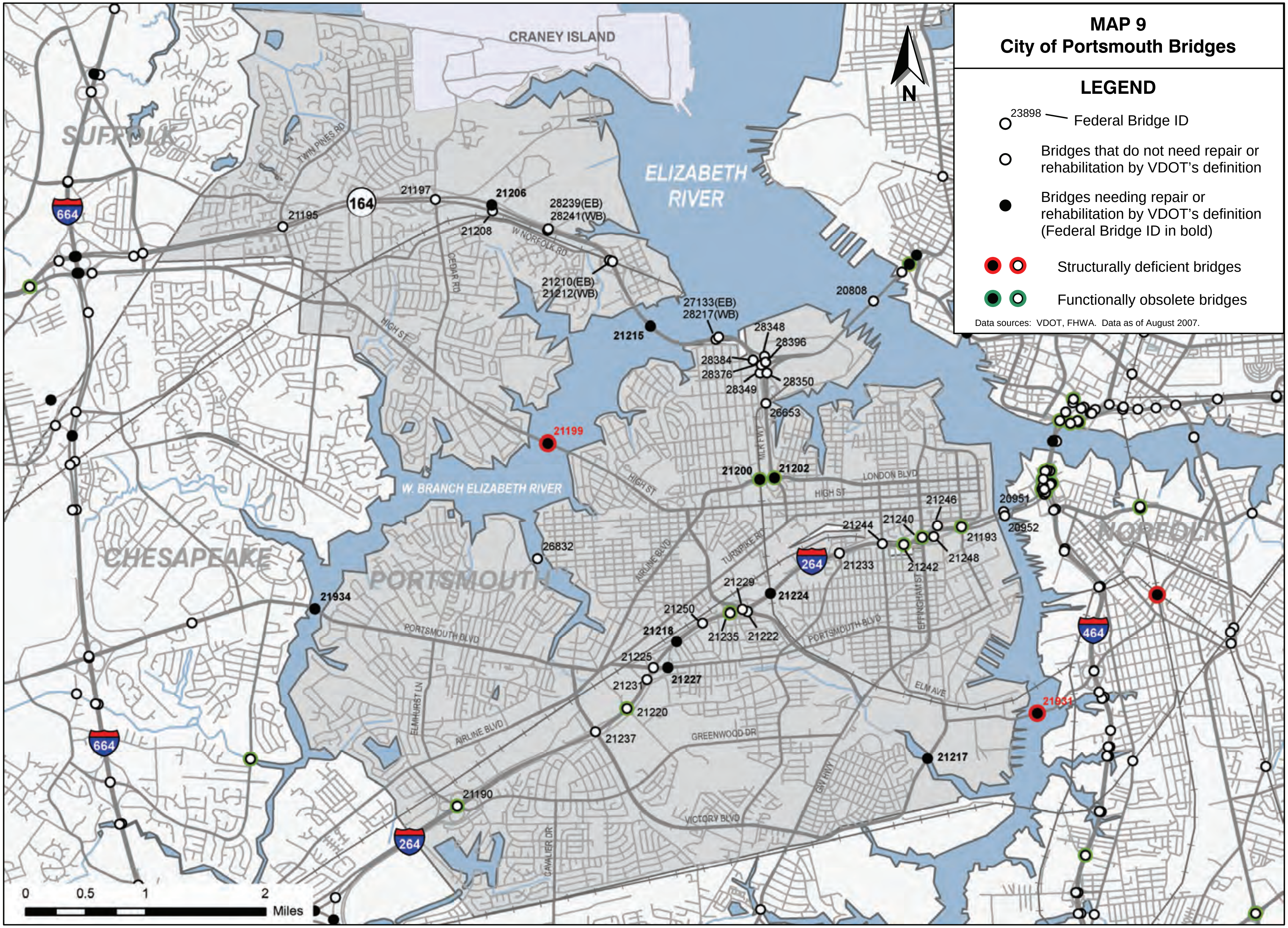


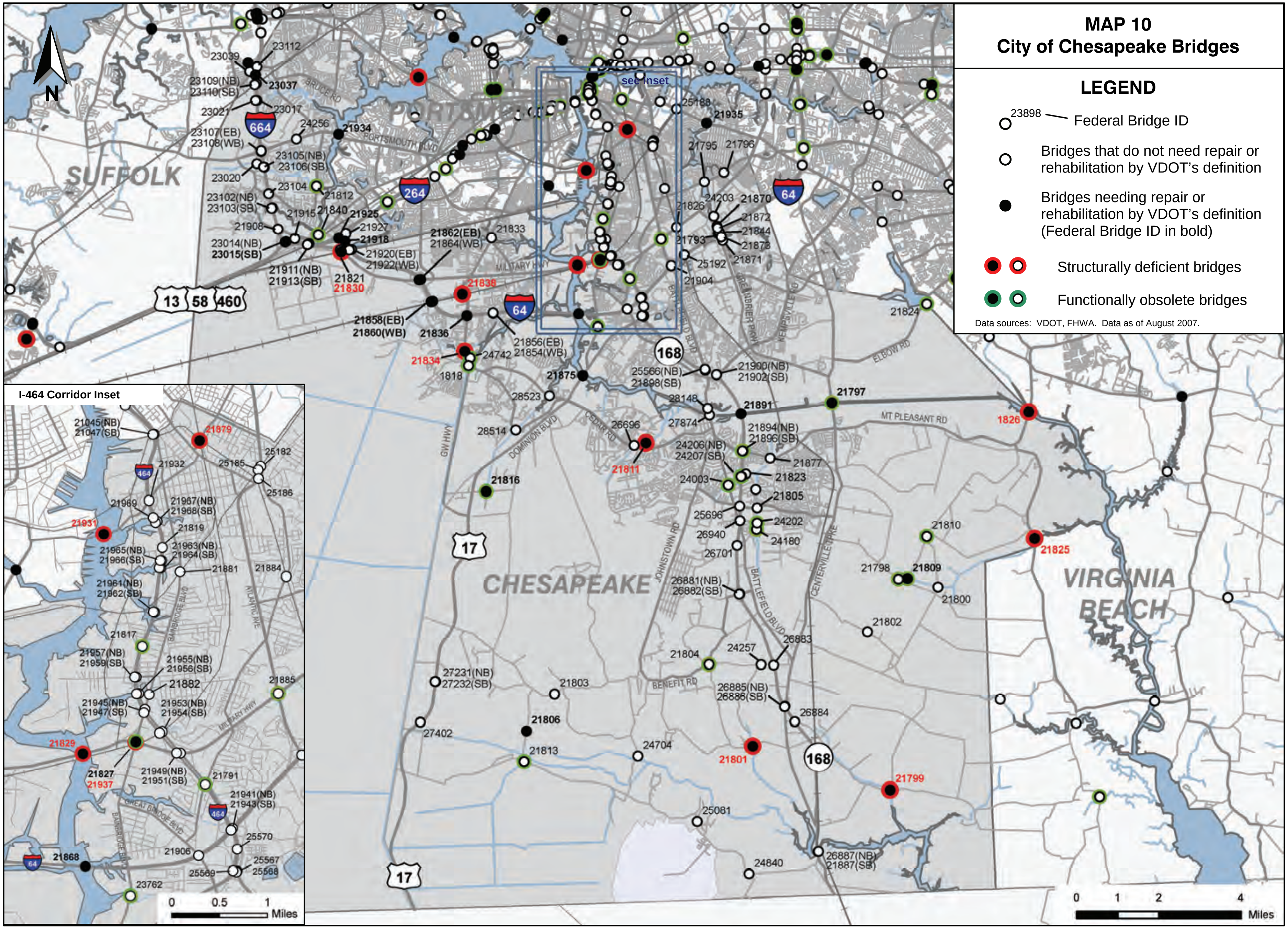
MAP 8
City of Suffolk Bridges

LEGEND

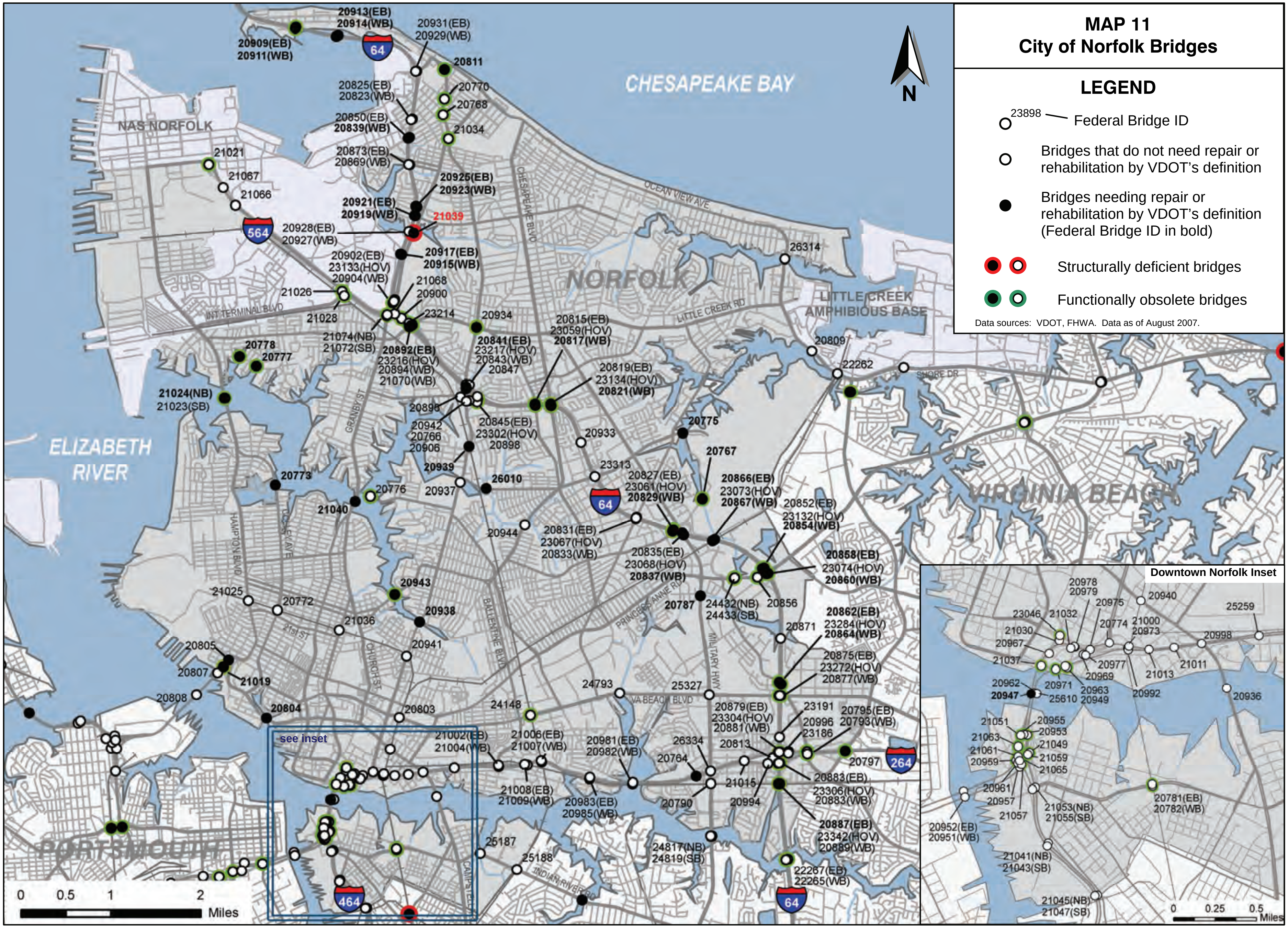
- 23898 — Federal Bridge ID
- Bridges that do not need repair or rehabilitation by VDOT's definition
- Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
- Structurally deficient bridges
- Functionally obsolete bridges

Data sources: VDOT, FHWA. Data as of August 2007.

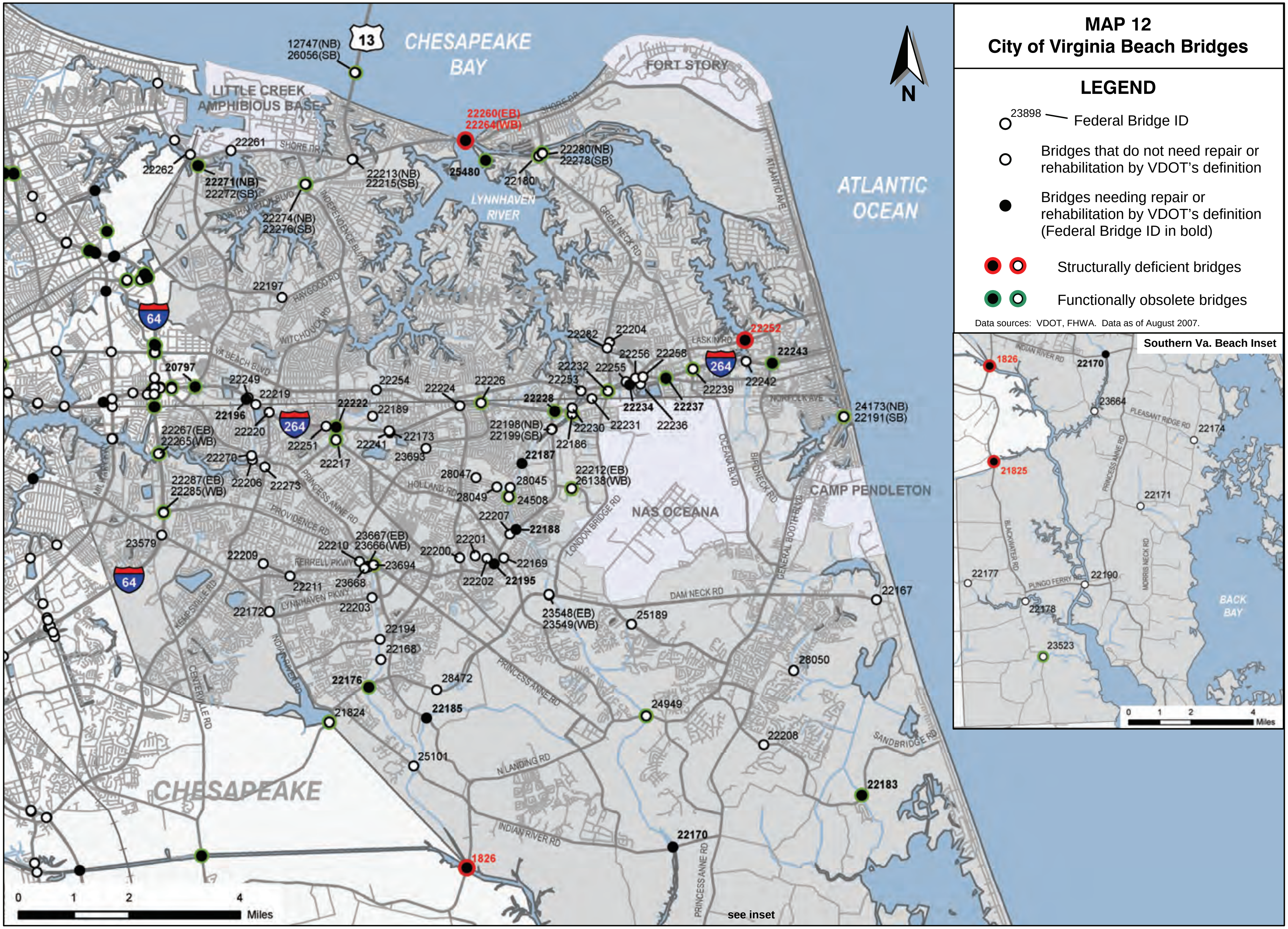

MAP 9
City of Portsmouth Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
N
0 0.5 1 2 Miles
CRANEY ISLAND
ELIZABETH RIVER
W. BRANCH ELIZABETH RIVER
SUFFOLK
CHESAPEAKE
PORTSMOUTH
NORFOLK
664
164
264
464
TWIN PINES RD
W NORFOLK RD
CEDAR RD
HIGH ST
LONDON BLVD
TURNPIKE RD
AIRLINE BLVD
PORTSMOUTH BLVD
EFFINGHAM ST
ELM AVE
ELMHURST LN
GREENWOOD DR
GW HWY
VICTORY BLVD
CAVALIER DR
MLK FWY
21195
21197
21206
21208
28239(EB)
28241(WB)
21210(EB)
21212(WB)
21215
27133(EB)
28217(WB)
28348
28396
28384
28376
28349
28350
26653
20808
21199
21200
21202
21246
20951
20952
21244
21240
21193
21248
21242
21233
26832
21934
21229
21224
21250
21218
21235
21222
21225
21227
21231
21220
21237
21217
21931
21190


MAP 10
City of Chesapeake Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
N
SUFFOLK
PORTSMOUTH
CHESAPEAKE
VIRGINIA BEACH
see inset
I-464 Corridor Inset
0 0.5 1 Miles
0 1 2 4 Miles
664
264
64
464
13
58
460
17
168
PORTSMOUTH BLVD
MILITARY HWY
GW HWY
DOMINION BLVD
CEDAR RD
JOHNSTOWN RD
BATTLEFIELD BLVD
CENTERVILLE TPKE
GREENBRIER PKWY
KEMPSVILLE RD
MT PLEASANT RD
ELBOW RD
BENEFIT RD
BAINBRIDGE BLVD
GREAT BRIDGE BLVD
23112
23039
23109(NB)
23110(SB)
23037
23021
23017
24256
21934
23107(EB)
23108(WB)
23105(NB)
23106(SB)
23020
23104
21812
23102(NB)
23103(SB)
21915
21840
21925
21927
21918
21908
23014(NB)
23015(SB)
21920(EB)
21922(WB)
21911(NB)
21913(SB)
21821
21830
21862(EB)
21864(WB)
21833
21838
21858(EB)
21860(WB)
21836
21856(EB)
21854(WB)
21834
24742
1818
21875
28523
28514
21816
25188
21935
21795
21796
21826
24203
21870
21872
21844
21873
21793
21871
25192
21904
21824
25566(NB)
21898(SB)
21900(NB)
21902(SB)
21797
28148
21891
27874
26696
21811
21894(NB)
21896(SB)
24206(NB)
24207(SB)
21877
24003
21823
21805
25696
24202
26940
24180
26701
1826
21825
21810
21798
21809
21800
26881(NB)
26882(SB)
21802
26883
24257
21804
27231(NB)
27232(SB)
21803
26885(NB)
26886(SB)
26884
21806
27402
21813
24704
21801
21799
25081
24840
26887(NB)
21887(SB)
21045(NB)
21047(SB)
21879
25182
21932
25185
25186
21969
21967(NB)
21968(SB)
21931
21819
21965(NB)
21966(SB)
21963(NB)
21964(SB)
21881
21884
21961(NB)
21962(SB)
21817
21957(NB)
21959(SB)
21955(NB)
21956(SB)
21882
21885
21945(NB)
21947(SB)
21953(NB)
21954(SB)
21829
21827
21937
21949(NB)
21951(SB)
21791
21941(NB)
21943(SB)
25570
21906
25567
25568
25569
21868
23762

MAP 11
City of Norfolk Bridges



HAMPTON ROADS MPO


MAP 12
City of Virginia Beach Bridges
LEGEND
23898 Federal Bridge ID
Bridges that do not need repair or rehabilitation by VDOT's definition
Bridges needing repair or rehabilitation by VDOT's definition (Federal Bridge ID in bold)
Structurally deficient bridges
Functionally obsolete bridges
Data sources: VDOT, FHWA. Data as of August 2007.
Southern Va. Beach Inset
CHESAPEAKE BAY
ATLANTIC OCEAN
LITTLE CREEK AMPHIBIOUS BASE
FORT STORY
LYNNHAVEN RIVER
NAS OCEANA
CAMP PENDLETON
CHESAPEAKE
BACK BAY
N
0 1 2 4 Miles
see inset
12747(NB) 26056(SB)
22260(EB) 22264(WB)
22280(NB) 22278(SB)
22213(NB) 22215(SB)
22271(NB) 22272(SB)
22274(NB) 22276(SB)
22261
22262
25480
22180
22197
22252
22243
22242
22239
24173(NB) 22191(SB)
22167
22183
22170
1826
21825
21824
22176
22185
25101
24949
22208
28050
25189
23548(EB) 23549(WB)
22212(EB) 26138(WB)
22187
22188
22169
22195
22174
22171
22177
22190
22178
23523
23664
20797
22249
22219
22196
22220
22267(EB) 22265(WB)
22270
22206
22273
22287(EB) 22285(WB)
23579
22209
22210
23667(EB) 23666(WB)
23694
22211
23668
22203
22172
22194
22168
28472
22251
22217
22222
22189
22241
22173
23693
22254
22224
22226
22228
22198(NB) 22199(SB)
22230
22231
22186
22236
22234
22237
22232
22253
22255
22256
22258
22282
22204
28047
28045
28049
24508
22207
22201
22200
22202

Fracture and Scour Critical Bridges

With the collapse of I-35W bridge in Minneapolis, more attention has also been placed on fracture and scour critical bridges.

Fracture critical bridges are structures that are designed with few or no redundant supporting elements. Most bridges are designed so that loads can be redistributed to other structural members of the bridge if any one structural member loses its ability to distribute loads. In a fracture critical bridge, if a key structural member fails, the bridge is in danger of collapsing. Examples of fracture critical bridges include most truss bridges, drawbridges and those beam or girder bridges designed without redundant elements.

Despite this lack of redundancy, **fracture critical bridges are not necessarily unsafe. Bridge inspectors will close or impose limits on bridges that they feel are unsafe**. Because of their lack of redundancy, fracture critical bridges undergo more extensive and more frequent inspections. These inspections usually occur every year rather than the normal once every two year inspection schedule.

Of the 1,237 bridges in Hampton Roads, 40 bridges are classified as fracture critical (**Table 12**). Notable examples of fracture critical bridges in Hampton Roads include the Coleman Bridge, James River Bridge, and Berkley Bridge. All 14 of the drawbridges in Hampton Roads are classified as fracture critical due to their design. However, the Coleman Bridge is the only structure in Hampton Roads with a design somewhat similar to the I-35W bridge.

Scour critical bridges are those that could fail or become structurally unstable due to scouring, or the exposure of portions of the substructure of the bridge due to changes in the river bed. Underwater substructure sections are inspected regularly (usually every five years) to assure that the bridge does not become scour critical.

TABLE 12 – Fracture Critical Bridges in Hampton Roads

JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING
CHES	27874	168	BATTLEFIELD BLVD	CHESAPEAKE & ALBEMARLE CANAL
CHES	21797		CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL
CHES	1818	17	GEORGE WASHINGTON HWY	DISMAL SWAMP CANAL
CHES	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER
CHES	21868	64	HIGH RISE BRIDGE	S BR ELIZ RIVER & SR 166
CHES	21915	664	I-664 RAMP	ROUTE 58 & 460 EB
CHES	21931	337	JORDAN BRIDGE	S BR ELIZABETH RIVER
CHES	1826	165	MOUNT PLEASANT ROAD	CHESAPEAKE & ALBEMARLE CANAL
CHES	21875	17	STEEL BRIDGE (DOMINION BLVD)	S BR ELIZABETH RIVER
HAM	20314	64	I-64 EB	E. BRANCH HAMPTON RIVER
HAM	20346	64	I-64 WB	PEMBROKE AVENUE & HAMPTON RIVER
HAM	20399	64	I-64 RAMPS	NEWMARKET CREEK
HAM	20396	664	I-664 NB	I-64 RAMP & NEWMARKET CREEK
HAM	20328	664	I-664 SB RAMP	I-64 & NEWMARKET CREEK
IW	10364	17	JAMES RIVER BRIDGE	JAMES RIVER
JCC	24057	31	GLASS HOUSE FERRY	JAMES RIVER
JCC	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK
JCC	4801	5	JOHN TYLER HWY	CHICKAHOMINY RIVER
NN	20750	664	I-664	TERMINAL AVENUE
NN	20754	664	I-664 ON RAMP	TERMINAL AVENUE & CSX R/R
NN	20761	664	I-664 RAMP	TERMINAL AVENUE
NOR	20962	264	I-264 EB	E BR ELIZABETH RIVER
NOR	20971	264	I-264 EB	I-264 EB RAMP
NOR	20947	264	I-264 WB	E BR ELIZABETH RIVER
NOR	20979	264	I-264 WB	CITY HALL AVENUE
NOR	21000	264	I-264 WB	HOLT STREET & NS R/R
NOR	23186	64	I-64 HOV RAMP	I-64 WB & I-264 & RAMPS
NOR	23191	64	I-64 HOV LANES	I-64 WB
NOR	23214	64	I-64 HOV LANES	I-564 & LITTLE CREEK ROAD
PORT	21208	164	ROUTE 164 EB	FORMER COAST GUARD BLVD
PORT	21206	164	ROUTE 164 WB	FORMER COAST GUARD BLVD
SH	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER
SH	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER
SH	26972	680	SUNBEAM ROAD	COKEMOKE MILL
SH	17813	635	TUCKER SWAMP ROAD	N&W R/R
SH	17764	603	UNITY ROAD	WHITEFIELD MILL
SUR	23137	31	SCOTLAND WHARF	JAMES RIVER
VB	12752	13	CBBT NB	CHESAPEAKE BAY
YC	19824	17	COLEMAN BRIDGE	YORK RIVER & ROUTE 238
YC	90027		SURRENDER ROAD	WORMLEY POND SPILLWAY

Data sources: VDOT, FHWA.

Bridge Funding

With the process of acquiring funds for transportation as competitive as ever and project costs rising much faster than inflation, funds for constructing and maintaining bridges are limited. Funding for bridge projects comes from a variety of federal, state, and local sources, and in some cases tolls are collected to repay bridge construction debts. This section details each of these bridge funding sources.

Federal Bridge Funding

The primary federal program for funding bridge projects is the Highway Bridge Program (HBP). This program, which was formerly known as the Highway Bridge Replacement and Rehabilitation Program (HBRRP), provides funding to states to enable them to improve the condition of highway bridges through replacement, rehabilitation, and systematic preventive maintenance. The HBRRP was created in 1978, when Congress determined that the number of structurally deficient and functionally obsolete bridges nationwide had grown to dangerous levels.

Funding for the Highway Bridge Program is currently authorized by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation. Signed into law in 2005 and in effect from Federal Fiscal Year (FFY) 2004 through FFY 2009, SAFETEA-LU provides federal funding for all surface transportation modes including the Highway Bridge Program.

Over the six years of SAFETEA-LU, $286 billion is authorized for surface transportation projects nationwide. Of this $286 billion, $25 billion is authorized as a base apportionment to the Highway Bridge Program. This is a 26% increase over the previous surface transportation funding bill, which was in effect for FFY 1998-2003.

In addition to the $25 billion base apportionment, additional funds are apportioned to the Highway Bridge Program from two other SAFETEA-LU sources: The Equity Bonus Program, which provides additional apportionments to certain states to ensure that their apportionments are within a certain percentage of their contributions to the Highway Trust Fund, and the Revenue Aligned Budget Authority (RABA), which annually adjusts funding levels based on the actual Highway Trust Fund revenue.

Figure 9 on page 43 shows the base and additional federal apportionments for bridges between FFY 1998 and FFY 2009. In FFY 2007, $5.1 billion was allocated to states from the Highway Bridge Program. Of this total, $4.1 billion was provided as a base apportionment to the Highway Bridge Program and $1.0 billion was added to the Highway Bridge Program from the Equity Bonus Program and RABA.

Allocating Highway Bridge Program funds to the states is done through a complex formula. The amount of Highway Bridge Program funding allocated from the base apportionment to Virginia and every other state is determined by each state's share of the total costs to rehabilitate or replace *all* eligible deficient bridges.

The Highway Bridge Program contains criteria that qualify bridges as being eligible for replacement or rehabilitation funds. A bridge that is classified as either structurally deficient or functionally obsolete and has a sufficiency rating of less than 50.0 is eligible for replacement funds, while a bridge that is classified as either structurally deficient or functionally obsolete and has a sufficiency rating of between 50.0 and 80.0 is eligible for rehabilitation funds. Bridges that have been constructed or had a major rehabilitation within the last ten years cannot be classified as structurally deficient or functionally obsolete and as such are not eligible for Highway Bridge Program funds.

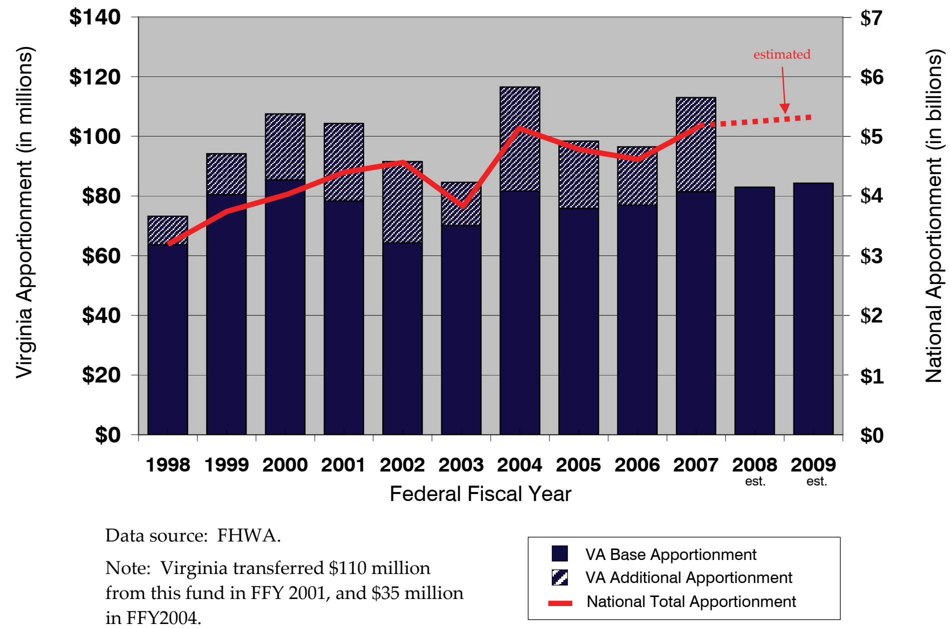
Each eligible bridge throughout the state is divided into one of four groups based on whether it is eligible for replacement or rehabilitation and whether the bridge is on a federal-aid route (which generally includes all roadways that are not classified as local or rural minor collector roadways) or is not on a federal-aid route.

The total deck area (defined as the structure length multiplied by the deck width) of all bridges in the state within each of these four groups are summed together and multiplied by the state's three-year average unit cost for each group. According to FHWA, Virginia's average unit cost for each group in the three-year period of FFY 2005 – 2007 was:

- Federal-aid route eligible for replacement - $132 per ft^2
- Federal-aid route eligible for rehabilitation - $90 per ft^2 (68% of replacement rate)
- Non-federal-aid route eligible for replacement - $143 per ft^2
- Non-federal-aid route eligible for rehabilitation - $97 per ft^2 (68% of replacement rate)

These four groups are then combined to produce a total statewide cost that would be needed to rehabilitate or replace all deficient bridges. In FFY 2007, the total cost to rehabilitate or replace all eligible deficient bridges in Virginia based on this formula was $992 million, although for a variety of reasons this number is much lower than what the actual cost to reconstruct or rehabilitate all deficient bridges throughout the state would be. The total cost to rehabilitate or replace all eligible deficient bridges in all 50 states and the District of Columbia was $51.7 billion in FFY 2007. The percentage of the Highway Bridge Program base apportionment that Virginia received was based on this ratio. With the total national Highway Bridge Program base apportionment totaling $4.1 billion in Federal Fiscal Year 2007, Virginia received 1.96% of that total, or $81.4 million.

FIGURE 9 – Highway Bridge Program Nationwide and Virginia Apportionments, Federal FY 1998 - 2009



Data source: FHWA.

Note: Virginia transferred $110 million from this fund in FFY 2001, and $35 million in FFY2004.

In addition, Virginia received another $31.5 million from the Highway Bridge Program via Equity Bonus and RABA distributions. Combined, Virginia received a total of $112.9 million from the Highway Bridge Program in FFY 2007. This was 16th highest distribution among the 50 states and District of Columbia. **Figure 9** shows the amount of Highway Bridge Program apportionments allocated to the Commonwealth of Virginia between FFY 1998 and 2009.

The decision on how federal bridge funds are spent is left up to each state, although there is a requirement that at least 15% of the Highway Bridge Program apportionments must be spent for bridges that do not carry federal-aid routes. Under the Highway Bridge Program, up to 80 percent of the cost for each bridge project can be funded from Highway

Bridge Program allocations, while the state must provide the remaining 20 percent as matching funds. On the Interstate system, the Highway Bridge Program funds up to 90 percent of each bridge project.

Some states spend all of their Highway Bridge Program funds on bridge inspections, maintenance, and replacement, while other states transfer some of the funds to traditional highway construction projects. Between FFY 1998 and 2006 27 states, including Virginia, transferred money from their Highway Bridge Program apportionments to non-bridge projects. In Virginia, $110 million was transferred in FFY 2001 and $35 million was transferred in FFY 2004. This money transfer occurred because specific bridge projects that the federal bridge funds were allocated to were not ready to progress before the availability of the federal funds expired. Other state and federal money sources were used to continue those specific bridge projects and no bridge projects were impacted by this money transfer.

In Virginia, Highway Bridge Program funds are currently distributed through the regular system formula the same way other roadway projects are. However in 2004 the Virginia General Assembly mandated that Highway Bridge Program funds be allocated based on sufficiency and deficiency ratings, assuring that federal funds are spent on the bridges in most need of being replaced. To meet this mandate, starting in Fiscal Year 2010 Highway Bridge Program funds will be distributed in Virginia through the newly created Dedicated Bridge Fund. Deficient bridges will be scored and prioritized using a methodology that takes into account a multitude of factors as shown in **Table 13**. Those deficient bridges with the highest number of points will have the highest priority for Dedicated Bridge Fund allocations.

TABLE 13 – Priority System for Dedicated Bridge Fund Allocations in Virginia

TRAFFIC VOLUMES	
ADT	POINTS
0 - 200	0.25
201 - 1000	0.5
1001 - 6500	0.75
> 6500	1.0
TRUCK PERCENTAGES	
DAILY TRUCK %	POINTS
0 - 5%	0.25
6 - 10%	0.5
11% - 15%	0.75
> 15%	1.0
DETOUR	
DETOUR LENGTH	POINTS
0 - 5 miles	0.25
6 - 10 miles	0.5
11 - 15 miles	0.75
> 15 miles	1.0
BRIDGE AGE	
YEAR BUILT	POINTS
1970 - 1980	0.25
1960 - 1969	0.5
1950 - 1959	0.75
< 1950	1.0
WEIGHT RESTRICTIONS	
RESTRICTIONS	POINTS
Bridge Open, posting recommended	0.25
Bridge Open, posting would be in place except for temporary shoring	0.5
Bridge Posted	0.75
Bridge Closed	1.0

SUFFICIENCY RATING	
SUFFICIENCY RATING	POINTS
40.0 - 49.9%	0.25
30.0 - 39.9%	0.5
20.0 - 29.9%	0.75
< 20.0%	1.0
GENERAL CONDITION RATINGS	
LOWEST CONDITION RATING	POINTS
7 - 9	0.25
5 - 6	0.5
4	0.75
< 4	1.0
STRUCTURALLY DEFICIENT	
STRUCTURALLY DEFICIENT	POINTS
YES	1.0
FRACTURE CRITICAL	
FRACTURE CRITICAL	POINTS
YES	1.0
SCOUR CRITICAL	
SCOUR CRITICAL	POINTS
YES	1.0
BRIDGE WIDTH	
SUBSTANDARD WIDTH	POINTS
YES	1.0

Source: VDOT.

To be eligible for funding from the Dedicated Bridge Fund, bridges must qualify for Highway Bridge Program replacement funds, meaning they must be classified as structurally deficient or functionally obsolete and also have a sufficiency rating of less than 50.0. Bridges that only qualify for federal rehabilitation funds will not be eligible for funding from the Dedicated Bridge Fund. Bridges also can not be part of Interstate system, and the estimated project cost must be less than $20 million, meaning large bridge projects will not qualify for Dedicated Bridge Program allocations.

Dedicated Bridge Fund money will be allocated on a district by district basis, meaning bridges will only be ranked within each VDOT district, not on a statewide basis. Each VDOT district will receive an amount of the total statewide Dedicated Bridge Fund allocations based on the total deck area of all deficient bridges within each district. Since Highway Bridge Program funds are involved, 15% of all Dedicated Bridge Fund allocations will go to bridges that are not part of the Federal-aid roadway system.

Table 14 shows the Dedicated Bridge Fund priority list for the Hampton Roads VDOT District. Of these bridges, funds are included in the FY 2009-14 Six-Year Improvement Program for 14 of the Top 15 on the Federal-aid system list and the Top 6 on the non Federal-aid system list.

Also within the federal Highway Bridge Program is a set-aside for designated projects, formerly known as the Discretionary Bridge Program (DBP). In SAFETEA-LU $100 million is set aside annually from the Highway Bridge Program for designated projects. However, none of these designated projects are located in Virginia.

Another source of federal funds used to pay for bridges and other infrastructure is Congressional earmarks. SAFETEA-LU legislation contains over 5,000 such earmarks totaling $24 billion in dedicated funds. New and proposed bridges in Hampton Roads with earmarks included in SAFETEA-LU legislation include the Steel Bridge, the new interchange at the APM Terminal, a new interchange on I-64 at the Virginia Beach/Chesapeake city line, interchange improvements on I-264 in Virginia Beach, and the Third Crossing project.

There are many additional federal funding sources that can be used for bridge projects, including National Highway System funds, Surface Transportation Program funds, Interstate Maintenance Program funds, Historic Covered Bridge Preservation Funds, etc.

TABLE 14 – Dedicated Bridge Fund Priority List Hampton Roads VDOT District

Bridges on the Federal-Aid Highway System (Top 20)

#	FEDERAL BRIDGE ID	JURISDICTION	FACILITY
1	9057	GREENSVILLE	ROUTE 301 over CSX R/R
2	17751	ISLE OF WIGHT	CAMP PKWY over BLACKWATER RIVER
3	21879	CHESAPEAKE	22nd STREET over SEABOARD AVE/NS R/R
4	18282	SUSSEX	ROUTE 301 over NOTTOWAY RIVER
5	21834	CHESAPEAKE	GW HWY OVER DEEP CREEK (LONG BRIDGE)
6	17724	SOUTHAMPTON	ROUTE 35 OVER NOTTOWAY RIVER
7	10365	ISLE OF WIGHT	CARRSVILLE HWY OVER ROUTE 632/CSX R/R
8	21217	PORTSMOUTH	VICTORY BLVD OVER PARADISE CREEK
9	20679	NEWPORT NEWS	WARWICK BLVD OVER LAKE MAURY
10	22159	SUFFOLK	TURLINGTON RD OVER BR. KILBY CREEK
11	17757	SOUTHAMPTON	THREE CREEK RD OVER THREE CREEK
12	21811	CHESAPEAKE	BELLS MILL RD OVER BELLS MILL CREEK
13	10383	ISLE OF WIGHT	LONGVIEW DR OVER PAGAN CREEK
14	10402	ISLE OF WIGHT	MILL SWAMP RD OVER PASSENGER SWAMP
15	21827	CHESAPEAKE	MILITARY HWY OVER BAINBRIDGE BLVD/NS R/R
16	22091	SUFFOLK	NANSEMOND PKWY OVER BEAMONS MILL POND
17	21797	CHESAPEAKE	CENTERVILLE TPKE OVER CHES. & ALBE. CANAL
18	10443	ISLE OF WIGHT	JAMESTOWN LN OVER CSX R/R
19	10476	JAMES CITY	JAMESTOWN RD OVER POWHATAN CREEK
20	21825	CHESAPEAKE	BLACKWATER RD OVER POCATY CREEK

Bridges not on the Federal-Aid Highway System (Top 10)

#	FEDERAL BRIDGE ID	JURISDICTION	FACILITY
1	20294	HAMPTON	BRIDGE ST over SALTERS CREEK
2	10415	ISLE OF WIGHT	ORBIT RD over GREAT SWAMP BRANCH
3	20659	NEWPORT NEWS	WASHINGTON AVE over NNS R/R
4	10438	ISLE OF WIGHT	STALLING CREEK RD over STALLINGS CREEK
5	17849	SOUTHAMPTON	VICKS MILLPOND RD over FLAT SWAMP
6	17813	SOUTHAMPTON	TUCKER SWAMP RD over NS R/R
7	17768	SOUTHAMPTON	MILL NECK RD over RACOON SWAMP
8	10427	ISLE OF WIGHT	GARRISON RD over BURNT MILL SWAMP
9	21801	CHESAPEAKE	SAINT BRIDES RD over LEAD DITCH
10	22122	SUFFOLK	HARVEST DR over KINGSALE SWAMP

Source: VDOT. Current as of May 2008.

State Bridge Funding

Most of the federal roadway and bridge funding sources require matching funds from the state. For example, the Highway Bridge Program pays for 80% of the cost of each bridge project, with the state required to provide the remaining 20% of the project's cost. These matching state funds primarily come from statewide construction funds. Other federal funding sources such as the National Highway System and Surface Transportation Program also require a 20% match for each project from the state.

In addition to these matching funds allocated to specific projects, funds are annually allocated to cities and eligible towns for street and bridge maintenance, construction, and reconstruction via the Urban Program. The Urban Program has two distinct components: the Urban Maintenance Program and Urban Construction Program.

Urban Maintenance Program funds can be used for any eligible roadway maintenance activity, which includes activities such as repaving roadways, repairing sidewalks, replacing signs and signals, mowing medians, etc. In terms of bridges, Urban Maintenance Program funds can be used to repair the substructure or superstructure of the bridge, repair culverts and pipes, waterproof bridge decks, and pay for the operational expenses of drawbridges. Urban Maintenance Program funds can also be used for bridge inspections, since cities in the state of Virginia are responsible for inspecting bridges that they own and maintain.

Urban Maintenance Program funds are allocated to each city or town based on the number of lane-miles of roadway by functional classification each locality maintains. In Fiscal Year 2008 cities and eligible towns received $16,088 for each lane-mile of principal and minor arterials, and $9,445 for each lane-mile of collectors and locals. The ten cities in Hampton Roads and the Town of Smithfield combined to receive $138 million from the Urban Maintenance Program in FY 2008.

The Urban Maintenance Program formula does not directly provide funding based on the number or condition of bridges in each city. Cities with a high number of bridges are not compensated more from the Urban Maintenance Program than those with fewer bridges, with one exception. The City of Chesapeake receives an additional $1 million each year from this fund for bridge maintenance, due to its high number of city owned and maintained movable bridges. This, however, does not cover the $2.2 million that Chesapeake budgeted in FY 2008 to cover bridge and structure operations.

Urban Construction Program funds can be used for new transportation projects within cities and eligible towns. A total of 30% of the combined federal and state funds available for systems construction are apportioned via the Urban Construction Program. Those Urban Construction Program funds are then allocated to cities and eligible towns based on each locality's population. For most projects funded from the Urban Construction Program, localities must provide 2% of the total project cost.

The ten cities in Hampton Roads and the town of Smithfield received $58 million from the Urban Construction Program in FY 2008. Not only is this funding down from previous years, it is expected to decrease further in future years as maintenance funding continues to consume a higher percentage of the total amount of funding available. In FY 2009, Hampton Roads is only expected to receive about $40 million from the Urban Construction Program.

Similar to the Urban Program funds, counties receive some additional funding through the Six Year Secondary Roads Program (SSYP). Each county has considerable control on how these funds are allocated and prioritized. In FY 2008 Hampton Roads counties were allocated $5.3 million from this program, none of which was directly allocated to bridges.

Regional and Local Bridge Funding

In addition to state and federal funding sources, roadway and bridge funding is also available on the regional level via the Regional Surface Transportation Program (RSTP). Although RSTP funds are provided by federal and state sources, they are allocated by each region's Metropolitan Planning Organization (MPO), which in Hampton Roads includes representatives from cities, counties and transportation agencies throughout the region. Many bridge projects in Hampton Roads have received RSTP funds, including the Great Bridge Bridge, Rescue Road Bridge in Isle of Wight County, and the Pinners Point Interchange. Future bridge projects in Hampton Roads that currently have RSTP funds allocated to them include the Gilmerton Bridge, the Long Bridge in Chesapeake, and Middle Ground Boulevard.

Each city also provides some of their own funds for bridge construction and maintenance. In some cases local funds are required as matching funds for certain projects, such as those using Urban Construction Program funds. In addition some cities include bridge projects in their Capital Improvement Plans/Programs (CIPs) that may not get funded otherwise. Bridge projects included in CIPs are discussed further in the Bridge Projects section of this report.

Tolls

In some cases tolls are collected to cover roadway and bridge construction and maintenance costs. In Hampton Roads, toll facilities include the Coleman Bridge, Chesapeake Bay Bridge-Tunnel, Jordan Bridge, and the southern portion of the Chesapeake Expressway. In

PICTURE 5 – The Coleman Bridge was rebuilt in 1995 with bonds that are repaid by toll collections.

addition some facilities throughout Hampton Roads were constructed with bonds that were repaid by toll revenue, and tolls were eventually removed. These facilities include the Hampton Roads Bridge-Tunnel, Midtown Tunnel, Downtown Tunnel, and I-264 in Virginia Beach.

With roadway construction funds becoming more limited each year, tolls are being discussed as a means of improving facilities throughout Hampton Roads. Some of these facilities include the Hampton Roads Crossings, the Midtown Tunnel, and Route 460 between Petersburg and Suffolk.

Bridge Projects

A number of bridge construction and rehabilitation projects, both large and small, have been completed in Hampton Roads in recent years. Since 2003, 44 bridges throughout Hampton Roads have been built, replaced, or rehabilitated. Of these 44 bridges (shown in **Table 15**), 24 are new bridges, 15 are replacements of existing bridges, and 5 are rehabilitations of existing bridges. Many of the new bridges were constructed as part of two of the largest road construction projects ever in Hampton Roads: The Pinners Point Interchange and the I-64/Mercury Boulevard Interchange projects. Combined these two projects involve 12 of these new bridges.

In addition, a number of bridges throughout the region are currently under construction. These include the Route 5 bridge over the Chickahominy River (also known as the Dresser Bridge), the Battlefield Boulevard bridge over I-64, the Brambleton Avenue bridge at the Hague, and the George Washington Highway bridge over Yadkins Road and the Norfolk Southern Railroad.

With 361 bridges in need of repair or rehabilitation in Hampton Roads according to VDOT, a number of bridge projects are planned throughout the region in future years. Most programmed bridge projects are included in the VDOT Six-Year Improvement Program (SYIP). The SYIP, which is updated annually, allocates funds for transportation projects proposed for construction, development, or study over a six year period.

A total of 25 bridges in Hampton Roads are included in the VDOT FY 2009-2014 SYIP (**Table 16** on page 50). All of the projects are replacements for current bridges except for one, a railroad overpass of Hampton Boulevard near Norfolk International Terminals. A total of $157 million is currently allocated to these 25 bridge projects between FY 2009-2014, on top of $188 million that was already allocated to these projects in previous years. Most of these projects (20 of the 25) have been allocated federal funding from the Highway Bridge Program and Dedicated Bridge Fund.

This level of funding, however, does not cover the estimated cost of $785 million to complete all 25 projects. Only 9 of the 25 bridges are projected to be fully funded by the end of FY 2014, and only 6 of the 25 bridges are expected to begin construction by the end of FY 2014.

TABLE 15 – Bridges Constructed or Rehabilitated in Hampton Roads since 2003

JURIS	FACILITY	CROSSING	BRIDGE IMPROVEMENT TYPE
CHES	BATTLEFIELD BLVD	INLET OF C&A CANAL	Replacement
CHES	CEDAR ROAD	LINDSEY DRAINAGE CANAL	Replacement
CHES	GREAT BRIDGE BRIDGE		Replacement
CHES	MOSES GRANDY TRAIL	NEW MILL CREEK	New bridge
CHES	ROUTE 17 RELOCATED		3 new bridges
GLO	HICKORY FORK ROAD	CARTERS CREEK	Replacement
HAM	ARMISTEAD AVENUE	NEWMARKET CREEK	Replacement
HAM	MAGRUDER BLVD	I-64	Replacement
HAM	I-64 @ MERCURY INTERCHANGE		5 New/Replacement Bridges
HAM	I-64 EB	NEWMARKET CREEK	Rehabilitation
HAM	PEMBROKE AVENUE	HAMPTON CREEK	Replacement
IW	RESCUE ROAD	JONES CREEK	2 replacement bridges
IW	ROUTE 258	TRIB BEAVERDAM SWAMP	New bridge
JCC	ROUTE 199 EB	COLLEGE CREEK	New bridge
NN	FORT EUSTIS 2ND ACCESS ROAD	WARWICK RIVER	New bridge
NN	HAMPTON ROADS CENTER PKWY	NEWMARKET CREEK	2 new bridges
NOR	TIDEWATER DRIVE	WAYNE CREEK	Rehabilitation
PORT	CLIFFORD STREET	BAINES CREEK	Replacement
PORT	LONDON BLVD	MLK FREEWAY	Rehabilitation
PORT	LONDON BLVD	VIRGINIA AVE AND R/R	Rehabilitation
PORT	MLK FREEWAY	CLEVELAND STREET & CSX R/R	Replacement
PORT	PINNERS POINT INTERCHANGE		8 new bridges
PORT	ROUTE 164	APM BLVD	2 new bridges
SUF	WILROY ROAD	BURNETTS MILL CREEK	Replacement
SUF	WILROY ROAD	MAGNOLIA CREEK	Replacement
SUR	ALLIANCE ROAD	COLLEGE RUN	Rehabilitation
SUR	MLK HWY	BLACKWATER RIVER	Replacement
VB	DAM NECK ROAD	CANAL 4	New bridge

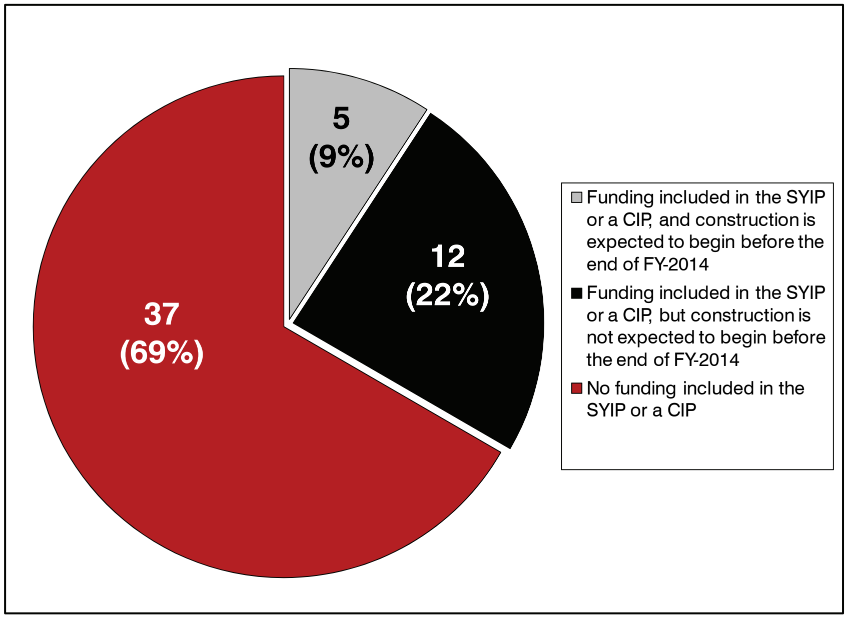
Source: VDOT.

In addition to the 25 bridge projects included in the SYIP, 13 roadway projects are also included in the SYIP that will likely involve rehabbing or replacing bridges or constructing new ones (**Table 18** on page 51). Over 30 bridges are included in these 13 roadway projects. However, only 5 of the 13 projects are currently projected to be fully funded by the end of FY 2014.

Another 11 bridges are included in city Capital Improvement Plans/Programs (CIPs). These bridges, shown in **Table 17** on page 50, range from constructing a new access road to the northern portion of Fort Monroe to rehabilitating the Gilmerton and Churchland Bridges.

In spite of all these bridge projects, a large number of deficient bridges throughout the region currently have no funding in place for rehabilitation or reconstruction. Of the 54 bridges in Hampton Roads classified as structurally deficient, less than one-third (17) have funding included in either the SYIP or in a CIP, and only 5 of those 17 are expected to begin construction before the end of FY 2014 (**Figure 10**). Of the 284 bridges in Hampton Roads classified as functionally obsolete, only 13 have funding included in either the SYIP or in a CIP.

FIGURE 10 – Funding Availability and Construction Timelines for Structurally Deficient Bridges in Hampton Roads



Source: VDOT.

TABLE 16 – Bridge Projects in Hampton Roads Included in the FY 2009-2014 Six-Year Improvement Program (SYIP)

Federal Bridge #	Juris	Facility	Type	Year Built	Suff. Rating	SD/FO	Const Start	Const End	VDOT Six Year Improvement Program FY 09-14: UPC Code	Estimated Project Cost ($000s)	Previous Allocations ($000)	FY-09 Allocations ($000)	FY 10-14 Allocations ($000)	Allocations Required After FY-14 ($000)	Fed Bridge Funds Included	Notes
21879	CHES	22nd Street over Seaboard Ave and R/R	Replacement	1938	2.0	SD	-	-	85945	$14,700	-	-	$1,125	$13,575	Y	
21811	CHES	Bells Mill Rd over Bells Mill Creek	Replacement	1974	27.0	SD	FY 2015	-	T6384	$2,573	-	-	$250	$2,323	Y	
21834	CHES	Geo. Washington Hwy over Deep Creek (Long Bridge)	Replacement	1933	42.6	SD	FY 2015	-	T6380	$1,911	-	-	$313	$1,599	Y	Also UPC #83509
21829	CHES	Gilmerton Bridge	Replacement	1938	3.0	SD	FY 2009	-	1904	$154,185	$69,025	$15,306	$69,854	-	Y	
21827	CHES	Military Hwy over Bainbridge Blvd and R/R	Replacement	1948	44.9	SD	FY 2016	-	T6387	$2,205	-	-	$156	$2,049	Y	
21875	CHES	Steel Bridge	Replacement	1962	49.8	-	FY 2012	-	56187	$373,618	$20,184	$3,244	$12,262	$337,929	-	PE only in SYIP.
10588	GLO	Adner Rd (Rte 14) over Porpotank Creek	Replacement	1938	62.0	FO	FY 2014	-	76516	$1,018	-	-	$1,018	-	-	
20294	HAM	Bridge St over Salters Creek	Replacement	1934	25.6	SD	FY 2015	-	T6388	$1,875	-	-	$1,874	-	Y	
17751	IW/FR	Camp Pkwy (Bus Rte 58/258) over Blackwater River	Replacement	1932	35.2	SD	FY 2009	-	17142	$6,999	$5,852	$647	$500	-	-	
10383	IW	Longview Dr (Rte 602) over Pagan Creek	Replacement	1945	31.8	SD	FY 2016	-	T6385	$1,952	-	-	$250	$1,702	Y	
10402	IW	Mill Swamp Rd (Rte 621) over Passenger Swamp	Replacement	1945	49.8	-	FY 2016	-	T6386	$412	-	-	$147	$265	Y	
10415	IW	Orbit Rd (Rte 637) over Great Swamp Branch	Replacement	1945	36.6	SD	FY 2015	-	T6389	$280	-	-	$280	-	Y	
10438	IW	Stallings Creek Dr (Rte 680) over Stallings Creek	Replacement	1952	45.7	FO	FY 2016	-	T6390	$469	-	-	$469	-	Y	
4801	JCC	John Tyler Hwy (Rte 5) over Chickahominy River	Replacement	1939	6.0	SD	ongoing	7/2010	71883	$46,811	$29,466	$10,350	$6,997	-	Y	Also UPC #67953
20679	NN	Warwick Blvd over Lake Maury	Replacement	1931	35.8	SD	-	-	85942	$2,500	-	-	$500	$2,000	Y	
20659	NN	Washington Avenue over NNS R/R	Replacement	1946	20.9	FO	-	-	85955	$1,350	-	-	$1,261	$90	Y	
-	NOR	R/R over Hampton Boulevard at NIT North Entrance	New	-	-	-	FY 2009	-	14672	$90,768	$62,421	$9,123	$19,224	-	-	
21217	PORT	Victory Blvd over Paradise Creek	Replacement	1944	43.2	-	FY 2015	-	T6381	$1,472	-	-	$250	$1,222	Y	
17724	SH	Route 35 over Nottoway River	Replacement	1929	49.5	FO	-	-	81457	$14,278	-	-	$500	$13,778	Y	
17757	SH	Three Creek Rd (Rte 308) over Three Creek	Replacement	1948	46.2	SD	FY 2016	-	T6383	$3,087	-	-	$250	$2,837	Y	
17813	SH	Tucker Swamp Rd (Rte 635) over NS R/R	Replacement	1915	37.6	FO	FY 2016	-	T6392	$350	-	-	$64	$285	Y	
17849	SH	Vicks Millpond Rd (Rte 659) over Flat Swamp	Replacement	1932	48.4	SD	FY 2016	-	T6391	$1,365	-	-	$340	$1,025	Y	
22159	SUF	Turlington Rd over Kilby Creek Branch	Replacement	1957	30.8	SD	FY 2015	-	T6382	$1,159	-	-	$250	$909	Y	
-	SUF	Kings Highway Bridge	Replacement	-	-	-	-	-	60560	$59,676	$981	-	-	$58,695	-	PE only.
18213	SUR	Loafers Oak Rd (Rte 630) over Cypress Swamp	Replacement	1932	48.3	FO	-	-	85947	$469	-	-	$469	-	Y	

Source: VDOT.

TABLE 17 – Bridge Projects in Hampton Roads Included in Various City's Draft FY 2009 Capital Improvement Plans/Programs (CIPs)

Federal Bridge #	Juris	Facility	Type	Year Built	Suff. Rating	SD/FO	Const Start	Const End	City Capital Improvement Plan: Estimated Project Cost ($000s)	Previous Allocations ($000)	FY-09 Allocations ($000)	FY 10-14 Allocations ($000)
21802	CHES	Beaver Dam Rd over Drainage Ditch	Replacement	1973	51.8	-	-	7/2010	$500	$500	-	-
21809	CHES	Fentress Airfield Rd over Pocaty Creek	Replacement	1973	48.6	FO	-	7/2010	$500	$500	-	-
21838	CHES	Geo. Washington Hwy over Yadkins Rd and R/R	Rehabilitation	1992	27.6	SD	ongoing	6/2008	$4,055	$4,055	-	-
21829	CHES	Gilmerton Bridge	Minor Rehab	1938	3.0	SD	-	-	$303	-	$100	$203
21806	CHES	Lake Drummond Causeway over Lead Ditch	Replacement	1982	51.9	-	-	-	$750	-	$200	$550
21801	CHES	St. Brides Rd over Lead Ditch	Replacement	1978	35.3	SD	-	12/2008	$500	$500	-	-
-	HAM	Fort Monroe Northern Access Road/Bridge	New	-	-	-	8/2008	6/2009	$2,000	$100	$1,000	-
20721	NN	Fort Eustis Blvd over CSX R/R	Replacement	1960	73.6	-	-	-	$2,700	-	-	$2,700
20720	NN	Fort Eustis Blvd over NN Reservoir	Replacement	1960	72.4	-	-	-				
20661	NN	Huntington Ave over NNS R/R	Replacement	1899	80.7	FO	-	-	$1,200	-	-	$1,200
21199	PORT	High Street over W Br. Elizabeth River (Churchland Br.)	Rehab/Replacement	1951	30.2	SD	-	-	N/A	-	$500	$19,500

Source: City Capital Improvement Plans/Programs.

TABLE 18 – Roadway Projects in Hampton Roads Included in the FY 2009-2014 Six-Year Improvement Program (SYIP) That Would Likely Include Bridge Improvements

			Bridges Affected							VDOT Six Year Improvement Program FY 09-14						
Juris	Facility	Type	Federal Bridge #	Bridge Location	Year Built	Suff. Rating	SD/FO	Const Start	Const End	UPC Code	Estimated Project Cost ($000s)	Previous Allocations ($000)	FY-09 Allocations ($000)	FY 10-14 Allocations ($000)	Allocations Required After FY-14 ($000)	Notes
CHES	I-64 at Battlefield Blvd	Replacement/New	21904	Battlefield Blvd over I-64	1967	90.0	-	3/2006	7/2009	12379	$129,932	$128,098	$1,834	-	-	
			-	2 new C/D bridges	-	-	-									
CHES	Mount Pleasant Road between Ches. Expy and Centerville Tpke	Widening	21877	Mt. Pleasant Rd over Coopers Ditch	1985	95.2	-	FY2012	-	84359	$13,560	$700	$3,600	$4,000	$5,260	
JCC/NN	Route 60 Relocation	New w/ bridge	-	New bridge over Skiffes Creek	-	-	-	FY 2011	-	13496	$57,556	$21,867	$1,469	$7,001	$27,219	Also UPC #14598
NN	I-64 between Route 143 and Jefferson Ave	Widening	20719	I-64 EB over Stoney Run	1965	82.8	-	-	-	57313	$350,948	$7,035	$1,991	$112,097	$229,824	PE & RW only
			20716	I-64 WB over Stoney Run	1965	94.9	-									
			20706	I-64 EB over Industrial Park Dr and R/R	1965	76.5	-									
			20708	I-64 WB over Industrial Park Dr and R/R	1965	77.1	-									
			20710	I-64 EB over Ft. Eustis Blvd	1965	73.3	FO									
			20712	I-64 WB over Ft. Eustis Blvd	1965	74.2	FO									
			20696	I-64 EB over Newport News Reservoir	1965	78.0	-									
			20697	I-64 WB over Newport News Reservoir	1965	77.4	-									
			20702	I-64 EB over Yorktown Rd	1965	78.3	-									
			20704	I-64 WB over Yorktown Rd	1965	78.1	-									
			20698	I-64 EB over Route 143	1965	75.1	-									
			20700	I-64 WB over Route 143	1965	75.8	-									
NN	Middle Ground Blvd	New w/ bridge	-	New bridge over CSX R/R	-	-	-	FY 2016	-	11816	$43,030	$1,694	$500	$10,284	$30,551	PE & RW only
NOR	Hampton Blvd/International Terminal Blvd Interchange	New w/ bridge	-	New interchange bridge	-	-	-	-	-	16557	-	$702	-	-	-	Partial PE only
NOR	Intermodal Connector between I-564 and NIT/Naval Base	New w/ bridges	-	Multiple new bridges	-	-	-	-	-	18968	$148,769	$14,137	$5,133	$10,696	$118,804	PE & RW only
NOR	I-64 WB/I-264 EB Interchange Improvements	Widening	20889	I-64 WB over Curlew Dr	1968	94.0	-	FY 2013	-	57048	$51,799	$17,042	$1,707	$33,050	-	
			20795	I-264 EB over Kempsville Rd	1967	80.7	FO									
SH	Route 58 Interchange at Bus Route 58 East of Courtland	New w/ bridge	-	New interchange bridge	-	-	-	FY 2012	-	17728	$22,310	$4,467	-	$15,485	$2,359	
SUF	Finney Ave Extension	New w/ bridge	-	New bridge over R/R	-	-	-	FY 2014	-	15826	$16,274	$1,713	$2,454	-	$12,107	PE & RW only
VB	I-264 between I-64 ramp and Witchduck Rd	Widening	20797	I-264 over Newtown Rd	1967	75.0	FO	FY 2013	-	17630	$174,042	$25,074	$14,948	$134,021	-	
			22249	I-264 over Trib. E. Branch Elizabeth River	1967	70.0	-									
			22219	I-264 over R/R	1967	85.0	-									
			22220	I-264 over Witchduck Rd	1967	85.0	-									
			-	Possible new bridge over I-264	-	-	-									
VB	Lynnhaven Pkwy between S. Lynnhaven Rd and Holland Rd	Widening	22188	Lynnhaven Pkwy over Drainage Canal	1981	78.4	-	underway	5/2011	12549	$46,461	$44,186	$2,275	-	-	
			22207	Lynnhaven Pkwy over Drainage Canal	1980	70.0	-									
YC	Route 17 between Denbigh Blvd and Oriana Rd	Widening	19818	Route 17 SB over Poquoson River	1924	62.9	FO	FY 2011	-	60843	$56,553	$19,275	$3,000	$30,268	$4,010	
			19819	Route 17 NB over Poquoson River	1965	83.7	-									

Source: VDOT.

Previous Bridge Closures

This section examines the effects of previous bridge closures in Hampton Roads. Also included in this section is a summary of the experiences following the I-35W bridge collapse in Minnesota in regards to traffic management.

I-35W Bridge in Minnesota

On Wednesday, August 1, 2007, at 6:05 pm local time the I-35W Bridge over the Mississippi River collapsed, producing one of the largest infrastructure failures in United States history. 13 people died and 140 people were injured as a result of the bridge failure.

The I-35W bridge, which was located just northeast of Downtown Minneapolis, carried 140,000 vehicles on an average day on eight lanes. However, four lanes on the bridge were closed due to construction at the time of the collapse.

In the immediate aftermath of the bridge collapse, the following events occurred to facilitate traffic management both near the scene and throughout the region:

- 6:06 pm – Response by all levels of emergency personnel, including the Minnesota Department of Transportation (Mn/DOT) service patrol and Regional Transportation Management Center (RTMC) staff.
- 6:08 pm – RTMC staff deployed 20 changeable message signs and began continuous coverage on a public radio station that partners with Mn/DOT.
- 6:10 pm – Mn/DOT activated the Metro District Emergency Operations Center at the RTMC in a dedicated Incident Management Room.

PICTURE 6 – The I-35W Bridge after the collapse.
(Photo Source: Mn/DOT.)

- 6:20 pm – Temporary barricades (vehicles and cones/barrels) were placed on I-35W and adjacent ramps by Mn/DOT personnel and construction workers at the scene.
- 6:30 pm - Mn/DOT staff began developing temporary traffic management plans for the next morning peak travel period.
- 7:00 pm - 11:00 pm – Detour maps were developed and placed on the MnDOT website.
- Overnight – Mn/DOT installed detour signs and made improvements made to Highway 280 (see below).

To supply additional roadway capacity, improvements were made overnight to Highway 280, which provided a convenient detour for I-35W (**Figure 11** on page 53). Highway 280 is a 3-mile long, 4-lane limited-access roadway divided into two sections. The southern portion of Highway 280 is a freeway section, while the northern section is an expressway with two at-grade signalized intersections. The at-grade intersections were barricaded overnight, allowing the expressway portion of Highway 280 to operate as a freeway. Troopers and Mn/DOT service patrol vehicles were also stationed on Highway 280 to quickly respond to any incidents in that corridor.

Transit service was also increased in the aftermath of the bridge collapse. 25 extra buses were assigned to routes in the northern and eastern portions of the metropolitan area, and ridership jumped 25-50% on these routes. New park-and-ride lots were created and existing lots were expanded, and usage of these lots also increased significantly.

In addition, the City of Minneapolis accounted for traffic diverting onto city streets by modifying signal timings, restriping roadways, and removing on-street parking in places to provide additional capacity.

In the days following the collapse of the I-35W bridge peak hour traffic was lighter than normal. This was due to commuters staggering work start times, taking alternate routes, using transit, and telecommuting. However, traffic demand soon returned to normal levels, especially once the University of Minnesota resumed classes later in August. Sections of I-94 saw increases in traffic volumes of over 20%, and other roadways saw additional volumes as they carried diverted traffic from I-35W.

With additional roadway capacity needed to handle this diverted traffic, a Traffic Restoration program was initiated. Meetings were held between Mn/DOT, localities, and various agencies to brainstorm and scope possible Traffic Resportation projects. There were five guidelines for all Traffic Restoration projects:

- The project must increase capacity, improve safety, and/or manage traffic.

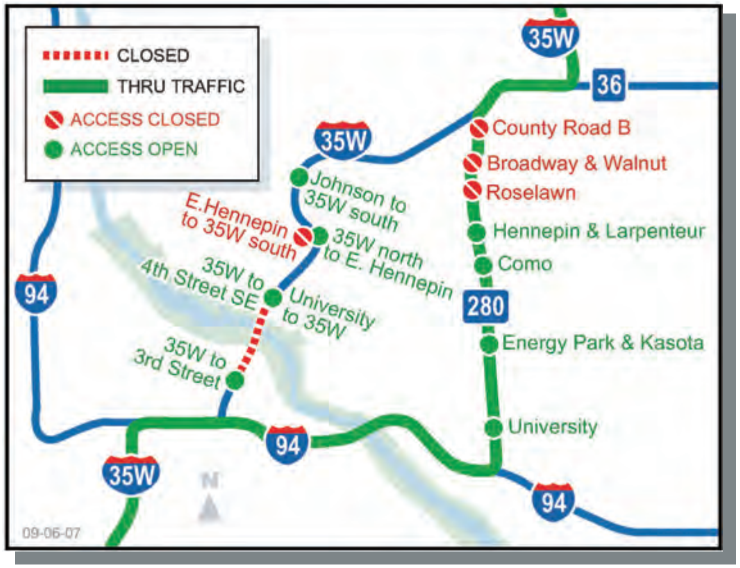


FIGURE 11 – I-35W detour map produced by Mn/DOT. Route 280 was converted to a freeway to handle the diverted traffic. (Source: Mn/DOT.)

- Construction could only occur on weekends or on weeknights – no traffic impact during peak periods was permitted.
- The project must be located within the circle of impact.
- The project must be let for construction before the end of September 2007, with most projects being completed by the end of August 2007.
- Designers had ***one week*** from project concept to construction.

In most cases, projects were scoped out on a Friday and put into signed plans over the weekend. The projects were then put out to bid on Monday and were opened and awarded on Wednesday. Construction then began Friday night and was completed by Sunday night.

In total, over 40 Traffic Restoration projects were considered and 24 projects were completed at a total cost of less than $7 million. Most of these projects were completed by the end of August, less than a month after the bridge collapse. Some of the most prominent Traffic Restoration projects (also included in **Figure 12**) include:

- Widened ramps on Highway 280 to two lanes at I-35W and I-94.
- Added 2 lanes on I-94 by converting shoulders into travel lanes.
- Added lanes to other alternate routes throughout the region.
- Installed temporary cameras, sensors, and dynamic message signs on Highway 280.
- Improved ramps on the freeway portion of Highway 280.
- Added bus-only lanes to the shoulders of selected facilities on the northern and eastern portions of the region.

With all of these changes, regional congestion only modestly increased from pre-bridge collapse levels after the Traffic Restoration projects were completed. Peak period travel times only increased by two to four minutes on I-94, in spite of carrying 50,000 additional vehicles each day.

For the most part, Mn/DOT was pleased with the response to the disaster in regards to traffic management. They were particularly pleased with the level of communication both internally and between all stakeholders. Interagency traffic management meetings were held each day immediately after the collapse, and at less frequent intervals as time passed. Mn/DOT staff also met internally three times a week to discuss the progress of the Traffic Restoration projects.

Mn/DOT was also pleased with the preparation that was in place to handle such a situation. In particular, plans and infrastructure were ready to operate during such a major incident. There was also little loss in fiberoptic communication due to redundancy, even though one of the main communication lines was lost when the bridge collapsed.

The new I-35W bridge over the Mississippi River is currently under construction and is expected to open to traffic in December 2008.

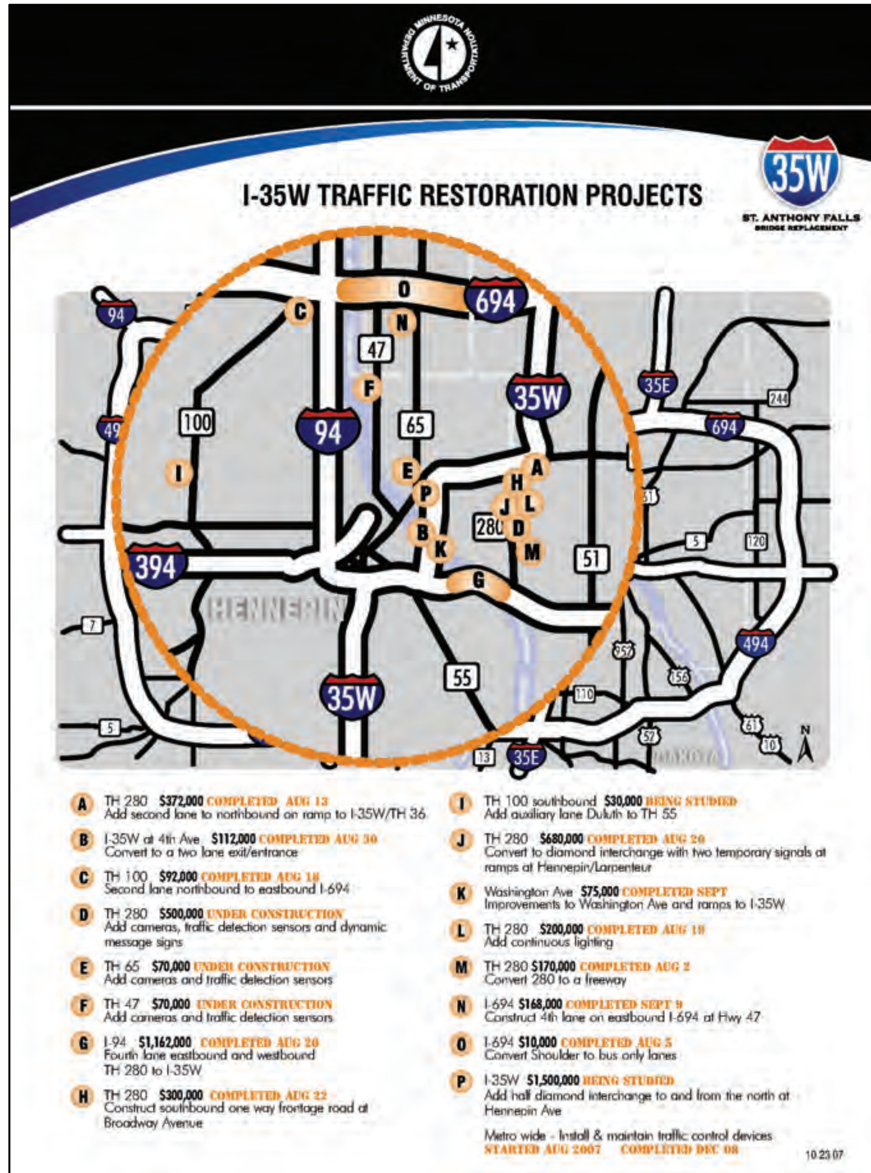
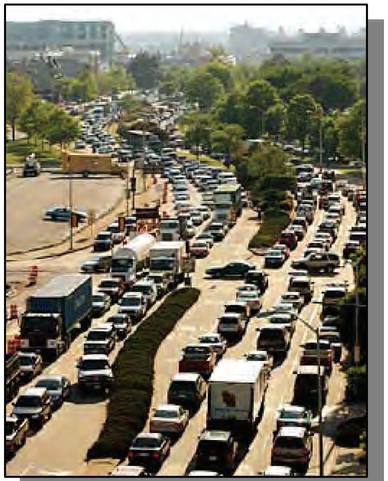


FIGURE 12 – I-35W Traffic Restoration Projects. (Source: Mn/DOT.)

Bridge Closures in Hampton Roads

Many bridges in Hampton Roads have been temporarily closed to traffic throughout the years for various reasons. Often these closures are due to incidents, routine maintenance or mechanical problems at the region's many drawbridges. Notable bridge closures include:

- The Jordan Bridge, which has been hit by barges many times during its existence. Most recently this occurred in 2004, which closed the bridge for 67 days.
- The Coleman Bridge, which was closed for 9 days when the main span was replaced in 1995.
- The Midtown Tunnel, which was closed in the aftermath of Hurricane Isabel due to flooding.
- The Kings Highway Bridge, which was permanently closed in 2005 due to the bridge falling into disrepair.



PICTURE 7 – Downtown Norfolk in 2004 during a mechanical problem at the Berkley Bridge. (Source: City of Norfolk.)

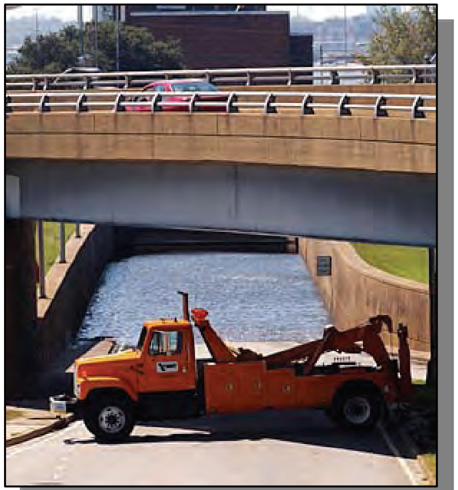
These bridge closures can cause havoc on traffic conditions, especially when they aren't anticipated. As the picture to the left shows, a mechanical problem at the Berkley Bridge can bring traffic in Downtown Norfolk to a standstill.

This section further examines the effects on traffic of two of these facility closures: The temporary closure of the Midtown Tunnel due to Hurricane Isabel and the permanent closure of the Kings Highway Bridge.

Midtown Tunnel

The Midtown Tunnel, which provides the northernmost crossing of the Elizabeth River, is a crucial transportation link between Norfolk and Portsmouth. In early September of 2003, an average of 37,600 vehicles used the Midtown Tunnel each weekday.

On Thursday, September 18th, 2003, Hurricane Isabel came ashore near Cape Hatteras, NC and soon passed over Hampton Roads. At the Midtown Tunnel, VDOT employees attempted to lower floodgates that would protect the Midtown Tunnel from the floodwaters of the Elizabeth River. However, the workers were unable to remove a steel plate in the roadway that provided the latch for the floodgates. The employees had to retreat as the floodwaters began to overtake the tunnel, and within hours the tunnel was filled with 44 million gallons of water and muck.



PICTURE 8 – The Midtown Tunnel flooded after Hurricane Isabel crossed Hampton Roads in September 2003. (Source: Hamptonroads.com)

The Midtown Tunnel was closed for 29 days, reopening in the middle of the afternoon on October 15th. During the closure over 37,000 drivers were forced to use alternate routes, many of which were already congested. Many of these were truck drivers who were financially affected by the additional travel and congestion. In order to handle some of this diverted traffic, tolls were removed from the Jordan Bridge while the Midtown Tunnel was out-of-service.

Following the closure of the Midtown Tunnel, HRPDC prepared a study[1] looking at the effects the closure had on regional traffic patterns. Data was collected from permanent count stations throughout the region for the period immediately before, during, and immediately after the Midtown Tunnel was closed.

During the closure, traffic volumes increased at the other Elizabeth River crossings as would be expected (**Figure 13**). On average, the number of additional vehicles each weekday at these crossings were:

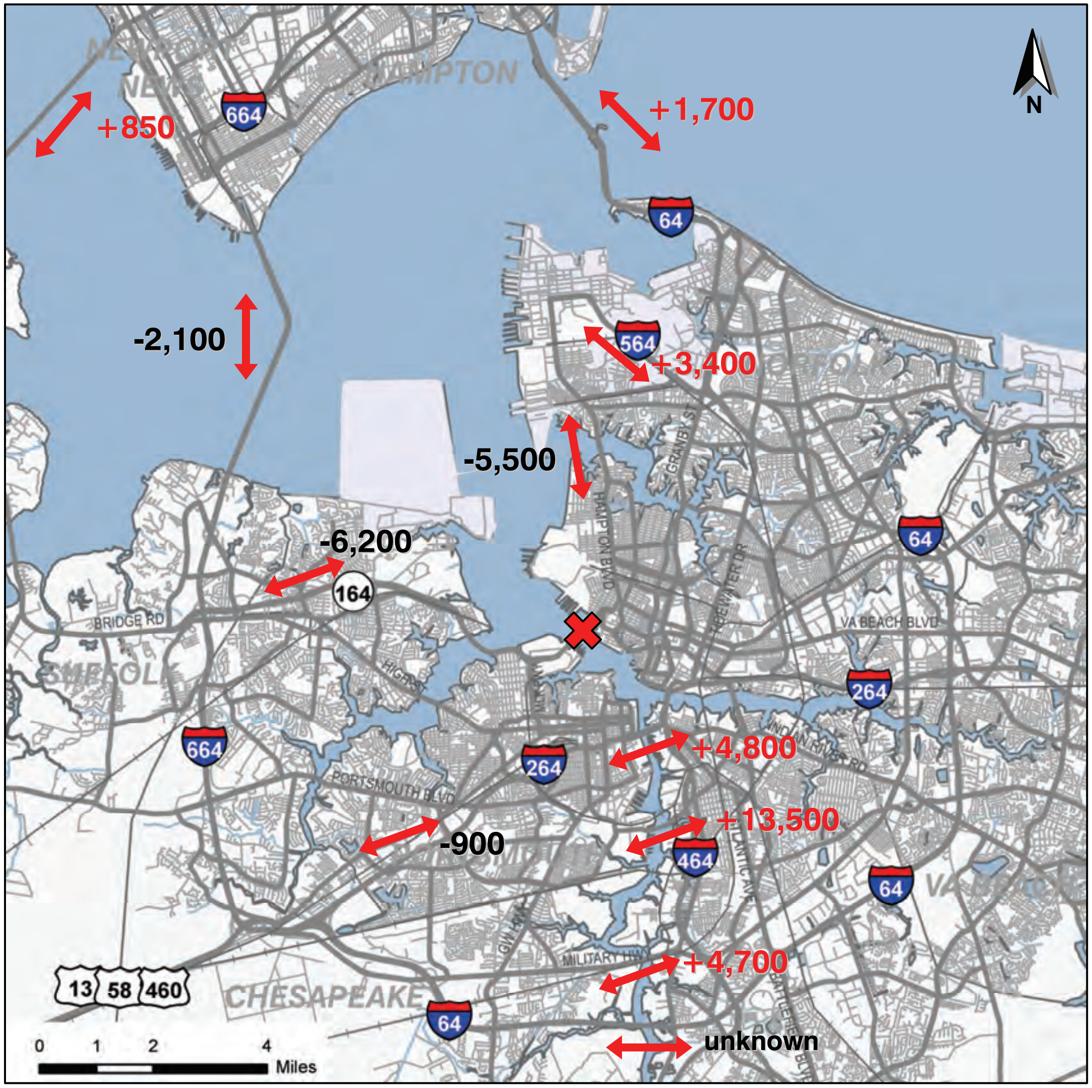
- +13,500 at the Jordan Bridge
- +4,800 at the Downtown Tunnel
- +4,700 at the Gilmerton Bridge.

It is likely that a large amount of traffic also diverted to the High Rise Bridge, although at the time there was no permanent count station located at the High Rise Bridge so data at that location is not available. According to news reports, congestion notably increased at each of these four crossings while the Midtown Tunnel was closed.

The Elizabeth River Ferry between Downtown Norfolk and Downtown Portsmouth also saw an increase in ridership, up an average of 360 people each weekday during the tunnel closure.

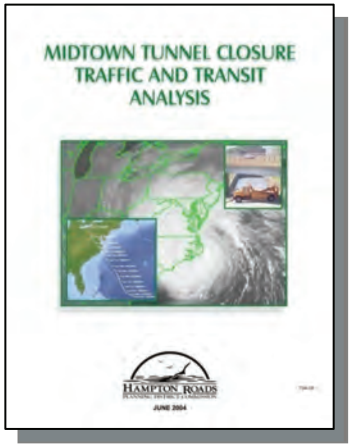
The closure of the Midtown Tunnel also affected traffic at the Hampton Roads harbor crossings. Average weekday traffic volumes at the Monitor-Merrimac

FIGURE 13 – Select Weekday Traffic Volume Changes Due to the Closure of the Midtown Tunnel After Hurricane Isabel



Source: "Midtown Tunnel Closure Traffic and Transit Analysis". Hampton Roads Planning District Commission, June 2004.

[1] "Midtown Tunnel Closure Traffic and Transit Analysis". Hampton Roads Planning District Commission, June 2004.



PICTURE 9 – HRPDC prepared a study analyzing the effect of the Midtown Tunnel closure on regional traffic patterns.

Memorial Bridge-Tunnel dropped by 2,100 vehicles, with the Hampton Roads Bridge-Tunnel carrying most of the diverted traffic.

Upon reopening, the Midtown Tunnel experienced a significant increase in traffic volume over pre-Isabel levels. About 9,000 more vehicles used the Midtown Tunnel each weekday in the two weeks following the reopening than used it previously.

After the experience with Hurricane Isabel, VDOT changed their tunnel inspection standards. Money was spent to rehabilitate the floodgates at the Hampton Roads Bridge-Tunnel, and floodgates at each of the regional tunnels are now tested annually.

Kings Highway Bridge

The Kings Highway Bridge was a bridge that crossed the Nansemond River in the City of Suffolk near the village of Chuckatuck. The bridge was constructed by a private company and opened to traffic in 1928 as an alternative to the newly constructed Nansemond and Crittenden Bridges. The bridge was purchased by VDOT in 1963 and tolls were removed at that time.

With the Kings Highway Bridge falling into disrepair over the last decade, load limits were placed on the bridge, and heavy vehicles, including emergency vehicles and school buses, were banned from using the bridge. While plans and funding were in place for a replacement bridge at one time, these funds were reallocated as the location of the replacement bridge was debated and highway funding became scarce.

Finally on March 19, 2005, the Kings Highway Bridge was closed to all traffic. With the closest Nansemond River crossings being Bridge Road 5 miles to the northeast and the Suffolk Bypass 5 miles to the south, the closure resulted in those people wishing to get from one side of the bridge to the other to have to travel an additional 16 miles. The closure also forces residents in the Chuckatuck area to travel an additional 5 miles to access the Chesapeake Square Mall area.

In 2002 the Kings Highway Bridge carried nearly 2,700 vehicles each weekday. Once the Kings Highway Bridge was closed, traffic diverted to Crittenden Road and the Suffolk Bypass. In 2005 Crittenden Road carried an additional 1,600 vehicles per day, and the Suffolk Bypass carried 10,900 more vehicles per day than in 2002 (**Figure 14** on page 58).

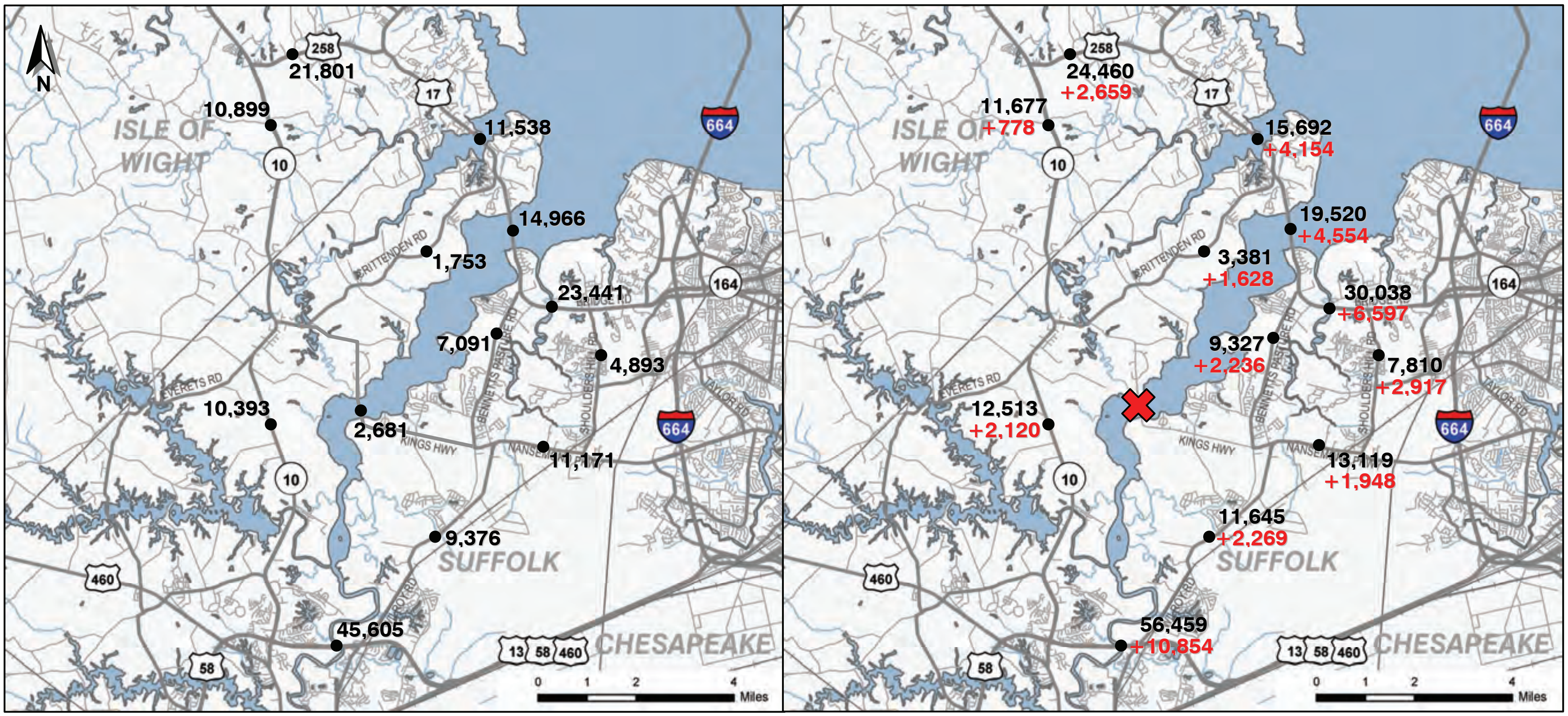
PICTURE 10 – The Kings Highway Bridge was closed to traffic in 2005 and demolished in 2008.
(Source: City of Suffolk.)

The effects of the Kings Highway Bridge closure on traffic patterns are difficult to analyze, however, due to the explosive growth that occurred in Northern Suffolk during this period. Every major roadway in the vicinity of the Kings Highway Bridge experienced a growth in traffic volumes between 2002 and 2005, with most roadways seeing annual growth rates of between 6% and 12%. Based on an analysis using the regional travel demand model (which is described further in the Major Regional Bridge Analysis section of this report), it is believed that about 40% of the Kings Highway traffic diverted to Crittenden Road, with the rest using to the Suffolk Bypass.

With rehabilitation costs being prohibitive, the Kings Highway Bridge was demolished early in 2008. Currently there is no funding in place in the Transportation Improvement Program or the Long Range Transportation Plan for construction of a replacement bridge. However, the City of Suffolk is currently considering placing future city funds and state allocations on a new Kings Highway Bridge.

FIGURE 14 - Weekday Traffic Volumes Before and After the Closure of the Kings Highway Bridge

2002 (Before Closure) **2005 (After Closure)**



Data source: VDOT.

Major Regional Bridge Analysis

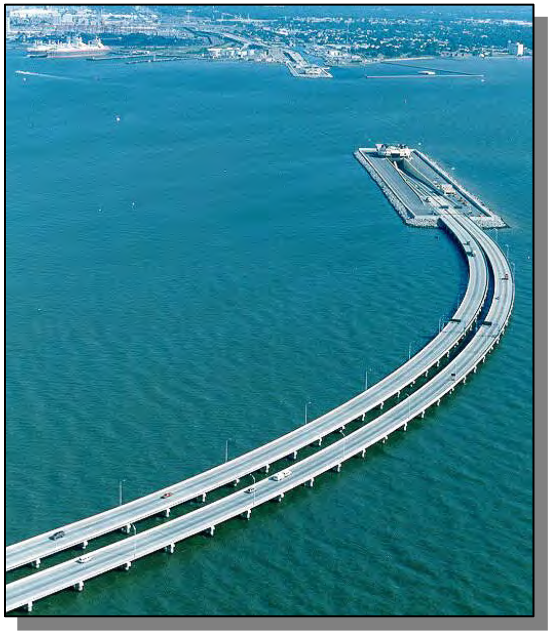
As the Midtown Tunnel and Berkley Bridge closures have proven, regional traffic can be severely impacted and even come to a standstill if a major bridge or tunnel is taken out-of-service. This is especially true in Hampton Roads, where in many cases there are few viable alternate routes available, and those alternate routes that are available are likely already congested during the peak travel periods.

The purpose of this section is to analyze what the effect would be on regional traffic patterns if a major bridge were taken out-of-service. For example, if the Downtown Tunnel were taken out-of-service, how much traffic would be expected to divert to the Midtown Tunnel, Gilmerton Bridge, High Rise Bridge, etc.

Criteria had to be established to define what constitutes a major regional bridge for this study. Many bridges are crucial to the region's transportation system, such as any bridge on the regional Interstate system. Due to the extensive amount of time required to model the effects of each bridge closure, the list of major regional bridges was limited for this analysis to those bridges that meet at least one of the following criteria:

- Cross the Hampton Roads harbor.
- Cross the Elizabeth River, including the Southern, Eastern and Western Branches and the Chesapeake & Albemarle Canal/Intracoastal Waterway.
- Have an Average Daily Traffic volume of greater than 10,000 vehicles per day **and** a detour route of longer than 15 miles.

The third criterion was established for those cases where a large amount of traffic will be affected by a long detour. Cases where each direction of traffic is carried on a separate bridge are excluded from this criterion, since the detour length will be minimal if only one of the parallel bridges goes out of service.



PICTURE 11 – The Monitor-Merrimac Memorial Bridge-Tunnel. (Source: VDOT.)

Using these criteria, 26 bridges in Hampton Roads qualify as major regional bridges for this study. These major regional bridges (also shown on **Map 13** on page 60) are:

Hampton Roads Harbor Crossings
- Hampton Roads Bridge-Tunnel
- Monitor-Merrimac Memorial Bridge-Tunnel
- James River Bridge
- Chesapeake Bay Bridge-Tunnel

Southern Branch Elizabeth River/Intracoastal Waterway
- Midtown Tunnel
- Downtown Tunnel

- Jordan Bridge (Poindexter Boulevard/Elm Avenue)
- Gilmerton Bridge (Military Hwy)
- High Rise Bridge (I-64)
- Steel Bridge (Dominion Boulevard)
- Great Bridge Bridge (Battlefield Boulevard)
- Route 168 Bridge
- Centerville Turnpike Bridge
- North Landing Bridge
- Pungo Ferry Bridge

Western Branch Elizabeth River

- West Norfolk Bridge (Route 164)
- Churchland Bridge (High Street)
- Hodges Ferry Bridge (Portsmouth Boulevard)

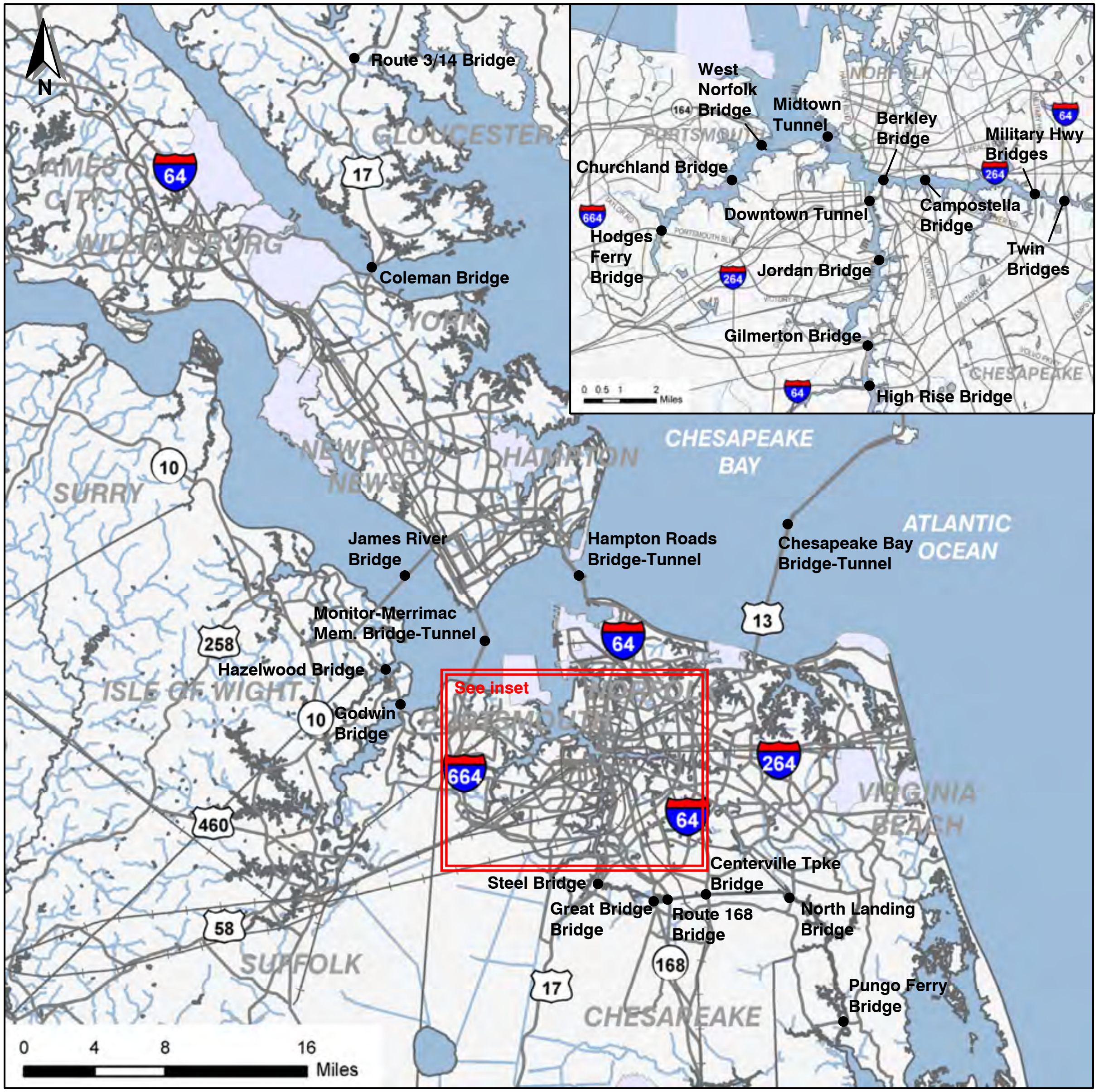
Eastern Branch Elizabeth River

- Berkley Bridge
- Campostella Bridge
- Military Highway Bridges
- Twin Bridges (I-64)

Facilities with high traffic/long detours

- Coleman Bridge
- Route 3/14 over Beaverdam Swamp
- Godwin Bridge (Route 17 over Nansemond River)
- Hazelwood Bridge (Route 17 over Chuckatuck Creek)

MAP 13 – Major Regional Bridges Analyzed in This Study



Prepared by: Hampton Roads MPO.

TABLE 19 – Expected Congestion Levels Resulting from the Closure of Major Regional Bridges

Widespread Congestion	Increased Congestion	Little to No Effect on Congestion	Unknown
Hampton Roads Bridge-Tunnel	James River Bridge	North Landing Bridge	Chesapeake Bay Bridge-Tunnel
Monitor-Merrimac Mem. Bridge-Tunnel	Jordan Bridge	Pungo Ferry Bridge	Coleman Bridge
Midtown Tunnel	Great Bridge Bridge	Hazelwood Bridge	Route 3/14 Bridge
Downtown Tunnel	Centerville Turnpike Bridge		
Berkley Bridge	Churchland Bridge		
Gilmerton Bridge	Campostella Bridge		
High Rise Bridge	Military Highway Bridges		
Steel Bridge	Godwin Bridge		
Route 168 Bridge			
West Norfolk Bridge			
Hodges Ferry Bridge			
Twin Bridges			

Prepared by: Hampton Roads MPO.

For each of these 26 facilities, an analysis was performed to determine what effect the closure of that bridge would have on regional traffic patterns. This analysis was done using the existing (2000) regional travel demand model, which uses socioeconomic data and current traffic volumes to produce projected travel patterns. For each bridge, the travel demand model produced the expected change in traffic volumes for major roadways in the network due to the closure. Using these diverted traffic volumes, projected afternoon peak hour levels-of-service were calculated using software from the Florida Department of Transportation that bases its calculations on Highway Capacity Manual methods. These projected levels-of-service were compared to the current afternoon peak hour levels-of-service included in the most recent Congestion Management System report[2].

Pages 63-88 include the bridge closure analysis for all 26 facilities. Also included for each bridge are facility ratings, characteristics, facts and a brief history.

Based on this analysis, **Table 19** shows the anticipated effect that the closure of each of the 26 major regional bridges would have on regional congestion levels. Each facility was placed in one of four congestion categories:

- **Widespread congestion**. Widespread congestion means that many roadways would be expected to become congested due to the bridge closure, and many already-congested roadways would be expected to carry additional traffic volumes. Closure of twelve of the major regional bridges would be expected to lead to widespread congestion.
- **Increased congestion**. Increased congestion means that one or two alternate roadways would be expected to become congested due to the bridge closure, or one or two already-congested roadways would be expected to carry significantly more traffic. Closure of eight of the major regional bridges would be expected to lead to increased congestion.
- **Little to no effect on congestion**. These bridges are more rural in nature and carry lower volumes than the other major regional bridges, and as such their closings would not be expected to lead to congestion on alternate routes. Closure of three of the major regional bridges would be expected to have little to no effect on congestion.
- **Unknown**. These three bridges could not be analyzed with the regional travel demand model due to a lack of detour routes within the regional model network.

[2] "Congestion Management System for Hampton Roads, Part 2". Hampton Roads Planning District Commission, April 2005.

Not surprisingly, closure of any of the four urban tunnels or any of the major regional Interstate and freeway bridges would be expected to lead to widespread congestion.

TABLE 20 – Major Regional Bridges in Hampton Roads with Deficiencies

Structurally Deficient	In Need of Repair or Rehabilitation	Sufficiency Rating < 50
Churchland Bridge	Berkley Bridge	Centerville Turnpike Bridge
Gilmerton Bridge	Centerville Turnpike Bridge	Churchland Bridge
Jordan Bridge	Churchland Bridge	Gilmerton Bridge
North Landing Bridge	Coleman Bridge	Jordan Bridge
	Gilmerton Bridge	North Landing Bridge
	Godwin Bridge	Steel Bridge
	Hampton Roads Bridge-Tunnel (2 bridges)	
	Hazelwood Bridge	
Functionally Obsolete	High Rise Bridge	
Centerville Turnpike Bridge	Hodges Ferry Bridge	
Chesapeake Bay Bridge-Tunnel (6 bridges)	James River Bridge	
Twin Bridges	Jordan Bridge	
	North Landing Bridge	
	Route 168 Bridge	
	Steel Bridge	
	West Norfolk Bridge	

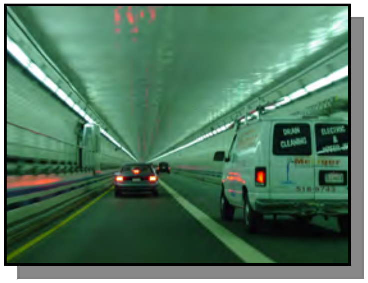
Data sources: VDOT, FHWA. Data is up-to-date as of August 2007.

Table 20 shows major regional bridges in Hampton Roads with deficiencies. These deficiencies include those bridges that are classified as structurally deficient, functionally obsolete, in need of repair or rehabilitation, and those with a sufficiency rating of less than 50. Four of the major regional bridges are structurally deficient: The Churchland Bridge, Gilmerton Bridge, Jordan Bridge, and North Landing Bridge. Another three bridges (the Centerville Turnpike Bridge, portions of the Chesapeake Bay Bridge-Tunnel, and the Twin Bridges) are functionally obsolete, and more than half (16) of the major regional bridges are in need of repair or rehabilitation according to VDOT's guidelines. Six of the major regional bridges have a sufficiency rating of less than 50, meaning they qualify for federal Highway Bridge Program reconstruction funds.

In addition to the major regional bridges analyzed in this section, there are other critical bridges throughout the region with deficiencies. One such bridge is Denbigh Boulevard over I-64 in Newport News. It is the only bridge on the regional Interstate system classified as structurally deficient. This bridge is also the only bridge on the regional Interstate system to have a sufficiency rating of less than 50. Another 98 bridges on the regional Interstate system are functionally obsolete, and 100 are in need of repair or rehabilitation.

The Lesner Bridge in Virginia Beach is also a critical facility with deficiencies. The Lesner Bridge would have qualified as a major regional bridge for this study had each direction of traffic been carried on a single structure rather than on separate parallel structures. As such, the detour length is listed as 1 mile instead of the 20 mile detour that would occur if both structures were taken out-of-service. Both structures of the Lesner Bridge are classified as structurally deficient, in need of repair or rehabilitation, and have a sufficiency rating of less than 50.

Hampton Roads Bridge-Tunnel



4 2-lane Prestressed Concrete Girder Bridges with 2 2-lane Tunnels
Average Traffic Volumes (2007):
90,000 (Daily), 94,000 (Weekday)
Existing PM LOS = F (EB), F (WB)

Deficiencies:

- ► **Some Bridges Need Repair (VDOT)**

FACILITY RATINGS AND CHARACTERISTICS

Sufficiency Ratings = 83.0 – 95.0

Deck Condition = 6 - 7	Structural Evaluation = 5 - 6
Superstructure Condition = 5 - 6	Waterway Adequacy = 6 - 8
Substructure Condition = 5 - 6	Deck Geometry = 7 - 9
App. Roadway Alignment = 7 - 8	Underclearances = N
Weight Limit = N/A	Detour Length = 36 miles
Bridge Mean Height = 14'0"	Vertical Clearance = 14'6"(EB), 13'6"(WB)
Pedestrian Facilities = No	

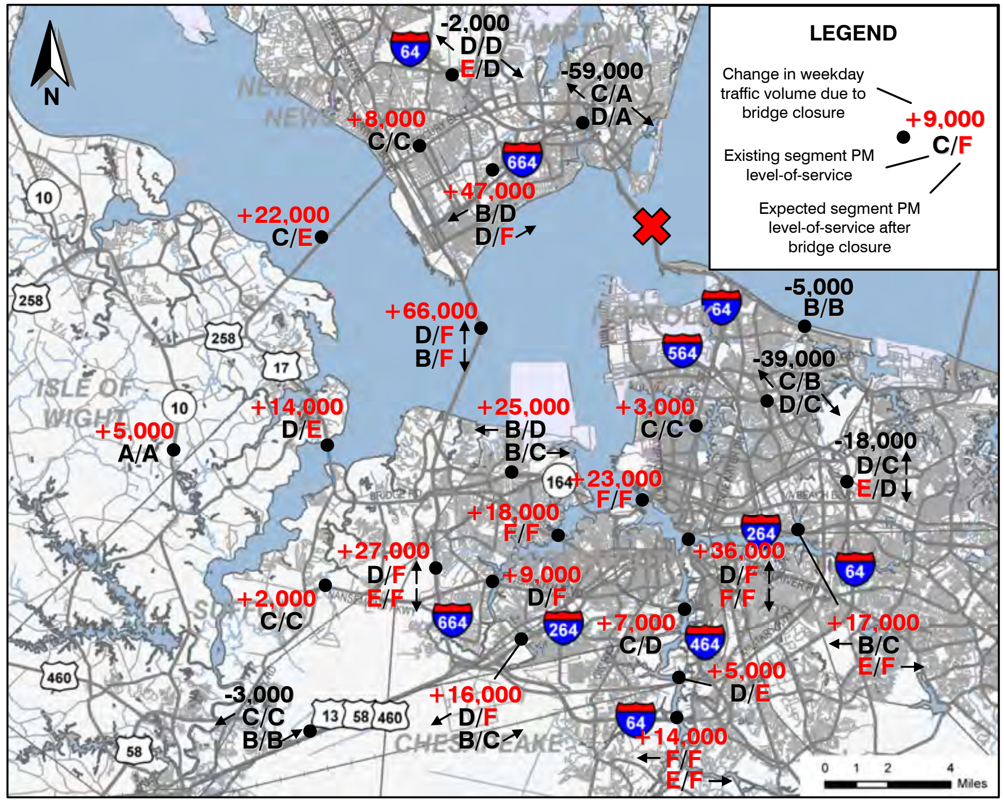
FACILITY FACTS/HISTORY

- The original 2-lane HRBT opened to traffic in 1957. It was the world's first underwater tunnel connected to man-made islands. Tolls were removed when the current eastbound tube opened to traffic in 1976.
- Overheight trucks are a problem at the westbound HRBT. In 2007, 7,100 westbound trucks were overheight and turned around, 563 of those at the South Island entrance to the tunnel.
- There are no plans to widen the Hampton Roads Bridge-Tunnel in the current Long Range Transportation Plan, although VDOT is currently conducting a study examining adding additional capacity to the facility in the future.

WEEKDAY TUNNEL CLOSURE EFFECTS

- As would be expected, closure of the Hampton Roads Bridge-Tunnel would have a catastrophic effect on congestion levels throughout the region, particularly at the High Rise Bridge and at the Monitor-Merrimac Tunnel.
- Congested facilities that would be expected to carry additional traffic include the Berkley Bridge, Midtown Tunnel, High Rise Bridge, and High Street in Portsmouth.
- Roadways that would be expected to become congested due to the closure of the Hampton Roads Bridge-Tunnel include the Monitor-Merrimac Tunnel, other portions of I-664, the Gilmerton Bridge, Portsmouth Blvd, portions of I-264, and Route 17 at the James River Bridge and its approaches.

Changes in Weekday Volumes Due to Closure of the HRBT

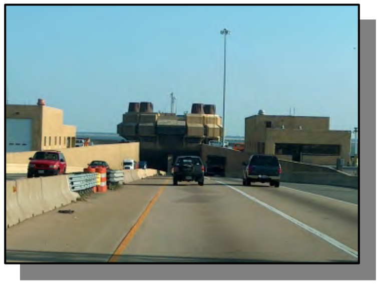


Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Data assumes closure of both tubes of the HRBT. Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Monitor-Merrimac Memorial Bridge-Tunnel

2 2-lane Prestressed Concrete Girder Bridges with a 4-lane Tunnel
Average Traffic Volumes (2007):
56,000 (Daily), 59,000 (Weekday)
Existing PM LOS = D (NB), B (SB)

Deficiencies: None.



WEEKDAY TUNNEL CLOSURE EFFECTS

- As would be expected, closure of the Monitor-Merrimac Memorial Bridge-Tunnel would have a catastrophic effect on congestion levels at the Hampton Roads Bridge-Tunnel. 26,000 more vehicles would be expected to try and use the already congested HRBT each weekday.
- Other congested facilities that would be expected to carry additional traffic include the Berkley Bridge, Midtown Tunnel, and portions of I-64.
- Route 17 at the James River Bridge and its approaches would be expected to become congested due to the closure of the Monitor-Merrimac Memorial Bridge-Tunnel.

FACILITY RATINGS AND CHARACTERISTICS

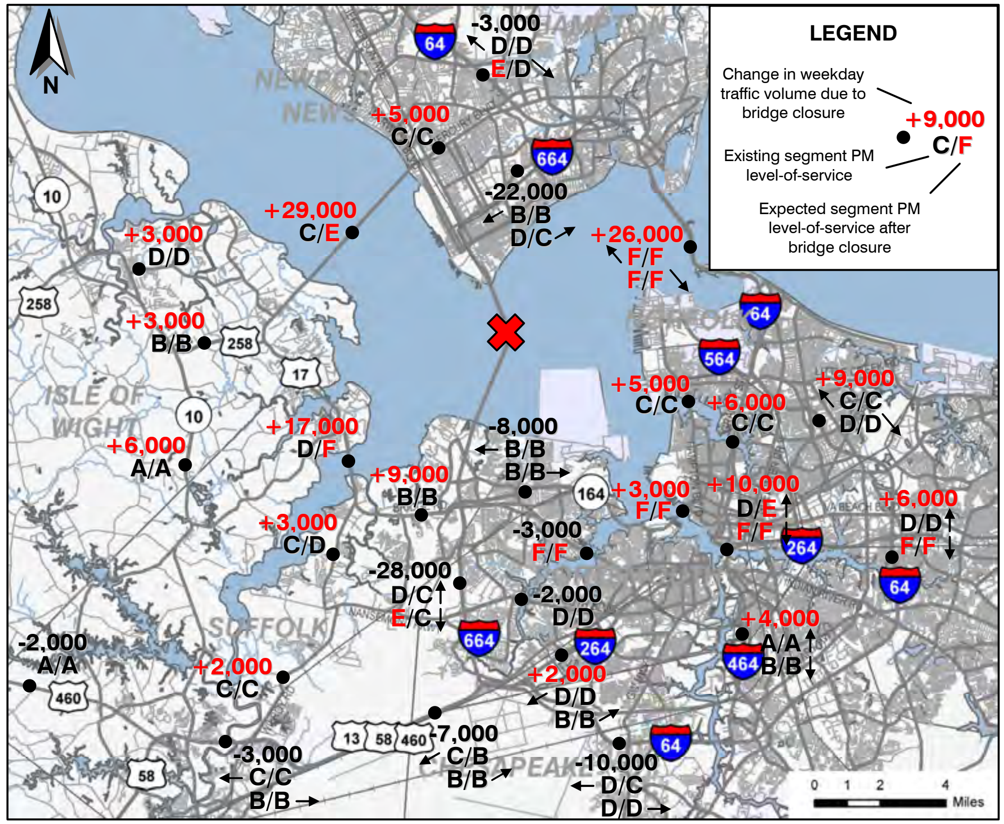
Sufficiency Ratings = 95.0 – 95.6

Deck Condition = 6 (all)	Structural Evaluation = 6(all)
Superstructure Condition = 6 (all)	Waterway Adequacy = 8(all)
Substructure Condition = 6 (all)	Deck Geometry = 5 (all)
App. Roadway Alignment = 8 (all)	Underclearances = N
Weight Limit = N/A	Detour Length = 22 miles
Bridge Mean Height = 17' - 30'	Vertical Clearance = 14'6"
Pedestrian Facilities = No	

FACILITY FACTS/HISTORY

- The Monitor-Merrimac Memorial Bridge-Tunnel (MMMBT) was opened April 30, 1992. It has been a toll-free facility since its opening.
- Weekday volumes have more than doubled at the Monitor-Merrimac in the 15 years since its opening.
- Plans are in place to construct two parallel tubes at the Monitor-Merrimac Tunnel as part of the Third Crossing project. Funding for this project is currently under discussion.

Changes in Weekday Volumes Due to Closure of the Monitor-Merrimac



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

James River Bridge

4-lane Movable Lift Bridge
Average Traffic Volumes (2007):
28,000 (Daily), 30,000 (Weekday)
Existing PM LOS = C

Deficiencies:

- ▶ **Needs Repair (VDOT)**
- ▶ **Fracture Critical**

WEEKDAY BRIDGE CLOSURE EFFECTS

- Closure of the James River Bridge would lead to congested conditions at the Monitor-Merrmiac Memorial Bridge-Tunnel. 26,000 more vehicles would be expected to try and use the MMMBT each weekday.
- Other congested facilities that would be expected to carry additional traffic include the Hampton Roads Bridge-Tunnel and portions of I-64.
- Roadways that would be expected to become congested due to the closure of the James River Bridge include the Monitor-Merrimac Memorial Bridge-Tunnel and Route 17 in Northern Suffolk.

BRIDGE RATINGS AND CHARACTERISTICS

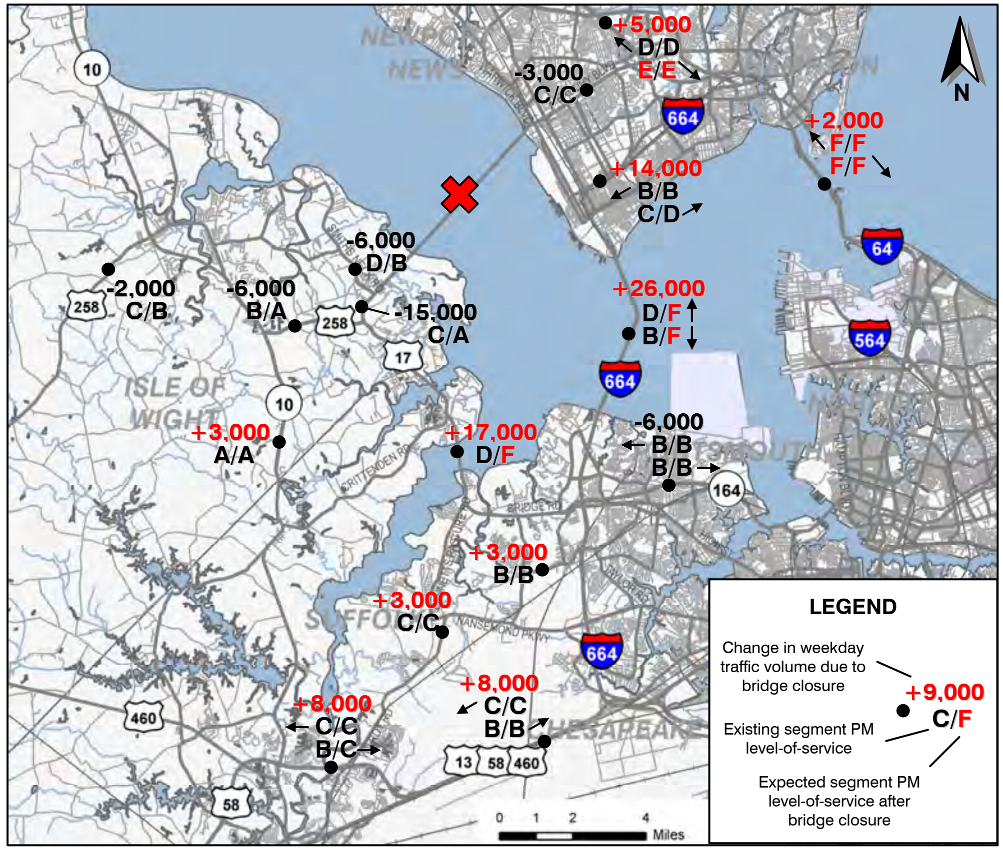
Sufficiency Rating = 54.2

Deck Condition = 5	Structural Evaluation = 5
Superstructure Condition = 5	Waterway Adequacy = 8
Substructure Condition = 6	Deck Geometry = 6
App. Roadway Alignment = 8	Underclearances = N
Weight Limit = N/A	Detour Length = 22 miles
Bridge Mean Height = 60'	Vertical Clearance = 16'
Pedestrian Facilities = No	

BRIDGE FACTS/HISTORY

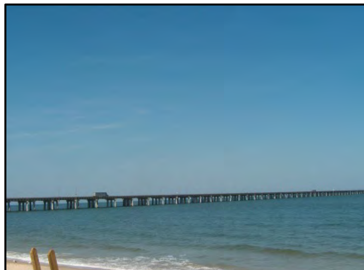
- The original James River Bridge was opened in 1928. At the time the bridge was the longest in the world over water. The original bridge was a narrow 2-lane, 20' wide structure.
- The current four-lane bridge was completed in 1982. Most of the original facility was torn down, but a portion of the section off the Newport News waterfront remains as a fishing pier.
- The James River Bridge was a toll bridge from it's opening until tolls were removed in 1976.
- The James River Bridge opens on demand. There are no times when bridge openings are restricted.

Changes in Weekday Volumes Due to Closure of the James River Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Chesapeake Bay Bridge-Tunnel



Multiple 4-lane Bridges of Varying Types with 2 2-lane Tunnels
Average Traffic Volumes (2007): 10,000 (Daily), 8,100 (Weekday)
Existing PM LOS = A

Deficiencies:
- **Some Bridges are Functionally Obsolete**
- **One Fracture Critical Bridge**

FACILITY RATINGS AND CHARACTERISTICS

Sufficiency Ratings = 69.5 – 95.6	
Deck Condition = 8 (all)	Structural Evaluation = 6 - 8
Superstructure Condition = 7 - 8	Waterway Adequacy = 6 - 8
Substructure Condition = 6 - 8	Deck Geometry = 2 - 3
App. Roadway Alignment = 7 - 8	Underclearances = N*
Weight Limit = N/A	Detour Length > 99 miles
Bridge Mean Height = 13'6" - 75'	Vertical Clearance = 13'6"
Pedestrian Facilities = No	

* - The portion over Lookout Road has an underclearance rating of 2.

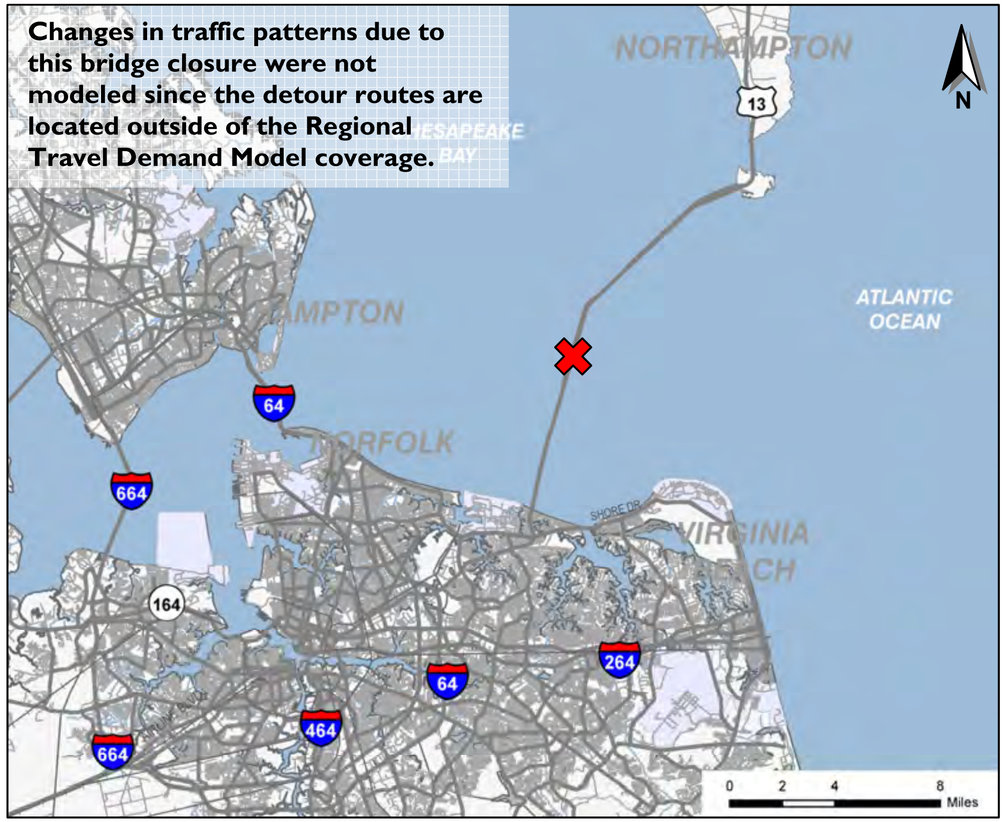
FACILITY FACTS/HISTORY

- The Chesapeake Bay Bridge-Tunnel opened in 1964, replacing ferries that carried vehicles between Virginia Beach and the Eastern Shore.
- The Chesapeake Bay Bridge-Tunnel was voted after its opening as one of the Seven Engineering Wonders of the Modern World.
- The bridges of the Chesapeake Bay Bridge-Tunnel were widened from 2 to 4 lanes in 1999.
- The one-way toll at the Chesapeake Bay Bridge-Tunnel is $12. Discounts are offered for round trips within 24 hours.

WEEKDAY TUNNEL CLOSURE EFFECTS

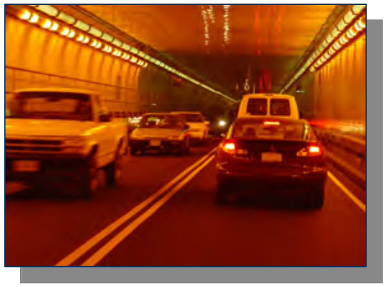
- The closure of the Chesapeake Bay Bridge-Tunnel would have little effect on congestion levels in the region. However, there would be severe economic effects associated with cutting off the only link between the Eastern Shore and the rest of Virginia.
- It is likely that if the Chesapeake Bay Bridge-Tunnel were taken out of service for an extended period of time, ferry service would be provided between Virginia Beach and the Eastern Shore.

Changes in Weekday Volumes Due to Closure of the CBBT



Midtown Tunnel

2-lane Tunnel
Average Traffic Volumes (2007):
35,000 (Daily), 41,000 (Weekday)
Existing PM LOS = F
Roadway Clearance = 13'6"
Detour Length = 7 miles
Pedestrian Facilities = No
Sufficiency Rating = N/A



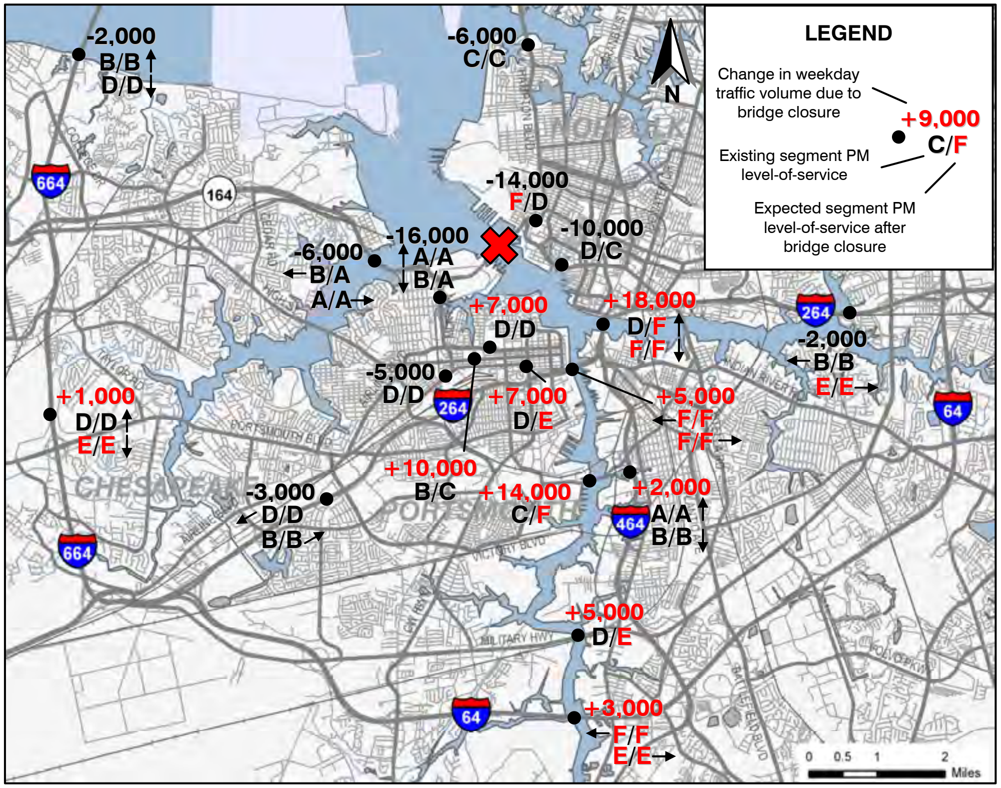
WEEKDAY TUNNEL CLOSURE EFFECTS

- When the Midtown Tunnel was closed in 2003, over a third of the Midtown Tunnel traffic (14,000 vehicles per day) diverted to the toll-free Jordan Bridge. Another third of the vehicles diverted to either the Downtown Tunnel, Gilmerton Bridge, or High Rise Bridge. The remaining third either used crossings further upstream or no longer crossed the Elizabeth River.
- River crossings that became congested due to the closure of the Midtown Tunnel include the Jordan Bridge, the Gilmerton Bridge, and the northbound Berkley Bridge.

TUNNEL FACTS/HISTORY

- The Midtown Tunnel was opened September 6, 1962.
- Tolls were collected at the Midtown Tunnel from its opening in 1962 until they were removed from both the Midtown and Downtown Tunnels in August 1986.
- The Midtown Tunnel is believed to be the busiest two-lane roadway in the state of Virginia.
- The recently completed Pinners Point project provides direct access between the Western Freeway and the Midtown Tunnel.
- The Midtown Tunnel was closed for 29 days in 2003 due to flooding from Hurricane Isabel. Many of the volume changes listed on the map are based on what occurred during the tunnel closure. Due to this flooding, VDOT has revamped procedures for testing equipment and updated facility closure guidelines.
- Plans to construct a parallel tube at the Midtown Tunnel are included in the Hampton Roads 2030 Long Range Transportation Plan.

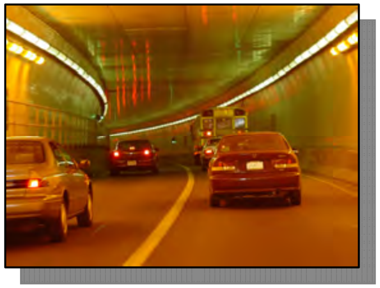
Changes in Weekday Volumes Due to Closure of the Midtown Tunnel



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Data reflects both model output and actual changes that occurred during the Midtown Tunnel closure in 2003. Not all volume changes are shown on map.

Downtown Tunnel

2 Parallel 2-lane Tunnels
Average Traffic Volumes (2007):
94,000 (Daily), 101,000 (Weekday)
Existing PM LOS = F (EB), F (WB)
Roadway Clearance = 13'6"
Detour Length = 6 miles
Pedestrian Facilities = No
Sufficiency Rating = N/A



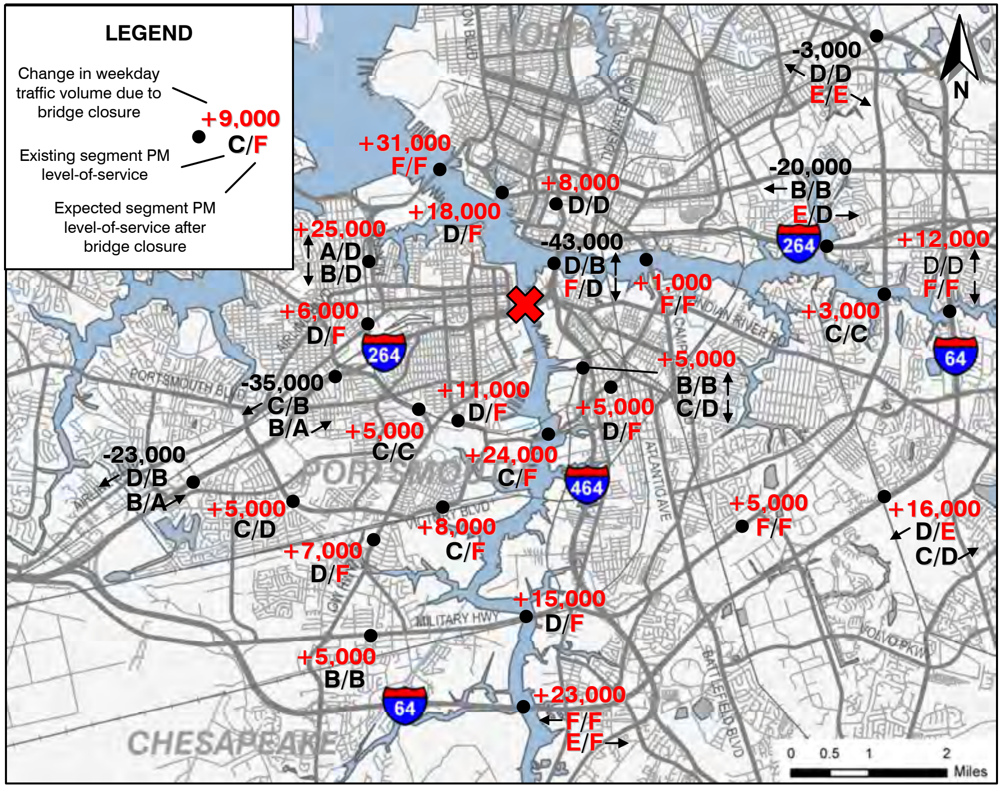
WEEKDAY TUNNEL CLOSURE EFFECTS

- As would be expected, closure of the Downtown Tunnel would have a catastrophic effect on congestion levels throughout the southside of Hampton Roads. The severely congested Midtown Tunnel would be expected to accomodate nearly double it's current traffic demand. The Jordan, Gilmerton, and High Rise Bridges would also be severely congested in this scenario.
- Other roadways expected to become severely congested are George Washington Hwy, Turnpike Rd, Brambleton Ave, and all non-Interstate approaches to the Jordan Bridge.

TUNNEL FACTS/HISTORY

- The first Downtown Tunnel (the current westbound lanes) was opened May 23rd, 1952, replacing a ferry system that had been in place. It was the first of the major tunnel facilities constructed in Hampton Roads.
- The second Downtown Tunnel (the current eastbound lanes) was opened March 4th, 1987. It served two-way traffic until renovation of the original Downtown Tunnel was completed in April 1988.
- Tolls were collected on the Downtown Tunnel from its opening in 1952 until they were removed in August 1986 in the midst of the facility expansion.
- The Downtown Tunnel carries more traffic than any of the other tunnels in Hampton Roads.
- With only 13'6" of clearance, overheight trucks are a problem at both Downtown Tunnel tubes. 7,500 trucks were turned around at the Downtown Tunnel in 2007.

Changes in Weekday Volumes Due to Closure of the Downtown Tunnel



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Data assumes closure of both tubes of the Downtown Tunnel. Not all volume changes are shown on map. Data does not reflect any operational changes that may occur due to the bridge closure, except for the removal of tolls at the Jordan Bridge.

Jordan Bridge

2-lane Movable Bascule Bridge
Average Traffic Volumes (2007):
6,700 (Daily), 7,200 (Weekday)
Existing PM LOS = C

Deficiencies:
- **Structurally Deficient**
- **Low Sufficiency Rating**
- **Needs Repair (VDOT)**
- **Fracture Critical**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 4.0

Deck Condition = 4	Structural Evaluation = 2
Superstructure Condition = 4	Waterway Adequacy = 7
Substructure Condition = 4	Deck Geometry = 2
App. Roadway Alignment = 6	Underclearances = N
Weight Limit = 3 tons	Detour Length = 5 miles
Bridge Mean Height = 15'	Vertical Clearance = 9'
Pedestrian Facilities = Yes	

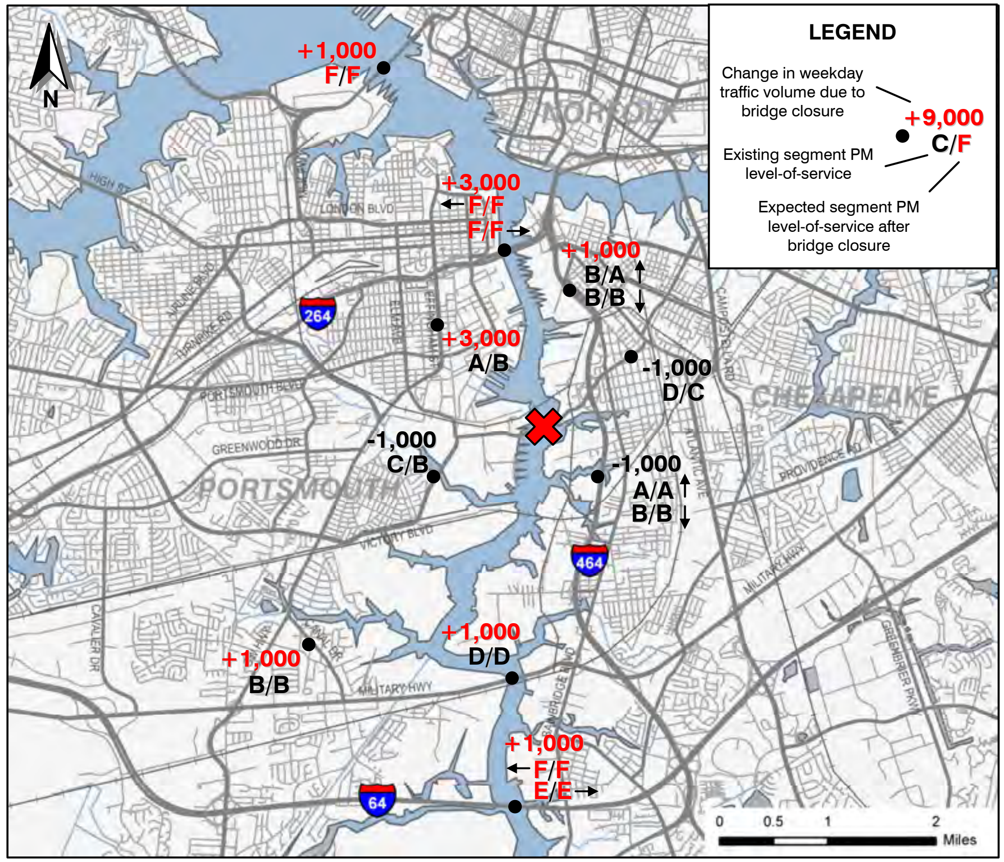
BRIDGE FACTS/HISTORY

- The Jordan Bridge was opened in 1928. It is the oldest movable span bridge in the State of Virginia.
- The Jordan Bridge has been hit by ships many times, with the most recent occurrence closing the span for 67 days in early 2004.
- The Jordan Bridge remains a toll bridge as it has been throughout its history. The current toll is 75 cents for two-axle vehicles.
- The Jordan Bridge opens on demand, except between 6:30 - 8:30 am and 3:30 – 5:30 pm on weekdays. During these times the bridge opens only for commercial vessels with two hours notice.

WEEKDAY BRIDGE CLOSURE EFFECTS

- Closure of the Jordan Bridge would divert traffic to other Elizabeth River Crossings that are already severely congested during peak travel periods.
- Nearly half of the diverted traffic is expected to use the already congested Downtown Tunnel.
- During the last closure of the Jordan Bridge, volumes at the Downtown Tunnel increased 5,900 vehicles (or 6.4%) daily from the previous year. The month after the Jordan reopened, this increase dropped to 4,200 vehicles (or 4.4%) daily.

Changes in Weekday Volumes Due to Closure of the Jordan Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Gilmerton Bridge (Military Hwy)

4-lane Movable Bascule Bridge
Average Traffic Volumes (2007):
32,000 (Daily), 36,000 (Weekday)
Existing PM LOS = D

Deficiencies:

- ▶ **Structurally Deficient**
- ▶ **Low Sufficiency Rating**
- ▶ **Needs Repair (VDOT)**
- ▶ **Fracture Critical**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 3.0

Deck Condition = 4	Structural Evaluation = 2
Superstructure Condition = 3	Waterway Adequacy = 5
Substructure Condition = 5	Deck Geometry = 2
App. Roadway Alignment = 7	Underclearances = N

Weight Limit = 14 tons (SU trucks)/ 20 tons (ST trucks)
Bridge Mean Height = 11' Detour Length = 5 miles
Pedestrian Facilities = Yes

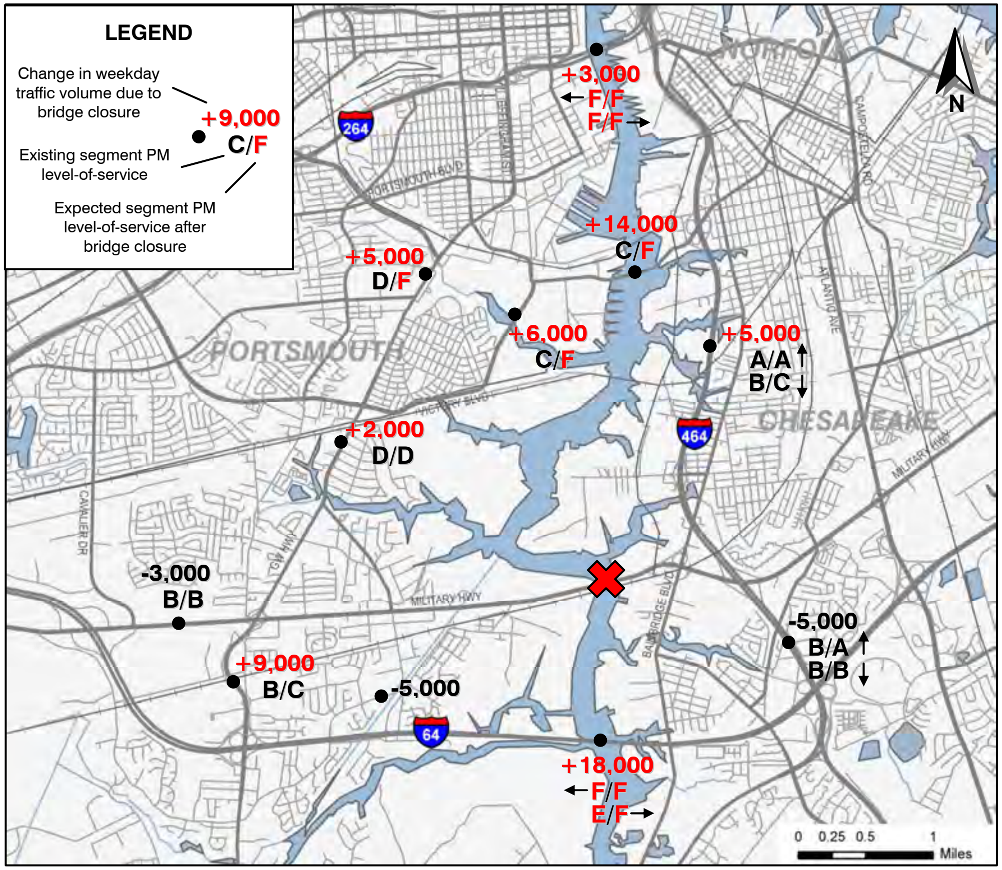
BRIDGE FACTS/HISTORY

- The Gilmerton Bridge, opened in 1938, is owned and operated by the City of Chesapeake.
- The Gilmerton Bridge opens on demand, except between 6:30 - 8:30 am and 3:30 – 5:30 pm on weekdays. During these times the bridge opens only for commercial vessels with two hours notice.
- Plans are currently included in the Hampton Roads Transportation Improvement Program to replace the Gilmerton Bridge. Construction is expected to begin in 2009.

WEEKDAY BRIDGE CLOSURE EFFECTS

- More than half of the Gilmerton Bridge traffic is expected to be diverted to the already-severely congested High Rise (I-64) Bridge.
- Almost 40% of the diverted traffic is expected to use the Jordan Bridge if tolls are removed, which will lead to extreme congestion at that facility.
- Other roadways expected to become severely congested are George Washington Hwy south of Frederick Blvd, and Victory Blvd near the Jordan Bridge.

Changes in Weekday Volumes Due to Closure of the Gilmerton Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented, except for the removal of tolls at the Jordan Bridge.

High Rise Bridge (I-64)

4-lane Movable Bascule Bridge
Average Traffic Volumes (2006):
71,000 (Daily), 76,000 (Weekday)
Existing PM LOS
= F (EB – toward Suffolk)
= E (WB – toward Va. Beach)

Deficiencies:
▶ **Needs Repair (VDOT)**

WEEKDAY BRIDGE CLOSURE EFFECTS

- Closure of the High Rise Bridge would have a catastrophic effect on congestion levels throughout the region. Facilities that currently experience severe congestion such as the Midtown and Downtown Tunnels would be expected to accomodate a 15-20% increase in traffic demand.
- Additional facilities including George Washington Hwy, Military Hwy, and the Jordan Bridge and its approaches would also become severely congested.
- Most of the High Rise Bridge traffic is expected to divert to three facilities: the Downtown Tunnel, Jordan Bridge, and Gilmerton Bridge.

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 61.0
Deck Condition = 6
Superstructure Condition = 6
Substructure Condition = 5
App. Roadway Alignment = 8

Structural Evaluation = 5
Waterway Adequacy = 8
Deck Geometry = 4
Underclearances = 5

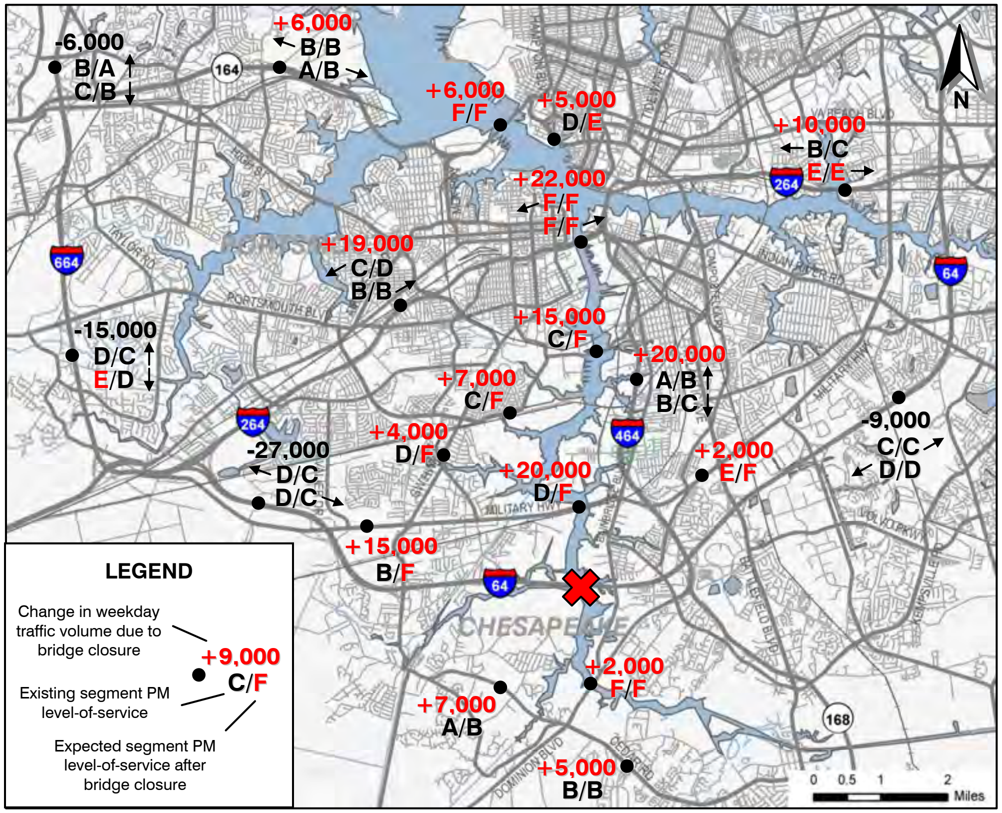
Weight Limit = N/A
Bridge Mean Height = 65'
Pedestrian Facilities = No

Detour Length = 9 miles

BRIDGE FACTS/HISTORY

- The High Rise Bridge was opened in 1972.
- The High Rise Bridge is owned and operated by VDOT, and is one of only eight active drawbridges on the national Interstate System.
- The High Rise Bridge is closed to marine traffic between 6:00 - 9:00 am and 3:00 – 6:00 pm on weekdays. A three day notice is required for an opening during restricted hours; 24 hour notice is required for all other openings.
- Plans are in place to widen the High Rise Bridge from 4 to 6 lanes as part of the Hampton Roads 2030 Long Range Transportation Plan.

Changes in Weekday Volumes Due to Closure of the High Rise Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented, except for the removal of tolls at the Jordan Bridge.

Steel Bridge (Dominion Blvd)

2-lane Movable Bascule Bridge
Average Traffic Volumes (2007):
30,000 (Daily), 31,000 (Weekday)
Existing PM LOS = F

Deficiencies:

- **Needs Repair (VDOT)**
- **Low Sufficiency Rating**
- **Fracture Critical**

Source: City of Chesapeake

WEEKDAY BRIDGE CLOSURE EFFECTS

- About two thirds of traffic diverted from the Steel Bridge would be expected to use the Great Bridge and Route 168 Bridge. About a third of the diverted traffic is expected to use the High Rise or Gilmerton Bridges.
- Severely congested facilities that are expected to experience higher traffic volumes include the High Rise Bridge, the southbound Route 168 Bridge, and George Washington Hwy just north of Deep Creek.
- Facilities that are expected to become severely congested due to the closure of the Steel Bridge include the Gilmerton Bridge, Great Bridge Bridge, Southbound Route 168, and Moses Grandy Trail near Deep Creek.

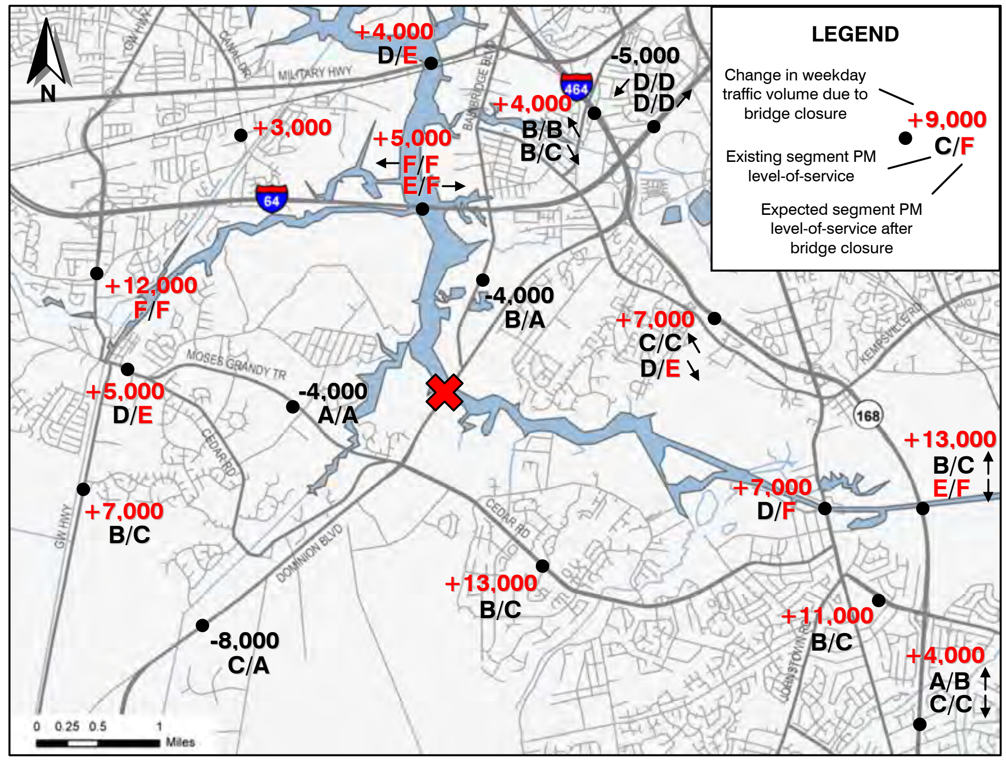
BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 49.8	
Deck Condition = 6	Structural Evaluation = 5
Superstructure Condition = 5	Waterway Adequacy = 7
Substructure Condition = 5	Deck Geometry = 4
App. Roadway Alignment = 6	Underclearances = N
Weight Limit = N/A	Detour Length = 8 miles
Bridge Mean Height = 12'	
Pedestrian Facilities = No	

BRIDGE FACTS/HISTORY

- The Steel Bridge was opened in 1962, and is owned and operated by the City of Chesapeake.
- The Steel Bridge opens on the hour between 6:00 am and 6:00 pm, and on demand between 6:00 pm and 6:00 am. Rush hour restrictions are in place on weekdays between 7:00 – 9:00 am and 4:00 – 6:00 pm, when openings only occur for commercial vessels with two-hour notice.
- Plans are in place to replace the Steel Bridge with a 4 lane elevated bridge as part of the Hampton Roads 2030 Long Range Transportation Plan.

Changes in Weekday Volumes Due to Closure of the Steel Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Great Bridge Bridge (Battlefield Blvd)

5-lane Movable Bascule Bridge
Average Traffic Volumes (2006):
34,000 (Daily), 37,000 (Weekday)
Existing PM LOS = D

Deficiencies:

- **Fracture Critical**

WEEKDAY BRIDGE CLOSURE EFFECTS

- 75% of the Great Bridge Bridge traffic would be expected to divert to the Route 168 Bridge. During the afternoon peak travel period this would lead to moderate congestion in the northbound congestion and beyond severe congestion in the southbound direction.
- Severely congested facilities that are expected to experience higher traffic volumes include the previously-mentioned southbound Route 168 Bridge, the Steel Bridge, and George Washington Hwy just north of Deep Creek.

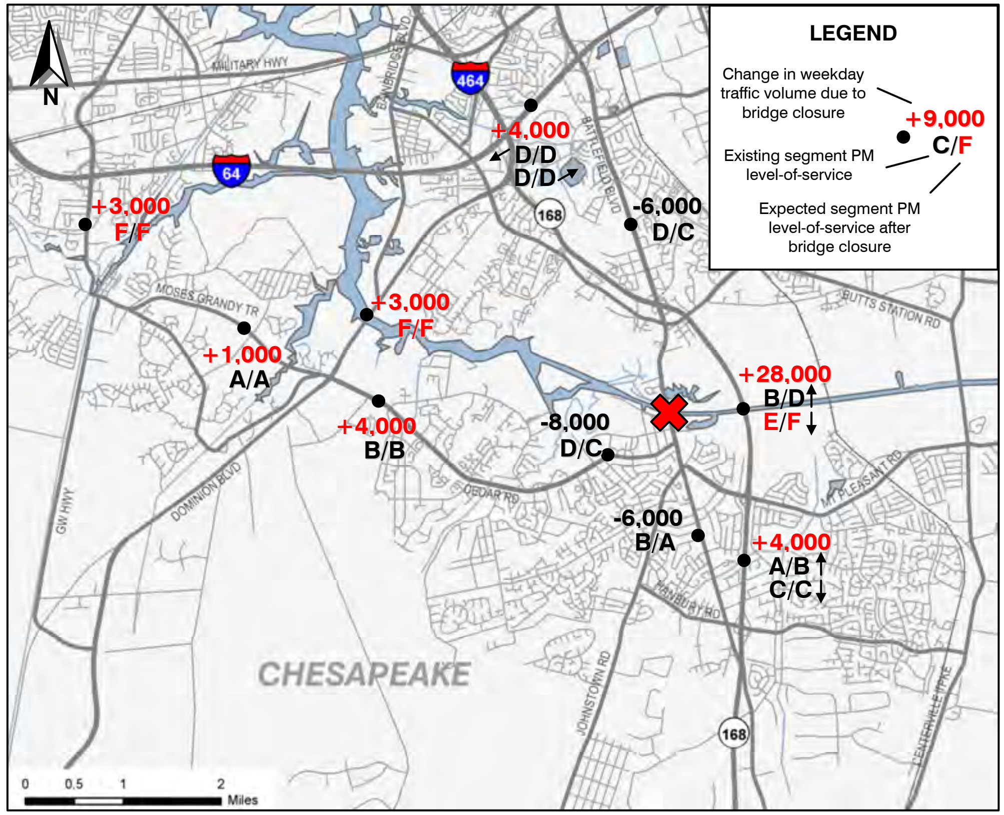
BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 87.1	
Deck Condition = 8	Structural Evaluation = 8
Superstructure Condition = 8	Waterway Adequacy = 8
Substructure Condition = 8	Deck Geometry = 7
App. Roadway Alignment = 8	Underclearances = N
Weight Limit = N/A	Detour Length = 3 miles
Bridge Mean Height = 6'	Vertical Clearance = 16' 4"
Pedestrian Facilities = Yes	

BRIDGE FACTS/HISTORY

- The original Great Bridge Bridge was built near this site back in 1770. The bridge was the site of the Battle of Great Bridge in 1775.
- The new 5-lane Great Bridge Bridge was opened in 2004, replacing a 2-lane drawbridge built in 1943.
- The Great Bridge Bridge is owned and operated by the City of Chesapeake.
- The Great Bridge Bridge opens on demand, except between 6:00 am and 7:00 pm when the bridge opens on the hour.

Changes in Weekday Volumes Due to Closure of the Great Bridge Bridge



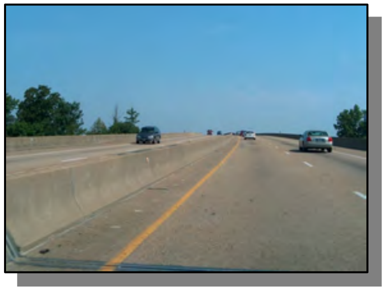
Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Route 168 Bridge

4-lane Fixed Steel Girder Bridge
Average Traffic Volumes (2006):
66,000 (Daily), 60,000 (Weekday)
Existing PM LOS = E (SB), B (NB)

Deficiencies:

- **Needs Repair (VDOT)**



BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 67.0	
Deck Condition = 5	Structural Evaluation = 5
Superstructure Condition = 5	Waterway Adequacy = 8
Substructure Condition = 6	Deck Geometry = 9
App. Roadway Alignment = 8	Underclearances = N
Weight Limit = N/A	Detour Length = 8 miles
Bridge Mean Height = 65'	
Pedestrian Facilities = No	

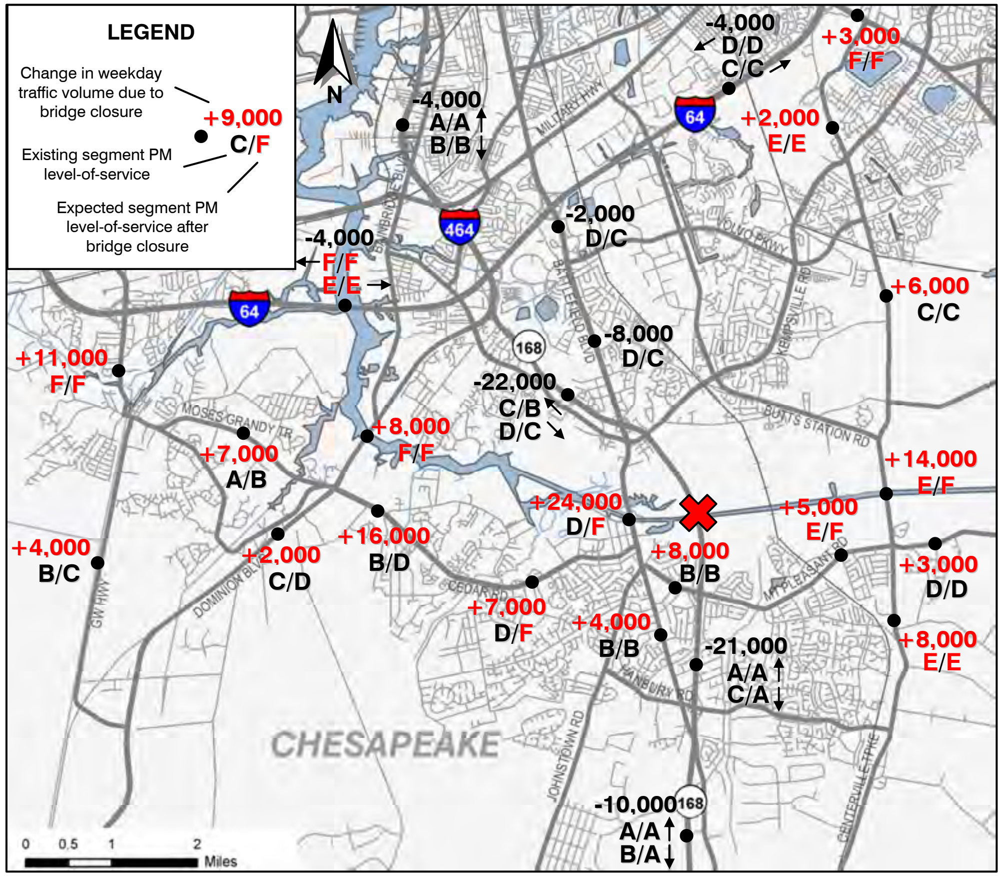
BRIDGE FACTS/HISTORY

- The Route 168 Bridge was opened in 1981 and is owned and maintained by the City of Chesapeake.
- The Route 168 Bridge is one of only two fixed bridge crossings of the Intracoastal Waterway in Hampton Roads.

WEEKDAY BRIDGE CLOSURE EFFECTS

- 40% of the Route 168 Bridge traffic would be expected to divert to the Great Bridge Bridge. This would lead to severe congestion on the Great Bridge Bridge as well as on Battlefield Blvd and Cedar Rd in Great Bridge.
- The remaining traffic would be expected to divert to the already congested Centerville Turnpike Bridge, Steel Bridge, and Long Bridge in Deep Creek.

Changes in Weekday Volumes Due to Closure of the Route 168 Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Centerville Turnpike Bridge

2-lane Movable Swing Bridge
Average Traffic Volumes (2006):
15,000 (Daily), 17,000 (Weekday)
Existing PM LOS = E

Deficiencies:

- **Functionally Obsolete**
- **Needs Repair (VDOT)**
- **Low Sufficiency Rating**
- **Fracture Critical**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 40.4
Deck Condition = 6
Superstructure Condition = 5
Substructure Condition = 6
App. Roadway Alignment = 6

Structural Evaluation = 4
Waterway Adequacy = 7
Deck Geometry = 2
Underclearances = N

Weight Limit = N/A
Bridge Mean Height = 3'
Pedestrian Facilities = No

Detour Length = 8 miles
Vertical Clearance = 13' 9"

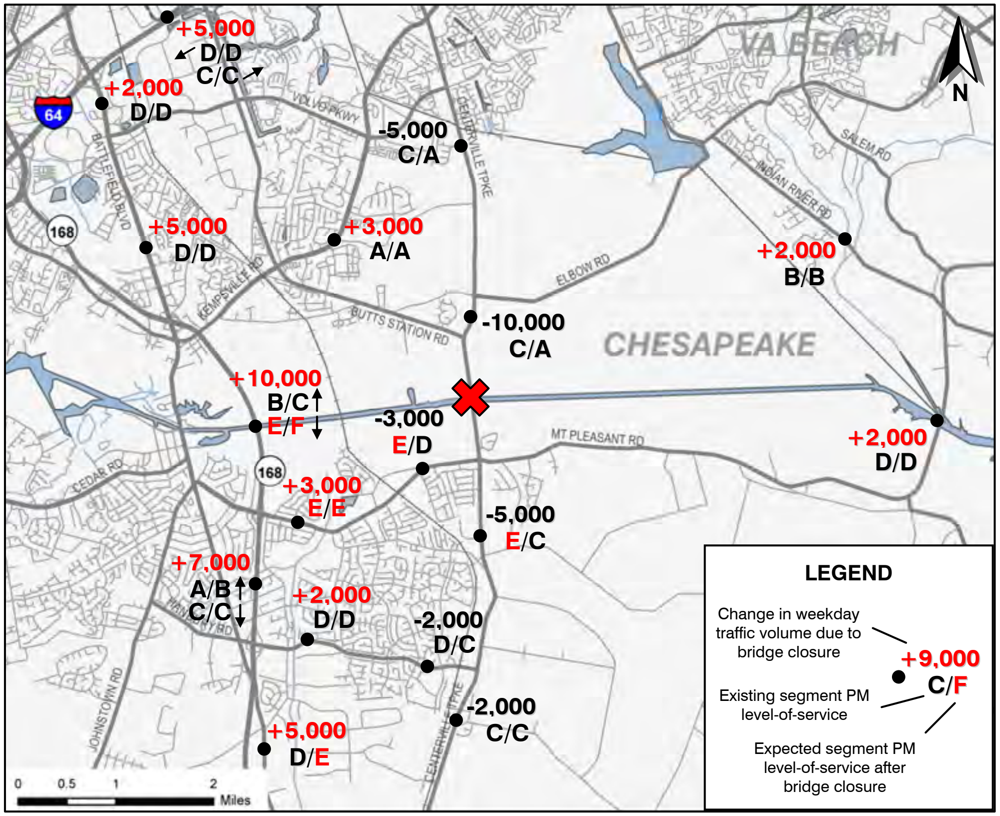
BRIDGE FACTS/HISTORY

- The Centerville Turnpike Bridge was opened in 1955 and rehabilitated in 1990. The bridge is owned and operated by the City of Chesapeake.
- The Centerville Bridge opens on the hour and half hour between 8:30 am and 4:00 pm, and on demand between 6:00 pm and 6:30 am. Rush hour restrictions are in place on weekdays between 6:30 – 8:30 am and 4:00 – 6:00 pm, when openings only occur for commercial vessels with two-hour notice.
- There are no plans to replace or renovate the Centerville Bridge in the current Transportation Improvement Program and Long Range Transportation Plan.

WEEKDAY BRIDGE CLOSURE EFFECTS

- About 60% of the Centerville Turnpike Bridge traffic would be expected to divert to the Route 168 Bridge. This will cause the southbound Route 168 bridge to degrade to a LOS F during the afternoon peak travel hour.
- All other roadways are expected to remain at or improve over current congestion levels except for Battlefield Blvd south of Great Bridge, which is expected to become congested.

Changes in Weekday Volumes Due to Closure of the Centerville Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

North Landing Bridge

2-lane Movable Swing Bridge
Average Traffic Volumes (2006):
9,800 (Daily), 11,000 (Weekday)
Existing PM LOS = D

Deficiencies:

- **Structurally Deficient**
- **Needs Repair (VDOT)**
- **Low Sufficiency Rating**
- **Fracture Critical**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 17.5

Deck Condition = 6	Structural Evaluation = 2
Superstructure Condition = 7	Waterway Adequacy = 9
Substructure Condition = 5	Deck Geometry = 2
App. Roadway Alignment = 6	Underclearances = N
Weight Limit = 13 tons	Detour Length = 6 miles
Bridge Mean Height = 3'	
Pedestrian Facilities = No	

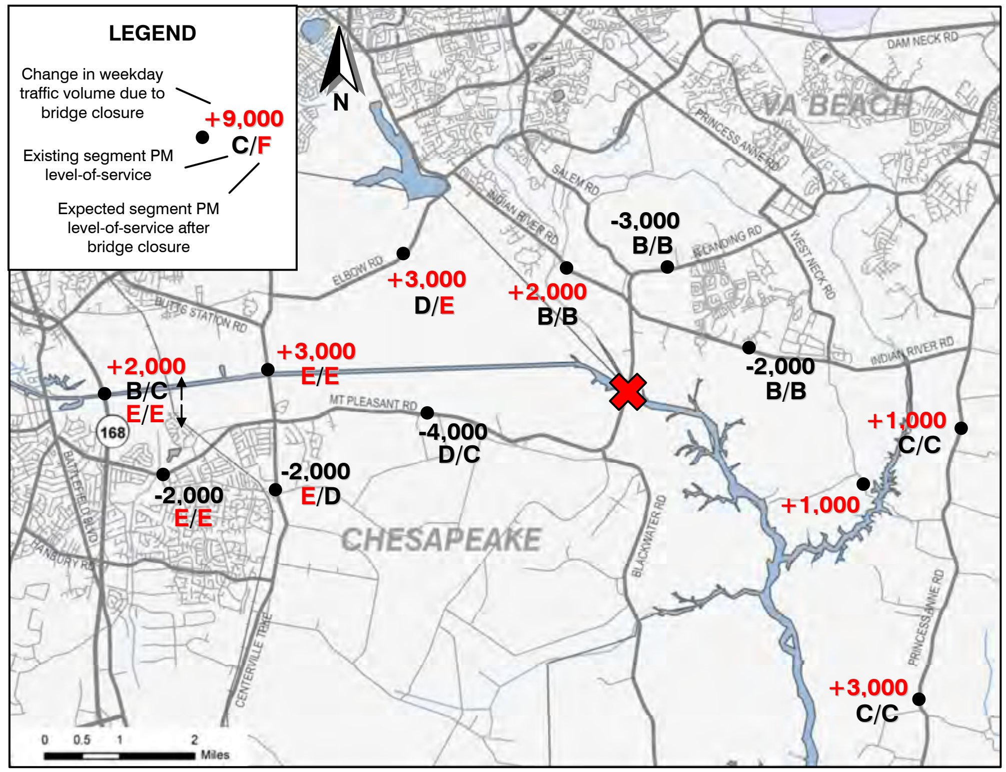
BRIDGE FACTS/HISTORY

- The North Landing Bridge opened to traffic in 1951.
- The North Landing Bridge is owned and operated by the Army Corps of Engineers.
- The North Landing Bridge opens on demand, except between 6:00 am and 7:00 pm when the bridge opens on the hour and the half-hour.
- There are no plans to replace or renovate the North Landing Bridge in the current Transportation Improvement Program and Long Range Transportation Plan.

WEEKDAY BRIDGE CLOSURE EFFECTS

- Most of the diverted North Landing Bridge traffic is expected to use the Route 168 Bridge, the Centerville Turnpike Bridge, Elbow and Indian River Roads, and Princess Anne Road.
- Only Elbow Road would be expected to go from uncongested to congested conditions during the PM peak hour. The Route 168 Bridge and the Centerville Turnpike Bridge would be expected to remain congested.

Changes in Weekday Volumes Due to Closure of the North Landing Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Pungo Ferry Bridge

2-lane Fixed Prestressed
Concrete Girder Bridge
Average Traffic Volumes (2006):
3,200 (Daily), 3,400 (Weekday)
Existing PM LOS = B

Deficiencies: None.

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 99.4	
Deck Condition = 7	Structural Evaluation = 7
Superstructure Condition = 7	Waterway Adequacy = 8
Substructure Condition = 7	Deck Geometry = 6
App. Roadway Alignment = 8	Underclearances = N
Weight Limit = N/A	Detour Length = 22 miles
Bridge Mean Height = 65'	
Pedestrian Facilities = No	

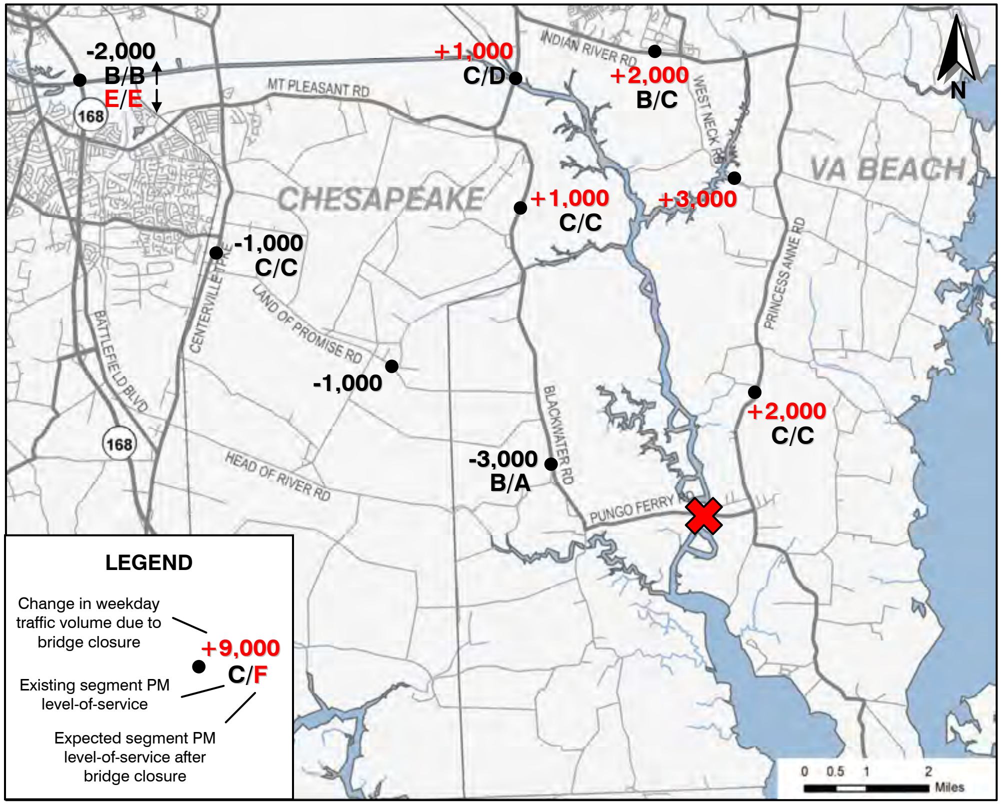
BRIDGE FACTS/HISTORY

- The Pungo Ferry Bridge, which was opened to traffic in 1991, is the southernmost of the Albemarle Canal crossings.
- The original Pungo Ferry Bridge was a narrow drawbridge that was opened in 1953, replacing the ferry service that had been in place. This drawbridge was the same one that had previously served as the Churchland Bridge in Portsmouth.

WEEKDAY BRIDGE CLOSURE EFFECTS

- As the most rural of the Intracoastal Waterway crossings in Hampton Roads, closure of the Pungo Ferry Bridge would have little effect on congestion levels. Most of the diverted traffic would use Princess Anne Road and West Neck Road.
- Only a third of the Pungo Ferry Bridge traffic would be expected to divert to the North Landing Bridge.

Changes in Weekday Volumes Due to Closure of the Pungo Ferry Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

West Norfolk Bridge (Route 164)

4-lane Fixed Steel Girder Bridge
Average Traffic Volumes (2006):
34,000 (Daily), 41,000 (Weekday)
Existing PM LOS = B (EB), C (WB)

Deficiencies:

► **Needs Repair (VDOT)**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 69.0

Deck Condition = 6	Structural Evaluation = 5
Superstructure Condition = 5	Waterway Adequacy = 8
Substructure Condition = 6	Deck Geometry = 9
App. Roadway Alignment = 8	Underclearances = 9
Weight Limit = N/A	Detour Length = 9 miles
Bridge Mean Height = 45'	
Pedestrian Facilities = No	

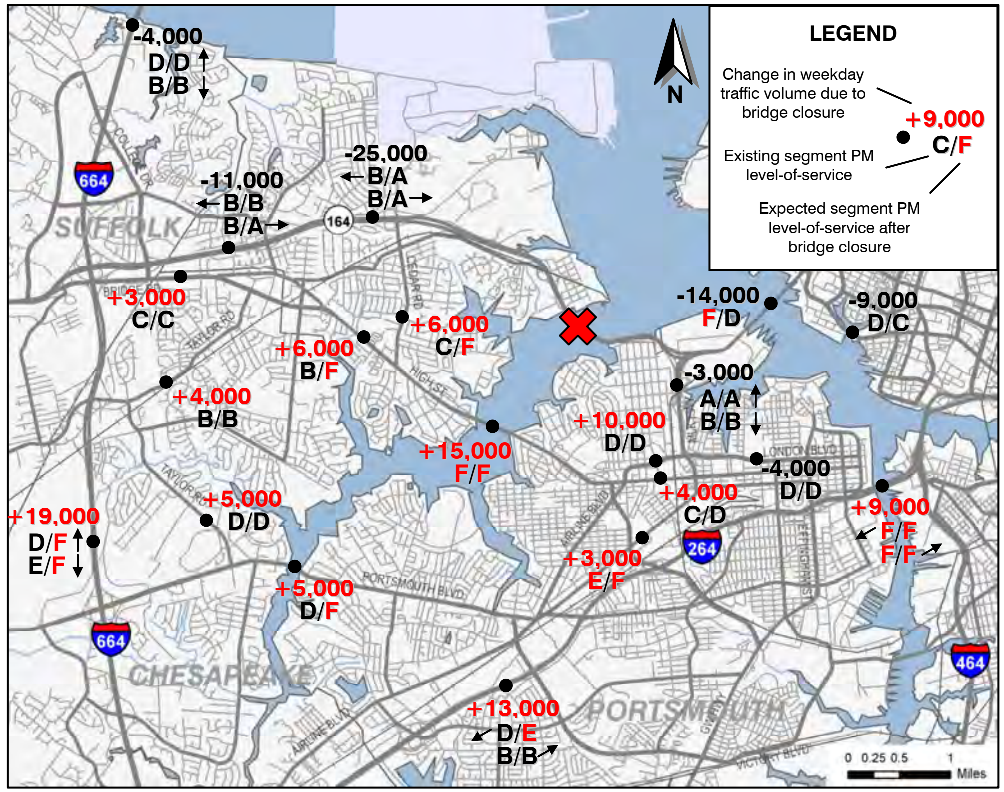
BRIDGE FACTS/HISTORY

- The existing West Norfolk Bridge opened to traffic in 1978.
- The West Norfolk Bridge served West Norfolk Road until the Western Freeway opened to the west of the bridge in 1991.
- The Pinners Point interchange opened to the east of the West Norfolk Bridge in October 2005, connecting the Western Fwy with the MLK Fwy and Midtown Tunnel.
- The bridge has been owned and maintained by the state since the Western Freeway opened.

WEEKDAY BRIDGE CLOSURE EFFECTS

- Most of the traffic using the West Norfolk Bridge would be expected to divert to the already congested Churchland Bridge and the I-264/I-664 corridors.
- Congested facilities that would be expected to carry additional traffic include the Downtown Tunnel, High Street, Turnpike Road, and portions of I-664.
- Roadways that would be expected to become congested due to the closure of the West Norfolk Bridge include portions of I-264 and I-664, the Hodges Ferry Bridge, and High Street near Churchland.

Changes in Weekday Volumes Due to Closure of the West Norfolk Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Churchland Bridge (High Street)

4-lane Fixed Steel Girder Bridge
Average Traffic Volumes (2006):
31,000 (Daily), 32,000 (Weekday)
Existing CMP LOS = F

Deficiencies:

- **Structurally Deficient**
- **Needs Repair (VDOT)**
- **Low Sufficiency Rating**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 30.2	
Deck Condition = 4	Structural Evaluation = 4
Superstructure Condition = 5	Waterway Adequacy = 5
Substructure Condition = 4	Deck Geometry = 5
App. Roadway Alignment = 6	Underclearances = N
Weight Limit = N/A	Detour Length = 9 miles
Bridge Mean Height = 40'	
Pedestrian Facilities = Yes	

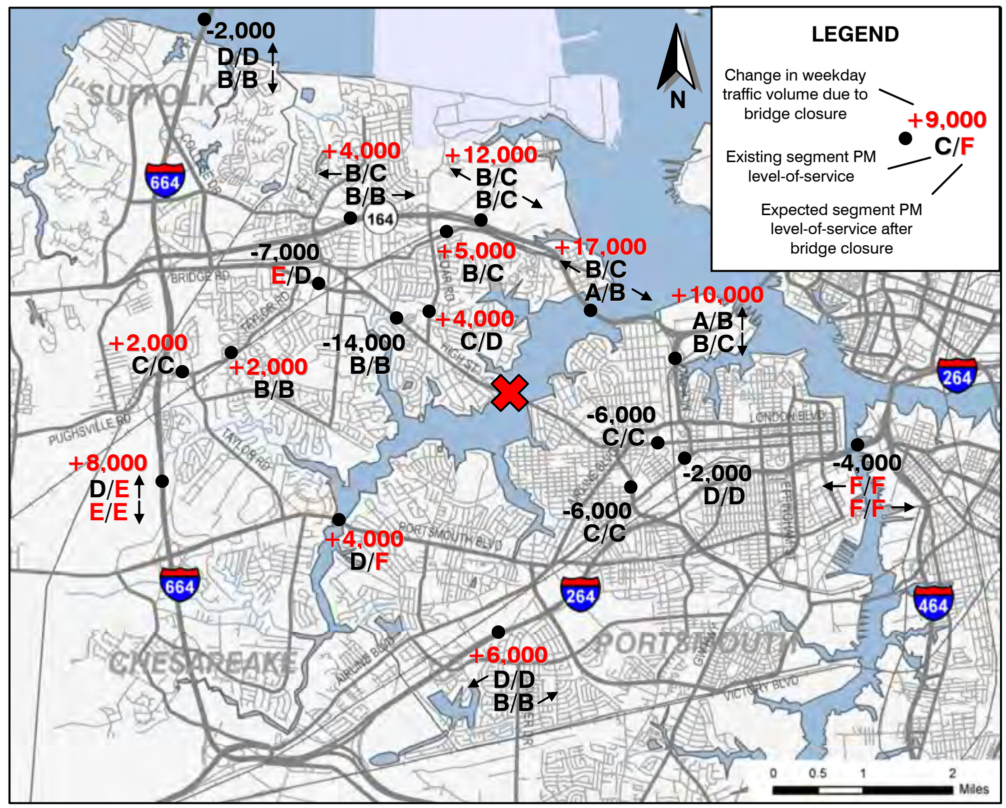
BRIDGE FACTS/HISTORY

- The westbound lanes of the current Churchland Bridge were opened in 1951. The eastbound lanes of the current bridge were opened in 1974. Previous to 1951 a drawbridge was at this location.
- The Churchland Bridge is owned and maintained by the City of Portsmouth.
- No Plans are currently included in the current Transportation Improvement Program or Long Range Transportation Plan for improvements. However, City of Portsmouth is considering putting $500,000 in their Capital Improvement Program for rehabilitation of the westbound lanes.

WEEKDAY BRIDGE CLOSURE EFFECTS

- More than half of the traffic using the Churchland Bridge would be expected to divert to the West Norfolk Bridge. This is not expected to lead to congested conditions on Route 164. Additional traffic is also expected to divert to Portsmouth Boulevard and I-264.
- Roadways that would be expected to become congested due to the closure of the Churchland Bridge include portions of I-664 and the Hodges Ferry Bridge.

Changes in Weekday Volumes Due to Closure of the Churchland Bridge



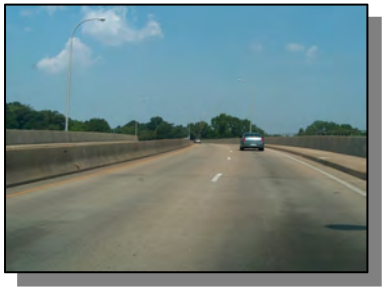
Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Hodges Ferry Bridge (Portsmouth Blvd)

4-lane Fixed Prestressed
Concrete Girder Bridge
Average Traffic Volumes (2006):
32,000 (Daily), 35,000 (Weekday)
Existing PM LOS = D

Deficiencies:

- ▶ **Needs Repair (VDOT)**



WEEKDAY BRIDGE CLOSURE EFFECTS

- Most of the traffic using the Hodges Ferry Bridge would be expected to divert to Airline Boulevard and the I-264/I-664 corridors. Traffic would also be expected to divert to the Churchland Bridge and West Norfolk Bridge,
- Congested facilities that would be expected to carry additional traffic include the Churchland Bridge and portions of I-664.
- Roadways that would be expected to become congested due to the closure of the Hodges Ferry Bridge include westbound I-264 and Portsmouth Boulevard near the Chesapeake Square Mall.

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 70.9
Deck Condition = 7
Superstructure Condition = 7
Substructure Condition = 5
App. Roadway Alignment = 6

Structural Evaluation = 5
Waterway Adequacy = 8
Deck Geometry = 6
Underclearances = N

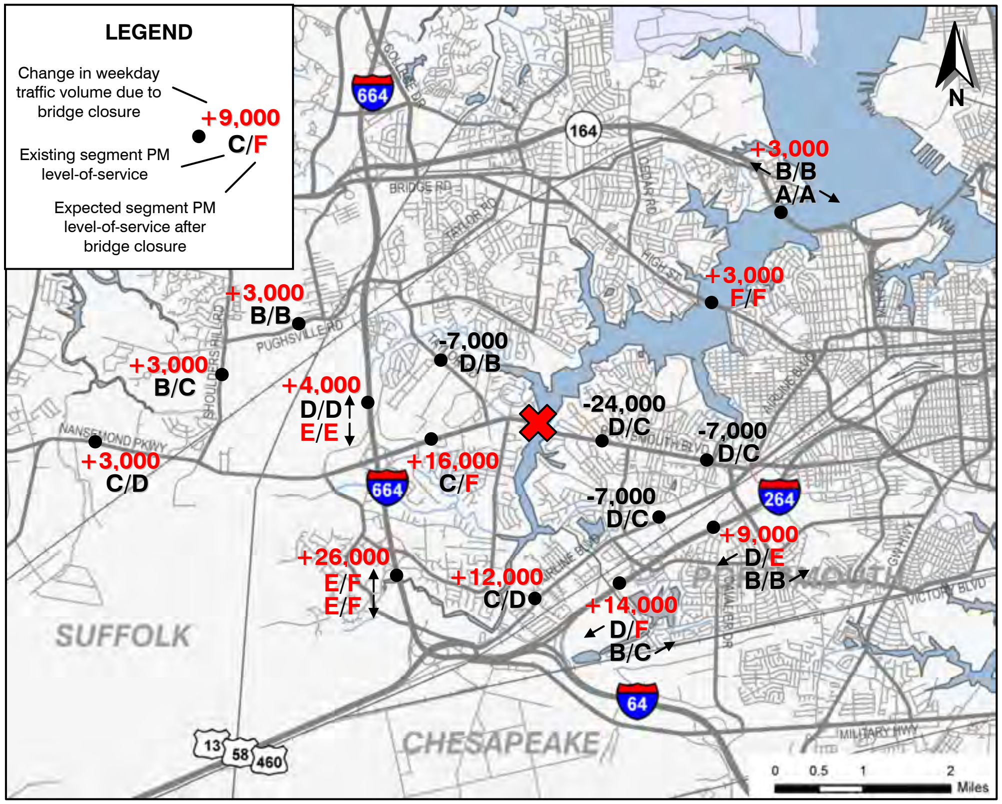
Weight Limit = N/A
Bridge Mean Height = 20'
Pedestrian Facilities = Yes

Detour Length = 12 miles

BRIDGE FACTS/HISTORY

- The current Hodges Ferry Bridge was opened in 1983. It replaced the original bridge that was built at the site in 1928.
- The Hodges Ferry Bridge is owned and maintained by the City of Chesapeake.
- There are no plans to replace or renovate the Hodges Ferry Bridge in the current Transportation Improvement Program and Long Range Transportation Plan.

Changes in Weekday Volumes Due to Closure of the Hodges Ferry Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Berkley Bridge

2 parallel 4-lane Movable Bascule Bridges

Average Traffic Volumes (2006): 120,000(Daily), 130,000(Weekday)

Existing PM LOS = D (EB), F (WB)

Deficiencies:

- **Needs Repair (VDOT)**
- **Fracture Critical**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Ratings = 57.7 – 88.5

Deck Condition = 6	Structural Evaluation = 5 - 6
Superstructure Condition = 6 - 7	Waterway Adequacy = 6 - 9
Substructure Condition = 5 - 6	Deck Geometry = 4 - 6
App. Roadway Alignment = 8	Underclearances = N
Weight Limit = N/A	Detour Length = 3 miles
Bridge Mean Height = 48' 0"	
Pedestrian Facilities = Yes	

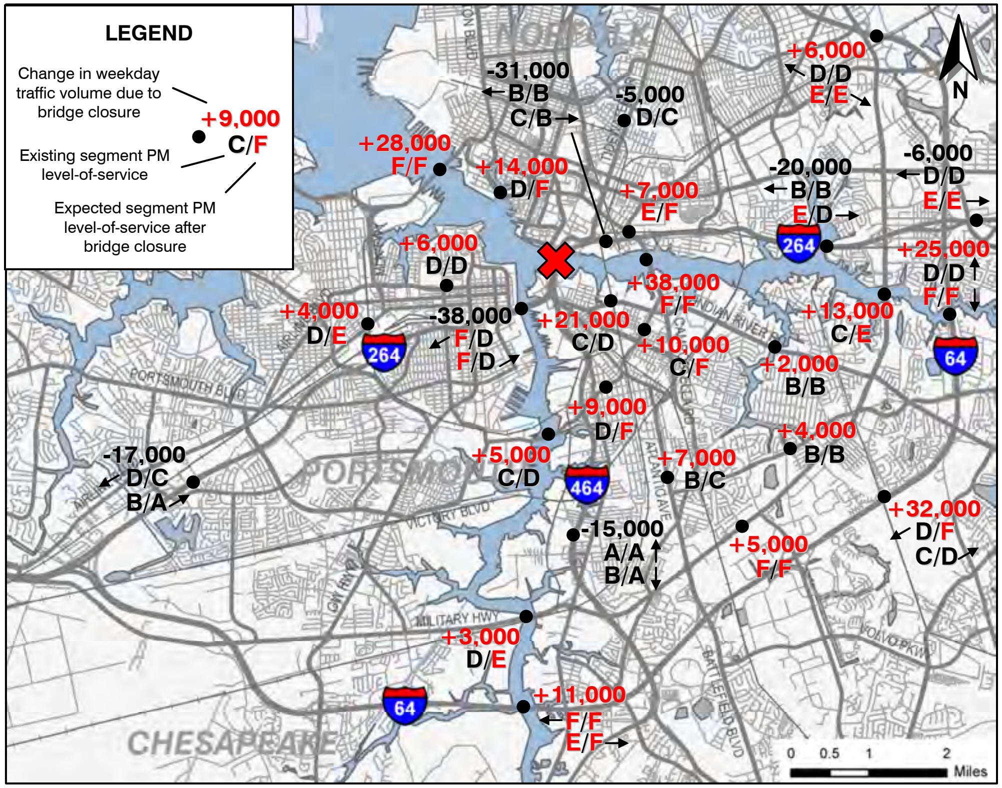
BRIDGE FACTS/HISTORY

- The existing westbound lanes of the Berkley Bridge opened to two-way traffic in 1952. The eastbound lanes of the Berkley Bridge and the multi-use path opened in 1990, and the existing westbound bridge was reconstructed in 1991.
- The original Berkley Bridge was opened in 1922, where Main Street currently exists.
- The Berkley Bridge opens on demand, except between 6:00 - 9:00 am and 3:00 – 6:00 pm on weekdays. During these times the bridge opens only for commercial vessels with three days notice.

WEEKDAY BRIDGE CLOSURE EFFECTS

- As would be expected, closure of the Berkley Bridge would have a catastrophic effect on congestion levels throughout the southside of Hampton Roads.
- Congested facilities that would be expected to carry additional traffic include the Midtown Tunnel, Campostella Bridge, the Twin Bridges, the High Rise Bridge, and portions of Military Highway and I-64.
- Roadways that would be expected to become congested due to the closure of the Berkley Bridge include Brambleton Avenue, the Gilmerton Bridge, the Military Highway Bridge, Turnpike Road, portions of I-64, and various roadways in South Norfolk.

Changes in Weekday Volumes Due to Closure of the Berkley Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Data assumes closure of both structures of the Berkley Bridge. Not all volume changes are shown on map. Data does not reflect any operational changes that may occur due to the bridge closure, except for the removal of tolls at the Jordan Bridge.

Campostella Bridge

6-lane Fixed Steel Girder Bridge
Average Traffic Volumes (2006):
40,000 (Daily), 43,000 (Weekday)
Existing PM LOS = F

Deficiencies: None.

WEEKDAY BRIDGE CLOSURE EFFECTS

- Most of the traffic using the Campostella Bridge would be expected to divert to the already congested Berkley (I-264) Bridge. Traffic will also be diverted to the Military Highway and Twin (I-64) Bridges.
- The only roadways that would be expected to become congested due to the closure of the Campostella Bridge are the northbound Berkley Bridge and Liberty Street.

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 79.0
Deck Condition = 6
Superstructure Condition = 6
Substructure Condition = 6
App. Roadway Alignment = 8

Structural Evaluation = 6
Waterway Adequacy = 8
Deck Geometry = 5
Underclearances = N

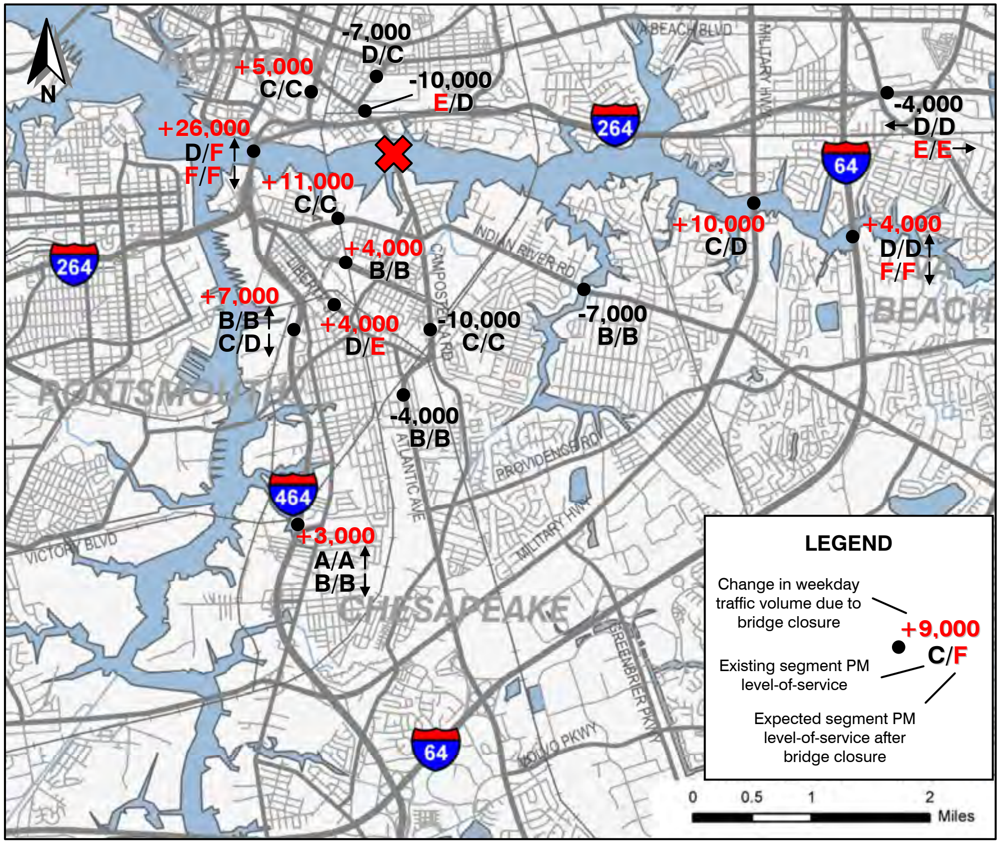
Weight Limit = N/A
Bridge Mean Height = 65'
Pedestrian Facilities = Yes

Detour Length = 3 miles

BRIDGE FACTS/HISTORY

- The current Campostella Bridge was opened in 1987, replacing a structure that was constructed in 1935.
- The original Campostella Bridge was built in 1872 as a private access road.
- The bridge is owned and maintained by the City of Norfolk.

Changes in Weekday Volumes Due to Closure of the Campostella Bridge

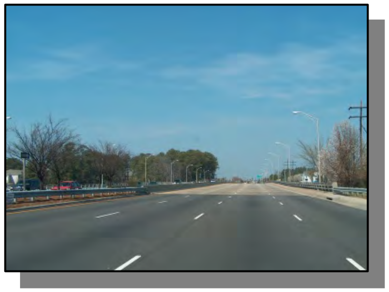


Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Military Highway Bridges

2 parallel 4-lane Fixed Prestressed Concrete Girder Bridges
Average Traffic Volumes (2006): 48,000 (Daily), 51,000 (Weekday)
Existing PM LOS = C

Deficiencies: None.



WEEKDAY BRIDGE CLOSURE EFFECTS

- About half of the traffic using the Military Highway Bridges would be expected to divert to the already congested Twin (I-64) Bridges. Traffic will also be diverted to the congested Berkley (I-264) and Campostella Bridges.
- The only roadway that would be expected to become congested due to the closure of the Military Highway Bridges is the northbound Berkley Bridge. However, this is due to the fact that traffic will mostly divert to already-congested facilities.

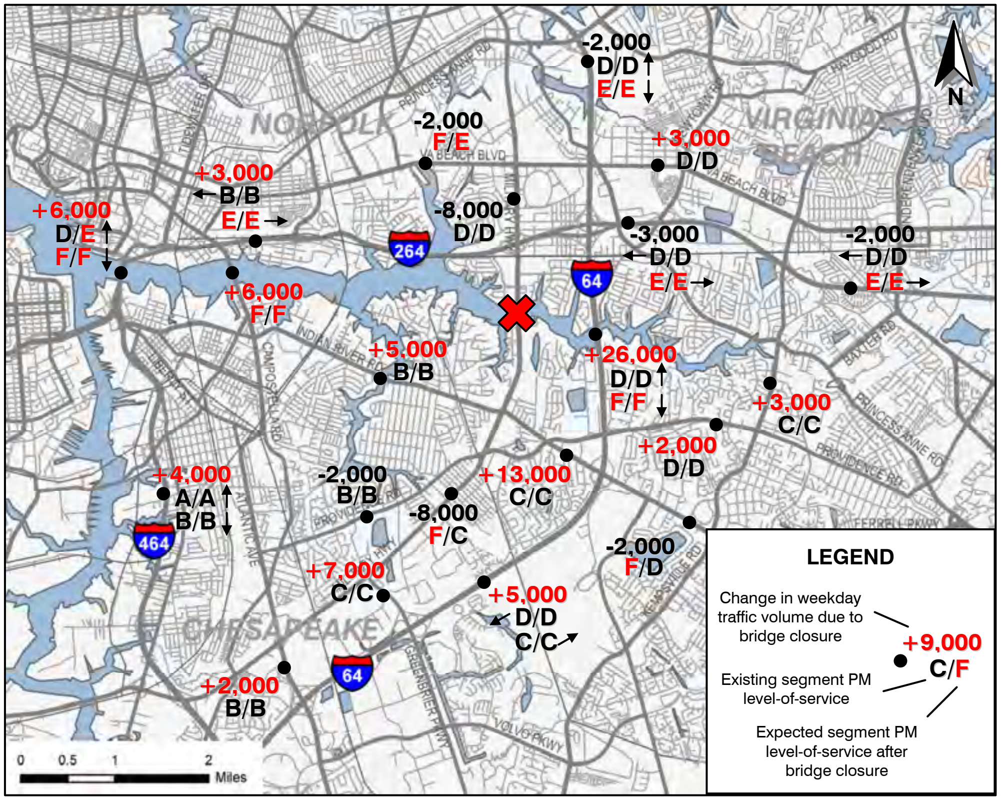
BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 82.2	
Deck Condition = 6	Structural Evaluation = 7 - 8
Superstructure Condition = 8	Waterway Adequacy = 8
Substructure Condition = 7 - 8	Deck Geometry = 5
App. Roadway Alignment = 8	Underclearances = N
Weight Limit = N/A	Detour Length = 6 miles
Bridge Mean Height = 12'	
Pedestrian Facilities = Yes	

BRIDGE FACTS/HISTORY

- The current Military Highway Bridges were opened in 1996.
- The current bridges replaced the originial four-lane structure that was constructed when Military Highway was built in the 1940s.
- The bridges are owned and maintained by the City of Norfolk.

Changes in Weekday Volumes Due to Closure of the Military Hwy Bridges



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Data assumes closure of both Military Highway bridges. Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Twin Bridges (I-64)

2 parallel 4-lane Fixed Prestressed Concrete Girder Bridges
Average Traffic Volumes (2007): 141,000(Daily), 153,000(Weekday)
Existing PM LOS = F (EB), D (WB)

Deficiencies:

- ▶ **Functionally Obsolete**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 88.5 – 89.2
Deck Condition = 6 - 7
Superstructure Condition = 7
Substructure Condition = 6
App. Roadway Alignment = 8

Structural Evaluation = 6
Waterway Adequacy = 8
Deck Geometry = 5 - 9
Underclearances = 3

Weight Limit = N/A
Bridge Mean Height = 21'
Pedestrian Facilities = No

Detour Length = 6 miles

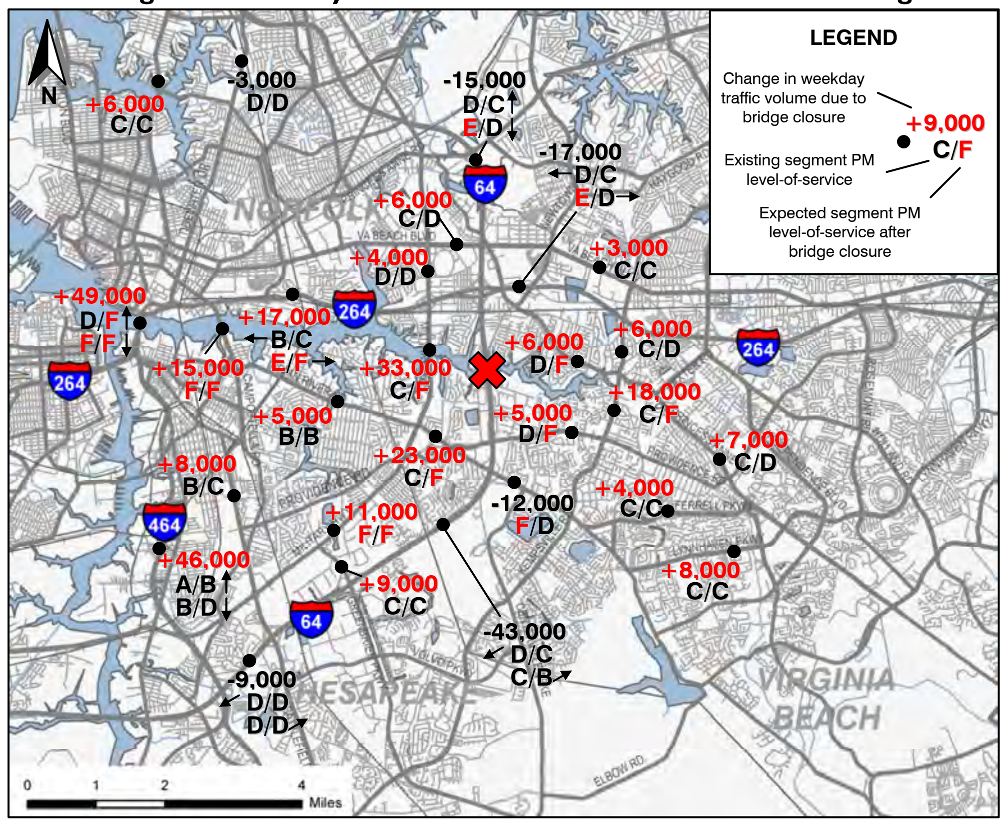
BRIDGE FACTS/HISTORY

- Each of the Twin Bridges were constructed with I-64 in 1967, and both bridges were rehabilitated and widened in 1992.
- The Twin Bridges are owned and maintained by VDOT.
- Although officially named the Roger Malbon Bridges in 1993, the original nomenclature Twin Bridges is still commonly used.

WEEKDAY BRIDGE CLOSURE EFFECTS

- As would be expected, closure of the Twin Bridges would have a catastrophic effect on congestion levels throughout the southside.
- Congested facilities that would be expected to carry additional traffic include the Berkley Bridge, Campostella Bridge, and portions of Military Highway and I-264. The congested intersection of Princess Anne Road and Kempsville Road/Witchduck Road would also be further overwhelmed.
- Roadways that would be expected to become congested due to the closure of the Twin Bridges include the Military Highway Bridges, Indian River Road to the west of I-64, and portions of Princess Anne Road, Kempsville Road, and Providence Road.

Changes in Weekday Volumes Due to Closure of the Twin Bridges



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Data assumes closure of both of the Twin Bridges. Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Coleman Bridge (Route 17)

4-lane Movable Swing Bridge
Average Traffic Volumes (2007):
34,000 (Daily), 36,000 (Weekday)
Existing PM LOS = F

Deficiencies:

- ▶ **Needs Repair (VDOT)**
- ▶ **Fracture Critical**

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 59.0	
Deck Condition = 6	Structural Evaluation = 5
Superstructure Condition = 6	Waterway Adequacy = 9
Substructure Condition = 5	Deck Geometry = 9
App. Roadway Alignment = 8	Underclearances = 9
Weight Limit = N/A	Detour Length = 70 miles
Bridge Mean Height = 60'	Vertical Clearance = 18"9"
Pedestrian Facilities = No	

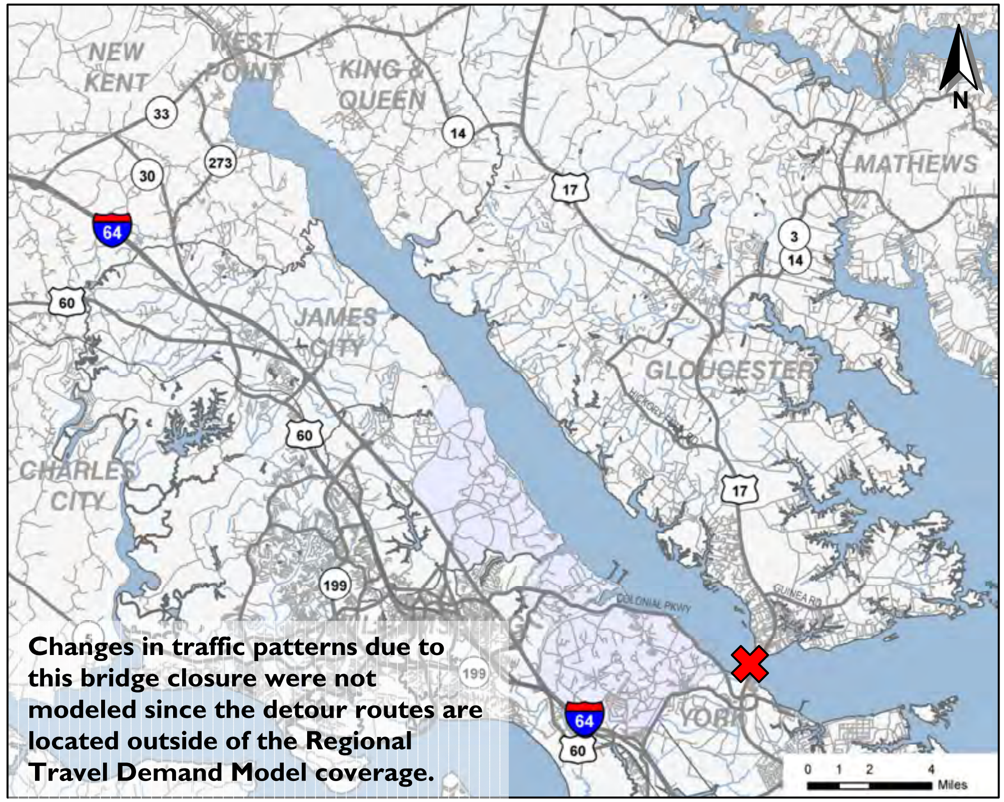
BRIDGE FACTS/HISTORY

- The original Coleman Bridge was opened in 1952, and the replacement bridge was completed in 1996. The bridge was closed for 9 days during construction in May 1996.
- The Coleman Bridge is the largest double-swing span bridge in the United States and the second largest in the world.
- Tolls have been collected on the Coleman Bridge since 1996. The current toll is $2 for northbound two-axle vehicles, or 85 cents for EZ Pass users.
- The Coleman Bridge opens on demand, except between 5:00 - 8:00 am and 3:00 – 7:00 pm on weekdays.

WEEKDAY BRIDGE CLOSURE EFFECTS

- The closure of the Coleman Bridge would disconnect Gloucester County from the rest of Hampton Roads, and would be particularly difficult for the 48% of Gloucester County residents that work in other Hampton Roads communities. The detour from Gloucester Point to Yorktown is about 70 miles, and many roads along the shortest detour route are not designed to handle the additional traffic.
- When the Coleman Bridge was closed for 9 days in 1996, passenger ferry service was instituted across the York River. Free shuttle bus service and park-and-ride lots were also instituted on both sides of the river.

Changes in Weekday Volumes Due to Closure of the Coleman Bridge



Route 3/14 over Beaverdam Swamp

4-lane Concrete Culvert
Average Traffic Volumes (2006):
18,000 (Daily), 19,000 (Weekday)
Existing PM LOS = A

Deficiencies: None.

WEEKDAY BRIDGE CLOSURE EFFECTS

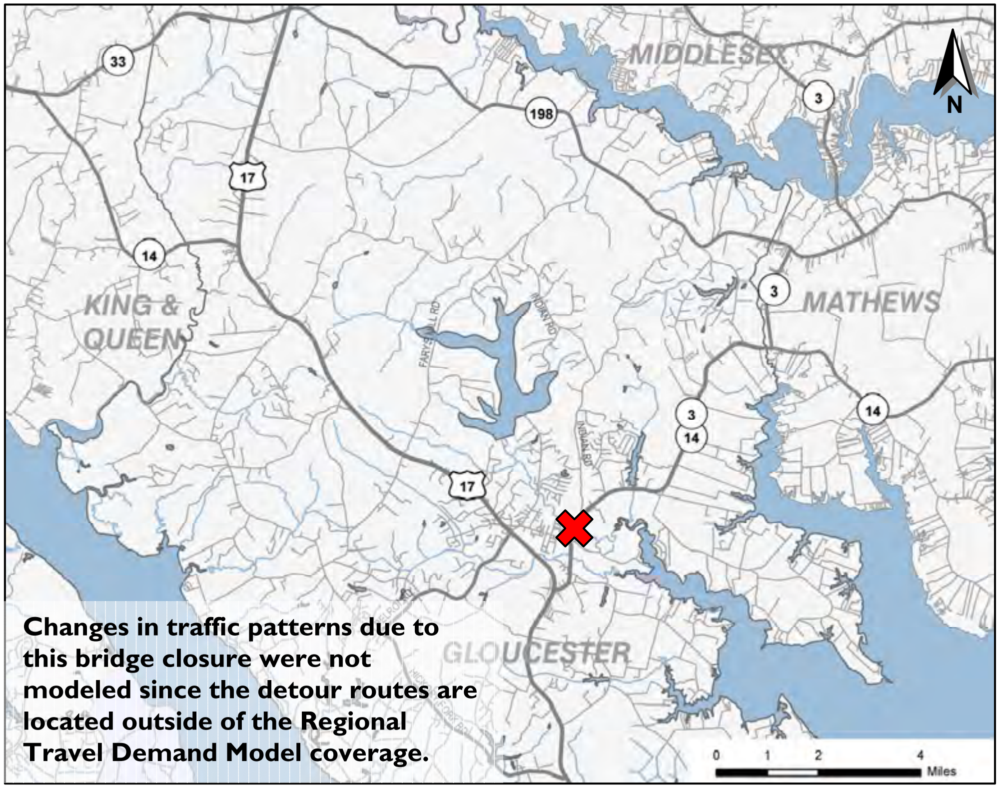
- Closure of Route 3/14 at Beaverdam Swamp would be a major inconvenience to traffic travelling between Mathews County and the Gloucester Court House area.
- The closure of Route 3/14 would force traffic to divert to roadways that are not built to handle the additional traffic volumes. These roadways include Route 198, Indian Road and Farys Mill Road.

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 69.0
Culvert Condition = 6 | Structural Evaluation = 6
App. Roadway Alignment = 8 | Waterway Adequacy = 9

Weight Limit = N/A | Detour Length = 16 miles
Pedestrian Facilities = No

Changes in Weekday Volumes Due to Closure of the Route 3/14 Bridge



BRIDGE FACTS/HISTORY

- The existing culvert was constructed in 1974.

Godwin Bridge (Route 17 over Nansemond River)

2-lane Fixed Steel Girder Bridge
Average Traffic Volumes (2006):
19,000 (Daily), 20,000 (Weekday)
Existing PM LOS = D

Deficiencies:
- ► **Needs Repair (VDOT)**

WEEKDAY BRIDGE CLOSURE EFFECTS

- Traffic using the Godwin Bridge would be expected to mostly divert to the Monitor-Merrimac Memorial Bridge-Tunnel, the James River Bridge, and the Suffolk Bypass.
- Facilities that would be expected to become congested due to the closure of the Godwin Bridge include the Northbound Monitor-Merrimac Memorial Bridge-Tunnel and Godwin Boulevard north of the Suffolk Bypass. The Suffolk Bypass and James River Bridge should remain uncongested with the additional diverted traffic volumes.

BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 68.0
Deck Condition = 6
Superstructure Condition = 6
Substructure Condition = 5
App. Roadway Alignment = 8

Structural Evaluation = 5
Waterway Adequacy = 8
Deck Geometry = 5
Underclearances = N

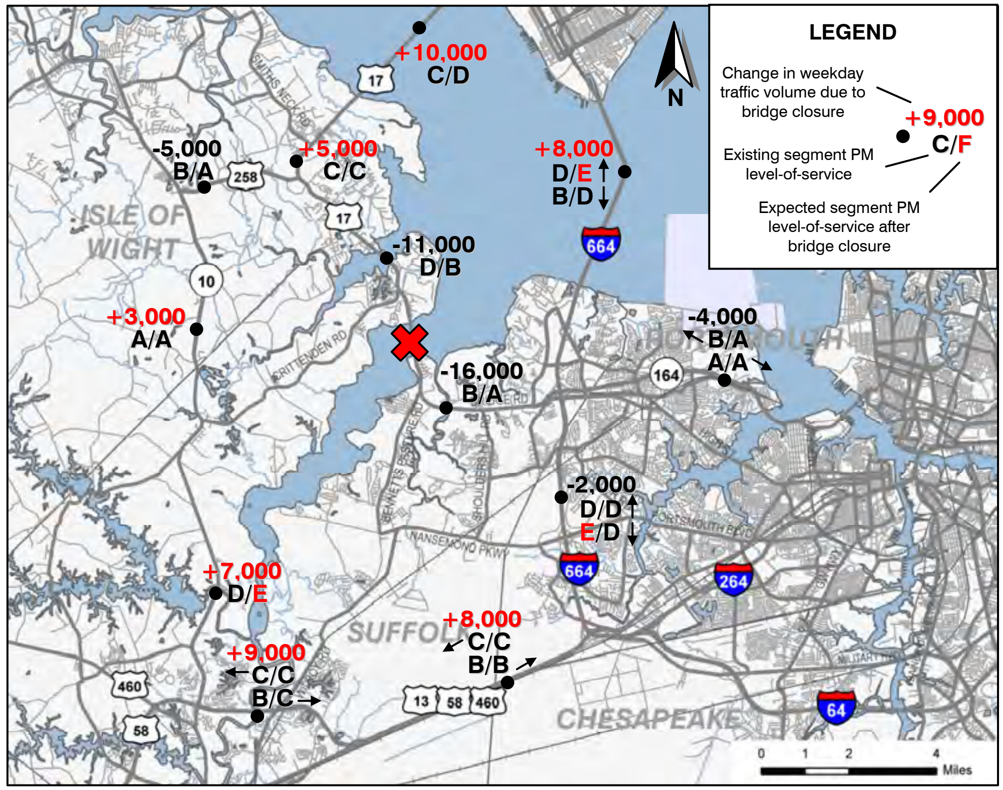
Weight Limit = N/A
Bridge Mean Height = 65'
Pedestrian Facilities = No

Detour Length = 16 miles

BRIDGE FACTS/HISTORY

- The existing Godwin Bridge opened to traffic in 1981. The original bridge at this location was built in 1928 in conjunction with the James River Bridge.
- Ownership and maintenance of the Godwin Bridge was transferred from VDOT to the City of Suffolk in 2006.
- There are no plans to build a parallel bridge at this site in the current Transportation Improvement Program and Long Range Transportation Plan.

Changes in Weekday Volumes Due to Closure of the Godwin Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Hazelwood Bridge (Route 17 over Chuckatuck Creek)

2-lane Prestressed Concrete Girder Bridge
Average Traffic Volumes (2006): 15,000 (Daily), 16,000 (Weekday)
Existing PM LOS = D

Deficiencies:

- ▶ **Needs Repair (VDOT)**

WEEKDAY BRIDGE CLOSURE EFFECTS

- Traffic using the Hazelwood Bridge would be expected to divert to the Monitor-Merrimac Memorial Bridge-Tunnel, the James River Bridge, the Suffolk Bypass, Godwin Boulevard, and Crittenden Road.
- No roadways would be expected to become congested due to the closure of the Hazelwood Bridge.

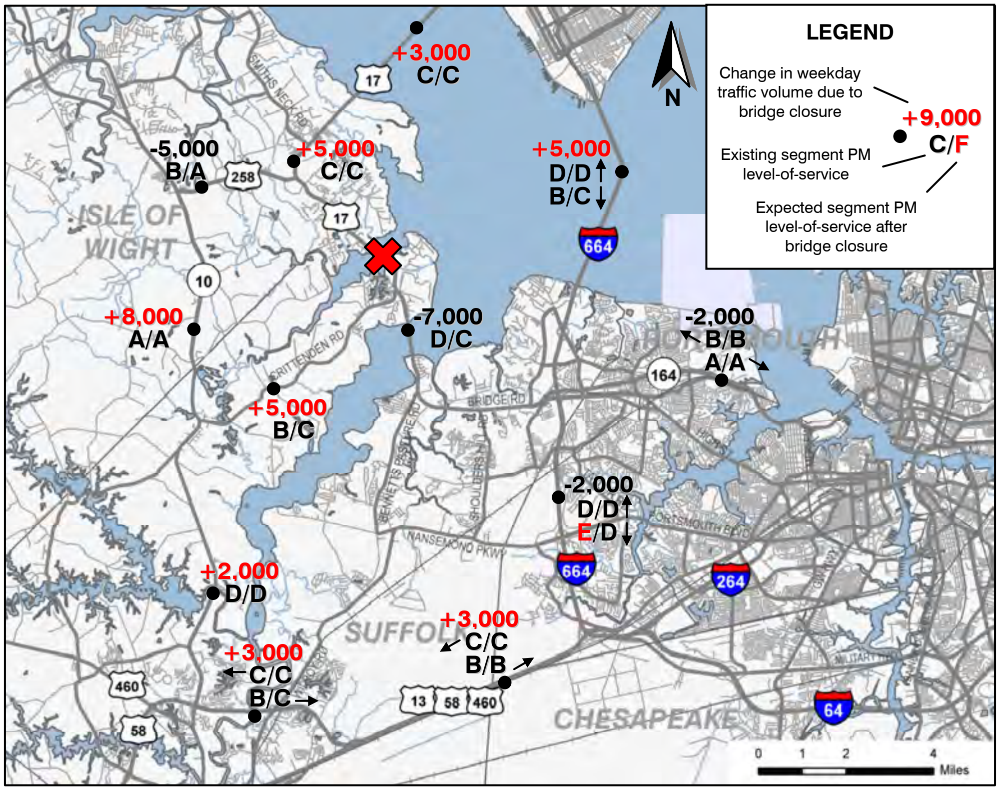
BRIDGE RATINGS AND CHARACTERISTICS

Sufficiency Rating = 83.0	
Deck Condition = 5	Structural Evaluation = 6
Superstructure Condition = 6	Waterway Adequacy = 8
Substructure Condition = 6	Deck Geometry = 5
App. Roadway Alignment = 7	Underclearances = N
Weight Limit = N/A	Detour Length = 17 miles
Bridge Mean Height = 35'	
Pedestrian Facilities = No	

BRIDGE FACTS/HISTORY

- The existing Hazelwood Bridge opened to traffic in 1988. The original bridge at this location was built in 1928 in conjunction with the James River Bridge.
- Ownership and maintenance of the Hazelwood Bridge was transferred from VDOT to the City of Suffolk in 2006.
- There are no plans to build a parallel bridge at this site in the current Transportation Improvement Program and Long Range Transportation Plan.

Changes in Weekday Volumes Due to Closure of the Hazelwood Bridge



Data source: HRMPO. Existing PM LOS source: "Congestion Management System for Hampton Roads", HRPDC, April 2005.
Not all volume changes are shown on map. Data does not reflect any operational changes that may be implemented.

Conclusions

This study looked at many facets of bridges in Hampton Roads, including those bridges that are deficient, bridge funding and projects, and how our bridges compare with those in other metropolitan areas. The following conclusions are made based on the analysis performed for this study:

- **A majority of bridges in Hampton Roads cross bodies of water.** Of the 1,237 bridges in Hampton Roads, 59% involve highways crossing over or under a waterway. 36% of bridges in the region involve highways crossing over other highways.
- **Hampton Roads has more lane-miles of bridges than other metropolitan areas.** Hampton Roads has 37% more lane-miles of bridges than the next highest metropolitan area included in the analysis. This additional infrastructure requires extra funding for maintenance and eventually rehabilitation or replacement.
- **Bridges in Hampton Roads are on average slightly older than those in other metropolitan areas, but not as old as the national and statewide averages. –** The median age of bridges in Hampton Roads is 34 years. However, 97 bridges throughout the region were built prior to 1940, and another 141 were built between 1940 and 1959. Most of the older bridges in Hampton Roads are in the western, more rural parts of the region.
- **75 bridges in Hampton Roads have a sufficiency rating of less than 50**. – This list includes some of the most prominent bridges in the region, including the Gilmerton Bridge, Jordan Bridge, Lesner Bridge, and Denbigh Boulevard bridge over I-64. The City of Chesapeake and Southampton County have the highest number of bridges with sufficiency ratings of less than 50.
- **Hampton Roads has fewer structurally deficient bridges than other metropolitan areas but more functionally obsolete bridges. –** Although only 4% of bridges in Hampton Roads are classified as structurally deficient, 23% of bridges in the region are classified as functionally obsolete. Combined, 27% of bridges in Hampton Roads are deficient. By comparison, about 20% of bridges are deficient in the Richmond and Northern Virginia areas.

PICTURE 12 – The James River Bridge. Hampton Roads has more lane-miles of bridges than other metropolitan areas.

- **A majority of the structurally deficient bridges in Hampton Roads do not have funding allocated for rehabilitation or reconstruction.** - Of the 54 bridges in Hampton Roads classified as structurally deficient, less than one-third (17) have funding included in either the VDOT Six-Year Improvement Program or in a City Capital Improvement Program/Plan. Construction is expected to begin on only 5 of those 17 bridges before the end of FY 2014. Of the 284 bridges in Hampton Roads classified as functionally obsolete, only 13 have funding included.

- **Current bridge funding levels are not nearly adequate to meet bridge maintenance needs.** – About $345 million is projected to be available over the next six years for 25 bridge projects in Hampton Roads. This total comes from previous allocations and funds expected to be allocated over the next six years. This level of funding, however, does not cover the estimated cost of $785 million to complete all 25 projects. Only 9 of the 25 bridges are currently projected to be fully funded by the end of FY 2014, and only 6 of the 25 bridges are expected to begin construction by the end of FY 2014.
- **Cities are not directly provided funding from the Urban Program based on the quantity or condition of their bridges.** – Cities with a high number of bridges or many deficient bridges are not compensated more from the Urban Maintenance Program than those cities with fewer bridges. One exception is the City of Chesapeake which receives an additional $1 million annually for bridge operation costs, although this does not cover even half of their budgeted costs.
- **Not surprisingly, taking many of the major bridges in Hampton Roads out of service would lead to extreme congestion throughout the region.** – Of the 26 major regional bridges analyzed in this study, it is anticipated that the closure of 20 of them would lead to increased congestion, with 12 of those closures leading to extreme congestion throughout the region.
- **More than half of the major regional bridges in Hampton Roads are in need of repair or rehabilitation.** – 16 of the 26 major regional bridges are classified by VDOT as needing repair or rehabilitation. In addition, 7 of 26 major regional bridges are structurally deficient or functionally obsolete.

APPENDICES

APPENDIX A – Regional Bridge Inventory

APPENDIX B - Definitions of Various Bridge Ratings

APPENDIX C - Sufficiency Rating Formula

APPENDIX A

Regional Bridge Inventory

Introduction

Appendix A contains an inventory of the 1,237 bridges in Hampton Roads. The data included in the Regional Bridge Inventory tables is described below:

1. **Federal Bridge ID –** A unique number designated for each bridge. The Federal Bridge ID is included on the jurisdictional bridge maps on pages 29-40.

2. **Span Type –** This column describes the type of bridge design, using the following codes:

1 – Slab	12 – Through arch
2 – Stringer/Mulit-beam or girder	13 - Suspension
3 – Girder and floorbeam system	14 – Stayed girder
4 – Tee beam	15 – Movable - lift
5 – Multiple Box Beams/Girders	16 – Movable - bascule
6 –Single Box Beams/Girders	17 – Movable - swing
7 –Frame	18 - Tunnel
9 – Deck truss	19 - Culvert
10 – Through truss	21 – Segmental box girder
11 – Deck arch	22 – Channel Beam
00 - Other	

Span types are described in detail beginning on page 5.

3. **AADT Volumes –** This column includes each facility's 2006 Annual Average Daily Traffic (AADT) volume as estimated by VDOT. In cases where this AADT information was not available, data from the VDOT bridge inventory database is used.

4. **Sufficiency Rating** - This column includes each bridge's sufficiency rating. The method for calculating sufficiency ratings is included in Appendix C.

5. **Bridge Ratings –** Nine different ratings are included for each bridge. These ratings include the condition of the deck, superstructure, substructure, and culvert (if applicable), structural condition, deck geometry, underclearances, waterway adequacy, and approach roadway alignment. Descriptions of each of these bridge ratings are included in Appendix B.

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1	CHES	21879	166	22ND STREET	SEABOARD AVENUE & N&W R/R	2	1938		5,900	2.0	5	3	4	N	2	2	2	N	7	SD	Y		1	-/5/5
2	CHES	21840	58	AIRLINE BLVD	BR GOOSE CREEK	1	1932		8,100	70.2	6	6	7	N	6	2	N	7	6	FO			4	-/-/-
3	CHES	25182	168	ATLANTIC AVENUE	N&W R/R	2	1999		12,000	94.9	7	8	7	N	7	9	N	N	7				1	-/-/-
4	CHES	25186	168	ATLANTIC AVENUE	NS R/R AND SB RAMP	2	1998		12,000	95.2	7	7	7	N	7	3	N	N	8	*			0	-/-/-
5	CHES	23762	166	BAINBRIDGE BLVD	MAINS CREEK	5	1993		4,600	75.7	7	7	7	N	7	2	N	7	3	FO			3	-/-/-
6	CHES	21882	166	BAINBRIDGE BLVD	MILLDAM CREEK	1	1985		10,000	97.4	6	6	6	N	6	9	N	8	8				4	-/-/-
7	CHES	21881	166	BAINBRIDGE BLVD	NS R/R	2	1938	1947	11,000	91.3	8	9	6	N	6	4	N	N	7				2	-/-/-
8	CHES	24840		BALLAHACK ROAD	LEAD DITCH	19	1997		840	96.0	N	N	N	6	6	N	N	7	7				16	-/-/-
9	CHES	25081		BALLAHACK ROAD	LEAD DITCH	19	1997		840	99.0	N	N	N	7	7	N	N	8	8				4	-/-/-
10	CHES	21813		BALLAHACK ROAD	NEWLAND SWAMP	2	1974		840	80.3	7	7	7	N	7	3	N	7	6	FO			7	-/-/-
11	CHES	21819		BARNES ROAD	I-464	2	1983		890	100.0	6	7	6	N	6	6	6	N	8				0	-/-/-
12	CHES	27874	168	BATTLEFIELD BLVD	CHESAPEAKE & ALBEMARLE CANAL	16	2004		35,000	87.1	8	8	8	N	8	7	N	8	8			Y	3	-/-/-
13	CHES	26940	168	BATTLEFIELD BLVD	CHESAPEAKE EXPRESSWAY	2	2001		7,700	95.8	7	8	7	N	7	3	6	N	7	*			1	-/-/-
14	CHES	21904	168	BATTLEFIELD BLVD	I-64	2	1967		45,000	90.0	6	7	6	N	6	5	5	N	8				0	-/-/-
15	CHES	28148	168	BATTLEFIELD BLVD	INLET OF C&A CANAL	5	2005		35,000	89.9	9	9	9	N	9	4	N	8	8				3	-/-/-

Introduction (continued)

6 **SD/FO** – This column indicates if a bridge is classified as structurally deficient or functionally obsolete. The following codes are used in this column:

SD – Indicates the bridge is classified as structurally deficient.
FO – Indicates the bridge is classified as functionally obsolete.
* - Indicates the bridge meets the standards to be classified as functionally obsolete but has been built or reconstructed in the last ten years. By law, bridges built or reconstructed in the last ten years can not be classified as functionally obsolete.

It should be noted that structurally deficient bridges can not also be classified as functionally obsolete, even if they meet the standards of a functionally obsolete bridge. Further descriptions of structurally deficient and functionally obsolete bridges are included on pages 16-26.

7 **Needs Repair** – This column indicates whether VDOT classifies the bridge as needing repair or rehabilitation. VDOT considers any bridge with a deck, superstructure, substructure, or culvert general condition rating of 5 or lower to need repair or rehabilitation.

8 **Fracture Critical** – This column indicates whether the bridge is classified as a fracture critical bridge. Fracture critical bridges are bridges that are designed with few or no redundant supporting elements, and if a key structural member fails, the bridge is in danger of collapse.

9 **Detour Length** – This column lists the detour length, which is the additional travel for each vehicle that would result from closing of the bridge. In cases where each direction of traffic is carried on a separate facility, the detour length is listed as 0 or 1 mile. In cases where no detour is available (approaching a cul-de-sac for example), the field is left blank.

10 **Posted Capacity** – This column lists the posted capacity of the bridge in tons. The capacity of the bridge is shown in the format 20/29/39, with the first number indicating the posted capacity for all vehicles, the second number indicating the posted capacity for single unit trucks, and the third number indicating the posted capacity for single trailer trucks. Dashes indicate that there is no posted capacity limit for that type of vehicle.

		1				2			3	4					5						6	7	8	9	10
											BRIDGE RATINGS														
#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1	CHES	21879	166	22ND STREET	SEABOARD AVENUE & N&W R/R	2	1938		5,900	2.0	5	3	4	N	2	2	2	N	7	SD	Y		1	-/5/5
2	CHES	21840	58	AIRLINE BLVD	BR GOOSE CREEK	1	1932		8,100	70.2	6	6	7	N	6	2	N	7	6	FO			4	-/-/-
3	CHES	25182	168	ATLANTIC AVENUE	N&W R/R	2	1999		12,000	94.9	7	8	7	N	7	9	N	N	7				1	-/-/-
4	CHES	25186	168	ATLANTIC AVENUE	NS R/R AND SB RAMP	2	1998		12,000	95.2	7	7	7	N	7	3	N	N	8	*			0	-/-/-
5	CHES	23762	166	BAINBRIDGE BLVD	MAINS CREEK	5	1993		4,600	75.7	7	7	7	N	7	2	N	7	3	FO			3	-/-/-
6	CHES	21882	166	BAINBRIDGE BLVD	MILLDAM CREEK	1	1985		10,000	97.4	6	6	6	N	6	9	N	8	8				4	-/-/-
7	CHES	21881	166	BAINBRIDGE BLVD	NS R/R	2	1938	1947	11,000	91.3	8	9	6	N	6	4	N	N	7				2	-/-/-
8	CHES	24840		BALLAHACK ROAD	LEAD DITCH	19	1997		840	96.0	N	N	N	6	6	N	N	7	7				16	-/-/-
9	CHES	25081		BALLAHACK ROAD	LEAD DITCH	19	1997		840	99.0	N	N	N	7	7	N	N	8	8				4	-/-/-
10	CHES	21813		BALLAHACK ROAD	NEWLAND SWAMP	2	1974		840	80.3	7	7	7	N	7	3	N	7	6	FO			7	-/-/-
11	CHES	21819		BARNES ROAD	I-464	2	1983		890	100.0	6	7	6	N	6	6	6	N	8				0	-/-/-
12	CHES	27874	168	BATTLEFIELD BLVD	CHESAPEAKE & ALBEMARLE CANAL	16	2004		35,000	87.1	8	8	8	N	8	7	N	8	8			Y	3	-/-/-
13	CHES	26940	168	BATTLEFIELD BLVD	CHESAPEAKE EXPRESSWAY	2	2001		7,700	95.8	7	8	7	N	7	3	6	N	7	*			1	-/-/-
14	CHES	21904	168	BATTLEFIELD BLVD	I-64	2	1967		45,000	90.0	6	7	6	N	6	5	5	N	8				0	-/-/-
15	CHES	28148	168	BATTLEFIELD BLVD	INLET OF C&A CANAL	5	2005		35,000	89.9	9	9	9	N	9	4	N	8	8				3	-/-/-

Regional Bridge Inventory

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1	CHES	21879	166	22ND STREET	SEABOARD AVENUE & N&W R/R	2	1938		5,900	2.0	5	3	4	N	2	2	2	N	7	SD	Y		1	-/5/5
2	CHES	21840	58	AIRLINE BLVD	BR GOOSE CREEK	1	1932		8,100	70.2	6	6	7	N	6	2	N	7	6	FO			4	-/-/-
3	CHES	25182	168	ATLANTIC AVENUE	N&W R/R	2	1999		12,000	94.9	7	8	7	N	7	9	N	N	7				1	-/-/-
4	CHES	25186	168	ATLANTIC AVENUE	NS R/R AND SB RAMP	2	1998		12,000	95.2	7	7	7	N	7	3	N	N	8	*			0	-/-/-
5	CHES	23762	166	BAINBRIDGE BLVD	MAINS CREEK	5	1993		4,600	75.7	7	7	7	N	7	2	N	7	3	FO			3	-/-/-
6	CHES	21882	166	BAINBRIDGE BLVD	MILLDAM CREEK	1	1985		10,000	97.4	6	6	6	N	6	9	N	8	8				4	-/-/-
7	CHES	21881	166	BAINBRIDGE BLVD	NS R/R	2	1938	1947	11,000	91.3	8	9	6	N	6	4	N	N	7				2	-/-/-
8	CHES	24840		BALLAHACK ROAD	LEAD DITCH	19	1997		840	96.0	N	N	N	6	6	N	N	7	7				16	-/-/-
9	CHES	25081		BALLAHACK ROAD	LEAD DITCH	19	1997		840	99.0	N	N	N	7	7	N	N	8	8				4	-/-/-
10	CHES	21813		BALLAHACK ROAD	NEWLAND SWAMP	2	1974		840	80.3	7	7	7	N	7	3	N	7	6	FO			7	-/-/-
11	CHES	21819		BARNES ROAD	I-464	2	1983		890	100.0	6	7	6	N	6	6	6	N	8				0	-/-/-
12	CHES	27874	168	BATTLEFIELD BLVD	CHESAPEAKE & ALBEMARLE CANAL	16	2004		35,000	87.1	8	8	8	N	8	7	N	8	8			Y	3	-/-/-
13	CHES	26940	168	BATTLEFIELD BLVD	CHESAPEAKE EXPRESSWAY	2	2001		7,700	95.8	7	8	7	N	7	3	6	N	7	*			1	-/-/-
14	CHES	21904	168	BATTLEFIELD BLVD	I-64	2	1967		43,000	90.0	6	7	6	N	6	5	5	N	8				0	-/-/-
15	CHES	28148	168	BATTLEFIELD BLVD	INLET OF C&A CANAL	5	2005		35,000	89.9	9	9	9	N	9	4	N	8	8				3	-/-/-
16	CHES	21885	168	BATTLEFIELD BLVD	MILITARY HIGHWAY	2	1990		23,000	88.7	6	7	7	N	7	9	3	N	8	FO			4	-/-/-
17	CHES	26887	168	BATTLEFIELD BLVD NB	NORTHWEST RIVER	2	2001		12,000	98.5	7	7	7	N	7	7	N	8	8				1	-/-/-
18	CHES	21887	168	BATTLEFIELD BLVD SB	NORTHWEST RIVER	2	1987		12,000	78.7	7	7	7	N	6	9	N	8	6				13	-/-/-
19	CHES	24003	168	BATTLEFIELD BLVD	POPLAR BRANCH	1	1993		15,000	95.4	7	7	7	N	7	3	N	8	8	FO			1	-/-/-
20	CHES	21802		BEAVER DAM ROAD	DRAINAGE DITCH	2	1973		500	51.8	6	6	6	N	4	4	N	8	8				6	-/15/23
21	CHES	21811		BELLS MILL ROAD	BELLS MILL CREEK	2	1974		1,400	27.0	7	5	4	N	4	3	N	8	6	SD	Y		6	-/17/28
22	CHES	21803		BENEFIT ROAD	BRANCH NORTHWEST RIVER	1	1986		1,000	94.3	7	7	7	N	7	7	N	8	8				10	-/-/-
23	CHES	26883		BENEFIT ROAD	CHESAPEAKE EXPRESSWAY	2	2001		2,500	95.0	8	9	8	N	8	9	N	N	8				4	-/-/-
24	CHES	21804		BENEFIT ROAD	LEAD DITCH	2	1958	1976	2,800	73.6	6	7	7	N	6	3	N	9	9	FO			3	-/-/-
25	CHES	24257		BENEFIT ROAD	LEAD DITCH	19	1993		2,500	99.0	N	N	N	7	7	N	N	8	8				0	-/-/-
26	CHES	21825		BLACKWATER ROAD	POCATY CREEK	2	1969	1984	2,700	45.3	4	4	5	N	4	2	N	8	8	SD	Y		10	-/-/-
27	CHES	24704		BUNCH WALNUTS ROAD	NORTHWEST RIVER	12	1996		860	92.7	7	7	7	N	7	6	N	8	6				7	-/-/-
28	CHES	21791		CAMPOSTELLA ROAD	I-464	2	1966		6,300	76.5	6	7	7	N	7	4	2	N	8	FO			4	-/-/-
29	CHES	21884		CAMPOSTELLA ROAD	NORFOLK & SOUTHERN R/R	2	1938	1985	13,000	88.5	7	7	6	N	6	4	N	N	5				2	-/-/-
30	CHES	25185		CAMPOSTELLA ROAD SB RAMP	N&S R/R	2	2000		1,000	84.0	7	8	7	N	7	4	N	N	7				1	-/-/-
31	CHES	26696	165	CEDAR ROAD	BELLS MILL CREEK	5	1999		25,000	85.8	7	7	7	N	7	9	N	8	8				7	-/-/-
32	CHES	28514		CEDAR ROAD	LINDSEY DRAINAGE CANAL	19	2006		13,000	98.2	N	N	N	8	8	5	N	7	7				2	-/-/-
33	CHES	21797		CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL	17	1955	1990	15,000	40.4	6	5	6	N	4	2	N	7	6	FO	Y	Y	8	-/-/-
34	CHES	26885	168	CHESAPEAKE EXPRESSWAY NB	BATTLEFIELD BLVD SOUTH	2	2001		6,500	99.9	8	8	8	N	8	7	N	N	8				1	-/-/-
35	CHES	26886	168	CHESAPEAKE EXPRESSWAY SB	BATTLEFIELD BLVD SOUTH	2	2001		6,500	99.9	8	8	8	N	8	7	N	N	8				1	-/-/-
36	CHES	26881	168	CHESAPEAKE EXPRESSWAY NB	HILLCREST PARKWAY	2	2001		6,500	90.8	8	8	8	N	8	8	4	N	8				1	-/-/-
37	CHES	26882	168	CHESAPEAKE EXPRESSWAY SB	HILLCREST PARKWAY	2	2001		6,500	92.8	8	8	8	N	8	9	9	N	8				1	-/-/-
38	CHES	24206	168	CHESAPEAKE EXPRESSWAY NB	POPLAR BRANCH	5	1993		21,000	93.2	8	8	8	N	8	3	N	9	8	FO			1	-/-/-
39	CHES	24207	168	CHESAPEAKE EXPRESSWAY SB	POPLAR BRANCH	5	1993		21,000	93.2	8	8	8	N	8	3	N	9	8	FO			1	-/-/-
40	CHES	21812		DOCK LANDING ROAD	BAILEY CREEK	2	1970		6,500	77.5	6	7	7	N	7	3	N	7	6	FO			3	-/-/-
41	CHES	23104		DOCK LANDING ROAD	I-664	2	1991		5,900	99.0	6	7	7	N	7	9	5	N	8				0	-/-/-
42	CHES	21824		ELBOW ROAD	STUMPY LAKE SPILLWAY	2	1975		5,500	74.5	6	6	7	N	6	2	N	8	8	FO			12	-/-/-
43	CHES	21805		ETHERIDGE MANOR BLVD	COOPERS DITCH	1	1990		12,000	82.2	7	7	7	N	7	4	N	8	8				2	-/-/-
44	CHES	21822		ETHERIDGE ROAD	COOPERS DITCH	2	1989		2,500	97.8	7	7	7	N	7	6	N	8	8				3	-/-/-
45	CHES	21809		FENTRESS AIRFIELD ROAD	POCATY CREEK	2	1973		4,458	48.6	5	5	5	N	5	2	N	7	5	FO	Y		2	-/20/28
46	CHES	21810		FENTRESS AIRFIELD ROAD	POCATY CREEK	2	1963		3,787	69.3	6	7	6	N	6	2	N	7	8	FO			14	-/-/-
47	CHES	24202		FOREST ROAD	COOPERS DITCH	1	1993		210	89.4	7	7	7	N	7	3	N	9	8	FO				-/-/-
48	CHES	21834	17	GEORGE WASHINGTON HWY	DEEP CREEK	2	1933	1942	26,000	42.6	4	4	5	N	4	6	N	8	8	SD	Y		3	-/12/18
49	CHES	1818	17	GEORGE WASHINGTON HWY	DISMAL SWAMP CANAL	16	1934		26,000	57.9	7	6	6	N	6	2	N	9	6	FO		Y	10	20/29/39
50	CHES	21836	17	GEORGE WASHINGTON HWY	I-64	2	1969		25,000	77.1	6	5	7	N	5	5	6	N	8		Y		5	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

											BRIDGE RATINGS													
#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
51	CHES	21833	17	GEORGE WASHINGTON HWY	ST JULIANS CREEK	1	1985		28,000	94.0	7	7	7	N	7	9	N	8	7				2	-/-/-
52	CHES	21838	17	GEORGE WASHINGTON HWY	YADKINS ROAD & N&W R/R	2	1992	1992	24,000	27.6	7	5	4	N	2	4	5	N	7	SD	Y		2	8/-/-
53	CHES	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER	16	1938	1958	32,000	3.0	4	3	5	N	2	2	N	5	7	SD	Y	Y	5	-/14/20
54	CHES	21906	190	GREAT BRIDGE BLVD	I-64	2	1967		11,000	78.3	6	6	6	N	6	4	5	N	8				4	-/-/-
55	CHES	21891	168	GREAT BRIDGE BYPASS	CHESAPEAKE & ALBEMARLE CANAL	2	1981		66,000	67.0	5	5	6	N	5	9	N	8	8		Y		8	-/-/-
56	CHES	25566	168	GREAT BRIDGE BYPASS NB	BATTLEFIELD BLVD	2	1998		32,000	92.9	7	7	7	N	7	9	3	N	8	*			1	-/-/-
57	CHES	21898	168	GREAT BRIDGE BYPASS SB	BATTLEFIELD BLVD	2	1981		32,000	93.9	7	7	7	N	7	9	6	N	7				1	-/-/-
58	CHES	21900	168	GREAT BRIDGE BYPASS NB	KEMPSVILLE RD	2	1981		33,000	89.3	7	7	7	N	7	5	6	N	8				1	-/-/-
59	CHES	21902	168	GREAT BRIDGE BYPASS SB	KEMPSVILLE RD	2	1981		33,000	89.3	7	7	6	N	6	5	6	N	8				1	-/-/-
60	CHES	21894	168	GREAT BRIDGE BYPASS NB	MOUNT PLEASANT ROAD	2	1981		27,000	89.6	7	7	7	N	7	6	3	N	8	FO			1	-/-/-
61	CHES	21896	168	GREAT BRIDGE BYPASS SB	MOUNT PLEASANT ROAD	2	1981		27,000	89.6	7	7	7	N	7	9	3	N	8	FO			1	-/-/-
62	CHES	21793		GREENBRIER PARKWAY	I-64	2	1978		67,000	95.0	7	7	6	N	6	9	6	N	8				0	-/-/-
63	CHES	23021		GUM COURT	DRUM POINT CREEK	19	1991		25	93.8	N	N	N	8	8	N	N	8	8					-/-/-
64	CHES	25696		HANBURY ROAD	CHESAPEAKE EXPRESSWAY	2	1998		1,000	91.9	8	8	8	N	8	3	3	N	8	*			1	-/-/-
65	CHES	21868	64	HIGH RISE BRIDGE	S BR ELIZ RIVER & SR 166	16	1969	1991	71,000	61.0	6	6	5	N	5	4	5	8	8		Y	Y	9	-/-/-
66	CHES	21823		HILLWELL ROAD	POPLAR BRANCH	2	1989		2,700	90.4	7	6	7	N	6	5	N	8	8				5	-/-/-
67	CHES	21844	64	I-64	CANAL	19	1967	1995	115,000	72.5	N	N	N	6	6	N	N	8	8				1	-/-/-
68	CHES	21862	64	I-64 EB	MILITARY HIGHWAY	2	1969		36,000	81.8	7	6	5	N	5	7	4	N	8		Y		1	-/-/-
69	CHES	21864	64	I-64 WB	MILITARY HIGHWAY	2	1969		36,000	89.1	7	6	6	N	6	7	4	N	8				1	-/-/-
70	CHES	21920	64	I-64 EB	N&S R/R & ROTUNDA AVE	2	1969	1993	37,000	93.2	7	6	6	N	6	8	4	N	8				1	-/-/-
71	CHES	21922	64	I-64 WB	N&S R/R & ROTUNDA AVE	2	1969	1993	37,000	94.2	6	6	6	N	6	8	4	N	8				1	-/-/-
72	CHES	21858	64	I-64 EB	N&S R/R & YADKIN ROAD	2	1969		35,000	65.0	6	7	5	N	5	4	5	N	8		Y		1	-/-/-
73	CHES	21860	64	I-64 WB	N&S R/R & YADKIN ROAD	2	1969		35,000	67.6	6	7	5	N	5	4	5	N	8		Y		1	-/-/-
74	CHES	25192	64	I-64	NORFOLK SOUTHERN R/R	2	1998		110,000	85.0	7	8	8	N	8	9	N	N	8				6	-/-/-
75	CHES	21856	64	I-64 EB	SHELL ROAD	2	1969		36,000	95.9	6	7	7	N	7	7	6	N	8				1	-/-/-
76	CHES	21854	64	I-64 WB	SHELL ROAD	2	1969		36,000	94.9	6	7	6	N	6	7	6	N	8				1	-/-/-
77	CHES	21870	64	I-64 EB RAMP	CANAL	19	1978		4,500	99.7	N	N	N	7	7	N	N	8	8				1	-/-/-
78	CHES	21872	64	I-64 EB RAMP	CANAL	19	1978		4,500	97.7	N	N	N	7	7	N	N	8	8				1	-/-/-
79	CHES	21871	64	I-64 WB RAMP	CANAL	19	1978		4,500	99.7	N	N	N	7	7	N	N	8	8				1	-/-/-
80	CHES	21873	64	I-64 WB RAMP	CANAL	19	1978		4,500	99.7	N	N	N	7	7	N	N	8	8				1	-/-/-
81	CHES	21925	264	I-264 EB	I-64 EB	2	1963	1993	20,000	83.2	6	7	5	N	5	8	4	N	8		Y		1	-/-/-
82	CHES	21927	264	I-264 EB	I-64 RAMP	2	1963	1993	18,900	96.6	6	7	6	N	6	8	6	N	8				1	-/-/-
83	CHES	21918	264	I-264 WB RAMP	I-64	2	1969		15,450	80.6	5	5	5	N	5	4	4	N	8		Y		1	-/-/-
84	CHES	21945	464	I-464 NB	BAINBRIDGE BLVD	2	1984		22,000	90.1	6	6	7	N	6	5	6	N	8				4	-/-/-
85	CHES	21947	464	I-464 SB	BAINBRIDGE BLVD	2	1984		22,000	90.8	6	6	7	N	6	5	6	N	8				4	-/-/-
86	CHES	21957	464	I-464 NB	FREEMAN AVENUE	2	1987		22,000	96.0	7	7	7	N	7	5	5	N	8				0	-/-/-
87	CHES	21959	464	I-464 SB	FREEMAN AVENUE	2	1987		22,000	97.0	7	7	7	N	7	5	N	N	8				0	-/-/-
88	CHES	21961	464	I-464 NB	GILLIGAN CREEK & NS R/R	2	1987		23,000	97.0	6	6	7	N	6	5	N	8	8				0	-/-/-
89	CHES	21962	464	I-464 SB	GILLIGAN CREEK & NS R/R	2	1987		23,000	97.0	6	7	7	N	7	5	N	8	8				0	-/-/-
90	CHES	21941	464	I-464 NB	I-64	2	1967		26,000	78.6	6	7	6	N	6	4	6	N	8				1	-/-/-
91	CHES	21943	464	I-464 SB	I-64	2	1967		26,000	91.6	6	7	6	N	6	6	N	N	8				1	-/-/-
92	CHES	21963	464	I-464 NB	JONES CREEK	2	1987		23,000	97.0	6	7	7	N	7	5	N	8	8				0	-/-/-
93	CHES	21964	464	I-464 SB	JONES CREEK	2	1987		23,000	97.0	6	7	7	N	7	5	N	8	8				0	-/-/-
94	CHES	21965	464	I-464 NB	JONES CREEK	2	1987		23,000	97.0	6	7	7	N	7	5	N	8	8				0	-/-/-
95	CHES	21966	464	I-464 SB	JONES CREEK	2	1987		23,000	97.0	6	7	7	N	7	5	N	8	8				0	-/-/-
96	CHES	21949	464	I-464 NB	MILITARY HWY	2	1984		22,000	97.0	6	6	7	N	6	5	6	N	8				0	-/-/-
97	CHES	21951	464	I-464 SB	MILITARY HWY	2	1984		22,000	97.0	6	6	7	N	6	5	6	N	8				0	-/-/-
98	CHES	21955	464	I-464 NB	MILLDAM CREEK	2	1986		22,000	97.0	6	7	7	N	7	5	N	8	8				0	-/-/-
99	CHES	21956	464	I-464 SB	MILLDAM CREEK	2	1986		22,000	97.0	6	7	7	N	7	5	N	8	8				0	-/-/-
100	CHES	21953	464	I-464 NB	NS R/R & BR MILLDAM CREEK	2	1984		22,000	96.0	7	7	7	N	7	4	N	N	8				0	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

											BRIDGE RATINGS													
#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
101	CHES	21954	464	I-464 SB	NS R/R & BR MILLDAM CREEK	2	1984		22,000	96.0	7	7	7	N	7	4	N	N	8				0	-/-/-
102	CHES	21967	464	I-464 NB	SOUTH NORFOLK BASIN	2	1980		23,000	93.6	6	7	7	N	7	5	N	8	8				2	-/-/-
103	CHES	21968	464	I-464 SB	SOUTH NORFOLK BASIN	2	1980		23,000	98.0	7	7	7	N	7	9	N	8	8				0	-/-/-
104	CHES	21969	464	I-464 SB	SOUTH NORFOLK BASIN	2	1980		23,000	93.0	6	7	7	N	7	7	N	8	8				0	-/-/-
105	CHES	23105	664	I-664 NB	BAILEY CREEK	2	1991		37,000	93.6	6	7	7	N	7	6	N	8	8				4	-/-/-
106	CHES	23106	664	I-664 SB	BAILEY CREEK	2	1991		37,000	86.4	7	8	7	N	7	6	N	8	8				4	-/-/-
107	CHES	23037	664	I-664	BR DRUM POINT CREEK	19	1991		75,000	59.0	N	N	N	5	5	N	N	8	8		Y		4	-/-/-
108	CHES	23017	664	I-664	DRUM POINT CREEK	19	1991		75,000	70.0	N	N	N	7	7	N	N	8	8				5	-/-/-
109	CHES	23102	664	I-664 NB	GOOSE CREEK	2	1991		37,000	89.6	6	7	6	N	6	6	N	8	8				4	-/-/-
110	CHES	23103	664	I-664 SB	GOOSE CREEK	2	1991		37,000	85.5	7	7	6	N	6	6	N	8	8				4	-/-/-
111	CHES	23109	664	I-664 NB	N&S R/R	2	1991		38,000	94.1	7	7	7	N	7	8	N	N	8				4	-/-/-
112	CHES	23110	664	I-664 SB	N&S R/R	2	1991		38,000	86.5	6	7	7	N	7	6	N	N	8				4	-/-/-
113	CHES	23014	664	I-664 NB	ROUTE 13/58/460	2	1991		44,000	98.0	6	7	7	N	7	6	7	N	8				0	-/-/-
114	CHES	23015	664	I-664 SB	ROUTE 13/58/460	2	1991		44,000	97.0	5	7	7	N	7	6	7	N	8		Y		0	-/-/-
115	CHES	21911	664	I-664 NB	W MILITARY HWY & CSX R/R	2	1983		52,000	90.9	6	6	6	N	6	6	5	N	8				1	-/-/-
116	CHES	21913	664	I-664 SB	W MILITARY HWY & CSX R/R	2	1983		52,000	87.8	7	6	6	N	6	6	5	N	8				1	-/-/-
117	CHES	21915	664	I-664 RAMP	ROUTE 58 & 460 EB	2	1983		16,840	98.0	7	7	7	N	7	9	7	N	8			Y	0	-/-/-
118	CHES	26884		INDIAN CREEK ROAD	CHESAPEAKE EXPRESSWAY	2	2001		940	99.2	7	9	7	N	7	7	N	N	8				5	-/-/-
119	CHES	21799		INDIAN CREEK ROAD	INDIAN CREEK	2	1972		940	48.6	7	7	4	N	4	2	N	8	7	SD	Y		7	-/-/-
120	CHES	21935	407	INDIAN RIVER ROAD	INDIAN RIVER	2	1974		29,000	64.9	7	6	5	N	5	9	N	8	8		Y		7	-/-/-
121	CHES	25188	407	INDIAN RIVER ROAD	N&S R/R	2	1998		24,000	94.5	7	7	7	N	7	9	N	N	8				6	-/-/-
122	CHES	21908	191	JOLLIFF ROAD	I-664	2	1991		2,900	100.0	6	8	7	N	7	6	7	N	8				0	-/-/-
123	CHES	21931	337	JORDAN BRIDGE	S BR ELIZABETH RIVER	15	1926		6,700	4.0	4	4	4	N	2	2	N	7	6	SD	Y	Y	6	-/3/3
124	CHES	21806		LAKE DRUMMOND CAUSEWAY	LEAD DITCH	2	1982		980	51.9	5	5	6	N	5	4	N	8	8		Y		10	-/24/34
125	CHES	21798		LAND OF PROMISE ROAD	POCATY CREEK	2	1971		1,200	75.9	7	7	6	N	6	3	N	7	5	FO			9	-/-/-
126	CHES	21800		LONG RIDGE ROAD	POCATY CREEK	2	1973		994	81.8	9	9	6	N	6	4	N	7	6				2	-/-/-
127	CHES	24742		LURAY STREET	DISMAL SWAMP CANAL SPLWY	5	1996		200	72.9	7	7	7	N	6	2	N	8	7	FO				-/-/-
128	CHES	21827	13	MILITARY HIGHWAY	BAINBRIDGE BLVD & NS R/R	4	1948	1960	31,000	44.9	4	5	7	N	5	4	2	N	6	SD	Y		5	-/-/-
129	CHES	21826	13	MILITARY HIGHWAY	N&S R/R	2	1990		30,000	97.7	6	7	7	N	7	9	N	N	8				1	-/-/-
130	CHES	21830	13	MILITARY HIGHWAY	N&S R/R	2	1938		7,700	27.0	3	5	5	N	2	2	N	N	8	SD	Y		3	-/19/31
131	CHES	24180		MILLSTONE ROAD	COOPERS DITCH	1	1993		200	96.0	7	7	7	N	7	3	N	9	8	FO			0	-/-/-
132	CHES	28523	165	MOSES GRANDY TRAIL	NEW MILL CREEK	1	2006			82.7	8	8	8	N	8	N	N	7	7				2	-/-/-
133	CHES	1826	165	MOUNT PLEASANT ROAD	CHESAPEAKE & ALBEMARLE CANAL	17	1951		9,800	17.5	6	7	5	N	2	2	N	9	6	SD	Y	Y	6	13/-/-
134	CHES	21877	165	MOUNT PLEASANT ROAD	COOPERS DITCH	1	1985		17,000	95.2	6	6	7	N	6	4	N	8	9				2	-/-/-
135	CHES	21816		NUMBER TEN LANE	LINDSEY DRAINAGE CANAL	2	1979		1,652	59.1	5	5	7	N	5	3	N	8	8	FO	Y		8	-/-/-
136	CHES	23020		OLD JOLIFF ROAD	BR BAILEY CREEK	19	1991		25	99.0	N	N	N	7	7	N	N	8	8				0	-/-/-
137	CHES	26701		PEACEFUL ROAD	CHESAPEAKE EXPRESSWAY	2	2001		200	94.9	7	8	7	N	7	9	N	N	8				6	-/-/-
138	CHES	21932	337	POINDEXTER STREET	I-464	2	1980		12,000	90.1	6	7	7	N	7	9	6	N	8				5	-/-/-
139	CHES	23107	337	PORTSMOUTH BLVD EB	I-664	2	1992		13,000	93.2	6	7	6	N	6	5	8	N	8				3	-/-/-
140	CHES	23108	337	PORTSMOUTH BLVD WB	I-664	2	1992		13,000	93.2	6	7	7	N	7	5	9	N	8				3	-/-/-
141	CHES	24256	337	PORTSMOUTH BLVD	TRIB BAILEY'S CREEK	19	1990		36,000	79.0	N	N	N	6	6	N	N	8	8				5	-/-/-
142	CHES	21934	337	PORTSMOUTH BLVD	W BR ELIZABETH RIVER	2	1983		32,000	70.9	7	7	5	N	5	6	N	8	6		Y		12	-/-/-
143	CHES	21795		PROVIDENCE ROAD	BRANCH OF INDIAN RIVER	19	1970		18,000	94.6	N	N	N	7	7	N	N	7	8				4	-/-/-
144	CHES	21796		PROVIDENCE ROAD	BRANCH OF INDIAN RIVER	19	1970		18,000	94.0	N	N	N	7	7	N	N	N	8				3	-/-/-
145	CHES	23039	659	PUGHSVILLE ROAD	BR DRUM POINT CREEK	19	1991		8,200	85.0	N	N	N	6	6	N	N	8	8				0	-/-/-
146	CHES	23112	659	PUGHSVILLE ROAD	I-664	2	1991		13,500	99.0	6	7	7	N	7	5	9	N	8				0	-/-/-
147	CHES	21937	460	RAMP TO BAINBRIDGE BLVD & NS R/R	BAINBRIDGE BLVD	2	1948	1960	9,060	76.0	6	5	6	N	5	7	2	N	5	FO	Y		6	-/-/-
148	CHES	25570	168	RAMP TO DOMINION BLVD	I-464 & OAK GROVE CONN	2	1999		3,000	93.8	8	8	8	N	8	3	9	N	6	*			1	-/-/-
149	CHES	21817		ROSEMONT AVENUE	I-464	2	1983		1,200	93.8	6	7	6	N	6	3	6	N	8	FO			0	-/-/-
150	CHES	21821		ROTUNDA AVENUE	TRIB GOOSE CREEK	2	1969		440	96.9	6	7	7	N	7	6	N	8	8				3	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
151	CHES	25568	168	ROUTE 168 SB	DOMINION BLVD AND RAMPS	2	1998		3,000	85.7	8	7	8	N	5	8	6	N	7				1	-/-/-
152	CHES	25567	168	ROUTE 168 NB	RAMP TO I-64 WB	2	1999		3,000	91.8	7	7	8	N	7	3	3	N	7	*			1	-/-/-
153	CHES	25569	168	ROUTE 168 SB RAMP	DOMINION BLVD AND RAMPS	2	1999		3,000	97.6	7	7	8	N	7	9	9	N	8				2	-/-/-
154	CHES	27402	17	ROUTE 17	STREAM	19	2006		12,000	79.0	N	N	N	7	7	2	N	8	8	*			0	-/-/-
155	CHES	27231	17	ROUTE 17 NB	WETLANDS	2	2005		6,000	92.6	9	9	9	N	9	6	N	8	8				1	-/-/-
156	CHES	27232	17	ROUTE 17 SB	WETLANDS	2	2005		6,000	92.6	9	9	9	N	9	6	N	8	8				1	-/-/-
157	CHES	21801		SAINT BRIDES ROAD	LEAD DITCH	2	1978		830	35.3	5	4	4	N	4	4	N	9	6	SD	Y		8	-/21/30
158	CHES	23038		SERVICE ROAD	BR DRUM POINT CREEK	19	1991		100	83.1	N	N	N	5	5	N	N	8	8		Y			-/-/-
159	CHES	21875	17	STEEL BRIDGE (DOMINION BLVD)	S BR ELIZABETH RIVER	16	1962		30,000	49.8	6	5	5	N	5	4	N	7	6		Y	Y	8	-/-/-
160	CHES	24203		WOODLAKE DRIVE	DRAINAGE CHANNEL	19	1975	1988	21,000	82.0	N	N	N	8	8	N	N	9	8				2	-/-/-
161	GLO	10588	14	ADNER ROAD	PORPOTANK CREEK	1	1938		4,600	62.0	5	5	5	N	4	2	N	6	8	FO	Y		18	-/-/-
162	GLO	8552	662	ALLMONDSVILLE ROAD	FOX CREEK	2	1937		110	53.2	5	5	5	N	4	3	N	8	8	FO	Y		5	14/-/-
163	GLO	8544	616	BELROI ROAD	FOX MILL RUN	19	1958		5,400	86.8	N	N	N	5	5	N	N	7	8		Y		5	-/-/-
164	GLO	8535	602	BURKE'S POND ROAD	BURKES POND	2	1940		1,100	24.2	6	4	4	N	4	2	N	7	8	SD	Y		5	-/18/27
165	GLO	8545	627	CUNNINGHAM LANE	WILSON CREEK	2	1963		60	65.8	7	6	4	N	4	4	N	7	8	SD	Y		2	-/-/-
166	GLO	8532	198	DUTTON ROAD	FERRY CREEK	5	1938	1999	2,500	90.5	8	8	7	N	7	4	N	6	8				19	-/-/-
167	GLO	8533	198	DUTTON ROAD	HARPER CREEK	4	1941		2,300	55.3	5	5	7	N	5	2	N	6	8	FO	Y		19	-/-/-
168	GLO	8537	606	FARYS MILL ROAD	BEAVERDAM SWAMP	19	1964		1,800	97.9	N	N	N	7	7	N	N	9	8				9	-/-/-
169	GLO	12085	17	GEORGE WASHINGTON HWY NB	DRAGON RUN	4	1931		6,000	57.2	6	5	6	N	5	2	N	5	8	FO	Y		0	-/-/-
170	GLO	12086	17	GEORGE WASHINGTON HWY SB	DRAGON RUN	4	1957		6,000	79.0	7	6	6	N	6	3	N	8	8	FO			0	-/-/-
171	GLO	8530	17	GEORGE WASHINGTON HWY NB	FOX MILL RUN	19	1972		9,500	99.4	N	N	N	6	6	N	N	8	8				1	-/-/-
172	GLO	8529	17	GEORGE WASHINGTON HWY SB	FOX MILL RUN	19	1972		9,500	98.4	N	N	N	7	7	N	N	8	8				1	-/-/-
173	GLO	8534	198	GLENNS ROAD	CARVERS CREEK	19	1950		2,100	97.9	N	N	N	7	7	N	N	7	6				7	-/-/-
174	GLO	26610	614	HICKORY FORK ROAD	CARTERS CREEK	2	2006		5,500	99.0	9	9	9	N	9	5	N	8	8				0	-/-/-
175	GLO	8524	3	JOHN CLAYTON HWY	BEAVERDAM SWAMP	19	1974		18,000	69.0	N	N	N	6	6	N	N	9	8				16	-/-/-
176	GLO	8523	3	JOHN CLAYTON HWY EB	COW CREEK	4	1938		9,000	69.0	8	8	7	N	7	4	N	7	8				16	-/-/-
177	GLO	8525	3	JOHN CLAYTON HWY WB	COW CREEK	19	1974		9,000	100.0	N	N	N	7	7	N	N	9	8				0	-/-/-
178	GLO	8528	17	MAIN STREET NB	FOX MILL RUN	1	1964		11,000	87.0	6	6	5	N	5	7	N	7	8		Y		0	-/-/-
179	GLO	8527	17	MAIN STREET SB	FOX MILL RUN	1	1917	1949	11,000	48.5	5	5	5	N	4	2	N	7	6	FO	Y		0	-/-/-
180	GLO	8538	610	OLD PINETTA ROAD	BLAND CREEK	2	1960		250	42.0	6	5	5	N	4	3	N	7	8	FO	Y		4	18/-/-
181	GLO	8547	636	PROVIDENCE ROAD	TIMBERNECK CREEK	19	1990		1,900	99.9	N	N	N	7	7	N	N	9	8				3	-/-/-
182	GLO	8546	636	PROVIDENCE ROAD	TRIB. OF TIMBERNECK CREEK	19	1990		2,100	99.5	N	N	N	6	6	N	N	9	8				3	-/-/-
183	GLO	23898	616	ROARING SPRINGS ROAD	BEAVERDAM SWAMP	1	1993		2,700	79.0	7	7	7	N	7	5	N	8	8					-/-/-
184	GLO	8548	641	TIDEMILL ROAD	NORTHWEST BR SARAH CREEK	2	1974		3,700	68.2	7	5	6	N	5	4	N	7	5		Y		2	-/-/-
185	HAM	20295		ABERDEEN ROAD	NEWMARKET CREEK	5	1981		16,000	85.7	5	5	7	N	5	8	N	8	8		Y		1	-/-/-
186	HAM	20299		ARMISTEAD AVENUE	BILLY WOOD CANAL	5	1987		17,000	91.2	7	7	7	N	7	8	N	8	8				1	-/-/-
187	HAM	26349	134	ARMISTEAD AVENUE	NEWMARKET CREEK	2	2004		20,000	93.5	8	8	8	N	8	3	N	8	8	*			3	-/-/-
188	HAM	20300		ARMISTEAD AVENUE	TIDE MILL CREEK	1	1987		28,000	89.2	7	7	7	N	7	8	N	8	8				2	-/-/-
189	HAM	20291		BEACH ROAD	LONG CREEK	2	1958		6,500	54.9	6	6	5	N	5	5	N	9	8		Y			-/-/-
190	HAM	20287		BIG BETHEL ROAD	I-64	2	1989		24,000	75.6	7	7	7	N	7	4	6	N	8				5	-/-/-
191	HAM	20293		BIG BETHEL ROAD	NEWMARKET CREEK	5	1970		10,000	66.9	5	5	7	N	5	4	N	8	8		Y		2	-/-/-
192	HAM	20294		BRIDGE STREET	SALTERS CREEK	2	1934	1996	2,917	25.6	4	5	5	N	3	2	N	8	8	SD	Y		1	12/-/-
193	HAM	20373	167	CHESAPEAKE AVENUE	INDIAN RIVER	1	1985		1,800	97.8	7	7	6	N	6	9	N	9	9				1	-/-/-
194	HAM	20289		COLISEUM DRIVE FLYOVER	MERCURY BLVD/COLISEUM DR	5	1974		2,820	94.7	5	6	7	N	6	4	4	N	6		Y		2	-/-/-
195	HAM	20376	172	COMMANDER SHEPARD BLVD EB	MAGRUDER BLVD	2	1964		4,000	61.1	5	5	5	N	5	3	2	N	5	FO	Y		2	-/-/-
196	HAM	20374	172	COMMANDER SHEPARD BLVD WB	MAGRUDER BLVD	2	1964		4,000	62.3	5	5	5	N	5	3	2	N	5	FO	Y		2	-/-/-
197	HAM	20362	152	CUNNINGHAM DRIVE EB	I-64	2	1974		14,000	75.9	5	6	6	N	6	3	6	N	5	FO	Y		1	-/-/-
198	HAM	20364	152	CUNNINGHAM DRIVE WB	I-64	2	1974		14,000	75.7	5	6	6	N	6	3	6	N	5	FO	Y		1	-/-/-
199	HAM	20339	64	HAMPTON ROADS BRIDGE-TUNNEL EB	HAMPTON ROADS	2	1974		45,000	94.8	6	6	6	N	6	7	N	6	8				1	-/-/-
200	HAM	20355	64	HAMPTON ROADS BRIDGE-TUNNEL WB	HAMPTON ROADS	2	1957	1999	45,000	95.0	7	6	6	N	6	9	N	6	8				1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

											BRIDGE RATINGS													
#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
201	HAM	20340	64	HAMPTON ROADS BRIDGE-TUNNEL EB	HAMPTON ROADS	18	1974		45,000	-	-	-	-	-	-	-	-	-	-				2	-/-/-
202	HAM	20354	64	HAMPTON ROADS BRIDGE-TUNNEL WB	HAMPTON ROADS	18	1958		45,000	-	-	-	-	-	-	-	-	-	-				2	-/-/-
203	HAM	20352	64	HAMPTON ROADS BRIDGE-TUNNEL EB	HAMPTON ROADS	2	1974		45,000	83.1	6	5	6	N	5	7	N	8	8		Y		1	-/-/-
204	HAM	20353	64	HAMPTON ROADS BRIDGE-TUNNEL WB	HAMPTON ROADS	2	1957	1999	45,000	83.0	6	6	5	N	5	9	N	8	7		Y		1	-/-/-
205	HAM	20302		HAMPTON ROADS CENTER PKWY	BILLY WOOD CANAL	19	1989		39,000	59.1	N	N	N	5	5	N	N	8	8		Y		3	-/-/-
206	HAM	20283		HAMPTON ROADS CENTER PKWY EB	I-64	2	1989		20,000	95.0	7	7	7	N	7	7	6	N	8				0	-/-/-
207	HAM	20281		HAMPTON ROADS CENTER PKWY WB	I-64	2	1989		20,000	95.0	6	7	6	N	6	7	6	N	8				0	-/-/-
208	HAM	20303		HAMPTON ROADS CENTER PKWY EB	MAGRUDER BLVD	2	1989		19,000	99.0	7	7	7	N	7	7	7	N	9				0	-/-/-
209	HAM	20305		HAMPTON ROADS CENTER PKWY WB	MAGRUDER BLVD	2	1989		19,000	100.0	7	7	7	N	7	7	7	N	9				0	-/-/-
210	HAM	26131		HAMPTON ROADS CENTER PKWY EB	OVER VERNAL POOL/DEPRESS	1	2001		10,000	95.9	7	7	7	N	7	3	N	8	8	*			1	-/-/-
211	HAM	26130		HAMPTON ROADS CENTER PKWY WB	OVER VERNAL POOL/DEPRESS	1	2001		10,000	95.9	7	8	8	N	8	3	N	8	8	*			1	-/-/-
212	HAM	20307		HAMPTON ROADS CENTER PKWY	STREAM	19	1989		35,000	82.4	N	N	N	6	6	N	N	9	9				2	-/-/-
213	HAM	20348		HAMPTON ROADS CENTER PKWY RAMP	BILLY WOOD CANAL	19	1989		7,500	98.3	N	N	N	6	6	N	N	8	8				3	-/-/-
214	HAM	20349		HAMPTON ROADS CENTER PKWY RAMP	BILLY WOOD CANAL	19	1989		9,000	98.0	N	N	N	7	7	N	N	8	8				3	-/-/-
215	HAM	20324	64	I-64	ARMISTEAD AVENUE	2	1957	1986	117,000	64.0	5	5	5	N	5	9	2	N	8	FO	Y		3	-/-/-
216	HAM	20337	64	I-64 EB	BILLY WOOD CANAL	2	1959	1989	70,000	91.4	7	6	6	N	6	4	N	8	8				1	-/-/-
217	HAM	20336	64	I-64 WB	BILLY WOOD CANAL	2	1959	1989	70,000	94.9	7	7	6	N	6	9	N	8	8				1	-/-/-
218	HAM	20312	64	I-64	COUNTY STREET	2	1987		102,000	96.0	7	7	7	N	7	9	4	N	8				0	-/-/-
219	HAM	20314	64	I-64 EB	E. BRANCH HAMPTON RIVER	3	1958	1987	51,000	54.2	5	5	5	N	4	7	6	8	8		Y	Y	6	-/-/-
220	HAM	20344	64	I-64	JOHNS CREEK	19	1985		103,000	76.7	N	N	N	7	7	N	N	8	8				1	-/-/-
221	HAM	20318	64	I-64	KING STREET	5	1959	1984	102,000	76.0	6	7	6	N	6	9	2	N	8	FO			2	-/-/-
222	HAM	20326	64	I-64	LASALLE AVENUE	2	1959	1984	117,000	75.0	5	6	6	N	6	9	2	N	8	FO	Y		4	-/-/-
223	HAM	26145	64	I-64	MERCURY BLVD	2	2005		140,000	75.0	8	8	8	N	8	2	5	N	9	*			5	-/-/-
224	HAM	20331	64	I-64 EB	NEWMARKET CREEK	2	1959	2005	61,000	85.0	7	7	7	N	7	6	N	8	8				4	-/-/-
225	HAM	20330	64	I-64 WB	NEWMARKET CREEK	2	1959	1981	61,000	85.0	7	7	7	N	7	6	N	8	8				4	-/-/-
226	HAM	20316	64	I-64 EB	PEMBROKE AVENUE & HAMPTON RIVER	2	1958	1987	51,000	69.0	5	6	5	N	5	7	2	8	8	FO	Y		6	-/-/-
227	HAM	20346	64	I-64 WB	PEMBROKE AVENUE & HAMPTON RIVER	2	1985		51,000	80.0	5	7	6	N	6	6	3	8	8	FO	Y	Y	5	-/-/-
228	HAM	20320	64	I-64	RIP RAP ROAD	2	1959	1984	102,000	76.0	6	6	6	N	6	9	3	N	8	FO			2	-/-/-
229	HAM	20345	64	I-64 RAMPS	JOHNS CREEK	19	1985		4,310	99.7	N	N	N	7	7	N	N	8	8				1	-/-/-
230	HAM	26146	64	I-64 RAMP	MERCURY BLVD	2	2005		1,200	95.8	8	8	8	N	8	9	3	N	6	*			2	-/-/-
231	HAM	20399	64	I-64 RAMPS	NEWMARKET CREEK	2	1982		15,250	79.2	6	5	7	N	5	9	N	8	8		Y	Y	2	-/-/-
232	HAM	20342	64	I-64 EB OFF RAMP	POND	2	1985		10,500	90.8	7	7	7	N	7	9	N	8	8				5	-/-/-
233	HAM	20343	64	I-64 EB ON RAMP	RAMP F OVER POND	2	1985		6,750	97.5	6	7	7	N	7	9	N	8	8				5	-/-/-
234	HAM	20393	664	I-664	ABERDEEN ROAD	2	1983		60,000	87.0	6	5	6	N	5	9	6	N	8		Y		0	-/-/-
235	HAM	20395	664	I-664	CSX R/R SPUR	2	1983		62,000	71.0	6	5	6	N	5	9	N	N	8		Y		2	-/-/-
236	HAM	20396	664	I-664 NB	I-64 RAMP & NEWMARKET CREEK	2	1982		16,000	94.6	6	6	6	N	6	7	6	8	8			Y	3	-/-/-
237	HAM	20400	664	I-664	PROPOSED R/R SPUR	7	1983		62,000	71.0	6	6	5	N	5	9	N	N	8		Y		2	-/-/-
238	HAM	20391	664	I-664	QUEEN STREET	2	1982		64,000	68.0	7	5	5	N	5	9	5	N	8		Y		8	-/-/-
239	HAM	20328	664	I-664 SB RAMP	I-64 & NEWMARKET CREEK	2	1981		16,000	89.2	6	6	6	N	6	9	7	8	8			Y	3	-/-/-
240	HAM	20398	664	I-664 RAMP	NEWMARKET CREEK	2	1982		16,000	74.0	7	5	5	N	5	6	N	8	8		Y		3	-/-/-
241	HAM	25293	167	LASALLE AVENUE NB	MERCURY BLVD	2	1998		7,000	75.4	7	8	7	N	7	2	4	N	8	*			3	-/-/-
242	HAM	25292	167	LASALLE AVENUE SB	MERCURY BLVD	2	1998		7,000	75.4	7	8	7	N	7	2	4	N	8	*			3	-/-/-
243	HAM	20367	167	LASALLE AVENUE NB	NEWMARKET CREEK	2	1965		7,500	76.7	7	7	7	N	7	3	N	7	7	FO			2	-/-/-
244	HAM	20368	167	LASALLE AVENUE SB	NEWMARKET CREEK	2	1965		7,500	75.8	7	6	6	N	6	3	N	7	7	FO			2	-/-/-
245	HAM	20366	167	LASALLE AVENUE	TIDE MILL CREEK	5	1965		15,000	54.7	6	6	5	N	5	5	N	7	6		Y		5	-/-/-
246	HAM	20358	134	MAGRUDER BLVD	BILLY WOOD CANAL	4	1963	1990	31,000	87.3	6	6	6	N	6	6	N	7	8				5	-/-/-
247	HAM	26143	134	MAGRUDER BLVD	I-64	5	2004		16,000	81.9	8	7	7	N	7	9	N	N	3	*			6	-/-/-
248	HAM	20279		MALLORY STREET	I-64	2	1985		12,000	96.0	7	6	6	N	6	9	3	N	8	FO			0	-/-/-
249	HAM	20298		MALLORY STREET	JOHNS CREEK	19	1985		3,102	99.5	N	N	N	7	7	N	N	8	7				2	-/-/-
250	HAM	20361	143	MELLEN STREET	MILL CREEK	5	1961	1982	4,700	61.9	5	5	6	N	5	2	N	7	6	FO	Y		1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
251	HAM	20383	258	MERCURY BLVD EB	HAMPTON CREEK	4	1971		14,000	80.2	7	7	6	N	6	4	N	8	6				3	-/-/-
252	HAM	20380	258	MERCURY BLVD WB	HAMPTON CREEK	2	1983		14,000	82.6	7	7	7	N	7	4	N	8	8				1	-/-/-
253	HAM	20384	258	MERCURY BLVD EB	KING ST	2	1971		22,000	76.4	7	7	5	N	5	5	6	N	5		Y		1	-/-/-
254	HAM	20386	258	MERCURY BLVD WB	KING ST	2	1971		22,000	76.2	7	7	5	N	5	5	6	N	5		Y		1	-/-/-
255	HAM	20381	258	MERCURY BLVD	MILL CREEK (NORTHERN BRIDGE)	2	1989		4,200	76.7	7	7	7	N	7	2	N	9	9	FO			1	-/-/-
256	HAM	20382	258	MERCURY BLVD	MILL CREEK (SOUTHERN BRIDGE)	2	1989		4,200	77.7	7	7	6	N	6	2	N	9	9	FO			1	-/-/-
257	HAM	25127	258	MERCURY BLVD	NEWMARKET CREEK	2	1998		56,000	89.7	7	8	7	N	7	5	N	8	8				2	-/-/-
258	HAM	26148	64	MERCURY BLVD RAMP	I-64	2	2005		1,200	97.9	8	8	8	N	8	9	6	N	6				1	-/-/-
259	HAM	26150	64	MERCURY BLVD RAMP	I-64 RAMP	2	2005		1,200	95.9	8	8	8	N	8	9	4	N	7				1	-/-/-
260	HAM	26149	64	MERCURY BLVD RAMP	MERCURY BLVD	2	2005		1,200	97.9	8	8	8	N	8	9	7	N	7				1	-/-/-
261	HAM	25701		PEDESTRIAN OVERPASS	HRC PKWY	2	2001		-	-	-	-	-	-	-	-	-	-	-				0	-/-/-
262	HAM	20308		PEDESTRIAN OVERPASS	POWHATAN PKWY	1	1984		-	-	-	-	-	-	-	-	-	-	-				0	-/-/-
263	HAM	26382	351	PEMBROKE AVENUE	HAMPTON CREEK	2	2003		9,800	79.6	9	8	8	N	8	4	N	8	7				3	-/-/-
264	HAM	20285		PINE CHAPEL ROAD	I-64	2	1978		14,000	97.3	6	7	6	N	6	6	6	N	8				3	-/-/-
265	HAM	20390	415	POWER PLANT PKWY	NEWMARKET CREEK	5	1962		24,000	74.4	6	6	6	N	6	2	N	8	8	FO			3	-/-/-
266	HAM	20296		POWHATAN PKWY	I-664	2	1983		18,000	84.1	6	6	5	N	5	7	6	N	8		Y		4	-/-/-
267	HAM	20292		POWHATAN PKWY	INDIAN RIVER	1	1929	1997	720	77.9	8	8	6	N	6	3	N	7	4	FO			1	-/-/-
268	HAM	20310	60	SETTLERS LANDING ROAD	HAMPTON RIVER	2	1985		20,000	84.6	7	6	6	N	6	5	N	9	9				4	-/-/-
269	HAM	20378	172	WYTHE CREEK ROAD	BRICK KILN CREEK	4	1981		16,000	85.4	6	6	7	N	6	5	N	8	8				9	-/-/-
270	IW	10392	614	BALLARD ROAD	CORROWAUGH SWAMP	2	1945		80	67.9	7	7	6	N	4	4	N	7	7				5	10/-/-
271	IW	10419	641	BARRETT TOWN ROAD	ANTIOCH SWAMP	2	1955	1984	630	70.2	7	6	7	N	6	2	N	6	5	FO			4	18/-/-
272	IW	10418	641	BARRETT TOWN ROAD	BURNT MILL SWAMP	19	1958		630	99.9	N	N	N	6	6	N	N	7	8				2	-/-/-
273	IW	23874	646	BEALE PLACE DRIVE	POPE CREEK	1	1994		320	90.4	8	8	8	N	8	5	N	8	8				5	-/-/-
274	IW	24600	630	BEAVERDAM ROAD	BEAVERDAM SWAMP	1	1996		200	92.7	8	8	8	N	8	3	N	7	6	FO			5	-/-/-
275	IW	10386	603	BLACKWATER ROAD	BLACKWATER RIVER	2	1970		910	71.6	8	7	6	N	6	5	N	7	8				10	-/-/-
276	IW	10385	603	BLACKWATER ROAD	HORSE SWAMP	19	1968		910	97.5	N	N	N	6	6	N	N	7	8				8	-/-/-
277	IW	10423	644	BOWLING GREEN ROAD	GREAT SWAMP	19	1972		1,100	87.5	N	N	N	5	5	N	N	7	8		Y		5	-/-/-
278	IW	10420	641	BOWS & ARROWS ROAD	DUCKS SWAMP	2	1952		580	51.7	7	5	7	N	5	2	N	7	6	FO	Y		5	12/-/-
279	IW	10401	620	BROADWATER ROAD	BLACKWATER RIVER	5	1964		1,500	68.2	5	5	5	N	5	5	N	6	8		Y		13	-/-/-
280	IW	23500	620	BROADWATER ROAD	VILLINES SWAMP	1	1992		1,500	91.9	8	8	8	N	8	5	N	8	8				7	-/-/-
281	IW	26218	691	BUTLER FARM ROAD	BEAVERDAM SWAMP	2	1999		1,100	61.0	7	8	8	N	8	2	N	8	7	*				-/-/-
282	IW	10431	654	CARROLL BRIDGE ROAD	CHAMPION SWAMP	2	1966		750	68.2	6	6	5	N	5	2	N	7	6	FO	Y		9	18/-/-
283	IW	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R	4	1936	1956	3,300	46.3	3	3	4	N	3	4	2	N	3	SD	Y		1	-/27/40
284	IW	22613	626	CARY STREET	ROUTE 10 BYPASS	2	1972		2,100	85.2	7	7	7	N	7	5	6	N	6				10	-/-/-
285	IW	10421	641	COLOSSE ROAD	CORROWAUGH SWAMP	2	1955	1992	230	68.9	7	6	7	N	6	9	N	6	6				3	12/-/-
286	IW	10440	681	COMET ROAD	COMET SWAMP	2	1955	1991	330	77.8	8	8	8	N	8	3	N	6	6	FO			5	-/-/-
287	IW	10408	629	DARDENS MILL ROAD	CORROWAUGH SWAMP	19	1976		90	99.0	N	N	N	7	7	N	N	7	7				3	-/-/-
288	IW	10378	600	DEER PATH TRAIL	ENNIS POND	2	1956		200	65.9	7	6	7	N	5	4	N	6	8				4	15/-/-
289	IW	10441	683	DEWS PLANTATION ROAD	STALLINGS CREEK	2	1954		140	60.8	7	6	6	N	5	2	N	7	6	FO			4	16/-/-
290	IW	10442	690	ENNIS MILL ROAD	ENNIS POND	2	1961		260	49.1	6	6	5	N	5	3	N	8	6	FO	Y		10	15/-/-
291	IW	25069	710	FAIRWAY DRIVE	ROUTE 10 BYPASS	2	1997		41	94.0	7	8	7	N	7	3	7	N	8	FO			0	-/-/-
292	IW	10424	644	FIRE TOWER ROAD	POPE SWAMP	2	1948	1979	530	69.4	7	6	6	N	6	2	N	7	4	FO			5	-/-/-
293	IW	10389	612	FREEMAN DRIVE	CORROWAUGH SWAMP	2	1954		740	44.9	7	7	5	N	4	2	N	7	8	FO	Y		7	10/-/-
294	IW	10427	646	GARRISON DRIVE	BURNT MILL SWAMP	2	1945	1978	530	39.6	6	6	7	N	2	3	N	7	6	SD			4	10/-/-
295	IW	24777		GATLING POINTE PARKWAY	BRANCH	0	1996		616	90.4	8	8	8	N	8	6	N	7	8					-/-/-
296	IW	10404	623	GREEN LEVEL ROAD	POUCHES SWAMP	2	1971		170	85.0	5	6	7	N	6	4	N	6	7		Y		25	-/-/-
297	IW	10422	641	HARVEST DRIVE	KINGSALE SWAMP	2	1955		660	56.2	6	6	6	N	4	2	N	6	6	FO			6	18/-/-
298	IW	10364	17	JAMES RIVER BRIDGE	JAMES RIVER	15	1980		30,000	54.2	5	5	6	N	5	6	N	8	8		Y	Y	22	-/-/-
299	IW	10443	691	JAMESTOWN LANE	CSX RAILROAD	4	1938		2,200	48.2	4	4	4	N	4	2	N	N	4	SD	Y		2	-/-/-
300	IW	10394	615	JENKINS MILL ROAD	KINGSALE SWAMP	2	1964	1978	480	67.6	6	6	6	N	6	3	N	6	6	FO			7	18/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
301	IW	10413	637	JONES TOWN DRIVE	BR. RATTLESNAKE SWAMP	2	1945		280	51.5	7	7	8	N	4	2	N	7	8	FO			8	9/-/-
302	IW	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK	2	1945		280	41.7	7	5	7	N	4	3	N	6	6	FO	Y		8	9/-/-
303	IW	10388	611	JOYNER'S BRIDGE ROAD	BLACKWATER RIVER	2	1984		670	98.7	7	8	7	N	7	6	N	5	8				14	-/-/-
304	IW	24659	611	JOYNER'S BRIDGE ROAD	CORROWAUGH SWAMP	1	1996		260	87.9	7	7	7	N	7	3	N	7	8	FO			5	-/-/-
305	IW	10409	630	LAWERENCE DRIVE	STREAM	2	1956		80	76.2	7	6	7	N	5	4	N	6	6				3	10/-/-
306	IW	10397	616	LEE'S MILL ROAD	BEAVERDAM SWAMP	2	1982		1,400	91.8	7	7	7	N	7	5	N	6	8				6	-/-/-
307	IW	26637	616	LEE'S MILL ROAD	STREAM	19	2001		1,400	99.4	N	N	N	7	7	N	N	6	6				6	-/-/-
308	IW	10382	602	LONGVIEW DRIVE	CHUCKATUCK CREEK	2	1951		390	57.2	7	6	6	N	5	3	N	7	6	FO			6	15/-/-
309	IW	10383	602	LONGVIEW DRIVE	PAGAN CREEK	2	1945		570	31.8	7	6	4	N	4	2	N	6	6	SD	Y		5	10/-/-
310	IW	25742	600	LOVERS LANE	ENNIS POND	19	1998		420	99.9	N	N	N	6	6	N	N	7	8				3	-/-/-
311	IW	10417	638	MILL CREEK ROAD	BURNT MILL SWAMP	2	1951	1979	800	81.8	6	6	6	N	6	4	N	7	8				2	-/-/-
312	IW	10403	621	MILL SWAMP ROAD	MILL SWAMP	2	1952	1987	370	56.6	6	5	7	N	5	3	N	6	6	FO	Y		7	14/-/-
313	IW	10407	626	MILL SWAMP ROAD	MOUNT HOLLY CREEK	4	1957		1,400	69.4	5	5	6	N	5	4	N	7	8		Y		10	-/-/-
314	IW	10402	621	MILL SWAMP ROAD	PASSENGER SWAMP	2	1945	1979	370	49.8	6	5	7	N	4	4	N	7	8		Y		5	12/-/-
315	IW	10406	626	MILL SWAMP ROAD	STALLINGS CREEK	2	1945		780	57.1	5	6	6	N	4	2	N	7	8	FO	Y		4	18/-/-
316	IW	10405	625	MODEST NECK ROAD	RATTLESNAKE SWAMP	4	1970		120	87.0	7	7	5	N	5	5	N	7	8		Y		4	-/-/-
317	IW	10400	620	MUDDY CROSS DRIVE	CYPRESS CREEK	19	1987		1,200	99.6	N	N	N	6	6	N	N	7	8				4	-/-/-
318	IW	10435	669	NIKE PARK ROAD	JONES CREEK	5	1961		8,800	73.1	7	7	6	N	6	2	N	8	8	FO			7	-/-/-
319	IW	23090	10	NORTH CHURCH STREET	PAGAN RIVER	2	1991		9,700	78.5	7	8	7	N	7	4	N	8	8				5	-/-/-
320	IW	10411	632	OLD MYRTLE ROAD	STREAM	2	1953		140	67.9	8	7	8	N	4	2	N	6	6	FO			4	-/-/-
321	IW	26219	10	OLD STAGE HIGHWAY	LAWNES CREEK	5	1999		7,400	91.1	8	8	8	N	8	6	N	8	8				25	-/-/-
322	IW	25258	636	OLD SUFFOLK ROAD	STREAM	19	1997		390	97.9	N	N	N	8	8	N	N	7	8				2	-/-/-
323	IW	10416	637	ORBIT ROAD	CARBELL SWAMP	19	1972		540	88.6	N	N	N	5	5	N	N	7	8		Y		8	-/-/-
324	IW	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH	2	1945		240	36.6	7	6	7	N	2	3	N	4	5	SD			8	10/-/-
325	IW	10429	647	POPE SWAMP TRAIL	POPE SWAMP	2	1952		120	92.2	7	7	7	N	7	2	N	6	6	FO			5	17/-/-
326	IW	10446	696	PRUDEN ROAD	BEAVERDAM SWAMP	19	1977		160	99.9	N	N	N	7	7	N	N	7	8				5	-/-/-
327	IW	24466	681	RAYNOR ROAD	RATTLESNAKE SWAMP	5	1996		110	92.5	8	8	8	N	8	3	N	8	8	FO			4	-/-/-
328	IW	26753	704	RESCUE ROAD	JONES CREEK	2	2004		890	83.3	8	8	8	N	7	5	N	4	6				6	-/-/-
329	IW	27434	704	RESCUE ROAD	STREAM	1	2004		890	88.3	8	8	8	N	8	3	N	3	6	*			7	-/-/-
330	IW	24214	614	RIVER RUN TRAIL	DUCKS SWAMP	1	1995		560	98.8	7	7	7	N	7	5	N	7	8				4	-/-/-
331	IW	22618	10	ROUTE 10 BYPASS	CYPRESS CREEK	2	1973		18,000	83.7	7	6	6	N	6	4	N	7	6				5	-/-/-
332	IW	22617	10	ROUTE 10 BYPASS	PAGAN RIVER	2	1973		7,600	83.6	6	6	6	N	6	4	N	7	6				12	-/-/-
333	IW	26640	258	ROUTE 258	BEAVERDAM SWAMP	2	2002		1,300	95.8	7	7	8	N	7	3	N	8	8	*			2	-/-/-
334	IW	26643	258	ROUTE 258	BEAVERDAM SWAMP	2	2002		1,300	95.8	8	8	8	N	8	3	N	8	8	*			2	-/-/-
335	IW	10371	258	ROUTE 258	CHAMPION SWAMP	1	1932	1976	5,500	56.0	7	7	4	N	4	5	N	7	8	SD	Y		8	-/-/-
336	IW	10370	258	ROUTE 258	GREAT SWAMP	2	1952	1980	5,500	76.6	6	6	6	N	6	3	N	6	8	FO			7	-/-/-
337	IW	26651	258	ROUTE 258	LEE'S MILL ROAD	2	2002		1,300	97.8	7	8	7	N	7	9	4	N	8				2	-/-/-
338	IW	26649	258	ROUTE 258	NORFOLK & SOUTHERN R/R	2	2001		1,300	99.9	7	8	7	N	7	9	N	N	8				2	-/-/-
339	IW	26650	258	ROUTE 258	TRIB BEAVERDAM SWAMP	19	2003		1,300	99.9	N	N	N	8	8	N	N	8	8				2	-/-/-
340	IW	10377	460	ROUTE 460	BLACKWATER RIVER	1	1987		12,000	72.0	6	6	6	N	6	4	N	6	8				9	-/-/-
341	IW	10398	620	SCOTT'S FACTORY ROAD	CHAMPION SWAMP	2	1976		1,600	77.6	8	7	8	N	7	3	N	6	8	FO			7	-/-/-
342	IW	10384	603	SHILOH DRIVE	ENNIS POND	2	1955		1,100	58.1	8	7	5	N	5	2	N	7	6	FO	Y		5	12/-/-
343	IW	22615	10	SOUTH CHURCH STREET	CYPRESS CREEK	2	1975		15,000	74.8	6	5	7	N	5	4	N	6	8		Y		5	-/-/-
344	IW	10438	680	STALLINGS CREEK DRIVE	STALLINGS CREEK	2	1952		370	45.7	7	5	6	N	4	3	N	6	6	FO	Y		4	18/-/-
345	IW	10390	614	THOMAS WOODS TRAIL	ANTIOCH SWAMP	2	1987		780	84.9	7	7	8	N	7	5	N	8	8				10	-/-/-
346	IW	10393	614	THOMAS WOODS TRAIL	BLACKWATER RIVER	19	1970		780	99.3	N	N	N	6	6	N	N	7	8				12	-/-/-
347	IW	10434	668	TITUS CREEK DRIVE	TITUS CREEK	5	1966		6,200	78.2	6	7	7	N	7	2	N	7	8	FO			3	-/-/-
348	IW	10430	649	TOMLIN HILL ROAD	POPE CREEK	19	1999		480	98.6	N	N	N	8	8	N	N	7	8				10	-/-/-
349	IW	10373	656	UNION CAMP DRIVE	BEAVERDAM SWAMP	1	1986		1,100	63.0	7	7	7	N	7	4	N	7	8				8	-/-/-
350	IW	10445	692	UZZELL CHURCH ROAD	CHAMPION SWAMP	2	1951	1979	470	72.2	6	6	5	N	5	4	N	7	8		Y		6	17/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

											BRIDGE RATINGS													
#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
351	IW	10381	600	WOODLAND DRIVE	GREAT SWAMP	2	1967		240	59.1	7	6	5	N	5	4	N	7	8		Y		10	15/-/-
352	IW	10436	677	WRENNS MILL ROAD	WRENNS MILL SPILLWAY	2	1946	1987	70	89.2	7	7	6	N	6	4	N	7	4				10	-/-/-
353	IW	10426	645	YELLOW HAMMER ROAD	NS R/R	2	1984		740	98.8	7	7	7	N	7	5	N	N	8				3	-/-/-
354	JCC	10518	601	BARNES ROAD	I-64	2	1971		1,200	84.2	6	7	6	N	6	4	5	N	8				8	-/-/-
355	JCC	90022		COLONIAL PARKWAY	BACK RIVER	2	1956		6,100	61.0	6	7	7	N	4	4	N	7	8				8	-/-/-
356	JCC	90019		COLONIAL PARKWAY	COLLEGE CREEK	2	1956		6,100	74.2	7	7	7	N	5	4	N	8	6				8	-/-/-
357	JCC	90018		COLONIAL PARKWAY	HALFWAY CREEK	4	1942		6,100	48.9	6	6	5	N	4	4	N	8	8		Y		8	-/-/-
358	JCC	90020		COLONIAL PARKWAY	MILL CREEK	2	1956		6,100	70.1	7	7	7	N	4	4	N	8	8				8	-/-/-
359	JCC	90021		COLONIAL PARKWAY	POWHATAN CREEK	1	1956		6,100	80.7	6	6	6	N	5	4	N	8	8				8	-/-/-
360	JCC	10523	607	CROAKER ROAD	CSX R/R	2	1979		8,300	94.2	6	6	6	N	6	4	N	N	8				6	-/-/-
361	JCC	10472	30	CROAKER ROAD NB	I-64	2	1979		3,300	70.9	6	6	6	N	4	6	6	N	8				1	-/-/-
362	JCC	10474	30	CROAKER ROAD SB	I-64	2	1979		3,300	60.9	6	5	6	N	4	6	7	N	8		Y		1	-/-/-
363	JCC	24057	31	GLASS HOUSE FERRY	JAMES RIVER	3	1994	1995	6,400	69.7	6	7	7	N	7	2	N	8	8	FO		Y	50	-/16/28
364	JCC	10533	629	HICKORY SIGNPOST ROAD	MILL CREEK	2	1932	1997	620	77.9	8	8	7	N	7	2	N	7	6	FO			2	18/-/-
365	JCC	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK	3	1932	1974	640	47.9	8	5	5	N	5	2	N	5	6	FO	Y	Y		15/-/-
366	JCC	10494	64	I-64 EB	FRANCE SWAMP	19	1975		29,000	96.2	N	N	N	6	6	N	N	8	8				1	-/-/-
367	JCC	10495	64	I-64 WB	FRANCE SWAMP	19	1975		25,000	96.4	N	N	N	6	6	N	N	8	8				1	-/-/-
368	JCC	10489	64	I-64 EB	NAVAL WEAPONS STATION ACCESS	2	1965	1982	45,000	79.4	7	5	7	N	5	6	7	N	8		Y		1	-/-/-
369	JCC	10491	64	I-64 WB	NAVAL WEAPONS STATION ACCESS	2	1965	1982	39,000	76.6	7	5	6	N	5	6	4	N	8		Y		1	-/-/-
370	JCC	10496	64	I-64 EB	SIX MT ZION ROAD	2	1975		29,000	96.2	7	7	6	N	6	7	8	N	8				1	-/-/-
371	JCC	10498	64	I-64 WB	SIX MT ZION ROAD	2	1975		25,000	85.1	7	6	5	N	5	7	9	N	8		Y		1	-/-/-
372	JCC	10493	64	I-64	SKIFFES CREEK	19	1965		84,000	70.0	N	N	N	6	6	N	N	8	8				9	-/-/-
373	JCC	10488	64	I-64	TRIBUTARY OLD MILL POND	19	1932	1979	60,000	70.0	N	N	N	6	6	N	N	8	8				6	-/-/-
374	JCC	90024		JAMESTOWN ISLAND TOUR ROAD	CREEK	2	1957	2001	165	58.9	7	7	6	N	5	2	N	8	8	*			3	-/-/-
375	JCC	90025		JAMESTOWN ISLAND TOUR ROAD	CREEK	2	1957	2001	165	58.9	7	7	7	N	5	2	N	8	6	*			5	-/-/-
376	JCC	90026		JAMESTOWN ISLAND TOUR ROAD	KINGSMILL CREEK	2	1957		234	58.9	7	7	6	N	5	2	N	8	8	FO			5	-/-/-
377	JCC	90023		JAMESTOWN ISLAND TOUR ROAD	PITCH AND TAR SWAMP	2	1957	2001	320	58.8	7	7	7	N	5	2	N	8	6	*			5	-/-/-
378	JCC	26215	31	JAMESTOWN ROAD	LAKE POWELL	5	1999		8,800	97.0	8	8	8	N	8	5	N	9	8				3	-/-/-
379	JCC	10476	31	JAMESTOWN ROAD	POWHATAN CREEK	2	1957		6,400	73.2	6	6	6	N	6	2	N	8	8	FO			11	-/-/-
380	JCC	4801	5	JOHN TYLER HWY	CHICKAHOMINY RIVER	17	1939		3,400	6.0	5	4	3	N	2	2	N	8	8	SD	Y	Y	56	-/-/-
381	JCC	10464	5	JOHN TYLER HWY	POWHATAN CREEK	2	1937	1978	9,000	67.7	7	7	5	N	5	4	N	8	8		Y		5	-/-/-
382	JCC	10534	633	JOLLY POND ROAD	JOLLY POND SPILLWAY	1	1982		50	81.8	7	8	5	N	5	4	N	7	6		Y		13	-/-/-
383	JCC	25978	612	LONGHILL ROAD	CHISEL RUN	19	1999		15,000	79.7	N	N	N	7	7	N	N	9	8				4	-/-/-
384	JCC	25207	612	LONGHILL ROAD	ROUTE 199	2	1999		15,000	92.7	7	8	8	N	8	9	9	N	8				2	-/-/-
385	JCC	25054		MILL POND RUN	MILL SWAMP	4	1997		30	100.0	6	8	7	N	7	7	N	8	8				0	-/-/-
386	JCC	26142	5000	MONTICELLO AVENUE	POWHATAN CREEK	2	2001		10,000	94.6	7	8	8	N	8	9	N	8	7				5	-/-/-
387	JCC	26141	5000	MONTICELLO AVENUE	SHELLBANK CREEK	19	2001		4,000	100.0	N	N	N	8	8	N	N	8	8				1	-/-/-
388	JCC	10524	608	MOUNT LAUREL ROAD	FRANCE SWAMP	19	1975		40	100.0	N	N	N	6	6	N	N	8	8				10	-/-/-
389	JCC	10536	646	NEWMAN ROAD	SKIMINO CREEK	19	1976		1,300	99.4	N	N	N	8	8	N	N	7	8				6	-/-/-
390	JCC	10530	613	NEWS ROAD	POWHATAN SWAMP TRIBUTARY	19	1974		3,500	96.6	N	N	N	6	6	N	N	8	7				9	-/-/-
391	JCC	25206	658	OLDE TOWNE ROAD	ROUTE 199	2	1999		8,000	97.4	7	8	7	N	7	5	5	N	8				1	-/-/-
392	JCC	10468	30	ROUTE 30 NB	I-64	2	1971		3,600	97.7	5	6	6	N	6	7	5	N	8		Y		1	-/-/-
393	JCC	10470	30	ROUTE 30 SB	I-64	2	1971		3,600	97.3	6	6	6	N	6	7	5	N	8				1	-/-/-
394	JCC	10486	60	ROUTE 60 EB	CSX R/R	2	1964		7,000	65.2	4	6	5	N	5	3	N	N	8	SD	Y		1	-/-/-
395	JCC	10487	60	ROUTE 60 WB	CSX R/R	2	1968		7,000	65.2	4	6	5	N	5	3	N	N	8	SD	Y		1	-/-/-
396	JCC	12656	60	ROUTE 60 EB	DIASCUND CREEK	2	1947		3,300	94.8	7	8	6	N	6	7	N	8	8				2	-/-/-
397	JCC	12655	60	ROUTE 60 WB	DIASCUND CREEK	2	1978		3,300	94.8	6	7	7	N	7	7	N	8	8				2	-/-/-
398	JCC	25198	199	ROUTE 199	BRANCH	19	1999		25,000	79.3	N	N	N	6	6	N	N	8	8				2	-/-/-
399	JCC	25202	199	ROUTE 199	BRANCH	19	1999		25,000	75.2	N	N	N	7	7	N	N	8	8				5	-/-/-
400	JCC	25209	199	ROUTE 199	BRANCH	19	1999		20,000	82.6	N	N	N	7	7	N	N	8	8				1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
401	JCC	27254	199	ROUTE 199 EB	COLLEGE CREEK	2	2004		15,000	97.3	8	8	8	N	8	6	N	8	8				1	-/-/-
402	JCC	10510	199	ROUTE 199 WB	COLLEGE CREEK	2	1976		15,000	97.0	6	6	6	N	6	6	N	8	8				1	-/-/-
403	JCC	24108	199	ROUTE 199 EB	COLONIAL PKWY	11	1976		15,000	89.8	7	7	7	N	7	6	4	N	8				1	-/-/-
404	JCC	10508	199	ROUTE 199 WB	COLONIAL PKWY	11	1976		15,000	87.8	7	8	7	N	7	6	3	N	8	FO			1	-/-/-
405	JCC	25210	199	ROUTE 199	LONG HILL SWAMP	19	1999		20,000	80.6	N	N	N	6	6	N	N	N	8				1	-/-/-
406	JCC	25512	199	ROUTE 199 NB	MONTICELLO AVENUE	2	1999		12,000	99.1	7	7	7	N	7	7	9	N	8				1	-/-/-
407	JCC	25513	199	ROUTE 199 SB	MONTICELLO AVENUE	2	1999		12,000	78.3	7	7	7	N	7	2	9	N	8	*			1	-/-/-
408	JCC	25201	199	ROUTE 199	OVER BRANCH	19	1999		25,000	74.0	N	N	N	7	7	N	N	8	8				5	-/-/-
409	JCC	24224	199	ROUTE 199 NB	ROUTES 60 & 603 & CSX R/R	2	1995		14,000	97.3	7	7	7	N	7	8	8	N	8				1	-/-/-
410	JCC	24228	199	ROUTE 199 SB	ROUTES 60 & 603 & CSX R/R	2	1995		14,000	97.3	6	7	7	N	7	8	8	N	8				1	-/-/-
411	JCC	25208	199	ROUTE 199	STREAM	19	1999		20,000	82.0	N	N	N	7	7	N	N	8	8				0	-/-/-
412	JCC	10511	199	ROUTE 199 EB	TOUR ROAD	1	1976		15,000	86.5	7	7	7	N	6	6	3	N	8	FO			1	-/-/-
413	JCC	10513	199	ROUTE 199 WB	TOUR ROAD	1	1976		15,000	86.5	7	7	7	N	6	6	3	N	8	FO			1	-/-/-
414	JCC	10515	600	SIX MOUNT ZION ROAD	WARE CREEK SPILLWAY	2	1932		110	55.3	7	5	5	N	5	3	N	8	7	FO	Y		8	22/-/-
415	JCC	10531	622	STEWARTS ROAD	BRANCH OF DIASCUND CREEK	2	1937	1997	680	77.9	7	7	7	N	7	2	N	7	8	FO			1	-/-/-
416	JCC	10532	622	STEWARTS ROAD	DIASCUND CREEK	2	1937	1997	680	77.9	7	7	7	N	7	2	N	7	7	FO			1	-/-/-
417	NN	23751		16TH STREET	SALTERS CREEK	1	1993		2,000	99.7	8	7	7	N	7	6	N	8	8				1	-/-/-
418	NN	25086		20TH STREET	SALTERS CREEK	1	1997		1,200	95.9	8	9	8	N	8	3	N	7	6	FO			1	-/-/-
419	NN	20653		23RD-25TH STREET	I-664/WARWICK BLVD/CSX R/R	2	1988		1,800	68.6	6	7	5	N	5	2	6	N	8	FO	Y		2	-/-/-
420	NN	25396	60	25TH STREET	SALTERS CREEK	1	1997		6,500	94.5	8	9	9	N	9	3	N	7	7	FO			1	-/-/-
421	NN	20651		26TH STREET	I-664 & CSX R/R	2	1987		5,600	79.1	6	6	6	N	6	2	6	N	8	FO			2	-/-/-
422	NN	20663		28TH STREET	I-664/WARWICK BLVD/CSX R/R	2	1980		3,400	82.3	6	6	6	N	6	4	6	N	8				1	-/-/-
423	NN	20647		34TH STREET EB	I-664/WARWICK BLVD/CSX R/R	2	1988		9,051	95.6	5	7	7	N	7	6	6	N	8		Y		5	-/-/-
424	NN	20649		34TH STREET WB	I-664/WARWICK BLVD/CSX R/R	2	1988		9,051	75.6	5	7	7	N	7	2	6	N	8	FO	Y		5	-/-/-
425	NN	20732	351	39TH STREET	JEFFERSON AVENUE	2	1984		8,400	89.8	7	7	7	N	7	4	6	N	8				2	-/-/-
426	NN	25650	351	39TH STREET	WARWICK BLVD & C&O R/R	2	2001		8,400	83.8	7	7	7	N	7	4	N	N	7				2	-/-/-
427	NN	23552		BEECHMONT DRIVE	STONEY RUN	2	1992		4,000	98.3	8	8	7	N	7	6	N	7	8				2	-/-/-
428	NN	20668		BLAND BLVD	I-64 & CSX R/R	2	1991		29,000	75.7	7	7	7	N	7	2	N	N	8	FO			3	-/-/-
429	NN	20670		BLAND BLVD	LUCAS CREEK	19	1991		29,000	83.6	N	N	N	7	7	N	N	8	9				3	-/-/-
430	NN	20666		BOXLEY BLVD	DEEP CREEK BRANCH	19	1978		13,000	83.5	N	N	N	7	7	N	N	7	7				2	-/-/-
431	NN	20669		CAMPBELL ROAD	LUCAS CREEK	19	1991		3,550	98.7	N	N	N	7	7	N	N	8	7				1	-/-/-
432	NN	20658		CHESTNUT AVE	NEWMARKET CREEK	19	1960		7,700	84.3	N	N	N	7	7	N	N	7	7				1	-/-/-
433	NN	20665		CSX R/R	18TH STREET	2	1976		-	-	-	-	-	-	-	-	-	-	-				0	-/-/-
434	NN	20724	152	CSX R/R	MAIN STREET	2	1960		-	-	-	-	-	-	-	-	-	-	-				2	-/-/-
435	NN	20727	173	DENBIGH BLVD	I-64 & CSX R/R	2	1965	1977	32,000	18.5	5	5	4	N	4	2	6	N	8	SD	Y		9	-/-/-
436	NN	20721	105	FORT EUSTIS BLVD	CSX R/R	2	1960		41,000	73.6	7	6	5	N	5	5	N	N	6		Y		3	-/-/-
437	NN	20720	105	FORT EUSTIS BLVD	NEWPORT NEWS RESERVOIR	1	1960	1985	41,000	72.4	7	5	6	N	5	7	N	7	6		Y		3	-/-/-
438	NN	28191		FORT EUSTIS 2ND ACCESS ROAD	WARWICK RIVER	2	2005		1,000	93.7	7	8	7	N			N	9	8				8	-/-/-
439	NN	20641		HARPERSVILLE ROAD	I-64	2	1960	2000	11,000	75.1	7	8	6	N	6	4	2	N	8	*			3	-/-/-
440	NN	26128		HAMPTON ROADS CENTER PKWY EB	NEWMARKET CREEK	2	2003		10,000	95.9	7	9	7	N	7	3	N	9	9	*			1	-/-/-
441	NN	26129		HAMPTON ROADS CENTER PKWY WB	NEWMARKET CREEK	2	2003		10,000	95.9	8	9	7	N	7	3	N	9	9	*			1	-/-/-
442	NN	20661		HUNTINGTON AVENUE	FORMER SHIPYARD R/R SPUR	3	1899		12,000	80.7	7	6	6	N	6	6	2	N	6	FO			1	-/-/-
443	NN	20710	64	I-64 EB	FORT EUSTIS BLVD	2	1965		51,000	73.3	6	6	5	N	5	6	3	N	8	FO	Y		1	-/-/-
444	NN	20712	64	I-64 WB	FORT EUSTIS BLVD	2	1965		51,000	74.2	8	6	5	N	5	6	2	N	7	FO	Y		1	-/-/-
445	NN	20706	64	I-64 EB	INDUSTRIAL PARK DRIVE & R/R	2	1965	1982	54,000	76.5	5	5	5	N	5	6	9	N	8		Y		1	-/-/-
446	NN	20708	64	I-64 WB	INDUSTRIAL PARK DRIVE & R/R	2	1965	1982	54,000	77.1	5	5	5	N	5	6	6	N	8		Y		1	-/-/-
447	NN	24246	64	I-64	J CLYDE MORRIS BLVD	2	1996		135,000	85.9	5	6	6	N	6	9	5	N	8		Y		1	-/-/-
448	NN	20698	64	I-64 EB	JEFFERSON AVENUE @ YORK CL	2	1965	1981	45,000	75.1	5	6	5	N	5	6	4	N	8		Y		1	-/-/-
449	NN	20700	64	I-64 WB	JEFFERSON AVENUE @ YORK CL	2	1965	1981	40,000	75.8	6	6	5	N	5	6	4	N	8		Y		1	-/-/-
450	NN	20696	64	I-64 EB	NEWPORT NEWS RESERVOIR	2	1965		48,000	78.0	6	6	5	N	5	8	N	8	8		Y		1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
451	NN	20697	64	I-64 WB	NEWPORT NEWS RESERVOIR	2	1965		43,000	77.4	5	7	5	N	5	8	N	8	8		Y		1	-/-/-
452	NN	20719	64	I-64 EB	STONEY RUN	19	1965		54,000	82.8	N	N	N	5	5	N	N	8	8		Y		1	-/-/-
453	NN	20716	64	I-64 WB	STONEY RUN	19	1965		48,000	94.9	N	N	N	6	6	N	N	8	8				1	-/-/-
454	NN	20702	64	I-64 EB	YORKTOWN ROAD	2	1965		47,000	78.3	7	5	5	N	5	8	6	N	8		Y		1	-/-/-
455	NN	20704	64	I-64 WB	YORKTOWN ROAD	2	1965		42,000	78.1	7	6	5	N	5	8	6	N	8		Y		1	-/-/-
456	NN	20740	664	I-664	39TH STREET	2	1987		50,000	70.0	7	8	5	N	5	9	3	N	8	FO	Y		3	-/-/-
457	NN	20736	664	I-664	CHESTNUT AVENUE	2	1983		56,000	73.0	6	6	5	N	5	9	6	N	8		Y		2	-/-/-
458	NN	20742	664	I-664	CSX R/R & JEFFERSON AVENUE	2	1987		50,000	91.4	6	6	6	N	6	9	6	N	8				2	-/-/-
459	NN	20738	664	I-664	ROANOKE AVENUE	2	1985		56,000	67.0	7	7	5	N	5	9	4	N	8		Y		3	-/-/-
460	NN	20750	664	I-664	TERMINAL AVENUE	2	1990		50,000	74.0	6	5	6	N	5	9	8	9	8		Y	Y	30	-/-/-
461	NN	20746	664	I-664 SB ON RAMP	CSX R/R	2	1988		4,000	97.4	7	8	7	N	7	9	7	N	8				2	-/-/-
462	NN	20744	664	I-664 NB ON RAMP	CSX R/R & JEFFERSON AVENUE	2	1987		15,225	95.7	7	6	6	N	6	9	6	N	8				2	-/-/-
463	NN	20748	664	I-664 SB OFF RAMP	CSX R/R & JEFFERSON AVENUE	2	1987		15,000	95.8	7	7	6	N	6	9	6	N	8				2	-/-/-
464	NN	20759	664	I-664 RAMP	RAMP A	2	1990		3,700	95.4	6	7	6	N	6	9	3	N	8	FO			2	-/-/-
465	NN	20756	664	I-664 OFF RAMP	RAMP B	2	1990		1,500	99.7	6	6	7	N	6	9	N	N	8				3	-/-/-
466	NN	20757	664	I-664 SB ON RAMP	RAMP GH	2	1990		9,000	94.6	7	7	7	N	7	9	3	N	8	FO			2	-/-/-
467	NN	20761	664	I-664 RAMP	TERMINAL AVENUE	2	1990		1,500	95.6	6	7	6	N	6	9	3	N	8	FO		Y	3	-/-/-
468	NN	20754	664	I-664 ON RAMP	TERMINAL AVENUE & CSX R/R	2	1990		875	95.9	6	7	7	N	7	9	3	N	8	FO		Y	2	-/-/-
469	NN	20678	17	J CLYDE MORRIS BLVD	BIG BETHEL RESERVOIR	19	1932	1949	34,000	70.0	N	N	N	8	8	N	N	7	6				10	-/-/-
470	NN	20731	312	J CLYDE MORRIS BLVD NB	CSX R/R	2	1975		17,000	63.5	5	5	5	N	5	3	N	N	6	FO	Y		1	-/-/-
471	NN	20729	312	J CLYDE MORRIS BLVD SB	CSX R/R	2	1958	1975	17,000	62.5	5	5	5	N	5	3	N	N	6	FO	Y		1	-/-/-
472	NN	20730	312	J CLYDE MORRIS BLVD	LAKE MAURY TRIB	19	1958	1975	34,000	75.1	N	N	N	7	7	N	N	N	7				3	-/-/-
473	NN	20677	17	JEFFERSON AVENUE	GOVERNMENT DITCH	19	1966		46,000	78.4	N	N	N	7	7	N	N	5	7				1	-/-/-
474	NN	25809	143	JEFFERSON AVENUE	I-64	2	2000		71,000	89.7	7	7	7	N	7	9	3	N	8	*			4	-/-/-
475	NN	25178	143	JEFFERSON AVENUE	TRIB STONEY RUN	19	1997		35,000	79.4	N	N	N	7	7	N	N	8	8				5	-/-/-
476	NN	26954		LUCAS CREEK ROAD	LUCAS CREEK	2	2001		5,900	91.4	7	9	8	N	8	4	N	6	6				3	-/-/-
477	NN	20725	152	MAIN STREET	NEWMARKET CREEK	19	1968		10,000	80.4	N	N	N	7	7	N	N	5	6				1	-/-/-
478	NN	20671	17	MERCURY BLVD EB	CSX R/R	2	1938	1967	20,000	70.2	6	6	7	N	6	4	N	N	8				2	-/-/-
479	NN	20672	17	MERCURY BLVD WB	CSX R/R	2	1967	1992	20,000	76.9	7	7	7	N	7	4	N	N	6				2	-/-/-
480	NN	20673	17	MERCURY BLVD EB	WARWICK ROAD	2	1967	1992	18,000	72.5	6	6	6	N	6	4	4	N	6				2	-/-/-
481	NN	20675	17	MERCURY BLVD WB	WARWICK ROAD	2	1967	1992	18,000	74.8	7	6	6	N	6	4	4	N	6				2	-/-/-
482	NN	20763	664	MONITOR MERRIMAC BRIDGE-TUNNEL	HAMPTON ROADS	18	1992		54,000	-	-	-	-	-	-	-	-	-	-				0	-/-/-
483	NN	20752	664	MONITOR-MERRIMAC BRIDGE-TUN. NB	HAMPTON ROADS-JAMES RIVER	2	1990		27,000	95.6	6	6	6	N	6	5	N	8	8				1	-/-/-
484	NN	20753	664	MONITOR-MERRIMAC BRIDGE-TUN. SB	HAMPTON ROADS-JAMES RIVER	2	1990		27,000	95.0	6	6	6	N	6	5	N	8	8				1	-/-/-
485	NN	24986		OLD COURTHOUSE WAY	STONEY RUN	12	1997		7,400	75.4	9	9	7	N	7	2	N	9	8	FO			1	-/-/-
486	NN	20643		OLD OYSTER POINT ROAD	I-64	2	1991		6,000	83.7	6	8	6	N	6	4	3	N	8	FO			5	-/-/-
487	NN	20667		OYSTER POINT ROAD	CSX R/R	2	1981		45,000	80.0	6	6	6	N	6	9	N	N	8				6	-/-/-
488	NN	20645	171	OYSTER POINT ROAD	I-64	2	1990		45,000	93.7	5	6	6	N	6	9	6	N	8		Y		1	-/-/-
489	NN	20747	664	RAMP TO 35TH STREET	CSX R/R	2	1987		3,800	97.4	7	8	6	N	6	9	N	N	8				2	-/-/-
490	NN	20685	60	WARWICK BLVD	BR DEEP CREEK	19	1974		32,000	70.0	N	N	N	7	7	N	N	7	8				8	-/-/-
491	NN	20687	60	WARWICK BLVD EB	FORT EUSTIS BLVD	2	1984		13,000	96.3	7	7	6	N	6	6	5	N	8				1	-/-/-
492	NN	20681	60	WARWICK BLVD WB	FORT EUSTIS BLVD	2	1960	1985	13,000	81.7	7	6	5	N	5	6	2	N	8	FO	Y		1	-/-/-
493	NN	20684	60	WARWICK BLVD	GOVERNMENT DITCH	19	1931		27,000	81.7	N	N	N	7	7	N	N	7	6				1	-/-/-
494	NN	20679	60	WARWICK BLVD	LAKE MAURY	4	1931	1960	32,000	35.8	6	4	5	N	4	4	N	7	6	SD	Y		3	-/-/-
495	NN	20686	60	WARWICK BLVD	LUCAS CREEK	19	1981		38,000	70.0	N	N	N	7	7	N	N	7	8				8	-/-/-
496	NN	20683	60	WARWICK BLVD	STONEY RUN	19	1968		42,000	82.0	N	N	N	7	7	N	N	6	7				1	-/-/-
497	NN	20680	60	WARWICK BLVD	WARWICK RIVER	19	1984		35,000	80.3	N	N	N	8	8	N	N	8	8				2	-/-/-
498	NN	20689	60	WARWICK BLVD EB	WARWICK WB RAMP TO FT EUSTIS	2	1984		13,000	97.8	7	7	6	N	6	7	9	N	8				1	-/-/-
499	NN	20659		WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR	3	1946		5,500	20.9	5	5	5	N	3	2	3	N	8	FO	Y		1	-/18/28
500	NOR	20943	247	26TH STREET	LAFAYETTE RIVER	1	1938		14,000	75.0	5	6	6	N	6	2	N	8	6	FO	Y		2	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
501	NOR	21021	337	ADMIRAL TAUSSIG BLVD	I-564 RAMPS	2	1977		28,000	86.0	7	7	6	N	6	9	3	N	8	FO			1	-/-/-
502	NOR	20781	407	BERKLEY AVENUE EB	NS R/R	2	1985		6,000	80.6	6	6	7	N	6	2	N	N	8	FO			1	-/-/-
503	NOR	20782		BERKLEY AVENUE WB	NS R/R	2	1985		6,000	80.6	6	6	7	N	6	2	N	N	8	FO			1	-/-/-
504	NOR	20961	264	BERKLEY AVENUE RAMP	EMERGENCY VEHICLE RAMP	2	1988		2,500	89.0	7	8	7	N	7	9	3	N	8	FO			0	-/-/-
505	NOR	25610	264	BERKLEY BRIDGE MULTI-USE PATH	ELIZABETH RIVER & WATER ST	2	1990		-	-	-	-	-	-	-	-	-	-	-				0	-/-/-
506	NOR	20805	58	BRAMBLETON AVENUE WB	HAMPTON BLVD	2	1962		18,550	77.2	6	6	5	N	5	5	4	N	8		Y		1	-/-/-
507	NOR	20804	58	BRAMBLETON AVENUE	SMITH CREEK @ THE HAGUE	2	1962		41,000	66.3	5	5	5	N	5	4	N	7	6		Y		1	-/-/-
508	NOR	20936	460	CAMPOSTELLA ROAD	E BR ELIZABETH RIVER	2	1986		40,000	79.0	6	6	6	N	6	5	N	8	8				9	-/-/-
509	NOR	20944	247	CHESAPEAKE BLVD	WAYNE CREEK	19	1978		18,000	81.3	N	N	N	6	6	N	N	8	8				2	-/-/-
510	NOR	20773		COLLEY AVENUE	LAFAYETTE RIVER	2	1978		13,000	85.5	6	5	6	N	5	4	N	8	8		Y		2	-/-/-
511	NOR	20952	264	DOWNTOWN TUNNEL EB	S BR ELIZABETH RIVER	18	1986		46,000	-	-	-	-	-	-	-	-	-	-				2	-/-/-
512	NOR	20951	264	DOWNTOWN TUNNEL WB	S BR ELIZABETH RIVER	18	1952		49,000	-	-	-	-	-	-	-	-	-	-				2	-/-/-
513	NOR	20768		FIRST VIEW STREET	TIDEWATER DRIVE	2	1958		5,900	69.7	6	6	6	N	4	4	2	N	6	FO			1	-/-/-
514	NOR	20764		FRONTAGE ROAD	I-264	2	1967		4,125	79.6	5	6	6	N	6	4	6	N	8		Y		1	-/-/-
515	NOR	20770		GOVERNMENT AVENUE	TIDEWATER DRIVE	2	1956		7,519	83.8	6	6	7	N	6	4	2	N	6	FO			1	-/-/-
516	NOR	21040	460	GRANBY STREET	LAFAYETTE RIVER	2	1979		39,000	68.0	6	5	5	N	5	5	N	8	8		Y		6	-/-/-
517	NOR	21039	460	GRANBY STREET	MASONS CREEK	19	1936	1975	20,000	46.8	N	N	N	4	4	N	N	7	6	SD	Y		1	-/-/-
518	NOR	21034	460	GRANBY STREET	TIDEWATER DRIVE	2	1958		12,000	64.8	6	6	6	N	4	9	2	N	6	FO			0	-/-/-
519	NOR	21024	337	HAMPTON BLVD NB	LAFAYETTE RIVER	5	1970		18,000	65.8	6	5	5	N	5	4	N	7	6		Y		1	-/-/-
520	NOR	21023	337	HAMPTON BLVD SB	LAFAYETTE RIVER	5	1994		18,000	69.3	6	7	7	N	6	2	N	8	7	FO			1	-/-/-
521	NOR	21019	337	HAMPTON BLVD SB RAMP	HAMPTON BLVD NB	2	1962		20,750	73.3	6	6	5	N	5	4	2	N	8	FO	Y		1	-/-/-
522	NOR	20931	64	I-64 EB	4TH VIEW STREET	2	1975		41,000	96.0	6	6	6	N	6	7	4	N	8				0	-/-/-
523	NOR	20929	64	I-64 WB	4TH VIEW STREET	2	1975		40,000	96.0	6	6	6	N	6	7	4	N	8				0	-/-/-
524	NOR	20909	64	I-64 EB	13TH VIEW STREET	2	1972		41,000	77.9	5	6	5	N	5	7	2	N	8	FO	Y		1	-/-/-
525	NOR	20911	64	I-64 WB	13TH VIEW STREET	2	1972		41,000	79.2	7	7	5	N	5	7	2	N	8	FO	Y		1	-/-/-
526	NOR	20831	64	I-64 EB	AZALEA GARDEN ROAD	2	1966		74,000	89.6	6	6	6	N	6	6	4	N	8				1	-/-/-
527	NOR	20833	64	I-64 WB	AZALEA GARDEN ROAD	2	1966		72,000	90.1	6	6	6	N	6	6	4	N	8				1	-/-/-
528	NOR	23067	64	I-64 HOV LANES	AZALEA GARDEN ROAD	2	1992		19,000	97.1	7	7	7	N	7	7	6	N	8				2	-/-/-
529	NOR	20921	64	I-64 EB	BAY VIEW BLVD	2	1974		47,000	93.5	5	6	7	N	6	9	7	N	8		Y		1	-/-/-
530	NOR	20919	64	I-64 WB	BAY VIEW BLVD	2	1974		47,000	93.8	5	6	7	N	6	7	7	N	8		Y		1	-/-/-
531	NOR	20819	64	I-64 EB	CHESAPEAKE BLVD	2	1965	1977	62,000	86.1	6	7	6	N	6	4	3	N	8	FO			1	-/-/-
532	NOR	20821	64	I-64 WB	CHESAPEAKE BLVD	2	1965	1977	63,000	85.7	5	7	6	N	6	4	3	N	8	FO	Y		1	-/-/-
533	NOR	23134	64	I-64 HOV LANES	CHESAPEAKE BLVD	2	1992		19,000	97.5	6	8	7	N	7	7	6	N	8				1	-/-/-
534	NOR	20866	64	I-64 EB	CNW R/R	2	1967		60,000	80.1	6	5	6	N	5	6	N	N	8		Y		1	-/-/-
535	NOR	20867	64	I-64 WB	CNW R/R	2	1967		72,000	79.7	5	6	5	N	5	6	N	N	8		Y		1	-/-/-
536	NOR	23073	64	I-64 HOV LANES	CNW R/R	2	1992		19,000	98.0	7	8	7	N	7	6	N	N	8				0	-/-/-
537	NOR	20887	64	I-64 EB	CNW R/R & CURLEW DR	2	1968		71,000	79.9	6	7	5	N	5	5	6	N	8		Y		1	-/-/-
538	NOR	20889	64	I-64 WB	CNW R/R & CURLEW DR	2	1968	1992	69,000	94.0	6	7	6	N	6	9	6	N	8				1	-/-/-
539	NOR	23342	64	I-64 HOV LANES	CNW R/R & CURLEW DR	2	1992		10,000	91.0	7	8	7	N	7	3	9	N	8	FO			1	-/-/-
540	NOR	20925	64	I-64 EB	EVANS STREET	2	1974		47,000	83.0	6	6	5	N	5	7	7	N	8		Y		1	-/-/-
541	NOR	20923	64	I-64 WB	EVANS STREET	2	1974		47,000	81.7	5	6	5	N	5	9	7	N	8		Y		1	-/-/-
542	NOR	20850	64	I-64 EB	FIRST VIEW STREET	2	1975		41,000	92.9	6	6	6	N	6	7	6	N	8				1	-/-/-
543	NOR	20839	64	I-64 WB	FIRST VIEW STREET	2	1975		38,000	75.7	5	6	5	N	5	7	5	N	8		Y		1	-/-/-
544	NOR	20902	64	I-64 EB	GRANBY STREET	2	1971	1991	57,000	87.3	7	7	7	N	7	5	3	N	8	FO			1	-/-/-
545	NOR	20904	64	I-64 WB	GRANBY STREET	2	1971		55,000	93.4	7	6	7	N	6	6	5	N	8				1	-/-/-
546	NOR	23133	64	I-64 HOV LANES	GRANBY STREET	2	1992		19,000	92.2	7	7	7	N	7	4	6	N	8				1	-/-/-
547	NOR	23191	64	I-64 HOV LANES	I-64 WB	2	1992		10,000	96.0	6	7	6	N	6	6	4	N	8			Y	0	-/-/-
548	NOR	20883	64	I-64 EB	I-264 EB	2	1968		73,000	87.5	6	7	6	N	6	5	3	N	8	FO			1	-/-/-
549	NOR	20885	64	I-64 WB	I-264 EB	2	1968	1992	72,000	87.2	6	7	7	N	7	5	3	N	8	FO			1	-/-/-
550	NOR	23306	64	I-64 HOV LANES	I-264 EB	2	1992		10,000	94.0	7	8	7	N	7	3	6	N	8	FO			0	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
551	NOR	20879	64	I-64 EB	I-264 WB	2	1968	1985	73,000	90.7	7	7	6	N	6	6	4	N	8				1	-/-/-
552	NOR	20881	64	I-64 WB	I-264 WB	2	1968	1992	72,000	91.5	6	7	6	N	6	9	5	N	8				1	-/-/-
553	NOR	23304	64	I-64 HOV LANES	I-264 WB	2	1992		10,000	90.0	7	8	7	N	7	3	3	N	8	FO			0	-/-/-
554	NOR	20900	64	I-64 EB	I-564 NB	2	1971		57,000	74.7	6	6	6	N	6	4	2	N	8	FO			1	-/-/-
555	NOR	23214	64	I-64 HOV LANES	I-564 & LITTLE CREEK ROAD	2	1992		19,000	92.0	6	7	7	N	7	4	3	N	8	FO		Y	0	-/-/-
556	NOR	20862	64	I-64 EB	KEMPSVILLE ROAD	2	1967	1986	75,000	75.1	6	5	6	N	5	6	3	N	8	FO	Y		1	-/-/-
557	NOR	20864	64	I-64 WB	KEMPSVILLE ROAD	2	1967	1991	75,000	75.5	6	5	6	N	5	6	3	N	8	FO	Y		1	-/-/-
558	NOR	23284	64	I-64 HOV LANES	KEMPSVILLE ROAD	2	1992		19,000	91.6	7	8	7	N	7	7	3	N	8	FO			1	-/-/-
559	NOR	20871	64	I-64	LAKE TAYLOR	19	1966		172,000	70.0	N	N	N	7	7	N	N	8	8				5	-/-/-
560	NOR	20892	64	I-64 EB	LITTLE CREEK ROAD	2	1971		57,000	78.7	6	6	5	N	5	6	4	N	8		Y		1	-/-/-
561	NOR	20894	64	I-64 WB	LITTLE CREEK ROAD	2	1971		55,000	82.8	6	6	6	N	6	6	3	N	8	FO			2	-/-/-
562	NOR	20928	64	I-64 EB	MASON CREEK	2	1974		47,000	94.5	6	6	6	N	6	6	N	8	8				1	-/-/-
563	NOR	20927	64	I-64 WB	MASON CREEK	2	1974		47,000	94.3	6	6	6	N	6	6	N	8	8				1	-/-/-
564	NOR	20825	64	I-64 EB	MASON CREEK ROAD	2	1975		41,000	94.9	6	6	6	N	6	7	7	N	8				1	-/-/-
565	NOR	20823	64	I-64 WB	MASON CREEK ROAD	2	1975		38,000	94.6	6	6	6	N	6	7	7	N	8				1	-/-/-
566	NOR	20835	64	I-64 EB	MILITARY HWY	2	1966		67,000	90.9	7	6	6	N	6	6	5	N	8				1	-/-/-
567	NOR	20837	64	I-64 WB	MILITARY HWY	2	1966		72,000	77.5	5	6	5	N	5	5	5	N	8		Y		1	-/-/-
568	NOR	23068	64	I-64 HOV LANES	MILITARY HWY	2	1992		19,000	97.0	7	7	7	N	7	7	5	N	8				0	-/-/-
569	NOR	20917	64	I-64 EB	NEW GATE ROAD	2	1974		52,000	81.9	6	6	5	N	5	7	5	N	8		Y		1	-/-/-
570	NOR	20915	64	I-64 WB	NEW GATE ROAD	2	1974		44,000	81.7	6	7	5	N	5	7	5	N	8		Y		1	-/-/-
571	NOR	20858	64	I-64 EB	NORTHAMPTON BLVD	2	1967	1977	68,000	74.6	5	6	5	N	5	6	2	N	8	FO	Y		1	-/-/-
572	NOR	20860	64	I-64 WB	NORTHAMPTON BLVD	2	1967	1977	74,000	75.3	5	6	5	N	5	6	2	N	8	FO	Y		1	-/-/-
573	NOR	23074	64	I-64 HOV LANES	NORTHAMPTON BLVD	2	1992		19,000	93.5	7	8	7	N	7	7	3	N	8	FO			1	-/-/-
574	NOR	20873	64	I-64 EB	OASTS CREEK & BAY AVE	2	1975		44,000	93.9	6	6	6	N	6	6	8	8	8				1	-/-/-
575	NOR	20869	64	I-64 WB	OASTS CREEK & BAY AVE	2	1975		43,000	94.6	6	6	6	N	6	6	8	8	8				1	-/-/-
576	NOR	20845	64	I-64 EB	RAMP FROM NB TIDEWATER DRIVE	2	1967		59,000	83.0	7	6	6	N	6	6	3	N	8	FO			1	-/-/-
577	NOR	23302	64	I-64 HOV LANES	RAMP FROM NB TIDEWATER DRIVE	2	1992		19,000	94.6	6	7	7	N	7	7	5	N	8				1	-/-/-
578	NOR	20852	64	I-64 EB	RAMP FROM NORTHAMPTON BLVD	2	1967	1977	60,000	87.7	7	6	6	N	6	6	2	N	8	FO			1	-/-/-
579	NOR	20854	64	I-64 WB	RAMP FROM NORTHAMPTON BLVD	2	1964	1977	72,000	82.8	5	6	6	N	6	6	2	N	8	FO	Y		1	-/-/-
580	NOR	23132	64	I-64 HOV LANES	RAMP FROM NORTHAMPTON BLVD	2	1992		19,000	93.5	7	8	7	N	7	7	3	N	8	FO			1	-/-/-
581	NOR	20827	64	I-64 EB	ROBIN HOOD ROAD	2	1966		74,000	86.3	6	6	6	N	6	5	3	N	8	FO			1	-/-/-
582	NOR	20829	64	I-64 WB	ROBIN HOOD ROAD	2	1966		72,000	85.8	5	6	6	N	6	5	3	N	8	FO	Y		1	-/-/-
583	NOR	23061	64	I-64 HOV LANES	ROBIN HOOD ROAD	2	1992		19,000	94.0	7	8	7	N	7	7	3	N	8	FO			0	-/-/-
584	NOR	20815	64	I-64 EB	SEWELLS POINT ROAD	2	1965	1977	59,000	88.5	6	6	6	N	6	6	3	N	8	FO			1	-/-/-
585	NOR	20817	64	I-64 WB	SEWELLS POINT ROAD	2	1965		60,000	88.7	5	6	6	N	6	6	3	N	8	FO	Y		1	-/-/-
586	NOR	23059	64	I-64 HOV LANES	SEWELLS POINT ROAD	2	1992		19,000	94.0	6	8	7	N	7	7	3	N	8	FO			0	-/-/-
587	NOR	20841	64	I-64 EB	TIDEWATER DRIVE	2	1967	1977	58,000	76.6	6	6	5	N	5	4	4	N	8		Y		1	-/-/-
588	NOR	20843	64	I-64 WB	TIDEWATER DRIVE	2	1967	1985	64,000	91.5	7	6	6	N	6	6	4	N	8				1	-/-/-
589	NOR	23217	64	I-64 HOV LANES	TIDEWATER DRIVE	2	1992		19,000	93.6	6	7	8	N	7	7	4	N	8				1	-/-/-
590	NOR	20875	64	I-64 EB	VA BEACH BLVD	2	1968	1986	75,000	87.2	6	6	6	N	6	6	3	N	8	FO			1	-/-/-
591	NOR	20877	64	I-64 WB	VA BEACH BLVD	2	1968	1992	75,000	87.5	6	6	6	N	6	6	3	N	8	FO			1	-/-/-
592	NOR	23272	64	I-64 HOV LANES	VA BEACH BLVD	2	1992		19,000	91.6	6	8	7	N	7	7	3	N	8	FO			1	-/-/-
593	NOR	20913	64	I-64 EB	WILLOUGHBY BAY	2	1972		41,000	82.1	5	6	5	N	5	7	N	8	8		Y		1	-/-/-
594	NOR	20914	64	I-64 WB	WILLOUGHBY BAY	2	1972		41,000	83.0	6	5	5	N	5	7	N	8	8		Y		1	-/-/-
595	NOR	20994	264	I-64 EB RAMP	I-264 EB	2	1968		18,725	95.2	7	7	7	N	7	9	6	N	8				2	-/-/-
596	NOR	20996	264	I-64 WB RAMP	I-264 WB	2	1968		23,585	94.2	7	7	6	N	6	9	4	N	8				1	-/-/-
597	NOR	20898	64	I-64 EB RAMP	I-64 WB RAMP AT TIDEWATER DR	2	1971		10,500	95.2	7	7	7	N	7	9	3	N	8	FO			1	-/-/-
598	NOR	20856	64	I-64 EB RAMP	NORTHAMPTON BLVD	2	1967		48,248	81.0	6	6	6	N	6	9	3	N	8	FO			4	-/-/-
599	NOR	20896	64	I-64 EB RAMP	THOLE STREET	2	1972		7,450	96.4	7	7	6	N	6	9	5	N	8				1	-/-/-
600	NOR	20906	64	I-64 EB RAMP	TRIB. OF LAFAYETTE RIVER	19	1967		26,275	98.0	N	N	N	6	6	N	N	8	8				1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
601	NOR	20847	64	I-64 WB RAMP	TRIB. OF LAFAYETTE RIVER	19	1967		15,750	94.5	N	N	N	7	7	N	N	8	8				3	-/-/-
602	NOR	23186	64	I-64 HOV RAMP	I-64 WB & I-264 & RAMPS	2	1992		6,500	98.0	7	7	7	N	7	9	7	N	8			Y	0	-/-/-
603	NOR	21002	264	I-264 EB	BALLENTINE AVENUE	2	1968	1998	62,000	94.0	7	6	6	N	6	6	3	N	8	*			0	-/-/-
604	NOR	21004	264	I-264 WB	BALLENTINE AVENUE	2	1968	1998	60,000	94.0	7	6	6	N	6	6	3	N	8	*			0	-/-/-
605	NOR	20998	264	I-264	BRAMBLETON AVENUE	2	1968	1998	112,000	85.0	7	6	6	N	6	9	6	N	8				2	-/-/-
606	NOR	20981	264	I-264 EB	BROAD CREEK	2	1967	1998	65,000	93.2	7	7	6	N	6	6	N	8	8				1	-/-/-
607	NOR	20982	264	I-264 WB	BROAD CREEK	2	1967	1998	64,000	93.8	6	6	6	N	6	6	N	8	8				1	-/-/-
608	NOR	20979	264	I-264 WB	CITY HALL AVENUE	2	1991		58,000	93.0	7	7	7	N	7	7	6	N	8			Y	2	-/-/-
609	NOR	21011	264	I-264	CLAIBORNE AVENUE	2	1972	1998	109,000	80.0	6	7	6	N	6	7	7	N	8				2	-/-/-
610	NOR	20962	264	I-264 EB	E BR ELIZABETH RIVER	16	1990		62,000	88.5	6	6	6	N	6	6	N	9	8			Y	1	-/-/-
611	NOR	20947	264	I-264 WB	E BR ELIZABETH RIVER	16	1952	1991	58,000	57.7	6	7	5	N	5	4	N	6	8		Y	Y	1	-/-/-
612	NOR	20992	264	I-264 EB	HOLT STREET & NS R/R	2	1972	1990	62,000	91.8	6	6	7	N	6	5	6	9	8				1	-/-/-
613	NOR	21000	264	I-264 WB	HOLT STREET & NS R/R	2	1972	1991	47,000	90.5	6	7	6	N	6	7	6	N	8			Y	1	-/-/-
614	NOR	20971	264	I-264 EB	I-264 EB RAMP	2	1990		52,000	91.5	7	7	7	N	7	7	3	N	8	FO		Y	1	-/-/-
615	NOR	20953	264	I-264 EB & I-464 NB	I-264 & I-464 RAMPS	2	1986		52,000	94.0	7	8	6	N	6	7	3	N	8	FO			0	-/-/-
616	NOR	20955	264	I-264 WB	I-264 & I-464 RAMPS	2	1988		54,000	94.0	7	8	6	N	6	9	3	N	8	FO			0	-/-/-
617	NOR	20983	264	I-264 EB	INGLESIDE ROAD	2	1967	1998	65,000	93.2	7	7	7	N	7	6	7	N	8				1	-/-/-
618	NOR	20985	264	I-264 WB	INGLESIDE ROAD	2	1967	1998	64,000	93.5	7	7	7	N	7	6	7	N	8				1	-/-/-
619	NOR	20795	264	I-264 EB	KEMPSVILLE ROAD	2	1967	1983	97,000	80.7	6	6	6	N	6	9	2	N	8	FO			1	-/-/-
620	NOR	20793	264	I-264 WB	KEMPSVILLE ROAD	2	1967	1992	101,000	86.2	7	6	6	N	6	9	3	N	8	FO			1	-/-/-
621	NOR	20963	264	I-264 EB	MAIN STREET	2	1990		60,000	92.9	6	7	6	N	6	7	7	N	8				1	-/-/-
622	NOR	20797	264	I-264	NEWTOWN ROAD	2	1967	1983	198,000	75.0	5	7	6	N	6	9	2	N	8	FO	Y		1	-/-/-
623	NOR	21006	264	I-264 EB	NS R/R	2	1968	1998	65,000	93.2	7	7	6	N	6	6	N	N	8				1	-/-/-
624	NOR	21007	264	I-264 WB	NS R/R	2	1968	1998	64,000	92.9	7	7	6	N	6	6	N	N	8				1	-/-/-
625	NOR	21008	264	I-264 EB	NS R/R	2	1968	1998	65,000	93.2	8	6	6	N	6	9	N	N	8				1	-/-/-
626	NOR	21009	264	I-264 WB	NS R/R	2	1968		64,000	93.8	8	6	7	N	6	6	N	N	8				1	-/-/-
627	NOR	21013	264	I-264	PARK AVENUE	2	1972	1989	109,000	85.0	7	7	7	N	7	7	9	N	8				2	-/-/-
628	NOR	20975	264	I-264 WB	SR 337 SB	2	1972	1990	58,000	92.5	6	7	6	N	6	7	7	N	8				1	-/-/-
629	NOR	20969	264	I-264 RAMP	CITY HALL AVENUE	2	1990		3,250	93.7	7	7	7	N	7	7	5	N	8				1	-/-/-
630	NOR	20977	264	I-264 RAMP	CITY HALL AVENUE	2	1972	1990	10,500	92.2	6	7	7	N	7	6	N	N	8				1	-/-/-
631	NOR	20978	264	I-264 WB RAMP	CITY HALL AVENUE	2	1991		2,500	97.6	7	7	7	N	7	7	N	N	8				2	-/-/-
632	NOR	23046	460	I-264 WB RAMP	CITY HALL AVENUE	2	1952	1991	26,838	89.8	6	6	6	N	6	2	4	N	8	FO			1	-/-/-
633	NOR	21032	460	I-264 EB RAMP	EAST STREET	2	1990		4,225	97.4	6	7	7	N	7	7	4	N	8				2	-/-/-
634	NOR	20957	264	I-264 & I-464 RAMPS	I-264 EB	2	1986		5,500	98.0	6	8	6	N	6	9	7	N	8				0	-/-/-
635	NOR	20813	64	I-264 EB RAMP	I-264 WB & I-64	5	1985		39,550	93.9	7	8	7	N	6	9	9	N	8				0	-/-/-
636	NOR	20959	264	I-264 WB RAMP	I-264 WB	2	1988		1,500	94.0	7	8	7	N	7	7	3	N	8	FO			0	-/-/-
637	NOR	21030	460	I-264 NB RAMP	I-264 WB & CITY HALL AVENUE	2	1990		39,032	84.6	7	6	7	N	6	6	4	N	8				2	-/-/-
638	NOR	20973	264	I-264 RAMP	HOLT STREET & NS R/R	2	1990		2,500	97.8	7	7	7	N	7	7	6	9	8				1	-/-/-
639	NOR	20967	264	I-264 EB RAMP	MAIN STREET	2	1990		5,125	97.6	7	7	7	N	7	7	7	N	8				1	-/-/-
640	NOR	21037	460	I-264 RAMP	WATERSIDE DRIVE	2	1990		32,000	93.5	7	7	6	N	6	7	3	8	8	FO			1	-/-/-
641	NOR	21053	464	I-464 NB	BERKLEY AVENUE	2	1988		18,000	81.0	6	7	7	N	7	4	6	N	8				0	-/-/-
642	NOR	21055	464	I-464 SB	BERKLEY AVENUE	2	1988		20,000	98.0	6	8	6	N	6	7	6	N	8				0	-/-/-
643	NOR	21065	464	I-464 SB	EMERGENCY VEHICLE RAMP	2	1988		20,000	94.0	7	8	6	N	6	7	3	N	8	FO			0	-/-/-
644	NOR	21057	464	I-464 SB	I-264 EB	2	1987		20,000	94.0	7	8	6	N	6	6	3	N	8	FO			0	-/-/-
645	NOR	21061	464	I-464 SB	I-264 WB	2	1989		20,000	94.0	7	7	7	N	7	9	3	N	8	FO			0	-/-/-
646	NOR	21059	464	I-464 NB	I-464 SB RAMP	2	1987		18,000	92.1	6	8	6	N	6	7	3	N	8	FO			1	-/-/-
647	NOR	21063	464	I-464 SB	I-264 WB RAMP	2	1988		20,000	93.0	7	7	6	N	6	7	3	N	8	FO			1	-/-/-
648	NOR	21051	464	I-464 SB	I-264 & I-464 RAMPS	2	1988		20,000	94.0	7	8	7	N	7	7	3	N	8	FO			0	-/-/-
649	NOR	21045	464	I-464 NB	N&P R/R & BUCHANAN ST	2	1988		25,000	93.5	7	8	6	N	6	7	5	N	8				2	-/-/-
650	NOR	21047	464	I-464 SB	N&P R/R & BUCHANAN ST	2	1988		21,000	93.8	7	8	7	N	7	7	5	N	8				2	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS									SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
											DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.					
651	NOR	21041	464	I-464 NB	SOUTH MAIN STREET	2	1988		22,000	98.0	7	7	6	N	6	7	6	N	8				0	-/-/-
652	NOR	21043	464	I-464 SB	SOUTH MAIN STREET	2	1988		21,000	98.0	7	7	6	N	6	7	6	N	8				0	-/-/-
653	NOR	21049	464	I-464 RAMP	I-464 SB RAMP	2	1989		5,500	93.6	7	8	7	N	7	9	3	N	8	FO			1	-/-/-
654	NOR	21067	564	I-564	BOUSH CREEK	19	1977		39,000	70.0	N	N	N	8	8	N	N	8	8				5	-/-/-
655	NOR	21074	564	I-564 NB	GRANBY STREET	2	1972		32,000	86.7	7	7	6	N	6	7	3	N	8	FO			1	-/-/-
656	NOR	21072	564	I-564 SB	GRANBY STREET	2	1972	1991	23,000	94.0	7	7	6	N	6	6	4	N	8				1	-/-/-
657	NOR	21070	564	I-564 NB	LITTLE CREEK ROAD	2	1971		32,000	91.8	7	6	6	N	6	6	4	N	8				1	-/-/-
658	NOR	23216	564	I-564 HOV LANES	LITTLE CREEK ROAD	2	1992		10,000	87.0	7	7	7	N	7	2	4	N	8	FO			2	-/-/-
659	NOR	21066	564	I-564	RUNWAY 10-28 NAS NORFOLK	18	1977		39,000	-	-	-	-	-	-	-	-	-	-				8	-/-/-
660	NOR	21068	564	I-564 RAMP	I-64 & I-564	2	1990		5,000	97.6	6	7	7	N	7	9	9	N	8				1	-/-/-
661	NOR	25187	407	INDIAN RIVER ROAD	STEAMBOAT CREEK	2	1998		21,000	87.7	6	7	7	N	7	3	N	6	6	*			2	-/-/-
662	NOR	21028	406	INT TERMINAL BLVD EB	I-564 & NS R/R	2	1975		13,000	67.7	7	7	7	N	7	4	2	N	8	FO			3	-/-/-
663	NOR	21026	406	INT TERMINAL BLVD WB	I-564 & NS R/R	2	1975		13,000	68.2	6	6	6	N	6	2	2	N	8	FO			3	-/-/-
664	NOR	20934	165	LITTLE CREEK ROAD	TIDEWATER DRIVE	2	1959		27,000	82.9	5	6	6	N	6	8	2	N	6	FO	Y		0	-/-/-
665	NOR	20808	58	MIDTOWN TUNNEL	ELIZABETH RIVER	18	1962		36,000	-	-	-	-	-	-	-	-	-	-				11	-/-/-
666	NOR	20787	13	MILITARY HIGHWAY	BRANCH OF BROAD CREEK	19	1945		46,000	48.4	N	N	N	5	4	N	N	7	6		Y		1	-/-/-
667	NOR	20790	13	MILITARY HIGHWAY	CNW R/R & CURLEW DRIVE	2	1943	1967	47,000	96.5	6	6	6	N	6	9	8	N	8				1	-/-/-
668	NOR	24817	13	MILITARY HIGHWAY NB	E BR ELIZABETH RIVER	2	1996		24,000	82.2	6	8	7	N	7	5	N	8	8				1	-/-/-
669	NOR	24819	13	MILITARY HIGHWAY SB	E BR ELIZABETH RIVER	2	1996		24,000	82.2	6	8	8	N	8	5	N	8	8				1	-/-/-
670	NOR	26334	13	MILITARY HIGHWAY	I-264	2	2000		48,000	85.9	7	7	8	N	7	9	3	N	8	*			1	-/-/-
671	NOR	25327	13	MILITARY HIGHWAY	VA BEACH BLVD	21	1999		47,000	88.4	6	7	6	N	6	3	3	N	8	*			1	-/-/-
672	NOR	20940	168	NORFOLK SOUTHERN R/R	BRAMBLETON AVENUE	1	1955		-	-	-	-	-	-	-	-	-	-	-				2	-/-/-
673	NOR	20772		NORFOLK SOUTHERN R/R	COLLEY AVENUE	2	1972		-	-	-	-	-	-	-	-	-	-	-				2	-/-/-
674	NOR	21025	337	NORFOLK SOUTHERN R/R	HAMPTON BLVD	2	1940		-	-	-	-	-	-	-	-	-	-	-				3	-/-/-
675	NOR	21036	460	NORFOLK SOUTHERN R/R	MONTICELLO AVENUE	1	1952		-	-	-	-	-	-	-	-	-	-	-				2	-/-/-
676	NOR	20941	168	NORFOLK SOUTHERN R/R	TIDEWATER DRIVE	1	1956		-	-	-	-	-	-	-	-	-	-	-				3	-/-/-
677	NOR	20803	58	NORFOLK SOUTHERN R/R	VA BEACH BLVD	1	1959		-	-	-	-	-	-	-	-	-	-	-				2	-/-/-
678	NOR	20777		NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1	1979		1,500	62.0	6	5	6	N	5	2	N	8	6	FO	Y		1	-/-/-
679	NOR	20778		NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1	1979		1,500	61.0	5	5	5	N	5	2	N	8	6	FO	Y		1	-/-/-
680	NOR	24432	13	NORTHAMPTON BLVD NB	LAKE WRIGHT	2	1995		17,000	79.2	7	8	7	N	7	3	N	8	8	FO			1	-/-/-
681	NOR	24433	13	NORTHAMPTON BLVD SB	LAKE WRIGHT	2	1995		17,000	79.2	7	8	7	N	7	3	N	8	8	FO			1	-/-/-
682	NOR	23313	247	NORVIEW AVENUE	I-64	2	1992		25,000	89.4	6	7	7	N	7	5	6	N	8				2	-/-/-
683	NOR	20775		NORVIEW AVENUE	LAKE WHITEHURST	2	1975		13,000	79.9	6	5	6	N	5	9	N	8	7		Y		2	-/-/-
684	NOR	26010		NORVIEW AVENUE	RINDA CREEK	2	1999		5,900	89.3	5	7	7	N	7	3	N	8	7	*	Y		1	-/-/-
685	NOR	20811	60	OCEAN VIEW AVENUE EB	TIDEWATER DRIVE	2	1958		5,900	71.6	5	5	5	N	5	2	5	N	6	FO	Y		1	-/-/-
686	NOR	21015	264	PEDESTRIAN OVERPASS	I-264	2	1967		-	-	-	-	-	-	-	-	-	-	-				0	-/-/-
687	NOR	25259	264	PEDESTRIAN OVERPASS	I-264	2	1998		-	-	-	-	-	-	-	-	-	-	-				2	-/-/-
688	NOR	20933	64	PEDESTRIAN OVERPASS	I-64	2	1965		-	-	-	-	-	-	-	-	-	-	-				2	-/-/-
689	NOR	20807	58	PEDESTRIAN OVERPASS	MIDTOWN TUNNEL	1	1962		-	-	-	-	-	-	-	-	-	-	-				11	-/-/-
690	NOR	20767		ROBIN HOOD ROAD	NORFOLK WATER SUPPLY CANAL	4	1944	1987	7,056	68.4	6	6	5	N	5	2	N	6	6	FO	Y		2	-/-/-
691	NOR	20809	60	SHORE DRIVE	LAKE WHITEHURST	19	1984		33,000	70.0	N	N	N	6	6	N	N	8	7				9	-/-/-
692	NOR	26314	60	SHORE DRIVE	LITTLE CREEK	2	2002		25,000	80.3	6	7	7	N	7	3	N	8	8	*			9	-/-/-
693	NOR	20774	337	SR 337 NB & RAMP	ADJACENT TO STRUCTURE #21000	2	1972	1990	5,000	99.3	6	7	6	N	6	6	N	N	8				2	-/-/-
694	NOR	20766		THOLE STREET	BRANCH OF LAFAYETTE RIVER	19	1967		200	93.5	N	N	N	6	6	N	N	6	6				4	-/-/-
695	NOR	20938	168	TIDEWATER DRIVE	LAFAYETTE RIVER	1	1985		29,000	64.8	5	6	5	N	5	4	N	9	7		Y		1	-/-/-
696	NOR	20939	168	TIDEWATER DRIVE	NS R/R	2	1960		34,000	56.0	6	5	6	N	5	4	N	N	5		Y		5	-/-/-
697	NOR	20942	168	TIDEWATER DRIVE	TRIB OF LAFAYETTE RIVER	19	1967		34,000	75.6	N	N	N	7	7	N	N	8	8				3	-/-/-
698	NOR	20937	168	TIDEWATER DRIVE	WAYNE CREEK	1	1985	2003	38,000	93.5	6	7	7	N	7	9	N	8	7				3	-/-/-
699	NOR	24793	58	VA BEACH BLVD	BROAD CREEK	2	1996		30,000	81.9	7	7	7	N	7	9	N	8	7				5	-/-/-
700	NOR	24148	58	VA BEACH BLVD	N&S R/R	2	1995		31,000	88.2	6	6	6	N	6	3	N	N	8	FO			1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
701	NOR	20949		WATERSIDE DRIVE EB	EAST MAIN STREET	2	1972	1990	35,200	93.2	7	7	6	N	6	9	3	N	8	FO			1	-/-/-
702	NOR	20776		WILLOW WOOD DRIVE	BRANCH OF LAFAYETTE RIVER	2	1987		11,000	77.3	6	6	6	N	6	2	N	8	8	FO			3	-/-/-
703	PORT	21197		CEDAR LANE	ROUTE 164	2	1989		14,000	100.0	7	6	6	N	6	8	6	N	8				0	-/-/-
704	PORT	26832		CLIFFORD STREET	BAINES CREEK	2	2005		7,500	88.5	8	9	9	N	7	4	N	3	8	*			4	-/-/-
705	PORT	21193		COURT STREET	I-264 WB	1	1951	1990	7,900	86.2	7	8	7	N	7	4	3	N	8	FO			1	-/-/-
706	PORT	21190		GREENWOOD DRIVE	I-264	2	1976		17,000	85.9	7	6	6	N	6	5	3	N	8	FO			3	-/-/-
707	PORT	21199	17	HIGH STREET	W BR ELIZABETH RIVER	2	1951	1975	31,000	30.2	4	5	4	N	4	5	N	5	6	SD	Y		4	-/-/-
708	PORT	21233	264	I-264	DES MOINES AVENUE	2	1964	1979	74,000	84.0	6	6	6	N	6	9	5	N	8				4	-/-/-
709	PORT	21240	264	I-264	EFFINGHAM STREET	2	1966	1985	84,000	81.0	7	6	6	N	6	9	2	N	8	FO			1	-/-/-
710	PORT	21244	264	I-264	ELM AVENUE	2	1966	1985	73,000	79.0	6	6	6	N	6	9	5	N	8				4	-/-/-
711	PORT	21229	264	I-264	FREDERICK BLVD	2	1964	1979	68,000	92.0	6	6	6	N	6	9	5	N	8				0	-/-/-
712	PORT	21220	264	I-264	MCLEAN AVENUE	2	1964	1979	61,000	78.6	6	7	7	N	7	9	2	N	8	FO			2	-/-/-
713	PORT	21224	264	I-264	N & P R/R	2	1964	1980	73,000	69.0	6	6	5	N	5	7	N	N	8		Y		4	-/-/-
714	PORT	21225	264	I-264	PORTSMOUTH BLVD	2	1964	1978	61,000	79.0	6	6	6	N	6	9	5	N	8				4	-/-/-
715	PORT	21231	264	I-264	PORTSMOUTH BLVD RAMP	2	1964	1979	61,000	79.0	6	6	6	N	6	9	5	N	8				4	-/-/-
716	PORT	21235	264	I-264	RAMP FROM FREDERICK BLVD	2	1964	1979	61,000	89.0	7	6	6	N	6	9	3	N	8	FO			0	-/-/-
717	PORT	21218	264	I-264	RODMAN AVENUE	2	1964		61,000	69.0	6	5	6	N	5	9	5	N	8		Y		2	-/-/-
718	PORT	21237	264	I-264	VICTORY BLVD	2	1963	1979	55,000	92.0	7	7	6	N	6	9	5	N	8				0	-/-/-
719	PORT	21242	264	I-264	WB RAMP FROM EFFINGHAM STREET	2	1966	1985	73,000	75.0	6	6	6	N	6	5	2	N	8	FO			4	-/-/-
720	PORT	21222	264	I-264 EB RAMP	FREDERICK BLVD	2	1964		5,000	79.4	7	7	7	N	7	9	5	N	8				2	-/-/-
721	PORT	21227	264	I-264 EB RAMP	PORTSMOUTH BLVD	2	1964		7,950	89.7	5	6	6	N	6	9	5	N	7		Y		2	-/-/-
722	PORT	21246	264	I-264 WB ON RAMP	RAMP FROM I-264 WB	2	1985		1,850	100.0	7	7	7	N	7	9	8	N	8				0	-/-/-
723	PORT	21248	264	I-264 EB OFF RAMP	RAMP TO EB DOWNTOWN TUNNEL	2	1985		2,875	99.0	7	7	7	N	7	9	5	N	8				0	-/-/-
724	PORT	21202	58	LONDON BOULEVARD	MLK FREEWAY	2	1971		24,000	77.5	7	5	7	N	5	9	3	N	6	FO	Y		1	-/-/-
725	PORT	21200	58	LONDON BOULEVARD	N&P R/R & VIRGINIA AVE	2	1971		20,000	76.7	7	5	8	N	5	9	2	N	8	FO	Y		1	-/-/-
726	PORT	26653	58	MLK FREEWAY	CLEVELAND STREET & CSX R/R	2	2005		29,000	94.1	8	8	8	N	8	9	4	N	7				1	-/-/-
727	PORT	21250	264	PEDESTRIAN OVERPASS	I-264	2	1964		-	-	-	-	-	-	-	-	-	-	-				3	-/-/-
728	PORT	28239	164	ROUTE 164 EB	APM BLVD	2	2006		17,000	97.0	8	8	8	N	8	8	5	N	8				0	-/-/-
729	PORT	28241	164	ROUTE 164 WB	APM BLVD	2	2006		17,000	97.1	8	8	8	N	8	8	9	N	8				1	-/-/-
730	PORT	21208	164	ROUTE 164 EB	FORMER COAST GUARD BLVD	2	1991		17,000	93.0	6	7	6	N	6	6	4	N	8			Y	0	-/-/-
731	PORT	21206	164	ROUTE 164 WB	FORMER COAST GUARD BLVD	2	1991		17,000	83.0	5	6	5	N	5	6	9	N	8		Y	Y	0	-/-/-
732	PORT	28376	164	ROUTE 164 WB	MLK & WESTERN FREEWAY & PMT	2	2006		1,500	95.8	8	8	8	N	8	8	3	N	8	*			2	-/-/-
733	PORT	28384	164	ROUTE 164 EB	PORTSMOUTH MARINE TERM.	2	2006		2,500	94.6	8	8	8	N	7	8	N	N	8				12	-/-/-
734	PORT	21215	164	ROUTE 164	W BR ELIZABETH RIVER	2	1978		34,000	69.0	6	5	6	N	5	9	9	8	8		Y		9	-/-/-
735	PORT	27133	164	ROUTE 164 EB	W BR ELIZABETH RIVER	2	2006		17,000	81.7	8	8	8	N	8	4	N	9	8				1	-/-/-
736	PORT	28217	164	ROUTE 164 WB	W BR ELIZABETH RIVER	2	2006		17,000	81.7	8	8	8	N	8	4	N	9	8				1	-/-/-
737	PORT	21210	164	ROUTE 164 EB	W. NORFOLK ROAD & NS R/R	2	1991		17,000	92.0	6	6	7	N	6	5	4	N	8				0	-/-/-
738	PORT	21212	164	ROUTE 164 WB	W. NORFOLK ROAD & NS R/R	2	1991		17,000	92.0	6	7	7	N	7	5	4	N	8				0	-/-/-
739	PORT	28350	164	ROUTE 164 WB RAMP FR. CLEVELAND ST	MLK FREEWAY & PMT	2	2006		1,500	99.8	8	8	8	N	8	9	6	N	8				2	-/-/-
740	PORT	28396	164	ROUTE 164 EB RAMP TO MIDTOWN TUN.	MLK FREEWAY WB & PMT	2	2006		2,500	95.2	8	8	8	N	8	8	3	N	8	*			4	-/-/-
741	PORT	28349	164	ROUTE 164 EB RAMP TO CLEVELAND ST	PORTSMOUTH MARINE TERM.	2	2006		2,500	94.7	8	8	8	N	8	5	N	N	7				3	-/-/-
742	PORT	28348	164	ROUTE 164 RAMP FROM WB ROUTE 58	PORTSMOUTH MARINE TERM.	2	2006		2,000	95.5	8	8	8	N	8	3	N	N	8	*			3	-/-/-
743	PORT	21195		TOWN POINT ROAD	ROUTE 164	2	1989		25,000	98.0	6	6	6	N	6	4	6	N	8				0	-/-/-
744	PORT	21217	239	VICTORY BLVD	PARADISE CREEK	1	1944		6,300	43.2	5	5	5	N	4	5	N	7	6		Y		4	-/-/-
745	SH	17785	615	ADAMS GROVE ROAD	BROWNS BRANCH	2	1932		150	49.0	7	6	6	N	4	2	N	7	7	FO			11	10/-/-
746	SH	17786	615	ADAMS GROVE ROAD	THREE CREEK	4	1957		150	91.9	8	8	6	N	6	5	N	7	8				10	-/-/-
747	SH	17804	626	APPLETON ROAD	ROUND HILL SWAMP	19	1978		260	100.0	N	N	N	7	7	N	N	8	7				2	-/-/-
748	SH	17835	652	BARHAMS HILL ROAD	ANGELICO CREEK	2	1932		120	44.1	6	5	5	N	4	4	N	6	7		Y		6	12/-/-
749	SH	17877	677	BARNS CHURCH CIR	BRANCH	2	1932		180	78.0	7	7	7	N	7	4	N	7	8				4	-/-/-
750	SH	17801	622	BELL ROAD	SEACOCK SWAMP	2	1963		90	92.0	7	7	7	N	7	6	N	7	7				4	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

											BRIDGE RATINGS													
#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
751	SH	17821	640	BEREA CHURCH ROAD	BRANCH	2	1932		60	66.9	7	4	4	N	4	6	N	6	6	SD	Y		5	23/-/-
752	SH	17815	635	BLACK CREEK ROAD	BLACK CREEK	4	1956		720	79.9	7	7	6	N	6	4	N	8	8				18	-/-/-
753	SH	17816	635	BLACK CREEK ROAD	BRANCH	5	1983		1,200	92.5	7	7	6	N	6	5	N	8	8				5	-/-/-
754	SH	17847	658	BLACKHEAD SIGNPOST ROAD	MILL SWAMP	5	1965		490	80.5	7	7	6	N	6	4	N	8	7				10	-/-/-
755	SH	25493	655	BRANDY POND ROAD	HORNET SWAMP	19	1998		40	100.0	N	N	N	7	7	N	N	8	8				9	-/-/-
756	SH	17843	655	BRANDY POND ROAD	THREE CREEK	1	1973		190	97.5	7	8	7	N	7	6	N	7	8				10	-/-/-
757	SH	17838	652	BUCKHORN QUARTER ROAD	BUCKHORN SWAMP	2	1963		280	62.1	7	6	5	N	5	4	N	6	7		Y		4	18/-/-
758	SH	17797	619	BURDETTE ROAD	BLACK CREEK	2	1932	1983	210	59.4	7	6	6	N	5	4	N	8	7				6	15/-/-
759	SH	17798	619	BURDETTE ROAD	BLACKWATER RIVER	2	1983		210	99.7	7	8	8	N	8	6	N	7	8				17	-/-/-
760	SH	17901	743	BURNT REED ROAD	TARRARA CREEK	2	1932	1997	220	66.2	7	7	6	N	6	3	N	8	7	FO			13	-/-/-
761	SH	26227	606	CABIN POINT ROAD	BRANCH	19	2000		20	100.0	N	N	N	7	7	N	N	8	8				5	-/-/-
762	SH	17892	702	CABIN POND ROAD	BRANCH ROSA SWAMP	19	1972		130	99.0	N	N	N	6	6	N	N	8	7				6	-/-/-
763	SH	17751	58	CAMP PARKWAY	BLACKWATER RIVER	2	1932	1961	10,000	35.2	4	4	4	N	4	2	N	8	7	SD	Y		11	-/27/40
764	SH	17841	653	CARYS BRIDGE ROAD	NOTTOWAY RIVER	2	1954		190	60.9	6	6	6	N	5	4	N	7	8				13	-/27/39
765	SH	17839	653	CARYS BRIDGE ROAD	OVERFLOW NOTTOWAY RIVER	19	1969		190	98.7	N	N	N	6	6	N	N	7	7				23	-/-/-
766	SH	17846	658	CEDAR VIEW ROAD	ANGELICO CREEK	2	1932		30	56.5	7	5	7	N	5	5	N	6	3	FO	Y		4	15/-/-
767	SH	17862	668	CLARKSBURY ROAD	ROSA SWAMP	19	1973		380	86.8	N	N	N	5	5	N	N	7	7		Y		7	-/-/-
768	SH	17861	668	CLARKSBURY ROAD	TARRARA CREEK	2	1969		230	79.6	6	6	5	N	5	5	N	7	7		Y		7	24/-/-
769	SH	17802	623	CLAYTON ROAD	SEACOCK SWAMP	2	1968		40	98.9	8	7	7	N	7	6	N	8	8				18	-/-/-
770	SH	17823	642	COBB ROAD	BRANCH	19	1978		120	99.0	N	N	N	6	6	N	N	8	8				3	-/-/-
771	SH	17831	649	COUNTRY CLUB ROAD	BRANCH	19	1976		1,900	99.1	N	N	N	6	6	N	N	8	7				6	-/-/-
772	SH	17832	649	COUNTRY CLUB ROAD	NOTTOWAY SWAMP	2	1965		1,100	65.5	6	6	5	N	5	3	N	7	8	FO	Y		5	26/-/-
773	SH	17854	665	CROSS KEYS ROAD	DEAL SWAMP	19	1975		630	88.8	N	N	N	5	5	N	N	7	6		Y		4	-/-/-
774	SH	17796	618	CRUMPLER ROAD	TERRAPIN SWAMP	2	1962		210	81.2	7	6	7	N	6	5	N	7	7				8	-/-/-
775	SH	17824	643	DARDEN SCOUT ROAD	BRANCH	19	1974		240	98.9	N	N	N	7	7	N	N	8	7				3	-/-/-
776	SH	17825	643	DARDEN SCOUT ROAD	BRANCH	19	1975		240	98.9	N	N	N	6	6	N	N	7	8				3	-/-/-
777	SH	17856	665	DAVIS LANE	VICKS CREEK	1	1987		110	90.7	7	7	7	N	7	5	N	8	8				5	-/-/-
778	SH	17889	687	DELAWARE ROAD	ROUTE 58	2	1979		1,300	80.1	7	5	5	N	5	5	6	N	8		Y		3	-/-/-
779	SH	24615	600	DOLES ROAD	BRANCH	19	1996		110	89.0	N	N	N	5	5	N	N	8	8		Y		4	-/-/-
780	SH	17820	638	DRAKE ROAD	JOHNSONS MILL	2	1961		180	68.3	7	6	7	N	6	4	N	7	7				4	14/-/-
781	SH	17766	607	FARMERS BRIDGES ROAD	ASSAMOOSIC SWAMP	19	1975		90	71.9	N	N	N	4	4	N	N	7	8	SD	Y		10	-/-/-
782	SH	17767	607	FARMERS BRIDGES ROAD	ASSAMOOSIC SWAMP	2	1932		90	47.9	7	6	5	N	4	6	N	7	8		Y		12	10/-/-
783	SH	17776	611	FLAGGY RUN ROAD	FLAGGY RUN	2	1967		270	74.4	7	5	6	N	5	5	N	7	6		Y		16	-/-/-
784	SH	17780	612	FORTSVILLE ROAD	APPLE WHITE SWAMP	19	1975		30	88.0	N	N	N	5	5	N	N	7	5		Y		10	-/-/-
785	SH	26570	612	FORTSVILLE ROAD	BROWNS BRANCH	19	2000		80	99.9	N	N	N	7	7	N	N	8	8				15	-/-/-
786	SH	24456	612	FORTSVILLE ROAD	RAWLINGS SWAMP	19	1996		30	100.0	N	N	N	7	7	9	N	8	8				12	-/-/-
787	SH	17851	659	FORTSVILLE ROAD	THREE CREEK	1	1967		490	91.4	7	7	7	N	7	5	N	8	7				12	-/-/-
788	SH	17864	671	GENERAL THOMAS HWY	BRANCH	19	1977		4,100	81.7	N	N	N	5	5	N	N	7	8		Y		18	-/-/-
789	SH	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER	5	1960		4,100	28.3	5	5	5	N	4	2	N	8	8	FO	Y		16	-/-/-
790	SH	17866	671	GENERAL THOMAS HWY	NOTTOWAY RIVER OVERFLOW	5	1960		4,100	28.3	5	5	5	N	4	2	N	8	8	FO	Y		16	-/-/-
791	SH	17827	646	GOVERNOR DARDEN ROAD	BRANCH NOTTOWAY RIVER	19	1972		570	88.7	N	N	N	5	5	N	N	8	7		Y		7	-/-/-
792	SH	17828	646	GOVERNOR DARDEN ROAD	DARDEN MILL POND	2	1968		570	79.4	8	8	7	N	7	4	N	7	7				13	-/-/-
793	SH	17872	673	GRAY'S SHOP ROAD	STREAM	2	1932		170	77.7	7	7	7	N	7	4	N	7	7				3	23/-/-
794	SH	17754	186	HUGO ROAD	MEHERRIN RIVER	4	1936		1,500	76.1	5	6	6	N	6	4	N	8	8		Y		42	-/-/-
795	SH	17752	186	HUGO ROAD	OVERFLOW MEHERRIN RIVER	4	1937	1993	1,500	41.3	7	7	5	N	4	4	N	8	8		Y		20	-/-/-
796	SH	17812	634	INDIAN BRANCH LANE	INDIAN BRANCH	2	1932		40	48.2	7	6	5	N	4	5	N	7	2	FO	Y		6	11/-/-
797	SH	17834	651	INDIAN TOWN ROAD	BUCKHORN SWAMP	1	1986		120	93.9	7	7	7	N	7	5	N	8	7				8	-/-/-
798	SH	17788	616	IVOR ROAD	BARLOW MILL RUN	19	1973		1,500	99.2	N	N	N	7	7	N	N	8	8				8	-/-/-
799	SH	17792	616	IVOR ROAD	BR ROUND HILL SWAMP	19	1975		1,500	98.1	N	N	N	6	6	N	N	8	7				18	-/-/-
800	SH	17791	616	IVOR ROAD	BRANCH	19	1976		1,600	99.3	N	N	N	7	7	N	N	8	7				7	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
801	SH	17789	616	IVOR ROAD	LIGHTWOOD SWAMP	19	1976		1,400	99.2	N	N	N	6	6	N	N	8	8				10	-/-/-
802	SH	17793	616	IVOR ROAD	SEACOCK SWAMP	5	1960		1,400	62.9	5	5	5	N	5	4	N	8	8		Y		26	-/-/-
803	SH	17822	641	JOHNSON'S MILL ROAD	JOHNSONS MILL	1	1989		620	98.8	7	7	8	N	7	5	N	8	8				4	-/-/-
804	SH	17763	601	KELLOS MILL ROAD	LIGHTWOOD SWAMP	2	1963		160	64.7	7	8	5	N	5	4	N	8	6		Y		7	-/-/-
805	SH	17840	653	LITTLE TEXAS ROAD	FLAT SWAMP	2	1971		200	73.8	8	8	5	N	5	4	N	5	7		Y		13	-/-/-
806	SH	9139	730	LITTLE TEXAS ROAD	MEHERRIN RIVER	2	1953		140	68.4	6	5	5	N	5	4	N	5	7		Y		47	-/-/-
807	SH	17882	683	MARY HUNT ROAD	COKEMOKE CREEK	5	1981		270	78.5	5	5	6	N	5	5	N	8	8		Y		8	-/-/-
808	SH	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER	10	1929		3,700	49.5	5	5	5	N	5	2	N	5	8	FO	Y	Y	8	-/27/40
809	SH	17728	35	MEHERRIN ROAD	OVERFLOW, NOTTOWAY RIVER	19	1979		3,700	82.0	N	N	N	5	5	N	N	3	7	FO	Y		9	-/-/-
810	SH	24961	35	MEHERRIN ROAD	ROUTE 58	2	1997		2,800	99.7	7	7	7	N	7	9	6	N	8				1	-/-/-
811	SH	17768	608	MILL NECK ROAD	RACOON SWAMP	2	1932		40	40.2	6	5	4	N	4	7	N	8	7	SD	Y		6	9/-/-
812	SH	17769	608	MILL NECK ROAD	RACOON SWAMP	2	1932	1985	40	95.0	7	7	6	N	6	4	N	7	7				6	-/-/-
813	SH	17809	631	MISSION CHURCH ROAD	BLACK CREEK	2	1962		140	71.8	7	6	5	N	5	5	N	7	7		Y		5	-/-/-
814	SH	17885	684	MONROE ROAD	DARDEN MILL RUN	2	1982		180	86.8	7	6	5	N	5	5	N	7	8		Y		12	-/-/-
815	SH	25627	684	MONROE ROAD	NOTTOWAY RIVER	2	1999		660	98.6	6	6	8	N	6	5	N	8	8				8	-/-/-
816	SH	17863	670	NUMBER 8 SCHOOL HOUSE ROAD	TARRARA CREEK	4	1956		280	65.7	7	7	5	N	5	4	N	8	8		Y		6	-/-/-
817	SH	26226	652	OLD BELFIELD ROAD	PLEASANT CREEK	19	2000		240	99.9	N	N	N	6	6	N	N	7	8				5	-/-/-
818	SH	17800	621	OLD BLACKWATER ROAD	BLACKWATER RIVER	5	1963		290	70.6	6	6	5	N	5	5	N	8	8		Y		12	-/-/-
819	SH	17857	666	OLD BRANCHVILLE ROAD	TARRARA CREEK	1	1969		600	93.3	6	6	6	N	6	5	N	8	8				10	-/-/-
820	SH	17852	661	OLD CHURCH ROAD	BELLYACHE SWAMP	19	1964		100	98.9	N	N	N	7	7	N	N	8	8				13	-/-/-
821	SH	17845	657	OLD PLACE ROAD	TARRARA CREEK	19	1988		50	89.0	N	N	N	5	5	N	N	7	7		Y		4	-/-/-
822	SH	17721	35	PLANK ROAD	ASSAMOOSICK CREEK	2	1980		2,300	97.5	6	7	6	N	6	5	N	8	8				9	-/-/-
823	SH	17726	35	PLANK ROAD	BRANCH	1	1932	1971	2,300	87.3	7	7	5	N	5	6	N	8	8		Y		9	-/-/-
824	SH	17722	35	PLANK ROAD	MILL RUN	2	1921	1998	2,300	98.1	7	8	6	N	6	6	N	8	8				12	-/-/-
825	SH	17773	609	POPES STATION ROAD	BRANCH	19	1979		140	99.9	N	N	N	6	6	N	N	8	7				6	-/-/-
826	SH	17772	609	POPES STATION ROAD	BUCKHORN SWAMP	2	1978		140	80.2	7	7	8	N	7	4	N	6	7				4	-/-/-
827	SH	17774	609	POPES STATION ROAD	THREE CREEK	2	1965		80	92.9	6	7	6	N	6	6	N	8	8				14	-/-/-
828	SH	17895	714	PRETLOW ROAD	ROUTE 58	2	1980		1,400	99.5	6	6	6	N	6	6	6	N	8				5	-/-/-
829	SH	17790	616	PROCTORS BRIDGE ROAD	HICKANECK SWAMP	19	1990		250	99.9	N	N	N	6	6	N	N	8	8				6	-/-/-
830	SH	17787	616	PROCTORS BRIDGE ROAD	PROCTOR SWAMP	19	1987		250	99.9	N	N	N	6	6	N	N	8	8				6	-/-/-
831	SH	17899	731	RIDLEY ROAD	MILL SWAMP	19	1968		110	98.7	N	N	N	6	6	N	N	8	8				11	-/-/-
832	SH	17829	647	RIVER ROAD	ASSAMOOSICK SWAMP	2	1971		140	93.8	7	7	6	N	6	5	N	8	8				5	-/-/-
833	SH	17830	647	RIVER ROAD	CUSCORA BRANCH	19	1972		140	88.8	N	N	N	5	5	N	N	7	8		Y		5	-/-/-
834	SH	17779	612	RIVER'S MILL ROAD	RIVERS MILL	2	1971		120	80.9	6	6	6	N	6	4	N	7	7				13	-/-/-
835	SH	17891	688	ROSE VALLEY ROAD	BRANCH	19	1983		320	72.7	N	N	N	4	4	N	N	8	8	SD	Y		6	-/-/-
836	SH	17727	35	ROUTE 35	TARRARA CREEK	4	1946		1,700	59.0	5	5	5	N	5	2	N	7	8	FO	Y		13	-/-/-
837	SH	17731	58	ROUTE 58 EB	ANGELICO CREEK	2	1990		8,000	89.1	7	7	7	N	7	8	N	8	8				6	-/-/-
838	SH	17730	58	ROUTE 58 WB	ANGELICO CREEK	5	1948	1981	8,000	81.2	7	7	5	N	5	7	N	8	8		Y		1	-/-/-
839	SH	23647	58	ROUTE 58 EB	ARMORY DRIVE	2	1993		11,000	90.1	7	7	7	N	7	7	4	N	8				1	-/-/-
840	SH	17740	58	ROUTE 58 WB	ARMORY DRIVE	2	1979		11,000	77.0	6	6	5	N	5	7	4	N	8		Y		3	-/-/-
841	SH	17732	58	ROUTE 58	BRANCH	19	1988		18,000	77.5	N	N	N	6	6	N	N	8	8				4	-/-/-
842	SH	17733	58	ROUTE 58	BRANCH	19	1988		18,000	72.0	N	N	N	7	7	N	N	8	8				8	-/-/-
843	SH	23715	58	ROUTE 58 EB	CSX R/R	2	1993		11,000	92.2	7	7	7	N	7	6	N	N	8				1	-/-/-
844	SH	17742	58	ROUTE 58 WB	CSX R/R	2	1979		11,000	90.5	6	6	6	N	6	9	N	N	8				3	-/-/-
845	SH	17749	58	ROUTE 58 EB	NOTTOWAY RIVER	2	1984		9,000	86.2	6	6	5	N	5	7	N	8	8		Y		1	-/-/-
846	SH	23609	58	ROUTE 58 WB	NOTTOWAY RIVER	2	1993		9,000	86.2	7	6	5	N	5	7	N	8	8		Y		1	-/-/-
847	SH	17729	58	ROUTE 58 EB	NOTTOWAY SWAMP	2	1930	1978	11,000	64.8	6	7	4	N	4	7	N	8	8	SD	Y		1	-/-/-
848	SH	17739	58	ROUTE 58 WB	NOTTOWAY SWAMP	5	1966		11,000	67.8	7	7	5	N	5	4	N	7	7		Y		1	-/-/-
849	SH	17750	58	ROUTE 58	OVERFLOW NOTTOWAY RIVER	2	1984		18,000	96.3	7	7	7	N	7	5	N	8	8				1	-/-/-
850	SH	23630	58	ROUTE 58	OVERFLOW NOTTOWAY RIVER	2	1993		18,000	86.2	7	7	5	N	5	7	N	8	8		Y		1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
851	SH	23648	58	ROUTE 58 EB	ROUTE 258	2	1993		11,000	97.2	7	7	7	N	7	7	6	N	8				1	-/-/-
852	SH	17744	58	ROUTE 58 WB	ROUTE 258	2	1980		11,000	96.2	5	7	7	N	7	7	6	N	8		Y		1	-/-/-
853	SH	17795	618	SADLER ROAD	BAR B Q RUN	2	1932		440	49.8	7	6	5	N	5	3	N	7	7	FO	Y		9	15/-/-
854	SH	17811	633	SAINT LUKES ROAD	HORSE PEN RUN	2	1962		100	87.2	7	7	7	N	6	6	N	5	7				7	21/-/-
855	SH	17874	674	SANDS ROAD	DARDEN MILL RUN	2	1932	2000	410	70.3	8	8	7	N	6	3	N	6	7	*			5	24/-/-
856	SH	17887	686	SANDY RIDGE ROAD	MILL CREEK	4	1970		120	97.7	6	7	7	N	7	5	N	7	7				21	-/-/-
857	SH	17784	614	SEACOCK CHAPEL ROAD	BLACKWATER RIVER	2	1971		840	81.1	8	8	6	N	6	4	N	7	8				12	-/-/-
858	SH	17782	614	SEACOCK CHAPEL ROAD	BRANCH	2	1932		310	56.8	7	6	5	N	5	2	N	7	7	FO	Y		3	19/-/-
859	SH	17783	614	SEACOCK CHAPEL ROAD	ROUND HILL SWAMP	1	1967		110	65.6	7	7	4	N	4	5	N	8	8	SD	Y		28	-/-/-
860	SH	17781	614	SEACOCK CHAPEL ROAD	SEACOCK SWAMP	2	1953		450	39.4	6	5	7	N	4	4	N	8	8		Y		8	21/-/-
861	SH	17756	258	SMITHS FERRY ROAD	NOTTOWAY RIVER	2	1960		6,900	64.1	6	6	6	N	6	4	N	8	8				34	-/-/-
862	SH	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	17	1940	1962	2,900	21.4	5	4	5	N	4	2	N	8	8	SD	Y	Y	19	-/22/28
863	SH	17833	650	STORYS STATION ROAD	FLAGGY RUN	2	1932		810	77.6	7	8	7	N	7	3	N	7	7	FO			6	-/-/-
864	SH	17775	611	STORYS STATION ROAD	NOTTOWAY SWAMP	2	1966		200	89.5	7	7	6	N	6	5	N	6	7				2	-/-/-
865	SH	26972	680	SUNBEAM ROAD	COKEMOKE MILL	10	2002		80	94.0	8	7	8	N	7	5	N	8	6			Y	6	-/-/-
866	SH	17810	632	SYCAMORE AVENUE	BRANCH	19	1974		450	98.6	N	N	N	7	7	N	N	7	8				4	-/-/-
867	SH	17859	667	SYKES FARM ROAD	TARRARA CREEK	2	1972		270	82.9	7	7	7	N	7	4	N	7	8				3	-/-/-
868	SH	17853	663	THE HALL ROAD	FLAT SWAMP	4	1968		100	64.7	7	7	4	N	4	5	N	8	7	SD	Y		18	-/-/-
869	SH	17900	735	THREE CREEK ROAD	HORNET SWAMP	1	1985		390	95.3	7	7	7	N	7	5	N	7	8				8	-/-/-
870	SH	17757	308	THREE CREEK ROAD	THREE CREEK	4	1948		500	46.2	6	4	5	N	4	4	N	8	8	SD	Y		10	-/-/-
871	SH	17826	645	TRINITY CHURCH ROAD	INDIAN BRANCH	2	1932		170	39.2	7	6	4	N	4	3	N	7	8	SD	Y		7	16/-/-
872	SH	17817	635	TUCKER SWAMP ROAD	BRANCH	2	1960		380	75.3	7	8	5	N	5	4	N	7	7		Y		6	-/-/-
873	SH	17813	635	TUCKER SWAMP ROAD	N&W R/R	3	1915		380	37.6	6	5	6	N	4	2	N	N	2	FO	Y	Y	6	11/-/-
874	SH	17814	635	TUCKER SWAMP ROAD	SEACOCK SWAMP	4	1956		240	74.4	6	6	6	N	6	4	N	8	8				9	-/-/-
875	SH	17764	603	UNITY ROAD	WHITEFIELD MILL	2	1966		470	77.1	8	8	5	N	5	5	N	7	7		Y	Y	10	-/-/-
876	SH	17849	659	VICKS MILLPOND ROAD	FLAT SWAMP	2	1932		290	48.4	7	4	4	N	4	3	N	7	7	SD	Y		8	20/-/-
877	SH	17848	659	VICKS MILLPOND ROAD	VICKS CREEK	2	1932		290	77.5	8	8	7	N	7	3	N	6	7	FO			7	-/-/-
878	SH	17855	665	WHITE MEADOW ROAD	TARRARA CREEK	2	1974		610	61.8	7	6	4	N	4	5	N	7	8	SD	Y		3	-/-/-
879	SH	17898	730	WHITEHEAD ROAD	FLAT SWAMP	1	1988		200	99.8	7	7	7	N	7	6	N	8	8				10	-/-/-
880	SH	17805	626	WOMBLE MILL ROAD	WADE BRANCH	19	1999		40	97.9	N	N	N	7	7	N	N	7	7				18	-/-/-
881	SH	17806	626	WOMBLE MILL ROAD	WADE MILL POND	19	1968		40	99.9	N	N	N	6	6	N	N	7	7				18	-/-/-
882	SH	17881	682	WOODLAND ROAD	BR DARDEN MILL RUN	2	1932		280	66.8	7	5	5	N	5	3	N	6	7	FO	Y		6	-/-/-
883	SUF	22123	642	ADAMS SWAMP ROAD	ADAMS SWAMP	19	1970		480	98.7	N	N	N	7	7	N	N	7	8				8	-/-/-
884	SUF	21996	810	ARMISTEAD ROAD	I-664	2	1988		180	100.0	6	6	7	N	6	7	6	N	8				0	-/-/-
885	SUF	22131	643	ARTHUR DRIVE	LANGSTON SWAMP	2	1945		180	52.8	6	6	6	N	4	3	N	6	7	FO			6	10/-/-
886	SUF	22130	643	ARTHUR DRIVE	SPIVEY SWAMP	2	1960		180	47.6	6	6	5	N	5	3	N	5	6	FO	Y		6	12/-/-
887	SUF	22165	759	BABBTOWN ROAD	BR CYPRESS SWAMP	19	1970		60	99.0	N	N	N	6	6	N	N	7	8				5	-/-/-
888	SUF	22154	674	BADGER ROAD	WASHINGTON DITCH	2	1945		180	50.7	5	5	5	N	5	3	N	7	8	FO	Y		5	11/-/-
889	SUF	22139	662	BOX ELDER ROAD	NORFLEETS SWAMP	2	1958	1994	200	47.3	8	5	7	N	5	3	N	7	8	FO	Y		6	20/-/-
890	SUF	22023	17	BRIDGE ROAD EB	BENNETTS CREEK	2	1969		13,000	86.1	5	7	6	N	6	5	N	8	8		Y		10	-/-/-
891	SUF	22025	17	BRIDGE ROAD WB	BENNETTS CREEK	2	1969		13,000	86.1	5	7	6	N	6	5	N	8	8		Y		10	-/-/-
892	SUF	22026	17	BRIDGE ROAD	CHUCKATUCK CREEK	2	1988		15,000	83.0	5	6	6	N	6	5	N	8	7		Y		17	-/-/-
893	SUF	22024	17	BRIDGE ROAD	NANSEMOND RIVER	2	1981		19,000	68.0	6	6	5	N	5	5	N	8	8		Y		16	-/-/-
894	SUF	24841		BROAD STREET	SBD & NS R/R	5	1997		970	95.1	7	7	7	N	7	5	N	N	8				1	-/-/-
895	SUF	22161	745	CAMP POND ROAD	SOMERTON CREEK	1	1988		170	99.9	8	8	8	N	8	6	N	7	8				10	-/-/-
896	SUF	22027	32	CAROLINA ROAD	CYPRESS SWAMP	2	1924	1972	4,200	68.1	5	4	5	N	4	5	N	5	8	SD	Y		4	-/-/-
897	SUF	22157	678	CHERRY GROVE ROAD	STREAM	19	1971		100	97.9	N	N	N	7	7	N	N	7	8				8	-/-/-
898	SUF	22082	135	COLLEGE DRIVE	I-664	2	1991		14,000	100.0	6	7	7	N	7	9	7	N	8				0	-/-/-
899	SUF	22080	135	COLLEGE DRIVE	ROUTE 164	2	1991		15,000	99.0	6	7	7	N	7	9	5	N	8				0	-/-/-
900	SUF	22147	667	CORINTH CHAPEL ROAD	CHAPEL SWAMP	19	1973		130	87.9	N	N	N	5	5	N	N	7	8		Y		7	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

											BRIDGE RATINGS													
#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
901	SUF	22146	667	CORINTH CHAPEL ROAD	MARCH SWAMP	19	1984		130	72.8	N	N	N	4	4	N	N	7	8	SD	Y		13	-/-/-
902	SUF	22155	675	CYPRESS CHAPEL ROAD	TRIB TO CYPRESS SWAMP	19	1991		160	88.9	N	N	N	5	5	N	N	8	8		Y		7	-/-/-
903	SUF	22096	604	DESERT ROAD	CYPRESS SWAMP	2	1981		230	98.9	7	7	7	N	7	5	N	7	8				6	-/-/-
904	SUF	22095	604	DESERT ROAD	MOSS SWAMP	19	1975		230	99.8	N	N	N	7	7	N	N	6	6				11	-/-/-
905	SUF	22110	613	ELWOOD ROAD	KINGSALE SWAMP	2	1962		240	49.1	6	5	6	N	5	3	N	7	6	FO	Y		4	12/-/-
906	SUF	22093	603	EVERETTS ROAD	W BR NANSEMOND RIVER	2	1963		2,000	62.9	6	6	5	N	5	4	N	7	7		Y		12	-/-/-
907	SUF	22104	606	EXETER DRIVE	LAKE PRINCE	1	1967		540	76.7	7	7	5	N	5	4	N	8	8		Y		6	-/-/-
908	SUF	22148	668	FREEMAN MILL ROAD	SPIVEY SWAMP	2	1954	1976	380	65.2	7	6	6	N	5	4	N	5	6				6	23/-/-
909	SUF	22108	611	GARDNER LANE	LAKE PRINCE	1	1967		280	75.9	5	5	6	N	5	5	N	7	8		Y		4	-/-/-
910	SUF	24215	666	GATES ROAD	MARCH SWAMP	19	1995		1,100	98.5	N	N	N	8	8	N	N	8	8				6	-/-/-
911	SUF	22162	759	GATES ROAD	SOMERTON CREEK	2	1985		1,400	89.2	5	8	8	N	8	5	N	7	8		Y		11	-/-/-
912	SUF	22153	673	GATES RUN ROAD	ADAMS SWAMP	2	1970		220	81.6	8	6	6	N	6	4	N	7	8				7	-/-/-
913	SUF	22103	605	GIRL SCOUT ROAD	BR LAKE PRINCE	2	1990		430	87.9	8	8	7	N	7	4	N	8	8				4	-/-/-
914	SUF	22102	605	GIRL SCOUT ROAD	EXCHANGE CREEK	2	1962		430	67.9	5	5	7	N	5	4	N	8	8		Y		12	-/-/-
915	SUF	26220	10	GODWIN BLVD	CHUCKATUCK CREEK	5	1999		9,800	89.6	8	8	8	N	8	5	N	8	8				10	-/-/-
916	SUF	22004	10	GODWIN BLVD	SUFFOLK BYPASS	2	1973		19,000	91.0	7	6	6	N	6	9	7	N	8				0	-/-/-
917	SUF	22001	10	GODWIN BLVD	W BR NANSEMOND RIVER	2	1984		11,000	89.3	6	6	6	N	6	5	N	8	8				9	-/-/-
918	SUF	22122	641	HARVEST DRIVE	KINGSALE SWAMP	2	1956	1983	420	45.3	3	5	4	N	4	3	N	6	8	SD	Y		7	23/-/-
919	SUF	22136	653	HOLLAND CORNER ROAD	STREAM	19	1987		170	98.9	N	N	N	6	6	N	N	7	8				5	-/-/-
920	SUF	22030	58	HOLLAND ROAD	LAKE MEADE	4	1942	1958	10,000	61.7	5	5	5	N	5	5	N	7	8		Y		8	-/-/-
921	SUF	22112	616	HOLY NECK ROAD	CHAPEL SWAMP	19	1967		200	87.9	N	N	N	5	5	N	N	7	8		Y		6	-/-/-
922	SUF	23099	664	I-664 NB	FUTURE VPA R/R	2	1991		38,000	98.0	7	7	7	N	7	6	N	N	8				0	-/-/-
923	SUF	23091	664	I-664 NB	ROUTE 164	2	1991		28,000	97.0	5	8	7	N	7	6	7	N	8		Y		0	-/-/-
924	SUF	23092	664	I-664 SB	ROUTE 164	2	1991		27,000	97.0	5	6	7	N	6	6	7	N	8		Y		0	-/-/-
925	SUF	23095	664	I-664 NB	ROUTES 17 & 164 EB RAMP	2	1991		33,000	96.0	5	7	7	N	7	7	5	N	8		Y		0	-/-/-
926	SUF	23096	664	I-664 SB	ROUTES 17 & 164 EB RAMP	2	1991		31,000	98.0	6	7	7	N	7	6	6	N	8				0	-/-/-
927	SUF	22142	664	I-664	STREETER CREEK	19	1990		54,000	83.0	N	N	N	6	6	N	N	8	8				0	-/-/-
928	SUF	23097	664	I-664 RAMP	ROUTE 17	2	1991		13,500	94.0	7	7	7	N	7	9	5	N	8				0	-/-/-
929	SUF	23093	664	I-664 RAMP	ROUTE 164	2	1991		1,000	94.9	7	7	6	N	6	9	6	N	8				1	-/-/-
930	SUF	22144	664	I-664 RAMP	STREETER CREEK	19	1990		5,000	100.0	N	N	N	7	7	N	N	8	8				0	-/-/-
931	SUF	22160	736	JOSHUA LANE	LAKE CAHOON	19	1967		340	88.9	N	N	N	5	5	N	N	7	8		Y		4	-/-/-
932	SUF	22117	634	KINGS FORK ROAD	COHOON CREEK	2	1968		420	78.6	7	6	8	N	6	3	N	7	7	FO			11	-/-/-
933	SUF	22116	634	KINGS FORK ROAD	LAKE COHOON	5	1961		1,700	70.8	5	5	7	N	5	4	N	8	7		Y		7	-/-/-
934	SUF	22121	639	LAKE CAHOON ROAD	SBD SYS & NS R/R	2	1962	1974	1,600	67.1	4	6	6	N	5	5	N	N	6	SD	Y		5	-/-/-
935	SUF	22118	637	LAKE MEADE DRIVE	LAKE COHOON	1	1961		250	74.3	5	5	6	N	5	5	N	8	7		Y		7	-/-/-
936	SUF	22099	604	LAKE PRINCE DRIVE	LAKE PRINCE	2	1954		1,300	40.0	5	5	6	N	4	3	N	8	6	FO	Y		4	18/-/-
937	SUF	22152	673	LIBERTY SPRING ROAD	CYPRESS SWAMP	19	1970		430	98.8	N	N	N	7	7	N	N	7	8				5	-/-/-
938	SUF	22137	660	LONGSTREET LANE	SOMERTON CREEK	2	1968		230	65.3	7	6	5	N	5	4	N	7	8		Y		22	17/-/-
939	SUF	22018	13	MAIN STREET	HALL AVE, POPLAR AVE, & N&W R/R	2	1978		11,000	93.0	6	6	6	N	6	5	3	N	7	FO			0	-/-/-
940	SUF	22002	10	MAIN STREET	NANSEMOND RIVER	2	1935	1987	29,000	53.0	5	7	5	N	5	2	N	6	8	FO	Y		8	-/-/-
941	SUF	22132	643	MANNING BRIDGE ROAD	STREAM	2	1945		650	46.0	5	6	5	N	4	2	N	7	6	FO	Y		6	10/-/-
942	SUF	22111	616	MINERAL SPRINGS ROAD	JONES SWAMP	2	1955	1977	350	38.6	5	5	5	N	4	4	N	7	6		Y		8	10/-/-
943	SUF	22114	616	MINERAL SPRINGS ROAD	SPIVEY SWAMP	19	1975		410	100.0	N	N	N	6	6	N	N	7	8				2	-/-/-
944	SUF	22119	638	MURPHY'S MILL ROAD	SUFFOLK BYPASS	2	1974		220	99.9	7	6	7	N	6	6	7	N	8				4	-/-/-
945	SUF	22091	337	NANSEMOND PARKWAY	BEAMONS MILL POND	2	1920		4,600	41.2	5	4	5	N	4	4	N	6	8	SD	Y		12	-/-/-
946	SUF	22031	58	NORFOLK SOUTHERN R/R	HOLLAND ROAD	3	1936		-	-	-	-	-	-	-	-	-	-	-				13	-/-/-
947	SUF	22133	644	NORFOLK SOUTHERN R/R	INDIAN TRAIL	1	1915		-	-	-	-	-	-	-	-	-	-	-				6	-/-/-
948	SUF	22014	13	NORFOLK SOUTHERN R/R	PORTSMOUTH BLVD	2	1963		-	-	-	-	-	-	-	-	-	-	-				10	-/-/-
949	SUF	22087	337	NORFOLK SOUTHERN R/R	WASHINGTON STREET	1	1937		-	-	-	-	-	-	-	-	-	-	-				10	-/-/-
950	SUF	22109	612	O'KELLY DRIVE	CHAPEL SWAMP	19	1989		380	99.9	N	N	N	6	6	N	N	7	8				4	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS									SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
											DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.					
951	SUF	22105	607	OLD MILL ROAD	COHOON CREEK	2	1955	1981	270	71.1	7	5	6	N	5	4	N	3	5	FO	Y		4	-/-/-
952	SUF	22115	632	OLD MYRTLE ROAD	COHOON CREEK	2	1949	1980	460	57.7	5	6	4	N	4	4	N	6	6	SD	Y		4	20/-/-
953	SUF	22163	759	PINEVIEW ROAD	CHAPEL SWAMP	4	1949		130	61.7	6	7	6	N	6	2	N	7	3	FO			12	-/27/38
954	SUF	21998		PINNER STREET	N&W, SBD, & CNW R/R	2	1984		8,100	69.3	6	6	5	N	5	4	N	N	6		Y		1	-/-/-
955	SUF	22097	604	PITCHKETTLE ROAD	LAKE MEADE	2	1973		3,400	79.4	6	6	5	N	5	5	N	8	6		Y		8	-/-/-
956	SUF	22098	604	PITCHKETTLE ROAD	LAKE MEADE	1	1969		2,200	74.6	5	5	7	N	5	4	N	8	8		Y		1	-/-/-
957	SUF	22100	604	PITCHKETTLE ROAD	SUFFOLK BYPASS	2	1974		2,800	92.6	7	6	8	N	6	5	7	N	8				0	-/-/-
958	SUF	22150	668	PITTMANTOWN ROAD	MILL SWAMP	2	1950		220	49.2	6	5	7	N	4	4	N	5	6		Y		10	10/-/-
959	SUF	22012	13	PORTSMOUTH BLVD	SHINGLE CREEK	1	1963	1976	16,000	78.3	6	6	6	N	6	9	N	7	8				6	-/-/-
960	SUF	22135	650	QUINCE ROAD	QUAKER SWAMP	19	1965		130	87.9	N	N	N	5	5	N	N	7	8		Y		6	-/-/-
961	SUF	22143	664	RAMP TO SB I-664	STREETER CREEK	19	1990		5,000	89.0	N	N	N	5	5	N	N	8	8		Y		0	-/-/-
962	SUF	22151	669	ROBBIE ROAD	MILL SWAMP	2	1955		100	35.9	6	5	4	N	4	4	N	7	6	SD	Y		7	12/-/-
963	SUF	22113	616	ROUNTREE CRESCENT	CYPRESS SWAMP	19	1980		100	88.9	N	N	N	5	5	N	N	7	8		Y		8	-/-/-
964	SUF	23301	58	ROUTE 58 EB	BLACKWATER RIVER	2	1992		10,000	97.3	6	7	7	N	7	7	N	8	8				1	-/-/-
965	SUF	22029	58	ROUTE 58 WB	BLACKWATER RIVER	2	1981		10,000	69.4	6	5	6	N	5	7	N	8	7		Y		1	-/-/-
966	SUF	22068	58	ROUTE 58 WB	BUS ROUTE 58 EB	2	1976		12,000	92.2	6	6	6	N	6	7	6	N	8				1	-/-/-
967	SUF	22032	58	ROUTE 58	LAKE KILBY	19	1932		34,000	69.0	N	N	N	8	8	N	N	7	8				6	-/-/-
968	SUF	22071	58	ROUTE 58 EB	N & S R/R	2	1976		11,000	97.2	7	6	7	N	6	7	N	N	8				1	-/-/-
969	SUF	22070	58	ROUTE 58 WB	N & S R/R	2	1976		11,000	92.2	7	7	7	N	7	7	N	N	8				1	-/-/-
970	SUF	22072	58	ROUTE 58 EB	OLD DUTCH ROAD	2	1976		11,000	92.2	8	6	7	N	6	7	7	N	8				1	-/-/-
971	SUF	22074	58	ROUTE 58 WB	OLD DUTCH ROAD	2	1976		11,000	97.2	8	6	6	N	6	7	7	N	8				1	-/-/-
972	SUF	22034	58	ROUTE 58 EB	QUAKER SWAMP	1	1939	1976	13,000	76.9	5	5	6	N	5	7	N	6	5		Y		6	-/-/-
973	SUF	22077	58	ROUTE 58	TRIB BLACKWATER RIVER	19	1981		20,000	85.0	N	N	N	7	7	N	N	7	8				7	-/-/-
974	SUF	23094	164	ROUTE 164 EB	FUTURE VPA R/R	2	1991		14,000	91.8	6	7	7	N	7	5	N	N	8				1	-/-/-
975	SUF	23098	164	ROUTE 164 EB	ROUTE 17	2	1991		7,000	96.0	7	7	6	N	6	7	3	N	8	FO			0	-/-/-
976	SUF	22085	189	ROUTE 189	DUCKS CREEK	19	1986		3,100	88.2	N	N	N	5	5	N	N	8	8		Y		3	-/-/-
977	SUF	23300	189	ROUTE 189	ROUTE 58	2	1992		3,400	99.2	6	7	6	N	6	9	6	N	8				3	-/-/-
978	SUF	22037	58	RURITAN BLVD	KINGSALE SWAMP	4	1923	1975	2,900	82.3	6	5	5	N	5	6	N	7	8		Y		6	-/-/-
979	SUF	22013	13	SBD SYSTEM R/R	PORTSMOUTH BLVD	3	1963		-	-	-	-	-	-	-	-	-	-	-				10	-/-/-
980	SUF	22107	608	SIMONS DRIVE	COHOON CREEK	2	1945		270	47.3	6	7	5	N	5	3	N	7	8	FO	Y		5	14/-/-
981	SUF	22166		SOUTH 6TH STREET	SHINGLE CREEK	19	1960		5,700	75.2	N	N	N	7	7	2	N	8	8	FO			1	-/-/-
982	SUF	25658	13	SOUTHWEST SUFFOLK BYPASS NB	CAROLINA ROAD	2	2002		3,000	92.6	8	8	7	N	7	4	6	N	8				4	-/-/-
983	SUF	25663	13	SOUTHWEST SUFFOLK BYPASS NB	LAKE KILBY	2	2002		5,500	97.6	7	7	7	N	7	8	N	8	8				1	-/-/-
984	SUF	25664	13	SOUTHWEST SUFFOLK BYPASS SB	LAKE KILBY	2	2002		5,500	97.6	7	7	7	N	7	8	N	8	8				1	-/-/-
985	SUF	25661	13	SOUTHWEST SUFFOLK BYPASS NB	NORFOLK AND SOUTHERN R/R	2	2002		5,500	93.6	7	8	7	N	7	3	N	N	8	*			1	-/-/-
986	SUF	25662	13	SOUTHWEST SUFFOLK BYPASS SB	NORFOLK AND SOUTHERN R/R	2	2002		5,500	97.6	7	8	7	N	7	8	N	N	8				1	-/-/-
987	SUF	25667	13	SOUTHWEST SUFFOLK BYPASS SB	ROUTE 58	2	2002		3,000	94.1	8	8	8	N	8	4	5	N	8				1	-/-/-
988	SUF	27252	13	SOUTHWEST SUFFOLK BYPASS	STREAM	19	2002		11,000	77.5	N	N	N	8	8	N	N	8	8				5	-/-/-
989	SUF	25668	13	SOUTHWEST SUFFOLK BYPASS NB	TURLINGTON ROAD	2	2002		5,500	90.5	8	8	8	N	8	9	3	N	8	*			8	-/-/-
990	SUF	25669	13	SOUTHWEST SUFFOLK BYPASS SB	TURLINGTON ROAD	2	2002		5,500	92.6	8	8	7	N	7	5	3	N	8	*			1	-/-/-
991	SUF	25671	13	SOUTHWEST SUFFOLK BYPASS RAMP	HOLLAND ROAD	2	2002		8,000	96.4	8	7	8	N	7	9	5	N	8				1	-/-/-
992	SUF	27256	58	SOUTHWEST SUFFOLK BYPASS RAMP	ROUTE 58	2	2002		12,000	97.1	8	8	8	N	8	9	9	N	8				1	-/-/-
993	SUF	25670	13	SOUTHWEST SUFFOLK BYPASS RAMP	TURLINGTON ROAD	2	2002		7,080	97.5	8	8	8	N	8	9	6	N	8				1	-/-/-
994	SUF	22138	661	SOUTHWESTERN BLVD	CHAPEL SWAMP	2	1956		160	51.0	6	6	6	N	4	3	N	7	8	FO			5	16/-/-
995	SUF	22055	13	SUFFOLK BYPASS EB	LAKE COHOON ROAD	2	1974		20,000	96.5	7	6	6	N	6	7	9	N	8				1	-/-/-
996	SUF	22057	13	SUFFOLK BYPASS WB	LAKE COHOON ROAD	2	1974		20,000	96.5	6	6	6	N	6	7	9	N	8				1	-/-/-
997	SUF	22059	13	SUFFOLK BYPASS EB	LAKE MEADE	2	1974		19,000	91.2	7	6	7	N	6	7	N	8	8				5	-/-/-
998	SUF	22060	13	SUFFOLK BYPASS WB	LAKE MEADE	2	1974		19,000	91.2	6	6	7	N	6	7	N	8	8				5	-/-/-
999	SUF	22061	13	SUFFOLK BYPASS EB	N & S R/R	2	1974		20,000	78.5	6	5	7	N	5	9	N	N	8		Y		5	-/-/-
1000	SUF	22062	13	SUFFOLK BYPASS WB	N & S R/R	2	1974	2001	20,000	90.6	6	6	6	N	6	6	N	N	8				5	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1001	SUF	22047	13	SUFFOLK BYPASS EB	N.F.& D. R/R	2	1974		24,000	69.0	7	6	5	N	5	7	N	N	8		Y		7	-/-/-
1002	SUF	22048	13	SUFFOLK BYPASS WB	N.F.& D. R/R	2	1973		24,000	69.0	7	5	6	N	5	7	N	N	8		Y		7	-/-/-
1003	SUF	22043	13	SUFFOLK BYPASS EB	NANSEMOND PKWY	2	1973		24,000	79.8	6	5	5	N	5	7	7	N	8		Y		1	-/-/-
1004	SUF	22045	13	SUFFOLK BYPASS WB	NANSEMOND PKWY	2	1973		24,000	79.8	6	5	5	N	5	7	7	N	8		Y		1	-/-/-
1005	SUF	22039	13	SUFFOLK BYPASS EB	NANSEMOND RIVER	2	1972		29,000	84.6	7	5	6	N	5	7	N	8	8		Y		1	-/-/-
1006	SUF	22040	13	SUFFOLK BYPASS WB	NANSEMOND RIVER	2	1972		29,000	85.0	8	6	7	N	6	7	N	8	8				7	-/-/-
1007	SUF	22053	13	SUFFOLK BYPASS EB	PRUDEN BLVD	2	1973		21,000	85.4	7	6	5	N	5	6	7	N	8		Y		1	-/-/-
1008	SUF	22063	13	SUFFOLK BYPASS WB	PRUDEN BLVD	2	1974		21,000	96.6	8	6	6	N	6	7	7	N	8				1	-/-/-
1009	SUF	22049	13	SUFFOLK BYPASS EB	WILROY ROAD	2	1973		27,000	83.0	6	5	5	N	5	6	7	N	8		Y		1	-/-/-
1010	SUF	22051	13	SUFFOLK BYPASS WB	WILROY ROAD	2	1973		27,000	67.4	6	5	5	N	5	4	7	N	8		Y		1	-/-/-
1011	SUF	22016	13	SUFFOLK BYPASS RAMP TO PORTSMOUT	SUFFOLK BYPASS	2	1973		21,670	98.0	6	6	6	N	6	7	7	N	7				0	-/-/-
1012	SUF	23086	658	TOWN POINT ROAD EB	I-664	2	1991		2,700	98.0	7	7	7	N	7	5	5	N	8				0	-/-/-
1013	SUF	23087	658	TOWN POINT ROAD WB	I-664	2	1991		2,700	98.0	7	7	7	N	7	5	5	N	8				0	-/-/-
1014	SUF	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY	2	1957		2,200	30.8	5	4	5	N	4	2	N	8	5	SD	Y		11	-/25/33
1015	SUF	22158	688	TURLINGTON ROAD	KILBY CREEK	19	1973		2,200	87.5	N	N	N	5	5	N	N	7	8		Y		8	-/-/-
1016	SUF	22088	337	WASHINGTON STREET	JERICO CANAL	1	1932		7,800	78.8	6	6	6	N	6	3	N	7	8	FO			6	-/-/-
1017	SUF	22008	13	WHALEYVILLE BLVD	SPIVEY SWAMP	1	1945	1975	5,300	85.9	7	7	7	N	7	4	N	5	8				4	-/-/-
1018	SUF	22128	642	WHITE MARSH ROAD	CYPRESS SWAMP	4	1959		420	81.9	8	7	6	N	6	4	N	7	7				3	-/-/-
1019	SUF	22129	642	WHITE MARSH ROAD	SHINGLE CREEK	19	1972	1984	5,200	84.5	N	N	N	6	6	N	N	7	8				1	-/-/-
1020	SUF	23524	642	WHITE MARSH ROAD	WASHINGTON DITCH	5	1992		400	89.6	7	8	8	N	8	4	N	8	8				3	-/-/-
1021	SUF	27625	642	WILROY ROAD	BURNETTS MILL CREEK	1	2003		7,600	72.7	8	8	8	N	8	2	N	7	8	*			12	-/-/-
1022	SUF	27627	642	WILROY ROAD	MAGNOLIA CREEK	1	2003		8,100	71.5	8	8	8	N	8	2	N	8	8	*			12	-/-/-
1023	SUF	22125	642	WILROY ROAD	SHINGLE CREEK	1	1958		7,600	72.3	8	8	6	N	6	2	N	7	8	FO			12	-/-/-
1024	SUR	18216	634	ALLIANCE ROAD	COLLEGE RUN	2	1932	2003	640	67.7	8	8	6	N	6	3	N	5	6	*			7	-/-/-
1025	SUR	18206	626	BEAVERDAM ROAD	SUNKEN MEADOW CREEK	2	1932		60	52.9	8	8	6	N	4	3	N	6	8	FO			5	15/-/-
1026	SUR	18208	626	BEECHLAND ROAD	TRIB. MOORES SWAMP	1	1956		120	69.6	6	6	5	N	5	4	N	6	7		Y		9	-/-/-
1027	SUR	23585	613	CABIN POINT ROAD	UPPER CHIPPOKES CREEK	19	1993		540	98.6	N	N	N	7	7	N	N	5	8				9	-/-/-
1028	SUR	18221	783	CHIPPOKES PARK ROAD	COLLEGE RUN CREEK	2	1982		40	88.4	6	6	8	N	6	6	N	6	8					-/-/-
1029	SUR	18179	10	COLONIAL TRAIL	LOWER CHIPPOKES CREEK	1	1932	1951	5,300	74.2	6	6	5	N	5	4	N	8	8		Y		12	-/-/-
1030	SUR	18173	10	COLONIAL TRAIL	MILL RUN	4	1920	1971	1,600	81.1	5	5	5	N	5	6	N	6	8		Y		6	-/-/-
1031	SUR	18178	10	COLONIAL TRAIL	TRIB CHIPPOKES CREEK	1	1932	1971	1,600	93.5	6	6	6	N	6	7	N	7	8				38	-/-/-
1032	SUR	18181	10	COLONIAL TRAIL	UPPER CHIPPOKES CREEK	1	1932	1971	1,600	77.4	5	5	7	N	5	5	N	7	8		Y		38	-/-/-
1033	SUR	26713	647	CYPRESS SWAMP LANE	CYPRESS SWAMP	19	2001		60	93.9	N	N	N	8	8	N	N	8	8					-/-/-
1034	SUR	18187	604	GOODRICH FORK ROAD	TERRAPIN SWAMP	2	1932		80	71.1	7	6	5	N	5	4	N	6	6		Y		12	23/-/-
1035	SUR	18220	650	HOG ISLAND ROAD	VEPCO DISCHARGE CANAL	2	1969		2,000	60.0	6	6	6	N	6	2	N	7	8	FO				-/-/-
1036	SUR	18205	618	HOLLY BUSH ROAD	BR CYPRESS SWAMP	19	1974		80	98.9	N	N	N	7	7	N	N	7	6				4	-/-/-
1037	SUR	18189	607	HUNTINGTON ROAD	OTTERDAM SWAMP	4	1953		40	84.7	7	7	5	N	5	5	N	5	6		Y		6	-/-/-
1038	SUR	18301	602	LAUREL SPRINGS ROAD	BLACKWATER RIVER	2	1974		40	99.5	7	7	6	N	7	6	N	7	8				17	-/-/-
1039	SUR	18212	628	LAWNES DRIVE	LAWNES CREEK	2	1975		90	98.9	8	7	7	N	7	7	N	7	6				5	-/-/-
1040	SUR	18209	626	LEBANON ROAD	GRAYS CREEK	19	1954		650	98.7	N	N	N	6	6	N	N	6	6				7	-/-/-
1041	SUR	18213	630	LOAFERS OAK ROAD	CYPRESS SWAMP	2	1932		50	48.3	6	6	6	N	4	3	N	6	7	FO			4	8/-/-
1042	SUR	18239	40	MLK HWY	BLACKWATER RIVER	2	1952		1,300	30.9	4	4	4	N	4	2	N	6	7	SD	Y		25	-/27/40
1043	SUR	18185	40	MLK HWY	OTTERDAM SWAMP	2	1954		1,300	68.0	5	5	6	N	5	4	N	7	8		Y		21	-/-/-
1044	SUR	14080	600	MONTPELIER ROAD	UPPER CHIPPOKES CREEK	19	1977		130	87.9	N	N	N	5	5	N	N	8	8		Y		4	-/-/-
1045	SUR	18199	616	NEW DESIGN ROAD	CYPRESS SWAMP	1	1965		90	81.7	6	6	7	N	6	5	N	7	8				12	-/-/-
1046	SUR	18197	616	NEW DESIGN ROAD	JOHNCHECOHUNK CREEK	19	1968		90	87.9	N	N	N	5	5	N	N	7	8		Y		5	-/-/-
1047	SUR	18218	637	PLEASANT POINT ROAD	CROUCHES CREEK	1	1964		170	68.8	6	6	5	N	5	4	N	8	8		Y		10	-/-/-
1048	SUR	18182	31	ROLFE HIGHWAY	BLACKWATER RIVER	1	1958		1,700	65.3	5	5	6	N	5	4	N	6	8		Y		28	-/-/-
1049	SUR	18184	31	ROLFE HIGHWAY	CYPRESS SWAMP	4	1969		1,700	92.7	7	7	7	N	7	5	N	8	8				9	-/-/-
1050	SUR	23137	31	SCOTLAND WHARF	JAMES RIVER	3	1991	1995	2,300	67.1	7	7	7	N	7	2	N	8	8	FO		Y	50	-/16/28

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1051	SUR	18204	618	SOUTHWARK ROAD	GRAYS CREEK	4	1954		80	71.8	6	6	5	N	5	5	N	8	8		Y		8	-/-/-
1052	SUR	18214	630	SPRATELY MILL ROAD	JOHNCHECOHUNK SWAMP	2	1970		80	90.7	6	6	7	N	6	5	N	7	8				6	-/-/-
1053	SUR	18304	603	THREE BRIDGES ROAD	BLACKWATER RIVER	2	1932		30	55.4	7	5	5	N	5	5	N	5	4		Y		9	8/-/-
1054	SUR	18200	617	WHITE MARSH ROAD	BLACKWATER RIVER	2	1979		370	90.1	7	6	6	N	6	5	N	6	8				12	-/-/-
1055	SUR	18201	617	WHITE MARSH ROAD	MILL SWAMP	4	1959		540	69.6	7	7	5	N	5	4	N	6	7		Y		8	-/-/-
1056	VB	22178		BLACKWATER ROAD	BLACKWATER CREEK	1	1975		1,400	85.7	6	6	7	N	6	4	N	8	8				6	-/-/-
1057	VB	23523		BLACKWATER ROAD	MILLDAM CREEK	1	1992		850	79.4	8	8	7	N	7	2	N	8	8	FO			2	-/-/-
1058	VB	22189		BONNEY ROAD	THALIA CREEK	19	1982		14,000	82.5	N	N	N	6	6	N	N	8	8				1	-/-/-
1059	VB	28047		BOW CREEK BLVD	DRAINAGE CANAL	19	2000		7,100	74.0	N	N	N	7	7	3	N	7	8	*			4	-/-/-
1060	VB	28049		BOW CREEK BLVD	DRAINAGE CANAL	19	2000		7,100	77.0	N	N	N	6	6	N	N	7	8				4	-/-/-
1061	VB	24508		BOW CREEK BLVD	LONDON BRIDGE CREEK	1	1996		7,100	93.1	7	7	7	N	7	3	N	9	8	FO			1	-/-/-
1062	VB	12751	13	CBBT	CHESAPEAKE CHANNEL	18	1964		11,000	-	-	-	-	-	-	-	-	-	-					-/-/-
1063	VB	12749	13	CBBT	THIMBLE SHOALS CHANNEL	18	1964		11,000	-	-	-	-	-	-	-	-	-	-					-/-/-
1064	VB	12747	13	CBBT NB	CHESAPEAKE BAY & LOOKOUT RD	4	1964		6,000	72.5	8	7	6	N	6	2	2	6	8	FO			1	-/-/-
1065	VB	26056	13	CBBT SB	CHESAPEAKE BAY & LOOKOUT RD	2	1998		6,000	91.6	8	8	8	N	8	3	N	6	8	*			1	-/-/-
1066	VB	12750	13	CBBT NB	CHESAPEAKE BAY	2	1964		6,000	78.6	8	7	7	N	7	3	N	8	8	FO			1	-/-/-
1067	VB	26075	13	CBBT SB	CHESAPEAKE BAY	2	1998		6,000	95.6	8	8	8	N	8	2	N	8	8	*			1	-/-/-
1068	VB	12755	13	CBBT NB	CHESAPEAKE BAY	4	1964		6,000	78.2	8	7	7	N	7	3	N	6	8	FO			1	-/-/-
1069	VB	26628	13	CBBT SB	CHESAPEAKE BAY	2	1998		6,000	95.6	8	8	8	N	8	2	N	8	8	*			1	-/-/-
1070	VB	12752	13	CBBT NB	CHESAPEAKE BAY	10	1964		6,000	69.5	8	7	7	N	6	3	N	8	8	FO		Y	1	-/-/-
1071	VB	26721	13	CBBT SB	CHESAPEAKE BAY	2	1999		6,000	90.6	8	8	8	N	8	3	N	8	8	*			1	-/-/-
1072	VB	12754	13	CBBT NB	CHESAPEAKE BAY	4	1964		6,000	78.2	8	7	8	N	7	3	N	6	8	FO			1	-/-/-
1073	VB	26630	13	CBBT SB	CHESAPEAKE BAY	2	1998		6,000	91.6	8	8	8	N	8	2	N	7	7	*			1	-/-/-
1074	VB	26631	13	CBBT NB	FISHERMAN'S INLET	2	1998		6,000	88.6	8	7	8	N	7	3	N	8	8	*			1	-/-/-
1075	VB	12753	13	CBBT SB	FISHERMAN'S INLET	2	1964		6,000	78.6	8	7	7	N	7	3	N	8	8	FO			1	-/-/-
1076	VB	28045		CLUB HOUSE ROAD	DRAINAGE CANAL	19	2000		100	88.2	N	N	N	6	6	3	N	7	8	*			4	-/-/-
1077	VB	28050		CULVER LANE	DRAINAGE CANAL	0	2000		10,000	73.0	8	8	8	N	8	3	N	7	8	*			4	-/-/-
1078	VB	28472		DAM NECK ROAD	CANAL 4	12	2006		5,000	94.7	9	9	9	N	9	N	N	8	8				2	-/-/-
1079	VB	22167		DAM NECK ROAD	DRAINAGE CANAL	1	1991		17,000	62.0	7	7	7	N	7	5	N	6	8					-/-/-
1080	VB	23548		DAM NECK ROAD EB	WEST NECK CREEK	2	1992		22,000	96.5	7	8	7	N	7	4	N	8	8				1	-/-/-
1081	VB	23549		DAM NECK ROAD WB	WEST NECK CREEK	2	1992		22,000	96.5	7	8	7	N	7	4	N	8	8				1	-/-/-
1082	VB	22271	166	DIAMOND SPRINGS ROAD NB	WATERWORKS CANAL	2	1937		16,000	60.8	5	6	5	N	5	2	N	8	8	FO	Y		5	-/-/-
1083	VB	22272	166	DIAMOND SPRINGS ROAD SB	WATERWORKS CANAL	2	1957		16,000	89.7	6	7	7	N	7	6	N	8	8				1	-/-/-
1084	VB	22210		DORCHESTER LANE	DRAINAGE CANAL	2	1986		2,790	82.5	7	7	7	N	7	4	N	8	8				2	-/-/-
1085	VB	22202		E GREEN GARDEN CIR	SUNSET CANAL	1	1973		1,377	84.9	7	7	7	N	5	6	N	8	8				1	-/-/-
1086	VB	22176		ELBOW ROAD	NORTH LANDING RIVER	2	1960		6,300	63.0	5	5	5	N	5	2	N	8	8	FO	Y		9	-/-/-
1087	VB	22211		FERRELL PARKWAY	DRAINAGE CANAL	19	1976	1989	40,000	77.8	N	N	N	6	6	N	N	6	6				2	-/-/-
1088	VB	23668		FERRELL PARKWAY	DRAINAGE CANAL	2	1993		41,000	91.3	7	7	7	N	7	9	N	6	7				3	-/-/-
1089	VB	23694		FERRELL PARKWAY	PRINCESS ANNE ROAD	2	1993		41,000	93.2	7	7	6	N	6	9	3	N	6	FO			3	-/-/-
1090	VB	23667		FERRELL PARKWAY EB	SALEM ROAD	2	1993		21,000	96.3	7	7	7	N	7	9	5	N	7				3	-/-/-
1091	VB	23666		FERRELL PARKWAY WB	SALEM ROAD	2	1993		21,000	96.3	7	7	7	N	7	9	5	N	7				3	-/-/-
1092	VB	24173		GENERAL BOOTH BLVD NB	RUDEE INLET	2	1995		10,000	75.8	7	7	8	N	6	2	N	8	8	FO			1	-/-/-
1093	VB	22191		GENERAL BOOTH BLVD SB	RUDEE INLET	5	1968		10,000	78.0	6	7	7	N	7	3	N	8	8	FO			1	-/-/-
1094	VB	22282	279	GREAT NECK ROAD	WOLFSNARE CREEK	19	1979		37,000	78.0	N	N	N	6	6	N	N	8	8				2	-/-/-
1095	VB	22280	279	GREAT NECK ROAD NB	BROAD BAY ROAD & LONG CREEK	2	1988		14,000	78.0	7	7	7	N	7	3	9	8	8	FO			1	-/-/-
1096	VB	22278	279	GREAT NECK ROAD SB	BROAD BAY ROAD & LONG CREEK	2	1988		14,000	78.0	7	7	7	N	7	3	9	8	8	FO			1	-/-/-
1097	VB	22196		GREENWICH ROAD	DRAINAGE CANAL	19	1932		6,500	88.2	N	N	N	5	5	N	N	7	7		Y		1	-/-/-
1098	VB	22177		HEAD OF RIVER ROAD	BLACKWATER RIVER	19	1979		610	96.8	N	N	N	7	7	N	N	8	7				7	-/-/-
1099	VB	22169		HOLLAND ROAD	DRAINAGE CANAL	19	1985		39,000	71.9	N	N	N	6	6	N	N	7	7				5	-/-/-
1100	VB	22243	264	I-264	BIRDNECK ROAD	2	1967	1996	44,000	75.5	7	7	5	N	5	9	2	N	8	FO	Y		1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1101	VB	22239	264	I-264	FIRST COLONIAL ROAD	2	1967	1986	68,000	88.0	7	6	6	N	6	9	2	N	8	FO			0	-/-/-
1102	VB	22242	264	I-264	GREAT NECK CREEK	2	1967	1982	62,000	87.0	6	6	6	N	6	9	N	8	8				1	-/-/-
1103	VB	22222	264	I-264	INDEPENDENCE BLVD	2	1967	1992	178,000	70.0	6	7	5	N	5	9	2	N	8	FO	Y		1	-/-/-
1104	VB	22230	264	I-264	LONDON BRIDGE CREEK	2	1967	1986	105,000	85.0	7	6	6	N	6	9	N	8	8				3	-/-/-
1105	VB	22232	264	I-264	LONDON BRIDGE ROAD	2	1967	1982	105,000	76.0	7	7	6	N	6	9	3	N	8	FO			3	-/-/-
1106	VB	22228	264	I-264	LYNNHAVEN PARKWAY	2	1967	1986	123,000	65.0	6	6	5	N	5	9	3	N	8	FO	Y		1	-/-/-
1107	VB	22219	264	I-264	NORFOLK SOUTHERN R/R	2	1967	1992	198,000	85.0	7	6	7	N	6	9	N	N	8				2	-/-/-
1108	VB	22231	264	I-264	NORFOLK SOUTHERN R/R	2	1967	1982	105,000	79.0	7	7	6	N	6	9	N	N	8				3	-/-/-
1109	VB	22226	264	I-264	PLAZA TRAIL	2	1967	1977	141,000	77.4	6	7	6	N	6	9	3	N	8	FO			1	-/-/-
1110	VB	22224	264	I-264	ROSEMONT ROAD	2	1967	1977	149,000	79.7	6	6	6	N	6	9	4	N	8				1	-/-/-
1111	VB	22241	264	I-264	THALIA CREEK	19	1967		158,000	70.0	N	N	N	7	7	N	N	8	8				1	-/-/-
1112	VB	22249	264	I-264	TRIB E BR ELIZABETH RIVER	19	1967	1985	198,000	70.0	N	N	N	7	7	N	N	8	8				1	-/-/-
1113	VB	22251	264	I-264	TRIB THALIA CREEK	19	1967		197,000	70.0	N	N	N	7	7	N	N	8	8				1	-/-/-
1114	VB	22236	264	I-264	TRIB WOLFSNARE CREEK	19	1967		74,000	76.1	N	N	N	6	6	N	N	8	8				1	-/-/-
1115	VB	22237	264	I-264	VA BEACH BLVD	2	1967	1982	90,000	64.0	7	7	5	N	5	9	2	N	8	FO	Y		3	-/-/-
1116	VB	22220	264	I-264	WITCHDUCK ROAD	2	1967	1992	198,000	85.0	7	6	6	N	6	9	N	N	8				1	-/-/-
1117	VB	22217	264	I-264 EB RAMP	BAXTER ROAD	2	1990		20,000	81.0	6	6	6	N	6	9	3	N	8	FO			2	-/-/-
1118	VB	22234	264	I-264 EB RAMP TO LASKIN ROAD	I-264	2	1967		35,000	86.0	7	5	6	N	5	9	7	N	6		Y		1	-/-/-
1119	VB	22267	64	I-64 EB	E BR ELIZABETH RIVER	2	1967	1992	71,000	89.2	7	7	6	N	6	5	3	8	8	FO			1	-/-/-
1120	VB	22265	64	I-64 WB	E BR ELIZABETH RIVER	2	1967	1992	69,000	88.5	6	7	6	N	6	9	3	8	8	FO			1	-/-/-
1121	VB	22194		INDEPENDENCE BLVD	DRAINAGE CANAL	1	1990		12,000	93.3	7	7	7	N	6	9	N	8	8				2	-/-/-
1122	VB	22274	225	INDEPENDENCE BLVD NB	NORTHAMPTON BLVD	2	1969		16,000	76.8	6	7	7	N	7	4	2	N	8	FO			1	-/-/-
1123	VB	22276	225	INDEPENDENCE BLVD SB	NORTHAMPTON BLVD	2	1969		16,000	75.8	6	7	7	N	7	4	2	N	8	FO			1	-/-/-
1124	VB	22209		INDIAN LAKES BLVD	DRAINAGE CANAL	19	1974		8,100	83.7	N	N	N	6	6	N	N	8	8				2	-/-/-
1125	VB	22172		INDIAN RIVER ROAD	DRAINAGE CANAL	19	1987		15,000	85.0	N	N	N	6	6	N	N	8	8				11	-/-/-
1126	VB	23579		INDIAN RIVER ROAD	I-64	2	1993		61,000	94.0	6	7	6	N	6	5	6	N	8				0	-/-/-
1127	VB	25101		INDIAN RIVER ROAD	NORTH LANDING RIVER	1	1997		6,500	99.1	8	8	8	N	8	9	N	8	7				3	-/-/-
1128	VB	22170		INDIAN RIVER ROAD	WEST NECK CREEK	2	1975		5,400	67.0	5	5	6	N	5	4	N	8	7		Y		3	-/-/-
1129	VB	25480		INLET ROAD	INLET OF LYNNHAVEN RIVER	2	1982		10	61.9	6	5	5	N	5	2	N	7	6	FO	Y			-/-/-
1130	VB	22212		INTERNATIONAL PARKWAY EB	DRAINAGE CANAL #2	2	1987		8,000	80.3	7	7	7	N	7	2	N	8	8	FO			1	-/-/-
1131	VB	26138		INTERNATIONAL PARKWAY WB	DRAINAGE CANAL #2	2	1997		8,000	80.3	7	8	7	N	7	3	N	8	7	FO			1	-/-/-
1132	VB	22273	190	KEMPSVILLE ROAD	DRAINAGE DITCH	19	1969		29,000	69.9	N	N	N	7	7	N	N	8	8				4	-/-/-
1133	VB	22252	58	LASKIN ROAD	LINKHORN BAY	2	1938	1956	29,000	54.1	5	5	4	N	4	5	N	8	8	SD	Y		1	-/-/-
1134	VB	25189		LONDON BRIDGE ROAD	DRAINAGE CANAL	19	1996		19,000	79.0	N	N	N	7	7	N	N	7	9				4	-/-/-
1135	VB	22206		LORD DUNMORE DRIVE	DRAINAGE DITCH	19	1932		6,155	82.0	N	N	N	6	6	N	N	6	8				0	-/-/-
1136	VB	22188		LYNNHAVEN PARKWAY	DRAINAGE CANAL	1	1981		36,000	78.4	5	5	7	N	5	9	N	7	8		Y		2	-/-/-
1137	VB	22203		LYNNHAVEN PARKWAY	DRAINAGE CANAL	1	1989		23,000	78.1	7	7	6	N	6	4	N	8	8				2	-/-/-
1138	VB	22207		LYNNHAVEN PARKWAY	DRAINAGE CANAL	19	1980		36,000	70.0	N	N	N	6	6	N	N	8	8				5	-/-/-
1139	VB	22195		LYNNHAVEN PARKWAY	GREEN RUN DRAINAGE CANAL	19	1982		29,000	69.0	N	N	N	5	5	N	N	7	7		Y		1	-/-/-
1140	VB	22198		LYNNHAVEN PARKWAY NB	LONDON BRIDGE CREEK	1	1974	1982	22,000	80.7	7	7	7	N	7	4	N	8	8				1	-/-/-
1141	VB	22199		LYNNHAVEN PARKWAY SB	LONDON BRIDGE CREEK	5	1974	1982	22,000	80.3	7	7	7	N	7	4	N	8	8				1	-/-/-
1142	VB	22174		MUDDY CREEK ROAD	BRANCH NORTH BAY	1	1985		270	93.8	7	7	7	N	7	6	N	8	8				4	-/-/-
1143	VB	22171		NANNEYS CREEK ROAD	NANNEY CREEK	1	1982		390	97.9	7	7	7	N	7	6	N	8	6				3	-/-/-
1144	VB	22213	13	NORTHAMPTON BLVD NB	SHORE DRIVE	2	1963		9,000	77.0	6	7	6	N	6	4	5	N	8				1	-/-/-
1145	VB	22215	13	NORTHAMPTON BLVD SB	SHORE DRIVE	2	1963		9,000	76.9	6	7	6	N	6	4	5	N	8				1	-/-/-
1146	VB	22186		POTTERS ROAD	LONDON BRIDGE CREEK	2	1977		15,000	75.1	7	7	7	N	7	3	N	8	8	FO			2	-/-/-
1147	VB	22270	165	PRINCESS ANNE ROAD	TIDAL STREAM	19	1969		25,000	81.3	N	N	N	6	6	N	N	8	8				1	-/-/-
1148	VB	24949	149	PRINCESS ANNE ROAD	WEST NECK CREEK	1	1997		24,000	69.9	7	7	8	N	7	2	N	8	8	FO			6	-/-/-
1149	VB	22287		PROVIDENCE ROAD EB	I-64	2	1967		11,000	75.9	7	7	7	N	7	3	4	N	8	FO			1	-/-/-
1150	VB	22285		PROVIDENCE ROAD WB	I-64	2	1967		11,000	73.8	7	6	6	N	6	3	3	N	8	FO			1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS									SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
											DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.					
1151	VB	22190		PUNGO FERRY ROAD	NORTH LANDING RIVER	2	1991		3,200	99.4	7	7	7	N	7	6	N	8	8				5	-/-/-
1152	VB	22256	58	RAMP TO LASKIN ROAD	VA BEACH BLVD	2	1967		29,614	96.8	6	6	6	N	6	6	6	N	8				1	-/-/-
1153	VB	22200		ROSEMONT ROAD	SUNSET CANAL	1	1975	1989	21,000	90.8	7	7	6	N	6	9	N	9	8				1	-/-/-
1154	VB	22185		SALEM ROAD	DRAINAGE CANAL	19	1980		4,200	86.8	N	N	N	5	5	N	N	8	8		Y		4	-/-/-
1155	VB	22208		SANDBRIDGE ROAD	DRAINAGE DITCH	19	1984		14,000	94.8	N	N	N	6	6	N	N	8	8				8	-/-/-
1156	VB	22183		SANDBRIDGE ROAD	HELLS POINT CREEK	5	1961		9,700	35.2	5	5	7	N	4	2	N	8	8	FO	Y			-/-/-
1157	VB	22262	60	SHORE DRIVE	EASTERN SHORE R/R	2	1986		34,000	92.6	7	8	7	N	7	8	4	N	8				1	-/-/-
1158	VB	22261	60	SHORE DRIVE	LAKE SMITH SPILLWAY	19	1987		29,000	70.0	N	N	N	7	7	N	N	6	6				8	-/-/-
1159	VB	22260	60	SHORE DRIVE EB	LYNNHAVEN INLET	2	1958		19,000	48.9	6	4	6	N	4	2	N	8	8	SD	Y		1	-/-/-
1160	VB	22264	60	SHORE DRIVE WB	LYNNHAVEN INLET	2	1967		19,000	44.5	6	4	6	N	4	2	N	8	6	SD	Y		1	-/-/-
1161	VB	22173		SOUTH BOULEVARD	THALIA CREEK	19	1985		5,000	97.0	N	N	N	6	6	N	N	8	8				3	-/-/-
1162	VB	22187		SOUTH LYNNHAVEN ROAD	LONDON BRIDGE CREEK	2	1966		18,000	65.8	5	6	5	N	5	4	N	8	8		Y		2	-/-/-
1163	VB	23693		SOUTH PLAZA TRAIL	DRAINAGE CANAL	1	1992		10,000	89.2	7	7	8	N	7	4	N	8	8				2	-/-/-
1164	VB	22255	58	VA BEACH BLVD	I-264 WB RAMP	2	1967		30,000	89.1	7	7	6	N	6	9	4	N	8				1	-/-/-
1165	VB	22253	58	VA BEACH BLVD	LYNNHAVEN RIVER	2	1989		54,000	93.6	7	7	7	N	7	9	N	7	6				1	-/-/-
1166	VB	22254	58	VA BEACH BLVD	THALIA CREEK	2	1987		40,000	97.2	7	7	7	N	7	9	N	8	8				1	-/-/-
1167	VB	22258	58	VA BEACH BLVD	TRIB WOLFSNARE CREEK	19	1967		30,000	81.8	N	N	N	7	7	N	N	8	8				1	-/-/-
1168	VB	22180		W GREAT NECK ROAD	LONG CREEK & BROAD BAY ROAD	2	1961		8,000	74.4	6	6	6	N	6	3	2	8	8	FO			1	-/-/-
1169	VB	22201		W GREEN GARDEN CIR	SUNSET CANAL	1	1973		1,063	84.9	7	7	7	N	5	6	N	8	8				1	-/-/-
1170	VB	22168		WARE NECK DRIVE	NORTH LANDING RIVER	19	1988		1,000	97.0	N	N	N	7	7	N	N	8	8				3	-/-/-
1171	VB	22197		WESLEYAN DRIVE	DRAINAGE CANAL	19	1985		20,000	82.9	N	N	N	6	6	N	N	7	8				1	-/-/-
1172	VB	23664		WEST NECK ROAD	WEST NECK CREEK	2	1993		2,600	94.3	7	7	7	N	7	5	N	8	6				7	-/-/-
1173	VB	22204		WOLFSNARE ROAD	WOLFSNARE CREEK	19	1979		4,500	84.3	N	N	N	6	6	N	N	7	8				1	-/-/-
1174	WMB	22335	60	BYPASS ROAD	C&O R/R	2	1934	1981	20,000	92.1	8	7	8	N	7	5	N	N	6				1	-/-/-
1175	WMB	22328		CAPITOL LANDING ROAD	CSX R/R	1	1977		2,146	79.3	8	8	8	N	7	2	N	N	6	FO			1	-/-/-
1176	WMB	22337	132	HENRY STREET SOUTH	PAPER MILL CREEK	19	1976		3,300	97.1	N	N	N	8	8	N	N	7	6				3	-/-/-
1177	WMB	90016		LAFAYETTE STREET	COLONIAL PARKWAY	11	1936		10,000	53.0	N	6	7	N	4	2	3	8	6	FO			5	-/-/-
1178	WMB	22338	143	MERRIMAC TRAIL	COLONIAL PARKWAY	11	1948		6,600	78.2	8	8	8	N	8	2	4	N	7	FO			1	-/-/-
1179	WMB	22342	321	MONTICELLO AVENUE	STREAM	2	1963		15,000	94.2	6	6	7	N	6	6	N	9	7				1	-/-/-
1180	WMB	90017		NEWPORT AVENUE	COLONIAL PARKWAY	11	1957		3,274	55.3	N	7	7	N	4	4	3	N	6	FO			8	-/-/-
1181	WMB	22336	60	PAGE STREET	C&O R/R	2	1935	1967	13,000	91.6	8	8	7	N	7	6	N	N	6				2	-/-/-
1182	WMB	90015	60	PAGE STREET	COLONIAL PARKWAY	11	1936		12,000	67.4	N	6	7	N	5	4	3	N	6	FO			3	-/-/-
1183	WMB	90014		PARKWAY DRIVE	COLONIAL PARKWAY	11	1972		5,670	78.3	N	7	7	N	7	4	4	N	6				8	-/-/-
1184	WMB	23768		QUARTERPATH ROAD	TUTTERS NECK POND	5	1993		570	80.9	8	8	8	N	8	2	N	6	6	FO			1	-/-/-
1185	YC	19871	604	BARLOW ROAD	I-64	7	1979		1,400	93.8	7	6	6	N	6	5	5	N	8				5	-/-/-
1186	YC	19870	600	BIG BETHEL ROAD	BIG BETHEL RESERVOIR	6	1931	1986	13,000	86.7	7	8	7	N	7	4	N	8	7				6	-/-/-
1187	YC	19826	60	BYPASS ROAD	TRIB QUEENS CREEK	19	1968		20,000	79.4	N	N	N	6	6	N	N	8	8				3	-/-/-
1188	YC	19824	17	COLEMAN BRIDGE	YORK RIVER	17	1952	1996	33,000	59.0	6	6	5	N	5	9	9	9	8		Y	Y	99	-/-/-
1189	YC	90010		COLONIAL PARKWAY	FELGATE'S CREEK	2	1981		6,100	56.7	6	7	7	N	4	5	N	8	6				16	-/-/-
1190	YC	90013		COLONIAL PARKWAY	HUBBARD'S LANE	1	1964		6,100	70.5	7	7	7	N	4	4	4	N	6				8	-/-/-
1191	YC	90009		COLONIAL PARKWAY	INDIAN FIELD CREEK	2	1933	1981	6,100	52.2	6	6	6	N	4	3	N	8	6	FO			16	-/-/-
1192	YC	90011		COLONIAL PARKWAY	KINGS CREEK	2	1933	1981	6,100	58.5	6	5	5	N	4	5	N	8	6		Y		16	-/-/-
1193	YC	90008		COLONIAL PARKWAY	NAVAL WEAPONS ROAD	1	1931	1981	6,100	70.4	6	7	7	N	5	5	3	N	8	FO			8	-/-/-
1194	YC	90007		COLONIAL PARKWAY	NORTH PIER ACCESS ROAD	1	1962		6,100	88.0	6	6	7	N	6	5	3	N	6	FO			8	-/-/-
1195	YC	90012		COLONIAL PARKWAY	PENNIMAN ROAD	1	1964		6,100	69.4	6	7	7	N	4	5	4	N	6				8	-/-/-
1196	YC	90005		COLONIAL PARKWAY	ROUTE 17	2	1956		6,100	65.3	6	5	7	N	4	6	4	N	6		Y		2	-/-/-
1197	YC	90004		COLONIAL PARKWAY	YORKTOWN CREEK	2	1955		6,100	69.1	6	6	6	N	5	5	N	8	6				2	-/-/-
1198	YC	19883	716	EAST QUEENS DRIVE	QUEENS CREEK - SPILLWAY	2	1932	1997	120	81.9	7	7	6	N	6	9	N	8	7				5	11/-/-
1199	YC	19819	17	GEORGE WASHINGTON HWY NB	POQUOSON RIVER	4	1965		26,000	83.7	5	5	5	N	5	7	N	8	8		Y		1	-/-/-
1200	YC	19818	17	GEORGE WASHINGTON HWY SB	POQUOSON RIVER	4	1924	1952	26,000	62.9	5	5	5	N	5	3	N	8	8	FO	Y		1	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

Regional Bridge Inventory (continued)

#	JURIS	FED BRIDGE ID	ROUTE	FACILITY	CROSSING	SPAN TYPE	YEAR BUILT	YEAR RECON-STRUCT	AADT VOLUME	SUFF RATING	BRIDGE RATINGS: DECK CONDITION	SUPERSTRUCTURE CONDITION	SUBSTRUCTURE CONDITION	CULVERT CONDITION	STRUCTURAL CONDITION	DECK GEOMETRY	UNDER-CLEARANCES	WATERWAY ADEQUACY	APPROACH ROADWAY ALIGN.	SD/FO	NEEDS REPAIR	FRACTURE CRITICAL	DETOUR LENGTH (mi.)	POSTED CAPACITY (tons) ALL VEHICLES/ SU TRUCKS/ ST TRUCKS
1201	YC	19820	17	GEORGE WASHINGTON HWY NB	YORKTOWN BATTLEFIELD TOUR ROAD	1	1968		13,000	92.2	6	6	6	N	6	6	2	N	8	FO			1	-/-/-
1202	YC	19822	17	GEORGE WASHINGTON HWY SB	YORKTOWN BATTLEFIELD TOUR ROAD	1	1968		13,000	92.2	6	6	6	N	6	6	2	N	8	FO			1	-/-/-
1203	YC	25281	64	GROVE INTERCHANGE	I-64	2	2002		10,000	94.0	7	8	7	N	7	6	6	N	8				8	-/-/-
1204	YC	25282	64	GROVE INTERCHANGE	I-64 RAMP	2	2002		10,000	98.5	7	8	7	N	7	9	N	N	8				2	-/-/-
1205	YC	25283		GROVE INTERCHANGE	ROUTES 60 & 143 AND CSX R/R	2	2002		20,000	100.0	7	8	7	N	7	9	8	N	8				0	-/-/-
1206	YC	19838	64	I-64 EB	COLONIAL PKWY	11	1965		32,000	89.7	6	6	7	N	6	8	5	N	8				1	-/-/-
1207	YC	19840	64	I-64 WB	COLONIAL PKWY	11	1965		27,000	89.9	6	6	7	N	6	8	5	N	8				1	-/-/-
1208	YC	19834	64	I-64 EB	LAKES HEAD DRIVE	2	1965		32,000	79.4	6	5	5	N	5	8	N	N	8		Y		1	-/-/-
1209	YC	19836	64	I-64 WB	LAKES HEAD DRIVE	2	1965		27,000	79.7	6	5	5	N	5	8	6	N	8		Y		1	-/-/-
1210	YC	19828	64	I-64 EB	PENNIMAN ROAD	2	1965	1977	32,000	80.4	6	5	5	N	5	6	2	N	6	FO	Y		1	-/-/-
1211	YC	19830	64	I-64 WB	PENNIMAN ROAD	2	1965	1977	27,000	80.7	7	5	5	N	5	6	2	N	8	FO	Y		1	-/-/-
1212	YC	19842	64	I-64 EB	QUEENS CREEK	2	1965		32,000	65.8	5	5	5	N	5	4	N	8	8		Y		1	-/-/-
1213	YC	19843	64	I-64 WB	QUEENS CREEK	2	1965		27,000	66.2	5	5	5	N	5	4	N	8	8		Y		1	-/-/-
1214	YC	19827	64	I-64	SKIMINO CREEK	19	1956	1979	60,000	70.0	N	N	N	6	6	N	N	8	8				6	-/-/-
1215	YC	19832	64	I-64 EB	WB RAMP TO ROUTE 143	2	1965	1982	46,000	82.3	7	7	7	N	7	6	2	N	8	FO			1	-/-/-
1216	YC	19856	134	MAGRUDER BLVD EB	BRICK KILN CREEK	1	1973		13,000	87.9	6	5	5	N	5	7	N	7	8		Y		1	-/-/-
1217	YC	19855	134	MAGRUDER BLVD WB	BRICK KILN CREEK	4	1930		13,000	64.5	5	5	5	N	5	2	N	8	8	FO	Y		1	-/-/-
1218	YC	19853	134	MAGRUDER BLVD	ROUTE 17	2	1965		11,000	89.2	5	6	6	N	6	5	4	N	7		Y		1	-/-/-
1219	YC	90006		OLD WILLIAMSBURG ROAD	COLONIAL PARKWAY	11	1956		1,800	61.7	N	7	7	N	5	2	6	N	6	FO			10	-/-/-
1220	YC	19851	132	ROUTE 132	QUEENS CREEK	1	1996		8,900	97.7	7	8	8	N	8	5	N	8	8				2	-/-/-
1221	YC	19857	143	ROUTE 143	I-64	2	1965		9,000	72.6	5	5	6	N	5	4	4	N	8		Y		4	-/-/-
1222	YC	19860	143	ROUTE 143	QUEENS CREEK	2	1941	1944	8,600	35.6	5	6	4	N	4	5	N	7	8	SD	Y		2	-/19/30
1223	YC	19866	199	ROUTE 199 EB	I-64	2	1977		9,000	97.0	6	7	6	N	6	6	7	N	8				1	-/-/-
1224	YC	19868	199	ROUTE 199 WB	I-64	2	1977		9,000	97.0	6	7	6	N	6	6	7	N	7				1	-/-/-
1225	YC	25213	199	ROUTE 199 NB	MOORETOWN ROAD	2	1999		11,000	95.4	7	8	7	N	7	3	N	N	8	*			1	-/-/-
1226	YC	25212	199	ROUTE 199 SB	MOORETOWN ROAD	2	1999		11,000	95.4	7	7	7	N	7	3	N	N	8	*			1	-/-/-
1227	YC	19862	199	ROUTE 199 NB	ROUTES 60 & 143 & C&O R/R	2	1977		13,000	96.0	6	6	7	N	6	5	6	N	8				1	-/-/-
1228	YC	19864	199	ROUTE 199 SB	ROUTES 60 & 143 & C&O R/R	2	1977		13,000	96.0	6	6	7	N	6	5	6	N	8				1	-/-/-
1229	YC	19877	646	ROUTE 199/NEWMAN ROAD EB	I-64	2	1979		6,000	98.7	7	7	7	N	7	6	5	N	8				1	-/-/-
1230	YC	19879	646	ROUTE 199/NEWMAN ROAD WB	I-64	2	1979		6,000	98.7	6	7	7	N	7	6	5	N	8				1	-/-/-
1231	YC	90027		SURRENDER ROAD	WORMLEY POND SPILLWAY	2	1942		30	73.8	7	6	7	N	6	3	N	7	8	FO		Y	0	-/-/-
1232	YC	19874	631	WATERVIEW ROAD	VEPCO DISCHARGE CANAL	19	1955		360	91.4	N	N	N	8	8	N	N	7	7					-/-/-
1233	YC	19875	631	WATERVIEW ROAD	VEPCO INTAKE CANAL	2	1955	1974	360	63.1	6	5	6	N	5	5	N	8	8		Y			-/-/-
1234	YC	19884	716	WEST QUEENS DRIVE	I-64	2	1965		1,700	66.4	6	6	6	N	5	4	6	N	8				5	-/-/-
1235	YC	90001		YORKTOWN BATTLEFIELD TOUR ROAD	BEAVERDAM CREEK	2	1975		270	43.0	6	6	5	N	4	2	N	8	8	FO	Y		8	-/-/-
1236	YC	90002		YORKTOWN BATTLEFIELD TOUR ROAD	CRAWFORD ROAD	7	1956		369	74.1	7	7	7	N	6	5	3	N	8	FO			0	-/-/-
1237	YC	90003		YORKTOWN BATTLEFIELD TOUR ROAD	ROUTE 17	2	1959	1968	369	58.4	7	7	7	N	5	2	4	N	6	FO			5	-/-/-

Data sources: VDOT, FHWA. Data is up-to-date as of August 2007. A description of the data included in this table is included on pages 93 and 94.

APPENDIX B

Definitions of Various Bridge Ratings

Definition of Various Ratings

Several components of each bridge are rated in order to determine the overall existing condition of the structure. These rated components include:

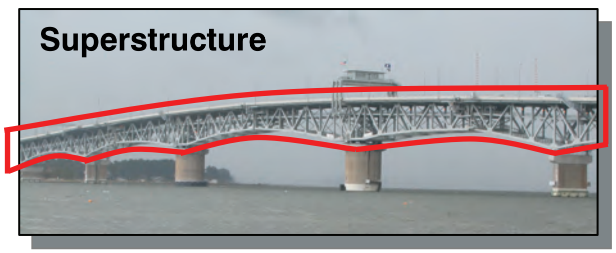
- Deck general condition
- Superstructure general condition
- Substructure general condition
- Culvert general condition
- Inventory rating
- Structural evaluation
- Deck geometry
- Underclearances
- Waterway adequacy
- Approach roadway alignment

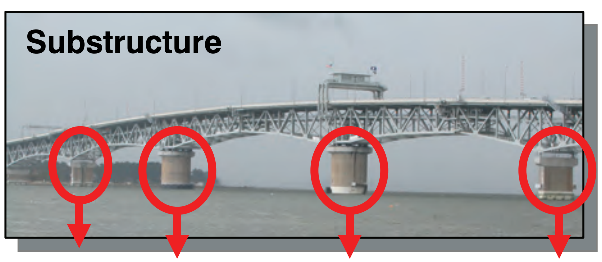
These general condition and appraisal ratings are used in a variety of ways, including to determine if a bridge is classified as structurally deficient or functionally obsolete, to determine whether the bridge needs repair or rehabilitation, to calculate the sufficiency rating for each bridge, as well as to prioritize state and federal funding levels and projects. This section describes in detail how each of these ratings are produced.

Deck, Superstructure, and Substructure General Condition

These items describe the overall condition rating of the bridge deck, the physical condition of all of the bridge's structural members such as beams and girders (superstructure), and the physical condition of the piers, abutments, piles, fenders, and footings (substructure).

The condition of the deck, superstructure, and substructure are rated based on the descriptions listed to the right. If the structure is a culvert, the general conditions will be rated as "N" for these three components.





General Condition Ratings and Descriptions for Decks, Superstructures, and Substructures

Condition Rating	Description
N	**Not Applicable**
9	**Excellent Condition**
8	**Very Good Condition** No problems noted.
7	**Good Condition** Some minor problems.
6	**Satisfactory Condition** Structural elements show some minor deterioration.
5	**Fair Condition** All primary structural elements are sound but may have some minor section loss, cracking, spalling or scour.
4	**Poor Condition** Advanced section loss, deterioration, spalling or scour.
3	**Serious Condition** Loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
2	**Critical Condition** Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
1	**"Imminent" Failure Condition** Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put back in light service.
0	**Failed Condition** Out of service - beyond corrective action.

Source: FHWA.

Culvert General Condition

This item evaluates the alignment, settlement, joints, structural condition, scour, and all other items associated with culverts. The rating code is intended to be an overall condition evaluation of the culvert.

If the structure is not a culvert, the general condition will be rated as "N".

General Condition Ratings and Descriptions for Culverts

Condition Rating	Description
N	Not Applicable. Use if structure is not a culvert.
9	No deficiencies.
8	No noticeable or noteworthy deficiencies which affect the condition of the culvert. Insignificant scrape marks caused by drift.
7	Shrinkage cracks, light scaling, and insignificant spalling which does not expose reinforcing steel. Insignificant damage caused by drift with no misalignment and not requiring corrective action. Some minor scouring has occurred near curtain walls, wingwalls, or pipes. Metal culverts have a smooth symmetrical curvature with superficial corrosion and no pitting.
6	Deterioration or initial disintegration, minor chloride contamination, cracking with some leaching, or spalls on concrete or masonry walls and slabs. Local minor scouring at curtain walls, wingwalls, or pipes. Metal culverts have a smooth curvature, non-symmetrical shape, significant corrosion or moderate pitting.
5	Moderate to major deterioration or disintegration, extensive cracking and leaching, or spalls on concrete or masonry walls and slabs. Minor settlement or misalignment. Noticeable scouring or erosion at curtain walls, wingwalls, or pipes. Metal Culverts have significant distortion and deflection in one section, significant corrosion or deep pitting.
4	Large spalls, heavy scaling, wide cracks, considerable efflorescence, or opened construction joint permitting loss of backfill. Considerable settlement or misalignment. Considerable scouring or erosion at curtain walls, wingwalls, or pipes. Metal culverts have significant distortion and deflection throughout, extensive corrosion or deep pitting.
3	Any condition described in Code 4 but which is excessive in scope. Severe movement or differential settlement of the segments, or loss of fill. Holes may exist in walls or slabs. Integral wingwalls nearly severed from culvert. Severe scour or erosion at curtain walls, wingwalls or pipes. Metal culverts have extreme distortion and deflection in one section, extensive corrosion, or deep pitting with scattered perforations.
2	Integral wingwalls collapsed, severe settlement of roadway due to loss of fill. Section of culvert may have failed and can no longer support embankment. Complete undermining at curtain walls and pipes. Corrective action required to maintain traffic. Metal culverts have extreme distortion and deflection throughout with extensive perforations due to corrosion.
1	Bridge closed. Corrective action may put back in light service.
0	Bridge closed. Replacement necessary.

Source: FHWA.

Inventory Rating

The inventory rating is the load level that can safely utilize an existing structure for an indefinite period of time. This is currently done in Virginia using HS loading procedures (in tons) as defined by AASHTO, with HS representing the type of vehicles a bridge can accommodate.

For inventory ratings using HS loading, the first number indicates the type of loading and the last two numbers represent the load level in tons. Using an inventory rating of 231 as an example, the 2 represents HS loading procedures, and the bridge's load level is 31 tons.

MS loading is the metric equivalent of HS loading. Converting the last two numbers of the HS loading inventory rating from tons to metric tons produces the MS loading inventory rating.

Structural Evaluation

This item evaluates the structural condition of the bridge based on the superstructure, substructure, and culvert condition ratings, inventory rating, and average daily traffic.

For structures other than culverts, the lowest value among the superstructure condition rating, substructure condition rating, and the value from the table to the right is used to determine the structural evaluation rating. For culverts, the lowest value among the culvert condition rating and the value from the table to the right is used to determine the structural evaluation rating.

If the superstructure, substructure, or culvert ratings are equal to one, then the structural evaluation rating is equal to zero, regardless of whether the structure is actually closed.

Structural Evaluation Rating by Comparison of AADT and Inventory Rating

Structural Evaluation Rating Code	Inventory Rating		
	Average Daily Traffic (AADT)		
	0-500	501-5000	> 5000
9	> 236 (HS) or > 32.4 (MS)	> 236 (HS) or > 32.4 (MS)	> 236 (HS) or > 32.4 (MS)
8	236 (HS) or 32.4 (MS)	236 (HS) or 32.4 (MS)	236 (HS) or 32.4 (MS)
7	231 (HS) or 27.9 (MS)	231 (HS) or 27.9 (MS)	231 (HS) or 27.9 (MS)
6	223 (HS) or 20.7 (MS)	225 (HS) or 22.5 (MS)	227 (HS) or 24.3 (MS)
5	218 (HS) or 16.2 (MS)	220 (HS) or 18.0 (MS)	222 (HS) or 19.8 (MS)
4	212 (HS) or 10.8 (MS)	214 (HS) or 12.6 (MS)	218 (HS) or 16.2 (MS)
3	Inventory rating less than value in rating code of 4 and requiring corrective action.		
2	Inventory rating less than value in rating code of 4 and requiring replacement.		
0	Bridge closed.		

Table notes:

1) Use the lower rating code for values between those listed in the table.
2) HS loading represents the load level which can safely utilize an existing structure for an indefinite period of time. MS loading is the metric equivalent of the HS loading.
3) All bridges coded with a functional class of Interstate, Freeway, or Expressway shall be evaluated using the AADT column of > 5000 regardless of the actual AADT on the bridge.

Source: FHWA.

Deck Geometry

This item evaluates the deck geometry of the structure based on the bridge width and the minimum vertical clearance over the bridge roadway.

The lower of the deck geometry ratings among the bridge width and vertical clearance tables shall be used as the deck geometry rating. When an individual table lists several deck geometry rating codes for the same roadway width under a specific ADT, the lower rating code is used. For values between those listed in the tables the lower code is used.

Deck Geometry Rating Based on Bridge Roadway Width

Deck Geometry Rating Code	TABLE A Bridge Roadway Width 2 Lanes; 2 Way Traffic ADT - Both Directions						TABLE B Bridge Roadway Width 1 Lane; 2 Way Traffic ADT - Both Directions	
	0-100	100-400	401-1000	1001-2000	2001-5000	>5000	0-100	>100
9	>32'	>36'	>40'	>44'	>44'	>44'	-	-
8	32'	36'	40'	44'	44'	44'	15'-11"	-
7	28'	32'	36'	40'	44'	44'	15'	-
6	24'	28'	30'	34'	40'	44'	14'	-
5	20'	24'	26'	28'	34'	38'	13'	-
4	18'	20'	22'	24'	28'	32' (28'*)	12'	-
3	16'	18'	20'	22'	26'	30' (26'*)	11'	15'-11"
2	Any width less than required for a code of 3 & structure open.							
0	Bridge closed.							

* - Use the value in parentheses for bridges longer than 200 feet.

Notes:
1) Use the lower rating code for values between those listed in the table.
2) For one lane of one-way traffic use Table A.
3) One-lane bridges 16 feet and greater in width, which are not ramps, are evaluated using Table A.

Deck Geometry Rating Based on Minimum Vertical Clearance over Bridge Roadway

Deck Geometry Rating Code	Minimum Vertical Clearance Functional Class: Interstate and Other Freeways – All Routes Except as noted for Urban Areas	Interstate and Other Freeways – Undesignated Routes, Urban Areas*	Other Principal and Minor Arterials	Major and Minor Collectors and Locals
9	>17'-0"	>16'-6"	>16'-6"	>16'-6"
8	17'-0"	16'-6"	16'-6"	16'-6"
7	16'-9"	15'-6"	15'-6"	15'-6"
6	16'-6"	14'-6"	14'-6"	14'-6"
5	15'-9"	14'-3"	14'-3"	14'-3"
4	15'-0"	14'-0"	14'-0"	14'-0"
3	Vertical clearance less than value in rating code 4 and requiring corrective action.			
2	Vertical clearance less than value in rating code 4 and requiring replacement.			
0	Bridge closed.			

* - Use for routes in highly developed urban areas only when there is an alternative Interstate, freeway or expressway facility with a minimum of 16'-0" clearance.

Note: Use the lower rating code for values between those listed in the table.

Source: FHWA.

Deck Geometry Rating Code	TABLE C Bridge Roadway Width 2 or More Lanes Each Direction: Interstate and Other Divided Freeways – 2 Lanes	Interstate and Other Divided Freeways – 3 or more	Other Multilane Divided Facilities – 2 Lanes	Other Multilane Divided Facilities – 3 or more	TABLE D Bridge Roadway Width 1 Way Traffic: Ramps Only – 1 Lane	Ramps Only – 2 or more
9	>42'	>12N + 24'	>42'	>12N + 18'	>26'	>12N + 12'
8	42'	12N + 24'	42'	12N + 18'	26'	12N + 12'
7	40'	12N + 20'	38'	12N + 15'	24'	12N + 10'
6	38'	12N + 16'	36'	12N + 12'	22'	12N + 8'
5	36'	12N + 14'	33'	11N + 10'	20'	12N + 6'
4	34' (29')	11N + 12' (11N+7)*	30'	11N + 6'	18'	12N + 4'
3	33' (28')	11N + 11' (11N+6)*	27'	11N + 5'	16'	12N + 2'
2	Any width less than required for a code of 3 & structure open.					
0	Bridge closed.					

* - Use the value in parentheses for bridges longer than 200 feet.

Notes:
1) Use the lower rating code for values between those listed in the table.
2) Use Table C, Other Multilane Divided Facilities, for 3 or more undivided lanes of 2-way traffic.
3) N = Number of lanes

Underclearances

This item evaluates the adequacy of the vertical and horizontal (or lateral) underclearances of the structure. Although bridges are seldom closed due to deficient underclearances, they are often good candidates for rehabilitation or replacement.

The lower of the vertical and horizontal underclearance ratings shall be used as the structure's underclearance rating.

Underclearance Rating Based on Vertical Underclearance

Underclearance Rating Code	Minimum Vertical Underclearance, Functional Class: Interstate and Other Freeways				
	All Routes Except as noted for Urban Areas	Undesignated Routes, Urban Areas*	Other Principal and Minor Arterials	Major and Minor Collectors and Locals	Railroad
9	>17'-0"	>16'-6"	>16'-6"	>16'-6"	>23'-0"
8	17'-0"	16'-6"	16'-6"	16'-6"	23'-0"
7	16'-9"	15'-6"	15'-6"	15'-6"	22'-6"
6	16'-6"	14'-6"	14'-6"	14'-6"	22'-0"
5	15'-9"	14'-3"	14'-3"	14'-3"	21'-0"
4	15'-0"	14'-0"	14'-0"	14'-0"	20'-0"
3	Vertical clearance less than value in rating code 4 and requiring corrective action.				
2	Vertical clearance less than value in rating code 4 and requiring replacement.				
0	Bridge closed.				

Table notes:

2) Use the lower rating code for values between those listed in the table.
3) The functional classification of the underpassing route shall be used in the evaluation. If an "under" record is not coded, the underpassing route shall be considered a major or minor collector or a local road.

Underclearance Rating Based on Lateral Underclearance

Underclearance Rating Code	Minimum Lateral Underclearance, Functional Class: 1-Way Traffic				2-Way Traffic		
	Interstate, Freeways, or Expressways				Other Principal and Minor Arterials	Major & Minor Collectors and Locals	Railroad
	Main Line		Ramp				
	Left	Right	Left	Right			
9	>30'	>30'	>4'	>10'	>30'	>12'	>20'
8	30'	30'	4'	10'	30'	12'	20'
7	18'	21'	3'	9'	21'	11'	17'
6	6'	12'	2'	8'	12'	10'	14'
5	5'	11'	2'	6'	10'	8'	11'
4	4'	10'	2'	4'	8'	6'	8'
3	Vertical clearance less than value in rating code 4 and requiring corrective action.						
2	Vertical clearance less than value in rating code 4 and requiring replacement.						
0	Bridge closed.						

Table notes:

1) Use the lower rating code for values between those listed in the table.
2) When acceleration or deceleration lanes or ramps are provided under 2-way traffic, use the value from the right ramp column.
1) The functional classification of the underpassing route shall be used in the evaluation. If an "under" record is not coded, the underpassing route shall be considered a major or minor collector or a local road.

Source: FHWA.

Waterway Adequacy

This item evaluates the adequacy of the waterway opening with respect to the passage of water flow through the bridge. In some cases, site conditions may warrant higher or lower ratings than are indicated in the table.

Waterway Adequacy Ratings

Functional Classification			
Principal Arterials, Interstates, Freeways, or Expressways	Other Principal and Minor Arterials and Major Collectors	Minor Collectors and Locals	
Waterway Adequacy Rating Code			Description
N	N	N	Bridge not over a waterway.
9	9	9	Bridge deck and roadway approaches above floodwater elevations (high water). Chance of overtopping is remote.
8	8	8	Bridge deck above roadway approaches. Slight chance of overtopping roadway approaches.
6	6	7	Slight chance of overtopping bridge deck and roadway approaches.
4	5	6	Bridge deck above roadway approaches. Occasional overtopping of roadway approaches with insignificant traffic delays.
3	4	5	Bridge deck above roadway approaches. Occasion overtopping of roadway approaches with significant traffic delays.
2	3	4	Occasional overtopping of bridge deck and roadway approaches with significant traffic delays.
2	2	3	Frequent overtopping of bridge deck and roadway approaches with significant traffic delays.
2	2	2	Occasional or frequent overtopping of bridge deck and roadway approaches with severe traffic delays.
0	0	0	Bridge closed.

Where overtopping frequency information is available, the description in this table for chances of overtopping mean the following:

Remote	Greater than 100 years
Slight	11 to 100 years
Occasional	3 to 10 years
Frequent	Less than 3 years

Adjectives in this table describing traffic delay mean the following:

Insignificant	Minor inconvenience. Highway passable in a matter of hours.
Significant	Traffic delay of up to several days.
Severe	Long term delay to traffic with resulting hardship.

Source: FHWA.

Approach Roadway Alignment

This item evaluates the adequacy of the approach roadway alignment, and identifies those bridges that do not function properly or adequately due to the alignment of the approaches. This rating differs from all the previous ratings in that it is not intended that the approach roadway alignment be compared to current standards but rather to the existing highway alignment.

Each individual structure shall be rated in accordance with the general appraisal ratings listed in the table. Approach roadway alignment should be rated intolerable (a rating code of 3 or less) only if the horizontal or vertical curvature requires a substantial reduction in the vehicle operating speed from the prevailing speed on the highway section. A very minor speed reduction should be rated a 6, and when speed reduction is not required the approach roadway alignment should be rated an 8. Additional ratings between these general values may be selected.

Speed reductions due to the width of the structure and not alignment shall not be considered in evaluating this item.

Approach Roadway Alignment Ratings

Rating Code	Description
N	Not Applicable
9	Superior to present desirable criteria
8	Equals present desirable criteria
7	Better than present desirable criteria
6	Equal to present desirable criteria
5	Somewhat better than minimum adequacy to tolerate being left in place as is
4	Meets minimum tolerable limits to be left in place as is
3	Basically intolerable requiring high priority of corrective action
2	Basically intolerable requiring high priority of replacement
0	Bridge Closed

Source: FHWA.

APPENDIX C

Sufficiency Rating Formula

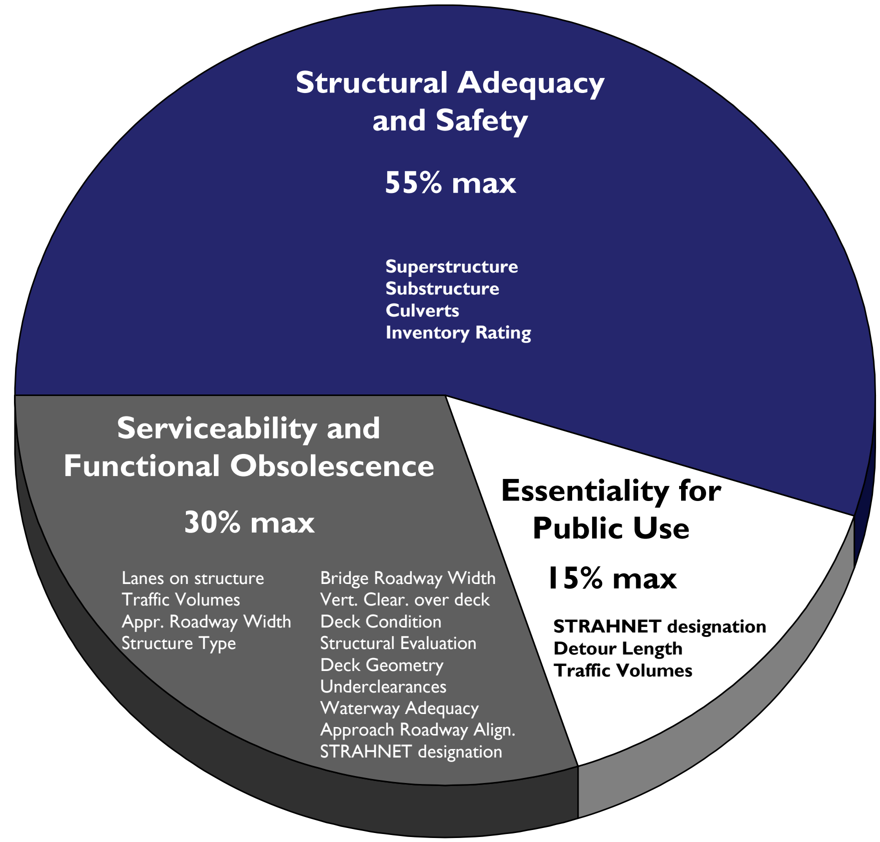
Sufficiency Rating Formula

Sufficiency rating is the numerical rating of a bridge based on its structural adequacy and safety, essentiality for public use, and its serviceability and functional obsolescence. Sufficiency ratings range from 0 to 100%, with a sufficiency rating of 100% representing an entirely sufficient bridge.

The chart to the right shows the four factors that comprise each bridge's sufficiency rating, as well as the various components that comprise each factor.

The following pages show the formulas used to calculate each bridge's sufficiency rating. An example sufficiency rating calculation for the James River Bridge is also included.

Summary of Sufficiency Rating Factors and Components



Special Reductions

Up to 13% max reduction

Detour Length
Traffic Safety Features
Structure Type

Factor #1 - Structural Adequacy and Safety

0% minimum, 55% maximum

Two components make up the structural adequacy and safety rating, referred to here as Component A and Component B.

Component A – Component A is based on the superstructure, substructure, and culvert ratings of the bridge.

If the Superstructure Rating **OR** the Substructure Rating are:

≤ 2 then Component A = 55%
= 3 then Component A = 40%
= 4 then Component A = 25%
= 5 then Component A = 10%

Only the lower of the superstructure and substructure rating applies.

If both the Superstructure and Substructure Ratings are "N", then if the Culvert Rating is:

≤ 2 then Component A = 55%
= 3 then Component A = 40%
= 4 then Component A = 25%
= 5 then Component A = 10%

If none of these apply then Component A = 0%.

Component B – Component B is based on the inventory rating of the bridge. The inventory rating is calculated based on the load level in metric tons that can safely utilize a bridge for an indefinite period of time.

Component B = $(32.4 - \text{Inventory Rating})^{1.5} \times 0.3254$

If the Inventory Rating is ≥ 32.4, then Component B = 0.

Structural Adequacy and Safety Factor = 55% – (Component A + Component B)

Factor #2 – Serviceability and Functional Obsolescence

0% minimum, 30% maximum

Three components make up the serviceability and functional obsolescence rating, referred to here as Component C, Component D, and Component E.

Component C – Component C is comprised of rating reductions based on the deck condition, structural evaluation, deck geometry, underclearances, waterway adequacy, and approach road alignment.

If the Deck Condition Rating is:

≤ 3 then $C_{DC} = 5\%$
$= 4$ then $C_{DC} = 3\%$
$= 5$ then $C_{DC} = 1\%$
> 5 then $C_{DC} = 0\%$

If the Structural Evaluation Rating is:

≤ 3 then $C_{SE} = 4\%$
$= 4$ then $C_{SE} = 2\%$
$= 5$ then $C_{SE} = 1\%$
> 5 then $C_{SE} = 0\%$

If the Deck Geometry Rating is:

≤ 3 then $C_{DG} = 4\%$
$= 4$ then $C_{DG} = 2\%$
$= 5$ then $C_{DG} = 1\%$
> 5 then $C_{DG} = 0\%$

If the Underclearances Rating is:

≤ 3 then $C_{U} = 4\%$
$= 4$ then $C_{U} = 2\%$
$= 5$ then $C_{U} = 1\%$
> 5 then $C_{U} = 0\%$

If the Waterway Adequacy Rating is:

≤ 3 then $C_{WA} = 4\%$
$= 4$ then $C_{WA} = 2\%$
$= 5$ then $C_{WA} = 1\%$
> 5 then $C_{WA} = 0\%$

If the Approach Road Alignment Rating is:

≤ 3 then $C_{RA} = 4\%$
$= 4$ then $C_{RA} = 2\%$
$= 5$ then $C_{RA} = 1\%$
> 5 then $C_{RA} = 0\%$

Component C = $C_{DC} + C_{SE} + C_{DG} + C_{U} + C_{WA} + C_{RA}$

Component C shall not be less than 0% or greater than 13%.

Component D – Component D is based on insufficiency due to the width of the roadway. Factors used to calculate this component include Average Daily Traffic volumes, number of lanes, bridge roadway width, and approach roadway width.

For this section, X = Average Daily Traffic/Number of Lanes
Y = Bridge Roadway Width/Number of Lanes

For all bridges that are not culverts:

If (Bridge Roadway Width + 0.6 m) < Approach Roadway Width then D_A = 5%. Otherwise D_A = 0%.

For 1-lane bridges only:

If Y is:

< 4.3 then D_B = 15%
≥ 4 and < 5.5 then D_B = 12.5 x [5.5-Y]%
≥ 5.5 then D_B = 0%

For 2 or more lane bridges:

D_B = 0% if any of the following conditions apply:

1) The # of lanes is 2 and Y ≥ 4.9
2) The # of lanes is 3 and Y ≥ 4.6
3) The # of lanes is 4 and Y ≥ 4.3
4) The # of lanes is ≥ 5 and Y ≥ 3.7

If none of those 4 conditions apply then:

If Y < 2.7 and X > 50 then D_B = 15%
If Y < 2.7 and X ≤ 50 then D_B = 7.5%
If Y ≥ 2.7 and X ≤ 50 then D_B = 0%

If X > 50 and ≤ 125 and:
Y < 3.0 then D_B = 15%
Y ≥ 3.0 and < 4.0 then D_B = 15 x [4-Y]%
Y ≥ 4.0 then D_B = 0%

If X > 125 and ≤ 375 and:
Y < 3.4 then D_B = 15%
Y ≥ 3.4 and < 4.3 then D_B = 15 x [4.3-Y]%
Y ≥ 4.3 then D_B = 0%

If X > 375 and ≤ 1350 and:
Y < 3.7 then D_B = 15%
Y ≥ 3.7 and < 4.9 then D_B = 12.5 x [4.9-Y]%
Y ≥ 4.9 then D_B = 0%

If X > 1350 and:
Y < 4.6 then D_B = 15%
Y ≥ 4.6 and < 4.9 then D_B = 12.5 x [4.9-Y]%
Y ≥ 4.9 then D_B = 0%

Component D = D_A + D_B

Component D shall not be less than 0% or greater than 15%.

Component E – Component E is based on insufficiency due to the vertical clearance of the roadway. Factors used to calculate this component include the vertical clearance over the deck and whether the structure is part of the Strategic Highway Network (STRAHNET).

If the STRAHNET Highway Designation > 0 and:
Vertical Clearance over deck ≥ 4.87 m then Component E = 0%
Vertical Clearance over deck < 4.87 m then Component E = 2%

If the STRAHNET Highway Designation = 0 and:
Vertical Clearance over deck ≥ 4.26 m then Component E = 0%
Vertical Clearance over deck < 4.26 m then Component E = 2%

Serviceability and Functional Obsolescence Factor = 30% – (Component C + Component D + Component E)

Factor #3 – Essentiality for Public Use

0% minimum, 15% maximum

Two components make up the essentiality for public use rating, referred to here as Component F and Component G.

Component F – Component F determines the essentiality for public use based on the previous two factors (structural adequacy and safety and serviceability and functional obsolescence) as well as the Average Daily Traffic volume and detour length.

For this section, Z = (Structural Adequacy and Safety Factor + Serviceability and Functional Obsolescence Factor) / 85

Component F = 15 x [Average Daily Traffic x Detour Length] / [320,000 x Z]

Component F shall not be less than 0% or greater than 15%.

Component G – Component G determines the essentiality for public use based on the Strategic Highway Network (STRAHNET) designation.

If the STRAHNET Highway Designation is > 0 then Component G = 2%

If the STRAHNET Highway Designation is = 0 then Component G = 0%

Essentiality for Public Use Factor = 15% – (Component F + Component G)

Factor #4 – Special Reductions
0% minimum - 13% maximum reduction

The Special Reductions factor only applies when the three previous factors (structural adequacy and safety, serviceability and functional obsolescence, and essentiality for public use) added together are greater than or equal to 50. Three components make up the special reductions rating, referred to here as Component H, Component I, and Component J.

Component H – Component H is based on the detour length (in km).

Component H = [Detour Length]^4 x [7.9 x 10^{-9}]

Component I – Component I is based on the structure type.

If the Structure Type is listed as a Type 10 (Thru Truss), Type 12 (Thru Arch), Type 13 (Suspension), Type 14 (Stayed Girder), Type 15 (Movable Lift), Type 16 (Movable Bascule), or Type 17 (Movable Swing):

then Component I = 5%, otherwise Component I = 0%.

Component J – Component J is based on the safety features of the structure.

Data is recorded on four safety features for each structure: Bridge railings, transitions, approach guardrails, and approach guardrail ends.

If two of these safety features are required and not provided or do not meet currently acceptable standards, then Component J = 1%.

If three of these safety features are required and not provided or do not meet currently acceptable standards, then Component J = 2%.

If four of these safety features are required and not provided or do not meet currently acceptable standards, then Component J = 3%.

Otherwise Component J = 0%.

Note once again that the Special Reduction factor only applies when [Structural Adequacy and Safety Factor + Serviceability and Functional Obsolescence Factor + Essentiality for Public Use Factor] ≥ 50.

Special Reductions Factor = Component H + Component I + Component J

Structure Sufficiency Rating = Structural Adequacy and Safety Factor + Serviceability and Functional Obsolescence Factor + Essentiality for Public Use Factor – Special Reductions Factor

Example Sufficiency Rating Calculation – James River Bridge

The following pages contain a sufficiency rating calculation example for the James River Bridge. All relevant information used in the sufficiency rating calculation is located in the box to the right. For definitions of the ratings used, see **Appendix B**.

James River Bridge Information

Deck Condition Rating = 5
Superstructure Condition Rating = 5
Substructure Condition Rating = 6
Culvert Condition Rating = N
Inventory Rating = 26 tons = 23.4 metric tons
Average Daily Traffic Volume = 29,778 vehicles
Structural Evaluation Rating = 5 (based on Superstructure Rating)
Waterway Adequacy = 8
Deck Geometry = 6
Underclearances = N
Approach Roadway Alignment = 8
Lanes on Roadway = 4
Approach Roadway Width = 68.0′ = 20.7 m
Bridge Roadway Width = 60.0′ = 18.3 m
Main Span Structure Type = 15 (Movable Lift)
Approach Span Structure Type = 2 (Girder)
Vertical Clearance Over Deck = 16.0 feet = 4.87 m
STRAHNET Designation = 1 (it is a STRAHNET route)
Detour Length = 22 miles = 35.4 km
Safety Features = 1/1/1/1 (all features provided)

Data source: VDOT.

Factor #1 - Structural Adequacy and Safety

Component A = 10% since the lower of the superstructure and substructure rating = 5.

Component B $= (32.4 – \text{Inventory Rating})^{1.5} \times 0.3254$
$= (32.4 – 23.4)^{1.5} \times 0.3254$
$= 8.8\%$

Strucutural Adequacy and Safety Factor = 55% - (Comp. A + Comp. B)
= 55% - (10% + 8.8%)
= 36.2%

Structural Adequacy and Safety Factor = 36.2%

Factor #2 – Serviceability and Functional Obsolescence

Component C = C_{DC} + C_{SE} + C_{DG} + C_{U} + C_{WA} + C_{RA}

C_{DC} = 1% since the Deck Condition rating = 5
C_{SE} = 1% since the Structural Evaluation rating = 5
C_{DG} = 0% since the Deck Geometry rating = 6
C_{U} = 0% since the Underclearances rating = N
C_{WA} = 0% since the Waterway Adequacy rating = 8
C_{RA} = 0% since the Approach Roadway Alignment rating = 8

Component C = 1% + 1% + 0% + 0% + 0% + 0%
= 2%

Component D = D_{A} + D_{B}

D_{A} = 5% since the Bridge Roadway Width (18.3 m) + 0.6 m < the Approach Roadway Width (20.7 m).

D_{B} = 0% since the Number of Lanes = 4 and the Bridge Roadway Width (18.3 m) / The Number of Lanes (4) = 4.58 ≥ 4.3

Component D = 5% + 0%
= 5%

Component E = 0% since the STRAHNET highway designation (1) > 0 and the vertical clearance over the deck (4.87 m) ≥ 4.87.

Serviceability and Functional Obsolescence Factor = 30% - (Comp. C + Comp. D + Comp. E)
= 30% - (2% + 5% + 0%)
= 23%

Serviceability and Functional Obsolescence Factor = 23%

Factor #3 – Essentiality for Public Use

Component F = 15 x [Average Daily Traffic x Detour Length] / [320,000 x Z]
where Z = (Structural Adequacy and Safety Factor + Serviceability and Functional Obsolescence Factor) / 85

Component F = 15 x [29,778 x 35.4 km] / [320,000 x [(36.2 + 23) / 85]]
= 15 x (1,054,141) / [320,000 x 0.696]
= 70.9%

However, the maximum value Component F can have is 15%, therefore Component F = 15%.

Component G = 2% since the STRAHNET highway designation (1) > 0.

Essentiality for Public Use Factor = 15% - (Comp. F + Comp. G)
= 15% - (15% + 2%)
= -2%

However, the minimum value that any factor can have is 0%, therefore the Essentiality for Public Use Factor = 0%.

Essentiality for Public Use Factor = 0%

Factor #4 – Special Reductions

The Special Reductions factor applies since the three previous factors (structural adequacy and safety, serviceability and functional obsolescence, and essentiality for public use) added together = 59.2% ≥ 50%.

Component H = [Detour Length]^4 x [7.9 x 10^{-9}]
= (35.4 km)^4 x [7.9 x 10^{-9}]
= 0.01%

Component I = 5% since the structure type = 15 (movable lift).

Component J = 0% since all safety features are provided on the bridge.

Special Reductions Factor = Comp. H + Comp. I + Comp. J
= 0.0% + 5% + 0%
= 5%

Special Reductions Factor = 5%

James River Bridge Sufficiency Rating

Sufficiency Rating = Structural Adequacy and Safety Factor +
Serviceability and Functional Obsolescence Factor +
Essentiality for Public Use Factor -
Special Reductions Factor

= 36.2% + 23% + 0% - 5%
= 54.2%

James River Bridge Sufficiency Rating = 54.2%