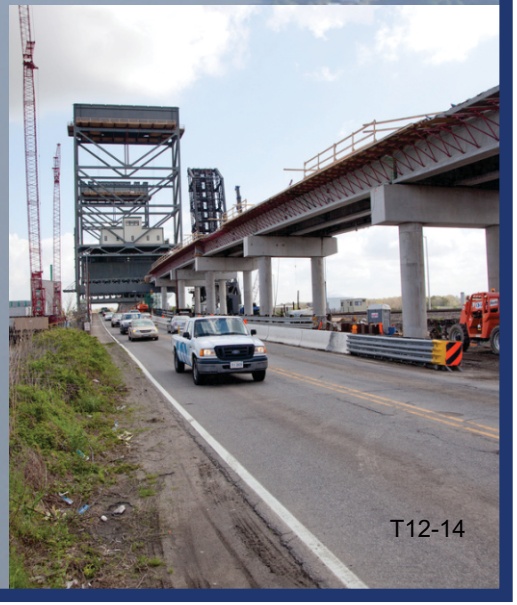
Hampton Roads Regional Bridge Study

2012 Update



the *heartbeat* of HAMPTON ROADS TPO

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HAMPTON ROADS
REGIONAL BRIDGE STUDY

2012 UPDATE

PREPARED BY:

the heartbeat of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

NOVEMBER 2012

TITLE:
Hampton Roads Regional Bridge Study – 2012 Update

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ABSTRACT
Bridges are a prominent part of the Hampton Roads landscape. Because of the importance of bridges to the regional transportation system and concerns about the condition and funding of bridges, the Hampton Roads Transportation Planning Organization in 2007 began analyzing regional bridges. The 2007 *Hampton Roads Regional Bridge Study* for the first time provided a regional analysis of bridge topics such as bridge inspections and ratings, deficient bridges, bridge funding and projects, and the impacts that the closure of major bridges would have on Hampton Roads travel patterns.

This 2012 update of the *Hampton Roads Regional Bridge Study* builds on the previous study. Sections regarding bridge definitions, regional summaries, bridge inspections and ratings, deficient bridges, fracture and scour critical bridges, sufficiency ratings, health indices, bridge funding, and bridge projects are included in this update. In many sections of this report, comparisons are made between the condition of bridges in Hampton Roads and those in other large metropolitan areas throughout the country. Included for the first time in this study is an analysis of the anticipated cost of sustaining bridge connections in Hampton Roads through the year 2040.

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

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INTRODUCTION

Bridges are a prominent part of the Hampton Roads landscape. Major spans such as the Coleman Bridge, James River Bridge, and High Rise Bridge provide a connection between distinct areas of the region. Bridges on the Interstate system create a limited access network designed to improve mobility into and throughout the region. Other bridges provide a grade separation that allows traffic to cross intersections without stopping. And smaller structures such as culverts span the myriad of creeks, swamps, and waterways in our region.

As bridges both in Hampton Roads and throughout the country age, maintaining these structures has been difficult. The costs of constructing bridges can be four to six times higher than typical urban roadway reconstruction costs according to VDOT planning level estimates. This additional cost has contributed to funding not keeping up with bridge maintenance needs. As of 2009, FHWA estimated[1] that $71 billion was needed to address the national backlog of nearly 150,000 deficient bridges.

Because of the importance of bridges to the regional transportation system and concerns about the condition and funding of bridges, the Hampton Roads Transportation Planning Organization in 2007 began analyzing factors impacting regional bridges. The *Hampton Roads Regional Bridge Study* for the first time provided a regional analysis of bridge topics such as bridge inspections and ratings, deficient bridges, bridge funding and projects, and the impacts that the closure of major bridges would have on Hampton Roads travel patterns.

This 2012 update of the *Hampton Roads Regional Bridge Study* builds on the previous study. Sections in this update include:

- **Bridge Definitions** – This section includes the definition of a bridge used in this study and details the different types of bridges.

JAMES RIVER BRIDGE VDOT

- **Regional Bridge Summary** – This section includes summaries of bridges in Hampton Roads by ownership, type of service, length/area, and year built.
- **Bridge Inspections and Ratings** – Based on detailed inspections, bridge inspectors assign ratings to various components of each bridge. This section describes these components and how each of them is rated.
- **Deficient Bridges** – This section describes how bridges become classified as structurally deficient or functionally obsolete and includes a summary of those bridges in Hampton Roads that are deficient. Details are also included on bridges with posted weight limits.
- **Fracture and Scour Critical Bridges** – This section defines fracture critical and scour critical bridges, and details those bridges in Hampton Roads that are classified as fracture or scour critical.
- **Sufficiency Ratings** – Sufficiency ratings are numerical assessments given to each bridge based on a variety of factors. This section describes sufficiency ratings and provides a summary of Hampton Roads bridges with low sufficiency ratings.

[1] FHWA, *Computation of Apportionment of the Highway Bridge Program Funds for Fiscal Year 2009*. Accessed from http://www.fhwa.dot.gov/safetealu/revfy09comptables.pdf.

- **Health Index** – This section details the Bridge Health Index, which is a measure of the physical condition of each bridge that provides a ranking system for bridge maintenance.
- **Bridge Funding** – This section details federal, state, and local bridge funding sources and levels, and upcoming changes to these funding mechanisms.
- **Bridge Projects** – This section includes bridges built and rehabilitated in Hampton Roads over the last decade, and future programmed bridge projects.
- **Cost of Sustaining Bridge Connections Through 2040** – The resources needed to maintain bridges in Hampton Roads will continue to increase as many bridges age beyond their expected life spans in future decades. Regional bridge funding needs out to the year 2040 are examined in this section.
- **Conclusions**
- **Appendices** – The Appendices contain a glossary of bridge terms, definitions of bridge component ratings, a description and example of sufficiency rating calculations, and bridge condition information for each jurisdiction.

In many sections of this report, comparisons are made between the condition of bridges in Hampton Roads and those in other metropolitan areas. These comparisons are made between Hampton Roads and the 34 other metropolitan areas throughout the United States with populations between one and three million people.

The information included in the report is based on HRTPO's analysis of bridge data obtained largely from the Virginia Department of Transportation's (VDOT) Structure and Bridge Division. In addition, data for the 33 federally-maintained bridges in Hampton Roads and bridges in the 34 other comparable metropolitan areas was 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 and rated for each bridge. Over 100 types of information are required by federal regulations for each structure. Examples of information included for each bridge in these databases are bridge location, design type, geometric characteristics, traffic volumes, condition and appraisal ratings, inspection dates, etc.

The bridge data analyzed in this report was obtained in August 2012. The VDOT data represents bridge conditions as of August 2012, and the NBI data represents 2011 conditions. Bridges are inspected on a regular basis, and bridge ratings are constantly updated based on these inspections. As such, bridges may currently have different ratings and classifications than shown in this report due to recent inspections. Up-to-date bridge information and ratings are available on VDOT's bridge website at http://virginiadot.org/info/Bridge.asp and FHWA's NBI website at http://www.fhwa.dot.gov/bridge/nbi.htm.

Bridge Definitions

As part of the Regional Bridge Study, producing a definition of the term "bridge" was necessary to determine which structures to include in the analysis. Hampton Roads Transportation Planning Organization (HRTPO) staff relied on the National Bridge Inspection Standards (NBIS) definition of a bridge, which is used to determine those structures that are included in the National Bridge Inventory (NBI). The NBIS definition of a bridge is as follows:

> "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 between under copings 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."

Using the NBIS definition as a guide, HRTPO staff determined that the following conditions should apply for each bridge to be included in this study:

- **Location** – The bridge must be located on roadways open to the general public. Bridges owned and maintained by local, state, and federal government agencies apply, as do bridges owned and maintained by private operators so long as they are open for public use. Bridges located within the security perimeter of military bases are not included in this study, although they are generally included in the NBI.
- **Length** – The bridge must be more than 20 feet (6.1 meters) in length per the NBIS. Culverts are included, so long as the opening in the culvert is more than 20 feet in length.
- **Service** – The bridge must carry a roadway. Structures that carry only railroad or pedestrian traffic are not covered by NBIS regulations and are not included in this study.
- **Tunnels** – Tunnels are not considered bridges by the NBIS. Information regarding Hampton Roads tunnels and tunnel inspection procedures are included in this study, but tunnels are not included in report statistics since many of the metrics used to measure bridge conditions do not apply to tunnels.

Bridge Types

Bridges vary greatly in design, from small culverts to mile long suspension bridges. FHWA uses 22 classes to categorize structures based on the predominant type of design and construction. **Figure 1** on page 4 describes each bridge type and includes the number of each type of bridge in Hampton Roads.


James River Bridge VDOT

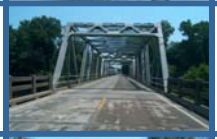
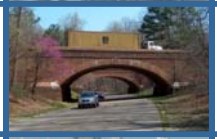
1 - SLAB 99 bridges		A slab bridge is a structure where the slab serves as both the superstructure and the deck of the bridge. This type of bridge is well-suited for shorter spans.	13 - SUSPENSION 0 bridges		A suspension bridge is a structure where the deck is supported by cables. These cables transfer loads over two towers to anchorages at either end of the bridge.
2 – STRINGER/ MULTI-BEAM OR GRIDER 802 bridges		This type of bridge uses three or more parallel beams or girders that transfer the load between the deck and the substructure. This type of bridge is commonly used on the Interstate system.	14 – STAYED GIRDER 0 bridges		A stayed girder bridge is a structure where the deck is supported by cables that are attached to one or more towers.
3 – GIRDER AND FLOORBEAM SYSTEM 7 bridges		This type of bridge uses two girders parallel to the roadway, with the deck on top of floorbeams that are connected to the griders. The roadway can be located either above or through the griders.	15 – MOVABLE - LIFT 1 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.
4 – TEE BEAM 42 bridges		A tee beam bridge is similar to other beam bridges except that the concrete beams are shaped in the form of a "T". Other beam bridges are typically shaped in the form of an "I".	16 – MOVABLE - BASCULE 7 bridges		A movable bascule bridge is a type of bridge where portions of the bridge deck rotate upward to allow for passage below.
5/6 – BOX BEAM OR GIRDER 43 bridges		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.	17 – MOVABLE - SWING 4 bridges		A movable swing bridge is a type of bridge where segments of the bridge deck rotate horizontally to allow for passage below.
7 - FRAME 3 bridges		A frame bridge is a structure where the piers and deck are one integrated solid structure.	18 - TUNNEL 10 total*		Tunnels are underground roadway passages. 8 tunnels in Hampton Roads are underwater crossings, plus tunnels at Naval Station Norfolk and Colonial Williamsburg. * - Tunnels are not included in the statistics shown throughout this study.
9 – DECK TRUSS 0 bridges		A truss bridge (which is a simple skeletal structure that uses a series of triangles to transfer loads from the deck to the piers) where the roadway surface is located above the truss.	19 - CULVERT 195 total (only those >20′)		A culvert is a channel that allows water to flow under a roadway. Culverts are often used for smaller streams and drainage canals.
10 – THROUGH TRUSS 3 bridges		A truss bridge where the deck is located below the truss and traffic travels through the truss system.	21 – SEGMENTAL BOX GIRDER 2 bridges		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.
11 – DECK ARCH 10 bridges		An arch bridge (which is a bridge that spans an opening with a curved structure member) where the roadway surface is located above the arch.	22 – CHANNEL BEAM 0 bridges		A channel beam bridge is constructed with precast beams that resemble inverted channels. They are similar in appearance to tee beam bridges.
12 – THROUGH ARCH 3 bridges		An arch bridge where the deck is hung from a segment of the arch that rises above the deck.	UNCLASSIFIED 2 bridges		

FIGURE 1 - BRIDGE TYPES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. Definitions of terms used in this figure are included in Appendix A.

REGIONAL BRIDGE SUMMARY

This section includes a summary of bridges in Hampton Roads, and comparisons between bridges in Hampton Roads and bridges in other metropolitan areas. Topics described in this section include:

- **Total Bridges**
- **Bridges by Ownership**
- **Bridges by Type of Service**
- **Bridges by Length/Area**
- **Bridges by Age**

REGIONAL BRIDGE SUMMARY

Total bridges in Hampton Roads, and Hampton Roads rank among comparable metropolitan areas in terms of total bridges	1,223 25th highest of 35 areas
Total area of bridges in Hampton Roads, and Hampton Roads rank among comparable metropolitan areas in terms of total bridge area	2,621,997m^2 8th highest of 35 areas
Median age of bridges in Hampton Roads, and Hampton Roads rank among comparable metropolitan areas in terms of median bridge age	37 years 21st highest of 35 areas

TOTAL BRIDGES

Based on the definition of a bridge described in the previous section, there are a total of 1,223 bridges in Hampton Roads[2] as of August 2012. This number does not include bridges and culverts shorter than or equal to 20 feet in length, bridges on private property, locations that are not open to the general public such as military bases, pedestrian and railroad overpasses that are not shared by a roadway, and tunnels.

As shown in **Figure 1** on the previous page, the most prevalent structure type in Hampton Roads is beam or girder bridges, comprising 802 (66%) of all bridges as defined in this study. Culverts are the second most common type of structure in Hampton Roads, comprising 195 bridges (16%).

Compared to other metropolitan areas, Hampton Roads has fewer bridges. Among 35 comparable metropolitan areas with populations between one and three million people, Hampton Roads ranks 25th highest in terms of total bridges (**Figure 2**). Some areas, such as Kansas City and St. Louis, have more than four times as many bridges as Hampton Roads.

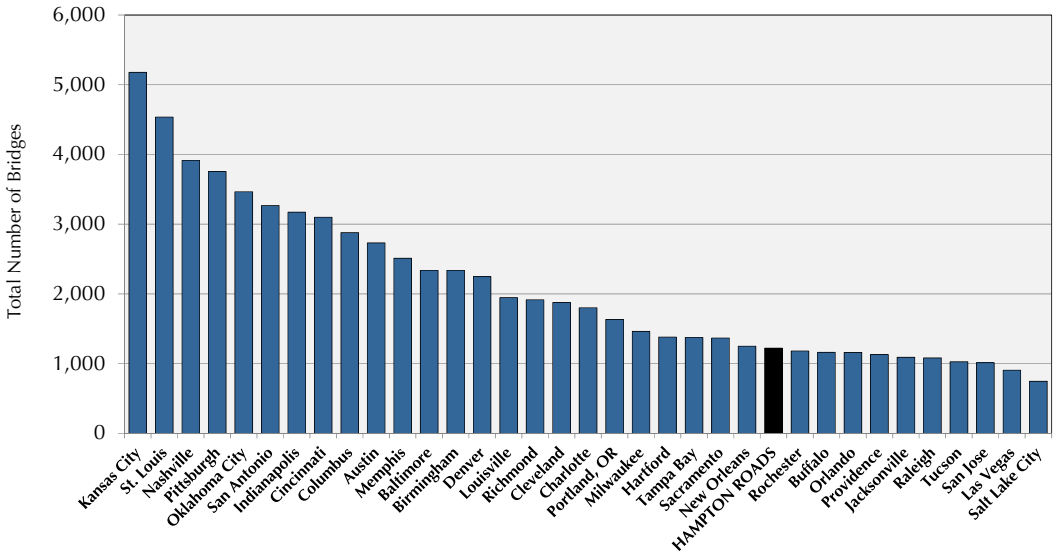


FIGURE 2 – TOTAL BRIDGES IN COMPARABLE METROPOLITAN AREAS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.

[2] "Hampton Roads" in this study includes areas within the HRTPO boundary, rural areas included in the Hampton Roads Planning District Commission, and structures on the boundaries with adjacent areas.

Bridges by Ownership

Bridges in Hampton Roads are owned and maintained by various jurisdictions. Bridges that are part of the Interstate system and bridges that are located in counties are mostly owned and maintained by the Virginia Department of Transportation (VDOT). Bridges located within cities (except for bridges on the Interstate system) are generally owned and maintained by those cities. The Federal Government also owns and maintains bridges in Hampton Roads via the National Park System (such as bridges on the Colonial Parkway, Jamestown Island Tour Road, and Yorktown Battlefield Tour Road) and the Army Corps of Engineers (two drawbridges). A few bridges are also owned and maintained by the private sector or state commissions, such as the South Norfolk Jordan Bridge and the Chesapeake Bay Bridge-Tunnel.

Of the 1,223 bridges in Hampton Roads, 768 (63%) are owned and maintained by VDOT (**Figure 3**). Cities own and maintain 405 bridges (33%), the Federal Government owns and maintains 33 bridges (3%), 12 bridges are part of the Chesapeake Bay Bridge-Tunnel, and the remaining 5 bridges are owned by the private sector.

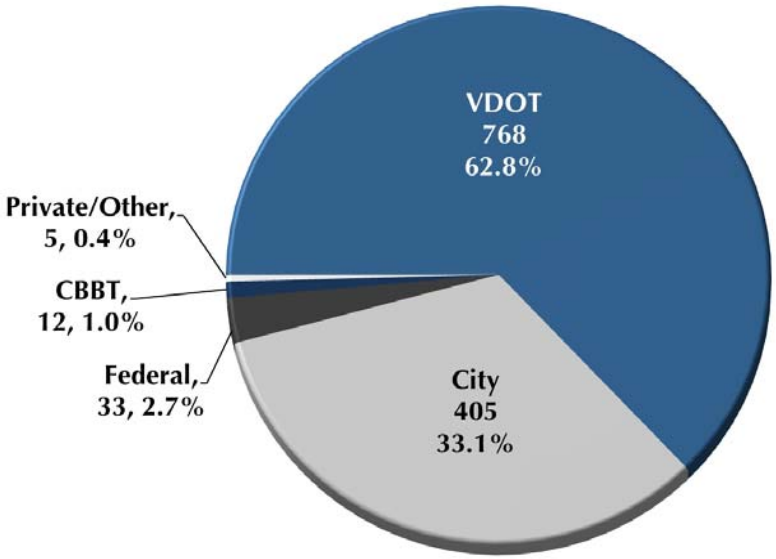


Figure 3 – Hampton Roads Bridges by Ownership

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Bridges by Type of Service

Figure 4 shows the number and percentage of bridges in Hampton Roads by what they span, which is also referred to as type of service. Due to the topography of Hampton Roads, the majority of bridges in the region span waterways. Of the 1,223 bridges in Hampton Roads, 730 bridges (60%) involve roadways spanning a waterway. Roadways spanning over other roadways comprise 452 bridges (37%) in Hampton Roads.

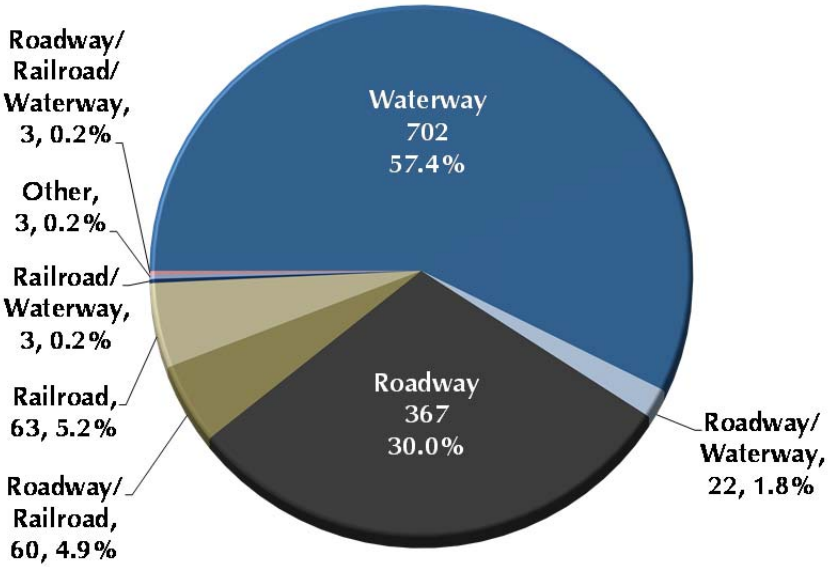


Figure 4 – Bridges in Hampton Roads by Type of Service

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Bridges by Length/Area

Although the number of bridges in Hampton Roads is low compared to other metropolitan areas, bridges in Hampton Roads are typically much longer than those in other areas. In fact, among the 35 metropolitan areas in the United States with populations between one and three million people, Hampton Roads has the second longest average bridge length behind only New Orleans.

The 1,223 bridges in Hampton Roads span 565,000 feet, or an average of 460 feet for each bridge. At over 107 miles, if bridges in Hampton Roads were laid end to end, they would stretch all the way from the Virginia Beach Oceanfront to the west side of Richmond.

Due to these long bridges, the total area of bridges in Hampton Roads is high. The total deck area of bridges in Hampton Roads is 28,227,000 square feet, or 2,622,000 square meters, as of August 2012. This ranks Hampton Roads 8th highest among the 35 comparable metropolitan areas (**Figure 5**). Since bridge maintenance costs are significantly higher than typical roadway maintenance costs, the high total bridge area compared to other metropolitan areas means more funding is needed in Hampton Roads to maintain these structures.

Bridges by Age

Aging infrastructure is a concern throughout the United States, whether it is power grids, dams, drinking water systems, or highways. Bridges are no exception – the median bridge age in the United States is 40 years as of 2011, and nearly one out of every three bridges in the country is more than 50 years old. In Virginia, the median bridge age is 41 years according to federal data, slightly higher than the national figure.

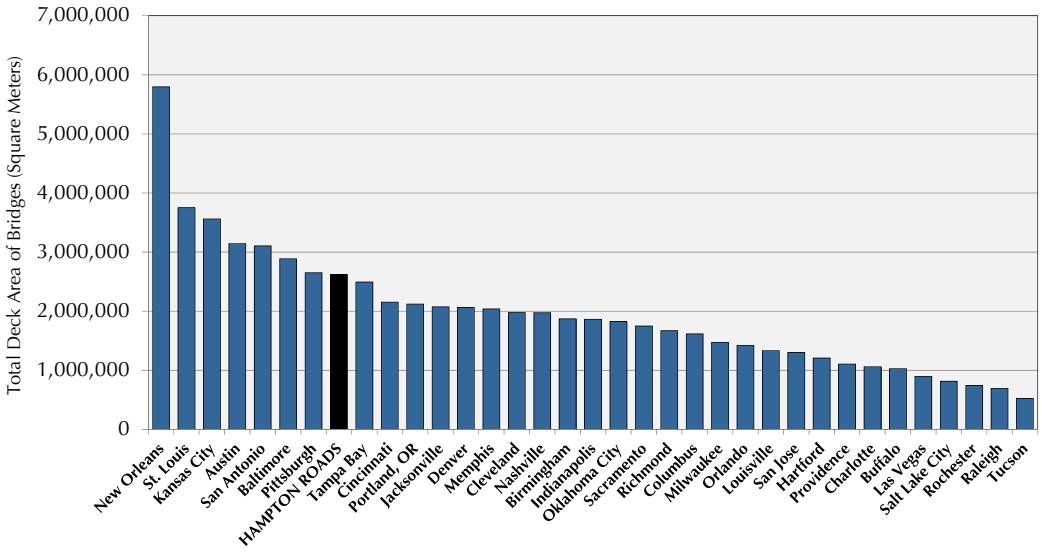


Figure 5 – Total Bridge Area in Comparable Metropolitan Areas

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.

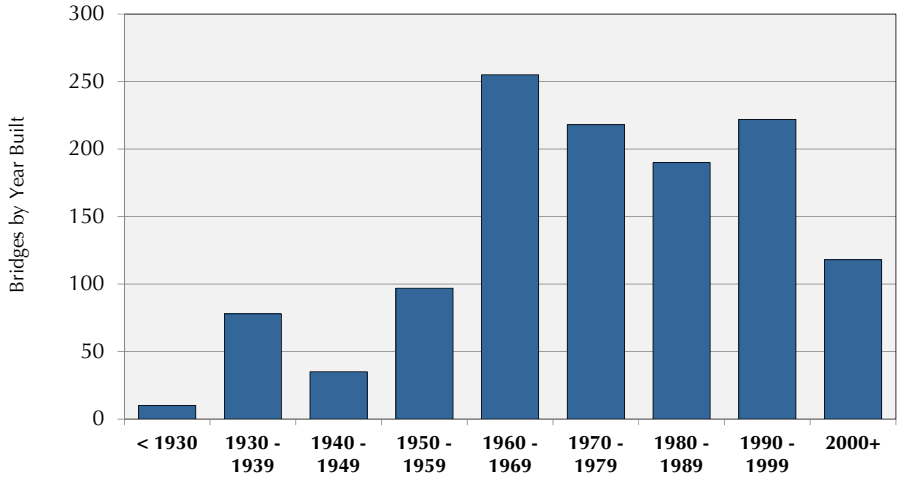


Figure 6 – Bridges in Hampton Roads by Year Built

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Bridges in Hampton Roads are not as old as national and statewide structures, with the median bridge age in Hampton Roads being 37 years as of August 2012. However, many bridges in Hampton Roads are much older, with 88 bridges built prior to 1940, 35 bridges built between 1940 and 1949, and 97 bridges built between 1950 and 1959 (**Figure 6** on page 7). Combined, one out of every six bridges in Hampton Roads (18%) was built prior to 1960.

Table 1 shows bridges by year built for each jurisdiction in Hampton Roads. Williamsburg has the highest median bridge age of any Hampton Roads jurisdiction at 52 years. Surry County, Gloucester County, York County, Southampton County/Franklin, and Isle of Wight County all have median bridge ages greater than 40 years.

The age of bridges in Hampton Roads is slightly lower than those in other metropolitan areas. Among the 35 comparable metropolitan areas in the United States with populations between one and three million people, Hampton Roads ranked 21st highest in median bridge age in 2011 (**Figure 7**).

Jurisdiction	Total Number of Bridges	Number of Bridges by Year Built									Median Bridge Age (Years)
		Prior to 1930	1930 - 1939	1940 - 1949	1950 - 1959	1960 - 1969	1970 - 1979	1980 - 1989	1990 - 1999	2000-2012	
CHESAPEAKE	166	-	7	2	3	21	16	39	46	32	25
GLOUCESTER	24	-	5	2	3	4	5	-	3	2	48.5
HAMPTON	83	1	2	-	15	6	10	35	3	11	29
ISLE OF WIGHT	85	-	3	10	20	8	14	8	14	8	42
JAMES CITY	62	-	7	2	9	5	19	-	16	4	37
NEWPORT NEWS	87	1	4	1	2	24	3	22	24	6	27
NORFOLK	188	-	1	3	7	56	49	26	43	3	38
POQUOSON	0	-	-	-	-	-	-	-	-	-	-
PORTSMOUTH	41	-	-	1	2	14	4	4	4	12	34
SOUTHAMPTON/FRANKLIN	138	3	24	4	7	31	31	18	13	7	42.5
SUFFOLK	135	3	4	8	11	18	36	14	24	17	38
SURRY	32	1	8	-	7	5	6	1	2	2	50.5
VIRGINIA BEACH	118	-	3	-	1	43	13	22	26	10	33
WILLIAMSBURG	12	-	4	1	1	1	3	-	1	1	52
YORK	52	1	6	1	9	19	9	1	3	3	47
HAMPTON ROADS	**1,223**	**10**	**78**	**35**	**97**	**255**	**218**	**190**	**222**	**118**	**37**

TABLE 1 – BRIDGES IN HAMPTON ROADS JURISDICTIONS BY YEAR BUILT

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

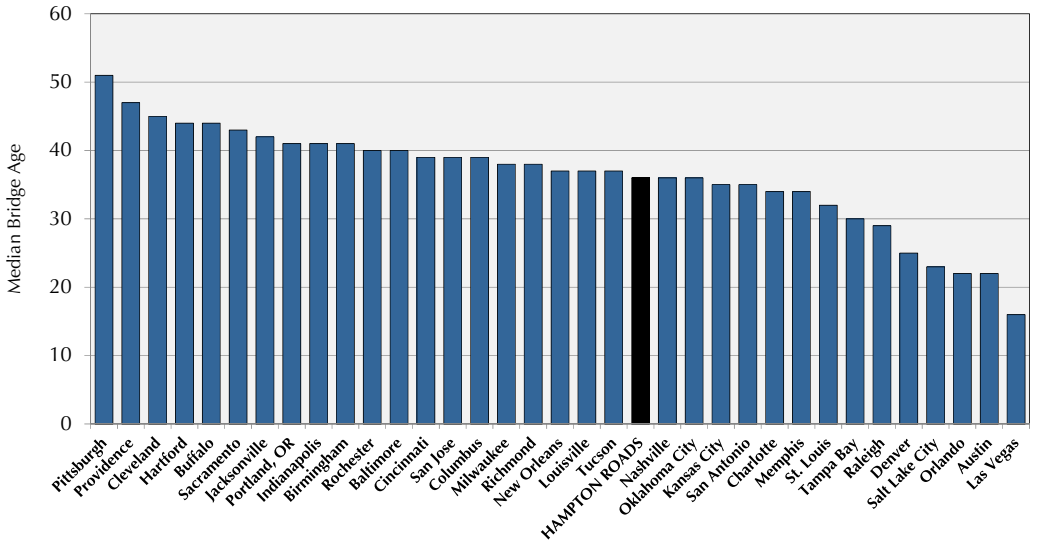


FIGURE 7 – MEDIAN BRIDGE AGE IN COMPARABLE METROPOLITAN AREAS

Source: HRTPO analysis of VDOT and FHWA data. Data represents median age as of 2011 for all areas including Hampton Roads. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.

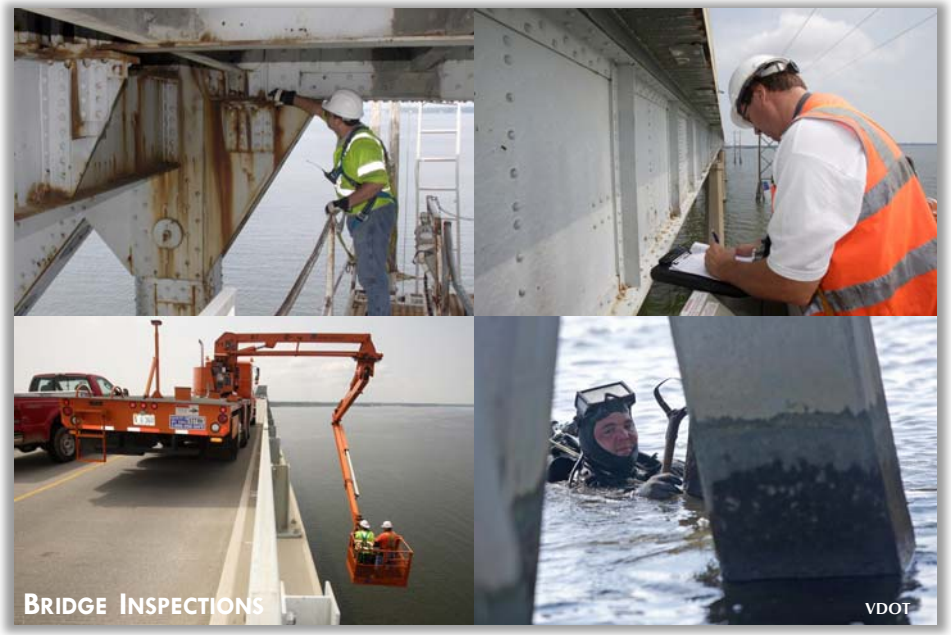
Bridge Inspections and Ratings

Bridges must be inspected on a regular basis to ensure that they can safely remain in use. Bridges throughout Virginia and the United States are inspected based on the National Bridge Inspection Standards (NBIS). In accordance with federal law, the NBIS sets the national standards for the proper inspection and evaluation of all highway bridges included in the National Bridge Inventory (NBI). These standards include bridge inspection procedures, frequency of inspections, the components that must be inspected, qualifications of bridge inspectors, and reporting procedures.

Federal law currently requires that inspections be performed on most bridges at least once every two years. Certain bridges, based on their condition or design, are inspected more frequently. For example, bridges that are classified as structurally deficient or fracture critical (both of which are described later in this report) are inspected on an annual basis to assure they can remain in service. Underwater inspections are also performed at least once every five years on those structures where it is necessary.

In Virginia, VDOT is responsible for the inspections of VDOT-maintained bridges, while cities are responsible for inspecting bridges that they maintain within their boundaries. VDOT conducts over 10,000 bridge inspections each year on state-maintained structures. To conduct these inspections, VDOT employs more than 100 people and also uses qualified consultants. VDOT spends approximately $18 million annually to conduct these inspections on state-maintained bridges throughout Virginia.

Inspections on city-maintained bridges are also done in accordance with National Bridge Inspection Standards, with VDOT District Structure and Bridge Engineers being responsible to ensure that bridge inspection requirements are met by each city. Although VDOT does not provide funding specifically for bridge inspections, Urban Maintenance Program funds can be used for each city's bridge inspection costs.



In each inspection, bridge inspectors measure and observe various components of each bridge. Based on these measurements and observations, bridge inspectors assign multiple ratings to describe the existing condition of each bridge. These ratings are divided into general condition ratings and appraisal ratings.

General condition ratings are used to assess the physical condition of the existing structure. 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.

Each of these 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. For culverts, a single rating is given in place of the deck, superstructure, and substructure ratings to assess the 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 bridge is compared to a structure that is built to current design standards for that type of roadway. Appraisal ratings are given to each bridge for the following items:

- **Structural Evaluation** – This rating is generally equal to the lowest condition rating among the superstructure and substructure ratings. The structural evaluation rating, however, can be lower based on the capacity of the bridge and the volume of traffic it carries. The structural evaluation rating is also called the structural condition rating.
- **Deck Geometry** – The width of the bridge as well as the vertical clearance over the bridge roadway.
- **Vertical and Lateral Underclearances** – The height from the transversed roadway to the bottom of the structure, and the horizontal distance between the transversed roadway and the bridge supports.
- **Waterway Adequacy** – The ability of the bridge opening to allow water to flow through the passage, 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 roadway alignment for the section of roadway that the bridge is located on.

Similar to general condition ratings, each appraisal rating item is rated by the bridge inspector from 0 to 9, with 9 representing an item in excellent condition and 0 representing a closed bridge.

These general condition and appraisal ratings are used in a variety of ways. Based on these ratings, bridges are classified as structurally deficient or functionally obsolete, sufficiency ratings are calculated, funding levels are determined, and potential bridge projects are prioritized.

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

On July 6, 2012, a new federal surface transportation funding and authorization bill was signed into law. The Moving Ahead for Progress in the 21st Century Act (MAP-21) includes various regulations that aim to improve the existing highway bridge inspection program. These regulations include inspections and inventory of all highway bridges on public roads, collecting element level data for bridges on the National Highway System, creating data risk based inspections and inspection intervals, establishing procedures for reporting critical findings, requiring inspector training certifications, and establishing minimum standards for statewide bridge conditions.

MAP-21 also establishes a National Tunnel Inventory, which will be similar to the existing National Bridge Inventory. The law authorizes national tunnel inspection standards, which will require the development of a training program for tunnel inspectors.

Guidance regarding these new regulations will be issued by federal agencies in future months. Deadlines, however, are established in MAP-21 for certain requirements. More detailed data regarding the condition of each bridge on the National Highway System must be reported within two years of the enactment of MAP-21 (October 1, 2014). As part of this requirement, federal officials will also conduct a study regarding the implications of collecting this detailed data for bridges that are not on the National Highway System. New rules regarding the methodology and frequency of bridge and tunnel inspections must be established within three years of the enactment of MAP-21 (October 1, 2015), as must rules regarding the training and qualifications of bridge inspectors.

More information regarding MAP-21 is included in the Bridge Funding section of this report.

DEFICIENT BRIDGES

Bridges can be considered deficient for a variety of reasons. Some bridges are deficient based on the condition of elements of the bridge, while others are deficient based on the bridge's design. This section includes the following topics regarding deficient bridges:

- **Structurally Deficient** – This section details how bridges become classified as structurally deficient, those bridges in Hampton Roads that are classified as structurally deficient, and how Hampton Roads compares to other metropolitan areas in terms of structurally deficient bridges.
- **Functionally Obsolete** – This section details how bridges become classified as functionally obsolete, those bridges in Hampton Roads that are classified as functionally obsolete, and how Hampton Roads compares to other metropolitan areas in terms of functionally obsolete bridges.
- **Deficient Bridges** – This section details all deficient bridges, which is defined as the combination of structurally deficient bridges and functionally obsolete bridges. Federal bridge funding levels are impacted by this number of deficient bridges.
- **Weight-posted Bridges** – This section includes a summary of those structures in Hampton Roads that have weight limits posted so that they can safely remain in service, and how the percentage of weight-posted bridges in Hampton Roads compares to other metropolitan areas.

In addition to the deficient bridges included in this section, two prominent bridges in Hampton Roads have been closed due to their deteriorated condition. More information on these two structures—the Jordan Bridge and Kings Highway Bridge—is included in **Appendix E**.

CENTERVILLE TURNPIKE BRIDGE HRTPO

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 eventually need to be rehabilitated or replaced to address deficiencies.

In spite of these deficiencies, **structurally deficient bridges are not necessarily unsafe. Bridge inspectors will close or impose weight limits on bridges they feel are unsafe**. In order to assure the safety of structurally deficient bridges, they are inspected more frequently (generally on an annual basis) and more thoroughly than other bridges.

Bridges are classified as structurally deficient if at least one of the following conditions is true:

Component	Rating
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, regardless of the condition of the bridge. This stipulation, known as the Ten Year Rule, prevents a bridge from continuing to receive federal funding after major reconstruction as described further in the Bridge Funding section of this report. None of the bridges built or reconstructed within the last ten years in Hampton Roads would qualify as structurally deficient.

STRUCTURALLY DEFICIENT BRIDGES SUMMARY

- **Bridges in Hampton Roads that are classified as structurally deficient** — **77/6.3%** (54/4.4% in 2007)
- **Hampton Roads rank among comparable metropolitan areas in terms of the percentage of bridges that are classified as structurally deficient** — **25th highest of 35 areas**

LESNER BRIDGE HRTPO

There are a total of 77 bridges in Hampton Roads classified as structurally deficient as of August 2012. These bridges are shown **in Table 3** on pages 14 and 15 and in **Map 1** on page 27. Among the most traveled structurally deficient bridges in Hampton Roads are the Churchland Bridge (High Street over the Western Branch of the Elizabeth River), the Denbigh Boulevard bridge over I-64, the I-264 bridge over Lynnhaven Parkway, the eastbound and westbound Lesner Bridge (Shore Drive), and one of the eastbound bridges at the Hampton Roads Bridge-Tunnel.

Table 2 shows structurally deficient bridges in Hampton Roads by jurisdiction and maintenance responsibility. Suffolk (18 bridges) and Southampton County (16 bridges) have the highest number of structurally deficient bridges; nearly half of all structurally deficient bridges in the region are located in these two localities.

The 77 bridges that are classified as structurally deficient comprise 6.3% of the 1,223 bridges in Hampton Roads. This is lower than the 8.9% of NBI bridges throughout Virginia that are structurally deficient as of August 2012 and the 8% statewide goal that VDOT has established[3]. This percentage is also lower than the percentage seen in other metropolitan areas throughout the country. Among the 35 metropolitan areas with populations between one and three million people, Hampton Roads has the 25th highest percentage of bridges that are classified as structurally deficient (**Figure 8**).

The number of structurally deficient bridges in Hampton Roads has increased since the previous Regional Bridge Study. In August 2007, 54 bridges were classified as structurally deficient, comprising 4.4% of all bridges in Hampton Roads. Of these 54 bridges, 28 were still classified as structurally deficient in August 2012.

[3] Virginia Dept. of Transportation, *State of the Structures & Bridges Report*, July 2011.

Jurisdiction	Total Number of Bridges	Structurally Deficient Bridges		Maintenance Responsibility		
		Number	Percentage	Locality	VDOT	Other
CHESAPEAKE	166	7	4.2%	7	-	-
GLOUCESTER	24	7	29.2%	-	7	-
HAMPTON	83	3	3.6%	1	1	1
ISLE OF WIGHT	85	9	10.6%	-	9	-
JAMES CITY	62	2	3.2%	-	2	-
NEWPORT NEWS	87	2	2.3%	1	1	-
NORFOLK	188	3	1.6%	1	2	-
POQUOSON	0	0	-	-	-	-
PORTSMOUTH	41	2	4.9%	2	-	-
SOUTHAMPTON/FRANKLIN	138	16	11.6%	-	15	1
SUFFOLK	135	18	13.3%	18	-	-
SURRY	32	2	6.3%	-	2	-
VIRGINIA BEACH	118	5	4.2%	4	1	-
WILLIAMSBURG	12	0	0.0%	-	-	-
YORK	52	1	1.9%	-	-	1
HAMPTON ROADS	**1,223**	**77**	**6.3%**	**34 (8.4%)**	**40 (5.2%)**	**3 (6.0%)**

TABLE 2 – STRUCTURALLY DEFICIENT BRIDGES IN HAMPTON ROADS BY JURISDICTION AND MAINTENANCE RESPONSIBILITY

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

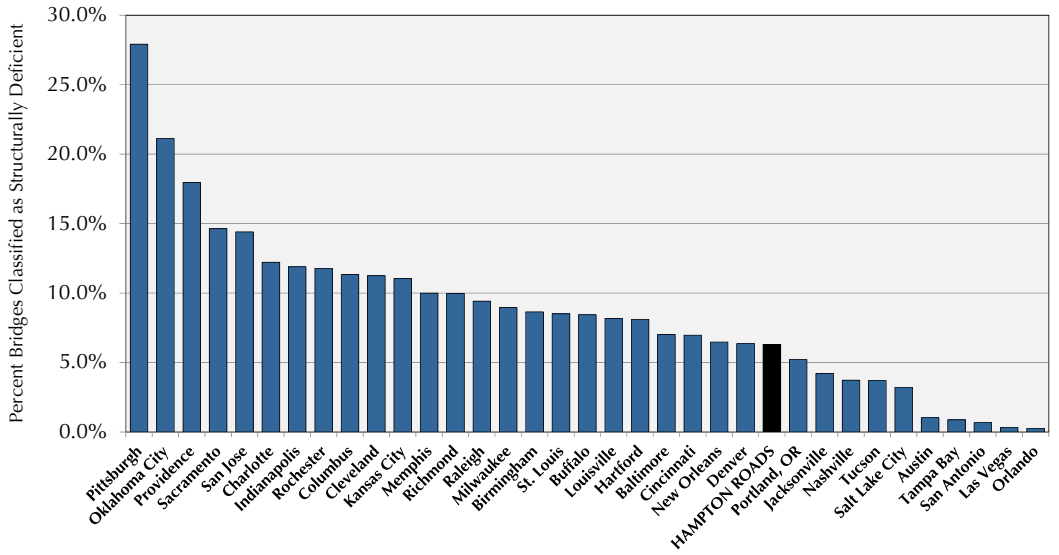


FIGURE 8 – STRUCTURALLY DEFICIENT BRIDGES IN COMPARABLE METROPOLITAN AREAS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership	Deck Condition Rating	Super-Structure Condition Rating	Sub-Structure Condition Rating	Culvert Condition Rating	SD in 2007?
CHESAPEAKE	21879	166	22ND STREET	SEABOARD AVENUE & NS R/R	1938	-	City	4	3	4	N	YES
CHESAPEAKE	21797	-	CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL	1955	1990	City	6	4	6	N	NO
CHESAPEAKE	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER	1938	1958	City	4	3	5	N	YES
CHESAPEAKE	21799	-	INDIAN CREEK ROAD	INDIAN CREEK	1972	-	City	6	7	4	N	YES
CHESAPEAKE	21827	13	MILITARY HIGHWAY	BAINBRIDGE BLVD & NS R/R	1948	1960	City	4	4	5	N	YES
CHESAPEAKE	21830	13	MILITARY HIGHWAY	NORFOLK SOUTHERN R/R	1938	-	City	3	5	5	N	YES
CHESAPEAKE	21937	460	RAMP TO BAINBRIDGE BLVD & NS R/R	BAINBRIDGE BLVD	1948	1960	City	6	4	6	N	NO
GLOUCESTER	10588	14	ADNER ROAD	PORPOTANK CREEK	1938	-	VDOT	4	5	5	N	NO
GLOUCESTER	8552	662	ALLMONDSVILLE ROAD	FOX CREEK	1937	-	VDOT	7	4	5	N	NO
GLOUCESTER	8535	602	BURKE'S POND ROAD	BURKES POND	1940	-	VDOT	6	4	4	N	YES
GLOUCESTER	8545	627	CUNNINGHAM LANE	WILSON CREEK	1963	-	VDOT	6	4	4	N	YES
GLOUCESTER	8533	198	DUTTON ROAD	HARPER CREEK	1941	-	VDOT	4	5	7	N	NO
GLOUCESTER	8538	610	OLD PINETTA ROAD	BLAND CREEK	1960	-	VDOT	7	4	5	N	NO
GLOUCESTER	8548	641	TIDEMILL ROAD	NORTHWEST BR SARAH CREEK	1974	-	VDOT	7	4	6	N	NO
HAMPTON	J50170	-	BETHEL PARK RD	BETHEL RESERVOIR	1935	-	Federal	5	4	4	N	NO
HAMPTON	20294	-	BRIDGE STREET	SALTERS CREEK	1934	1996	City	4	5	5	N	YES
HAMPTON	20352	64	HAMPTON ROADS BRIDGE-TUNNEL EB	HAMPTON ROADS	1974	-	VDOT	5	4	6	N	NO
ISLE OF WIGHT	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R	1936	1956	VDOT	3	3	4	N	YES
ISLE OF WIGHT	10427	646	GARRISON DRIVE	BURNT MILL SWAMP	1945	1978	VDOT	5	5	7	N	YES
ISLE OF WIGHT	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK	1945	-	VDOT	7	4	6	N	NO
ISLE OF WIGHT	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH	1945	-	VDOT	6	4	6	N	YES
ISLE OF WIGHT	10416	637	ORBIT ROAD	CARBELL SWAMP	1972	-	VDOT	N	N	N	4	NO
ISLE OF WIGHT	10371	258	ROUTE 258	CHAMPION SWAMP	1932	1976	VDOT	5	5	4	N	YES
ISLE OF WIGHT	10438	680	STALLINGS CREEK DRIVE	STALLINGS CREEK	1952	-	VDOT	6	4	5	N	NO
ISLE OF WIGHT	10445	692	UZZELL CHURCH ROAD	CHAMPION SWAMP	1951	1979	VDOT	5	4	4	N	NO
ISLE OF WIGHT	29488	662	WHIPPINGHAM PARKWAY	RAGGED ISLAND CREEK	1970	-	VDOT	N	N	N	4	NO
JAMES CITY	24057	31	GLASS HOUSE FERRY	JAMES RIVER	1994	1995	VDOT	6	4	5	N	NO
JAMES CITY	10476	31	JAMESTOWN ROAD	POWHATAN CREEK	1957	-	VDOT	5	5	4	N	NO
NEWPORT NEWS	20727	173	DENBIGH BLVD	I-64 & CSX R/R	1965	1977	VDOT	5	5	4	N	YES
NEWPORT NEWS	20679	60	WARWICK BLVD	LAKE MAURY	1931	1960	City	5	4	5	N	YES
NORFOLK	20858	64	I-64 EB	NORTHAMPTON BLVD	1967	1977	VDOT	5	4	5	N	NO
NORFOLK	20856	64	I-64 EB RAMP	NORTHAMPTON BLVD	1967	-	VDOT	6	4	6	N	NO
NORFOLK	20939	168	TIDEWATER DRIVE	NORFOLK SOUTHERN R/R	1960	-	City	5	4	6	N	NO
PORTSMOUTH	21199	17	HIGH STREET	W BR ELIZABETH RIVER	1951	1975	City	5	5	4	N	YES
PORTSMOUTH	21217	239	VICTORY BLVD	PARADISE CREEK	1944	-	City	5	5	4	N	NO
SOUTHAMPTON	17785	615	ADAMS GROVE ROAD	BROWNS BRANCH	1932	-	VDOT	5	4	5	N	NO
SOUTHAMPTON	17821	640	BEREA CHURCH ROAD	BRANCH	1932	-	VDOT	7	7	4	N	YES
SOUTHAMPTON	17841	653	CARYS BRIDGE ROAD	NOTTOWAY RIVER	1954	-	VDOT	5	5	4	N	NO
SOUTHAMPTON	17854	665	CROSS KEYS ROAD	DEAL SWAMP	1975	-	VDOT	N	N	N	4	NO
SOUTHAMPTON	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER	1960	-	VDOT	4	4	4	N	NO

TABLE 3 – STRUCTURALLY DEFICIENT BRIDGES IN HAMPTON ROADS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership	Deck Condition Rating	Super-Structure Condition Rating	Sub-Structure Condition Rating	Culvert Condition Rating	SD in 2007?
SOUTHAMPTON	17812	634	INDIAN BRANCH LANE	INDIAN BRANCH	1932	-	VDOT	5	4	5	N	NO
SOUTHAMPTON	9139	730	LITTLE TEXAS ROAD	MEHERRIN RIVER	1953	-	VDOT	7	5	4	N	NO
SOUTHAMPTON	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER	1929	-	VDOT	4	4	5	N	NO
SOUTHAMPTON	17845	657	OLD PLACE ROAD	TARRARA CREEK	1988	-	VDOT	N	N	N	4	NO
SOUTHAMPTON	17773	609	POPES STATION ROAD	BRANCH	1979	-	VDOT	N	N	N	4	NO
SOUTHAMPTON	17727	35	ROUTE 35	TARRARA CREEK	1946	-	VDOT	4	4	4	N	NO
SOUTHAMPTON	17729	58	ROUTE 58 EB	NOTTOWAY SWAMP	1930	1978	VDOT	6	6	4	N	YES
SOUTHAMPTON	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	1940	1962	VDOT	5	4	4	N	YES
SOUTHAMPTON	17853	663	THE HALL ROAD	FLAT SWAMP	1968	-	VDOT	7	7	4	N	YES
SOUTHAMPTON	17757	308	THREE CREEK ROAD	THREE CREEK	1948	-	VDOT	4	4	5	N	YES
SOUTHAMPTON	17813	635	TUCKER SWAMP ROAD	NORFOLK SOUTHERN R/R	1915	-	Other	5	4	5	N	NO
SUFFOLK	22131	643	ARTHUR DRIVE	LANGSTON SWAMP	1945	-	City	6	6	6	N	NO
SUFFOLK	22130	643	ARTHUR DRIVE	SPIVEY SWAMP	1960	-	City	5	5	5	N	NO
SUFFOLK	22154	674	BADGER ROAD	WASHINGTON DITCH	1945	-	City	5	5	5	N	NO
SUFFOLK	22139	662	BOX ELDER ROAD	NORFLEETS SWAMP	1958	1994	City	7	5	6	N	NO
SUFFOLK	22027	32	CAROLINA ROAD	CYPRESS SWAMP	1924	1972	City	5	4	5	N	YES
SUFFOLK	22110	613	ELWOOD ROAD	KINGSALE SWAMP	1962	-	City	5	5	6	N	NO
SUFFOLK	22148	668	FREEMAN MILL ROAD	SPIVEY SWAMP	1954	1976	City	6	4	6	N	NO
SUFFOLK	22121	639	LAKE CAHOON ROAD	SBD SYS & NS R/R	1962	1974	City	4	5	6	N	YES
SUFFOLK	22137	660	LONGSTREET LANE	SOMERTON CREEK	1968	-	City	6	4	4	N	NO
SUFFOLK	22132	643	MANNING BRIDGE ROAD	STREAM	1945	-	City	4	5	5	N	NO
SUFFOLK	22111	616	MINERAL SPRINGS ROAD	JONES SWAMP	1955	1977	City	5	4	5	N	NO
SUFFOLK	22091	337	NANSEMOND PARKWAY	BEAMONS MILL POND	1920	-	City	5	4	5	N	YES
SUFFOLK	22105	607	OLD MILL ROAD	COHOON CREEK	1955	1981	City	5	4	6	N	NO
SUFFOLK	22150	668	PITTMANTOWN ROAD	MILL SWAMP	1950	-	City	6	5	7	N	NO
SUFFOLK	22151	669	ROBBIE ROAD	MILL SWAMP	1955	-	City	5	5	4	N	YES
SUFFOLK	22107	608	SIMONS DRIVE	COHOON CREEK	1945	-	City	7	4	5	N	NO
SUFFOLK	22138	661	SOUTHWESTERN BLVD	CHAPEL SWAMP	1956	-	City	5	5	5	N	NO
SUFFOLK	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY	1957	-	City	5	4	5	N	YES
SURRY	18187	604	GOODRICH FORK ROAD	TERRAPIN SWAMP	1932	-	VDOT	7	5	4	N	NO
SURRY	18304	603	THREE BRIDGES ROAD	BLACKWATER RIVER	1932	-	VDOT	5	4	5	N	NO
VA BEACH	22228	264	I-264	LYNNHAVEN PARKWAY	1967	1986	VDOT	7	4	5	N	NO
VA BEACH	22252	58	LASKIN ROAD	LINKHORN BAY	1938	1956	City	5	4	4	N	YES
VA BEACH	22260	60	SHORE DRIVE EB	LYNNHAVEN INLET	1958	-	City	6	4	5	N	YES
VA BEACH	22264	60	SHORE DRIVE WB	LYNNHAVEN INLET	1967	-	City	6	4	5	N	YES
VA BEACH	22187	-	SOUTH LYNNHAVEN ROAD	LONDON BRIDGE CREEK	1966	-	City	5	6	4	N	NO
YORK	4290002	-	YORKTOWN BATTLEFIELD TOUR ROAD	BEAVERDAM CREEK	1975	-	Federal	6	6	4	N	NO

TABLE 3 – STRUCTURALLY DEFICIENT BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

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 do not have adequate lane widths, shoulder widths, or vertical clearances to serve current traffic volumes or meet current geometric standards. Functionally obsolete bridges also may occasionally be flooded or have approaches that are difficult to navigate.

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

Bridges are classified as functionally obsolete if at least one of the following conditions is true:

Component	Rating
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.

Similar to structurally deficient bridges, structures built or reconstructed within the last ten years can not be classified as functionally obsolete, regardless of the design of the bridge. This rule (the Ten Year Rule) is described further in the Bridge Funding section of this report.

FUNCTIONALLY OBSOLETE BRIDGES SUMMARY

- **Bridges in Hampton Roads that are classified as functionally obsolete** — **379/31.0%** (284/22.9% in 2007)
- **Hampton Roads rank among comparable metropolitan areas in terms of the percentage of bridges that are classified as functionally obsolete** — **2nd highest of 35 areas**

HICKS ISLAND ROAD IN JAMES CITY COUNTY VDOT

There are a total of 379 bridges in Hampton Roads classified as functionally obsolete as of August 2012. These bridges are shown **in Table 5** on pages 18-25 and **Map 1** on page 27.

Table 4 shows functionally obsolete bridges in Hampton Roads by jurisdiction and maintenance responsibility. Norfolk (74 bridges) and Southampton County (56 bridges) have the highest number of functionally obsolete bridges. Most of the bridges in Hampton Roads that are functionally obsolete (75%) are owned and maintained by VDOT, and the percentage of bridges maintained by VDOT that are functionally obsolete (37.0%) is nearly double the percentage of functionally obsolete bridges maintained by localities (19.3%).

The 379 bridges that are classified as functionally obsolete comprise 31.0% of the 1,223 bridges in Hampton Roads. This percentage is higher than the percentage of NBI bridges throughout Virginia that are classified as functionally obsolete (23.5% as of August 2012), and is high compared to other metropolitan areas. Among the 35 metropolitan areas with populations between one and three million people, Hampton Roads has the second highest percentage of bridges that are classified as functionally obsolete (**Figure 9**).

The number of functionally obsolete bridges in Hampton Roads has increased since the previous Regional Bridge Study. In August 2007, 284 bridges in Hampton Roads were classified as functionally obsolete.

Jurisdiction	Total Number of Bridges	Functionally Obsolete Bridges		Maintenance Responsibility		
		Number	Percentage	Locality	VDOT	Other
CHESAPEAKE	166	25	15.1%	8	16	1
GLOUCESTER	24	4	16.7%	-	4	-
HAMPTON	83	26	31.3%	8	15	3
ISLE OF WIGHT	85	39	45.9%	-	39	-
JAMES CITY	62	20	32.3%	-	16	4
NEWPORT NEWS	87	21	24.1%	7	14	-
NORFOLK	188	74	39.4%	15	59	-
POQUOSON	0	0	-	-	-	-
PORTSMOUTH	41	12	29.3%	-	12	-
SOUTHAMPTON/FRANKLIN	138	56	40.6%	-	56	-
SUFFOLK	135	40	29.6%	35	5	-
SURRY	32	19	59.4%	-	19	-
VIRGINIA BEACH	118	17	14.4%	5	12	-
WILLIAMSBURG	12	4	33.3%	-	1	3
YORK	52	22	42.3%	-	16	6
HAMPTON ROADS	**1,223**	**379**	**31.0%**	**78 (19.3%)**	**284 (37.0%)**	**17 (34.0%)**

TABLE 4 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS BY JURISDICTION AND MAINTENANCE RESPONSIBILITY

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

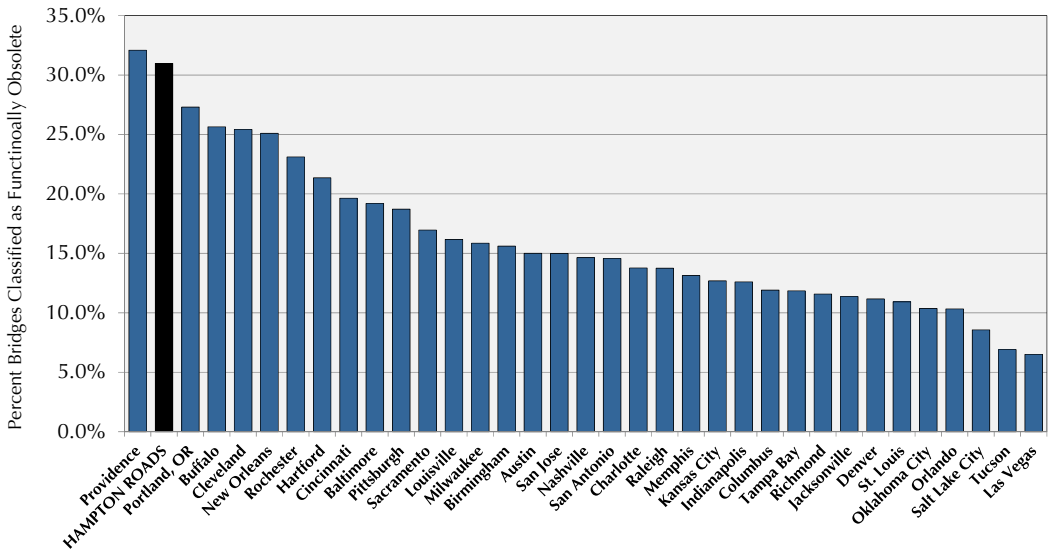


FIGURE 9 – FUNCTIONALLY OBSOLETE BRIDGES IN COMPARABLE METROPOLITAN AREAS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
CHESAPEAKE	21881	166	BAINBRIDGE BLVD	NORFOLK SOUTHERN R/R	1938	1947	City
CHESAPEAKE	21824	-	ELBOW ROAD	STUMPY LAKE SPILLWAY	1975	-	City
CHESAPEAKE	1818	17	GEORGE WASHINGTON HWY	DISMAL SWAMP CANAL	1934	-	Federal
CHESAPEAKE	21836	17	GEORGE WASHINGTON HWY	I-64	1969	-	VDOT
CHESAPEAKE	21891	168	GREAT BRIDGE BYPASS	CHESAPEAKE & ALBEMARLE CANAL	1981	-	City
CHESAPEAKE	21868	64	HIGH RISE BRIDGE	S BR ELIZ RIVER & SR 166	1969	1991	VDOT
CHESAPEAKE	21862	64	I-64 EB	MILITARY HIGHWAY	1969	-	VDOT
CHESAPEAKE	21920	64	I-64 EB	N/S R/R & ROTUNDA AVE	1969	1993	VDOT
CHESAPEAKE	21922	64	I-64 WB	N/S R/R & ROTUNDA AVE	1969	1993	VDOT
CHESAPEAKE	21858	64	I-64 EB	N/S R/R & YADKIN ROAD	1969	-	VDOT
CHESAPEAKE	21860	64	I-64 WB	N/S R/R & YADKIN ROAD	1969	-	VDOT
CHESAPEAKE	21854	64	I-64 WB	SHELL ROAD	1969	-	VDOT
CHESAPEAKE	21925	264	I-264 EB	I-64 EB	1963	1993	VDOT
CHESAPEAKE	21918	264	I-264 WB RAMP	I-64	1969	-	VDOT
CHESAPEAKE	21943	464	I-464 SB	I-64	1967	-	VDOT
CHESAPEAKE	21956	464	I-464 SB	MILLDAM CREEK	1986	-	VDOT
CHESAPEAKE	23037	664	I-664	BR DRUM POINT CREEK	1991	-	VDOT
CHESAPEAKE	23103	664	I-664 SB	GOOSE CREEK	1991	-	VDOT
CHESAPEAKE	21935	407	INDIAN RIVER ROAD	INDIAN RIVER	1974	-	City
CHESAPEAKE	21908	191	JOLLIFF ROAD	I-664	1991	-	VDOT
CHESAPEAKE	21798	-	LAND OF PROMISE ROAD	POCATY CREEK	1971	-	City
CHESAPEAKE	21816	-	NUMBER TEN LANE	LINDSEY DRAINAGE CANAL	1979	-	City
CHESAPEAKE	21934	337	PORTSMOUTH BLVD	W BR ELIZABETH RIVER	1983	-	City
CHESAPEAKE	23038	-	SERVICE ROAD	BR DRUM POINT CREEK	1991	-	VDOT
CHESAPEAKE	21875	17	STEEL BRIDGE (DOMINION BLVD)	S BR ELIZABETH RIVER	1962	-	City
GLOUCESTER	8544	616	BELROI ROAD	FOX MILL RUN	1958	-	VDOT
GLOUCESTER	12085	17	GEORGE WASHINGTON HWY NB	DRAGON RUN	1931	-	VDOT
GLOUCESTER	12086	17	GEORGE WASHINGTON HWY SB	DRAGON RUN	1957	-	VDOT
GLOUCESTER	8528	17	MAIN STREET NB	FOX MILL RUN	1964	-	VDOT
HAMPTON	20295	-	ABERDEEN ROAD	NEWMARKET CREEK	1981	-	City
HAMPTON	20291	-	BEACH ROAD	LONG CREEK	1958	-	City
HAMPTON	20287	-	BIG BETHEL ROAD	I-64	1989	-	VDOT
HAMPTON	20362	152	CUNNINGHAM DRIVE EB	I-64	1974	-	City
HAMPTON	20364	152	CUNNINGHAM DRIVE WB	I-64	1974	-	City
HAMPTON	P1113	-	EAST GATE ROAD	EAST CROSSING OF MOAT	1950	-	Federal
HAMPTON	20339	64	HAMPTON ROADS BRIDGE-TUNNEL EB	HAMPTON ROADS	1974	-	VDOT
HAMPTON	20353	64	HAMPTON ROADS BRIDGE-TUNNEL WB	HAMPTON ROADS	1957	-	VDOT
HAMPTON	20355	64	HAMPTON ROADS BRIDGE-TUNNEL WB	HAMPTON ROADS	1957	1999	VDOT
HAMPTON	20302	-	HAMPTON ROADS CENTER PKWY	BILLY WOOD CANAL	1989	-	VDOT
HAMPTON	20314	64	I-64 EB	E. BRANCH HAMPTON RIVER	1958	1987	VDOT
HAMPTON	20318	64	I-64	KING STREET	1959	1984	VDOT
HAMPTON	20326	64	I-64	LASALLE AVENUE	1959	1984	VDOT
HAMPTON	20316	64	I-64 EB	PEMBROKE AVENUE & HAMPTON RIVER	1958	1987	VDOT
HAMPTON	20346	64	I-64 WB	PEMBROKE AVENUE & HAMPTON RIVER	1985	-	VDOT
HAMPTON	20399	64	I-64 RAMPS	NEWMARKET CREEK	1982	-	VDOT
HAMPTON	20391	664	I-664	QUEEN STREET	1982	-	VDOT
HAMPTON	20398	664	I-664 RAMP	NEWMARKET CREEK	1982	-	VDOT
HAMPTON	20328	664	I-664 SB RAMP	I-64 & NEWMARKET CREEK	1981	-	VDOT
HAMPTON	20366	167	LASALLE AVENUE	TIDE MILL CREEK	1965	-	City
HAMPTON	20361	143	MELLEN STREET	MILL CREEK	1961	1982	City

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
HAMPTON	20383	258	MERCURY BLVD EB	HAMPTON CREEK	1971	-	City
HAMPTON	P1051	-	NORTH GATE ROAD	NORTH CROSSING OF MOAT	1975	1996	Federal
HAMPTON	20296	-	POWHATAN PKWY	I-664	1983	-	VDOT
HAMPTON	P1049	-	RUCKMAN ROAD	WEST CROSSING OF MOAT	1952	-	Federal
HAMPTON	20310	60	SETTLERS LANDING ROAD	HAMPTON RIVER	1985	-	City
ISLE OF WIGHT	10392	614	BALLARD ROAD	CORROWAUGH SWAMP	1945	-	VDOT
ISLE OF WIGHT	10419	641	BARRETT TOWN ROAD	ANTIOCH SWAMP	1955	1984	VDOT
ISLE OF WIGHT	10386	603	BLACKWATER ROAD	BLACKWATER RIVER	1970	-	VDOT
ISLE OF WIGHT	10423	644	BOWLING GREEN ROAD	GREAT SWAMP	1972	-	VDOT
ISLE OF WIGHT	10420	641	BOWS & ARROWS ROAD	DUCKS SWAMP	1952	-	VDOT
ISLE OF WIGHT	10401	620	BROADWATER ROAD	BLACKWATER RIVER	1964	-	VDOT
ISLE OF WIGHT	10431	654	CARROLL BRIDGE ROAD	CHAMPION SWAMP	1966	-	VDOT
ISLE OF WIGHT	22613	626	CARY STREET	ROUTE 10 BYPASS	1972	-	VDOT
ISLE OF WIGHT	10421	641	COLOSSE ROAD	CORROWAUGH SWAMP	1955	1992	VDOT
ISLE OF WIGHT	10440	681	COMET ROAD	COMET SWAMP	1955	1991	VDOT
ISLE OF WIGHT	10378	600	DEER PATH TRAIL	ENNIS POND	1956	-	VDOT
ISLE OF WIGHT	10441	683	DEWS PLANTATION ROAD	STALLINGS CREEK	1954	-	VDOT
ISLE OF WIGHT	10442	690	ENNIS MILL ROAD	ENNIS POND	1961	-	VDOT
ISLE OF WIGHT	10424	644	FIRE TOWER ROAD	POPE SWAMP	1948	1979	VDOT
ISLE OF WIGHT	10389	612	FREEMAN DRIVE	CORROWAUGH SWAMP	1954	-	VDOT
ISLE OF WIGHT	10404	623	GREEN LEVEL ROAD	POUCHES SWAMP	1971	-	VDOT
ISLE OF WIGHT	10422	641	HARVEST DRIVE	KINGSALE SWAMP	1955	-	VDOT
ISLE OF WIGHT	10364	17	JAMES RIVER BRIDGE	JAMES RIVER	1980	-	VDOT
ISLE OF WIGHT	10394	615	JENKINS MILL ROAD	KINGSALE SWAMP	1964	1978	VDOT
ISLE OF WIGHT	10413	637	JONES TOWN DRIVE	BR. RATTLESNAKE SWAMP	1945	-	VDOT
ISLE OF WIGHT	10409	630	LAWERENCE DRIVE	STREAM	1956	-	VDOT
ISLE OF WIGHT	10382	602	LONGVIEW DRIVE	CHUCKATUCK CREEK	1951	-	VDOT
ISLE OF WIGHT	10383	602	LONGVIEW DRIVE	PAGAN CREEK	1945	-	VDOT
ISLE OF WIGHT	10417	638	MILL CREEK ROAD	BURNT MILL SWAMP	1951	1979	VDOT
ISLE OF WIGHT	10403	621	MILL SWAMP ROAD	MILL SWAMP	1952	1987	VDOT
ISLE OF WIGHT	10407	626	MILL SWAMP ROAD	MOUNT HOLLY CREEK	1957	-	VDOT
ISLE OF WIGHT	10402	621	MILL SWAMP ROAD	PASSENGER SWAMP	1945	1979	VDOT
ISLE OF WIGHT	10406	626	MILL SWAMP ROAD	STALLINGS CREEK	1945	-	VDOT
ISLE OF WIGHT	10405	625	MODEST NECK ROAD	RATTLESNAKE SWAMP	1970	-	VDOT
ISLE OF WIGHT	10400	620	MUDDY CROSS DRIVE	CYPRESS CREEK	1987	-	VDOT
ISLE OF WIGHT	22618	10	ROUTE 10 BYPASS	CYPRESS CREEK	1973	-	VDOT
ISLE OF WIGHT	22617	10	ROUTE 10 BYPASS	PAGAN RIVER	1973	-	VDOT
ISLE OF WIGHT	10370	258	ROUTE 258	GREAT SWAMP	1952	1980	VDOT
ISLE OF WIGHT	10377	460	ROUTE 460	BLACKWATER RIVER	1987	-	VDOT
ISLE OF WIGHT	10398	620	SCOTTS FACTORY ROAD	CHAMPION SWAMP	1976	-	VDOT
ISLE OF WIGHT	10384	603	SHILOH DRIVE	ENNIS POND	1955	-	VDOT
ISLE OF WIGHT	22615	10	SOUTH CHURCH STREET	CYPRESS CREEK	1975	-	VDOT
ISLE OF WIGHT	10393	614	THOMAS WOODS TRAIL	BLACKWATER RIVER	1970	-	VDOT
ISLE OF WIGHT	10381	600	WOODLAND DRIVE	GREAT SWAMP	1967	-	VDOT
JAMES CITY	10518	601	BARNES ROAD	I-64	1971	-	VDOT
JAMES CITY	10474	30	CROAKER ROAD SB	I-64	1979	-	VDOT
JAMES CITY	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK	1932	1974	VDOT
JAMES CITY	10489	64	I-64 EB	NAVAL WEAPONS STATION ACCESS	1965	1982	VDOT
JAMES CITY	10491	64	I-64 WB	NAVAL WEAPONS STATION ACCESS	1965	1982	VDOT
JAMES CITY	10493	64	I-64	SKIFFES CREEK	1965	-	VDOT

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
JAMES CITY	10496	64	I-64 EB	SIX MT ZION ROAD	1975	-	VDOT
JAMES CITY	10498	64	I-64 WB	SIX MT ZION ROAD	1975	-	VDOT
JAMES CITY	4290029	-	JAMESTOWN ISLAND TOUR ROAD	CREEK	1957	2001	Federal
JAMES CITY	4290030	-	JAMESTOWN ISLAND TOUR ROAD	CREEK	1957	2001	Federal
JAMES CITY	4290031	-	JAMESTOWN ISLAND TOUR ROAD	KINGSMILL CREEK	1957	-	Federal
JAMES CITY	4290028	-	JAMESTOWN ISLAND TOUR ROAD	PITCH AND TAR SWAMP	1957	2001	Federal
JAMES CITY	10464	5	JOHN TYLER HWY	POWHATAN CREEK	1937	1978	VDOT
JAMES CITY	10468	30	ROUTE 30 NB	I-64	1971	-	VDOT
JAMES CITY	10486	60	ROUTE 60 EB	CSX R/R	1964	-	VDOT
JAMES CITY	10487	60	ROUTE 60 WB	CSX R/R	1968	-	VDOT
JAMES CITY	25198	199	ROUTE 199	BRANCH	1999	-	VDOT
JAMES CITY	25209	199	ROUTE 199	BRANCH	1999	-	VDOT
JAMES CITY	10510	199	ROUTE 199 WB	COLLEGE CREEK	1976	-	VDOT
JAMES CITY	10515	600	SIX MOUNT ZION ROAD	WARE CREEK SPILLWAY	1932	-	VDOT
NEWPORT NEWS	20651	-	26TH STREET	I-664 & CSX R/R	1987	-	VDOT
NEWPORT NEWS	20658	-	CHESTNUT AVE	NEWMARKET CREEK	1960	-	City
NEWPORT NEWS	20721	105	FORT EUSTIS BLVD	CSX R/R	1960	-	City
NEWPORT NEWS	20720	105	FORT EUSTIS BLVD	NEWPORT NEWS RESERVOIR	1960	1985	City
NEWPORT NEWS	20661	-	HUNTINGTON AVENUE	FORMER SHIPYARD R/R SPUR	1899	-	City
NEWPORT NEWS	20710	64	I-64 EB	FORT EUSTIS BLVD	1965	-	VDOT
NEWPORT NEWS	20712	64	I-64 WB	FORT EUSTIS BLVD	1965	-	VDOT
NEWPORT NEWS	20706	64	I-64 EB	INDUSTRIAL PARK DRIVE & R/R	1965	1982	VDOT
NEWPORT NEWS	20708	64	I-64 WB	INDUSTRIAL PARK DRIVE & R/R	1965	1982	VDOT
NEWPORT NEWS	20698	64	I-64 EB	JEFFERSON AVENUE @ YORK CL	1965	1981	VDOT
NEWPORT NEWS	20700	64	I-64 WB	JEFFERSON AVENUE @ YORK CL	1965	1981	VDOT
NEWPORT NEWS	20697	64	I-64 WB	NEWPORT NEWS RESERVOIR	1965	-	VDOT
NEWPORT NEWS	20719	64	I-64 EB	STONEY RUN	1965	-	VDOT
NEWPORT NEWS	20702	64	I-64 EB	YORKTOWN ROAD	1965	-	VDOT
NEWPORT NEWS	20704	64	I-64 WB	YORKTOWN ROAD	1965	-	VDOT
NEWPORT NEWS	20750	664	I-664	TERMINAL AVENUE	1990	-	VDOT
NEWPORT NEWS	20731	312	J CLYDE MORRIS BLVD NB	CSX R/R	1975	-	City
NEWPORT NEWS	20752	664	MONITOR-MERRIMAC BRIDGE-TUNNEL NB	HAMPTON ROADS-JAMES RIVER	1990	-	VDOT
NEWPORT NEWS	20753	664	MONITOR-MERRIMAC BRIDGE-TUNNEL SB	HAMPTON ROADS-JAMES RIVER	1990	-	VDOT
NEWPORT NEWS	20684	60	WARWICK BLVD	GOVERNMENT DITCH	1931	-	City
NEWPORT NEWS	20659	-	WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR	1946	-	City
NORFOLK	20943	247	26TH STREET	LAFAYETTE RIVER	1938	-	City
NORFOLK	21021	337	ADMIRAL TAUSSIG BLVD	I-564 RAMPS	1977	-	VDOT
NORFOLK	20805	58	BRAMBLETON AVENUE WB	HAMPTON BLVD	1962	-	VDOT
NORFOLK	20936	460	CAMPOSTELLA ROAD	E BR ELIZABETH RIVER	1986	-	City
NORFOLK	20773	-	COLLEY AVENUE	LAFAYETTE RIVER	1978	-	City
NORFOLK	20764	-	FRONTAGE ROAD	I-264	1967	-	VDOT
NORFOLK	21040	460	GRANBY STREET	LAFAYETTE RIVER	1979	-	City
NORFOLK	21034	460	GRANBY STREET	TIDEWATER DRIVE	1958	-	City
NORFOLK	21024	337	HAMPTON BLVD NB	LAFAYETTE RIVER	1970	-	City
NORFOLK	21019	337	HAMPTON BLVD SB RAMP	HAMPTON BLVD NB	1962	-	VDOT
NORFOLK	20931	64	I-64 EB	4TH VIEW STREET	1975	-	VDOT
NORFOLK	20929	64	I-64 WB	4TH VIEW STREET	1975	-	VDOT
NORFOLK	20909	64	I-64 EB	13TH VIEW STREET	1972	-	VDOT
NORFOLK	20911	64	I-64 WB	13TH VIEW STREET	1972	-	VDOT
NORFOLK	20831	64	I-64 EB	AZALEA GARDEN ROAD	1966	-	VDOT

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
NORFOLK	20833	64	I-64 WB	AZALEA GARDEN ROAD	1966	-	VDOT
NORFOLK	20921	64	I-64 EB	BAY VIEW BLVD	1974	-	VDOT
NORFOLK	20919	64	I-64 WB	BAY VIEW BLVD	1974	-	VDOT
NORFOLK	20866	64	I-64 EB	BAY COAST RAILROAD	1967	-	VDOT
NORFOLK	20867	64	I-64 WB	BAY COAST RAILROAD	1967	-	VDOT
NORFOLK	20821	64	I-64 WB	CHESAPEAKE BLVD	1965	1977	VDOT
NORFOLK	20887	64	I-64 EB	CURLEW DR & HRT LIGHT RR	1968	-	VDOT
NORFOLK	20889	64	I-64 WB	CURLEW DR & HRT LIGHT RR	1968	1992	VDOT
NORFOLK	20925	64	I-64 EB	EVANS STREET	1974	-	VDOT
NORFOLK	20923	64	I-64 WB	EVANS STREET	1974	-	VDOT
NORFOLK	20850	64	I-64 EB	FIRST VIEW STREET	1975	-	VDOT
NORFOLK	20839	64	I-64 WB	FIRST VIEW STREET	1975	-	VDOT
NORFOLK	20881	64	I-64 WB	I-264 WB	1968	1992	VDOT
NORFOLK	20862	64	I-64 EB	KEMPSVILLE RD	1967	1986	VDOT
NORFOLK	20864	64	I-64 WB	KEMPSVILLE RD	1967	1991	VDOT
NORFOLK	20892	64	I-64 EB	LITTLE CREEK ROAD	1971	-	VDOT
NORFOLK	20928	64	I-64 EB	MASON CREEK	1974	-	VDOT
NORFOLK	20927	64	I-64 WB	MASON CREEK	1974	-	VDOT
NORFOLK	20825	64	I-64 EB	MASON CREEK ROAD	1975	-	VDOT
NORFOLK	20823	64	I-64 WB	MASON CREEK ROAD	1975	-	VDOT
NORFOLK	20837	64	I-64 WB	MILITARY HWY	1966	-	VDOT
NORFOLK	20917	64	I-64 EB	NEW GATE ROAD	1974	-	VDOT
NORFOLK	20915	64	I-64 WB	NEW GATE ROAD	1974	-	VDOT
NORFOLK	20860	64	I-64 WB	NORTHAMPTON BLVD	1967	1977	VDOT
NORFOLK	20854	64	I-64 WB	RAMP FROM NORTHAMPTON BLVD	1964	1977	VDOT
NORFOLK	20827	64	I-64 EB	ROBIN HOOD ROAD	1966	-	VDOT
NORFOLK	20829	64	I-64 WB	ROBIN HOOD ROAD	1966	-	VDOT
NORFOLK	20815	64	I-64 EB	SEWELLS POINT ROAD	1965	1977	VDOT
NORFOLK	20817	64	I-64 WB	SEWELLS POINT ROAD	1965	-	VDOT
NORFOLK	20841	64	I-64 EB	TIDEWATER DRIVE	1967	1977	VDOT
NORFOLK	20843	64	I-64 WB	TIDEWATER DRIVE	1967	1985	VDOT
NORFOLK	20875	64	I-64 EB	VA BEACH BLVD	1968	1986	VDOT
NORFOLK	20877	64	I-64 WB	VA BEACH BLVD	1968	1992	VDOT
NORFOLK	20913	64	I-64 EB	WILLOUGHBY BAY	1972	-	VDOT
NORFOLK	20914	64	I-64 WB	WILLOUGHBY BAY	1972	-	VDOT
NORFOLK	20947	264	I-264 WB	E BR ELIZABETH RIVER	1952	1991	VDOT
NORFOLK	20992	264	I-264 EB	HOLT STREET & NS R/R	1972	1990	VDOT
NORFOLK	21008	264	I-264 EB	HRT LIGHT R/R	1968	-	VDOT
NORFOLK	21009	264	I-264 WB	HRT LIGHT R/R	1968	-	VDOT
NORFOLK	20983	264	I-264 EB	INGLESIDE ROAD	1967	-	VDOT
NORFOLK	21006	264	I-264 EB	NORFOLK SOUTHERN R/R	1968	-	VDOT
NORFOLK	20813	64	I-264 EB RAMP	I-264 WB & I-64	1985	-	VDOT
NORFOLK	20953	264	I-264 EB & I-464 NB	I-264 & I-464 RAMPS	1986	-	VDOT
NORFOLK	21059	464	I-464 NB	I-464 SB RAMP	1987	-	VDOT
NORFOLK	21055	464	I-464 SB	BERKLEY AVENUE	1988	-	VDOT
NORFOLK	21074	564	I-564 NB	GRANBY STREET	1972	-	VDOT
NORFOLK	21068	564	I-564 RAMP	I-64 & I-564	1990	-	VDOT
NORFOLK	21028	406	INT TERMINAL BLVD EB	I-564 & NS R/R	1975	-	VDOT
NORFOLK	21026	406	INT TERMINAL BLVD WB	I-564 & NS R/R	1975	-	VDOT
NORFOLK	20934	165	LITTLE CREEK ROAD	TIDEWATER DRIVE	1959	-	City

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
NORFOLK	20787	13	MILITARY HIGHWAY	BRANCH OF BROAD CREEK	1945	-	City
NORFOLK	20777	-	NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1979	-	City
NORFOLK	20778	-	NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1979	-	City
NORFOLK	26010	-	NORVIEW AVENUE	RINDA CREEK	1999	-	City
NORFOLK	20811	60	OCEAN VIEW AVENUE EB	TIDEWATER DRIVE	1958	-	City
NORFOLK	20767	-	ROBIN HOOD ROAD	NORFOLK WATER SUPPLY CANAL	1944	1987	City
NORFOLK	20774	337	SR 337 NB & RAMP	ADJACENT TO STRUCTURE #21000	1972	1990	VDOT
NORFOLK	24148	58	VA BEACH BLVD	NORFOLK SOUTHERN R/R	1995	-	City
NORFOLK	20776	-	WILLOW WOOD DRIVE	BRANCH OF LAFAYETTE RIVER	1987	-	City
PORTSMOUTH	21244	264	I-264	ELM AVENUE	1966	1985	VDOT
PORTSMOUTH	21229	264	I-264	FREDERICK BLVD	1964	1979	VDOT
PORTSMOUTH	21224	264	I-264	NORFOLK & PORTSMOUTH R/R	1964	1980	VDOT
PORTSMOUTH	21225	264	I-264	PORTSMOUTH BLVD	1964	1978	VDOT
PORTSMOUTH	21231	264	I-264	PORTSMOUTH BLVD RAMP	1964	1979	VDOT
PORTSMOUTH	21235	264	I-264	RAMP FROM FREDERICK BLVD	1964	1979	VDOT
PORTSMOUTH	21237	264	I-264	VICTORY BLVD	1963	1979	VDOT
PORTSMOUTH	21242	264	I-264	WB RAMP FROM EFFINGHAM STREET	1966	1985	VDOT
PORTSMOUTH	21222	264	I-264 EB RAMP	FREDERICK BLVD	1964	-	VDOT
PORTSMOUTH	21246	264	I-264 WB ON RAMP	RAMP FROM I-264 WB	1985	-	VDOT
PORTSMOUTH	21206	164	ROUTE 164 WB	FORMER COAST GUARD BLVD	1991	-	VDOT
PORTSMOUTH	21215	164	ROUTE 164	W BR ELIZABETH RIVER	1978	-	VDOT
SOUTHAMPTON	17786	615	ADAMS GROVE ROAD	THREE CREEK	1957	-	VDOT
SOUTHAMPTON	17835	652	BARHAMS HILL ROAD	ANGELICO CREEK	1932	-	VDOT
SOUTHAMPTON	17838	652	BUCKHORN QUARTER ROAD	BUCKHORN SWAMP	1963	-	VDOT
SOUTHAMPTON	17797	619	BURDETTE ROAD	BLACK CREEK	1932	1983	VDOT
SOUTHAMPTON	17901	743	BURNT REED ROAD	TARRARA CREEK	1932	1997	VDOT
SOUTHAMPTON	17862	668	CLARKSBURY ROAD	ROSA SWAMP	1973	-	VDOT
SOUTHAMPTON	17861	668	CLARKSBURY ROAD	TARRARA CREEK	1969	-	VDOT
SOUTHAMPTON	17796	618	CRUMPLER ROAD	TERRAPIN SWAMP	1962	-	VDOT
SOUTHAMPTON	17889	687	DELAWARE ROAD	ROUTE 58	1979	-	VDOT
SOUTHAMPTON	17767	607	FARMERS BRIDGE ROAD	ASSAMOOSIC SWAMP	1932	-	VDOT
SOUTHAMPTON	17780	612	FORTSVILLE ROAD	APPLE WHITE SWAMP	1975	-	VDOT
SOUTHAMPTON	17864	671	GENERAL THOMAS HWY	BRANCH	1977	-	VDOT
SOUTHAMPTON	17866	671	GENERAL THOMAS HWY	NOTTOWAY RIVER OVERFLOW	1960	-	VDOT
SOUTHAMPTON	17827	646	GOVERNOR DARDEN ROAD	BRANCH NOTTOWAY RIVER	1972	-	VDOT
SOUTHAMPTON	17754	186	HUGO ROAD	MEHERRIN RIVER	1936	-	VDOT
SOUTHAMPTON	17752	186	HUGO ROAD	OVERFLOW MEHERRIN RIVER	1937	1993	VDOT
SOUTHAMPTON	17791	616	IVOR ROAD	BRANCH	1976	-	VDOT
SOUTHAMPTON	17792	616	IVOR ROAD	BR ROUND HILL SWAMP	1975	-	VDOT
SOUTHAMPTON	17793	616	IVOR ROAD	SEACOCK SWAMP	1960	-	VDOT
SOUTHAMPTON	17763	601	KELLOS MILL ROAD	LIGHTWOOD SWAMP	1963	-	VDOT
SOUTHAMPTON	17840	653	LITTLE TEXAS ROAD	FLAT SWAMP	1971	-	VDOT
SOUTHAMPTON	17882	683	MARY HUNT ROAD	COKEMOKE CREEK	1981	-	VDOT
SOUTHAMPTON	17728	35	MEHERRIN ROAD	OVERFLOW, NOTTOWAY RIVER	1979	-	VDOT
SOUTHAMPTON	17768	608	MILL NECK ROAD	RACOON SWAMP	1932	-	VDOT
SOUTHAMPTON	17769	608	MILL NECK ROAD	RACOON SWAMP	1932	1985	VDOT
SOUTHAMPTON	17809	631	MISSION CHURCH ROAD	BLACK CREEK	1962	-	VDOT
SOUTHAMPTON	17863	670	NUMBER 8 SCHOOL HOUSE ROAD	TARRARA CREEK	1956	-	VDOT
SOUTHAMPTON	17800	621	OLD BLACKWATER ROAD	BLACKWATER RIVER	1963	-	VDOT
SOUTHAMPTON	17726	35	PLANK ROAD	BRANCH	1932	1971	VDOT

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
SOUTHAMPTON	17895	714	PRETLOW ROAD	ROUTE 58	1980	-	VDOT
SOUTHAMPTON	17790	616	PROCTORS BRIDGE ROAD	HICKANECK SWAMP	1990	-	VDOT
SOUTHAMPTON	17787	616	PROCTORS BRIDGE ROAD	PROCTOR SWAMP	1987	-	VDOT
SOUTHAMPTON	17830	647	RIVER ROAD	CUSCORA BRANCH	1972	-	VDOT
SOUTHAMPTON	17779	612	RIVER'S MILL ROAD	RIVERS MILL	1971	-	VDOT
SOUTHAMPTON	17730	58	ROUTE 58 WB	ANGELICO CREEK	1948	1981	VDOT
SOUTHAMPTON	17740	58	ROUTE 58 WB	ARMORY DRIVE	1979	-	VDOT
SOUTHAMPTON	17742	58	ROUTE 58 WB	CSX R/R	1979	-	VDOT
SOUTHAMPTON	23609	58	ROUTE 58 WB	NOTTOWAY RIVER	1993	-	VDOT
SOUTHAMPTON	17739	58	ROUTE 58 WB	NOTTOWAY SWAMP	1966	-	VDOT
SOUTHAMPTON	23630	58	ROUTE 58	OVERFLOW NOTTOWAY RIVER	1993	-	VDOT
SOUTHAMPTON	17795	618	SADLER ROAD	BAR B Q RUN	1932	-	VDOT
SOUTHAMPTON	17811	633	SAINT LUKES ROAD	HORSE PEN RUN	1962	-	VDOT
SOUTHAMPTON	17874	674	SANDS ROAD	DARDEN MILL RUN	1932	2000	VDOT
SOUTHAMPTON	17784	614	SEACOCK CHAPEL ROAD	BLACKWATER RIVER	1971	-	VDOT
SOUTHAMPTON	17782	614	SEACOCK CHAPEL ROAD	BRANCH	1932	-	VDOT
SOUTHAMPTON	17783	614	SEACOCK CHAPEL ROAD	ROUND HILL SWAMP	1967	-	VDOT
SOUTHAMPTON	17781	614	SEACOCK CHAPEL ROAD	SEACOCK SWAMP	1953	-	VDOT
SOUTHAMPTON	17756	258	SMITHS FERRY ROAD	NOTTOWAY RIVER	1960	-	VDOT
SOUTHAMPTON	17859	667	SYKES FARM ROAD	TARRARA CREEK	1972	-	VDOT
SOUTHAMPTON	17826	645	TRINITY CHURCH ROAD	INDIAN BRANCH	1932	-	VDOT
SOUTHAMPTON	17817	635	TUCKER SWAMP ROAD	BRANCH	1960	-	VDOT
SOUTHAMPTON	17764	603	UNITY ROAD	WHITEFIELD MILL	1966	-	VDOT
SOUTHAMPTON	17849	659	VICKS MILLPOND ROAD	FLAT SWAMP	1932	-	VDOT
SOUTHAMPTON	17855	665	WHITE MEADOW ROAD	TARRARA CREEK	1974	-	VDOT
SOUTHAMPTON	17806	626	WOMBLE MILL ROAD	WADE MILL POND	1968	-	VDOT
SOUTHAMPTON	17881	682	WOODLAND ROAD	BR DARDEN MILL RUN	1932	-	VDOT
SUFFOLK	22023	17	BRIDGE ROAD EB	BENNETTS CREEK	1969	-	City
SUFFOLK	22025	17	BRIDGE ROAD WB	BENNETTS CREEK	1969	-	City
SUFFOLK	22024	17	BRIDGE ROAD	NANSEMOND RIVER	1981	-	City
SUFFOLK	22026	17	CARROLLTON BLVD	CHUCKATUCK CREEK	1988	-	VDOT
SUFFOLK	22155	675	CYPRESS CHAPEL ROAD	TRIB TO CYPRESS SWAMP	1991	-	City
SUFFOLK	22093	603	EVERETTS ROAD	W BR NANSEMOND RIVER	1963	-	City
SUFFOLK	22108	611	GARDNER LANE	LAKE PRINCE	1967	-	City
SUFFOLK	22162	759	GATES ROAD	SOMERTON CREEK	1985	-	City
SUFFOLK	22153	673	GATES RUN ROAD	ADAMS SWAMP	1970	-	City
SUFFOLK	22102	605	GIRL SCOUT ROAD	EXCHANGE CREEK	1962	-	City
SUFFOLK	22030	58	HOLLAND ROAD	LAKE MEADE	1942	1958	City
SUFFOLK	22112	616	HOLY NECK ROAD	CHAPEL SWAMP	1967	-	City
SUFFOLK	23095	664	I-664 NB	ROUTES 17 & 164 EB RAMP	1991	-	VDOT
SUFFOLK	23092	664	I-664 SB	ROUTE 164	1991	-	VDOT
SUFFOLK	22160	736	JOSHUA LANE	LAKE CAHOON	1967	-	City
SUFFOLK	22116	634	KINGS FORK ROAD	LAKE COHOON	1961	-	City
SUFFOLK	22118	637	LAKE MEADE DRIVE	LAKE COHOON	1961	-	City
SUFFOLK	22099	604	LAKE PRINCE DRIVE	LAKE PRINCE	1954	-	City
SUFFOLK	22002	10	MAIN STREET	NANSEMOND RIVER	1935	1987	City
SUFFOLK	21998	-	PINNER STREET	N/S, SBD, & CNW R/R	1984	-	City
SUFFOLK	22097	604	PITCHKETTLE ROAD	LAKE MEADE	1973	-	City
SUFFOLK	22098	604	PITCHKETTLE ROAD	LAKE MEADE	1969	-	City
SUFFOLK	22143	664	RAMP TO SB I-664	STREETER CREEK	1990	-	VDOT

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
SUFFOLK	22113	616	ROUNTREE CRESCENT	CYPRESS SWAMP	1980	-	City
SUFFOLK	22029	58	ROUTE 58 WB	BLACKWATER RIVER	1981	-	VDOT
SUFFOLK	22034	58	ROUTE 58 EB	QUAKER SWAMP	1939	1976	City
SUFFOLK	22037	58	RURITAN BLVD	KINGSALE SWAMP	1923	1975	City
SUFFOLK	22047	13	SUFFOLK BYPASS EB	N.F.& D. R/R	1974	-	City
SUFFOLK	22048	13	SUFFOLK BYPASS WB	N.F.& D. R/R	1973	-	City
SUFFOLK	22043	13	SUFFOLK BYPASS EB	NANSEMOND PKWY	1973	-	City
SUFFOLK	22045	13	SUFFOLK BYPASS WB	NANSEMOND PKWY	1973	-	City
SUFFOLK	22039	13	SUFFOLK BYPASS EB	NANSEMOND RIVER	1972	-	City
SUFFOLK	22061	13	SUFFOLK BYPASS EB	NORFOLK SOUTHERN R/R	1974	2002	City
SUFFOLK	22053	13	SUFFOLK BYPASS EB	PRUDEN BLVD	1973	-	City
SUFFOLK	22049	13	SUFFOLK BYPASS EB	WILROY ROAD	1973	-	City
SUFFOLK	22051	13	SUFFOLK BYPASS WB	WILROY ROAD	1973	-	City
SUFFOLK	22016	13	SUFFOLK BYP RAMP TO PORTSMOUTH BLVD	SUFFOLK BYPASS	1973	-	City
SUFFOLK	22158	688	TURLINGTON ROAD	KILBY CREEK	1973	-	City
SUFFOLK	22088	337	WASHINGTON STREET	JERICO CANAL	1932	-	City
SUFFOLK	22129	642	WHITE MARSH ROAD	SHINGLE CREEK	1972	1984	City
SURRY	18216	634	ALLIANCE ROAD	COLLEGE RUN	1932	2003	VDOT
SURRY	18206	626	BEAVERDAM ROAD	SUNKEN MEADOW CREEK	1932	-	VDOT
SURRY	18208	626	BEECHLAND ROAD	TRIB. MOORES SWAMP	1956	-	VDOT
SURRY	18221	783	CHIPPOKES PARK ROAD	COLLEGE RUN CREEK	1982	-	VDOT
SURRY	18179	10	COLONIAL TRAIL	LOWER CHIPPOKES CREEK	1932	1951	VDOT
SURRY	18173	10	COLONIAL TRAIL	MILL RUN	1920	1971	VDOT
SURRY	18181	10	COLONIAL TRAIL	UPPER CHIPPOKES CREEK	1932	1971	VDOT
SURRY	18189	607	HUNTINGTON ROAD	OTTERDAM SWAMP	1953	-	VDOT
SURRY	18301	602	LAUREL SPRINGS ROAD	BLACKWATER RIVER	1974	-	VDOT
SURRY	18209	626	LEBANON ROAD	GRAYS CREEK	1954	-	VDOT
SURRY	18213	630	LOAFERS OAK ROAD	CYPRESS SWAMP	1932	-	VDOT
SURRY	18185	40	MLK HWY	OTTERDAM SWAMP	1954	-	VDOT
SURRY	14080	600	MONTPELIER ROAD	UPPER CHIPPOKES CREEK	1977	-	VDOT
SURRY	18197	616	NEW DESIGN ROAD	JOHNCHECOHUNK CREEK	1968	-	VDOT
SURRY	18182	31	ROLFE HIGHWAY	BLACKWATER RIVER	1958	-	VDOT
SURRY	23137	31	SCOTLAND WHARF	JAMES RIVER	1991	1995	VDOT
SURRY	18204	618	SOUTHWARK ROAD	GRAYS CREEK	1954	-	VDOT
SURRY	18200	617	WHITE MARSH ROAD	BLACKWATER RIVER	1979	-	VDOT
SURRY	18201	617	WHITE MARSH ROAD	MILL SWAMP	1959	-	VDOT
VA BEACH	22176	-	ELBOW ROAD	NORTH LANDING RIVER	1960	-	City
VA BEACH	22196	-	GREENWICH ROAD	DRAINAGE CANAL	1932	-	City
VA BEACH	22267	64	I-64 EB	E BR ELIZABETH RIVER	1967	1992	VDOT
VA BEACH	22265	64	I-64 WB	E BR ELIZABETH RIVER	1967	1992	VDOT
VA BEACH	22243	264	I-264	BIRDNECK ROAD	1967	1996	VDOT
VA BEACH	22239	264	I-264	FIRST COLONIAL ROAD	1967	1986	VDOT
VA BEACH	22222	264	I-264	INDEPENDENCE BLVD	1967	1992	VDOT
VA BEACH	22232	264	I-264	LONDON BRIDGE ROAD	1967	1982	VDOT
VA BEACH	22219	264	I-264	NORFOLK SOUTHERN R/R	1967	1992	VDOT
VA BEACH	22226	264	I-264	PLAZA TRAIL	1967	1977	VDOT
VA BEACH	22224	264	I-264	ROSEMONT ROAD	1967	1977	VDOT
VA BEACH	22237	264	I-264	VA BEACH BLVD	1967	1982	VDOT
VA BEACH	22220	264	I-264	WITCHDUCK ROAD	1967	1992	VDOT
VA BEACH	22170	-	INDIAN RIVER ROAD	WEST NECK CREEK	1975	-	City

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	Ownership
VA BEACH	23579	-	INDIAN RIVER ROAD	I-64	1993	-	VDOT
VA BEACH	25480	-	INLET ROAD	INLET OF LYNNHAVEN RIVER	1982	-	City
VA BEACH	22183	-	SANDBRIDGE ROAD	HELLS POINT CREEK	1961	-	City
WILLIAMSBURG	4290019	-	LAFAYETTE STREET	COLONIAL PARKWAY	1936	-	Federal
WILLIAMSBURG	22342	321	MONTICELLO AVENUE	STREAM	1963	-	VDOT
WILLIAMSBURG	4290020	-	NEWPORT AVENUE	COLONIAL PARKWAY	1957	-	Federal
WILLIAMSBURG	4290018	-	PAGE STREET	COLONIAL PARKWAY	1936	-	Federal
YORK	19870	600	BIG BETHEL ROAD	BIG BETHEL RESERVOIR	1931	1986	VDOT
YORK	19824	17	COLEMAN BRIDGE	YORK RIVER	1952	1996	VDOT
YORK	4290009	-	COLONIAL PARKWAY	NAVAL WEAPONS ROAD	1931	1981	Federal
YORK	4290008	-	COLONIAL PARKWAY	NORTH PIER ACCESS ROAD	1962	-	Federal
YORK	19819	17	GEORGE WASHINGTON HWY NB	POQUOSON RIVER	1965	-	VDOT
YORK	19818	17	GEORGE WASHINGTON HWY SB	POQUOSON RIVER	1924	1952	VDOT
YORK	19834	64	I-64 EB	LAKES HEAD DRIVE	1965	-	VDOT
YORK	19828	64	I-64 EB	PENNIMAN ROAD	1965	1977	VDOT
YORK	19830	64	I-64 WB	PENNIMAN ROAD	1965	1977	VDOT
YORK	19842	64	I-64 EB	QUEENS CREEK	1965	-	VDOT
YORK	19843	64	I-64 WB	QUEENS CREEK	1965	-	VDOT
YORK	19827	64	I-64	SKIMINO CREEK	1956	1979	VDOT
YORK	19856	134	MAGRUDER BLVD EB	BRICK KILN CREEK	1973	-	VDOT
YORK	19855	134	MAGRUDER BLVD WB	BRICK KILN CREEK	1930	-	VDOT
YORK	19853	134	MAGRUDER BLVD	ROUTE 17	1965	-	VDOT
YORK	4290007	-	OLD WILLIAMSBURG ROAD	COLONIAL PARKWAY	1956	-	Federal
YORK	19857	143	ROUTE 143	I-64	1965	-	VDOT
YORK	19860	143	ROUTE 143	QUEENS CREEK	1941	1944	VDOT
YORK	19875	631	WATERVIEW ROAD	VEPCO INTAKE CANAL	1955	1974	Other
YORK	19884	716	WEST QUEENS DRIVE	I-64	1965	-	VDOT
YORK	4290003	-	YORKTOWN BATTLEFIELD TOUR ROAD	CRAWFORD ROAD	1956	-	Federal
YORK	4290004	-	YORKTOWN BATTLEFIELD TOUR ROAD	ROUTE 17	1959	1968	Federal

TABLE 5 – FUNCTIONALLY OBSOLETE BRIDGES IN HAMPTON ROADS (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

DEFICIENT BRIDGES

Deficient bridges, which are defined as the combination of structurally deficient bridges and functionally obsolete bridges, have historically been used to determine eligibility for federal funding and total federal bridge funding levels (as described further in the Bridge Funding section). Based on 77 bridges that are classified as structurally deficient and another 379 bridges that are classified as functionally obsolete, there are a total of 456 bridges in Hampton Roads that are deficient as of August 2012. These deficient bridges are shown in **Map 1** on page 27.

The 456 bridges that are deficient in Hampton Roads comprise 37.3% of the 1,223 structures in the region. This percentage is higher than the 32.4% of NBI bridges throughout Virginia that are deficient as of August 2012. Among the 35 metropolitan areas with populations between one and three million people, Hampton Roads has the third highest percentage of bridges that are deficient, behind only Providence and Pittsburgh (**Figure 10**).

The number of deficient bridges has increased since the previous Regional Bridge Study. In August 2007, 338 bridges were deficient throughout Hampton Roads.

DEFICIENT BRIDGES SUMMARY

- **Bridges in Hampton Roads that are deficient (i.e. classified as structurally deficient or functionally obsolete)** — **456/37.3%** 338/27.3% from 2007
- **Hampton Roads rank among comparable metropolitan areas in terms of the percentage of bridges that are deficient** — **3rd highest of 35 areas**

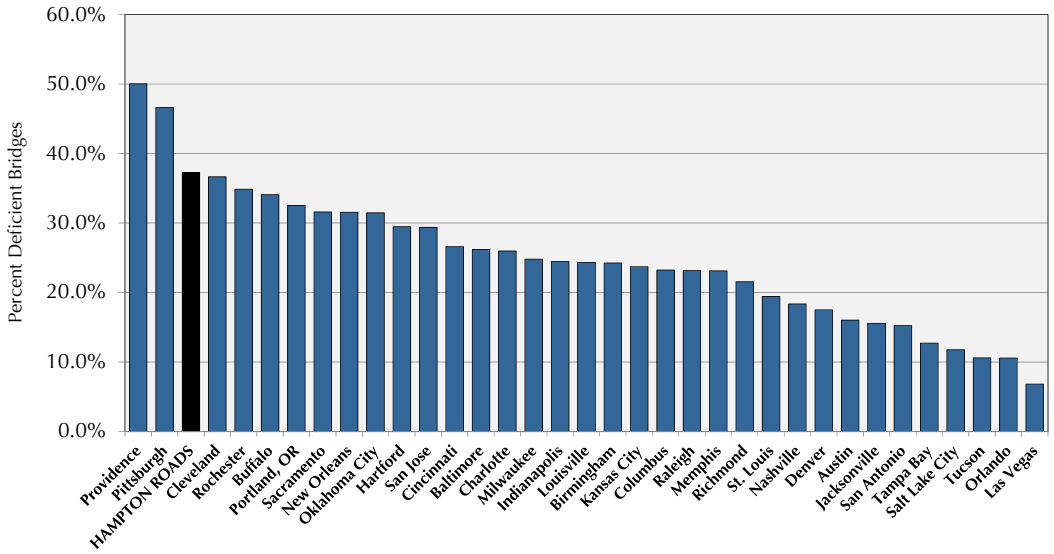
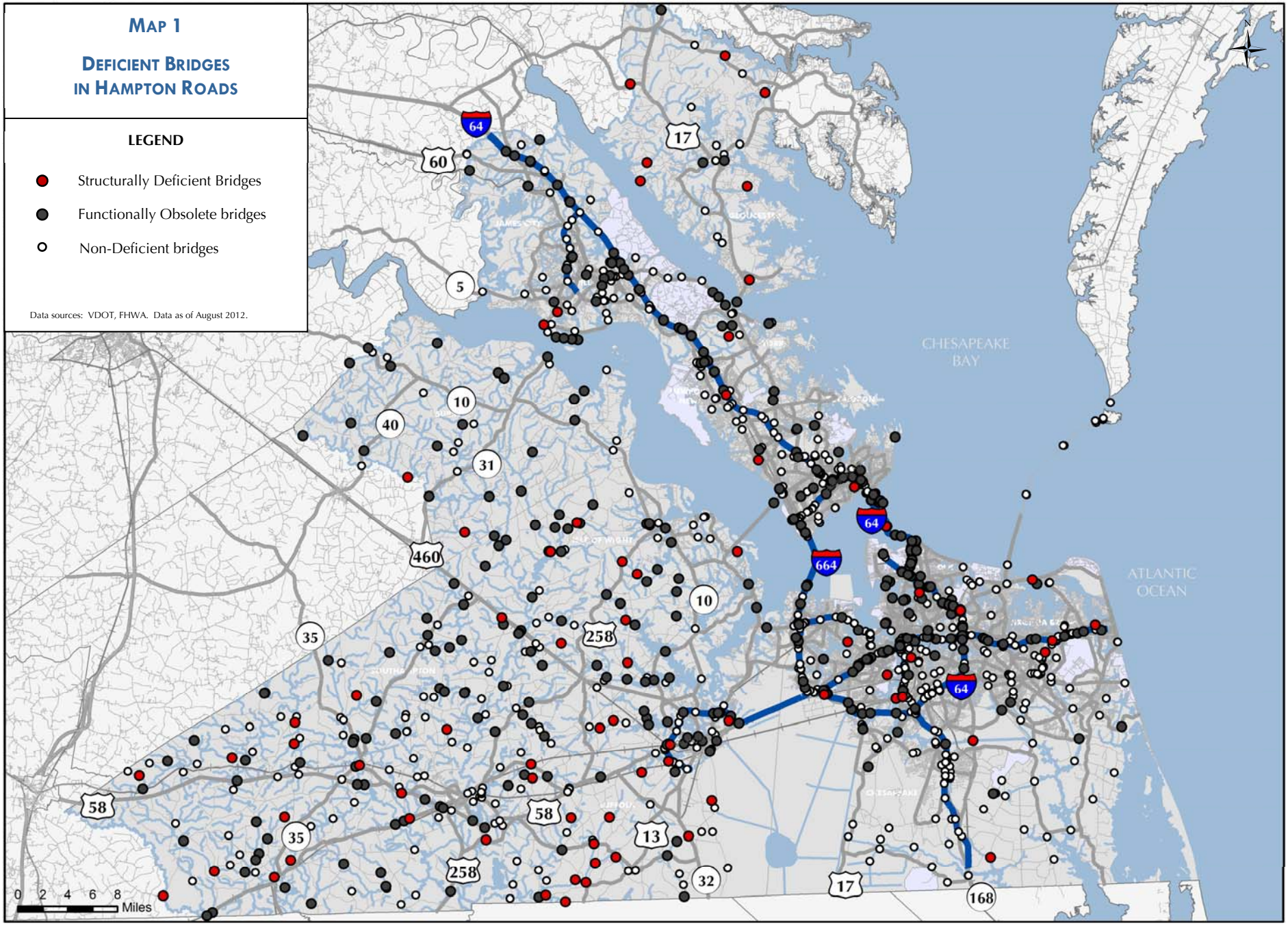


FIGURE 10 – DEFICIENT BRIDGES IN COMPARABLE METROPOLITAN AREAS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.


MAP 1
DEFICIENT BRIDGES
IN HAMPTON ROADS
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Data sources: VDOT, FHWA. Data as of August 2012.
CHESAPEAKE BAY
ATLANTIC OCEAN
64
60
17
5
10
40
31
460
664
35
258
58
13
32
168
0 2 4 6 8
Miles

WEIGHT-POSTED BRIDGES

A weight-posted bridge is defined as a structure that has a rated load-carrying capacity that is less than the designated legal truck weights in the state of Virginia. In Virginia, the maximum legal truck weight is 27 tons for a three-axle single unit vehicle and 40 tons for trucks with semi-trailers. Structures are also posted if they have weight restrictions for five-axle, 45 ton vehicles that can obtain blanket operating permits, which are DMV-issued permits that allow an overweight truck to travel on any designated route throughout the state. Bridge inspectors impose weight restrictions on bridges as necessary for the structure to remain safely in service.

A total of 102 of the 1,223 bridges (8.3%) in Hampton Roads have weight limits posted. These bridges are shown in **Table 6** on page 29. Many of these weight-posted bridges are on lesser traveled roadways; the only weight-posted bridges that carry over 10,000 vehicles per day are the Gilmerton Bridge and the Sunray Bridge (Military Highway over the Norfolk Southern Railroad near Bowers Hill in Chesapeake). Of the 102 weight-posted bridges, 22 are on Federal roadways such as the Colonial Parkway, Jamestown Tour Road, and Yorktown Tour Road.

The number of weight-posted bridges in Hampton Roads has decreased since the previous Regional Bridge Study. In August 2007, 119 bridges in Hampton Roads had weight restrictions posted, which is 17 more bridges than are posted with weight restrictions as of August 2012.

Compared to other metropolitan areas, Hampton Roads has a high percentage of weight-posted bridges. At 8.3%, Hampton Roads has the 11th highest percentage of weight-posted bridges among the 35 metropolitan areas with populations between one and three million people.

WEIGHT-POSTED BRIDGES SUMMARY

- **Bridges in Hampton Roads that have posted weight restrictions** — **102/8.3%** (119/9.6% in 2007)
- **Hampton Roads rank among comparable metropolitan areas in terms of the percentage of bridges that have weight limits posted** — **11th highest of 35 areas**

SUNRAY BRIDGE IN CHESAPEAKE

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Posted Weight Limits (tons)		
					All Vehicles	SU Trucks	Semi-Trailers
CHESAPEAKE	21879	166	22ND STREET	SEABOARD AVENUE & NS R/R	-	5	5
CHESAPEAKE	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER	-	14	20
CHESAPEAKE	21830	13	MILITARY HIGHWAY	NORFOLK SOUTHERN R/R	-	19	31
GLOUCESTER	8552	662	ALLMONDSVILLE ROAD	FOX CREEK	3	-	-
GLOUCESTER	8535	602	BURKE'S POND ROAD	BURKES POND	7	-	-
GLOUCESTER	8545	627	CUNNINGHAM LANE	WILSON CREEK	17	-	-
GLOUCESTER	8538	610	OLD PINETTA ROAD	BLAND CREEK	7	-	-
HAMPTON	J50170	-	BETHEL PARK RD	BETHEL RESERVOIR	N/A		
HAMPTON	20294	-	BRIDGE STREET	SALTERS CREEK	8	-	-
HAMPTON	P1113	-	EAST GATE ROAD	EAST CROSSING OF MOAT	N/A		
HAMPTON	P1049	-	RUCKMAN ROAD	WEST CROSSING OF MOAT	N/A		
ISLE OF WIGHT	10392	614	BALLARD ROAD	CORROWAUGH SWAMP	10	-	-
ISLE OF WIGHT	10419	641	BARRETT TOWN ROAD	ANTIOCH SWAMP	18	-	-
ISLE OF WIGHT	10420	641	BOWS & ARROWS ROAD	DUCKS SWAMP	12	-	-
ISLE OF WIGHT	10431	654	CARROLL BRIDGE ROAD	CHAMPION SWAMP	18	-	-
ISLE OF WIGHT	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R	-	27	40
ISLE OF WIGHT	10421	641	COLOSSE ROAD	CORROWAUGH SWAMP	12	-	-
ISLE OF WIGHT	10378	600	DEER PATH TRAIL	ENNIS POND	15	-	-
ISLE OF WIGHT	10441	683	DEWS PLANTATION ROAD	STALLINGS CREEK	16	-	-
ISLE OF WIGHT	10442	690	ENNIS MILL ROAD	ENNIS POND	15	-	-
ISLE OF WIGHT	10389	612	FREEMAN DRIVE	CORROWAUGH SWAMP	10	-	-
ISLE OF WIGHT	10427	646	GARRISON DRIVE	BURNT MILL SWAMP	10	-	-
ISLE OF WIGHT	10422	641	HARVEST DRIVE	KINGSALE SWAMP	18	-	-
ISLE OF WIGHT	10394	615	JENKINS MILL ROAD	KINGSALE SWAMP	18	-	-
ISLE OF WIGHT	10413	637	JONES TOWN DRIVE	BR. RATTLESNAKE SWAMP	9	-	-
ISLE OF WIGHT	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK	9	-	-
ISLE OF WIGHT	10409	630	LAWERENCE DRIVE	STREAM	10	-	-
ISLE OF WIGHT	10382	602	LONGVIEW DRIVE	CHUCKATUCK CREEK	15	-	-
ISLE OF WIGHT	10383	602	LONGVIEW DRIVE	PAGAN CREEK	10	-	-
ISLE OF WIGHT	10403	621	MILL SWAMP ROAD	MILL SWAMP	14	-	-
ISLE OF WIGHT	10402	621	MILL SWAMP ROAD	PASSENGER SWAMP	12	-	-
ISLE OF WIGHT	10406	626	MILL SWAMP ROAD	STALLINGS CREEK	18	-	-
ISLE OF WIGHT	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH	10	-	-
ISLE OF WIGHT	10429	647	POPE SWAMP TRAIL	POPE SWAMP	17	-	-
ISLE OF WIGHT	10384	603	SHILOH DRIVE	ENNIS POND	12	-	-
ISLE OF WIGHT	10438	680	STALLINGS CREEK DRIVE	STALLINGS CREEK	18	-	-
ISLE OF WIGHT	10445	692	UZZELL CHURCH ROAD	CHAMPION SWAMP	17	-	-
ISLE OF WIGHT	10381	600	WOODLAND DRIVE	GREAT SWAMP	15	-	-
JAMES CITY	4290026	-	COLONIAL PARKWAY	BACK RIVER	N/A		
JAMES CITY	4290023	-	COLONIAL PARKWAY	COLLEGE CREEK	N/A		
JAMES CITY	4290022	-	COLONIAL PARKWAY	HALFWAY CREEK	N/A		
JAMES CITY	4290024	-	COLONIAL PARKWAY	MILL CREEK	N/A		
JAMES CITY	24057	31	GLASS HOUSE FERRY	JAMES RIVER	-	16	28
JAMES CITY	10533	629	HICKORY SIGNPOST ROAD	MILL CREEK	18	-	-
JAMES CITY	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK	15	-	-
JAMES CITY	4290029	-	JAMESTOWN ISLAND TOUR ROAD	CREEK	N/A		
JAMES CITY	4290030	-	JAMESTOWN ISLAND TOUR ROAD	CREEK	N/A		
JAMES CITY	4290031	-	JAMESTOWN ISLAND TOUR ROAD	KINGSMILL CREEK	N/A		
JAMES CITY	4290028	-	JAMESTOWN ISLAND TOUR ROAD	PITCH AND TAR SWAMP	N/A		
JAMES CITY	10515	600	SIX MOUNT ZION ROAD	WARE CREEK SPILLWAY	22	-	-
NEWPORT NEWS	20659	-	WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR	-	18	28
SOUTHAMPTON	17785	615	ADAMS GROVE ROAD	BROWNS BRANCH	10	-	-
SOUTHAMPTON	17838	652	BUCKHORN QUARTER ROAD	BUCKHORN SWAMP	18	-	-
SOUTHAMPTON	17797	619	BURDETTE ROAD	BLACK CREEK	14	-	-
SOUTHAMPTON	17846	658	CEDAR VIEW ROAD	ANGELICO CREEK	15	-	-
SOUTHAMPTON	17820	638	DRAKE ROAD	JOHNSONS MILL	14	-	-
SOUTHAMPTON	17767	607	FARMERS BRIDGE ROAD	ASSAMOOSIC SWAMP	10	-	-
SOUTHAMPTON	17812	634	INDIAN BRANCH LANE	INDIAN BRANCH	11	-	-
SOUTHAMPTON	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER	-	23	28
SOUTHAMPTON	17768	608	MILL NECK ROAD	RACOON SWAMP	9	-	-
SOUTHAMPTON	17811	633	SAINT LUKES ROAD	HORSE PEN RUN	21	-	-
SOUTHAMPTON	17874	674	SANDS ROAD	DARDEN MILL RUN	24	-	-
SOUTHAMPTON	17782	614	SEACOCK CHAPEL ROAD	BRANCH	19	-	-
SOUTHAMPTON	17781	614	SEACOCK CHAPEL ROAD	SEACOCK SWAMP	21	-	-
SOUTHAMPTON	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	-	22	28
SOUTHAMPTON	17813	635	TUCKER SWAMP ROAD	NORFOLK SOUTHERN R/R	11	-	-
SOUTHAMPTON	17849	659	VICKS MILLPOND ROAD	FLAT SWAMP	20	-	-
SUFFOLK	22131	643	ARTHUR DRIVE	LANGSTON SWAMP	9	-	-
SUFFOLK	22130	643	ARTHUR DRIVE	SPIVEY SWAMP	6	-	-
SUFFOLK	22154	674	BADGER ROAD	WASHINGTON DITCH	8	-	-
SUFFOLK	22139	662	BOX ELDER ROAD	NORFLEETS SWAMP	13	-	-
SUFFOLK	22110	613	ELWOOD ROAD	KINGSALE SWAMP	6	-	-
SUFFOLK	22148	668	FREEMAN MILL ROAD	SPIVEY SWAMP	23	-	-
SUFFOLK	22099	604	LAKE PRINCE DRIVE	LAKE PRINCE	18	-	-
SUFFOLK	22137	660	LONGSTREET LANE	SOMERTON CREEK	17	-	-
SUFFOLK	22132	643	MANNING BRIDGE ROAD	STREAM	10	-	-
SUFFOLK	22111	616	MINERAL SPRINGS ROAD	JONES SWAMP	8	-	-
SUFFOLK	22105	607	OLD MILL ROAD	COHOON CREEK	27	-	-
SUFFOLK	22163	759	PINEVIEW ROAD	CHAPEL SWAMP	-	27	38
SUFFOLK	22150	668	PITTMANTOWN ROAD	MILL SWAMP	8	-	-
SUFFOLK	22151	669	ROBBIE ROAD	MILL SWAMP	12	-	-
SUFFOLK	22107	608	SIMONS DRIVE	COHOON CREEK	14	-	-
SUFFOLK	22138	661	SOUTHWESTERN BLVD	CHAPEL SWAMP	9	-	-
SUFFOLK	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY	19	-	-
SURRY	18206	626	BEAVERDAM ROAD	SUNKEN MEADOW CREEK	15	-	-
SURRY	18187	604	GOODRICH FORK ROAD	TERRAPIN SWAMP	23	-	-
SURRY	18213	630	LOAFERS OAK ROAD	CYPRESS SWAMP	8	-	-
SURRY	23137	31	SCOTLAND WHARF	JAMES RIVER	-	16	28
SURRY	18304	603	THREE BRIDGES ROAD	BLACKWATER RIVER	8	-	-
WILLIAMSBURG	4290019	-	LAFAYETTE STREET	COLONIAL PARKWAY	N/A		
WILLIAMSBURG	4290020	-	NEWPORT AVENUE	COLONIAL PARKWAY	N/A		
YORK	4290011	-	COLONIAL PARKWAY	FELGATE'S CREEK	N/A		
YORK	4290010	-	COLONIAL PARKWAY	INDIAN FIELD CREEK	N/A		
YORK	4290012	-	COLONIAL PARKWAY	KINGS CREEK	N/A		
YORK	4290009	-	COLONIAL PARKWAY	NAVAL WEAPONS ROAD	N/A		
YORK	4290013	-	COLONIAL PARKWAY	PENNIMAN ROAD	N/A		
YORK	4290006	-	COLONIAL PARKWAY	ROUTE 17	N/A		
YORK	4290005	-	COLONIAL PARKWAY	YORKTOWN CREEK	N/A		
YORK	19883	716	EAST QUEENS DRIVE	QUEENS CREEK - SPILLWAY	11	-	-
YORK	19860	143	ROUTE 143	QUEENS CREEK	-	19	30
YORK	4290002	-	YORKTOWN BATTLEFIELD TOUR ROAD	BEAVERDAM CREEK	N/A		
YORK	4290004	-	YORKTOWN BATTLEFIELD TOUR ROAD	ROUTE 17	N/A		

TABLE 6 – WEIGHT-POSTED BRIDGES IN HAMPTON ROADS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. SU = Single Unit trucks. The specific weight limits on federal bridges was not included in the NBI data.

FRACTURE AND SCOUR CRITICAL BRIDGES

Certain structures, due to their design or location, require more monitoring than typical bridges. Two types of structures that require this additional monitoring are fracture critical bridges and bridges that are vulnerable to scouring.

Most bridges are designed so that loads can be redistributed to other structural members if any one structural member loses its ability to distribute loads. However, fracture critical bridges are structures that are designed with few or no redundant supporting elements and are in danger of collapsing if a key structural member fails. Despite this lack of redundant elements, **fracture critical bridges are not necessarily unsafe. Bridge inspectors will close or impose limits on structures that they feel are unsafe.** In order to assure the safety of fracture critical bridges, they undergo more extensive and more frequent inspections, usually on an annual basis.

Examples of fracture critical bridges include most truss bridges, drawbridges, and those beam or girder bridges designed without redundant elements. A total of 38 bridges in Hampton Roads are classified as fracture critical as of August 2012 (**Table 7**), with notable examples including the Coleman Bridge, James River Bridge, and Berkley Bridge. Based on their design, all 12 drawbridges in Hampton Roads are classified as fracture critical.

Bridges with underwater substructure sections may be vulnerable to scouring, or the exposure of portions of the substructure due to changes in the river bed. In cases where a bridge is at risk of failure due to scouring, the bridge is classified as scour critical. Underwater substructure sections are inspected regularly (usually every five years) to assure that bridges that could potentially be vulnerable to scouring do not become scour critical. Currently, no bridges in Hampton Roads are classified as scour critical.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing
CHESAPEAKE	27874	168	BATTLEFIELD BLVD	CHESAPEAKE & ALBEMARLE CANAL
CHESAPEAKE	21797	-	CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL
CHESAPEAKE	1818	17	GEORGE WASHINGTON HWY	DISMAL SWAMP CANAL
CHESAPEAKE	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER
CHESAPEAKE	21868	64	HIGH RISE BRIDGE	S BR ELIZ RIVER & SR 166
CHESAPEAKE	26355	64	I-64 EB COLLECTOR ROAD	OVER BATTLEFIELD BLVD RAMP
CHESAPEAKE	26354	64	I-64 WB COLLECTOR ROAD	OVER GREENBRIER PKWY RAMP
CHESAPEAKE	21915	664	I-664 RAMP	ROUTE 58 & 460 EB
CHESAPEAKE	21875	17	STEEL BRIDGE (DOMINION BLVD)	S BR ELIZABETH RIVER
HAMPTON	20314	64	I-64 EB	E. BRANCH HAMPTON RIVER
HAMPTON	20346	64	I-64 WB	PEMBROKE AVENUE & HAMPTON RIVER
HAMPTON	20399	64	I-64 RAMPS	NEWMARKET CREEK
HAMPTON	20396	664	I-664 NB	I-64 RAMP & NEWMARKET CREEK
HAMPTON	20328	664	I-664 SB RAMP	I-64 & NEWMARKET CREEK
ISLE OF WIGHT	10364	17	JAMES RIVER BRIDGE	JAMES RIVER
JAMES CITY	24057	31	GLASS HOUSE FERRY	JAMES RIVER
JAMES CITY	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK
NEWPORT NEWS	20750	664	I-664	TERMINAL AVENUE
NEWPORT NEWS	20754	664	I-664 ON RAMP	TERMINAL AVENUE & CSX R/R
NEWPORT NEWS	20761	664	I-664 RAMP	TERMINAL AVENUE
NORFOLK	23191	64	I-64 HOV LANES	I-64 WB
NORFOLK	23214	64	I-64 HOV LANES	I-564 & LITTLE CREEK ROAD
NORFOLK	23186	64	I-64 HOV RAMP	I-64 WB & I-264 & RAMPS
NORFOLK	20962	264	I-264 EB	E BR ELIZABETH RIVER
NORFOLK	20971	264	I-264 EB	I-264 EB RAMP
NORFOLK	20979	264	I-264 WB	CITY HALL AVENUE
NORFOLK	20947	264	I-264 WB	E BR ELIZABETH RIVER
NORFOLK	21000	264	I-264 WB	HOLT STREET & NS R/R
PORTSMOUTH	21242	264	I-264	WB RAMP FROM EFFINGHAM STREET
PORTSMOUTH	21208	164	ROUTE 164 EB	FORMER COAST GUARD BLVD
PORTSMOUTH	21206	164	ROUTE 164 WB	FORMER COAST GUARD BLVD
SOUTHAMPTON	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER
SOUTHAMPTON	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER
SOUTHAMPTON	26972	680	SUNBEAM ROAD	COKEMOKE MILL
SOUTHAMPTON	17813	635	TUCKER SWAMP ROAD	N&W R/R
SURRY	23137	31	SCOTLAND WHARF	JAMES RIVER
VIRGINIA BEACH	12752	13	CBBT NB	CHESAPEAKE BAY
YORK	19824	17	COLEMAN BRIDGE	YORK RIVER

TABLE 7 – FRACTURE CRITICAL BRIDGES IN HAMPTON ROADS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

SUFFICIENCY RATING

Sufficiency ratings are numerical ratings for each bridge based on its structural evaluation, design and function, and public importance. These components are used to obtain a numeric value between 0% and 100%, with a sufficiency rating of 100% representing an entirely sufficient bridge. Similar to structurally deficient bridges, however, it must be emphasized that **those bridges with low sufficiency ratings are not necessarily unsafe**.

Sufficiency ratings are often misunderstood as solely reflecting the condition of a bridge. Instead, the Federal Highway Administration (FHWA) designed sufficiency ratings to cover many aspects of the bridge (including condition) in order to prioritize federal bridge funds for allocation. Deficient bridges with sufficiency ratings of less than 50 qualify for federal bridge replacement funds, while deficient bridges with sufficiency ratings greater than 50 and less than or equal to 80 qualify for federal bridge rehabilitation funds. This is described in more detail in the Bridge Funding section of this report.

The sufficiency rating is comprised of three weighted components totaling 100%, plus one component for special reductions. The four components, which are shown in **Figure 11**, are:

- **Structural Adequacy and Safety (55%)** – This includes the condition of the superstructure, substructure, or culvert.
- **Serviceability and Functional Obsolescence (30%)** – This includes thirteen factors related to the design and function of the bridge.
- **Essentiality for Public Use (15%)** – This includes traffic volumes carried on the structure, detour length, and the importance of the route carried by the structure for military deployment.
- **Special Reductions (up to 13% reduction)** – The sufficiency rating can be reduced based on the type of structure, safety features on the bridge, and detour length.

SUFFICIENCY RATING SUMMARY

- **Bridges in Hampton Roads with a sufficiency rating of less than 50** — **86/7.0%** (75/6.1% in 2007)
- **Hampton Roads rank among comparable metropolitan areas in terms of the percentage of bridges with a sufficiency rating of less than 50** — **17th highest of 35 areas**

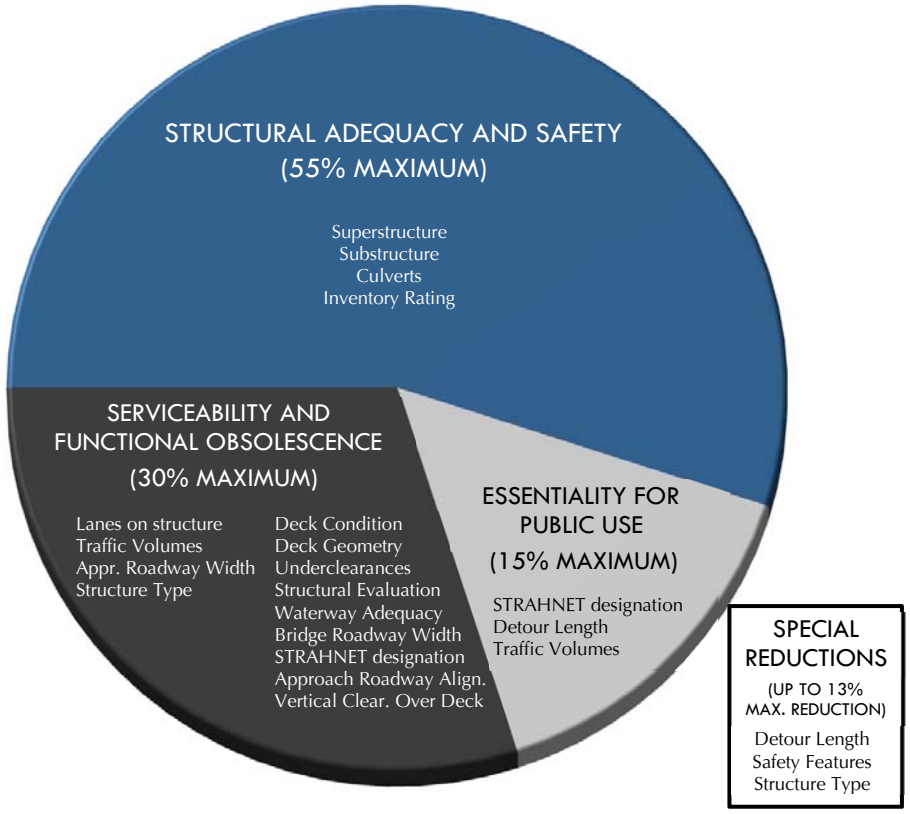


FIGURE 11 – SUFFICIENCY RATING FACTORS AND COMPONENTS

The method for calculating bridge sufficiency ratings is complex. Scores for each of the four components are determined based on the variety of factors shown in Figure 11. The method for calculating bridge sufficiency ratings and an example for calculating the sufficiency rating of the High Rise Bridge is shown in **Appendix C**.

The median sufficiency rating for bridges in Hampton Roads is 83.9 as of August 2012. Among the 1,223 bridges in Hampton Roads, 86 bridges (7.0%) have a sufficiency rating of less than 50 (**Figure 12**). Another 428 bridges (35.0%) in Hampton Roads have a sufficiency rating between 50 and 80.

Table 8 shows the bridge sufficiency ratings by jurisdiction. Suffolk (17 bridges), Isle of Wight County (16), and Southampton County/Franklin (15) have the highest number of bridges with sufficiency ratings less than 50. Combined, these three jurisdictions have more than half of all bridges in Hampton Roads with sufficiency ratings less than 50.

The number of bridges in Hampton Roads with a sufficiency rating of less than 50 has increased since the previous Regional Bridge Study. In August 2007, 75 bridges in Hampton Roads had a sufficiency rating of less than 50, comprising 6.1% of all bridges.

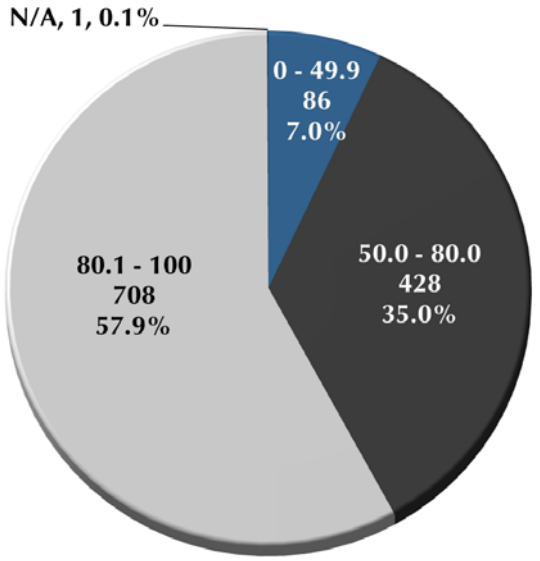


FIGURE 12 – BRIDGE SUFFICIENCY RATINGS IN HAMPTON ROADS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Jurisdiction	Total Number of Bridges	Sufficiency Rating			
		0 - 49.9	50.0 - 80.0	80.1 - 100	N/A
CHESAPEAKE	166	12	32	121	1
GLOUCESTER	24	4	9	11	-
HAMPTON	83	3	37	43	-
ISLE OF WIGHT	85	16	35	34	-
JAMES CITY	62	4	26	32	-
NEWPORT NEWS	87	3	35	49	-
NORFOLK	188	2	60	126	-
POQUOSON	0	-	-	-	-
PORTSMOUTH	41	2	13	26	-
SOUTHAMPTON/FRANKLIN	138	15	49	74	-
SUFFOLK	135	17	33	85	-
SURRY	32	1	15	16	-
VIRGINIA BEACH	118	6	52	60	-
WILLIAMSBURG	12	-	6	6	-
YORK	52	1	26	25	-
HAMPTON ROADS	**1,223**	**86**	**428**	**708**	**1**

TABLE 8 – BRIDGE SUFFICIENCY RATINGS IN HAMPTON ROADS BY JURISDICTION

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012.

Compared to other areas, bridges in Hampton Roads have lower sufficiency ratings. The median bridge sufficiency rating in Hampton Roads (83.9) ranks 5th lowest among the 35 comparable metropolitan areas with populations between one and three million people (**Figure 13**). It should be noted, however, that the median bridge sufficiency rating in Hampton Roads is not much lower than the median metropolitan area (Kansas City at 87.0).

When looking at bridges with sufficiency ratings of less than 50, however, Hampton Roads ranks in the middle compared to other metropolitan areas. At 7.0%, Hampton Roads ranks 17th highest among the 35 comparable metropolitan areas in the percentage of bridges with sufficiency ratings of less than 50 (**Figure 14**).

Table 9 on pages 34-35 lists all 86 bridges in Hampton Roads with sufficiency ratings of less than 50. The bridge with the lowest sufficiency rating in the region is the 22nd Street Bridge over Seaboard Avenue/Norfolk Southern Railroad in Chesapeake at 2.0. The next lowest sufficiency ratings are the Gilmerton Bridge (3.0), Turlington Road over a branch of Kilby Creek in Suffolk (5.0), Route 35 over the Meherrin River near Courtland (10.4), and Route 189 over the Blackwater River on the Suffolk/Southampton County Line (10.7).

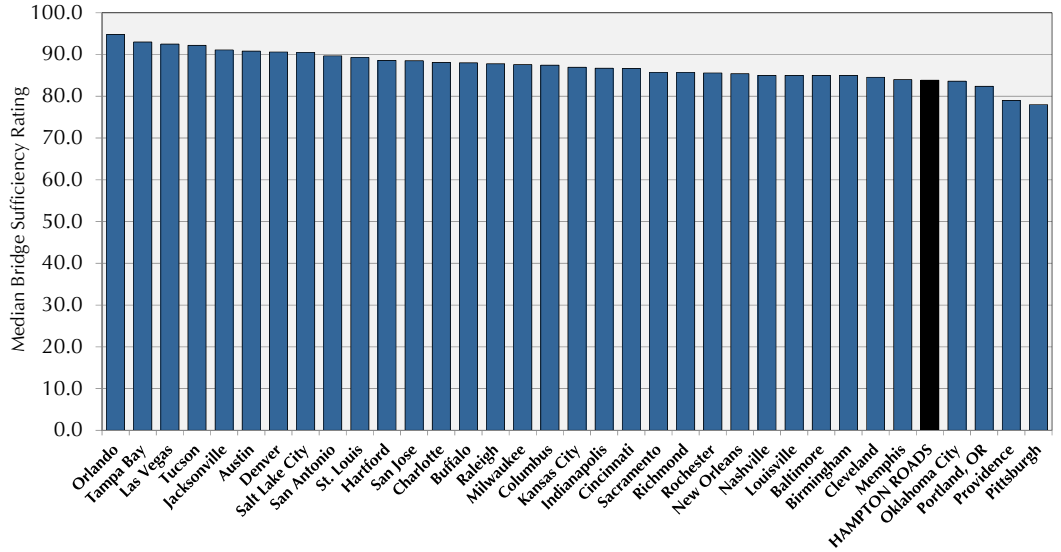


FIGURE 13 – MEDIAN BRIDGE SUFFICIENCY RATING IN COMPARABLE METROPOLITAN AREAS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.

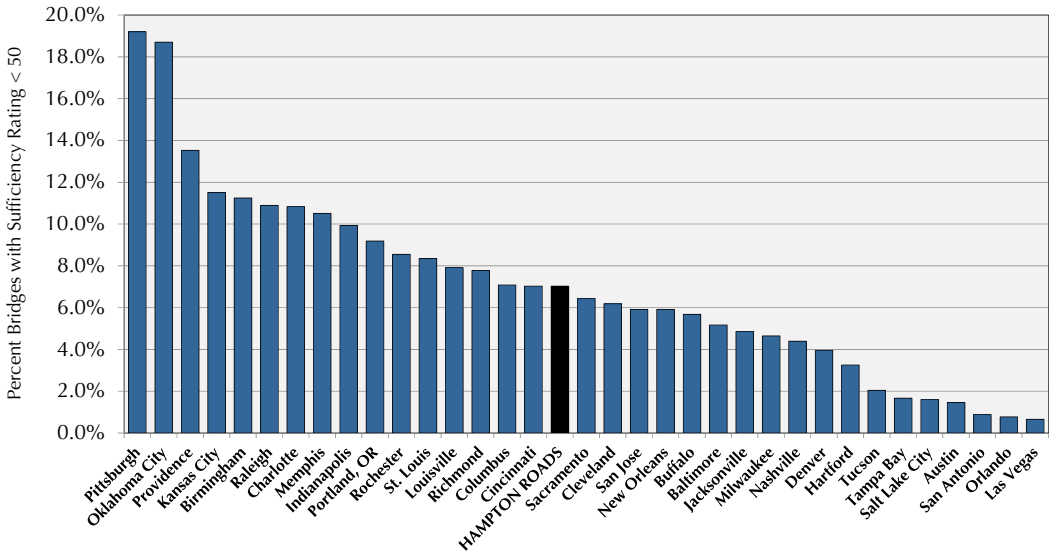


FIGURE 14 – BRIDGES WITH SUFFICIENCY RATINGS OF LESS THAN 50 IN COMPARABLE METROPOLITAN AREAS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012, other areas as of 2011.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	SD/FO	Sufficiency Rating
CHESAPEAKE	21879	166	22ND STREET	SEABOARD AVENUE & NS R/R	1938	-	SD	2.0
CHESAPEAKE	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER	1938	1958	SD	3.0
SUFFOLK	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY	1957	-	SD	5.0
SOUTHAMPTON	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER	1929	-	SD	10.4
SOUTHAMPTON	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	1940	1962	SD	10.7
SOUTHAMPTON	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER	1960	-	SD	11.8
SUFFOLK	22111	616	MINERAL SPRINGS ROAD	JONES SWAMP	1955	1977	SD	15.1
ISLE OF WIGHT	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH	1945	-	SD	15.4
SUFFOLK	22091	337	NANSEMOND PARKWAY	BEAMONS MILL POND	1920	-	SD	15.4
CHESAPEAKE	1826	165	MOUNT PLEASANT ROAD	CHESAPEAKE & ALBEMARLE CANAL	1951	2010	-	17.5*
PORTSMOUTH	21217	239	VICTORY BLVD	PARADISE CREEK	1944	-	SD	18.3
NEWPORT NEWS	20727	173	DENBIGH BLVD	I-64 & CSX R/R	1965	1977	SD	18.5
SUFFOLK	22130	643	ARTHUR DRIVE	SPIVEY SWAMP	1960	-	SD	18.6
HAMPTON	J50170	-	BETHEL PARK RD	BETHEL RESERVOIR	1935	-	SD	18.9
SOUTHAMPTON	17813	635	TUCKER SWAMP ROAD	NORFOLK SOUTHERN R/R	1915	-	SD	19.7
NEWPORT NEWS	20659	-	WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR	1946	-	FO	19.9
SUFFOLK	22110	613	ELWOOD ROAD	KINGSALE SWAMP	1962	-	SD	20.0
SUFFOLK	22154	674	BADGER ROAD	WASHINGTON DITCH	1945	-	SD	20.1
SUFFOLK	22138	661	SOUTHWESTERN BLVD	CHAPEL SWAMP	1956	-	SD	20.2
CHESAPEAKE	21797	-	CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL	1955	1990	SD	21.2
GLOUCESTER	8535	602	BURKE'S POND ROAD	BURKES POND	1940	-	SD	24.3
SOUTHAMPTON	17785	615	ADAMS GROVE ROAD	BROWNS BRANCH	1932	-	SD	25.3
ISLE OF WIGHT	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK	1945	-	SD	25.9
SUFFOLK	22131	643	ARTHUR DRIVE	LANGSTON SWAMP	1945	-	SD	26.1
SUFFOLK	22139	662	BOX ELDER ROAD	NORFLEETS SWAMP	1958	1994	SD	26.7
CHESAPEAKE	21811	-	BELLS MILL ROAD	BELLS MILL CREEK	2012	-	-	26.8*
YORK	4290002	-	YORKTOWN BATTLEFIELD TOUR ROAD	BEAVERDAM CREEK	1975	-	SD	27.5
SOUTHAMPTON	17866	671	GENERAL THOMAS HWY	NOTTOWAY RIVER OVERFLOW	1960	-	FO	28.2
ISLE OF WIGHT	10427	646	GARRISON DRIVE	BURNT MILL SWAMP	1945	1978	SD	28.3
CHESAPEAKE	21802	-	BEAVER DAM ROAD	DRAINAGE DITCH	2012	-	-	29.0*
ISLE OF WIGHT	10438	680	STALLINGS CREEK DRIVE	STALLINGS CREEK	1952	-	SD	30.5
SUFFOLK	22107	608	SIMONS DRIVE	COHOON CREEK	1945	-	SD	31.0
NEWPORT NEWS	20679	60	WARWICK BLVD	LAKE MAURY	1931	1960	SD	31.8
CHESAPEAKE	21830	13	MILITARY HIGHWAY	NORFOLK SOUTHERN R/R	1938	-	SD	31.8
SUFFOLK	22105	607	OLD MILL ROAD	COHOON CREEK	1955	1981	SD	32.3
SUFFOLK	22150	668	PITTMANTOWN ROAD	MILL SWAMP	1950	-	SD	32.9
SOUTHAMPTON	17812	634	INDIAN BRANCH LANE	INDIAN BRANCH	1932	-	SD	34.5
VA BEACH	22264	60	SHORE DRIVE WB	LYNNHAVEN INLET	1967	-	SD	34.9
VA BEACH	22183	-	SANDBRIDGE ROAD	HELLS POINT CREEK	1961	-	FO	35.2
SUFFOLK	22151	669	ROBBIE ROAD	MILL SWAMP	1955	-	SD	35.9
JAMES CITY	24057	31	GLASS HOUSE FERRY	JAMES RIVER	1994	1995	SD	37.0
JAMES CITY	10476	31	JAMESTOWN ROAD	POWHATAN CREEK	1957	-	SD	37.2
SOUTHAMPTON	17781	614	SEACOCK CHAPEL ROAD	SEACOCK SWAMP	1953	-	FO	38.4
VA BEACH	22260	60	SHORE DRIVE EB	LYNNHAVEN INLET	1958	-	SD	39.0

TABLE 9 – BRIDGES IN HAMPTON ROADS WITH SUFFICIENCY RATINGS OF LESS THAN 50

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. SD=Structurally Deficient, FO=Functionally Obsolete. * - Recently rebuilt or reconstructed bridges where sufficiency ratings have not yet been updated.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Year Built	Year Recnst	SD/FO	Sufficiency Rating
SOUTHAMPTON	17727	35	ROUTE 35	TARRARA CREEK	1946	-	SD	39.1
SOUTHAMPTON	9139	730	LITTLE TEXAS ROAD	MEHERRIN RIVER	1953	-	SD	39.1
VA BEACH	22252	58	LASKIN ROAD	LINKHORN BAY	1938	1956	SD	40.3
SOUTHAMPTON	17752	186	HUGO ROAD	OVERFLOW MEHERRIN RIVER	1937	1993	FO	40.4
SURRY	18304	603	THREE BRIDGES ROAD	BLACKWATER RIVER	1932	-	SD	40.9
GLOUCESTER	8538	610	OLD PINETTA ROAD	BLAND CREEK	1960	-	SD	41.0
GLOUCESTER	8552	662	ALLMONDSVILLE ROAD	FOX CREEK	1937	-	SD	41.1
HAMPTON	P1113	-	EAST GATE ROAD	EAST CROSSING OF MOAT	1950	-	FO	41.3
ISLE OF WIGHT	10413	637	JONES TOWN DRIVE	BR. RATTLESNAKE SWAMP	1945	-	FO	41.7
ISLE OF WIGHT	10384	603	SHILOH DRIVE	ENNIS POND	1955	-	FO	42.8
CHESAPEAKE	21875	17	STEEL BRIDGE (DOMINION BLVD)	S BR ELIZABETH RIVER	1962	-	FO	44.0
SOUTHAMPTON	17757	308	THREE CREEK ROAD	THREE CREEK	1948	-	SD	44.4
SUFFOLK	22099	604	LAKE PRINCE DRIVE	LAKE PRINCE	1954	-	FO	44.5
ISLE OF WIGHT	10389	612	FREEMAN DRIVE	CORROWAUGH SWAMP	1954	-	FO	44.9
ISLE OF WIGHT	10424	644	FIRE TOWER ROAD	POPE SWAMP	1948	1979	FO	45.1
JAMES CITY	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK	1932	1974	FO	45.4
ISLE OF WIGHT	10422	641	HARVEST DRIVE	KINGSALE SWAMP	1955	-	FO	46.0
SUFFOLK	22132	643	MANNING BRIDGE ROAD	STREAM	1945	-	SD	46.0
ISLE OF WIGHT	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R	1936	1956	SD	46.3
NORFOLK	21039	460	GRANBY STREET	MASONS CREEK	2012	-	-	46.4*
ISLE OF WIGHT	10402	621	MILL SWAMP ROAD	PASSENGER SWAMP	1945	1979	FO	46.5
NORFOLK	20787	13	MILITARY HIGHWAY	BRANCH OF BROAD CREEK	1945	-	FO	46.7
HAMPTON	20294	-	BRIDGE STREET	SALTERS CREEK	1934	1996	SD	46.8
ISLE OF WIGHT	10382	602	LONGVIEW DRIVE	CHUCKATUCK CREEK	1951	-	FO	47.2
ISLE OF WIGHT	10383	602	LONGVIEW DRIVE	PAGAN CREEK	1945	-	FO	47.3
GLOUCESTER	8527	17	MAIN STREET SB	FOX MILL RUN	2012	-	-	47.4*
SOUTHAMPTON	17767	607	FARMERS BRIDGE ROAD	ASSAMOOSIC SWAMP	1932	-	FO	47.9
PORTSMOUTH	21199	17	HIGH STREET	W BR ELIZABETH RIVER	1951	1975	SD	47.9
ISLE OF WIGHT	10406	626	MILL SWAMP ROAD	STALLINGS CREEK	1945	-	FO	48.0
CHESAPEAKE	21799	-	INDIAN CREEK ROAD	INDIAN CREEK	1972	-	SD	48.6
ISLE OF WIGHT	10420	641	BOWS & ARROWS ROAD	DUCKS SWAMP	1952	-	FO	48.7
SOUTHAMPTON	17849	659	VICKS MILLPOND ROAD	FLAT SWAMP	1932	-	FO	48.7
CHESAPEAKE	21809	-	FENTRESS AIRFIELD ROAD	POCATY CREEK	2012	-	-	48.8*
CHESAPEAKE	21827	13	MILITARY HIGHWAY	BAINBRIDGE BLVD & NS R/R	1948	1960	SD	48.9
SUFFOLK	22137	660	LONGSTREET LANE	SOMERTON CREEK	1968	-	SD	49.0
VA BEACH	22228	264	I-264	LYNNHAVEN PARKWAY	1967	1986	SD	49.0
ISLE OF WIGHT	10442	690	ENNIS MILL ROAD	ENNIS POND	1961	-	FO	49.1
JAMES CITY	4290022	-	COLONIAL PARKWAY	HALFWAY CREEK	1942	-	-	49.1
SOUTHAMPTON	17797	619	BURDETTE ROAD	BLACK CREEK	1932	1983	FO	49.3
VA BEACH	22187	-	SOUTH LYNNHAVEN ROAD	LONDON BRIDGE CREEK	1966	-	SD	49.5
CHESAPEAKE	21806	-	LAKE DRUMMOND CAUSEWAY	LEAD DITCH	2012	-	-	49.7*
SUFFOLK	22163	759	PINEVIEW ROAD	CHAPEL SWAMP	1949	-	-	49.7

TABLE 9 – BRIDGES IN HAMPTON ROADS WITH SUFFICIENCY RATINGS OF LESS THAN 50 (CONTINUED)

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. SD=Structurally Deficient, FO=Functionally Obsolete. * - Recently rebuilt or reconstructed bridges where sufficiency ratings have not yet been updated.

HEALTH INDEX

As described in the previous section, sufficiency ratings were created by FHWA as a means of prioritizing federal bridge funds for allocation. Although sufficiency ratings reflect many factors such as functional adequacy and essentiality for public use, they are often misunderstood as reflecting only the physical condition of a bridge. In addition, sufficiency ratings reflect the entire structure, rather than the condition of individual elements of each bridge. This makes sufficiency ratings difficult to use for prioritizing bridge maintenance. Therefore, VDOT and many other state DOTs use another measure, the Health Index, to measure the physical condition of the bridge and provide a reliable ranking system for bridge maintenance.

The Health Index is determined based on the condition of various elements of the bridge – such as railings, joints, and girders – which are each rated from "new condition" to "serious or badly deteriorated condition". These elements are then assigned a dollar value based on their condition relative to a new structure. Each element is assigned a weight and the elements are combined to determine a current dollar value of the entire structure. The Health Index of a structure is calculated by dividing this current dollar value by the sum of the total value of all the structure's elements in new condition. A Health Index of 100% indicates that all of the elements of the structure are in the best possible condition, while a Health Index of 0% indicates that all of the elements are in the worst possible condition. A low health index, however, does not mean that the bridge is unsafe. Bridge inspectors will close or impose weight limits on bridges that they feel are unsafe.

VDOT includes Health Index data in its databases for VDOT-maintained structures. VDOT-maintained bridges in Hampton Roads with the lowest Health Indices are shown in **Table 10**.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	VDOT Health Index
ISLE OF WIGHT	29488	662	WHIPPINGHAM PARKWAY	RAGGED ISLAND CREEK	47.44
JAMES CITY	10510	199	ROUTE 199 WB	COLLEGE CREEK	48.96
SOUTHAMPTON	17854	665	CROSS KEYS ROAD	DEAL SWAMP	49.41
ISLE OF WIGHT	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R	49.50
GLOUCESTER	8535	602	BURKE'S POND ROAD	BURKES POND	51.65
NORFOLK	20805	58	BRAMBLETON AVENUE WB	HAMPTON BLVD	55.50
SOUTHAMPTON	17813	635	TUCKER SWAMP ROAD	NORFOLK SOUTHERN R/R	55.81
SOUTHAMPTON	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	56.14
YORK	19818	17	GEORGE WASHINGTON HWY SB	POQUOSON RIVER	58.72
SURRY	18206	626	BEAVERDAM ROAD	SUNKEN MEADOW CREEK	59.32
YORK	19875	631	WATERVIEW ROAD	VEPCO INTAKE CANAL	60.49
NORFOLK	20813	64	I-264 EB RAMP	I-264 WB & I-64	61.02
SURRY	14080	600	MONTPELIER ROAD	UPPER CHIPPOKES CREEK	61.11
SOUTHAMPTON	17864	671	GENERAL THOMAS HWY	BRANCH	61.13
HAMPTON	20330	64	I-64 WB	NEWMARKET CREEK	61.83
YORK	19855	134	MAGRUDER BLVD WB	BRICK KILN CREEK	62.25
NEWPORT NEWS	20727	173	DENBIGH BLVD	I-64 & CSX R/R	63.35
SOUTHAMPTON	17780	612	FORTSVILLE ROAD	APPLE WHITE SWAMP	63.36
HAMPTON	20302	-	HAMPTON ROADS CENTER PKWY	BILLY WOOD CANAL	63.62
GLOUCESTER	8538	610	OLD PINETTA ROAD	BLAND CREEK	63.99
SOUTHAMPTON	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER	64.00
NEWPORT NEWS	20663	-	28TH STREET	I-664/WARWICK BLVD/CSX R/R	64.05
YORK	19857	143	ROUTE 143	I-64	64.60
YORK	19884	716	WEST QUEENS DRIVE	I-64	64.89

TABLE 10 – VDOT-MAINTAINED BRIDGES IN HAMPTON ROADS WITH THE LOWEST HEALTH INDICES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. Table only includes those bridges owned and maintained by VDOT.

BRIDGE FUNDING

Similar to other aspects of transportation, funds for constructing and maintaining bridges are limited. Funding for bridge projects comes from a variety of federal, state, and local sources. In some cases tolls are also used to fund bridge construction projects. This section details each of these bridge funding sources.

FEDERAL BRIDGE FUNDING

On July 6, 2012, the new federal surface transportation funding and authorization bill was signed into law. The Moving Ahead for Progress in the 21st Century Act (MAP-21) will change how bridge rehabilitation and reconstruction is funded on the federal level.

The primary federal program for funding bridge projects prior to MAP-21 was the Highway Bridge Program. This program, which was created by Congress in 1978 as the Highway Bridge Replacement and Rehabilitation Program (HBRRP), provided dedicated funding to states to enable them to improve the condition of highway bridges.

Recent federal funding for the Highway Bridge Program was determined by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation. Between $4.6 and $6.0 billion was authorized each year to the Highway Bridge Program over the life of SAFETEA-LU and its extensions. This includes the base apportionment and additional apportionments provided to the Highway Bridge Program from Equity Bonus Distributions, which are described further later in this section.

Allocating federal bridge funds to each state was done through a complex formula. The amount of Highway Bridge Program funding allocated from the base apportionment to each state was determined by each state's relative share of the total costs to rehabilitate or replace all eligible deficient bridges. Bridges are considered eligible for federal bridge replacement funds if they are classified as structurally deficient or functionally obsolete and have a sufficiency rating of less than 50.0, and are considered eligible for federal bridge rehabilitation funds if they are classified as structurally deficient or functionally obsolete and have a sufficiency rating between 50.0 and 80.0. Bridges that have been constructed or had a major rehabilitation within the last ten years, however, are not eligible for Highway Bridge Program funds since they cannot be classified as structurally deficient or functionally obsolete (the Ten Year Rule).

BRIDGE FUNDING SUMMARY

- **Highway Bridge Program funding apportioned to the state of Virginia in 2012.** **$134 million ($113 million in 2007)**
- **Virginia rank among the 50 states and D.C. in terms of Highway Bridge Program apportionments in 2012.** **15th highest of 51**

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

For each of these four bridge groups – federal-aid route eligible for replacement, federal-aid route eligible for rehabilitation, non-federal-aid route eligible for replacement, and non-federal-aid route eligible for rehabilitation – the total deck area of all bridges throughout the state was summed together and multiplied by the state's three-year average unit construction cost for each group. According to FHWA, Virginia's average unit cost for each group in Federal Fiscal Years (FFY) 2008 – 2010 was:

- **Federal-aid route eligible for replacement** – $187 per square foot
- **Federal-aid route eligible for rehabilitation** – $127 per square foot

- **Non-federal-aid route eligible for replacement** - $149 per square foot
- **Non-federal-aid route eligible for rehabilitation** - $101 per square foot

These four groups of bridges were combined to produce a statewide total cost that would be needed to rehabilitate or replace all eligible bridges. Using Federal Fiscal Year 2009 as an example, Virginia's total cost to replace or rehabilitate all eligible bridges was over $1.5 billion according to FHWA. This represented 2.2% of the total $71 billion needed to replace or rehabilitate all eligible bridges nationwide in Federal Fiscal Year 2009; therefore Virginia received 2.2% of the total Highway Bridge Program base apportionment that year.

In addition to the base apportionment, Virginia and other states received funding for the Highway Bridge Program from the Equity Bonus Distributions program. This program provides additional apportionments to certain states to ensure that their apportionments are within a set percentage of their contributions to the Highway Trust Fund.

Figure 15 shows the total amount of national Highway Bridge Program apportionments over the last decade, and the total amount of Highway Bridge Program apportionments allocated to Virginia. The values in Figure 15 include both the base apportionments and Equity Bonus Distributions. Between Federal Fiscal Years 2003 and 2012, $1.2 billion was apportioned to Virginia through the Highway Bridge Program, with higher levels apportioned to Virginia in later years. At $134 million, Virginia received the 15th highest apportionment among the 50 states and the District of Columbia in FFY 2012, or 31st highest per capita.

Each state largely controlled how they allocated federal bridge funding under the Highway Bridge Program, and this is described further in the State Bridge Funding section.

As stated previously, the federal funding mechanism for surface transportation funding is changing with the enactment of the Moving

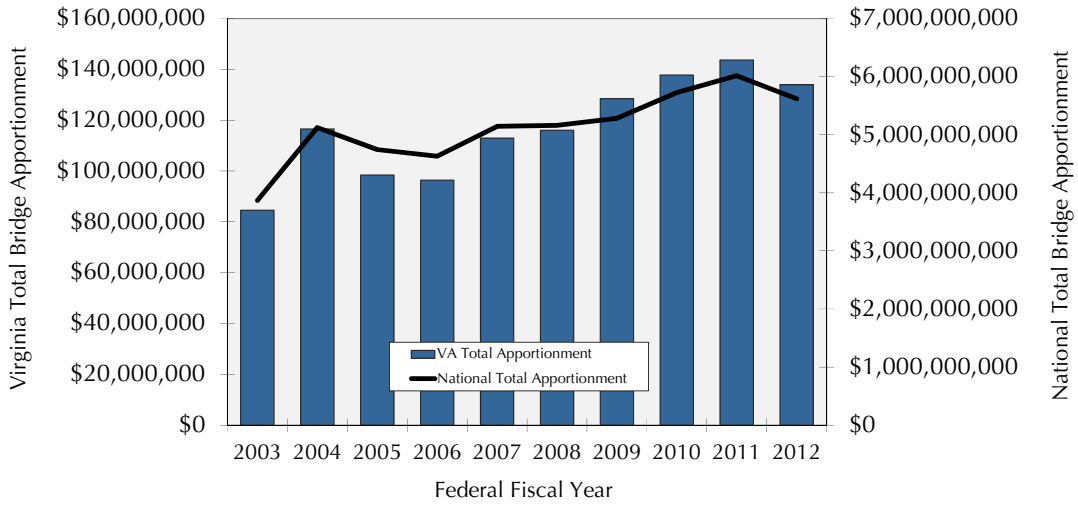


FIGURE 15 – HIGHWAY BRIDGE PROGRAM APPORTIONMENTS

Source: HRTPO analysis of FHWA data. Note: Virginia transferred $35 million from this fund in FFY 2004.

Ahead for Progress in the 21st Century Act (MAP-21) legislation. MAP-21 extended the current funding mechanism (SAFETEA-LU) for the remainder of Federal Fiscal Year 2012, with new provisions taking effect on October 1, 2012. MAP-21 spans two years, with total funding levels maintained near FFY 2012 levels at approximately $105 billion for Federal Fiscal Years 2013 and 2014 combined.

The number of programs from SAFETEA-LU will be reduced in MAP-21 through consolidation, including the Highway Bridge Program. A total of six primary programs are included in MAP-21: the National Highway Performance Program ($43.7 billion of funding for the two year period), Surface Transportation Program ($20.1 billion), Highway Safety Improvement Program ($4.8 billion), Congestion Mitigation and Air Quality Program ($4.4 billion), Transportation Alternatives Program ($1.6 billion), and Metropolitan Planning ($0.6 billion). The existing Highway Bridge Program will be moved into two of these programs: the National Highway Performance Program (NHPP) and the Surface Transportation Program (STP).

The National Highway Performance Program will provide funding for the condition and performance of the National Highway System (NHS), and for the construction of new facilities on the NHS. This includes funding for the construction, replacement, rehabilitation, preservation, and protection of bridges and tunnels on the NHS. The NHS, it should be noted, is being expanded under MAP-21 to include all roadways classified as principal arterial and above. Bridge and tunnel inspections for structures on the NHS, as well as the training of bridge and tunnel inspectors, are also eligible under the NHPP.

A major change in MAP-21 is the emphasis on performance measures and targets, particularly in regards to the National Highway System. States and MPOs will be required to report on the progress of achieving performance targets to the FHWA. In terms of bridges, MAP-21 establishes a threshold where no more than 10 percent of the total deck area of bridges on the NHS in a state can be classified as structurally deficient. If a state has more than 10 percent of the total deck area of bridges on the NHS classified as structurally deficient over three consecutive years, an amount equal to 50 percent of that state's Federal Fiscal Year 2009 bridge apportionment shall be devoted from the state's NHPP apportionment to bridges on the NHS each year until the threshold is met. No additional funds are provided to the state to improve bridges to the threshold.

The Surface Transportation Program will continue to exist under MAP-21, providing flexible funding that may be used for federal-aid highway projects, facilities for nonmotorized transportation, transit capital projects, and public bus terminals and facilities. In addition, the replacement, rehabilitation, preservation, and protection of all bridges on public roadways may be funded through the STP, whether or not they are on the National Highway System.

A funding requirement that existed in the Highway Bridge Program for bridges not on federal-aid highways will continue in MAP-21. A portion of each state's STP funds equal to 15 percent of the state's Federal Fiscal Year 2009 Highway Bridge Program apportionment is to be set aside for bridges not on federal-aid highways (also referred to as off-system bridges), unless federal officials determine that the State has insufficient needs to justify this amount.

MAP-21 also includes changes to the bridge and tunnel inspection and inventory process, as shown in the Bridge Inspections and Ratings section of this report.

STATE BRIDGE FUNDING

Most federal roadway and bridge funding sources require that the state provide matching funds. Under the previous Highway Bridge Program, up to 80 percent of the cost for each bridge project could be funded by Highway Bridge Program allocations, while the state provided the remaining 20 percent in matching funds. For the Interstate system, federal Highway Bridge Program funds could be used for up to 90 percent of each bridge project. There was also the requirement that at least 15% of the Highway Bridge Program apportionments must be spent for bridges that do not carry federal-aid routes.

Each state largely gets to decide how to allocate their federal bridge funds. In Virginia, Highway Bridge Program funds have been distributed through the Dedicated Bridge Fund. The Dedicated Bridge Fund was created after the Virginia General Assembly legislated in 2004 that Highway Bridge Program funds must be allocated based on sufficiency and deficiency ratings, rather than through formulas used for other roadway projects.

To be eligible for funding from the Dedicated Bridge Fund, bridges must qualify for Highway Bridge Program replacement funds. This means that eligible bridges must be classified as structurally deficient or functionally obsolete and also have a sufficiency rating of less than 50.0. The estimated cost of each bridge project must also be less than $20 million to be eligible for Dedicated Bridge Fund allocations, and bridges that are part of the Interstate system are not funded using this program.

Under the Dedicated Bridge Fund, eligible deficient bridges are scored using a methodology that takes into account various factors. These factors include traffic volumes, truck percentages, detour length, age, weight

restrictions, sufficiency rating, general condition ratings, and width of each bridge. Classifications including structurally deficient, fracture critical, and scour critical are also taken into account. Points are assigned based on each of these factors, and those deficient bridges with the highest score have the highest priority for receiving allocations from the Dedicated Bridge Fund.

The Dedicated Bridge Fund is allocated on a district by district basis, meaning that bridges are only ranked within each VDOT district, not on a statewide basis. Each VDOT district receives Dedicated Bridge Fund allocations from the statewide fund based on the share of the total deck area of all deficient bridges within the district. Bridges that are not on the federal-aid highway system must receive at least 15% of all Dedicated Bridge Fund allocations since Highway Bridge Program funds are used, and as mentioned previously this set aside will continue under MAP-21.

The Dedicated Bridge Fund priority list for the Hampton Roads VDOT District is shown in **Table 11**. Many of these bridges have received allocations for improvements, as shown in the Bridge Projects section of this report.

In addition to the Dedicated Bridge Fund, funds are annually allocated to cities and eligible towns for street and bridge maintenance, construction, and reconstruction via the Urban Maintenance Program and Urban Construction Program. Urban Maintenance Program funds can be used for any eligible roadway maintenance activity, and in terms of bridges this includes substructure and superstructure repair, culvert repair, waterproofing bridge decks, and paying for the operational expenses related to drawbridges. Urban Maintenance Program funds can also be used by cities for bridge inspections, since they are responsible for inspecting the bridges that they own and maintain.

The formula used to allocate Urban Maintenance Program funds does not take into account the number or condition of bridges in each city; funds are allocated based on the number of lane-miles of roadway by functional classification that each locality maintains. One exception is the City of Chesapeake, which receives an additional $1 million annually from the Urban Maintenance Program for bridge operations and maintenance due

Top 20 Bridges on the Federal-Aid Highway System

#	Jurisdiction	Federal Structure ID	Rte	Facility	Crossing
1	SOUTHAMPTON	17755	189	SOUTH QUAY RD	BLACKWATER RIVER
2**	CHESAPEAKE	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER
3*	SUSSEX	18282	301	BLUE STAR HWY	NOTTOWAY RIVER
4	SOUTHAMPTON	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER
5	CHESAPEAKE	21797	-	CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL
6*	GREENSVILLE	9057	301	SUSSEX DRIVE SBL	CSX R/R
7	CHESAPEAKE	21879	-	22ND STREET	SEABOARD AVENUE & NS R/R
8	JAMES CITY	24057	31	GLASS HOUSE FERRY	JAMES RIVER
9	SOUTHAMPTON	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER
10	CHESAPEAKE	21830	13	MILITARY HIGHWAY	NORFOLK SOUTHERN R/R
11	SOUTHAMPTON	17727	35	ROUTE 35	TARRARA CREEK
12*	EMPORIA	20221	-	HALIFAX STREET	METCALF CREEK
13	PORTSMOUTH	21217	239	VICTORY BLVD	PARADISE CREEK
14	SUFFOLK	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY
15	ISLE OF WIGHT	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R
16	ISLE OF WIGHT	10402	621	MILL SWAMP ROAD	PASSENGER SWAMP
17	JAMES CITY	10476	31	JAMESTOWN ROAD	POWHATAN CREEK
18	CHESAPEAKE	21827	13	MILITARY HIGHWAY	BAINBRIDGE BLVD & NS R/R
19	SUFFOLK	22091	337	NANSEMOND PARKWAY	BEAMONS MILL POND
20	ISLE OF WIGHT	10443	691	JAMESTOWN LANE	CSX RAILROAD

Top 15 Bridges not on the Federal-Aid Highway System

#	Jurisdiction	Federal Structure ID	Rte	Facility	Crossing
1	SOUTHAMPTON	17813	635	TUCKER SWAMP ROAD	NORFOLK SOUTHERN R/R
2*	SUSSEX	18305	603	TRIPLE BRIDGE RD	BLACKWATER RIVER
3*	ACCOMACK	399	1306	SCHOOL LANE	WEST RIDGE CREEK
4	ISLE OF WIGHT	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH
5	ISLE OF WIGHT	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK
6	SOUTHAMPTON	17785	615	ADAMS GROVE ROAD	BROWNS BRANCH
7	SUFFOLK	22111	616	MINERAL SPRINGS ROAD	JONES SWAMP
8	JAMES CITY	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK
9*	SUSSEX	18353	635	STOKES ROAD	MAGUS MILL POND
10*	SUSSEX	18364	642	COMANS WELL ROAD	BR HUNTING QUARTER CREEK
11	ISLE OF WIGHT	10427	646	GARRISON DRIVE	BURNT MILL SWAMP
12	SOUTHAMPTON	17812	634	INDIAN BRANCH LANE	INDIAN BRANCH
13	SOUTHAMPTON	17849	659	VICKS MILLPOND ROAD	FLAT SWAMP
14	HAMPTON	20294	-	BRIDGE STREET	SALTERS CREEK
15	NEWPORT NEWS	20659	-	WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR

Table 11 – Dedicated Bridge Fund Priority List, Hampton Roads VDOT District

Source: VDOT. Data as of September 2012.

* - Bridges located outside of the Regional Bridge Study boundary.
** - Although the cost of the Gilmerton Bridge is over $20 million, federal bridge funds were allocated to the project prior to the Dedicated Bridge Fund.

to the high number of movable bridges owned and maintained by the city. This funding, however, only covers half of the $1.9 million that Chesapeake budgeted in Fiscal Year 2013 to cover bridge operations and maintenance.

Urban Construction Program funds can be used by cities and eligible towns for new transportation projects. Historically, 30% of federal and state funds available for systems construction was apportioned to the Urban Construction Program, which were then allocated to cities and eligible towns based on each locality's population. For most projects funded from the Urban Construction Program, localities provided 2% of the total project cost. Urban Construction Program funds have been allocated to various bridge projects in Hampton Roads through the years, including high profile projects such as the Pinners Point Interchange, Great Bridge Bridge, and the Gilmerton Bridge.

In Fiscal Year 2013, cities and towns in Hampton Roads received $159 million from the Urban Maintenance Program, but no funding was available for distribution to cities through the Urban Construction Program. As reported in the previous Regional Bridge Study, Hampton Roads cities and towns received $138 million in Urban Maintenance Program funds and $58 million in Urban Construction Program funds respectively in Fiscal Year 2008.

Specifics regarding the impact of MAP-21 on the state bridge funding allocation process in Virginia are unknown as of the publication of this report. Guidance regarding MAP-21 is expected to be issued by the state in the following months.

PINNERS POINT INTERCHANGE VDOT

REGIONAL/LOCAL BRIDGE FUNDING

In addition to state and federal funding sources, transportation funding is also available on the regional level through the Regional Surface Transportation Program (RSTP). RSTP funds are federal funds (with a state match) that are allocated by each region's Metropolitan Planning Organization (MPO). Many completed bridge projects in Hampton Roads were at least partially funded with RSTP funds, including the Great Bridge

Bridge, Pinners Point Interchange, and Rescue Road Bridge in Isle of Wight County. Projects currently underway with RSTP funding allocations include the Gilmerton Bridge and the Middle Ground Boulevard project. RSTP funding is also allocated to the upcoming Dominion Boulevard/Steel Bridge project.

Each city also provides funds for bridge construction and maintenance. Local funds are required as matching funds for certain projects, and some cities construct bridge projects entirely through Capital Improvement Plan/Program (CIP) allocations. Many smaller bridges and culverts are replaced using city funds. Recent examples include the Granby Street Bridge over Mason Creek in Norfolk and the Beaver Dam Road, Fentress Airfield Road, and Lake Drummond Causeway bridges in Chesapeake.

TOLLS

Tolls are also used as a mechanism for funding bridge construction and maintenance costs in some instances. Existing toll bridges in Hampton Roads include the Coleman Bridge, Chesapeake Bay Bridge-Tunnel, and the recently constructed South Norfolk Jordan Bridge.

Some facilities in Hampton Roads were constructed with bonds that were repaid with toll revenue. These facilities include the Hampton Roads Bridge-Tunnel, Downtown Tunnel, Midtown Tunnel, and I-264 in Virginia Beach.

Tolls will help fund the Midtown Tunnel/Downtown Tunnel/MLK Freeway project, Dominion Boulevard/Steel Bridge project, and the Relocated Route 460 project. It should also be noted that MAP-21 permits the use of federal funds in the reconstruction or replacement of an existing toll-free bridge or tunnel that is converted to a toll facility.

NEW SOUTH NORFOLK JORDAN BRIDGE. HRTPO

BRIDGE PROJECTS

Over the last decade, 75 bridges throughout Hampton Roads were built, replaced, or underwent a major rehabilitation (**Table 12** on page 44). Of these 75 bridges, 40 are replacements of existing bridges, 30 are new structures where bridges did not exist previously, and 5 are major rehabilitations of existing bridges. Notable examples of bridges built or replaced in Hampton Roads over the last decade include the Great Bridge Bridge, Pinners Point Interchange, Route 5 Bridge (Dresser Bridge) over the Chickahominy River, and the South Norfolk Jordan Bridge.

In addition, a number of bridges in Hampton Roads are currently under construction. This list includes the Gilmerton Bridge, Southbound Main Street Bridge in Gloucester, Middle Ground Boulevard Extension in Newport News (which includes a new bridge over the CSX Railroad), and a new railroad overpass of Hampton Boulevard at Norfolk International Terminals. Construction has also begun on the Downtown Tunnel/Midtown Tunnel/MLK Freeway Extension project, which not only includes an additional tube at the Midtown Tunnel but also many bridges related to the extension of the MLK Freeway in Portsmouth.

A number of bridge projects planned for Hampton Roads are included in two transportation programming documents: the Hampton Roads Transportation Improvement Program (TIP) and VDOT's Six-Year Improvement Program (SYIP). The TIP is a federally mandated, fiscally constrained regional document that identifies the programming of transportation funds over a four year period. It lists all projects for which federal funds are anticipated, along with non-federally funded projects that are determined to be regionally significant. The TIP may be amended as needed in order to add new projects, delete projects, and update or change project information.

By comparison, the SYIP is a statewide document through which the Virginia Commonwealth Transportation Board (CTB) allocates funds for the construction, development, or study of transportation projects. Per its name, the Six-Year Improvement Program includes information on funding allocations for each project over the course of the upcoming six state fiscal years. The SYIP is developed annually by VDOT and the CTB,

GILMERTON BRIDGE CONSTRUCTION VDOT

and most projects included in the TIP are also included in the SYIP and vice-versa.

A total of 34 existing bridges in Hampton Roads are programmed for replacement in the current Six-Year Improvement Program[4] (**Table 13** on page 45). All 34 of these bridges are classified as structurally deficient (21 bridges) or functionally obsolete (13 bridges). Four projects involving new bridges – Route 58 at the Route 58 Business intersection east of Courtland and the aforementioned Middle Ground Boulevard, NIT railroad overpass, and Downtown Tunnel/Midtown Tunnel/MLK Freeway Extension projects – are also included in the SYIP, as are many roadway widening and construction projects that will involve constructing new and replacement bridges.

[4] *FY 2013-2018 Six-Year Improvement Program*, Commonwealth Transportation Board, June 2012.

Jurisdiction	Federal Structure ID	Rte	Facility	Crossing	Improvement	Year of Improvement
CHESAPEAKE	27874		BATTLEFIELD BLVD	CHESAPEAKE & ALBEMARLE CANAL	Replacement	2004
CHESAPEAKE	28148		BATTLEFIELD BLVD	C & A CANAL INLET	Replacement	2005
CHESAPEAKE	27047	168	BATTLEFIELD BLVD	I-64	Replacement	2008
CHESAPEAKE	21802		BEAVER DAM ROAD	DRAINAGE DITCH	Replacement	2012
CHESAPEAKE	21811		BELLS MILL ROAD	BELLS MILL CREEK	Replacement	2012
CHESAPEAKE	29532		BLACKWATER ROAD	POCATY CREEK	Replacement	2010
CHESAPEAKE	28514		CEDAR ROAD	LINDSEY DRAINAGE CANAL	Replacement	2006
CHESAPEAKE	29507		CEDAR ROAD	NEW MILL CREEK	Replacement	2007
CHESAPEAKE	29385		DIRT ROAD	STREAM	Replacement	2010
CHESAPEAKE	21809		FENTRESS AIRFIELD ROAD	POCATY CREEK	Replacement	2012
CHESAPEAKE	29531		GEORGE WASHINGTON HWY	DEEP CREEK	Replacement	2011
CHESAPEAKE	26355	64	I-64 EB COLLECTOR ROAD	BATTLEFIELD BLVD RAMP	New Bridge	2008
CHESAPEAKE	26357	64	I-64 EB COLLECTOR ROAD	NORFOLK SOUTHERN R/R	New Bridge	2008
CHESAPEAKE	26354	64	I-64 WB COLLECTOR ROAD	GREENBRIER PKWY RAMP	New Bridge	2008
CHESAPEAKE	26356	64	I-64 WB COLLECTOR ROAD	NORFOLK SOUTHERN R/R	New Bridge	2008
CHESAPEAKE	21806		LAKE DRUMMOND CAUSEWAY	LEAD DITCH	Replacement	2012
CHESAPEAKE	28523	165	MOSES GRANDY TRAIL	NEW MILL CREEK	New Bridge	2006
CHESAPEAKE	1826	165	MOUNT PLEASANT ROAD	CHESAPEAKE & ALBEMARLE CANAL	Rehabilitation	2010
CHESAPEAKE	27402	17	ROUTE 17 RELOCATED	STREAM	New Bridge	2006
CHESAPEAKE	27231	17	ROUTE 17 RELOCATED NB	WETLANDS	New Bridge	2005
CHESAPEAKE	27232	17	ROUTE 17 RELOCATED SB	WETLANDS	New Bridge	2005
CHESAPEAKE	29359		SAINT BRIDES ROAD	LEAD DITCH	Replacement	2009
CHESAPEAKE	-		SOUTH NORFOK JORDAN BR	SO BRANCH ELIZABETH RIVER	Replacement	2012
GLOUCESTER	26610	614	HICKORY FORK ROAD	CARTERS CREEK	Replacement	2006
HAMPTON	26349	134	ARMISTEAD AVENUE	NEWMARKET CREEK	Replacement	2004
HAMPTON	27473	172	COMMANDER SHEPARD BLVD	MAGRUDER BLVD	Replacement	2011
HAMPTON	26145	64	I-64	MERCURY BLVD	Replacement	2005
HAMPTON	20331	64	I-64 EB	NEWMARKET CREEK	Rehabilitation	2005
HAMPTON	26146	64	I-64 RAMP	MERCURY BLVD	New Bridge	2005
HAMPTON	26143	134	MAGRUDER BLVD	I-64	Replacement	2004
HAMPTON	26148	64	MERCURY BLVD RAMP	I-64	New Bridge	2005
HAMPTON	26150	64	MERCURY BLVD RAMP	I-64 RAMP	New Bridge	2005
HAMPTON	26149	64	MERCURY BLVD RAMP	MERCURY BLVD	New Bridge	2005
HAMPTON	26382	351	PEMBROKE AVENUE	HAMPTON CREEK	Replacement	2003
ISLE OF WIGHT	26753	704	RESCUE ROAD	JONES CREEK	Replacement	2004
ISLE OF WIGHT	27434	704	RESCUE ROAD	STREAM	Replacement	2004
ISLE OF WIGHT	26650	258	ROUTE 258	TRIB BEAVERDAM SWAMP	New Bridge	2003
JAMES CITY	28011	5	JOHN TYLER HWY	CHICKAHOMINY RIVER	Replacement	2009
JAMES CITY	27254	199	ROUTE 199 EB	COLLEGE CREEK	New Bridge	2004
NEWPORT NEWS	26128		HAMPTON ROADS CENTER PKWY EB	NEWMARKET CREEK	New Bridge	2003
NEWPORT NEWS	26129		HAMPTON ROADS CENTER PKWY WB	NEWMARKET CREEK	New Bridge	2003
NEWPORT NEWS	28191		SHELLABARGER RD	WARWICK RIVER	New Bridge	2005
NORFOLK	21039	460	GRANBY ST	MASON CREEK	Replacement	2012
NORFOLK	20938	168	TIDEWATER DRIVE	LAFAYETTE RIVER	Rehabilitation	2007
NORFOLK	20937	168	TIDEWATER DRIVE	WAYNE CREEK	Rehabilitation	2003
PORTSMOUTH	26832		CLIFFORD STREET	BAINES CREEK	Replacement	2005
PORTSMOUTH	26653	58	MLK FREEWAY	CLEVELAND STREET & CSX R/R	Replacement	2005
PORTSMOUTH	28239	164	ROUTE 164 EB	APM BLVD	New Bridge	2006
PORTSMOUTH	28384	164	ROUTE 164 EB	PORTSMOUTH MARINE TERM.	New Bridge	2006
PORTSMOUTH	27133	164	ROUTE 164 EB	W BR ELIZABETH RIVER	New Bridge	2006
PORTSMOUTH	28349	164	ROUTE 164 EB RAMP TO CLEVELAND ST	PORTSMOUTH MARINE TERM.	New Bridge	2006
PORTSMOUTH	28396	164	ROUTE 164 EB RAMP TO EB MIDTOWN TUNNEL	MLK FREEWAY WB & PMT	New Bridge	2006
PORTSMOUTH	28348	164	ROUTE 164 RAMP FROM WB ROUTE 58	PORTSMOUTH MARINE TERM.	New Bridge	2006
PORTSMOUTH	28241	164	ROUTE 164 WB	APM BLVD	New Bridge	2006
PORTSMOUTH	28376	164	ROUTE 164 WB	MLK & WESTERN FREEWAY & PMT	New Bridge	2006
PORTSMOUTH	28217	164	ROUTE 164 WB	W BR ELIZABETH RIVER	New Bridge	2006
PORTSMOUTH	28350	164	ROUTE 164 WB RAMP FROM CLEVELAND ST	MLK FREEWAY & PMT	New Bridge	2006
SOUTHAMPTON	29234	58B	CAMP PARKWAY	BLACKWATER RIVER	Replacement	2009
SOUTHAMPTON	29357	607	FARMERS BRIDGE ROAD	ASSAMOOSIC SWAMP	Replacement	2009
SOUTHAMPTON	29358	688	ROSE VALLEY ROAD	BRANCH	Replacement	2010
SUFFOLK	28594	17	BRIDGE ROAD	COMMONWEALTH RAILWAY	New Bridge	2009
SUFFOLK	29441	667	CORINTH CHAPEL ROAD	MARCH SWAMP	Replacement	2010
SUFFOLK	29212	641	HARVEST DRIVE	KINGSALE SWAMP	Replacement	2009
SUFFOLK	27625	642	WILROY ROAD	BURNETTS MILL CREEK	Replacement	2003
SUFFOLK	27627	642	WILROY ROAD	MAGNOLIA CREEK	Replacement	2003
SURRY	18216	634	ALLIANCE ROAD	COLLEGE RUN	Rehabilitation	2003
SURRY	28616	40	MLK HWY	BLACKWATER RIVER	Replacement	2008
VIRGINIA BEACH	29370		CONSTITUTION DRIVE	THALIA CREEK	New Bridge	2010
VIRGINIA BEACH	28472		DAM NECK ROAD	CANAL 4	New Bridge	2006
VIRGINIA BEACH	29371	166	DIAMOND SPRINGS ROAD NB	WATERWORKS CANAL	Replacement	2009
VIRGINIA BEACH	29367	166	DIAMOND SPRINGS ROAD SB	WATERWORKS CANAL	Replacement	2010
VIRGINIA BEACH	28706		LYNNHAVEN PARKWAY	DRAINAGE CANAL	Replacement	2010
VIRGINIA BEACH	29369		LYNNHAVEN PARKWAY	DRAINAGE CANAL	Replacement	2010
VIRGINIA BEACH	28622		SHIPS CORNER ROAD	DRAINAGE LYNH IN	Replacement	2006
WILLIAMSBURG	4290040		COLONIAL PARKWAY	PAPERMILL CREEK	Replacement	2007

TABLE 12 – BRIDGES CONSTRUCTED OR REHABILITATED IN HAMPTON ROADS, 2003-2012

Source: HRTPO analysis of VDOT and FHWA data.

Federal Bridge #	Juris	Facility	Type	Year Built	Suff. Rating	SD/FO	UPC Code	Construction Start|End	Estimated Project Cost	Allocations Prior to FY 2013	FY 2013 Allocations	FY 2014 - FY 2018 Allocations	Allocations Required After FY 2018	Fed Bridge Funds Included	Notes
21829	CHES	Gilmerton Bridge	Replacement	1938	3.0	SD	1904	Underway|2014	$175,391,000	$154,321,000	$16,030,000	$5,040,000	-	Y	
21875	CHES	Steel Bridge	Replacement	1962	44.0	FO	56187	2012|2016	$411,869,000	$72,405,000	$97,241,000	$246,815,000	-	-	Toll project, cost for entire corridor.
8552	GLO	Allmondsville Rd (Rte 662) over Fox Creek	Replacement	1937	41.1	SD	98807	2017|2018	$1,615,000	$550,000	-	$352,000	$712,000	Y	
8535	GLO	Burkes Pond Rd (Rte 602) over Burkes Pond	Replacement	1940	24.3	SD	96681	2014|2015	$1,520,000	$500,000	$459,000	$372,000	$189,000	Y	
8527	GLO	Main St SB (Bus Rte 17) over Fox Mill Run	Replacement	1917	47.4	FO	55039	Underway|2012	$3,248,000	$3,962,000	-	-	-	Y	
8538	GLO	Old Pinetta Rd (Rte 610) over Bland Creek	Replacement	1960	41.0	SD	102701	Not scheduled	$1,282,000	-	-	$286,000	$996,000	Y	
20294	HAM	Bridge St over Salters Creek	Replacement	1934	46.8	SD	93081	2014|2016	$3,136,000	$1,018,000	$203,000	$682,000	$1,233,000	Y	
10365	IW	Carrsville Hwy (Bus Rte 58) over Route 632 and CSX R/R	Replacement	1936	46.3	SD	81435	2014|2016	$4,078,000	$650,000	$1,170,000	$2,259,000	-	Y	
10383	IW	Longview Dr (Rte 602) over Pagan Creek	Replacement	1945	47.3	FO	100952	2012|2013	$866,000	$1,321,000	-	-	-	Y	
10402	IW	Mill Swamp Rd (Rte 621) over Passenger Swamp	Replacement	1945	46.5	FO	100951	2015|2016	$1,079,000	$188,000	$846,000	-	$46,000	Y	
10415	IW	Orbit Rd (Rte 637) over Great Swamp Branch	Replacement	1945	15.4	SD	91168	2013|2015	$976,000	$280,000	$188,000	$529,000	-	Y	
10438	IW	Stallings Creek Dr (Rte 680) over Stallings Creek	Replacement	1952	30.5	SD	93080	2015|2016	$469,000	-	$456,000	$96,000	-	Y	
10516	JCC	Hicks Island Rd (Rte 601) over Diascund Creek	Replacement	1932	45.4	FO	98823	2018|2019	$726,000	$281,000	-	$638,000	-	Y	
20727	NN	Denbigh Blvd over I-64/CSX Railroad	Replacement	1965	18.5	SD	93077	2016|2018	$30,534,000	$2,422,000	-	$28,112,000	-	-	
20721	NN	Fort Eustis Blvd over CSX Railroad	Replacement	1960	63.8	FO	91687	2012|2014	$4,090,000	$2,200,000	$1,750,000	-	$140,000	-	
-	NN	Middle Ground Blvd over CSX Railroad	New	-	-	-	11816	Underway|2014	$69,988,000	$38,971,000	$31,016,000	-	-	-	Cost includes entire corridor.
20679	NN	Warwick Blvd over Lake Maury	Replacement	1931	31.8	SD	101279	2013|2016	$3,719,000	$1,750,000	$1,969,000	-	-	-	
20659	NN	Washington Avenue over NNS Railroad	Replacement	1946	19.9	FO	85955	2013|2014	$1,486,000	$864,000	$187,000	$434,000	-	Y	
20934	NOR	Little Creek Rd over Tidewater Dr	Replacement	1959	82.9	FO	101247	2013|2015	$4,875,000	$2,438,000	$2,438,000	-	-	-	
20777	NOR	North Shore Rd over Branch of Lafayette River	Replacement	1979	60.3	FO	102717	2012|2014	$1,500,000	-	$1,500,000	-	-	-	
20778	NOR	North Shore Rd over Branch of Lafayette River	Replacement	1979	60.3	FO	102716	2012|2014	$1,500,000	-	$1,500,000	-	-	-	
-	NOR	R/R over Hampton Boulevard at NIT North Entrance	New	-	-	-	14672	Underway|2013	$88,718,000	$85,360,000	$3,358,000	-	-	-	
var.	NOR/PORT	Midtown Tunnel/Downtown Tunnel/MLK Fwy Project	New & Rehab	var.	-	-	var.	Underway|2018	$2,384,457,000	$1,810,352,000	$49,377,000	$455,950,000	$68,778,000	-	PPTA project
21199	PORT	High St over Western Branch Elizabeth River	Replacement	1951	47.9	SD	102715	2014|2017	$29,500,000	-	$2,500,000	-	$27,000,000	-	
17865	SH	General Thomas Hwy (Rte 671) over Nottoway River	Replacement	1960	11.8	SD	101495	2019|2021	$10,290,000	$650,000	$150,000	$3,121,000	$6,369,000	Y	One project to replace both bridges.
17866	SH	General Thomas Hwy (Rte 671) over Nottoway Overflow	Replacement	1960	28.2	FO									
17768	SH	Mill Neck Rd (Rte 608) over Racoon Swamp	Replacement	1932	56.2	FO	100949	2016|2017	$184,000	-	-	$667,000	-	Y	
17724	SH	Route 35 over Nottoway River	Replacement	1929	10.4	SD	81457	2015|2017	$13,082,000	$5,018,000	$2,627,000	$5,437,000	-	Y	
17727	SH	Route 35 over Tarrara Creek	Replacement	1946	39.1	SD	101493	2016|2018	$2,000,000	$150,000	$250,000	$1,600,000	-	Y	
-	SH	Route 58 Business over Route 58 east of Courtland	New	-	-	-	17728	2014|2016	$28,617,000	$3,963,000	$10,000,000	$14,655,000	-	-	
17757	SH	Three Creek Rd (Rte 308) over Three Creek	Replacement	1948	44.4	SD	T11969	2017|2019	$3,354,000	-	-	$3,354,000	-	Y	
17813	SH	Tucker Swamp Rd (Rte 635) over N/S Railroad	Replacement	1915	19.7	SD	93078	2016|2017	$350,000	-	-	$1,720,000	-	Y	
17849	SH	Vicks Millpond Rd (Rte 659) over Flat Swamp	Replacement	1932	48.7	FO	93079	2014|2016	$1,665,000	$302,000	-	$207,000	$1,156,000	Y	
17755	SUF/SH	Route 189 over Blackwater River	Replacement	1940	10.7	SD	98813	2012|2013	$7,846,000	$716,000	$1,506,000	$4,758,000	$866,000	Y	
18213	SUR	Loafers Oak Rd (Rte 630) over Cypress Swamp	Replacement	1932	52.3	FO	85947	2012|2013	$448,000	$521,000	$67,000	-	-	Y	
18304	SUR	Three Bridges Rd (Rte 603) over Blackwater River	Replacement	1932	40.9	SD	T11970	2018|2020	$4,613,000	-	$1,541,000	$2,161,000	$911,000	Y	Project includes 2 other bridges.
22260	VB	Lesner Bridge WB	Replacement	1958	39.0	SD	97737	2013|2016	$100,757,000	$40,750,000	$30,000,000	$14,140,000	$15,867,000	-	One project to replace both bridges.
22264	VB	Lesner Bridge EB	Replacement	1967	34.9	SD									

TABLE 13 – BRIDGE PROJECTS IN HAMPTON ROADS INCLUDED IN THE CURRENT SIX-YEAR IMPROVEMENT PROGRAM (FY 2013-2018)

Source: HRTPO analysis of VDOT data.

A total of $781 million is allocated in the current SYIP to the 34 bridge replacement projects. Of this total, $293 million was allocated in previous years, $165 million is allocated in the current Fiscal Year (FY 2013), and $323 million is allocated in future years out to Fiscal Year 2018. However, the total estimated cost to replace these 34 bridges is $828 million dollars, leaving a shortfall that will require additional allocations.

In spite of these bridge projects, most deficient bridges in Hampton Roads have no funding in place for rehabilitation or replacement projects. Looking at the 77 bridges in Hampton Roads classified as structurally deficient, only 20 bridges (26%) are included in the current SYIP for replacement (**Figure 16**). Of these 20 bridges, construction on two bridges is currently underway or expected to begin by the end of 2012, construction on 16 bridges is expected to begin before the end of the current SYIP in 2018, and the remaining two bridges are not expected to begin construction by 2018. The other 57 structurally deficient bridges (74%) in Hampton Roads have no funding included in the current SYIP.

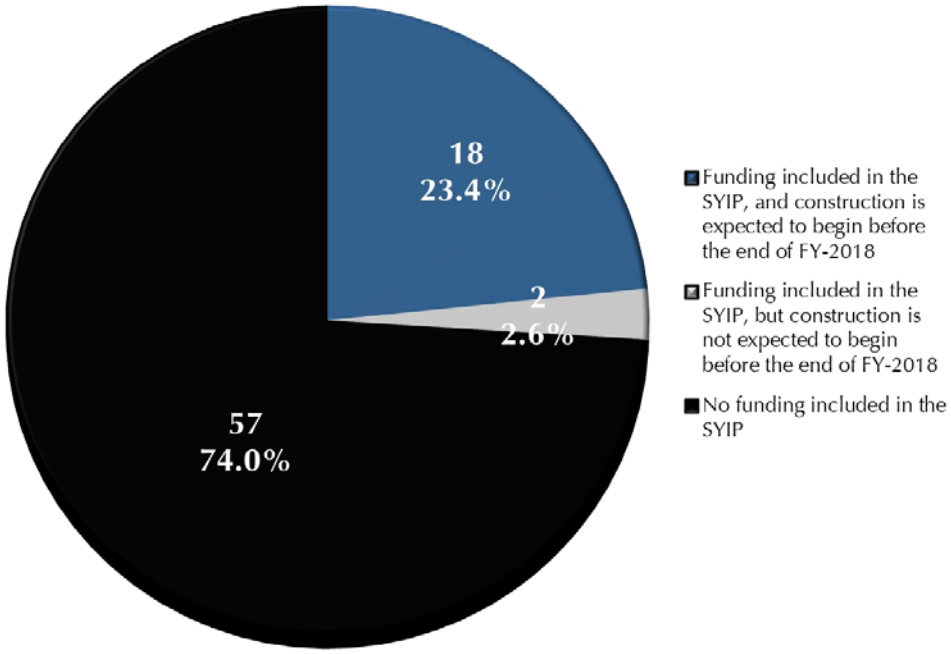


FIGURE 16 – FUNDING FOR STRUCTURALLY DEFICIENT BRIDGES IN HAMPTON ROADS

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. Data reflects projects included in the FY2013-2018 VDOT Six-Year Improvement Program (SYIP).

Cost of Sustaining Bridge Connections through 2040

Given the expense of recent replacements of aging bridges, the concern that a large cohort of bridges will reach replacement age in the foreseeable future, and the 2017 forecast of the end of Virginia's ability to fund roadway construction[5], HRTPO staff estimated the future cost of sustaining bridge connections in Hampton Roads. In order to coincide with the next Long-Range Transportation Plan (LRTP), the horizon year 2040 was used. "Sustaining" a bridge connection means rehabilitating and/or replacing an existing bridge in order to sustain the ability of users (drivers, pedestrians, etc.) to cross the given obstacle (river, creek, other roadway, etc.).

Similar Work by Others

In order to inform the methods used in this effort—and to compare its results with those of existing efforts—a review was conducted of work done by others on the cost of sustaining bridge connections.

Through a search of the Transportation Research International Documentation (TRID) database, the topic of "bridge management" was examined. According to an article in *Construction Management & Economics*, bridge management is "the decision-making process for selecting and prioritizing the actions necessary to maintain a bridge within acceptable limits of safety and serviceability."[6] To manage the thousands of bridges it owns, VDOT uses "Pontis", a database processing system developed by FHWA. Pontis makes recommendations concerning which bridge projects to put in a capital plan for "maximum benefit from limited funds".[7] VDOT uses Pontis to determine the actions (maintenance, rehabilitation, replacement) to perform on given bridges (and the timing of same) in order to minimize costs.

Similarly, decision support software known as "OPBRIDGE" has been developed for NCDOT. On a bridge system level, OPBRIDGE estimates the total cost of an optimal program of work over a forecasting horizon.

Perhaps either Pontis or OBRIDGE could be configured to estimate a cost of bridge work through 2040 for Hampton Roads, but such output would be based on a *recommended* program, making the output susceptible to criticism as being the cost of a "wish list". Consequently, staff developed a method of estimating future costs based on recent actual costs.

Method of Forecasting Bridge Costs

In order to calculate a reasonable estimate of the cost of sustaining bridge connections through 2040, staff developed a forecasting model based on actual recent allocations to "Aging Bridge" projects in Hampton Roads in the first year of VDOT's nine most recent (FY05 thru FY13) Six-Year Improvement Programs (SYIP). Aging Bridge projects are those projects for work necessitated by the aging of existing bridges (rehabilitation, replacement, etc.), excluding therefore bridge replacement for the purpose of widening. The current replacement of the Gilmerton Bridge is an example of an Aging Bridge project. The proposed replacement of the Steel Bridge on Dominion Blvd is a widening and therefore not an Aging Bridge project.

The method of forecasting the cost of sustaining bridge connections based on recent allocations related to Aging Bridges follows:

- Group recent allocations by age of bridge at time of allocation.
- For each recent SYIP, calculate Allocation Rate by age group, where: Allocation Rate = (allocations in age group) / (cost to replace all bridges in age group)
- Calculate average Allocation Rate for each age group (i.e. average over recent SYIPs).
- Forecast future costs, year by year, by aging the existing bridge inventory and applying above Allocation Rates by age group.

[5] Bacque, Peter. State highway construction funds could run out in 5 years. In *Richmond Times-Dispatch*, published October 6, 2011.

[6] Dabous, Saleh Abu, and Sabah Alkass. Decision support method for multi-criteria selection of bridge rehabilitation strategy. In *Construction Management & Economics*. Vol. 26, issue 8, 2008, abstract.

[7] www.aashtoware.org/pages/pontis.aspx

Note that the regional bridge inventory of 1,223 bridges used in the preceding portions of this document was modified for this forecast by excluding bridges located on federal property and bridges located outside of the HRTPO boundary. The resulting modified inventory contains 1,010 bridges. The inventory contains VDOT data (e.g. year built) and FHWA data (e.g. replacement cost[8]) for use in the forecasting model.

The above forecasting method is based on the following assumptions:

- Recent SYIP allocations have been adequate to sustain existing bridge connections.
- Any changes in bridge construction and maintenance over the years have not changed the expected longevity of bridges. For example, a bridge built in 1960 will have the same likelihood of requiring replacement at age 70 (i.e. in 2030) as did a bridge built in 1940 when it reached age 70 (i.e. in 2010).

As shown in **Figures 17, 18, and 19**, most of the bridges in Hampton Roads have not yet reached the age of 50 years.

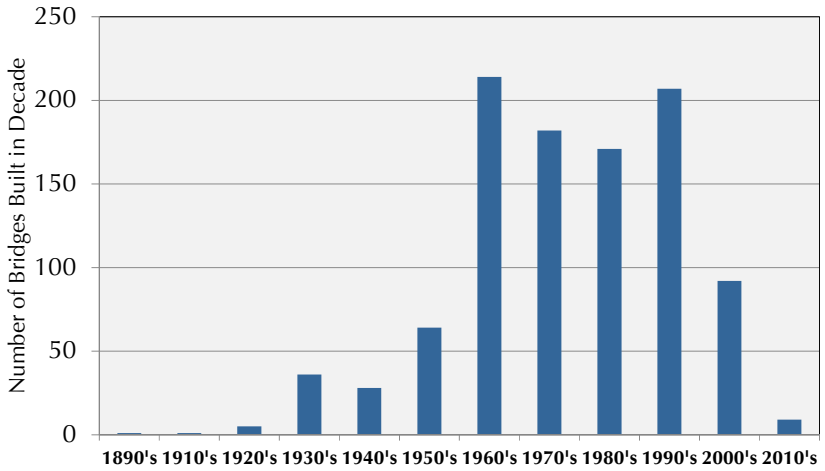


FIGURE 17 – BRIDGES IN HAMPTON ROADS BY DECADE BUILT

Source: HRTPO analysis of VDOT and FHWA data as of Aug. 2012, representing modified inventory of 1,010 bridges.

[8] Where replacement costs were not available in the FHWA National Bridge Inventory (NBI), staff estimated the cost using length, area, and functional class of the subject bridge and cost factors from a linear regression of the data for those bridges which did have replacement costs in the NBI.

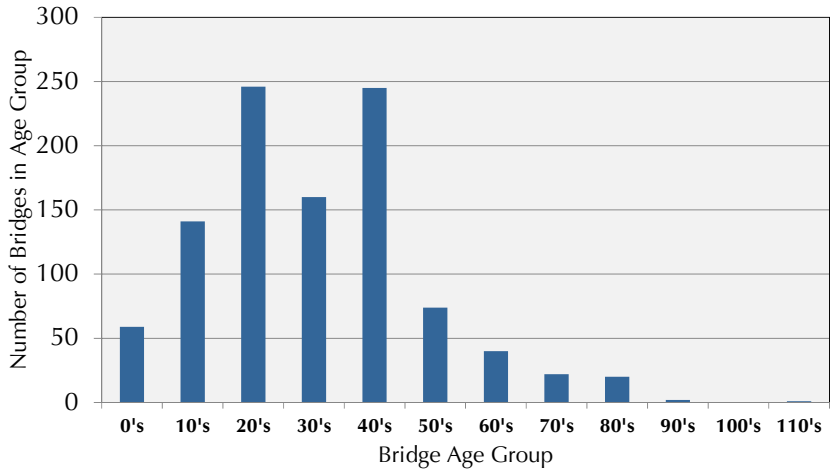


FIGURE 18 – BRIDGES IN HAMPTON ROADS BY AGE GROUP

Source: HRTPO analysis of VDOT and FHWA data as of Aug. 2012, representing modified inventory of 1,010 bridges.

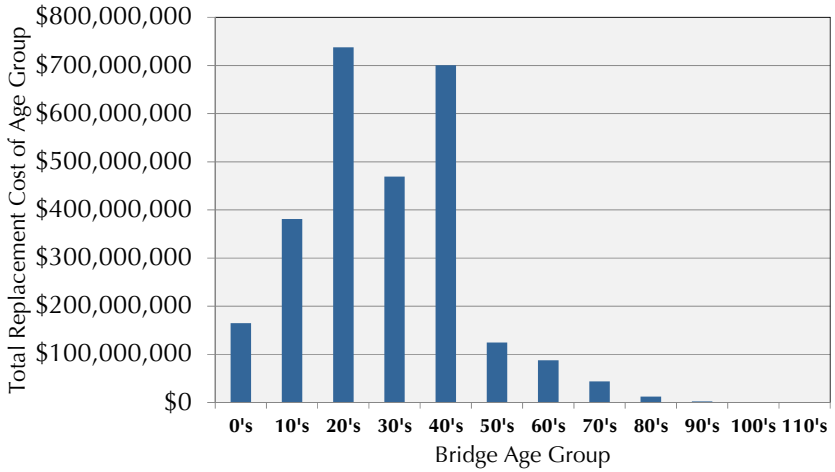


FIGURE 19 – BRIDGE REPLACEMENT COST BY AGE GROUP

Source: HRTPO analysis of VDOT and FHWA data as of Aug. 2012,representing modified inventory of 1,010 bridges.

Note that the replacement costs coming from, or being based on, the FHWA National Bridge Inventory (NBI) appear to be low. Examining projects from the FY13-18 SYIP, the replacement estimates found in the SYIP are approximately 7 times larger than the NBI estimates, as shown in **Figure 20**. Fortunately, the forecasting method employed herein estimates future Aging Bridge allocations using the same set of replacement cost estimates it used to calculate historical allocation rates, thereby providing appropriately normalized results that account for the low replacement cost estimates.

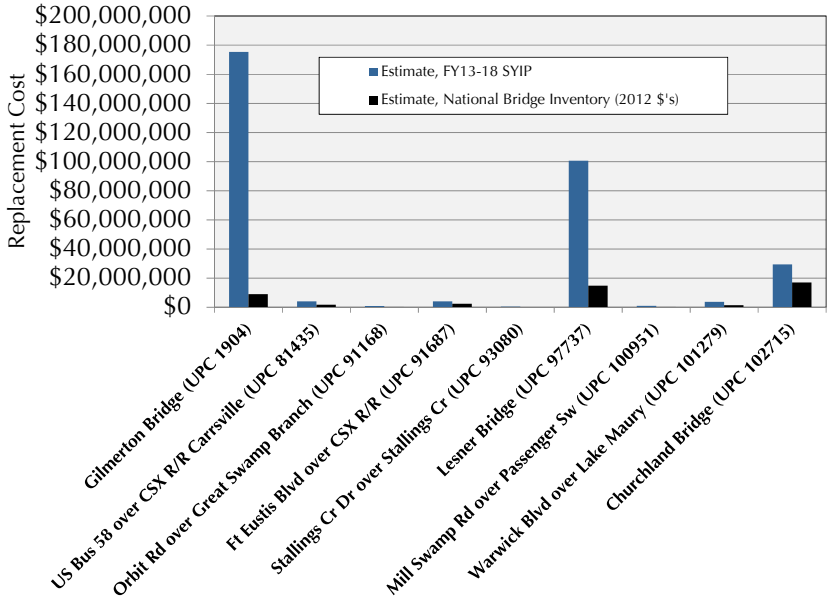


FIGURE 20 – REPLACEMENT PROJECTS WITH NBI COST ESTIMATES, FY13-18 SYIP

Source: HRTPO analysis of VDOT and FHWA data.

Calculating Historical Allocation Rates

As discussed above, in order to calculate the rate of allocations to Aging Bridge Projects in recent SYIP's, the dollars allocated to such bridges were gathered from the first-year allocations of the nine most recent SYIP's as shown in **Table 14** below.

					Allocations in SYIP, $1,000s								
Bridge	**UPC**	**Work**	**Locality**	**Built**	**FY05**	**FY06**	**FY07**	**FY08**	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**
Bridge St over Salters Cr	93081	Replacement	Hamp	1934							$494	$524	$203
Chickahominy Bridge	71883	Replacement	JCC	1939	$1,600	$3,400		$117					
Churchland Bridge	102715	Replacement	Ports	1951									$2,500
Clifford St over Baines Cr	17545	Replacement	Ports	1957	$127	$496							
Ft Eustis Blvd over CSX R/R	91687	Replacement	NN	1960									$1,750
Gilmerton Bridge	1904	Replacement	Ches	1938	$9,185	$10,888	$14,019	$8,539	$25,530	$21,841	$13,509	$15,522	$16,030
Hampton Hwy over Brick Kiln Cr	77358	Replacement	Ha/Yk	1930			$104						
HRBT Bridge Deck	12827	Rehabilitation	Hamp	1957	$2,141	$4,433							
Kings Highway Bridge	60560	Location Study	Suf	1928		$703							
Lesner Bridge	97737	Replacement	VB	1958								$40,000	$30,000
Lesner Bridge	T9409	Replacement	VB	1958							$750		
Little Creek Rd over Tidewater Dr	101247	Reconstruction	Nor	1959								$2,438	$2,438
London Blvd over NPBL R/R	56466	Painting/Repair	Ports	1971		$254							
Long Bridge over Deep Creek	83509	Replacement	Ches	1933				$2,528					
Longview Dr over Pagan Cr	100952	Replacement	IW	1945								$1,321	
Main St over Fox Mill Run	55039	Replacement	Glo	1917							$592		
Merrimac Trail over Queens Cr	77357	Replacement	Wg/Yk	1941			$299						
Mill Swamp Rd over Passenger Sw	100951	Replacement	IW	1945								$188	$846
Orbit Rd over Great Swamp Branch	91168	Replacement	IW	1945						$280	$141		$188
Pembroke Ave over Hampton Riv	13431	Replacement	Hamp	1939	$523	$210							
Rescue Road over Jones Cr	8322	Replacement	IW	1937	$239								
Second Ave over Blackwater Riv	17142	Replacement	Fr/IW	1932		$2,318	$1,600	$2,917	$647				
Shore Drive over Pretty Lake	4388	Replacement	Nor	1929	$120								
Stallings Cr Dr over Stallings Cr	93080	Replacement	IW	1952									$456
US Bus 58 over CSX R/R Carrsville	81435	Replacement	IW	1936								$1,875	$1,170
Warwick Blvd over Lake Maury	101279	Replacement	NN	1931								$1,750	$1,969
Washington Ave over NNS R/R	85955	Replacement	NN	1946					$90	$123	$272	$380	$187
				total:	**$13,935**	**$22,702**	**$16,022**	**$14,101**	**$26,267**	**$22,244**	**$15,758**	**$63,998**	**$57,737**

Table 14 – First-Year Allocations from Recent SYIPs to Aging Bridge Projects in Hampton Roads

Source: HRTPO analysis of VDOT and FHWA data.

Categorizing the above allocations by bridge age group rendered the results shown in **Table 15** below.

Bridge Age Group	Allocations, FY05	Allocations, FY06	Allocations, FY07	Allocations, FY08	Allocations, FY09	Allocations, FY10	Allocations, FY11	Allocations, FY12	Allocations, FY13
30's	$0	$254,000	$0	$0	$0	$0	$0	$0	$0
40's	$2,268,000	$4,929,000	$0	$0	$0	$0	$0	$0	$0
50's	$0	$0	$0	$0	$0	$0	$750,000	$42,438,000	$34,188,000
60's	$11,547,000	$14,498,000	$14,318,000	$117,000	$90,000	$403,000	$413,000	$1,889,000	$4,177,000
70's	$120,000	$3,021,000	$1,704,000	$13,984,000	$26,177,000	$21,841,000	$14,003,000	$17,921,000	$17,403,000
80's	$0	$0	$0	$0	$0	$0	$0	$1,750,000	$1,969,000
90's	$0	$0	$0	$0	$0	$0	$592,000	$0	$0
total	**$13,935,000**	**$22,702,000**	**$16,022,000**	**$14,101,000**	**$26,267,000**	**$22,244,000**	**$15,758,000**	**$63,998,000**	**$57,737,000**

TABLE 15 – RECENT ALLOCATIONS TO AGING BRIDGES IN HAMPTON ROADS, BY AGE GROUP

Source: HRTPO analysis of VDOT and FHWA data.

Adjusting the replacement costs discussed above to reflect the subject year using the historical long-term annual inflation rate (4%), and categorizing them in the age groups of the allocations in Table 2, rendered the results shown in **Table 16** below.

Bridge Age Group	Replacement Cost, 2005	Replacement Cost, 2006	Replacement Cost, 2007	Replacement Cost, 2008	Replacement Cost, 2009	Replacement Cost, 2010	Replacement Cost, 2011	Replacement Cost, 2012	Replacement Cost, 2013
30's	$479,691,446	$488,989,385	$373,369,070	$368,203,776	$355,198,956	$470,187,078	$502,503,245	$469,395,796	$502,548,880
40's	$272,767,891	$307,220,654	$444,327,535	$488,550,752	$542,570,383	$567,295,488	$620,195,017	$700,404,850	$736,745,162
50's	$62,743,595	$67,050,685	$93,987,446	$118,732,960	$137,112,760	$156,647,778	$153,790,513	$124,621,546	$143,649,569
60's	$36,117,866	$36,465,438	$39,035,834	$14,771,392	$15,421,714	$16,173,030	$32,548,579	$87,674,056	$87,084,763
70's	$13,077,656	$15,162,012	$16,242,395	$45,282,225	$47,320,291	$48,801,102	$48,517,651	$44,138,661	$50,068,603
80's	$2,263,245	$2,353,775	$877,601	$912,705	$1,020,174	$1,329,766	$5,317,628	$12,113,172	$12,208,989
90's	$0	$0	$1,570,325	$1,633,138	$1,698,463	$1,909,617	$1,986,002	$2,065,442	$2,536,770

TABLE 16 – REPLACEMENT COSTS FOR BRIDGES IN HAMPTON ROADS, BY AGE GROUP

Source: HRTPO analysis of VDOT and FHWA data.

Dividing the figures in Table 15 by those in Table 16 rendered Allocation Rates as shown in **Table 17** below. The average Allocation Rate to be used in forecasting is shown in the right-hand column.

Bridge Age Group	Allocation Rate, FY05	Allocation Rate, FY06	Allocation Rate, FY07	Allocation Rate, FY08	Allocation Rate, FY09	Allocation Rate, FY10	Allocation Rate, FY11	Allocation Rate, FY12	Allocation Rate, FY13	Average Allocation Rate
30's	0%	0.05%	0%	0%	0%	0%	0%	0%	0%	**0%**
40's	1%	2%	0%	0%	0%	0%	0%	0%	0%	**0%**
50's	0%	0%	0%	0%	0%	0%	0.49%	34%	24%	**6%**
60's	32%	40%	37%	1%	1%	2%	1%	2%	5%	**13%**
70's	1%	20%	10%	31%	55%	45%	29%	41%	35%	**30%**
80's	0%	0%	0%	0%	0%	0%	0%	14%	16%	**3%**
90's	0%	0%	0%	0%	0%	0%	30%	0%	0%	**3%**

TABLE 17 – ALLOCATION RATES FOR AGING BRIDGES IN HAMPTON ROADS, BY AGE GROUP

Source: HRTPO analysis of VDOT and FHWA data.

FUTURE ALLOCATIONS

The next Long-Range Transportation Plan (LRTP) having a forecast year of 2040, staff used that year as the last year of its aging bridge cost forecast.

As discussed above, future allocations are estimated by adjusting the age of each bridge in the inventory (i.e. a bridge that is 26 years old this year will be 27 years old next year), re-categorizing the bridges by resulting age group, and applying the age-group-based Allocation Rates developed above from recent SYIPs.

By simply adding years, the bridge ages in the inventory were calculated for the future as shown in **Figure 21** below.

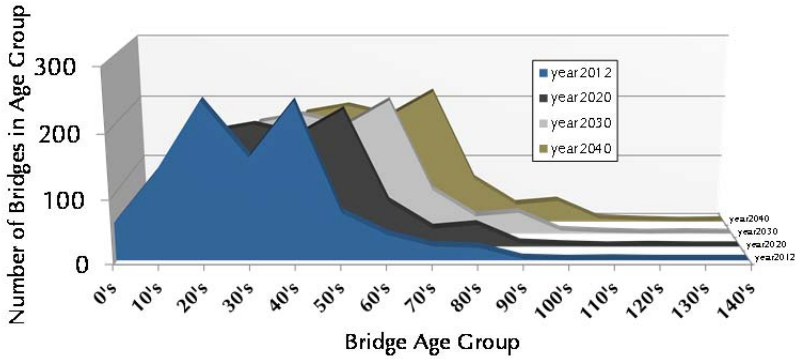


FIGURE 21 – AGE OF HAMPTON ROADS BRIDGES, FORECAST THRU 2040

Source: HRTPO.

Extracting only those bridges age 70+ (the highest Allocation Rate calculated above is for the 70-79 age group), **Figure 22** (at right) shows that the number of old bridges is expected to increase rapidly after 2034.

Applying the average annual Allocation Rates (right-hand column of Table 17, previous page) to the replacement costs of the bridges in the inventory aged in accordance with Figure 21 (above) renders the forecast of bridge costs shown in **Figure 23** (at right). Expected costs rise steadily with the aging of the inventory.

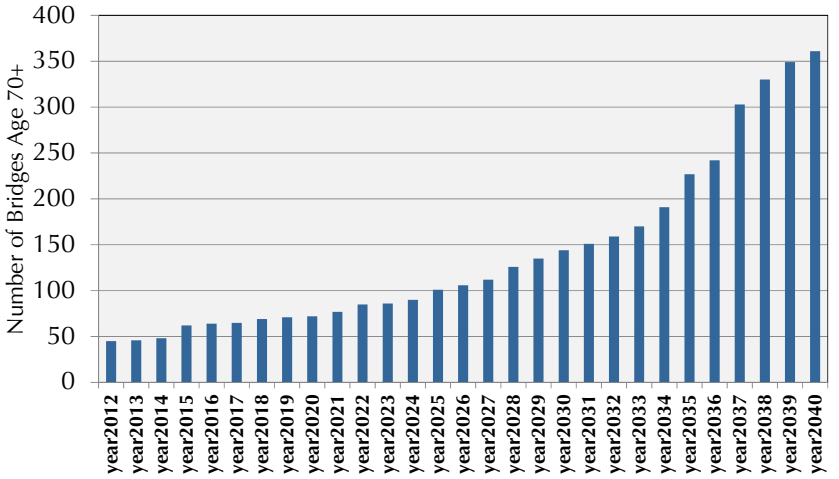


FIGURE 22 – HAMPTON ROADS BRIDGES AGE 70+, FORECAST THRU 2040

Source: HRTPO.

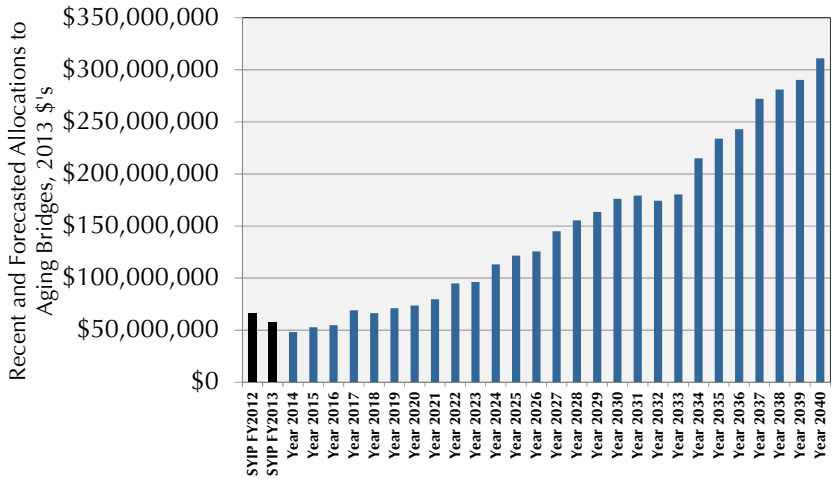


FIGURE 23 – COST OF SUSTAINING BRIDGE CONNECTIONS, 2013 $'S

Source: HRTPO.

The recent and forecasted annual costs can be found in **Table 18** at right. The first nine rows of the table show actual allocations to Aging Bridges from recent SYIPs; the remaining rows show forecasts developed using the method described above.

For the purposes of the 2040 Long Range Transportation Plan (LRTP), totals are provided at the bottom of the table for the expected study period of that plan, based on an expected plan publish date of 2016.

- It is estimated that it will cost $8 billion over the study period to sustain existing bridge connections in Hampton Roads.

Note that the $8 billion estimated cost of sustaining bridge connections exceeds the $7.3 billion cost of *all* the construction projects in the recent 2034 LRTP (bridge projects, road widenings, new roads, train stations, etc.).[9]

	Allocations to Aging Bridges, 2013 $'s	Allocations to Aging Bridges, YOE $'s
SYIP FY05	$19,071,010	$13,935,000
SYIP FY06	$29,874,283	$22,702,000
SYIP FY07	$20,272,941	$16,022,000
SYIP FY08	$17,156,023	$14,101,000
SYIP FY09	$30,728,675	$26,267,000
SYIP FY10	$25,021,475	$22,244,000
SYIP FY11	$17,043,853	$15,758,000
SYIP FY12	$66,557,920	$63,998,000
SYIP FY13	$57,737,000	$57,737,000
Year 2014	$48,115,704	$50,040,332
Year 2015	$52,845,633	$57,157,837
Year 2016	$54,778,945	$61,618,863
Year 2017	$69,037,790	$80,764,449
Year 2018	$66,347,277	$80,721,607
Year 2019	$71,042,151	$89,890,985
Year 2020	$73,728,499	$97,021,675
Year 2021	$79,664,589	$109,026,491
Year 2022	$94,913,652	$135,091,721
Year 2023	$96,286,845	$142,528,052
Year 2024	$113,240,288	$174,328,220
Year 2025	$121,490,100	$194,509,564
Year 2026	$125,578,957	$209,098,194
Year 2027	$144,973,057	$251,046,428
Year 2028	$155,447,477	$279,952,125
Year 2029	$163,520,521	$306,270,869
Year 2030	$176,174,498	$343,170,393
Year 2031	$179,218,792	$363,064,389
Year 2032	$174,265,190	$367,150,471
Year 2033	$180,418,485	$395,319,118
Year 2034	$215,067,804	$490,089,645
Year 2035	$233,987,170	$554,530,591
Year 2036	$243,002,345	$598,931,656
Year 2037	$272,199,311	$697,729,628
Year 2038	$281,100,930	$749,369,073
Year 2039	$290,309,659	$804,874,758
Year 2040	$311,095,830	$897,003,939
Total, Yr2016 thru Yr2040	**$3,986,890,162**	**$8,473,102,905**
Total, Yr2016 thru Yr2040, rounded	**$4,000,000,000**	**$8,000,000,000**

TABLE 18 – COST OF SUSTAINING BRIDGE CONNECTIONS IN HAMPTON ROADS

Source: HRTPO.

[9] The $12.35 billion VDOT forecasted for maintenance in the 2034 LRTP covers the routine maintenance (e.g. repavings) included annually under "Maintenance & Operations" in the SYIPs; it does not cover the cost of sustaining bridge connections.

CONCLUSIONS

Based on the analyses included in this study, the following conclusions are made concerning bridges in Hampton Roads:

- At 1,223 bridges (based on the definition of a bridge used in this study), Hampton Roads has a low number of bridges compared to other areas, ranking only 25th highest among the 35 metropolitan areas in the United States with populations between one and three million people. Hampton Roads, however, does have longer bridges than most other areas, with the 2nd longest average bridge length among the 35 comparable metropolitan areas and the 8th highest total bridge area.
- As of 2012, the median age of bridges in Hampton Roads is 37 years. This is typical to other metropolitan areas, ranking 21st highest among the 35 comparable metropolitan areas.
- The number of bridges in Hampton Roads classified as structurally deficient is increasing. There are 77 bridges in Hampton Roads that are classified as structurally deficient as of August 2012, up from 54 bridges in August 2007.
- The percentage of structurally deficient bridges in Hampton Roads (6.3%) is low compared to other areas. Hampton Roads ranks only 25th highest among the 35 metropolitan areas with populations between one and three million people in terms of the percentage of bridges that are classified as structurally deficient.
- The percentage of functionally obsolete bridges in Hampton Roads, however, is high compared to other areas. With 31.0% of all bridges in the region being classified as functionally obsolete, Hampton Roads has the 2nd highest percentage of functionally obsolete bridges among the 35 metropolitan areas with populations between one and three million people.
- In total, 37.3% of all bridges in Hampton Roads are considered deficient when structurally deficient and functionally obsolete bridges are combined. This ranks 3rd highest among the 35 comparable metropolitan areas.
- As of August 2012, 102 bridges in Hampton Roads (8.3%) have weight limits posted. This number has decreased by 17 bridges since August 2007, but Hampton Roads still has the 11th highest percentage of bridges with posted weight limits among the 35 comparable metropolitan areas.
- A total of 86 bridges in Hampton Roads have sufficiency ratings of less than 50 as of August 2012. This number has increased by 11 bridges since August 2007.
- At 7.0%, the percentage of bridges in Hampton Roads with a sufficiency rating less than 50 ranks 17th highest among the 35 metropolitan areas with populations between one and three million people.
- The Highway Bridge Program provided $134 million in funding for bridges in Virginia in Federal Fiscal Year 2012, up from $113 million when the last Regional Bridge Study was released during Federal Fiscal Year 2007. The $134 million ranked Virginia 15th highest in the nation for apportionments from the Highway Bridge Program.
- The number of old bridges in the region is expected to increase, especially after 2034. It is estimated that it will cost $8 billion over the study period of the 2040 Hampton Roads Long-Range Transportation Plan (2016 to 2040) to sustain existing bridge connections in the region.
- The $8 billion needed to sustain existing regional bridge connections is roughly equivalent to the entire revenue forecasted for new construction in the recently published 2034 Hampton Roads Long-Range Transportation Plan.

Component	Number in Hampton Roads (August 2012)	Change in Number in Hampton Roads since August 2007	Percentage of Total Bridges in Hampton Roads (August 2012)	Rank Among 35 Metro Areas with Populations between 1 and 3 Million
Structurally Deficient Bridges	77	+23	6.3%	25th highest
Functionally Obsolete Bridges	379	+95	31.0%	2nd highest
Deficient Bridges	456	+118	37.3%	3rd highest
Bridges with Posted Weight Limits	102	-17	8.3%	11th highest
Sufficiency Rating < 50	86	+11	7.0%	17th highest

TABLE 19 – SUMMARY OF HAMPTON ROADS BRIDGE CONDITIONS

Source: HRTPO analysis of VDOT and FHWA data.

Glossary of Bridge Terms

Many terms are used throughout this study to describe various components and aspects of bridges. This section includes a glossary of selected terms used throughout this study.

Bridge – For the purposes of this study, the definition of a bridge is similar to the definition used for bridges in the National Bridge Inventory. A bridge is defined as any structure carrying a roadway open to the general public with a length of more than 20 feet. Bridges less than or equal to 20 feet in length are not included in this report, nor are bridges on secure areas of military bases and tunnels. More details on the definition of a bridge are included on page 3.

Culvert – A culvert is a smaller drainage structure, such as a drain, pipe, or channel, which 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 structure is in danger of collapsing. Examples of fracture critical bridges include most truss bridges and drawbridges.

Despite the 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 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 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 that can safely utilize an existing structure for an indefinite period of time. This is based on the type of vehicle used in the rating.

Health Index – The Health Index is a measure of the physical condition of a bridge, which provides a reliable ranking system for bridge maintenance. The Health Index of a structure is calculated by dividing the sum of this current dollar value of all the structure's elements by the sum of the total value of all the structure's elements in new condition. A Health Index of 100% indicates that all of the elements of the structure are in the best possible condition, while a Health Index of 0% indicates that all of the elements are in the worst possible condition.

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

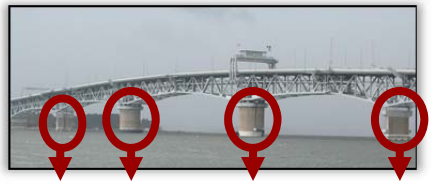
National Bridge Inventory (NBI) – A database compiled by FHWA containing bridge characteristics for all structures that meet the previously shown definition of a bridge.

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

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 bridge's substructure 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.

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



Sufficiency Rating – A sufficiency rating is a numerical rating of a bridge based on its structural adequacy and safety, essentiality for public use, and its serviceability and functional obsolescence. Sufficiency ratings range from 0 to 100%, with a sufficiency rating of 100% representing an entirely sufficient bridge. Sufficiency ratings do not directly reflect the structural condition of the bridge but rather were created by FHWA to primarily be used to prioritize bridges for federal funding.

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

Ten year rule – By regulation, any bridges built or reconstructed within the last ten years cannot be classified as structurally deficient or functionally obsolete. This is to prevent recently constructed bridges from being eligible to receive additional federal funding.

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

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

Bridge Component Rating Basics

Several components of each bridge are graded based on factors such as the design of the bridge, the type of roadway carried by the bridge, traffic volumes, and the observations of bridge inspectors. These rated components include:

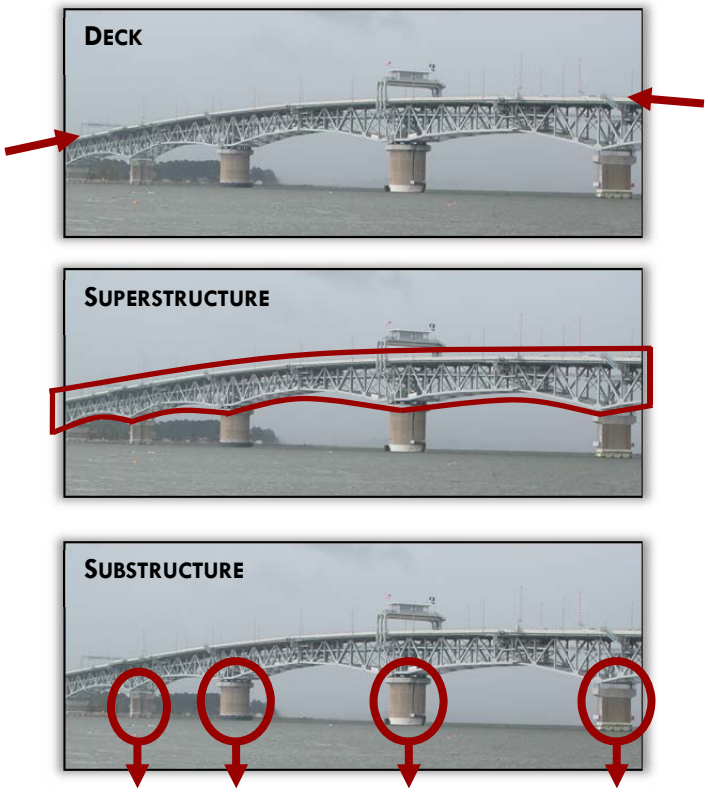
- **Deck, Superstructure, and Substructure Condition**
- **Culvert Condition**
- **Inventory Rating**
- **Structural Evaluation**
- **Deck Geometry**
- **Underclearances**
- **Waterway Adequacy**
- **Approach Roadway Alignment**

These general condition and appraisal ratings are used in a variety of ways to determine the overall existing condition of the structure. These ways include determining if a bridge is classified as structurally deficient or functionally obsolete, calculating the sufficiency rating for each bridge, and prioritizing funding levels and projects. This appendix describes in detail how each of these ratings are produced.

Deck, Superstructure, and Substructure General Condition Ratings

These items describe the overall condition of the bridge's roadway surface (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 each of these three components.



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 it back in light service.
0	**Failed Condition** Out of service - beyond corrective action.

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

Source: FHWA.

Culvert General Condition Ratings

The culvert general condition rating 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, this general condition rating will be rated as "N".

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 Condition Rating 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.

General Condition Ratings and Descriptions for Culverts

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 load level that the bridge can safely utilize for an indefinite period of time is 31 tons.

MS loading is the metric equivalent of HS loading. Converting the last two numbers of the HS loading inventory ratings 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 general condition ratings, inventory rating, and average daily traffic volumes.

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

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

Structural Evaluation Rating Code	Inventory Rating		
	Average Daily Traffic (ADT)		
	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.		

STRUCTURAL EVALUATION RATING (BASED ON ADT AND INVENTORY RATING)

Source: FHWA.

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 ADT column of > 5000 vehicles per day, regardless of the actual ADT on the bridge.

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 Code	Minimum Vertical Clearance			
	Functional Class			
	Interstate and Other Freeways		Other Principal and Minor Arterials	Major and Minor Collectors and Locals
	All Routes Except as noted for Urban Areas	Undesignated Routes, Urban Areas*		
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.			

Deck Geometry Rating Based on Minimum Vertical Clearance over Bridge Roadway

Source: FHWA.

Notes: * 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.

1) Use the lower rating code for values between those listed in the table.

Deck Geometry Rating Code	TABLE A						TABLE B	
	Bridge Roadway Width 2 Lanes; 2 Way Traffic						Bridge Roadway Width 1 Lane; 2 Way Traffic	
	ADT - Both Directions						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.							

Deck Geometry Rating Code	TABLE C				TABLE D	
	Bridge Roadway Width 2 or More Lanes Each Direction				Bridge Roadway Width 1 Way Traffic	
	Interstate and Other Divided Freeways		Other Multilane Divided Facilities		Ramps Only	
	2 Lanes	3 or more	2 Lanes	3 or more	1 Lane	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.					

Deck Geometry Rating Based on Bridge Roadway Width

Source: FHWA.

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

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.

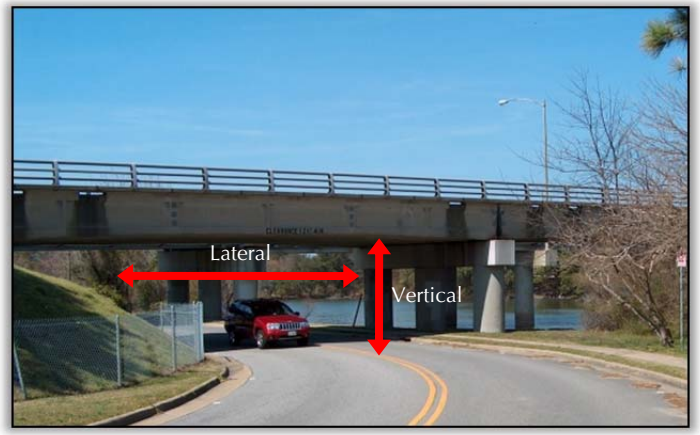
4) N = Number of lanes

5) Use Table C, Other Multilane Divided Facilities, for 3 or more undivided lanes of 2-way traffic.

UNDERCLEARANCES

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

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



Underclearance Rating Code	Minimum Vertical Underclearance				
	Functional Class				
	Interstate and Other Freeways		Other Principal and Minor Arterials	Major and Minor Collectors and Locals	Railroad
	All Routes Except as noted for Urban Areas	Undesignated Routes, Urban Areas*			
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.				

VERTICAL UNDERCLEARANCE RATING

Source: FHWA.

Notes: 1) Use the lower rating code for values between those listed in the table.

2) The roadway 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 Code	Minimum Lateral Underclearance						
	Functional Class						
	1-Way Traffic				2-Way Traffic		Railroad
	Interstate, Freeways, or Expressways				Other Principal and Minor Arterials	Major & Minor Collectors and Locals	
	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	Lateral clearance less than value in rating code 4 and requiring corrective action.						
2	Lateral clearance less than value in rating code 4 and requiring replacement.						
0	Bridge closed.						

LATERAL UNDERCLEARANCE RATING

Source: FHWA.

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.

3) The roadway 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.

Waterway Adequacy

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

Roadway Functional Classification			Description
Principal Arterials, Interstates, Freeways, or Expressways	Other Principal and Minor Arterials and Major Collectors	Minor Collectors and Locals	
Waterway Adequacy Rating Code			
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. Occasional 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.

Waterway Adequacy Rating

Source: FHWA.

Note: In the above table, the descriptions 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.

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 the previously listed 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. The approach roadway alignment should only be rated intolerable (a rating code of 3 or less) if the horizontal or vertical curvature require a substantial reduction in 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 necessary 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 rather than the alignment approaching the structure shall not be considered in evaluating this item.

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

Approach Roadway Alignment Rating

Source: FHWA.

SUFFICIENCY RATING FORMULA

Sufficiency ratings are numerical ratings for each bridge based on its structural evaluation, design and function, and public importance. These components are used to obtain a numeric value between 0% and 100%, with a sufficiency rating of 100% representing an entirely sufficient bridge.

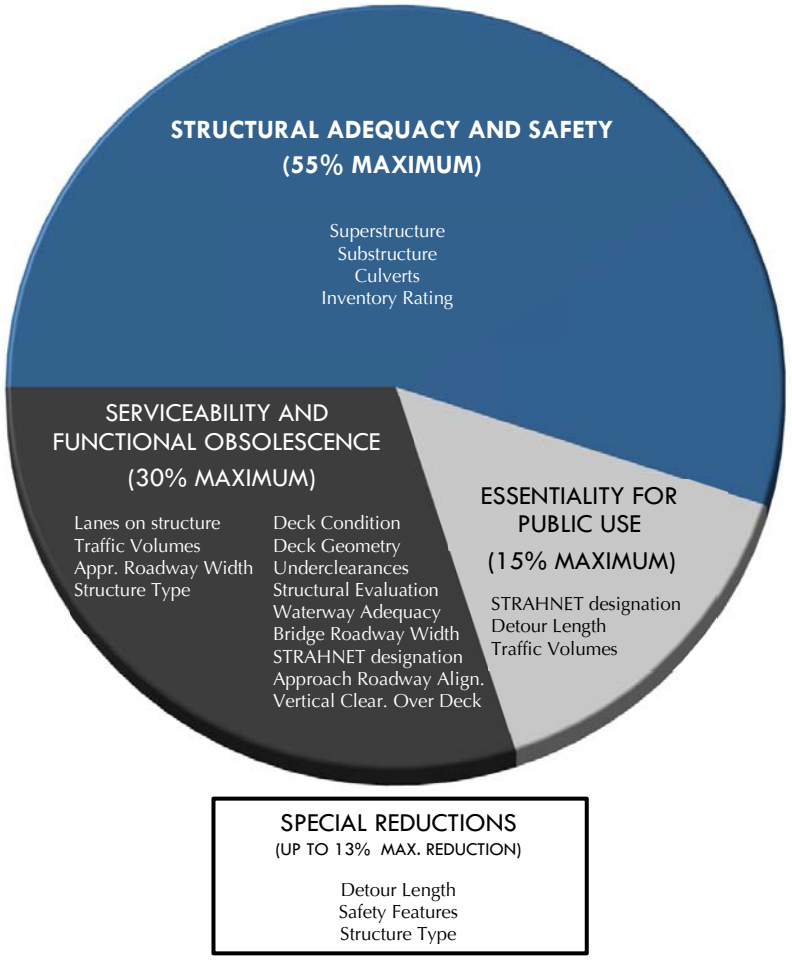
Four components are assigned a specific percentage towards the overall sufficiency rating for each bridge. The four components are:

- **Structural Adequacy and Safety (55%)** – This includes the condition of the superstructure, substructure, or culvert.
- **Serviceability and Functional Obsolescence (30%)** – This includes thirteen factors related to the design and function of the bridge.
- **Essentiality for Public Use (15%)** – This includes traffic volumes carried on the structure, detour length, and the importance of the route carried by the structure for military deployment.
- **Special Reductions (up to 13% reduction)** – The sufficiency rating can be reduced based on the type of structure, safety features on the bridge, and detour length.

The structure's sufficiency rating is determined by the following equation:

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

The following pages show the formulas used to calculate each bridge's sufficiency rating. The sufficiency rating calculation for the High Rise Bridge is also included as an example.



SUFFICIENCY RATING COMPONENTS AND FACTORS

Component #1 – Structural Adequacy and Safety

Structural Adequacy and Safety Component = 55% - (Factor A + Factor B)
(0% minimum, 55% maximum)

Two factors make up the structural adequacy and safety rating, referred to here as Factor A and Factor B:

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

If the lower of the Superstructure and Substructure Condition Ratings is:

Rating	Factor A
≤2	55%
3	40%
4	25%
5	10%
>5	0%

If both the Superstructure and Substructure Condition Ratings are "N", then the above table applies to the Culvert Rating instead.

Factor B – Factor 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.

Factor B is calculated using the following equation:

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

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

HIGH RISE BRIDGE SUFFICIENCY RATING EXAMPLE

All relevant information used in the sufficiency rating calculation is located below. For definitions of the terms and ratings used, see Appendix A – Glossary of Bridge Terms and Appendix B – Bridge Component Rating Basics.

High Rise Bridge Information

- Deck Condition Rating = 5
- Superstructure Condition Rating = 5
- Substructure Condition Rating = 5
- Culvert Condition Rating = N
- Inventory Rating = 45.9 metric tons
- Average Daily Traffic Volume = 68,091 vehicles (VDOT data)
- Structural Evaluation Rating = 5
- Waterway Adequacy Rating = 8
- Deck Geometry Rating = 4
- Underclearances Rating = 4
- Approach Roadway Alignment Rating = 8
- Lanes on Roadway = 4
- Approach Roadway Width = 82 feet = 25.0 meters
- Bridge Roadway Width = 60 feet = 18.3 meters
- Main Span Structure Type = 16 (movable bridge - bascule)
- Approach Span Structure Type = 2 (girder)
- Vertical Clearance Over Deck = 18 feet = 5.48 meters
- STRAHNET Designation = 1 (STRAHNET route)
- Detour Length = 9 miles = 14.5 km
- Safety Features = 0/0/0/1 (only approach guardrail ends meet currently acceptable standards).

Component #1 – Structural Adequacy and Safety

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

Factor A = 10% since the lower of the Superstructure and Substructure Condition Rating is 5.

Factor B = 0% since the Inventory Rating (45.9 metric tons) is greater than 32.4 metric tons.

Structural Adequacy and Safety Component = 55% - (Factor A + Factor B)
= 55% - (10% + 0%)
= 45.0%

Structural Adequacy and Safety Component = 45.0%

COMPONENT #2 – SERVICEABILITY AND FUNCTIONAL OBSOLESCENCE

Serviceability and Functional Obsolescence Component = 30% - (Factor C + Factor D + Factor E)
(0% minimum, 30% maximum)

Three factors make up the serviceability and functional obsolescence rating, referred to here as Factor C, Factor D, and Factor E:

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

Each element of Factor C is scored based on the ratings as shown below:

Rating	Deck Condition Factor C_{DC}	Structural Evaluation Factor C_{SE}	Deck Geometry Factor C_{DG}	Under-clearances Factor C_U	Waterway Adequacy Factor C_{WA}	Approach Roadway Alignment Factor C_{RA}
≤3	5%	4%	4%	4%	4%	4%
4	3%	2%	2%	2%	2%	2%
5	1%	1%	1%	1%	1%	1%
>5	0%	0%	0%	0%	0%	0%

Factor C = C_{DC} + C_{SE} + C_{DG} + C_U + C_{WA} + C_{RA}. However, Factor C shall not be less than 0% or greater than 13%.

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

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

Factor D_A:

For all bridges that are not culverts:

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

For culverts:

Factor D_A = 0%.

Factor D_B:

For 1-lane bridges, Factor D_B is determined based on the following table:

Y	Factor D_B
< 4.3	15%
≥ 4.3 and < 5.5	12.5 x [5.5-Y]%
≥ 5.5	0%

For 2 or more lane bridges, Factor D_B = 0% if any of the following four conditions apply:

# of lanes	Y
2	≥ 4.9
3	≥ 4.6
4	≥ 4.3
≥ 5	≥ 3.7

If none of those four conditions apply, then Factor D_B is determined based on the following table:

X	Y	Factor D_B
≤ 50	< 2.7	7.5%
≤ 50	≥ 2.7	0%
> 50 and ≤ 125	< 3.0	15%
> 50 and ≤ 125	≥ 3.0 and < 4.0	15 x [4-Y]%
> 50 and ≤ 125	≥ 4.0	0%
> 125 and ≤ 375	< 3.4	15%
> 125 and ≤ 375	≥ 3.4 and < 4.3	15 x [4.3-Y]%
> 125 and ≤ 375	≥ 4.3	0%
> 375 and ≤ 1350	< 3.7	15%
> 375 and ≤ 1350	≥ 3.7 and < 4.9	12.5 x [4.9-Y]%
> 375 and ≤ 1350	≥ 4.9	0%
> 1350	< 4.6	15%
> 1350	≥ 4.6 and < 4.9	12.5 x [4.9-Y]%
> 1350	≥ 4.9	0%

Factor D = D_A + D_B. However, Factor D shall not be less than 0% or greater than 15%.

Factor E – Factor 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), which is used for military deployment.

Factor E is determined based on the following table:

STRAHNET Designation (0=no, >0 = yes)	Vertical Clearance Over Deck	Factor E
0	≥ 4.26 meters	0%
0	< 4.26 meters	2%
> 0	≥ 4.87 meters	0%
> 0	< 4.87 meters	2%

HIGH RISE BRIDGE SUFFICIENCY RATING EXAMPLE CONTINUED

COMPONENT #2 – SERVICEABILITY AND FUNCTIONAL OBSOLESCENCE

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

Factor C = C_{DC} + C_{SE} + C_{DG} + C_U + C_{WA} + C_{RA}

C_{DC} = 1% since the Deck Condition Rating is 5.
C_{SE} = 1% since the Structural Evaluation Rating is 5.
C_{DG} = 2% since the Deck Geometry Rating is 4.
C_U = 2% since the Underclearances Rating is 4.
C_{WA} = 0% since the Waterway Adequacy Rating is 8.
C_{RA} = 0% since the Appraoach Roadway Alignment Rating is 8.

Factor C = C_{DC} + C_{SE} + C_{DG} + C_U + C_{WA} + C_{RA}
= 1% + 1% + 2% + 2% + 0% + 0% = 6%

Factor D = D_A + D_B

D_A = 5% since the Bridge Roadway Width (18.3 m) + 0.6 m is less than the Approach Roadway Width (25.0 m).

D_B = 0% since the number of lanes = 4 and Y = 4.57 ≥ 4.3.

Factor D = D_A + D_B = 5% + 0% = 5%

Factor E = 0% since the High Rise Bridge is designated as a STRAHNET route and the Vertical Clearance Over Deck is 5.48 m ≥ 4.87 m.

Serviceability and Functional Obsolescence Component = 30% - (Factor C + Factor D + Factor E)
= 30% - (6% + 5% + 0%)
= 19.0%

Serviceability and Functional Obsolescence Component = 19.0%

COMPONENT #3 – ESSENTIALITY FOR PUBLIC USE

Essentiality for Public Use Component = 15% - (Factor F + Factor G)
(0% minimum, 15% maximum)

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

Factor F – Factor F determines the essentiality for public use based on the previous two components (Component #1 – Structural Adequacy and Safety and Component #2 – Serviceability and Functional Obsolescence) as well as the Average Daily Traffic volume and detour length.

Factor F is calculated using the following equation:

$$\text{Factor F} = \frac{15 \times \text{Average Daily Traffic} \times \text{Detour Length}}{320000 \times [(\text{Component \#1} + \text{Component \#2})/85]}$$

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

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

Factor G is determined based on the following table:

STRAHNET Designation (0=no, >0 = yes)	Factor G
0	0%
> 0	2%

HIGH RISE BRIDGE SUFFICIENCY RATING EXAMPLE CONTINUED

COMPONENT #3 – ESSENTIALITY FOR PUBLIC USE

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

$$\text{Factor F} = \frac{15 \times \text{Average Daily Traffic} \times \text{Detour Length}}{320000 \times [(\text{Component \#1} + \text{Component \#2})/85]}$$

$$= \frac{15 \times 68091 \times 14.5\ \text{km}}{320000 \times [(45.0\% + 19.0\%)/85)]}$$

$$= \frac{14809793}{240941}$$

= 61.5%

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

Factor G = 2% since the High Rise Bridge is designated as a STRAHNET route.

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

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

Essentiality for Public Use Component = 0%

Component #4 – Special Reductions

Special Reductions Component = Factor H + Factor I + Factor J
(0% minimum, 13% maximum reduction)

The Special Reductions Component only applies when the three previous components added together are greater than or equal to 50%. Three factors make up the special reductions rating, referred to here as Factor H, Factor I, and Factor J.

Factor H – Factor H is based on the detour length.

Factor H is calculated using the following equation:

$$\text{Factor H} = [\text{Detour Length}]^4 \times [7.9 \times 10^{-9}]$$

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

Factor I = 5% if the Structure Type is one of the types listed below. Otherwise, Factor I = 0%.

Type 10 – Thru Truss
Type 12 – Thru Arch
Type 13 – Suspension
Type 14 – Stayed Girder
Type 15 – Movable Lift
Type 16 – Movable Bascule
Type 17 - Movable Swing

Factor J – Factor J is based on four safety features of the structure: bridge railings, transitions, approach guardrails, and approach guardrail ends.

Factor J is determined based on the number of safety features that are required and not provided or do not meet currently acceptable standards, as determined from the following table:

Safety Features Not Provided or Not Meeting Current Standards	Factor J
0	0%
1	0%
2	1%
3	2%
4	3%

HIGH RISE BRIDGE SUFFICIENCY RATING EXAMPLE CONTINUED

Component #4 – Special Reductions

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

The Special Reductions Component applies when the three previous components added together are greater than or equal to 50%. For the High Rise Bridge, Component #1 + Component #2 + Component #3 = 64%, so the Special Reductions Component applies.

Factor H = $[\text{Detour Length}]^4 \times [7.9 \times 10^{-9}]$
$= (14.5 \text{ km})^4 \times [7.9 \times 10^{-9}]$
$= 0.0\%$

Factor I = 5% since the High Rise Bridge is a Movable Bascule bridge (Type 16).

Factor J = 2% since only approach guardrail ends meet currently acceptable standards at the High Rise Bridge.

Special Reductions Component = Factor H + Factor I + Factor J
= 0% +5% +2%
= 7%

Special Reductions Component = 7%

HIGH RISE BRIDGE SUFFICIENCY RATING

Sufficiency Rating = Component #1 (Structural Adequacy and Safety) + Component #2 (Serviceability and Functional Obsolescence) + Component #3 (Essentiality for Public Use) – Component #4 (Special Reductions)

Sufficiency Rating = 45.0% + 19.0% + 0% - 7.0% = 57.0%

High Rise Bridge Sufficiency Rating = 57.0%

REGIONAL BRIDGE INVENTORY

Appendix D contains an inventory of the 1,223 bridges in Hampton Roads, broken down by jurisdiction. Maps and tables describing details of each bridge are included. The data included in this appendix is described below:

1. **Federal Structure ID** – A unique number designated for each bridge. This is different than the Virginia Bridge ID.

2. **Span Type** – This column describes the type of bridge design. Descriptions of each span type and the codes used in this column are shown on page 4.

3. **Structurally Deficient (SD)/Functionally Obsolete (FO)** – This column indicates if a bridge is classified as structurally deficient (SD) or functionally obsolete (FO).

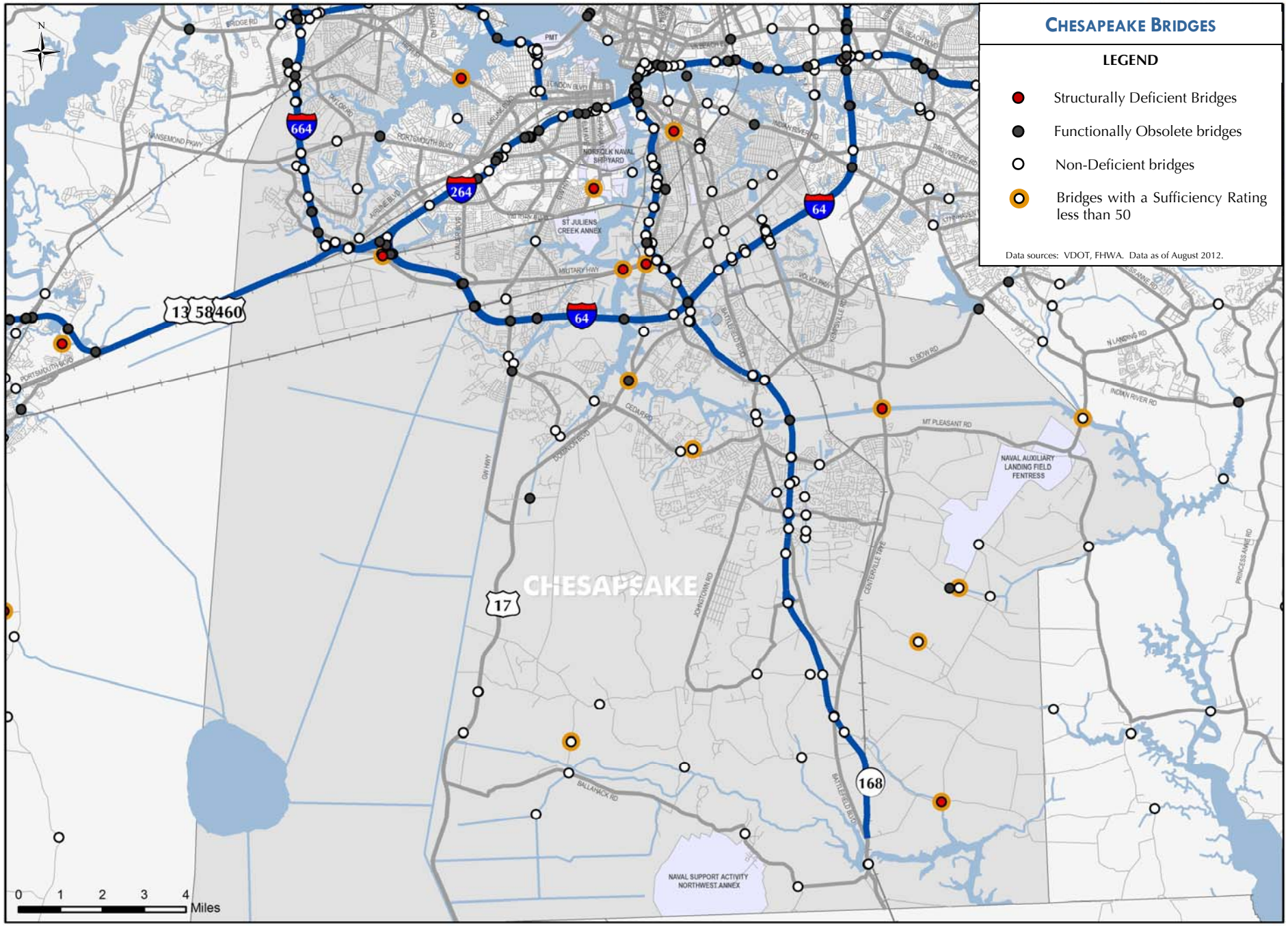
4. **Bridge Ratings** – General condition ratings are included for each bridge. These ratings include the deck condition, superstructure condition, substructure condition, and culvert condition (if applicable). Descriptions of each of these bridge ratings are included in Appendix B.

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

6. **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 the bridge is in danger of collapse if a key structural member fails.

7. **Posted Weight Limit** – This column lists the posted weight limit of the bridge in tons. The posted weight limit of the bridge is shown as 20/29/39, with the first number representing the posted weight limit for all vehicles, the second number representing the posted weight limit for single unit trucks, and the third number representing the posted weight limit for trucks with semi-trailers. A '-' indicates that there is no posted weight limit on the bridge for that type of vehicle. For federally-maintained bridges, the NBI data only specifies whether weight limits are in place, not specific weight limit levels.

Jurisdiction	Federal Structure ID (1)	Route	Facility	Crossing	Span Type (2)	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO) (3)	Bridge Condition Ratings (4)				Sufficiency Rating (5)	Fracture Critical (6)	Posted Weight Limit (tons) (7)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
CHESAPEAKE	21879	166	22ND STREET	SEABOARD AVENUE & NS R/R	2	1938	-	City	SD	4	3	4	N	2.0	-	-/5/5
CHESAPEAKE	21840	58	AIRLINE BLVD	BR GOOSE CREEK	1	1932	-	City	-	6	6	6	N	70.6	-	-
CHESAPEAKE	25186	168	ATLANTIC AVENUE	N/S R/R AND SB RAMP	2	1998	-	City	-	7	7	7	N	98.2	-	-
CHESAPEAKE	25182	168	ATLANTIC AVENUE	NORFOLK SOUTHERN R/R	2	1999	-	City	-	7	8	7	N	94.9	-	-
CHESAPEAKE	23762	166	BAINBRIDGE BLVD	MAINS CREEK	5	1993	-	City	-	7	7	6	N	75.6	-	-
CHESAPEAKE	21882	166	BAINBRIDGE BLVD	MILLDAM CREEK	1	1985	-	City	-	7	6	6	N	96.9	-	-
CHESAPEAKE	21881	166	BAINBRIDGE BLVD	NORFOLK SOUTHERN R/R	2	1938	1947	City	FO	7	7	5	N	77.1	-	-
CHESAPEAKE	21813		BALLAHACK ROAD	NEWLAND SWAMP	2	1974	-	City	-	7	7	7	N	80.3	-	-


CHESAPEAKE BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
CHESAPEAKE
664
264
64
13 58 460
17
168
NORFOLK NAVAL SHIPYARD
ST JULIENS CREEK ANNEX
NAVAL AUXILIARY LANDING FIELD FENTRESS
NAVAL SUPPORT ACTIVITY NORTHWEST ANNEX
0 1 2 3 4 Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
CHESAPEAKE	21879	166	22ND STREET	SEABOARD AVENUE & NS R/R	2	1938	-	City	SD	4	3	4	N	2.0	-	-/5/5
CHESAPEAKE	21840	58	AIRLINE BLVD	BR GOOSE CREEK	1	1932	-	City	-	6	6	6	N	70.6	-	-
CHESAPEAKE	25186	168	ATLANTIC AVENUE	N/S R/R AND SB RAMP	2	1998	-	City	-	7	7	7	N	98.2	-	-
CHESAPEAKE	25182	168	ATLANTIC AVENUE	NORFOLK SOUTHERN R/R	2	1999	-	City	-	7	8	7	N	94.9	-	-
CHESAPEAKE	23762	166	BAINBRIDGE BLVD	MAINS CREEK	5	1993	-	City	-	7	7	6	N	75.6	-	-
CHESAPEAKE	21882	166	BAINBRIDGE BLVD	MILLDAM CREEK	1	1985	-	City	-	7	6	6	N	96.9	-	-
CHESAPEAKE	21881	166	BAINBRIDGE BLVD	NORFOLK SOUTHERN R/R	2	1938	1947	City	FO	7	7	5	N	77.1	-	-
CHESAPEAKE	21813		BALLAHACK ROAD	NEWLAND SWAMP	2	1974	-	City	-	7	7	7	N	80.3	-	-
CHESAPEAKE	24840		BALLAHACK ROAD	LEAD DITCH	19	1997	-	City	-	N	N	N	6	99.1	-	-
CHESAPEAKE	25081		BALLAHACK ROAD	LEAD DITCH	19	1997	-	City	-	N	N	N	7	98.1	-	-
CHESAPEAKE	21819		BARNES ROAD	I-464	2	1983	-	VDOT	-	7	6	6	N	99.0	-	-
CHESAPEAKE	27874	168	BATTLEFIELD BLVD	CHESAPEAKE & ALBEMARLE CANAL	16	2004	-	City	-	8	8	8	N	86.8	Y	-
CHESAPEAKE	26940	168	BATTLEFIELD BLVD	CHESAPEAKE EXPRESSWAY	2	2001	-	City	-	7	8	7	N	99.8	-	-
CHESAPEAKE	28148	168	BATTLEFIELD BLVD	INLET OF C&A CANAL	5	2005	-	City	-	7	7	7	N	87.6	-	-
CHESAPEAKE	21885	168	BATTLEFIELD BLVD	MILITARY HIGHWAY	2	1990	-	City	-	6	7	7	N	89.0	-	-
CHESAPEAKE	26887	168	BATTLEFIELD BLVD NB	NORTHWEST RIVER	2	2001	-	City	-	7	7	7	N	98.2	-	-
CHESAPEAKE	21887	168	BATTLEFIELD BLVD SB	NORTHWEST RIVER	2	1987	-	City	-	7	7	6	N	78.7	-	-
CHESAPEAKE	27047	168	BATTLEFIELD BLVD	I-64	2	2008	-	VDOT	-	7	7	7	N	85.0	-	-
CHESAPEAKE	24003	168	BATTLEFIELD BLVD	POPLAR BRANCH	1	1993	-	City	-	7	7	7	N	97.3	-	-
CHESAPEAKE	21802		BEAVER DAM ROAD	DRAINAGE DITCH	2	2012	-	City	-	8	8	8	N	29.0	-	-
CHESAPEAKE	21811		BELLS MILL ROAD	BELLS MILL CREEK	2	2012	-	City	-	8	8	8	N	26.8	-	-
CHESAPEAKE	21803		BENEFIT ROAD	BRANCH NORTHWEST RIVER	1	1986	-	City	-	7	7	7	N	94.3	-	-
CHESAPEAKE	26883		BENEFIT ROAD	CHESAPEAKE EXPRESSWAY	2	2001	-	City	-	7	8	7	N	94.9	-	-
CHESAPEAKE	21804		BENEFIT ROAD	LEAD DITCH	2	1958	1976	City	-	7	6	7	N	73.6	-	-
CHESAPEAKE	24257		BENEFIT ROAD	LEAD DITCH	19	1993	-	City	-	N	N	N	7	99.0	-	-
CHESAPEAKE	29532		BLACKWATER ROAD	POCATY CREEK	2	2010	-	City	-	8	8	8	N	93.4	-	-
CHESAPEAKE	24704		BUNCH WALNUTS ROAD	NORTHWEST RIVER	12	1996	-	City	-	7	7	7	N	92.7	-	-
CHESAPEAKE	21791		CAMPOSTELLA ROAD	I-464	2	1966	-	VDOT	-	6	7	7	N	76.2	-	-
CHESAPEAKE	21884	168	CAMPOSTELLA ROAD	NORFOLK SOUTHERN R/R	2	1938	1985	City	-	7	6	6	N	87.9	-	-
CHESAPEAKE	25185	168	CAMPOSTELLA ROAD SB RAMP	NORFOLK SOUTHERN R/R	2	2000	-	City	-	7	8	7	N	81.9	-	-
CHESAPEAKE	26696	165	CEDAR ROAD	BELLS MILL CREEK	5	1999	-	City	-	7	7	7	N	86.1	-	-
CHESAPEAKE	28514		CEDAR ROAD	LINDSEY DRAINAGE CANAL	19	2006	-	City	-	N	N	N	8	76.8	-	-
CHESAPEAKE	29507	165	CEDAR ROAD	NEW MILL CREEK	19	2007	-	City	-	N	N	N	8	96.7	-	-
CHESAPEAKE	21797		CENTERVILLE TURNPIKE	CHESAPEAKE & ALBEMARLE CANAL	17	1955	1990	City	SD	6	4	6	N	21.2	Y	-
CHESAPEAKE	26885	168	CHESAPEAKE EXPRESSWAY NB	BATTLEFIELD BLVD SOUTH	2	2001	-	City	-	8	7	7	N	98.9	-	-
CHESAPEAKE	26886	168	CHESAPEAKE EXPRESSWAY SB	BATTLEFIELD BLVD SOUTH	2	2001	-	City	-	7	7	7	N	98.9	-	-
CHESAPEAKE	26881	168	CHESAPEAKE EXPRESSWAY NB	HILLCREST PARKWAY	2	2001	-	City	-	7	7	7	N	89.8	-	-
CHESAPEAKE	26882	168	CHESAPEAKE EXPRESSWAY SB	HILLCREST PARKWAY	2	2001	-	City	-	7	7	7	N	91.7	-	-
CHESAPEAKE	24206	168	CHESAPEAKE EXPRESSWAY NB	POPLAR BRANCH	5	1993	-	City	-	7	7	7	N	94.0	-	-
CHESAPEAKE	24207	168	CHESAPEAKE EXPRESSWAY SB	POPLAR BRANCH	5	1993	-	City	-	7	7	7	N	97.1	-	-
CHESAPEAKE	29385		DIRT ROAD	STREAM	2	2010	-	VDOT	-	7	8	6	N	85.0	-	-
CHESAPEAKE	21812		DOCK LANDING ROAD	BAILEY CREEK	2	1970	-	City	-	6	7	7	N	77.5	-	-
CHESAPEAKE	23104	663	DOCK LANDING ROAD	I-664	2	1991	-	VDOT	-	6	6	7	N	99.0	-	-
CHESAPEAKE	21824		ELBOW ROAD	STUMPY LAKE SPILLWAY	2	1975	-	City	FO	5	6	6	N	70.0	-	-
CHESAPEAKE	21822		ETHERIDGE ROAD	COOPERS DITCH	2	1989	-	City	-	7	7	7	N	98.8	-	-
CHESAPEAKE	21805		ETHERIDGE MANOR BLVD	COOPERS DITCH	1	1990	-	City	-	7	7	7	N	79.6	-	-
CHESAPEAKE	21809		FENTRESS AIRFIELD ROAD	POCATY CREEK	2	2012	-	City	-	5	5	5	N	48.8	-	-
CHESAPEAKE	21810		FENTRESS AIRFIELD ROAD	POCATY CREEK	2	1963	-	City	-	6	7	6	N	69.1	-	-
CHESAPEAKE	24202		FOREST ROAD	COOPERS DITCH	1	1993	-	City	-	7	7	7	N	93.0	-	-
CHESAPEAKE	29531	17	GEORGE WASHINGTON HWY	DEEP CREEK	2	2011	2010	City	-	9	9	9	N	92.6	-	-

Chesapeake Bridges

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Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
CHESAPEAKE	1818	17	GEORGE WASHINGTON HWY	DISMAL SWAMP CANAL	16	1934	-	Federal	FO	7	6	7	N	57.9	Y	-
CHESAPEAKE	21836	17	GEORGE WASHINGTON HWY	I-64	2	1969	-	VDOT	FO	6	5	6	N	77.1	-	-
CHESAPEAKE	21833	17	GEORGE WASHINGTON HWY	ST JULIANS CREEK	1	1985	-	City	-	7	6	6	N	93.3	-	-
CHESAPEAKE	21838	17	GEORGE WASHINGTON HWY	YADKINS ROAD & NS R/R	2	1992	1992	City	-	7	7	7	N	94.3	-	-
CHESAPEAKE	21829	13	GILMERTON BRIDGE	S BR ELIZABETH RIVER	16	1938	1958	City	SD	4	3	5	N	3.0	Y	-/14/20
CHESAPEAKE	21906	190	GREAT BRIDGE BLVD	I-64	2	1967	-	VDOT	-	7	6	6	N	73.5	-	-
CHESAPEAKE	25566	168	GREAT BRIDGE BYPASS NB	BATTLEFIELD BLVD	2	1998	-	City	-	7	7	7	N	92.7	-	-
CHESAPEAKE	21898	168	GREAT BRIDGE BYPASS SB	BATTLEFIELD BLVD	2	1981	-	City	-	6	7	7	N	92.7	-	-
CHESAPEAKE	21891	168	GREAT BRIDGE BYPASS	CHESAPEAKE & ALBEMARLE CANAL	2	1981	-	City	FO	5	5	5	N	79.0	-	-
CHESAPEAKE	21900	168	GREAT BRIDGE BYPASS NB	KEMPSVILLE RD	2	1981	-	City	-	7	7	6	N	85.5	-	-
CHESAPEAKE	21902	168	GREAT BRIDGE BYPASS SB	KEMPSVILLE RD	2	1981	-	City	-	7	7	6	N	85.5	-	-
CHESAPEAKE	21894	168	GREAT BRIDGE BYPASS NB	MOUNT PLEASANT ROAD	2	1981	-	City	-	7	7	7	N	89.9	-	-
CHESAPEAKE	21896	168	GREAT BRIDGE BYPASS SB	MOUNT PLEASANT ROAD	2	1981	-	City	-	7	7	7	N	89.9	-	-
CHESAPEAKE	21793		GREENBRIER PARKWAY	I-64	2	1978	-	VDOT	-	7	7	6	N	95.0	-	-
CHESAPEAKE	23021		GUM COURT	DRUM POINT CREEK	19	1991	-	VDOT	-	N	N	N	7	93.8	-	-
CHESAPEAKE	25696		HANBURY ROAD	CHESAPEAKE EXPRESSWAY	2	1998	-	City	-	7	8	7	N	95.9	-	-
CHESAPEAKE	21868	64	HIGH RISE BRIDGE	S BR ELIZ RIVER & SR 166	16	1969	1991	VDOT	FO	5	5	5	N	57.0	Y	-
CHESAPEAKE	21823		HILLWELL ROAD	POPLAR BRANCH	2	1989	-	City	-	7	6	7	N	90.4	-	-
CHESAPEAKE	21844	64	I-64	CANAL	19	1967	-	VDOT	-	N	N	N	6	70.4	-	-
CHESAPEAKE	21862	64	I-64 EB	MILITARY HIGHWAY	2	1969	-	VDOT	FO	7	6	5	N	81.1	-	-
CHESAPEAKE	21864	64	I-64 WB	MILITARY HIGHWAY	2	1969	-	VDOT	-	7	6	6	N	88.6	-	-
CHESAPEAKE	25192	64	I-64	NORFOLK SOUTHERN R/R	2	1998	-	VDOT	-	7	8	7	N	85.0	-	-
CHESAPEAKE	21920	64	I-64 EB	N/S R/R & ROTUNDA AVE	2	1969	1993	VDOT	FO	7	5	6	N	81.1	-	-
CHESAPEAKE	21922	64	I-64 WB	N/S R/R & ROTUNDA AVE	2	1969	1993	VDOT	FO	6	6	5	N	82.5	-	-
CHESAPEAKE	21858	64	I-64 EB	N/S R/R & YADKIN ROAD	2	1969	-	VDOT	FO	6	7	5	N	65.4	-	-
CHESAPEAKE	21860	64	I-64 WB	N/S R/R & YADKIN ROAD	2	1969	-	VDOT	FO	6	7	5	N	66.2	-	-
CHESAPEAKE	21856	64	I-64 EB	SHELL ROAD	2	1969	-	VDOT	-	6	7	6	N	95.3	-	-
CHESAPEAKE	21854	64	I-64 WB	SHELL ROAD	2	1969	-	VDOT	FO	7	7	5	N	83.3	-	-
CHESAPEAKE	26355	64	I-64 EB COLLECTOR ROAD	BATTLEFIELD BLVD RAMP	2	2008	-	VDOT	-	7	7	8	N	89.0	Y	-
CHESAPEAKE	26354	64	I-64 WB COLLECTOR ROAD	GREENBRIER PKWY RAMP	2	2008	-	VDOT	-	7	7	8	N	80.0	Y	-
CHESAPEAKE	26357	64	I-64 EB COLLECTOR ROAD	NORFOLK SOUTHERN R/R	2	2008	-	VDOT	-	7	8	8	N	85.9	-	-
CHESAPEAKE	26356	64	I-64 WB COLLECTOR ROAD	NORFOLK SOUTHERN R/R	2	2008	-	VDOT	-	7	8	7	N	95.3	-	-
CHESAPEAKE	21870	64	I-64 EB RAMP	CANAL	19	1978	-	VDOT	-	N	N	N	7	99.6	-	-
CHESAPEAKE	21871	64	I-64 WB RAMP	CANAL	19	1978	-	VDOT	-	N	N	N	7	99.6	-	-
CHESAPEAKE	21872	64	I-64 EB RAMP	CANAL	19	1978	-	VDOT	-	N	N	N	7	97.6	-	-
CHESAPEAKE	21873	64	I-64 WB RAMP	CANAL	19	1978	-	VDOT	-	N	N	N	7	99.6	-	-
CHESAPEAKE	21925	264	I-264 EB	I-64 EB	2	1963	1993	VDOT	FO	5	6	5	N	83.8	-	-
CHESAPEAKE	21927	264	I-264 EB	I-64 RAMP	2	1963	1993	VDOT	-	6	6	6	N	96.2	-	-
CHESAPEAKE	21918	264	I-264 WB RAMP	I-64	2	1969	-	VDOT	FO	5	6	5	N	82.3	-	-
CHESAPEAKE	21945	464	I-464 NB	BAINBRIDGE BLVD	2	1984	-	VDOT	-	6	6	7	N	91.1	-	-
CHESAPEAKE	21947	464	I-464 SB	BAINBRIDGE BLVD	2	1984	-	VDOT	-	6	6	6	N	91.2	-	-
CHESAPEAKE	21957	464	I-464 NB	FREEMAN AVENUE	2	1987	-	VDOT	-	7	7	7	N	96.0	-	-
CHESAPEAKE	21959	464	I-464 SB	FREEMAN AVENUE	2	1987	-	VDOT	-	7	7	6	N	97.0	-	-
CHESAPEAKE	21961	464	I-464 NB	GILLIGAN CREEK & NS R/R	2	1987	-	VDOT	-	6	6	7	N	94.0	-	-
CHESAPEAKE	21962	464	I-464 SB	GILLIGAN CREEK & NS R/R	2	1987	-	VDOT	-	6	6	7	N	96.0	-	-
CHESAPEAKE	21941	464	I-464 NB	I-64	2	1967	-	VDOT	-	6	6	6	N	72.8	-	-
CHESAPEAKE	21943	464	I-464 SB	I-64	2	1967	-	VDOT	FO	6	6	5	N	74.9	-	-
CHESAPEAKE	21963	464	I-464 NB	JONES CREEK	2	1987	-	VDOT	-	6	7	7	N	97.0	-	-
CHESAPEAKE	21964	464	I-464 SB	JONES CREEK	2	1987	-	VDOT	-	7	7	7	N	97.0	-	-
CHESAPEAKE	21965	464	I-464 NB	JONES CREEK	2	1987	-	VDOT	-	6	7	7	N	97.0	-	-

Chesapeake Bridges

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Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
CHESAPEAKE	21966	464	I-464 SB	JONES CREEK	2	1987	-	VDOT	-	7	7	7	N	97.0	-	-
CHESAPEAKE	21949	464	I-464 NB	MILITARY HWY	2	1984	-	VDOT	-	6	6	7	N	97.0	-	-
CHESAPEAKE	21951	464	I-464 SB	MILITARY HWY	2	1984	-	VDOT	-	6	6	7	N	97.0	-	-
CHESAPEAKE	21955	464	I-464 NB	MILLDAM CREEK	2	1986	-	VDOT	-	6	7	6	N	97.0	-	-
CHESAPEAKE	21956	464	I-464 SB	MILLDAM CREEK	2	1986	-	VDOT	FO	5	7	7	N	96.0	-	-
CHESAPEAKE	21953	464	I-464 NB	NS R/R & BR MILLDAM CREEK	2	1984	-	VDOT	-	7	6	6	N	96.0	-	-
CHESAPEAKE	21954	464	I-464 SB	NS R/R & BR MILLDAM CREEK	2	1984	-	VDOT	-	7	6	7	N	96.0	-	-
CHESAPEAKE	21967	464	I-464 NB	SOUTH NORFOLK BASIN	2	1980	-	VDOT	-	7	7	7	N	93.9	-	-
CHESAPEAKE	21968	464	I-464 SB	SOUTH NORFOLK BASIN	2	1980	-	VDOT	-	6	7	7	N	98.0	-	-
CHESAPEAKE	21969	464	I-464 SB	SOUTH NORFOLK BASIN	2	1980	-	VDOT	-	6	7	7	N	93.0	-	-
CHESAPEAKE	23105	664	I-664 NB	BAILEY CREEK	2	1991	-	VDOT	-	7	8	7	N	93.9	-	-
CHESAPEAKE	23106	664	I-664 SB	BAILEY CREEK	2	1991	-	VDOT	-	7	8	7	N	87.4	-	-
CHESAPEAKE	23037	664	I-664	BR DRUM POINT CREEK	19	1991	-	VDOT	FO	N	N	N	5	59.0	-	-
CHESAPEAKE	23017	664	I-664	DRUM POINT CREEK	19	1991	-	VDOT	-	N	N	N	7	70.0	-	-
CHESAPEAKE	23102	664	I-664 NB	GOOSE CREEK	2	1991	-	VDOT	-	6	7	6	N	90.1	-	-
CHESAPEAKE	23103	664	I-664 SB	GOOSE CREEK	2	1991	-	VDOT	FO	5	8	7	N	86.3	-	-
CHESAPEAKE	23109	664	I-664 NB	NORFOLK SOUTHERN R/R	2	1991	-	VDOT	-	6	7	7	N	94.3	-	-
CHESAPEAKE	23110	664	I-664 SB	NORFOLK SOUTHERN R/R	2	1991	-	VDOT	-	6	6	7	N	87.1	-	-
CHESAPEAKE	23014	664	I-664 NB	ROUTE 13/58/460	2	1991	-	VDOT	-	6	7	7	N	98.0	-	-
CHESAPEAKE	23015	664	I-664 SB	ROUTE 13/58/460	2	1991	-	VDOT	-	6	7	7	N	98.0	-	-
CHESAPEAKE	21911	664	I-664 NB	W MILITARY HWY & CSX R/R	2	1983	-	VDOT	-	6	6	6	N	89.6	-	-
CHESAPEAKE	21913	664	I-664 SB	W MILITARY HWY & CSX R/R	2	1983	-	VDOT	-	6	6	6	N	83.4	-	-
CHESAPEAKE	21915	664	I-664 RAMP	ROUTE 58 & 460 EB	2	1983	-	VDOT	-	6	6	6	N	98.0	Y	-
CHESAPEAKE	26884		INDIAN CREEK ROAD	CHESAPEAKE EXPRESSWAY	2	2001	-	City	-	7	8	7	N	99.3	-	-
CHESAPEAKE	21799		INDIAN CREEK ROAD	INDIAN CREEK	2	1972	-	City	SD	6	7	4	N	48.6	-	-
CHESAPEAKE	21935	407	INDIAN RIVER ROAD	INDIAN RIVER	2	1974	-	City	FO	6	6	5	N	65.2	-	-
CHESAPEAKE	25188	407	INDIAN RIVER ROAD	NORFOLK SOUTHERN R/R	2	1998	-	City	-	6	7	7	N	90.5	-	-
CHESAPEAKE	21908	191	JOLLIFF ROAD	I-664	2	1991	-	VDOT	FO	5	8	7	N	99.0	-	-
CHESAPEAKE	21806		LAKE DRUMMOND CAUSEWAY	LEAD DITCH	2	2012	-	City	-	5	5	5	N	49.7	-	-
CHESAPEAKE	21798		LAND OF PROMISE ROAD	POCATY CREEK	2	1971	-	City	FO	7	7	5	N	64.5	-	-
CHESAPEAKE	21800		LONG RIDGE ROAD	POCATY CREEK	2	1973	-	City	-	7	7	6	N	81.8	-	-
CHESAPEAKE	24742		LURAY STREET	DISMAL SWAMP CANAL SPLWY	5	1996	-	City	-	7	7	7	N	72.3	-	-
CHESAPEAKE	21827	13	MILITARY HIGHWAY	BAINBRIDGE BLVD & NS R/R	4	1948	1960	City	SD	4	4	5	N	48.9	-	-
CHESAPEAKE	21826	13	MILITARY HIGHWAY	NORFOLK SOUTHERN R/R	2	1990	-	City	-	6	7	7	N	97.1	-	-
CHESAPEAKE	21830	13	MILITARY HIGHWAY	NORFOLK SOUTHERN R/R	2	1938	-	City	SD	3	5	5	N	31.8	-	-/19/31
CHESAPEAKE	24180		MILLSTONE ROAD	COOPERS DITCH	1	1993	-	City	-	7	7	7	N	100.0	-	-
CHESAPEAKE	28523	165	MOSES GRANDY TRAIL	NEW MILL CREEK	1	2006	-	City	-	7	8	8	N	92.7	-	-
CHESAPEAKE	1826	165	MOUNT PLEASANT ROAD	CHESAPEAKE & ALBEMARLE CANAL	17	1951	2010	Federal	-	6	6	5	N	17.5	-	-
CHESAPEAKE	21877	165	MOUNT PLEASANT ROAD	COOPERS DITCH	1	1985	-	City	-	6	7	7	N	95.6	-	-
CHESAPEAKE	21816		NUMBER TEN LANE	LINDSEY DRAINAGE CANAL	2	1979	-	City	FO	5	5	7	N	59.1	-	-
CHESAPEAKE	23020		OLD JOLIFF ROAD	BR BAILEY CREEK	19	1991	-	VDOT	-	N	N	N	8	99.0	-	-
CHESAPEAKE	26701		PEACEFUL ROAD	CHESAPEAKE EXPRESSWAY	2	2001	-	City	-	8	8	7	N	94.8	-	-
CHESAPEAKE	21932	337	POINDEXTER STREET	I-464	2	1980	-	VDOT	-	6	6	7	N	90.5	-	-
CHESAPEAKE	23107	337	PORTSMOUTH BLVD EB	I-664	2	1992	-	VDOT	-	6	6	6	N	93.1	-	-
CHESAPEAKE	23108	337	PORTSMOUTH BLVD WB	I-664	2	1992	-	VDOT	-	6	6	6	N	93.1	-	-
CHESAPEAKE	24256	337	PORTSMOUTH BLVD	TRIB BAILEY'S CREEK	19	1990	-	City	-	N	N	N	6	75.4	-	-
CHESAPEAKE	21934	337	PORTSMOUTH BLVD	W BR ELIZABETH RIVER	2	1983	-	City	FO	7	7	5	N	69.9	-	-
CHESAPEAKE	21795		PROVIDENCE ROAD	BRANCH OF INDIAN RIVER	19	1970	-	City	-	N	N	N	7	94.9	-	-
CHESAPEAKE	21796		PROVIDENCE ROAD	BRANCH OF INDIAN RIVER	19	1970	-	City	-	N	N	N	7	93.9	-	-
CHESAPEAKE	23039	659	PUGHSVILLE ROAD	BR DRUM POINT CREEK	19	1991	-	VDOT	-	N	N	N	6	85.0	-	-

Chesapeake Bridges

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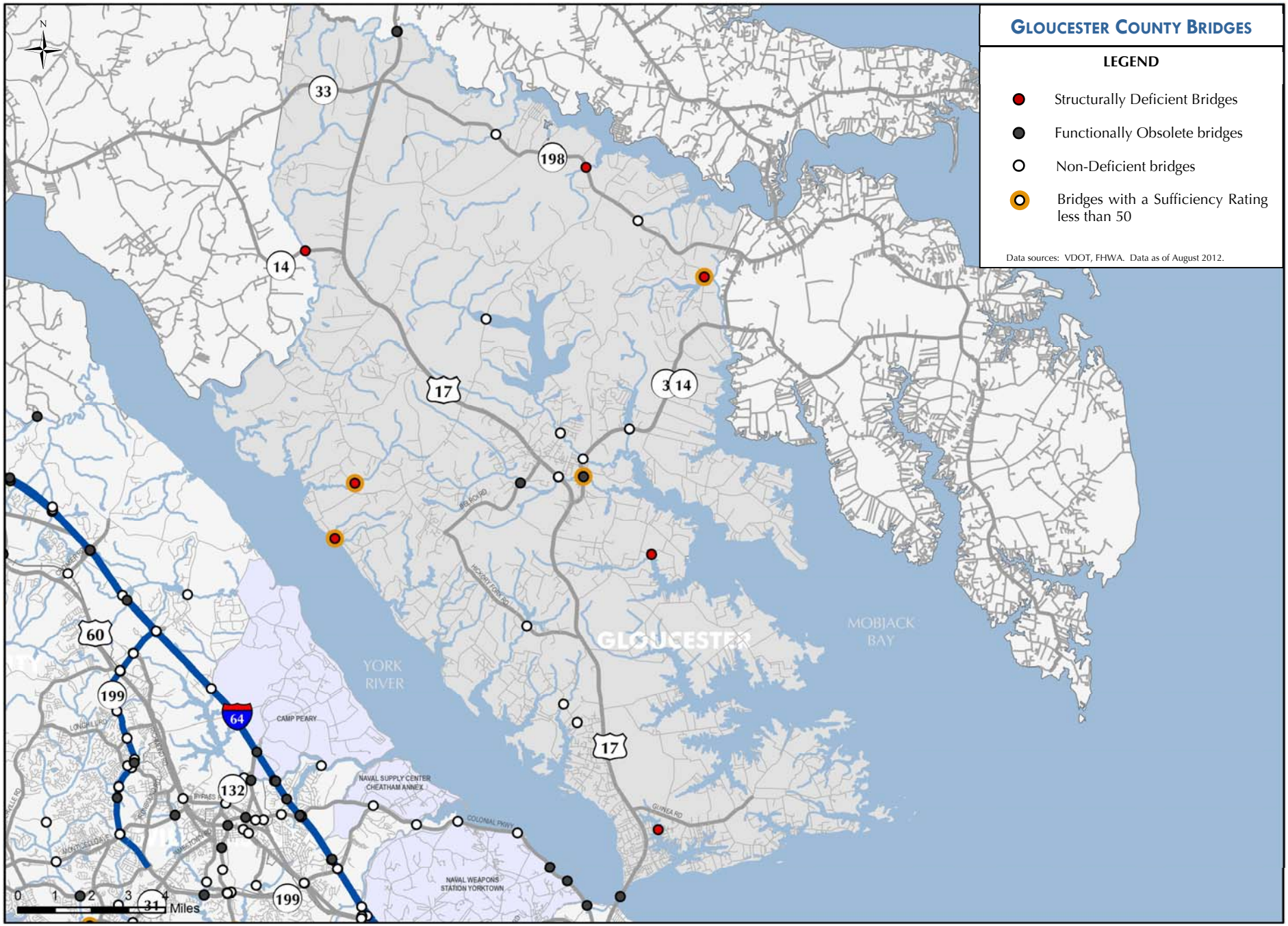
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
CHESAPEAKE	23112	659	PUGHSVILLE ROAD	I-664	2	1991	-	VDOT	-	6	6	7	N	99.0	-	-
CHESAPEAKE	21937	460	RAMP TO BAINBRIDGE BLVD & NS R/R	BAINBRIDGE BLVD	2	1948	1960	City	SD	6	4	6	N	51.0	-	-
CHESAPEAKE	25570	168	RAMP TO DOMINION BLVD	I-464 & OAK GROVE CONN	2	1999	-	VDOT	-	7	7	7	N	97.7	-	-
CHESAPEAKE	21817		ROSEMONT AVENUE	I-464	2	1983	-	VDOT	-	7	7	6	N	96.5	-	-
CHESAPEAKE	21821		ROTUNDA AVENUE	TRIB GOOSE CREEK	2	1969	-	City	-	6	7	7	N	95.9	-	-
CHESAPEAKE	27402	17	ROUTE 17	STREAM	19	2006	-	City	-	N	N	N	7	79.0	-	-
CHESAPEAKE	27231	17	ROUTE 17 NB	WETLANDS	2	2005	-	City	-	7	7	7	N	92.5	-	-
CHESAPEAKE	27232	17	ROUTE 17 SB	WETLANDS	2	2005	-	City	-	7	7	7	N	92.5	-	-
CHESAPEAKE	25567	168	ROUTE 168 NB	RAMP TO I-64 WB	2	1999	-	VDOT	-	7	7	7	N	95.7	-	-
CHESAPEAKE	25568	168	ROUTE 168 SB	DOMINION BLVD AND RAMPS	2	1998	-	VDOT	-	7	7	7	N	85.6	-	-
CHESAPEAKE	25569	168	ROUTE 168 SB RAMP	DOMINION BLVD AND RAMPS	2	1999	-	VDOT	-	7	7	7	N	97.6	-	-
CHESAPEAKE	29359		SAINT BRIDES ROAD	LEAD DITCH	19	2009	-	City	-	N	N	N	8	92.2	-	-
CHESAPEAKE	23038		SERVICE ROAD	BR DRUM POINT CREEK	19	1991	-	VDOT	FO	N	N	N	5	82.9	-	-
CHESAPEAKE	21931		SOUTH NORFOLK JORDAN BRIDGE	SOUTHERN BRANCH ELIZABETH RIVER	21	2012	-	Other	-	-	-	-	-	N/A	-	-
CHESAPEAKE	21875	17	STEEL BRIDGE (DOMINION BLVD)	S BR ELIZABETH RIVER	16	1962	-	City	FO	6	5	5	N	44.0	Y	-
CHESAPEAKE	24203		WOODLAKE DRIVE	DRAINAGE CHANNEL	19	1975	1988	City	-	N	N	N	7	81.2	-	-

CHESAPEAKE BRIDGES

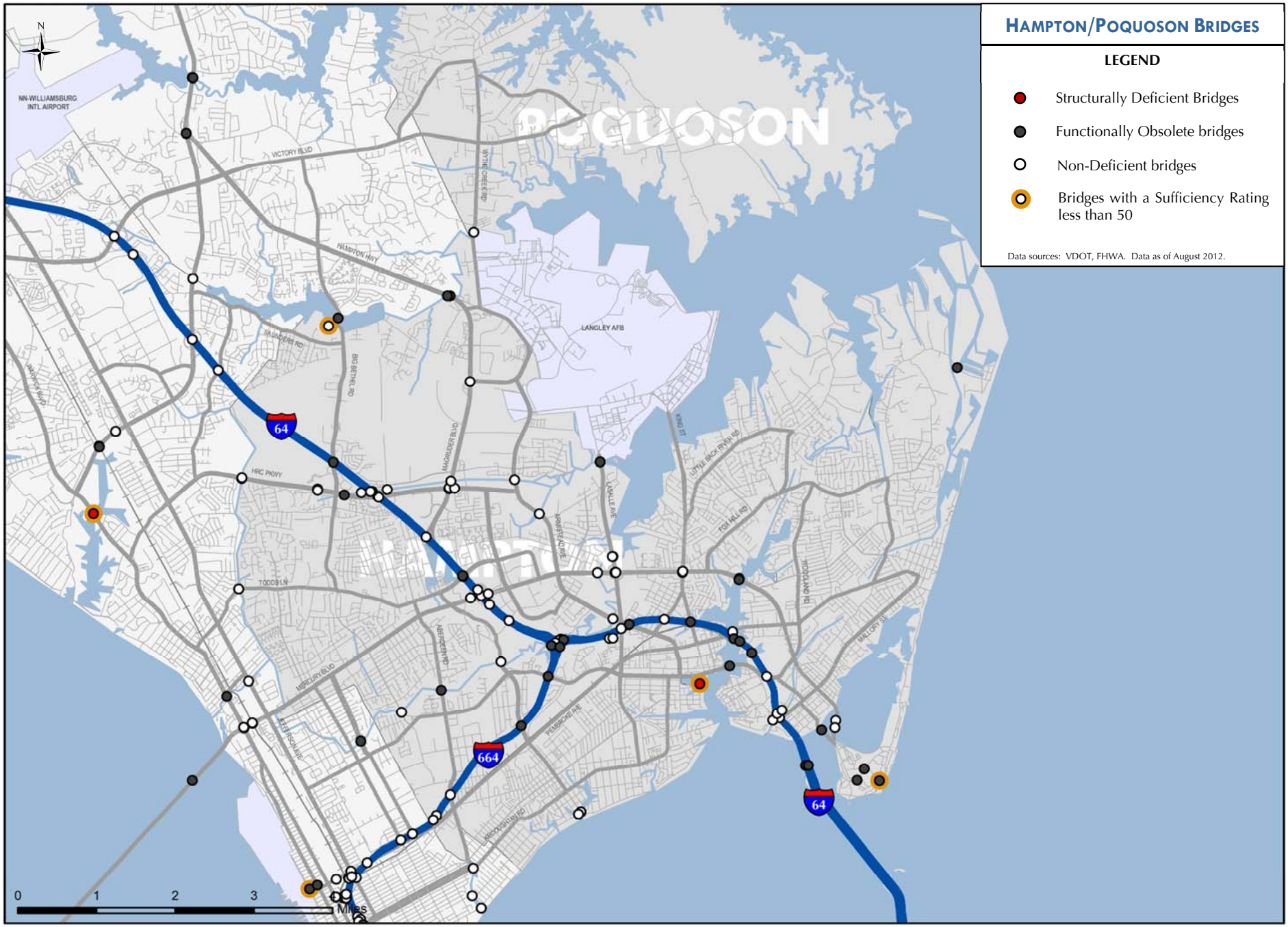
Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


GLOUCESTER COUNTY BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
N
33
198
14
17
3 14
60
199
64
CAMP PEARY
132
NAVAL SUPPLY CENTER CHEATHAM ANNEX
NAVAL WEAPONS STATION YORKTOWN
COLONIAL PKWY
GUINEA RD
YORK RIVER
MOBJACK BAY
GLOUCESTER
0 1 2 3 4 Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
GLOUCESTER	10588	14	ADNER ROAD	PORPOTANK CREEK	1	1938	-	VDOT	SD	4	5	5	N	58.0	-	-
GLOUCESTER	8552	662	ALLMONDSVILLE ROAD	FOX CREEK	2	1937	-	VDOT	SD	7	4	5	N	41.1	-	3/-/-
GLOUCESTER	8544	616	BELROI ROAD	FOX MILL RUN	19	1958	-	VDOT	FO	N	N	N	5	86.6	-	-
GLOUCESTER	8535	602	BURKE'S POND ROAD	BURKES POND	2	1940	-	VDOT	SD	6	4	4	N	24.3	-	7/-/-
GLOUCESTER	8545	627	CUNNINGHAM LANE	WILSON CREEK	2	1963	-	VDOT	SD	6	4	4	N	65.8	-	17/-/-
GLOUCESTER	8532	198	DUTTON ROAD	FERRY CREEK	5	1938	1999	VDOT	-	8	8	7	N	90.1	-	-
GLOUCESTER	8533	198	DUTTON ROAD	HARPER CREEK	4	1941	-	VDOT	SD	4	5	7	N	54.9	-	-
GLOUCESTER	8537	606	FARYS MILL ROAD	BEAVERDAM SWAMP	19	1964	-	VDOT	-	N	N	N	7	97.8	-	-
GLOUCESTER	12085	17	GEORGE WASHINGTON HWY NB	DRAGON RUN	4	1931	-	VDOT	FO	6	5	6	N	56.2	-	-
GLOUCESTER	12086	17	GEORGE WASHINGTON HWY SB	DRAGON RUN	4	1957	-	VDOT	FO	7	5	6	N	68.0	-	-
GLOUCESTER	8530	17	GEORGE WASHINGTON HWY NB	FOX MILL RUN	19	1972	-	VDOT	-	N	N	N	6	99.1	-	-
GLOUCESTER	8529	17	GEORGE WASHINGTON HWY SB	FOX MILL RUN	19	1972	-	VDOT	-	N	N	N	7	98.1	-	-
GLOUCESTER	8534	198	GLENNS ROAD	CARVERS CREEK	19	1950	-	VDOT	-	N	N	N	7	97.9	-	-
GLOUCESTER	26610	614	HICKORY FORK ROAD	CARTERS CREEK	2	2006	-	VDOT	-	8	8	8	N	99.0	-	-
GLOUCESTER	8524	3	JOHN CLAYTON HWY	BEAVERDAM SWAMP	19	1974	-	VDOT	-	N	N	N	6	69.0	-	-
GLOUCESTER	8523	3	JOHN CLAYTON HWY EB	COW CREEK	4	1938	-	VDOT	-	7	8	7	N	68.5	-	-
GLOUCESTER	8525	3	JOHN CLAYTON HWY WB	COW CREEK	19	1974	-	VDOT	-	N	N	N	7	100.0	-	-
GLOUCESTER	8528	17	MAIN STREET NB	FOX MILL RUN	1	1964	-	VDOT	FO	6	6	5	N	87.0	-	-
GLOUCESTER	8527	17	MAIN STREET SB	FOX MILL RUN	1	2012	-	VDOT	-	5	5	5	N	47.4	-	-
GLOUCESTER	8538	610	OLD PINETTA ROAD	BLAND CREEK	2	1960	-	VDOT	SD	7	4	5	N	41.0	-	7/-/-
GLOUCESTER	8547	636	PROVIDENCE ROAD	TIMBERNECK CREEK	19	1990	-	VDOT	-	N	N	N	7	99.8	-	-
GLOUCESTER	8546	636	PROVIDENCE ROAD	TRIB. OF TIMBERNECK CREEK	19	1990	-	VDOT	-	N	N	N	6	99.5	-	-
GLOUCESTER	23898	616	ROARING SPRINGS ROAD	BEAVERDAM SWAMP	1	1993	-	VDOT	-	7	7	7	N	79.0	-	-
GLOUCESTER	8548	641	TIDEMILL ROAD	NORTHWEST BR SARAH CREEK	2	1974	-	VDOT	SD	7	4	6	N	68.2	-	-

Gloucester County Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


HAMPTON/POQUOSON BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
N
NN-WILLIAMSBURG INTL AIRPORT
POQUOSON
HAMPTON
LANGLEY AFB
VICTORY BLVD
HAMPTON HWY
BIG BETHEL RD
MAGRUDER BLVD
HRC PKWY
TODDS LN
MERCURY BLVD
PEMBROKE AVE
64
664
0 1 2 3 Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
HAMPTON	20295		ABERDEEN ROAD	NEWMARKET CREEK	5	1981	-	City	FO	5	5	7	N	85.4	-	-
HAMPTON	20299		ARMISTEAD AVENUE	BILLY WOOD CANAL	5	1987	-	City	-	7	7	7	N	90.8	-	-
HAMPTON	26349	134	ARMISTEAD AVENUE	NEWMARKET CREEK	2	2004	-	City	-	7	7	7	N	94.8	-	-
HAMPTON	20300		ARMISTEAD AVENUE	TIDE MILL CREEK	1	1987	-	City	-	7	7	7	N	89.5	-	-
HAMPTON	20291		BEACH ROAD	LONG CREEK	2	1958	-	City	FO	6	5	5	N	54.5	-	-
HAMPTON	J50170		BETHEL PARK RD	BETHEL RESERVOIR	1	1935	-	Federal	SD	5	4	4	N	18.9	-	Posted
HAMPTON	20287		BIG BETHEL ROAD	I-64	2	1989	-	VDOT	FO	7	5	7	N	58.8	-	-
HAMPTON	20293		BIG BETHEL ROAD	NEWMARKET CREEK	5	1970	-	City	-	6	6	7	N	79.4	-	-
HAMPTON	20294		BRIDGE STREET	SALTERS CREEK	2	1934	1996	City	SD	4	5	5	N	46.8	-	8/-/-
HAMPTON	20373	167	CHESAPEAKE AVENUE	INDIAN RIVER	1	1985	-	City	-	7	7	6	N	97.7	-	-
HAMPTON	27473	172	COMMANDER SHEPARD BLVD	MAGRUDER BLVD	2	2011	-	City	-	8	8	8	N	97.6	-	-
HAMPTON	20362	152	CUNNINGHAM DRIVE EB	I-64	2	1974	-	City	FO	5	6	6	N	75.6	-	-
HAMPTON	20364	152	CUNNINGHAM DRIVE WB	I-64	2	1974	-	City	FO	5	6	6	N	75.4	-	-
HAMPTON	P1113		EAST GATE ROAD	EAST CROSSING OF MOAT	2	1950	-	Federal	FO	6	6	7	N	41.3	-	Posted
HAMPTON	20339	64	HAMPTON ROADS BRIDGE-TUNNEL EB	HAMPTON ROADS	2	1974	-	VDOT	FO	5	5	5	N	81.3	-	-
HAMPTON	20355	64	HAMPTON ROADS BRIDGE-TUNNEL WB	HAMPTON ROADS	2	1957	1999	VDOT	FO	6	5	5	N	82.7	-	-
HAMPTON	20352	64	HAMPTON ROADS BRIDGE-TUNNEL EB	HAMPTON ROADS	2	1974	-	VDOT	SD	5	4	6	N	63.9	-	-
HAMPTON	20353	64	HAMPTON ROADS BRIDGE-TUNNEL WB	HAMPTON ROADS	2	1957	-	VDOT	FO	5	5	5	N	81.0	-	-
HAMPTON	20302		HAMPTON ROADS CENTER PKWY	BILLY WOOD CANAL	19	1989	-	VDOT	FO	N	N	N	5	60.4	-	-
HAMPTON	20283		HAMPTON ROADS CENTER PKWY EB	I-64	2	1989	-	VDOT	-	7	6	7	N	94.0	-	-
HAMPTON	20281		HAMPTON ROADS CENTER PKWY WB	I-64	2	1989	-	VDOT	-	7	7	7	N	94.0	-	-
HAMPTON	20303		HAMPTON ROADS CENTER PKWY EB	MAGRUDER BLVD	2	1989	-	City	-	7	7	7	N	99.0	-	-
HAMPTON	20305		HAMPTON ROADS CENTER PKWY WB	MAGRUDER BLVD	2	1989	-	City	-	7	7	7	N	100.0	-	-
HAMPTON	26131		HAMPTON ROADS CENTER PKWY EB	OVER VERNAL POOL/DEPRESS	1	2001	-	City	-	7	8	8	N	99.9	-	-
HAMPTON	26130		HAMPTON ROADS CENTER PKWY WB	OVER VERNAL POOL/DEPRESS	1	2001	-	City	-	7	8	8	N	99.9	-	-
HAMPTON	20307		HAMPTON ROADS CENTER PKWY	STREAM	19	1989	-	City	-	N	N	N	6	75.9	-	-
HAMPTON	20348		HAMPTON ROADS CENTER PKWY RAMP	BILLY WOOD CANAL	19	1989	-	VDOT	-	N	N	N	6	98.2	-	-
HAMPTON	20349		HAMPTON ROADS CENTER PKWY RAMP	BILLY WOOD CANAL	19	1989	-	VDOT	-	N	N	N	7	97.9	-	-
HAMPTON	20324	64	I-64	ARMISTEAD AVENUE	2	1957	1986	VDOT	-	6	6	6	N	78.0	-	-
HAMPTON	20337	64	I-64 EB	BILLY WOOD CANAL	2	1959	1989	VDOT	-	7	6	6	N	89.8	-	-
HAMPTON	20336	64	I-64 WB	BILLY WOOD CANAL	2	1959	1989	VDOT	-	7	6	6	N	82.5	-	-
HAMPTON	20312	64	I-64	COUNTY STREET	2	1987	-	VDOT	-	6	6	6	N	96.0	-	-
HAMPTON	20314	64	I-64 EB	E. BRANCH HAMPTON RIVER	3	1958	1987	VDOT	FO	5	5	5	N	67.9	Y	-
HAMPTON	20344	64	I-64	JOHNS CREEK	19	1985	-	VDOT	-	N	N	N	7	75.0	-	-
HAMPTON	20318	64	I-64	KING STREET	5	1959	1984	VDOT	FO	6	5	5	N	72.0	-	-
HAMPTON	20326	64	I-64	LASALLE AVENUE	2	1959	1984	VDOT	FO	5	5	5	N	66.0	-	-
HAMPTON	26145	64	I-64	MERCURY BLVD	2	2005	-	VDOT	-	7	7	7	N	79.0	-	-
HAMPTON	20331	64	I-64 EB	NEWMARKET CREEK	2	1959	2005	VDOT	-	7	7	7	N	85.0	-	-
HAMPTON	20330	64	I-64 WB	NEWMARKET CREEK	2	1959	1981	VDOT	-	7	6	6	N	85.0	-	-
HAMPTON	20316	64	I-64 EB	PEMBROKE AVENUE & HAMPTON RIVER	2	1958	1987	VDOT	FO	5	6	5	N	69.0	-	-
HAMPTON	20346	64	I-64 WB	PEMBROKE AVENUE & HAMPTON RIVER	2	1985	-	VDOT	FO	5	5	6	N	73.0	Y	-
HAMPTON	20320	64	I-64	RIP RAP ROAD	2	1959	1984	VDOT	-	6	6	6	N	76.0	-	-
HAMPTON	20345	64	I-64 RAMPS	JOHNS CREEK	19	1985	-	VDOT	-	N	N	N	6	98.6	-	-
HAMPTON	26146	64	I-64 RAMP	MERCURY BLVD	2	2005	-	VDOT	-	6	7	7	N	95.8	-	-
HAMPTON	20399	64	I-64 RAMPS	NEWMARKET CREEK	2	1982	-	VDOT	FO	6	5	6	N	79.4	Y	-
HAMPTON	20342	64	I-64 EB OFF RAMP	POND	2	1985	-	VDOT	-	6	6	7	N	90.8	-	-
HAMPTON	20343	64	I-64 EB ON RAMP	RAMP F OVER POND	2	1985	-	VDOT	-	6	7	7	N	97.5	-	-
HAMPTON	20393	664	I-664	ABERDEEN ROAD	2	1983	-	VDOT	-	6	6	6	N	96.0	-	-
HAMPTON	20395	664	I-664	CSX R/R SPUR	2	1983	-	VDOT	-	6	6	6	N	82.6	-	-
HAMPTON	20396	664	I-664 NB	I-64 RAMP & NEWMARKET CREEK	2	1982	-	VDOT	-	6	6	6	N	94.4	Y	-

HAMPTON/POQUOSON BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
HAMPTON	20391	664	I-664	QUEEN STREET	2	1982	-	VDOT	FO	6	5	6	N	68.0	-	-
HAMPTON	20400	664	I-664	VPA R/R SPUR	7	1983	-	VDOT	-	6	6	6	N	82.6	-	-
HAMPTON	20398	664	I-664 RAMP	NEWMARKET CREEK	2	1982	-	VDOT	FO	7	5	5	N	74.0	-	-
HAMPTON	20328	664	I-664 SB RAMP	I-64 & NEWMARKET CREEK	2	1981	-	VDOT	FO	6	6	5	N	76.4	Y	-
HAMPTON	25293	167	LASALLE AVENUE NB	MERCURY BLVD	2	1998	-	City	-	7	8	7	N	74.4	-	-
HAMPTON	25292	167	LASALLE AVENUE SB	MERCURY BLVD	2	1998	-	City	-	7	8	7	N	75.3	-	-
HAMPTON	20367	167	LASALLE AVENUE NB	NEWMARKET CREEK	2	1965	-	City	-	7	6	6	N	76.8	-	-
HAMPTON	20368	167	LASALLE AVENUE SB	NEWMARKET CREEK	2	1965	-	City	-	7	6	6	N	75.9	-	-
HAMPTON	20366	167	LASALLE AVENUE	TIDE MILL CREEK	5	1965	-	City	FO	6	6	5	N	54.6	-	-
HAMPTON	20358	134	MAGRUDER BLVD	BILLY WOOD CANAL	4	1963	1990	City	-	6	6	6	N	86.2	-	-
HAMPTON	26143	134	MAGRUDER BLVD	I-64	5	2004	-	VDOT	-	7	7	7	N	81.6	-	-
HAMPTON	20279		MALLORY STREET	I-64	2	1985	-	VDOT	-	7	6	6	N	96.0	-	-
HAMPTON	20298		MALLORY STREET	JOHNS CREEK	19	1985	-	City	-	N	N	N	6	98.6	-	-
HAMPTON	20361	143	MELLEN STREET	MILL CREEK	5	1961	1982	City	FO	5	5	6	N	63.5	-	-
HAMPTON	20383	258	MERCURY BLVD EB	HAMPTON CREEK	4	1971	-	City	FO	7	7	5	N	68.7	-	-
HAMPTON	20380	258	MERCURY BLVD WB	HAMPTON CREEK	2	1983	-	City	-	7	7	7	N	82.5	-	-
HAMPTON	20384	258	MERCURY BLVD EB	KING ST	2	1971	-	City	-	7	7	6	N	87.3	-	-
HAMPTON	20386	258	MERCURY BLVD WB	KING ST	2	1971	-	City	-	7	7	6	N	87.1	-	-
HAMPTON	20381	258	MERCURY BLVD	MILL CREEK (NORTHERN BRIDGE)	2	1989	-	City	-	7	7	7	N	76.6	-	-
HAMPTON	20382	258	MERCURY BLVD	MILL CREEK (SOUTHERN BRIDGE)	2	1989	-	City	-	7	7	6	N	77.6	-	-
HAMPTON	25127	258	MERCURY BLVD	NEWMARKET CREEK	2	1998	-	City	-	7	7	7	N	90.2	-	-
HAMPTON	26148	64	MERCURY BLVD RAMP	I-64	2	2005	-	VDOT	-	7	7	7	N	93.9	-	-
HAMPTON	26150	64	MERCURY BLVD RAMP	I-64 RAMP	2	2005	-	VDOT	-	6	8	7	N	96.9	-	-
HAMPTON	26149	64	MERCURY BLVD RAMP	MERCURY BLVD	2	2005	-	VDOT	-	6	6	7	N	93.9	-	-
HAMPTON	P1051		NORTH GATE ROAD	NORTH CROSSING OF MOAT	2	1975	1996	Federal	FO	6	5	5	N	62.6	-	-
HAMPTON	26382	351	PEMBROKE AVENUE	HAMPTON CREEK	2	2003	-	City	-	7	7	7	N	79.4	-	-
HAMPTON	20285		PINE CHAPEL ROAD	I-64	2	1978	-	VDOT	-	6	7	6	N	95.1	-	-
HAMPTON	20390	415	POWER PLANT PKWY	NEWMARKET CREEK	5	1962	-	City	-	6	6	7	N	74.2	-	-
HAMPTON	20296		POWHATAN PKWY	I-664	2	1983	-	VDOT	FO	6	5	6	N	67.0	-	-
HAMPTON	20292		POWHATAN PKWY	INDIAN RIVER	1	1929	-	City	-	7	7	6	N	77.9	-	-
HAMPTON	P1049		RUCKMAN ROAD	WEST CROSSING OF MOAT	4	1952	-	Federal	FO	5	5	5	N	51.3	-	Posted
HAMPTON	20310	60	SETTLERS LANDING ROAD	HAMPTON RIVER	2	1985	-	City	FO	7	6	5	N	73.1	-	-
HAMPTON	20378	172	WYTHE CREEK ROAD	BRICK KILN CREEK	4	1981	-	City	-	6	6	6	N	85.7	-	-

HAMPTON/POQUOSON BRIDGES

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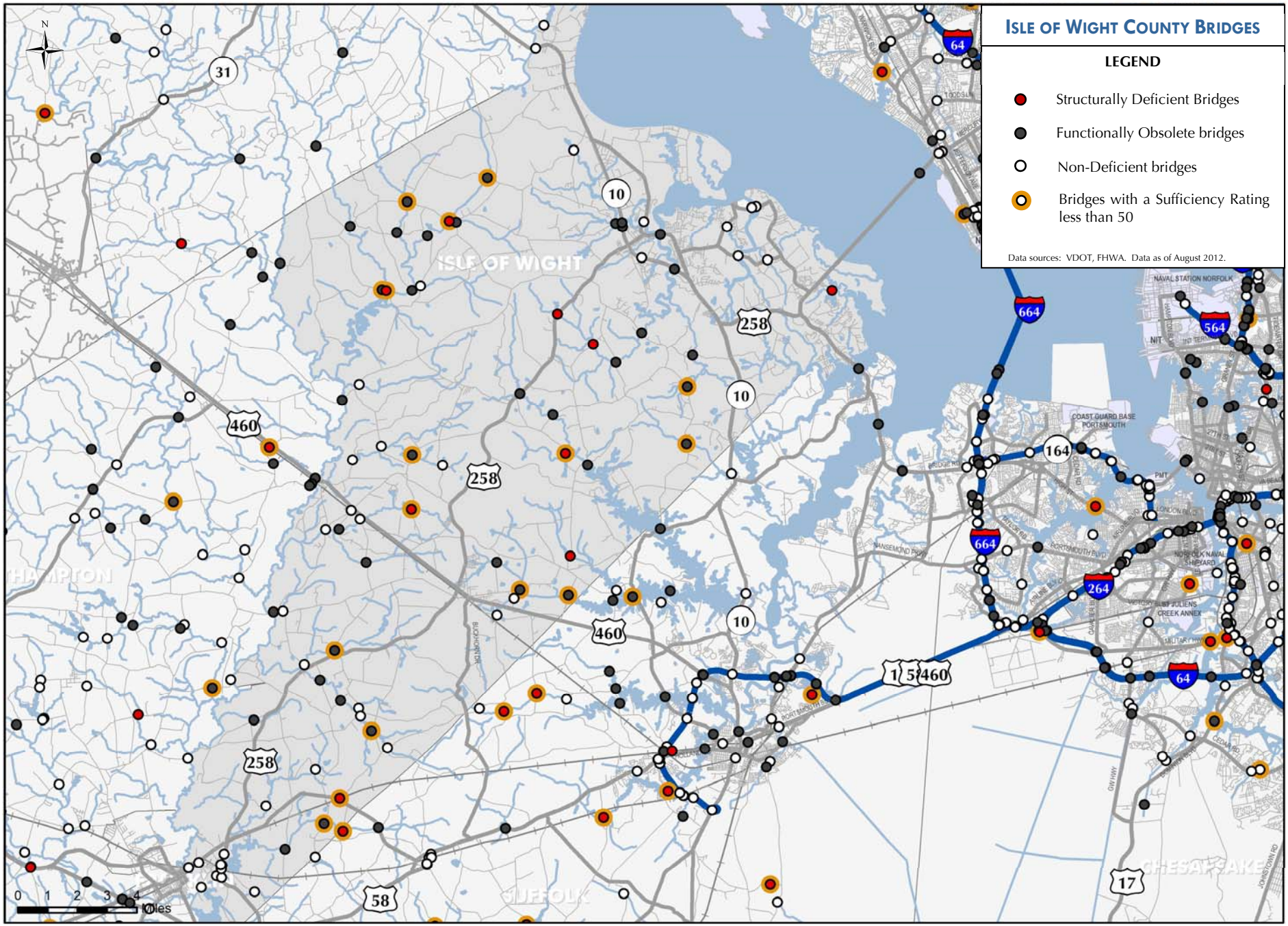

ISLE OF WIGHT COUNTY BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
ISLE OF WIGHT
HAMPTON
SUFFOLK
CHESAPEAKE
NAVAL STATION NORFOLK
COAST GUARD BASE PORTSMOUTH
NORFOLK NAVAL SHIPYARD
0 1 2 3 4 Miles
31
10
258
460
58
17
64
664
564
164
264

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
ISLE OF WIGHT	10392	614	BALLARD ROAD	CORROWAUGH SWAMP	2	1945	-	VDOT	FO	7	5	6	N	56.9	-	10/-/-
ISLE OF WIGHT	10419	641	BARRETT TOWN ROAD	ANTIOCH SWAMP	2	1955	1984	VDOT	FO	6	5	6	N	58.2	-	18/-/-
ISLE OF WIGHT	10418	641	BARRETT TOWN ROAD	BURNT MILL SWAMP	19	1958	-	VDOT	-	N	N	N	6	99.9	-	-
ISLE OF WIGHT	23874	646	BEALE PLACE DRIVE	POPE CREEK	1	1994	-	VDOT	-	7	7	8	N	90.2	-	-
ISLE OF WIGHT	24600	630	BEAVERDAM ROAD	BEAVERDAM SWAMP	1	1996	-	VDOT	-	8	8	8	N	95.9	-	-
ISLE OF WIGHT	10386	603	BLACKWATER ROAD	BLACKWATER RIVER	2	1970	-	VDOT	FO	7	5	6	N	58.1	-	-
ISLE OF WIGHT	10385	603	BLACKWATER ROAD	HORSE SWAMP	19	1968	-	VDOT	-	N	N	N	6	99.4	-	-
ISLE OF WIGHT	10423	644	BOWLING GREEN ROAD	GREAT SWAMP	19	1972	-	VDOT	FO	N	N	N	5	88.5	-	-
ISLE OF WIGHT	10420	641	BOWS & ARROWS ROAD	DUCKS SWAMP	2	1952	-	VDOT	FO	7	5	7	N	48.7	-	12/-/-
ISLE OF WIGHT	10401	620	BROADWATER ROAD	BLACKWATER RIVER	5	1964	-	VDOT	FO	5	5	6	N	68.7	-	-
ISLE OF WIGHT	23500	620	BROADWATER ROAD	VILLINES SWAMP	1	1992	-	VDOT	-	8	8	8	N	92.0	-	-
ISLE OF WIGHT	26218	691	BUTLER FARM ROAD	BEAVERDAM SWAMP	2	1999	-	VDOT	-	6	8	8	N	61.0	-	-
ISLE OF WIGHT	10431	654	CARROLL BRIDGE ROAD	CHAMPION SWAMP	2	1966	-	VDOT	FO	5	5	5	N	65.2	-	18/-/-
ISLE OF WIGHT	10365	58	CARRSVILLE HWY	OLD MYRTLE ROAD & CSX R/R	4	1936	1956	VDOT	SD	3	3	4	N	46.3	-	-/27/40
ISLE OF WIGHT	22613	626	CARY STREET	ROUTE 10 BYPASS	2	1972	-	VDOT	FO	6	5	7	N	74.0	-	-
ISLE OF WIGHT	10421	641	COLOSSE ROAD	CORROWAUGH SWAMP	2	1955	1992	VDOT	FO	7	5	7	N	53.8	-	12/-/-
ISLE OF WIGHT	10440	681	COMET ROAD	COMET SWAMP	2	1955	1991	VDOT	FO	8	5	7	N	66.8	-	-
ISLE OF WIGHT	10408	629	DARDENS MILL ROAD	CORROWAUGH SWAMP	19	1976	-	VDOT	-	N	N	N	7	99.0	-	-
ISLE OF WIGHT	10378	600	DEER PATH TRAIL	ENNIS POND	2	1956	-	VDOT	FO	7	5	6	N	55.1	-	15/-/-
ISLE OF WIGHT	10441	683	DEWS PLANTATION ROAD	STALLINGS CREEK	2	1954	-	VDOT	FO	7	5	6	N	54.8	-	16/-/-
ISLE OF WIGHT	10442	690	ENNIS MILL ROAD	ENNIS POND	2	1961	-	VDOT	FO	5	5	5	N	49.1	-	15/-/-
ISLE OF WIGHT	25069	710	FAIRWAY DRIVE	ROUTE 10 BYPASS	2	1997	-	VDOT	-	7	8	7	N	93.3	-	-
ISLE OF WIGHT	10424	644	FIRE TOWER ROAD	POPE SWAMP	2	1948	1979	VDOT	FO	7	5	5	N	45.1	-	-
ISLE OF WIGHT	10389	612	FREEMAN DRIVE	CORROWAUGH SWAMP	2	1954	-	VDOT	FO	6	5	5	N	44.9	-	10/-/-
ISLE OF WIGHT	10427	646	GARRISON DRIVE	BURNT MILL SWAMP	2	1945	1978	VDOT	SD	5	5	7	N	28.3	-	10/-/-
ISLE OF WIGHT	24777	1190	GATLING POINTE PARKWAY	BRANCH	0	1996	-	VDOT	-	8	8	8	N	88.2	-	-
ISLE OF WIGHT	10404	623	GREEN LEVEL ROAD	POUCHES SWAMP	2	1971	-	VDOT	FO	8	5	7	N	74.0	-	-
ISLE OF WIGHT	10422	641	HARVEST DRIVE	KINGSALE SWAMP	2	1955	-	VDOT	FO	5	5	6	N	46.0	-	18/-/-
ISLE OF WIGHT	10364	17	JAMES RIVER BRIDGE	JAMES RIVER	15	1980	-	VDOT	FO	5	5	6	N	53.2	Y	-
ISLE OF WIGHT	10443	691	JAMESTOWN LANE	CSX RAILROAD	4	1938	-	VDOT	-	6	6	6	N	74.7	-	-
ISLE OF WIGHT	10394	615	JENKINS MILL ROAD	KINGSALE SWAMP	2	1964	1978	VDOT	FO	6	5	6	N	55.5	-	18/-/-
ISLE OF WIGHT	10413	637	JONES TOWN DRIVE	BR. RATTLESNAKE SWAMP	2	1945	-	VDOT	FO	6	5	7	N	41.7	-	9/-/-
ISLE OF WIGHT	10414	637	JONES TOWN DRIVE	RATTLESNAKE CREEK	2	1945	-	VDOT	SD	7	4	6	N	25.9	-	9/-/-
ISLE OF WIGHT	10388	611	JOYNER'S BRIDGE ROAD	BLACKWATER RIVER	2	1984	-	VDOT	-	6	8	7	N	98.7	-	-
ISLE OF WIGHT	24659	611	JOYNER'S BRIDGE ROAD	CORROWAUGH SWAMP	1	1996	-	VDOT	-	7	7	7	N	91.3	-	-
ISLE OF WIGHT	10409	630	LAWERENCE DRIVE	STREAM	2	1956	-	VDOT	FO	6	5	6	N	68.2	-	10/-/-
ISLE OF WIGHT	10397	616	LEE'S MILL ROAD	BEAVERDAM SWAMP	2	1982	-	VDOT	-	7	7	7	N	92.0	-	-
ISLE OF WIGHT	26637	616	LEE'S MILL ROAD	STREAM	19	2001	-	VDOT	-	N	N	N	7	99.4	-	-
ISLE OF WIGHT	10382	602	LONGVIEW DRIVE	CHUCKATUCK CREEK	2	1951	-	VDOT	FO	7	5	6	N	47.2	-	15/-/-
ISLE OF WIGHT	10383	602	LONGVIEW DRIVE	PAGAN CREEK	2	1945	-	VDOT	FO	6	5	6	N	47.3	-	10/-/-
ISLE OF WIGHT	25742	600	LOVERS LANE	ENNIS POND	19	1998	-	VDOT	-	N	N	N	7	99.9	-	-
ISLE OF WIGHT	10417	638	MILL CREEK ROAD	BURNT MILL SWAMP	2	1951	1979	VDOT	FO	5	5	5	N	69.8	-	-
ISLE OF WIGHT	10403	621	MILL SWAMP ROAD	MILL SWAMP	2	1952	1987	VDOT	FO	5	5	7	N	52.7	-	14/-/-
ISLE OF WIGHT	10407	626	MILL SWAMP ROAD	MOUNT HOLLY CREEK	4	1957	-	VDOT	FO	5	5	6	N	69.5	-	-
ISLE OF WIGHT	10402	621	MILL SWAMP ROAD	PASSENGER SWAMP	2	1945	1979	VDOT	FO	6	5	7	N	46.5	-	12/-/-
ISLE OF WIGHT	10406	626	MILL SWAMP ROAD	STALLINGS CREEK	2	1945	-	VDOT	FO	5	5	5	N	48.0	-	18/-/-
ISLE OF WIGHT	10405	625	MODEST NECK ROAD	RATTLESNAKE SWAMP	4	1970	-	VDOT	FO	7	7	5	N	87.0	-	-
ISLE OF WIGHT	10400	620	MUDDY CROSS DRIVE	CYPRESS CREEK	19	1987	-	VDOT	FO	N	N	N	5	88.0	-	-
ISLE OF WIGHT	10435	669	NIKE PARK ROAD	JONES CREEK	5	1961	-	VDOT	-	6	6	6	N	73.2	-	-
ISLE OF WIGHT	23090	10	NORTH CHURCH STREET	PAGAN RIVER	2	1991	-	VDOT	-	6	7	7	N	79.5	-	-

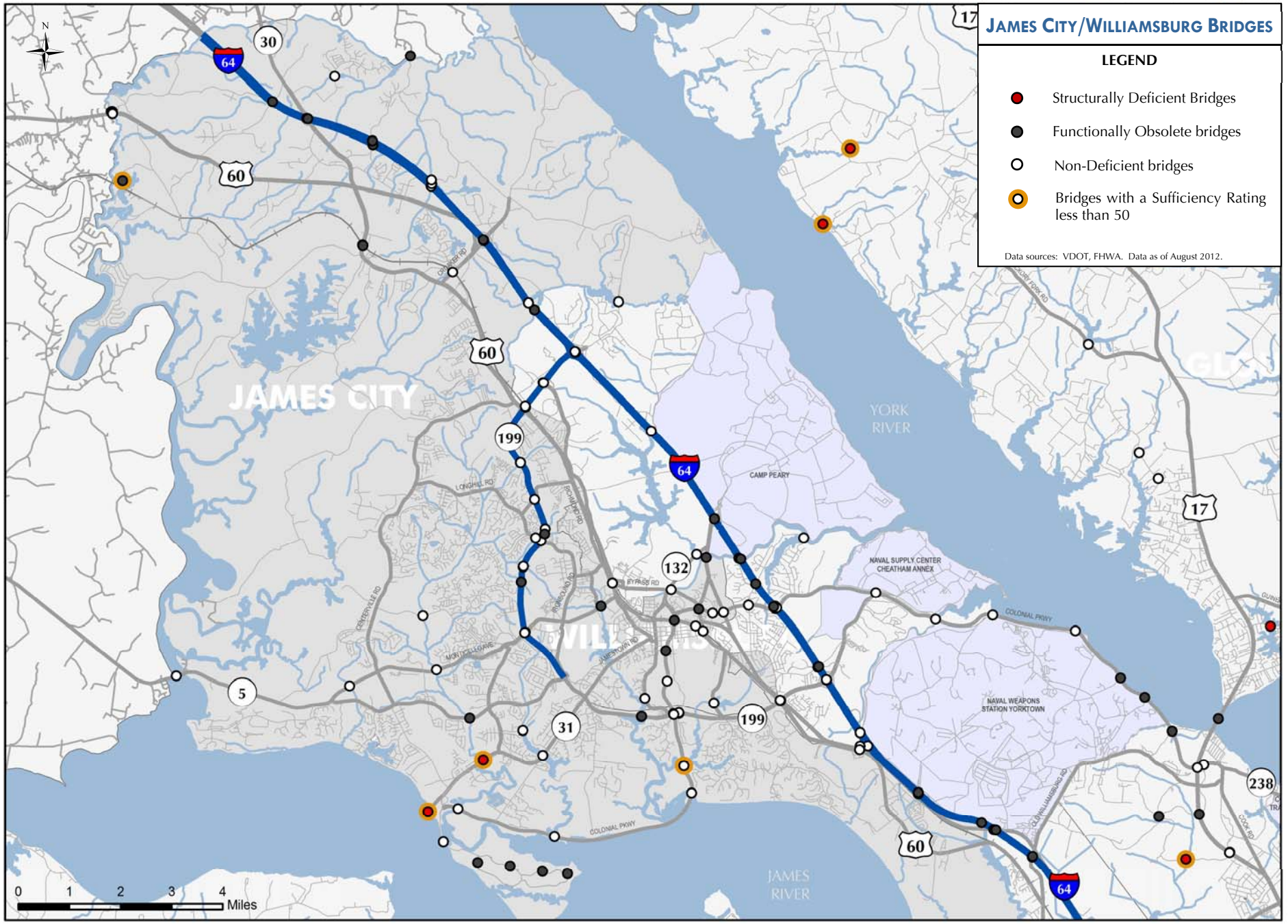
Isle of Wight County Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
ISLE OF WIGHT	10411	632	OLD MYRTLE ROAD	STREAM	2	1953	-	VDOT	-	7	7	7	N	66.2	-	-
ISLE OF WIGHT	26219	10	OLD STAGE HIGHWAY	LAWNES CREEK	5	1999	-	VDOT	-	8	8	8	N	90.4	-	-
ISLE OF WIGHT	25258	636	OLD SUFFOLK ROAD	STREAM	19	1997	-	VDOT	-	N	N	N	7	98.9	-	-
ISLE OF WIGHT	10416	637	ORBIT ROAD	CARBELL SWAMP	19	1972	-	VDOT	SD	N	N	N	4	72.6	-	-
ISLE OF WIGHT	10415	637	ORBIT ROAD	GREAT SWAMP BRANCH	2	1945	-	VDOT	SD	6	4	6	N	15.4	-	10/-/-
ISLE OF WIGHT	10429	647	POPE SWAMP TRAIL	POPE SWAMP	2	1952	-	VDOT	-	7	6	7	N	88.4	-	17/-/-
ISLE OF WIGHT	10446	696	PRUDEN ROAD	BEAVERDAM SWAMP	19	1977	-	VDOT	-	N	N	N	7	99.9	-	-
ISLE OF WIGHT	24466	681	RAYNOR ROAD	RATTLESNAKE SWAMP	5	1996	-	VDOT	-	8	8	8	N	96.0	-	-
ISLE OF WIGHT	26753	704	RESCUE ROAD	JONES CREEK	2	2004	-	VDOT	-	8	8	8	N	83.2	-	-
ISLE OF WIGHT	27434	704	RESCUE ROAD	STREAM	1	2004	-	VDOT	-	8	8	8	N	91.8	-	-
ISLE OF WIGHT	24214	614	RIVER RUN TRAIL	DUCKS SWAMP	1	1995	-	VDOT	-	7	7	7	N	98.8	-	-
ISLE OF WIGHT	22618	10	ROUTE 10 BYPASS	CYPRESS CREEK	2	1973	-	VDOT	FO	5	5	5	N	71.3	-	-
ISLE OF WIGHT	22617	10	ROUTE 10 BYPASS	PAGAN RIVER	2	1973	-	VDOT	FO	5	5	5	N	71.6	-	-
ISLE OF WIGHT	26640	258	ROUTE 258	BEAVERDAM SWAMP	2	2002	-	VDOT	-	7	8	7	N	99.9	-	-
ISLE OF WIGHT	26643	258	ROUTE 258	BEAVERDAM SWAMP	2	2002	-	VDOT	-	7	8	7	N	99.9	-	-
ISLE OF WIGHT	10371	258	ROUTE 258	CHAMPION SWAMP	1	1932	1976	VDOT	SD	5	5	4	N	56.4	-	-
ISLE OF WIGHT	10370	258	ROUTE 258	GREAT SWAMP	2	1952	1980	VDOT	FO	6	5	5	N	66.7	-	-
ISLE OF WIGHT	26651	258	ROUTE 258	LEE'S MILL ROAD	2	2002	-	VDOT	-	7	8	7	N	97.9	-	-
ISLE OF WIGHT	26649	258	ROUTE 258	NORFOLK SOUTHERN R/R	2	2001	-	VDOT	-	7	8	7	N	99.9	-	-
ISLE OF WIGHT	26650	258	ROUTE 258	TRIB BEAVERDAM SWAMP	19	2003	-	VDOT	-	N	N	N	8	99.9	-	-
ISLE OF WIGHT	10377	460	ROUTE 460	BLACKWATER RIVER	1	1987	-	VDOT	FO	5	5	6	N	57.0	-	-
ISLE OF WIGHT	10398	620	SCOTTS FACTORY ROAD	CHAMPION SWAMP	2	1976	-	VDOT	FO	7	5	7	N	65.4	-	-
ISLE OF WIGHT	10384	603	SHILOH DRIVE	ENNIS POND	2	1955	-	VDOT	FO	7	5	5	N	42.8	-	12/-/-
ISLE OF WIGHT	22615	10	SOUTH CHURCH STREET	CYPRESS CREEK	2	1975	-	VDOT	FO	6	5	7	N	75.9	-	-
ISLE OF WIGHT	10438	680	STALLINGS CREEK DRIVE	STALLINGS CREEK	2	1952	-	VDOT	SD	6	4	5	N	30.5	-	18/-/-
ISLE OF WIGHT	10390	614	THOMAS WOODS TRAIL	ANTIOCH SWAMP	2	1987	-	VDOT	-	7	7	7	N	84.5	-	-
ISLE OF WIGHT	10393	614	THOMAS WOODS TRAIL	BLACKWATER RIVER	19	1970	-	VDOT	FO	N	N	N	5	88.2	-	-
ISLE OF WIGHT	10434	668	TITUS CREEK DRIVE	TITUS CREEK	5	1966	-	VDOT	-	6	6	6	N	78.1	-	-
ISLE OF WIGHT	10430	649	TOMLIN HILL ROAD	POPE CREEK	19	1999	-	VDOT	-	N	N	N	8	99.6	-	-
ISLE OF WIGHT	10373	656	UNION CAMP DRIVE	BEAVERDAM SWAMP	1	1986	-	VDOT	-	7	7	7	N	63.0	-	-
ISLE OF WIGHT	10445	692	UZZELL CHURCH ROAD	CHAMPION SWAMP	2	1951	1979	VDOT	SD	5	4	4	N	57.3	-	17/-/-
ISLE OF WIGHT	29488	662	WHIPPINGHAM PARKWAY	RAGGED ISLAND CREEK	19	1970	-	VDOT	SD	N	N	N	4	71.9	-	-
ISLE OF WIGHT	10381	600	WOODLAND DRIVE	GREAT SWAMP	2	1967	-	VDOT	FO	7	5	5	N	60.7	-	15/-/-
ISLE OF WIGHT	10436	677	WRENNS MILL ROAD	WRENNS MILL SPILLWAY	2	1946	1987	VDOT	-	7	6	6	N	89.2	-	-
ISLE OF WIGHT	10426	645	YELLOW HAMMER ROAD	NORFOLK SOUTHERN R/R	2	1984	-	VDOT	-	6	6	6	N	98.8	-	-

Isle of Wight County Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


JAMES CITY/WILLIAMSBURG BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
JAMES CITY
YORK RIVER
JAMES RIVER
CAMP PEARY
NAVAL SUPPLY CENTER CHEATHAM ANNEX
NAVAL WEAPONS STATION YORKTOWN
COLONIAL PKWY
0 1 2 3 4 Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
JAMES CITY	10518	601	BARNES ROAD	I-64	2	1971	-	VDOT	FO	5	6	6	N	72.0	-	-
JAMES CITY	4290026		COLONIAL PARKWAY	BACK RIVER	2	1956	-	Federal	-	6	7	7	N	61.0	-	Posted
JAMES CITY	4290023		COLONIAL PARKWAY	COLLEGE CREEK	2	1956	-	Federal	-	7	7	6	N	74.2	-	Posted
JAMES CITY	4290022		COLONIAL PARKWAY	HALFWAY CREEK	4	1942	-	Federal	-	6	6	5	N	49.1	-	Posted
JAMES CITY	4290024		COLONIAL PARKWAY	MILL CREEK	2	1956	-	Federal	-	6	7	7	N	70.1	-	Posted
JAMES CITY	4290025		COLONIAL PARKWAY	POWHATAN CREEK	1	1956	-	Federal	-	5	6	6	N	80.9	-	-
JAMES CITY	10523	607	CROAKER ROAD	CSX R/R	2	1979	-	VDOT	-	6	6	6	N	82.7	-	-
JAMES CITY	10472	30	CROAKER ROAD NB	I-64	2	1979	-	VDOT	-	6	6	6	N	57.3	-	-
JAMES CITY	10474	30	CROAKER ROAD SB	I-64	2	1979	-	VDOT	FO	6	5	6	N	75.8	-	-
JAMES CITY	24057	31	GLASS HOUSE FERRY	JAMES RIVER	3	1994	1995	VDOT	SD	6	4	5	N	37.0	Y	-/16/28
JAMES CITY	10533	629	HICKORY SIGNPOST ROAD	MILL CREEK	2	1932	1997	VDOT	-	7	8	6	N	77.9	-	18/-/-
JAMES CITY	10516	601	HICKS ISLAND ROAD	DIASCUND CREEK	3	1932	1974	VDOT	FO	6	5	5	N	45.4	Y	15/-/-
JAMES CITY	10494	64	I-64 EB	FRANCE SWAMP	19	1975	-	VDOT	-	N	N	N	6	95.4	-	-
JAMES CITY	10495	64	I-64 WB	FRANCE SWAMP	19	1975	-	VDOT	-	N	N	N	6	95.9	-	-
JAMES CITY	10489	64	I-64 EB	NAVAL WEAPONS STATION ACCESS	2	1965	1982	VDOT	FO	7	5	6	N	78.8	-	-
JAMES CITY	10491	64	I-64 WB	NAVAL WEAPONS STATION ACCESS	2	1965	1982	VDOT	FO	7	5	6	N	73.6	-	-
JAMES CITY	10496	64	I-64 EB	SIX MT ZION ROAD	2	1975	-	VDOT	FO	6	5	6	N	84.0	-	-
JAMES CITY	10498	64	I-64 WB	SIX MT ZION ROAD	2	1975	-	VDOT	FO	6	5	5	N	84.6	-	-
JAMES CITY	10493	64	I-64	SKIFFES CREEK	19	1965	-	VDOT	FO	N	N	N	5	59.0	-	-
JAMES CITY	10488	64	I-64	TRIBUTARY OLD MILL POND	19	1932	1979	VDOT	-	N	N	N	6	70.0	-	-
JAMES CITY	4290029		JAMESTOWN ISLAND TOUR ROAD	CREEK	2	1957	2001	Federal	FO	7	7	6	N	58.9	-	Posted
JAMES CITY	4290030		JAMESTOWN ISLAND TOUR ROAD	CREEK	2	1957	2001	Federal	FO	7	7	7	N	58.9	-	Posted
JAMES CITY	4290031		JAMESTOWN ISLAND TOUR ROAD	KINGSMILL CREEK	2	1957	-	Federal	FO	7	7	6	N	58.9	-	Posted
JAMES CITY	4290028		JAMESTOWN ISLAND TOUR ROAD	PITCH AND TAR SWAMP	2	1957	2001	Federal	FO	7	7	7	N	58.8	-	Posted
JAMES CITY	26215	31	JAMESTOWN ROAD	LAKE POWELL	5	1999	-	VDOT	-	7	7	8	N	96.6	-	-
JAMES CITY	10476	31	JAMESTOWN ROAD	POWHATAN CREEK	2	1957	-	VDOT	SD	5	5	4	N	37.2	-	-
JAMES CITY	28011	5	JOHN TYLER HWY	CHICKAHOMINY RIVER	2	2009	-	VDOT	-	8	8	8	N	86.7	-	-
JAMES CITY	10464	5	JOHN TYLER HWY	POWHATAN CREEK	2	1937	1978	VDOT	FO	7	5	5	N	68.1	-	-
JAMES CITY	25978	612	LONGHILL ROAD	CHISEL RUN	19	1999	-	VDOT	-	N	N	N	6	78.9	-	-
JAMES CITY	25207	612	LONGHILL ROAD	ROUTE 199	2	1999	-	VDOT	-	6	7	6	N	92.3	-	-
JAMES CITY	25054	1221	MILL POND RUN	MILL SWAMP	4	1997	-	VDOT	-	6	7	7	N	100.0	-	-
JAMES CITY	26142	5000	MONTICELLO AVENUE	POWHATAN CREEK	2	2001	-	VDOT	-	7	7	7	N	94.6	-	-
JAMES CITY	26141	5000	MONTICELLO AVENUE	SHELLBANK CREEK	19	2001	-	VDOT	-	N	N	N	7	99.8	-	-
JAMES CITY	10524	608	MOUNT LAUREL ROAD	FRANCE SWAMP	19	1975	-	VDOT	-	N	N	N	6	100.0	-	-
JAMES CITY	10536	646	NEWMAN ROAD	SKIMINO CREEK	19	1976	-	VDOT	-	N	N	N	7	99.4	-	-
JAMES CITY	10530	613	NEWS ROAD	POWHATAN SWAMP TRIBUTARY	19	1974	-	VDOT	-	N	N	N	6	94.8	-	-
JAMES CITY	25206	658	OLDE TOWNE ROAD	ROUTE 199	2	1999	-	VDOT	-	6	7	6	N	97.2	-	-
JAMES CITY	25198	199	ROUTE 199	BRANCH	19	1999	-	VDOT	FO	N	N	N	5	68.0	-	-
JAMES CITY	25202	199	ROUTE 199	BRANCH	19	1999	-	VDOT	-	N	N	N	6	75.2	-	-
JAMES CITY	25209	199	ROUTE 199	BRANCH	19	1999	-	VDOT	FO	N	N	N	5	82.3	-	-
JAMES CITY	27254	199	ROUTE 199 EB	COLLEGE CREEK	2	2004	-	VDOT	-	6	7	7	N	96.1	-	-
JAMES CITY	10510	199	ROUTE 199 WB	COLLEGE CREEK	2	1976	-	VDOT	FO	5	5	5	N	84.2	-	-
JAMES CITY	24108	199	ROUTE 199 EB	COLONIAL PKWY	11	1976	-	VDOT	-	7	6	6	N	89.3	-	-
JAMES CITY	10508	199	ROUTE 199 WB	COLONIAL PKWY	11	1976	-	VDOT	-	7	6	6	N	87.3	-	-
JAMES CITY	25210	199	ROUTE 199	LONG HILL SWAMP	19	1999	-	VDOT	-	N	N	N	6	80.3	-	-
JAMES CITY	25512	199	ROUTE 199 NB	MONTICELLO AVENUE	2	1999	-	VDOT	-	7	7	7	N	98.9	-	-
JAMES CITY	25513	199	ROUTE 199 SB	MONTICELLO AVENUE	2	1999	-	VDOT	-	7	7	7	N	78.1	-	-
JAMES CITY	25201	199	ROUTE 199	OVER BRANCH	19	1999	-	VDOT	-	N	N	N	6	72.7	-	-
JAMES CITY	24224	199	ROUTE 199 NB	ROUTES 60 & 603 & CSX R/R	2	1995	-	VDOT	-	6	7	7	N	95.0	-	-
JAMES CITY	24228	199	ROUTE 199 SB	ROUTES 60 & 603 & CSX R/R	2	1995	-	VDOT	-	6	7	7	N	93.0	-	-

JAMES CITY COUNTY/WILLIAMSBURG BRIDGES

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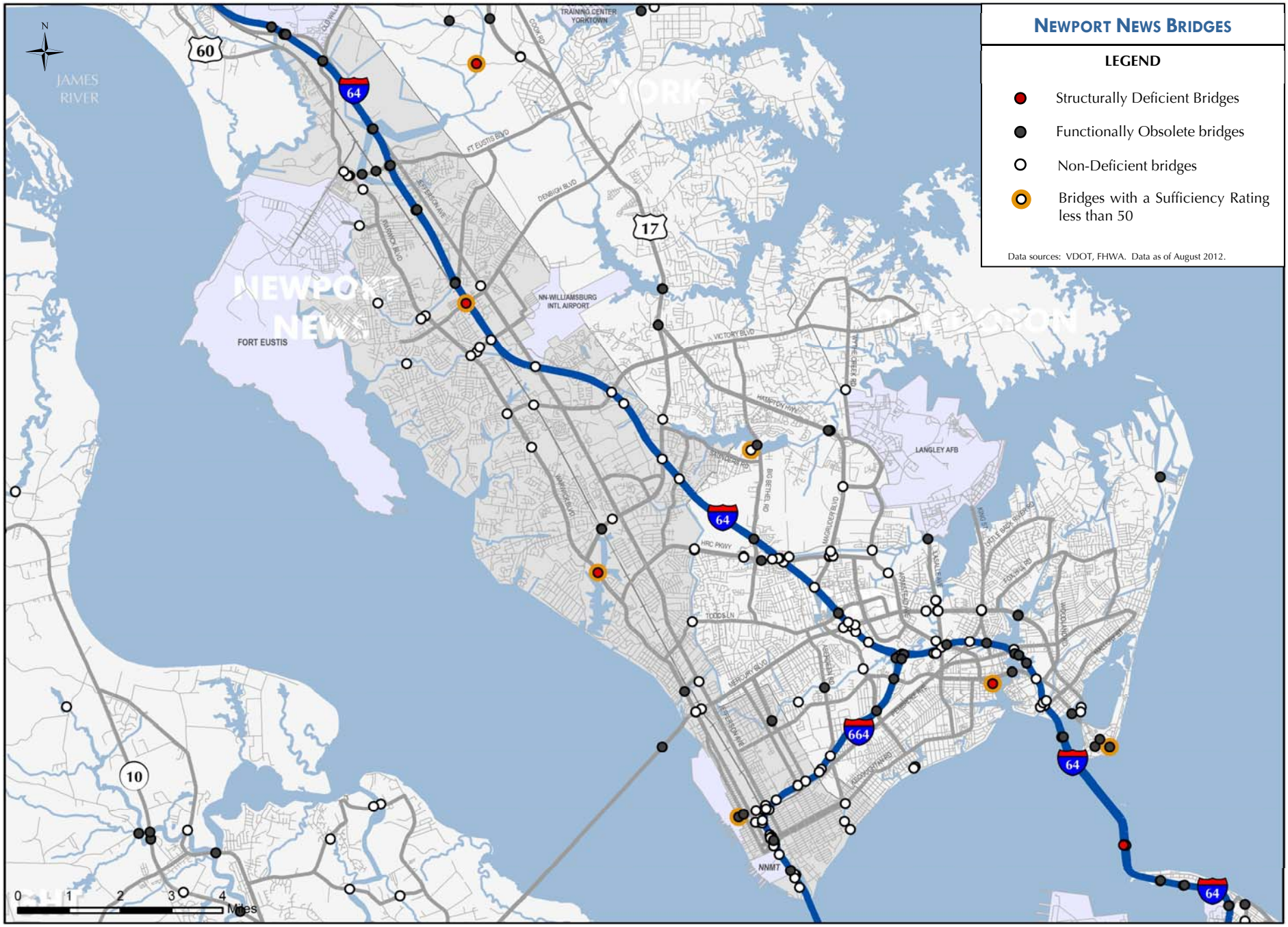
Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
JAMES CITY	25208	199	ROUTE 199	STREAM	19	1999	-	VDOT	-	N	N	N	7	82.0	-	-
JAMES CITY	10511	199	ROUTE 199 EB	TOUR ROAD	1	1976	-	VDOT	-	6	6	6	N	86.0	-	-
JAMES CITY	10513	199	ROUTE 199 WB	TOUR ROAD	1	1976	-	VDOT	-	6	7	7	N	86.0	-	-
JAMES CITY	10468	30	ROUTE 30 NB	I-64	2	1971	-	VDOT	FO	5	6	6	N	98.7	-	-
JAMES CITY	10470	30	ROUTE 30 SB	I-64	2	1971	-	VDOT	-	6	6	6	N	97.9	-	-
JAMES CITY	10486	60	ROUTE 60 EB	CSX R/R	2	1964	-	VDOT	FO	6	5	5	N	67.0	-	-
JAMES CITY	10487	60	ROUTE 60 WB	CSX R/R	2	1968	-	VDOT	FO	5	5	5	N	67.0	-	-
JAMES CITY	12656	60	ROUTE 60 EB	DIASCUND CREEK	2	1947	1994	VDOT	-	7	7	6	N	94.8	-	-
JAMES CITY	12655	60	ROUTE 60 WB	DIASCUND CREEK	2	1978	-	VDOT	-	7	7	7	N	94.8	-	-
JAMES CITY	10515	600	SIX MOUNT ZION ROAD	WARE CREEK SPILLWAY	2	1932	-	VDOT	FO	7	5	5	N	55.3	-	22/-/-
JAMES CITY	10531	622	STEWARTS ROAD	BRANCH OF DIASCUND CREEK	2	1937	1997	VDOT	-	6	7	7	N	77.9	-	-
JAMES CITY	10532	622	STEWARTS ROAD	DIASCUND CREEK	2	1937	1997	VDOT	-	7	7	6	N	77.9	-	-

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
WILLIAMSBURG	22335	60	BYPASS ROAD	CSX R/R	2	1934	1981	City	-	7	8	7	N	91.6	-	-
WILLIAMSBURG	22328		CAPITOL LANDING ROAD	CSX R/R	1	1977	-	City	-	8	8	8	N	79.3	-	-
WILLIAMSBURG	4290040		COLONIAL PARKWAY	PAPERMILL CREEK	19	2007	-	Federal	-	N	N	N	6	100.0	-	-
WILLIAMSBURG	22337	132	HENRY STREET SOUTH	PAPER MILL CREEK	19	1976	-	City	-	N	N	N	8	97.0	-	-
WILLIAMSBURG	4290019		LAFAYETTE STREET	COLONIAL PARKWAY	11	1936	-	Federal	FO	N	6	7	N	53.2	-	Posted
WILLIAMSBURG	22338	143	MERRIMAC TRAIL	COLONIAL PARKWAY	11	1948	-	City	-	8	8	8	N	79.1	-	-
WILLIAMSBURG	22342	321	MONTICELLO AVENUE	STREAM	2	1963	-	VDOT	FO	5	5	6	N	89.2	-	-
WILLIAMSBURG	4290020		NEWPORT AVENUE	COLONIAL PARKWAY	11	1957	-	Federal	FO	N	6	7	N	51.2	-	Posted
WILLIAMSBURG	4290018		PAGE STREET	COLONIAL PARKWAY	11	1936	-	Federal	FO	N	6	7	N	65.3	-	-
WILLIAMSBURG	22336	60	PAGE STREET	CSX R/R	2	1935	1967	City	-	8	8	7	N	91.8	-	-
WILLIAMSBURG	4290016		PARKWAY DRIVE	COLONIAL PARKWAY	11	1972	-	Federal	-	N	7	7	N	78.3	-	-
WILLIAMSBURG	23768		QUARTERPATH ROAD	TUTTERS NECK POND	5	1993	-	City	-	8	8	8	N	80.9	-	-

JAMES CITY COUNTY/WILLIAMSBURG BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


NEWPORT NEWS BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
JAMES RIVER
YORK
NEWPORT NEWS
HAMPTON
FORT EUSTIS
LANGLEY AFB
NN-WILLIAMSBURG INTL AIRPORT
TRAINING CENTER YORKTOWN
NNMT
60
64
17
664
10
0 1 2 3 4 Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
NEWPORT NEWS	23751		16TH STREET	SALTERS CREEK	1	1993	-	City	-	7	7	7	N	99.7	-	-
NEWPORT NEWS	25086		20TH STREET	SALTERS CREEK	1	1997	-	City	-	7	7	7	N	99.9	-	-
NEWPORT NEWS	20653		23RD-25TH STREET	I-664/WARWICK BLVD/CSX R/R	2	1988	-	VDOT	-	6	6	6	N	79.9	-	-
NEWPORT NEWS	25396	60	25TH STREET	SALTERS CREEK	1	1997	-	City	-	8	8	8	N	98.4	-	-
NEWPORT NEWS	29307	664	26TH STREET	I-664	2	1988	-	VDOT	-	7	7	6	N	93.6	-	-
NEWPORT NEWS	20651		26TH STREET	I-664 & CSX R/R	2	1987	-	VDOT	FO	7	7	5	N	85.4	-	-
NEWPORT NEWS	20663		28TH STREET	I-664/WARWICK BLVD/CSX R/R	2	1980	-	VDOT	-	6	6	6	N	82.2	-	-
NEWPORT NEWS	20647		34TH STREET EB	I-664/WARWICK BLVD/CSX R/R	2	1988	-	VDOT	-	6	7	6	N	96.6	-	-
NEWPORT NEWS	20649		34TH STREET WB	I-664/WARWICK BLVD/CSX R/R	2	1988	-	VDOT	-	6	7	7	N	76.6	-	-
NEWPORT NEWS	20732	351	39TH STREET	JEFFERSON AVENUE	2	1984	-	City	-	7	6	6	N	87.4	-	-
NEWPORT NEWS	25650	351	39TH STREET	WARWICK BLVD & CSX R/R	2	2001	-	City	-	7	7	7	N	82.3	-	-
NEWPORT NEWS	23552		BEECHMONT DRIVE	STONEY RUN	2	1992	-	City	-	7	7	7	N	99.4	-	-
NEWPORT NEWS	20668		BLAND BLVD	I-64 & CSX R/R	2	1991	-	City	-	7	7	7	N	77.6	-	-
NEWPORT NEWS	20670		BLAND BLVD	LUCAS CREEK	19	1991	-	City	-	N	N	N	6	81.6	-	-
NEWPORT NEWS	20666		BOXLEY BLVD	DEEP CREEK BRANCH	19	1978	-	City	-	N	N	N	7	81.5	-	-
NEWPORT NEWS	20669		CAMPBELL ROAD	LUCAS CREEK	19	1991	-	City	-	N	N	N	7	96.7	-	-
NEWPORT NEWS	20658		CHESTNUT AVE	NEWMARKET CREEK	19	1960	-	City	FO	N	N	N	5	73.0	-	-
NEWPORT NEWS	20727	173	DENBIGH BLVD	I-64 & CSX R/R	2	1965	1977	VDOT	SD	5	5	4	N	18.5	-	-
NEWPORT NEWS	20721	105	FORT EUSTIS BLVD	CSX R/R	2	1960	-	City	FO	7	5	5	N	63.8	-	-
NEWPORT NEWS	20720	105	FORT EUSTIS BLVD	NEWPORT NEWS RESERVOIR	1	1960	1985	City	FO	7	5	7	N	71.9	-	-
NEWPORT NEWS	26128		HAMPTON ROADS CENTER PKWY EB	NEWMARKET CREEK	2	2003	-	City	-	7	8	7	N	97.7	-	-
NEWPORT NEWS	26129		HAMPTON ROADS CENTER PKWY WB	NEWMARKET CREEK	2	2003	-	City	-	7	7	7	N	99.9	-	-
NEWPORT NEWS	20641		HARPERSVILLE ROAD	I-64	2	1960	2000	VDOT	-	7	7	6	N	76.5	-	-
NEWPORT NEWS	20661		HUNTINGTON AVENUE	FORMER SHIPYARD R/R SPUR	3	1899	-	City	FO	6	5	6	N	78.4	-	-
NEWPORT NEWS	20710	64	I-64 EB	FORT EUSTIS BLVD	2	1965	-	VDOT	FO	6	5	5	N	72.4	-	-
NEWPORT NEWS	20712	64	I-64 WB	FORT EUSTIS BLVD	2	1965	-	VDOT	FO	7	5	5	N	73.2	-	-
NEWPORT NEWS	20706	64	I-64 EB	INDUSTRIAL PARK DRIVE & R/R	2	1965	1982	VDOT	FO	5	5	5	N	75.7	-	-
NEWPORT NEWS	20708	64	I-64 WB	INDUSTRIAL PARK DRIVE & R/R	2	1965	1982	VDOT	FO	5	5	6	N	77.1	-	-
NEWPORT NEWS	24246	64	I-64	J CLYDE MORRIS BLVD	2	1996	-	VDOT	-	6	6	6	N	84.0	-	-
NEWPORT NEWS	20698	64	I-64 EB	JEFFERSON AVENUE @ YORK CL	2	1965	1981	VDOT	FO	5	5	5	N	74.3	-	-
NEWPORT NEWS	20700	64	I-64 WB	JEFFERSON AVENUE @ YORK CL	2	1965	1981	VDOT	FO	6	5	5	N	74.8	-	-
NEWPORT NEWS	20696	64	I-64 EB	NEWPORT NEWS RESERVOIR	2	1965	-	VDOT	-	7	6	6	N	88.9	-	-
NEWPORT NEWS	20697	64	I-64 WB	NEWPORT NEWS RESERVOIR	2	1965	-	VDOT	FO	5	7	5	N	76.5	-	-
NEWPORT NEWS	20719	64	I-64 EB	STONEY RUN	19	1965	-	VDOT	FO	N	N	N	5	82.1	-	-
NEWPORT NEWS	20716	64	I-64 WB	STONEY RUN	19	1965	-	VDOT	-	N	N	N	6	94.1	-	-
NEWPORT NEWS	20702	64	I-64 EB	YORKTOWN ROAD	2	1965	-	VDOT	FO	6	6	5	N	77.5	-	-
NEWPORT NEWS	20704	64	I-64 WB	YORKTOWN ROAD	2	1965	-	VDOT	FO	7	6	5	N	77.1	-	-
NEWPORT NEWS	20740	664	I-664	39TH STREET	2	1987	-	VDOT	-	6	6	6	N	83.0	-	-
NEWPORT NEWS	20736	664	I-664	CHESTNUT AVENUE	2	1983	-	VDOT	-	6	7	6	N	83.3	-	-
NEWPORT NEWS	20742	664	I-664	JEFFERSON AVENUE & CSX R/R	2	1987	-	VDOT	-	6	6	6	N	91.7	-	-
NEWPORT NEWS	20738	664	I-664	ROANOKE AVENUE	2	1985	-	VDOT	-	7	7	6	N	76.0	-	-
NEWPORT NEWS	20750	664	I-664	TERMINAL AVENUE	2	1990	-	VDOT	FO	6	5	5	N	73.0	Y	-
NEWPORT NEWS	20746	664	I-664 SB ON RAMP	CSX R/R	2	1988	-	VDOT	-	7	7	7	N	96.4	-	-
NEWPORT NEWS	29306	664	I-664 SB OFF RAMP	I-664 AND RAMP E	2	1988	-	VDOT	-	7	7	6	N	96.0	-	-
NEWPORT NEWS	29305	664	I-664 SB OFF RAMP	I-664 RAMP P & CSX RR	2	1988	-	VDOT	-	7	7	6	N	99.3	-	-
NEWPORT NEWS	20744	664	I-664 NB ON RAMP	JEFFERSON AVENUE & CSX R/R	2	1987	-	VDOT	-	7	6	6	N	95.9	-	-
NEWPORT NEWS	20748	664	I-664 SB OFF RAMP	JEFFERSON AVENUE & CSX R/R	2	1987	-	VDOT	-	6	7	6	N	95.9	-	-
NEWPORT NEWS	20759	664	I-664 RAMP	RAMP A	2	1990	-	VDOT	-	6	6	6	N	95.5	-	-
NEWPORT NEWS	20756	664	I-664 OFF RAMP	RAMP B	2	1990	-	VDOT	-	6	6	7	N	99.6	-	-
NEWPORT NEWS	20757	664	I-664 SB ON RAMP	RAMP GH	2	1990	-	VDOT	-	6	7	7	N	96.7	-	-

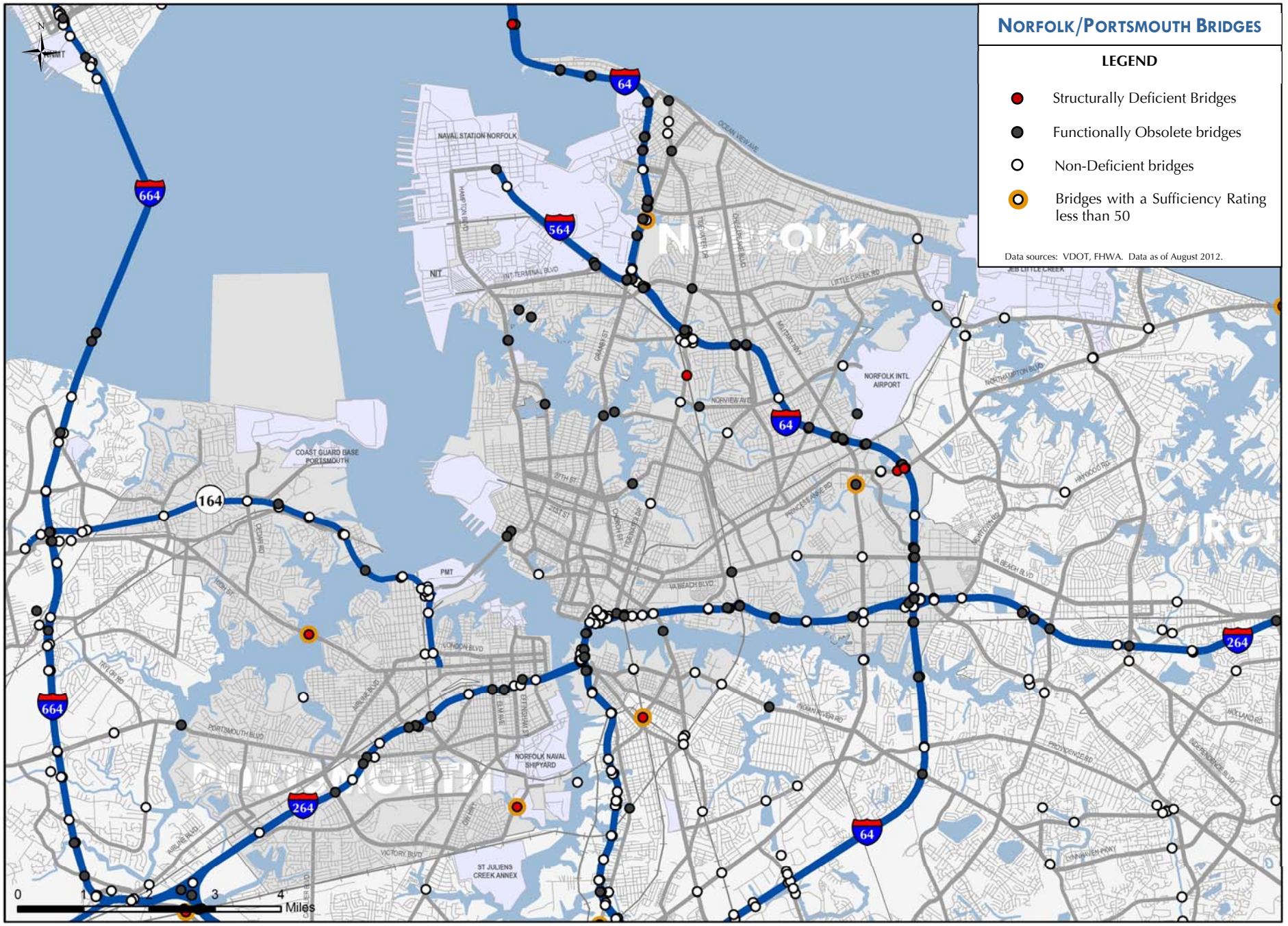
Newport News Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
NEWPORT NEWS	20761	664	I-664 RAMP	TERMINAL AVENUE	2	1990	-	VDOT	-	7	7	6	N	95.6	Y	-
NEWPORT NEWS	20754	664	I-664 ON RAMP	TERMINAL AVENUE & CSX R/R	2	1990	-	VDOT	-	6	6	7	N	99.9	Y	-
NEWPORT NEWS	20678	17	J CLYDE MORRIS BLVD	BIG BETHEL RESERVOIR	19	1932	1949	City	-	N	N	N	7	68.0	-	-
NEWPORT NEWS	20731	312	J CLYDE MORRIS BLVD NB	CSX R/R	2	1975	-	City	FO	5	6	6	N	70.3	-	-
NEWPORT NEWS	20729	312	J CLYDE MORRIS BLVD SB	CSX R/R	2	1958	1975	City	-	6	6	6	N	71.4	-	-
NEWPORT NEWS	20730	312	J CLYDE MORRIS BLVD	LAKE MAURY TRIB	19	1958	1975	City	-	N	N	N	7	72.7	-	-
NEWPORT NEWS	20677	17	JEFFERSON AVENUE	GOVERNMENT DITCH	19	1966	-	City	-	N	N	N	6	77.5	-	-
NEWPORT NEWS	25809	143	JEFFERSON AVENUE	I-64	2	2000	-	VDOT	-	7	7	7	N	90.1	-	-
NEWPORT NEWS	25178	143	JEFFERSON AVENUE	TRIB STONEY RUN	19	1997	-	City	-	N	N	N	7	80.4	-	-
NEWPORT NEWS	26954		LUCAS CREEK ROAD	LUCAS CREEK	2	2001	-	City	-	7	7	7	N	91.3	-	-
NEWPORT NEWS	20725	152	MAIN STREET	NEWMARKET CREEK	19	1968	-	City	-	N	N	N	6	80.8	-	-
NEWPORT NEWS	20671	17	MERCURY BLVD EB	CSX R/R	2	1938	1967	City	-	6	6	7	N	68.5	-	-
NEWPORT NEWS	20672	17	MERCURY BLVD WB	CSX R/R	2	1967	-	City	-	7	7	7	N	75.0	-	-
NEWPORT NEWS	20673	17	MERCURY BLVD EB	WARWICK ROAD	2	1967	-	City	-	6	6	6	N	72.9	-	-
NEWPORT NEWS	20675	17	MERCURY BLVD WB	WARWICK ROAD	2	1967	-	City	-	7	6	6	N	75.0	-	-
NEWPORT NEWS	20752	664	MONITOR-MERRIMAC BR-TUNNEL NB	HAMPTON ROADS-JAMES RIVER	2	1990	-	VDOT	FO	6	6	5	N	95.3	-	-
NEWPORT NEWS	20753	664	MONITOR-MERRIMAC BR-TUNNEL SB	HAMPTON ROADS-JAMES RIVER	2	1990	-	VDOT	FO	6	5	6	N	83.0	-	-
NEWPORT NEWS	24986		OLD COURTHOUSE WAY	STONEY RUN	12	1997	-	City	-	7	7	7	N	75.2	-	-
NEWPORT NEWS	20643		OLD OYSTER POINT ROAD	I-64	2	1991	-	VDOT	-	6	8	6	N	83.7	-	-
NEWPORT NEWS	20667		OYSTER POINT ROAD	CSX R/R	2	1981	-	City	-	6	6	6	N	80.0	-	-
NEWPORT NEWS	20645	171	OYSTER POINT ROAD	I-64	2	1990	-	VDOT	-	7	7	6	N	93.4	-	-
NEWPORT NEWS	29406		RAMP H	CSX RR & I-664 S RAMP G	2	1996	-	VDOT	-	6	7	6	N	96.0	-	-
NEWPORT NEWS	29494		RAMP K	RAMP P	2	1996	-	VDOT	-	7	7	7	N	98.0	-	-
NEWPORT NEWS	29493		RAMP M	RAMP P	2	1996	-	VDOT	-	6	7	7	N	98.0	-	-
NEWPORT NEWS	29495		RAMP N	35TH STREET	2	1996	-	VDOT	-	7	6	6	N	98.0	-	-
NEWPORT NEWS	20747	664	RAMP TO 35TH STREET	CSX R/R	2	1987	-	VDOT	-	6	7	6	N	97.5	-	-
NEWPORT NEWS	28191		SHELLABARGER RD	WARWICK RIVER	2	2005	-	City	-	7	7	7	N	92.7	-	-
NEWPORT NEWS	20685	60	WARWICK BLVD	BR DEEP CREEK	19	1974	-	City	-	N	N	N	7	68.0	-	-
NEWPORT NEWS	20687	60	WARWICK BLVD EB	FORT EUSTIS BLVD	2	1984	-	City	-	7	7	6	N	95.6	-	-
NEWPORT NEWS	20681	60	WARWICK BLVD WB	FORT EUSTIS BLVD	2	1960	1985	City	-	7	6	6	N	92.5	-	-
NEWPORT NEWS	20684	60	WARWICK BLVD	GOVERNMENT DITCH	19	1931	-	City	FO	N	N	N	5	68.2	-	-
NEWPORT NEWS	20679	60	WARWICK BLVD	LAKE MAURY	4	1931	1960	City	SD	5	4	5	N	31.8	-	-
NEWPORT NEWS	20686	60	WARWICK BLVD	LUCAS CREEK	19	1981	-	City	-	N	N	N	7	70.0	-	-
NEWPORT NEWS	20683	60	WARWICK BLVD	STONEY RUN	19	1968	-	City	-	N	N	N	6	79.3	-	-
NEWPORT NEWS	20680	60	WARWICK BLVD	WARWICK RIVER	19	1984	-	City	-	N	N	N	7	79.6	-	-
NEWPORT NEWS	20689	60	WARWICK BLVD EB	WARWICK WB RAMP TO FT EUSTIS	2	1984	-	City	-	7	6	6	N	97.5	-	-
NEWPORT NEWS	20659		WASHINGTON AVENUE	FORMER SHIPYARD R/R SPUR	3	1946	-	City	FO	5	5	5	N	19.9	-	-/18/28

Newport News Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


NORFOLK/PORTSMOUTH BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
NAVAL STATION NORFOLK
NORFOLK INTL AIRPORT
COAST GUARD BASE PORTSMOUTH
NORFOLK NAVAL SHIPYARD
ST JULIENS CREEK ANNEX
JEB LITTLE CREEK
PMT
NIT
64
664
564
264
164
0 1 2 3 4 Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
NORFOLK	20943	247	26TH STREET	LAFAYETTE RIVER	1	1938	-	City	FO	5	6	6	N	75.1	-	-
NORFOLK	21021	337	ADMIRAL TAUSSIG BLVD	I-564 RAMPS	2	1977	-	VDOT	FO	6	7	5	N	75.7	-	-
NORFOLK	20781	407	BERKLEY AVENUE EB	NORFOLK SOUTHERN R/R	2	1985	-	City	-	6	6	7	N	80.6	-	-
NORFOLK	20782		BERKLEY AVENUE WB	NORFOLK SOUTHERN R/R	2	1985	-	City	-	6	6	7	N	80.6	-	-
NORFOLK	20961	264	BERKLEY AVENUE RAMP	EMERGENCY VEHICLE RAMP	2	1988	-	VDOT	-	7	8	7	N	94.0	-	-
NORFOLK	20805	58	BRAMBLETON AVENUE WB	HAMPTON BLVD	2	1962	-	VDOT	FO	5	5	5	N	59.2	-	-
NORFOLK	20804	58	BRAMBLETON AVENUE	SMITH CREEK @ THE HAGUE	2	1962	-	City	-	7	6	7	N	79.0	-	-
NORFOLK	20936	460	CAMPOSTELLA ROAD	E BR ELIZABETH RIVER	2	1986	-	City	FO	5	5	6	N	66.0	-	-
NORFOLK	20944	247	CHESAPEAKE BLVD	WAYNE CREEK	19	1978	-	City	-	N	N	N	6	81.5	-	-
NORFOLK	20773		COLLEY AVENUE	LAFAYETTE RIVER	2	1978	-	City	FO	6	5	6	N	85.6	-	-
NORFOLK	20768		FIRST VIEW STREET	TIDEWATER DRIVE	2	1958	-	City	-	6	6	6	N	69.4	-	-
NORFOLK	20764		FRONTAGE ROAD	I-264	2	1967	-	VDOT	FO	5	5	6	N	64.4	-	-
NORFOLK	20770		GOVERNMENT AVENUE	TIDEWATER DRIVE	2	1956	-	City	-	6	6	7	N	83.7	-	-
NORFOLK	21040	460	GRANBY STREET	LAFAYETTE RIVER	2	1979	-	City	FO	6	5	5	N	68.0	-	-
NORFOLK	21039	460	GRANBY STREET	MASONS CREEK	19	2012	-	City	-	N	N	N	4	46.4	-	-
NORFOLK	21034	460	GRANBY STREET	TIDEWATER DRIVE	2	1958	-	City	FO	5	6	6	N	63.8	-	-
NORFOLK	21024	337	HAMPTON BLVD NB	LAFAYETTE RIVER	5	1970	-	City	FO	6	5	5	N	63.1	-	-
NORFOLK	21023	337	HAMPTON BLVD SB	LAFAYETTE RIVER	5	1994	-	City	-	6	7	6	N	69.9	-	-
NORFOLK	21019	337	HAMPTON BLVD SB RAMP	HAMPTON BLVD NB	2	1962	-	VDOT	FO	6	6	5	N	67.1	-	-
NORFOLK	20931	64	I-64 EB	4TH VIEW STREET	2	1975	-	VDOT	FO	6	5	6	N	85.0	-	-
NORFOLK	20929	64	I-64 WB	4TH VIEW STREET	2	1975	-	VDOT	FO	6	5	6	N	85.0	-	-
NORFOLK	20909	64	I-64 EB	13TH VIEW STREET	2	1972	-	VDOT	FO	5	5	5	N	77.3	-	-
NORFOLK	20911	64	I-64 WB	13TH VIEW STREET	2	1972	-	VDOT	FO	5	5	5	N	77.2	-	-
NORFOLK	20831	64	I-64 EB	AZALEA GARDEN ROAD	2	1966	-	VDOT	FO	6	5	5	N	77.2	-	-
NORFOLK	20833	64	I-64 WB	AZALEA GARDEN ROAD	2	1966	-	VDOT	FO	7	5	5	N	76.5	-	-
NORFOLK	23067	64	I-64 HOV LANES	AZALEA GARDEN ROAD	2	1992	-	VDOT	-	7	7	7	N	97.2	-	-
NORFOLK	20866	64	I-64 EB	BAY COAST RAILROAD	2	1967	-	VDOT	FO	5	5	6	N	77.8	-	-
NORFOLK	20867	64	I-64 WB	BAY COAST RAILROAD	2	1967	-	VDOT	FO	5	5	5	N	78.1	-	-
NORFOLK	23073	64	I-64 HOV LANES	BAY COAST RAILROAD	2	1992	-	VDOT	-	7	7	7	N	98.0	-	-
NORFOLK	20921	64	I-64 EB	BAY VIEW BLVD	2	1974	-	VDOT	FO	6	5	6	N	77.1	-	-
NORFOLK	20919	64	I-64 WB	BAY VIEW BLVD	2	1974	-	VDOT	FO	6	5	7	N	77.1	-	-
NORFOLK	20819	64	I-64 EB	CHESAPEAKE BLVD	2	1965	1977	VDOT	-	6	6	6	N	84.4	-	-
NORFOLK	20821	64	I-64 WB	CHESAPEAKE BLVD	2	1965	1977	VDOT	FO	5	6	6	N	84.4	-	-
NORFOLK	23134	64	I-64 HOV LANES	CHESAPEAKE BLVD	2	1992	-	VDOT	-	6	7	7	N	97.4	-	-
NORFOLK	20887	64	I-64 EB	CURLEW DR & HRT LIGHT R/R	2	1968	-	VDOT	FO	6	6	5	N	77.2	-	-
NORFOLK	20889	64	I-64 WB	CURLEW DR & HRT LIGHT R/R	2	1968	1992	VDOT	FO	7	6	5	N	81.3	-	-
NORFOLK	23342	64	I-64 HOV LANES	CURLEW DR & HRT LIGHT R/R	2	1992	-	VDOT	-	7	7	7	N	90.3	-	-
NORFOLK	20925	64	I-64 EB	EVANS STREET	2	1974	-	VDOT	FO	6	5	5	N	81.3	-	-
NORFOLK	20923	64	I-64 WB	EVANS STREET	2	1974	-	VDOT	FO	6	5	5	N	75.2	-	-
NORFOLK	20850	64	I-64 EB	FIRST VIEW STREET	2	1975	-	VDOT	FO	6	5	6	N	82.8	-	-
NORFOLK	20839	64	I-64 WB	FIRST VIEW STREET	2	1975	-	VDOT	FO	7	5	5	N	75.7	-	-
NORFOLK	20902	64	I-64 EB	GRANBY STREET	2	1971	1991	VDOT	-	7	7	6	N	88.5	-	-
NORFOLK	20904	64	I-64 WB	GRANBY STREET	2	1971	-	VDOT	-	6	6	6	N	92.5	-	-
NORFOLK	23133	64	I-64 HOV LANES	GRANBY STREET	2	1992	-	VDOT	-	7	7	7	N	91.3	-	-
NORFOLK	23191	64	I-64 HOV LANES	I-64 WB	2	1992	-	VDOT	-	7	7	6	N	96.0	Y	-
NORFOLK	20883	64	I-64 EB	I-264 EB	2	1968	-	VDOT	-	6	6	6	N	84.9	-	-
NORFOLK	20885	64	I-64 WB	I-264 EB	2	1968	1992	VDOT	-	6	6	7	N	85.8	-	-
NORFOLK	23306	64	I-64 HOV LANES	I-264 EB	2	1992	-	VDOT	-	7	7	7	N	90.0	-	-
NORFOLK	20879	64	I-64 EB	I-264 WB	2	1968	1985	VDOT	-	6	6	6	N	87.1	-	-
NORFOLK	20881	64	I-64 WB	I-264 WB	2	1968	1992	VDOT	FO	5	6	5	N	73.6	-	-

NORFOLK/PORTSMOUTH BRIDGES

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Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
NORFOLK	23304	64	I-64 HOV LANES	I-264 WB	2	1992	-	VDOT	-	7	8	7	N	90.0	-	-
NORFOLK	20900	64	I-64 EB	I-564 NB	2	1971	-	VDOT	-	6	6	6	N	73.0	-	-
NORFOLK	23214	64	I-64 HOV LANES	I-564 & LITTLE CREEK ROAD	2	1992	-	VDOT	-	6	6	7	N	92.0	Y	-
NORFOLK	20862	64	I-64 EB	KEMPSVILLE ROAD	2	1967	1986	VDOT	FO	6	5	5	N	73.2	-	-
NORFOLK	20864	64	I-64 WB	KEMPSVILLE ROAD	2	1967	1991	VDOT	FO	7	5	5	N	73.7	-	-
NORFOLK	23284	64	I-64 HOV LANES	KEMPSVILLE ROAD	2	1992	-	VDOT	-	7	8	7	N	91.0	-	-
NORFOLK	20871	64	I-64	LAKE TAYLOR	19	1966	-	VDOT	-	N	N	N	7	70.0	-	-
NORFOLK	20892	64	I-64 EB	LITTLE CREEK ROAD	2	1971	-	VDOT	FO	6	6	5	N	77.6	-	-
NORFOLK	20894	64	I-64 WB	LITTLE CREEK ROAD	2	1971	-	VDOT	-	6	6	6	N	85.8	-	-
NORFOLK	20928	64	I-64 EB	MASON CREEK	2	1974	-	VDOT	FO	5	6	6	N	93.0	-	-
NORFOLK	20927	64	I-64 WB	MASON CREEK	2	1974	-	VDOT	FO	5	5	6	N	80.6	-	-
NORFOLK	20825	64	I-64 EB	MASON CREEK ROAD	2	1975	-	VDOT	FO	6	5	5	N	82.8	-	-
NORFOLK	20823	64	I-64 WB	MASON CREEK ROAD	2	1975	-	VDOT	FO	6	5	5	N	82.1	-	-
NORFOLK	20835	64	I-64 EB	MILITARY HWY	2	1966	-	VDOT	-	6	6	6	N	89.9	-	-
NORFOLK	20837	64	I-64 WB	MILITARY HWY	2	1966	-	VDOT	FO	5	6	5	N	71.4	-	-
NORFOLK	23068	64	I-64 HOV LANES	MILITARY HWY	2	1992	-	VDOT	-	7	7	7	N	96.0	-	-
NORFOLK	20917	64	I-64 EB	NEW GATE ROAD	2	1974	-	VDOT	FO	6	5	6	N	80.3	-	-
NORFOLK	20915	64	I-64 WB	NEW GATE ROAD	2	1974	-	VDOT	FO	6	5	6	N	80.6	-	-
NORFOLK	20858	64	I-64 EB	NORTHAMPTON BLVD	2	1967	1977	VDOT	SD	5	4	5	N	54.8	-	-
NORFOLK	20860	64	I-64 WB	NORTHAMPTON BLVD	2	1967	1977	VDOT	FO	5	6	5	N	73.6	-	-
NORFOLK	23074	64	I-64 HOV LANES	NORTHAMPTON BLVD	2	1992	-	VDOT	-	7	7	7	N	93.4	-	-
NORFOLK	20873	64	I-64 EB	OASTS CREEK & BAY AVE	2	1975	-	VDOT	-	6	6	6	N	93.3	-	-
NORFOLK	20869	64	I-64 WB	OASTS CREEK & BAY AVE	2	1975	-	VDOT	-	6	6	6	N	93.8	-	-
NORFOLK	20852	64	I-64 EB	RAMP FROM NORTHAMPTON BLVD	2	1967	1977	VDOT	-	7	6	6	N	86.6	-	-
NORFOLK	20854	64	I-64 WB	RAMP FROM NORTHAMPTON BLVD	2	1964	1977	VDOT	FO	5	6	6	N	85.8	-	-
NORFOLK	23132	64	I-64 HOV LANES	RAMP FROM NORTHAMPTON BLVD	2	1992	-	VDOT	-	7	8	7	N	93.4	-	-
NORFOLK	20845	64	I-64 EB	RAMP FROM NB TIDEWATER DRIVE	2	1967	-	VDOT	-	6	6	6	N	81.0	-	-
NORFOLK	23302	64	I-64 HOV LANES	RAMP FROM TIDEWATER DRIVE	2	1992	-	VDOT	-	6	6	7	N	91.0	-	-
NORFOLK	20827	64	I-64 EB	ROBIN HOOD ROAD	2	1966	-	VDOT	FO	6	6	5	N	72.8	-	-
NORFOLK	20829	64	I-64 WB	ROBIN HOOD ROAD	2	1966	-	VDOT	FO	6	6	5	N	73.2	-	-
NORFOLK	23061	64	I-64 HOV LANES	ROBIN HOOD ROAD	2	1992	-	VDOT	-	7	8	7	N	96.0	-	-
NORFOLK	20815	64	I-64 EB	SEWELLS POINT ROAD	2	1965	1977	VDOT	FO	5	5	6	N	74.3	-	-
NORFOLK	20817	64	I-64 WB	SEWELLS POINT ROAD	2	1965	-	VDOT	FO	5	5	5	N	75.8	-	-
NORFOLK	23059	64	I-64 HOV LANES	SEWELLS POINT ROAD	2	1992	-	VDOT	-	6	6	7	N	94.0	-	-
NORFOLK	20841	64	I-64 EB	TIDEWATER DRIVE	2	1967	1977	VDOT	FO	7	6	5	N	75.5	-	-
NORFOLK	20843	64	I-64 WB	TIDEWATER DRIVE	2	1967	1985	VDOT	FO	7	5	5	N	78.6	-	-
NORFOLK	23217	64	I-64 HOV LANES	TIDEWATER DRIVE	2	1992	-	VDOT	-	6	7	7	N	93.0	-	-
NORFOLK	20875	64	I-64 EB	VA BEACH BLVD	2	1968	1986	VDOT	FO	6	5	5	N	51.0	-	-
NORFOLK	20877	64	I-64 WB	VA BEACH BLVD	2	1968	1992	VDOT	FO	6	5	5	N	73.7	-	-
NORFOLK	23272	64	I-64 HOV LANES	VA BEACH BLVD	2	1992	-	VDOT	-	6	7	7	N	91.6	-	-
NORFOLK	20913	64	I-64 EB	WILLOUGHBY BAY	2	1972	-	VDOT	FO	5	5	6	N	81.5	-	-
NORFOLK	20914	64	I-64 WB	WILLOUGHBY BAY	2	1972	-	VDOT	FO	5	5	6	N	80.9	-	-
NORFOLK	23186	64	I-64 HOV RAMP	I-64 WB & I-264 & RAMPS	2	1992	-	VDOT	-	6	6	6	N	98.0	Y	-
NORFOLK	20898	64	I-64 EB RAMP	I-64 WB RAMP AT TIDEWATER DR	2	1971	-	VDOT	-	7	6	7	N	95.0	-	-
NORFOLK	20994	264	I-64 EB RAMP	I-264 EB	2	1968	-	VDOT	-	6	6	6	N	93.3	-	-
NORFOLK	20996	264	I-64 WB RAMP	I-264 WB	2	1968	-	VDOT	-	7	6	6	N	91.7	-	-
NORFOLK	20856	64	I-64 EB RAMP	NORTHAMPTON BLVD	2	1967	-	VDOT	SD	6	4	6	N	55.0	-	-
NORFOLK	20896	64	I-64 EB RAMP	THOLE STREET	2	1972	-	VDOT	-	7	6	6	N	96.3	-	-
NORFOLK	20906	64	I-64 EB RAMP	TRIB. OF LAFAYETTE RIVER	19	1967	-	VDOT	-	N	N	N	6	97.5	-	-
NORFOLK	20847	64	I-64 WB RAMP	TRIB. OF LAFAYETTE RIVER	19	1967	-	VDOT	-	N	N	N	6	94.3	-	-

NORFOLK/PORTSMOUTH BRIDGES

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										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
NORFOLK	21002	264	I-264 EB	BALLENTINE AVENUE	2	1968	-	VDOT	-	6	6	6	N	94.0	-	-
NORFOLK	21004	264	I-264 WB	BALLENTINE AVENUE	2	1968	-	VDOT	-	6	7	6	N	94.0	-	-
NORFOLK	20998	264	I-264	BRAMBLETON AVENUE	2	1968	-	VDOT	-	6	6	6	N	84.0	-	-
NORFOLK	20981	264	I-264 EB	BROAD CREEK	2	1967	-	VDOT	-	6	7	6	N	92.1	-	-
NORFOLK	20982	264	I-264 WB	BROAD CREEK	2	1967	2000	VDOT	-	6	6	6	N	92.8	-	-
NORFOLK	20979	264	I-264 WB	CITY HALL AVENUE	2	1991	-	VDOT	-	7	6	7	N	93.3	Y	-
NORFOLK	21011	264	I-264	CLAIBORNE AVENUE	2	1972	-	VDOT	-	6	6	6	N	80.0	-	-
NORFOLK	20962	264	I-264 EB	E BR ELIZABETH RIVER	16	1990	-	VDOT	-	6	6	6	N	86.4	Y	-
NORFOLK	20947	264	I-264 WB	E BR ELIZABETH RIVER	16	1952	1991	VDOT	FO	6	6	5	N	51.2	Y	-
NORFOLK	20992	264	I-264 EB	HOLT STREET & NS R/R	2	1972	1990	VDOT	FO	5	6	6	N	84.0	-	-
NORFOLK	21000	264	I-264 WB	HOLT STREET & NS R/R	2	1972	1991	VDOT	-	6	6	6	N	83.0	Y	-
NORFOLK	21008	264	I-264 EB	HRT LIGHT R/R	2	1968	-	VDOT	FO	6	6	5	N	79.2	-	-
NORFOLK	21009	264	I-264 WB	HRT LIGHT R/R	2	1968	-	VDOT	FO	6	6	5	N	81.0	-	-
NORFOLK	20971	264	I-264 EB	I-264 EB RAMP	2	1990	-	VDOT	-	7	7	6	N	90.9	Y	-
NORFOLK	20953	264	I-264 EB & I-464 NB	I-264 & I-464 RAMPS	2	1986	-	VDOT	FO	7	8	5	N	83.0	-	-
NORFOLK	20955	264	I-264 WB	I-264 & I-464 RAMPS	2	1988	-	VDOT	-	7	7	6	N	94.0	-	-
NORFOLK	20983	264	I-264 EB	INGLESIDE ROAD	2	1967	-	VDOT	FO	6	7	5	N	80.3	-	-
NORFOLK	20985	264	I-264 WB	INGLESIDE ROAD	2	1967	-	VDOT	-	7	7	6	N	92.4	-	-
NORFOLK	20795	264	I-264 EB	KEMPSVILLE ROAD	2	1967	1983	VDOT	-	7	6	6	N	78.6	-	-
NORFOLK	20793	264	I-264 WB	KEMPSVILLE ROAD	2	1967	1992	VDOT	-	6	6	6	N	84.2	-	-
NORFOLK	20963	264	I-264 EB	MAIN STREET	2	1990	-	VDOT	-	6	7	7	N	89.5	-	-
NORFOLK	20797	264	I-264	NEWTOWN ROAD	2	1967	1983	VDOT	-	7	6	6	N	78.0	-	-
NORFOLK	21006	264	I-264 EB	NORFOLK SOUTHERN R/R	2	1968	-	VDOT	FO	7	5	5	N	80.3	-	-
NORFOLK	21007	264	I-264 WB	NORFOLK SOUTHERN R/R	2	1968	-	VDOT	-	7	7	6	N	91.6	-	-
NORFOLK	21013	264	I-264	PARK AVENUE	2	1972	1989	VDOT	-	7	7	7	N	85.0	-	-
NORFOLK	20975	264	I-264 WB	SR 337 SB	2	1972	1990	VDOT	-	6	6	6	N	91.8	-	-
NORFOLK	20969	264	I-264 RAMP	CITY HALL AVENUE	2	1990	-	VDOT	-	7	6	7	N	93.7	-	-
NORFOLK	20977	264	I-264 RAMP	CITY HALL AVENUE	2	1972	1990	VDOT	-	6	7	7	N	92.0	-	-
NORFOLK	20978	264	I-264 WB RAMP	CITY HALL AVENUE	2	1991	-	VDOT	-	7	7	7	N	97.6	-	-
NORFOLK	23046	460	I-264 WB RAMP	CITY HALL AVENUE	2	1952	1991	VDOT	-	6	6	6	N	88.9	-	-
NORFOLK	21032	460	I-264 EB RAMP	EAST STREET	2	1990	-	VDOT	-	6	7	7	N	98.4	-	-
NORFOLK	20957	264	I-264 & I-464 RAMPS	I-264 EB	2	1986	-	VDOT	-	6	8	6	N	94.0	-	-
NORFOLK	20959	264	I-264 WB RAMP	I-264 WB	2	1988	-	VDOT	-	6	8	6	N	94.0	-	-
NORFOLK	21030	460	I-264 NB RAMP	I-264 WB & CITY HALL AVENUE	2	1990	-	VDOT	-	7	8	6	N	90.4	-	-
NORFOLK	20813	64	I-264 EB RAMP	I-264 WB & I-64	5	1985	-	VDOT	FO	5	6	6	N	92.9	-	-
NORFOLK	20967	264	I-264 EB RAMP	MAIN STREET	2	1990	-	VDOT	-	7	7	7	N	95.5	-	-
NORFOLK	21037	460	I-264 RAMP	WATERSIDE DRIVE	2	1990	-	VDOT	-	7	7	6	N	94.9	-	-
NORFOLK	21053	464	I-464 NB	BERKLEY AVENUE	2	1988	-	VDOT	-	6	7	6	N	75.0	-	-
NORFOLK	21055	464	I-464 SB	BERKLEY AVENUE	2	1988	-	VDOT	FO	6	7	5	N	87.0	-	-
NORFOLK	21045	464	I-464 NB	BUCHANAN ST & N&P R/R	2	1988	-	VDOT	-	7	6	6	N	92.8	-	-
NORFOLK	21047	464	I-464 SB	BUCHANAN ST & N&P R/R	2	1988	-	VDOT	-	7	7	7	N	93.0	-	-
NORFOLK	21065	464	I-464 SB	EMERGENCY VEHICLE RAMP	2	1988	-	VDOT	-	7	8	6	N	94.0	-	-
NORFOLK	21057	464	I-464 SB	I-264 EB	2	1987	-	VDOT	-	7	8	6	N	93.0	-	-
NORFOLK	21061	464	I-464 SB	I-264 WB	2	1989	-	VDOT	-	7	7	6	N	94.0	-	-
NORFOLK	21063	464	I-464 SB	I-264 WB RAMP	2	1988	-	VDOT	-	7	7	6	N	92.7	-	-
NORFOLK	21051	464	I-464 SB	I-264 & I-464 RAMPS	2	1988	-	VDOT	-	7	8	7	N	94.0	-	-
NORFOLK	21059	464	I-464 NB	I-464 SB RAMP	2	1987	-	VDOT	FO	6	8	5	N	80.3	-	-
NORFOLK	21041	464	I-464 NB	SOUTH MAIN STREET	2	1988	-	VDOT	-	7	7	6	N	97.0	-	-
NORFOLK	21043	464	I-464 SB	SOUTH MAIN STREET	2	1988	-	VDOT	-	7	7	6	N	98.0	-	-
NORFOLK	21049	464	I-464 RAMP	I-464 SB RAMP	2	1989	-	VDOT	-	7	8	7	N	93.5	-	-

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NORFOLK	21067	564	I-564	BOUSH CREEK	19	1977	-	VDOT	-	N	N	N	7	70.0	-	-
NORFOLK	21074	564	I-564 NB	GRANBY STREET	2	1972	-	VDOT	FO	5	6	6	N	85.3	-	-
NORFOLK	21072	564	I-564 SB	GRANBY STREET	2	1972	1991	VDOT	-	7	7	6	N	93.5	-	-
NORFOLK	21070	564	I-564 NB	LITTLE CREEK ROAD	2	1971	-	VDOT	-	6	6	6	N	91.1	-	-
NORFOLK	23216	564	I-564 HOV LANES	LITTLE CREEK ROAD	2	1992	-	VDOT	-	7	7	7	N	85.2	-	-
NORFOLK	21068	564	I-564 RAMP	I-64 & I-564	2	1990	-	VDOT	FO	5	6	6	N	95.5	-	-
NORFOLK	25187	407	INDIAN RIVER ROAD	STEAMBOAT CREEK	2	1998	-	City	-	6	7	7	N	91.7	-	-
NORFOLK	21028	406	INT TERMINAL BLVD EB	I-564 & NS R/R	2	1975	-	VDOT	FO	6	6	5	N	59.3	-	-
NORFOLK	21026	406	INT TERMINAL BLVD WB	I-564 & NS R/R	2	1975	-	VDOT	FO	5	5	5	N	54.2	-	-
NORFOLK	20934	165	LITTLE CREEK ROAD	TIDEWATER DRIVE	2	1959	-	City	FO	5	6	5	N	82.9	-	-
NORFOLK	20787	13	MILITARY HIGHWAY	BRANCH OF BROAD CREEK	19	1945	-	City	FO	N	N	N	5	46.7	-	-
NORFOLK	20790	13	MILITARY HIGHWAY	CURLEW DR & HRT LIGHT R/R	2	1943	1967	City	-	6	6	6	N	95.6	-	-
NORFOLK	24817	13	MILITARY HIGHWAY NB	E BR ELIZABETH RIVER	2	1996	-	City	-	6	8	7	N	80.7	-	-
NORFOLK	24819	13	MILITARY HIGHWAY SB	E BR ELIZABETH RIVER	2	1996	-	City	-	6	8	7	N	80.7	-	-
NORFOLK	26334	13	MILITARY HIGHWAY	I-264	2	2000	-	VDOT	-	7	7	7	N	62.0	-	-
NORFOLK	25327	13	MILITARY HIGHWAY	VA BEACH BLVD	21	1999	-	City	-	6	6	6	N	91.8	-	-
NORFOLK	20777		NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1	1979	-	City	FO	5	5	6	N	60.3	-	-
NORFOLK	20778		NORTH SHORE ROAD	BRANCH OF LAFAYETTE RIVER	1	1979	-	City	FO	5	5	5	N	60.3	-	-
NORFOLK	24432	13	NORTHAMPTON BLVD NB	LAKE WRIGHT	2	1995	-	City	-	7	8	7	N	80.8	-	-
NORFOLK	24433	13	NORTHAMPTON BLVD SB	LAKE WRIGHT	2	1995	-	City	-	7	8	7	N	80.8	-	-
NORFOLK	23313	247	NORVIEW AVENUE	I-64	2	1992	-	VDOT	-	6	7	6	N	84.0	-	-
NORFOLK	20775		NORVIEW AVENUE	LAKE WHITEHURST	2	1975	-	City	-	6	6	6	N	91.3	-	-
NORFOLK	26010		NORVIEW AVENUE	RINDA CREEK	2	1999	-	City	FO	5	6	7	N	93.2	-	-
NORFOLK	20811	60	OCEAN VIEW AVENUE EB	TIDEWATER DRIVE	2	1958	-	City	FO	5	5	5	N	69.4	-	-
NORFOLK	20767		ROBIN HOOD ROAD	NORFOLK WATER SUPPLY CANAL	4	1944	1987	City	FO	6	5	5	N	67.4	-	-
NORFOLK	20809	60	SHORE DRIVE	LAKE WHITEHURST	19	1984	-	City	-	N	N	N	6	70.0	-	-
NORFOLK	26314	60	SHORE DRIVE	LITTLE CREEK	2	2002	-	City	-	6	7	7	N	85.4	-	-
NORFOLK	20774	337	SR 337 NB & RAMP	ADJACENT TO STRUCTURE #21000	2	1972	1990	VDOT	FO	5	7	5	N	98.3	-	-
NORFOLK	20766		THOLE STREET	BRANCH OF LAFAYETTE RIVER	19	1967	-	City	-	N	N	N	6	93.1	-	-
NORFOLK	20938	168	TIDEWATER DRIVE	LAFAYETTE RIVER	1	1985	2007	City	-	7	8	7	N	76.6	-	-
NORFOLK	20939	168	TIDEWATER DRIVE	NORFOLK SOUTHERN R/R	2	1960	-	City	SD	5	4	6	N	55.0	-	-
NORFOLK	20942	168	TIDEWATER DRIVE	TRIB OF LAFAYETTE RIVER	19	1967	-	VDOT	-	N	N	N	7	75.3	-	-
NORFOLK	20937	168	TIDEWATER DRIVE	WAYNE CREEK	1	1985	2003	City	-	6	7	7	N	93.2	-	-
NORFOLK	24793	58	VA BEACH BLVD	BROAD CREEK	2	1996	-	City	-	7	6	7	N	81.9	-	-
NORFOLK	24148	58	VA BEACH BLVD	NORFOLK SOUTHERN R/R	2	1995	-	City	FO	5	6	6	N	88.6	-	-
NORFOLK	20949		WATERSIDE DRIVE EB	EAST MAIN STREET	2	1972	1990	VDOT	-	7	6	6	N	94.6	-	-
NORFOLK	20776		WILLOW WOOD DRIVE	BRANCH OF LAFAYETTE RIVER	2	1987	-	City	FO	6	6	5	N	77.2	-	-

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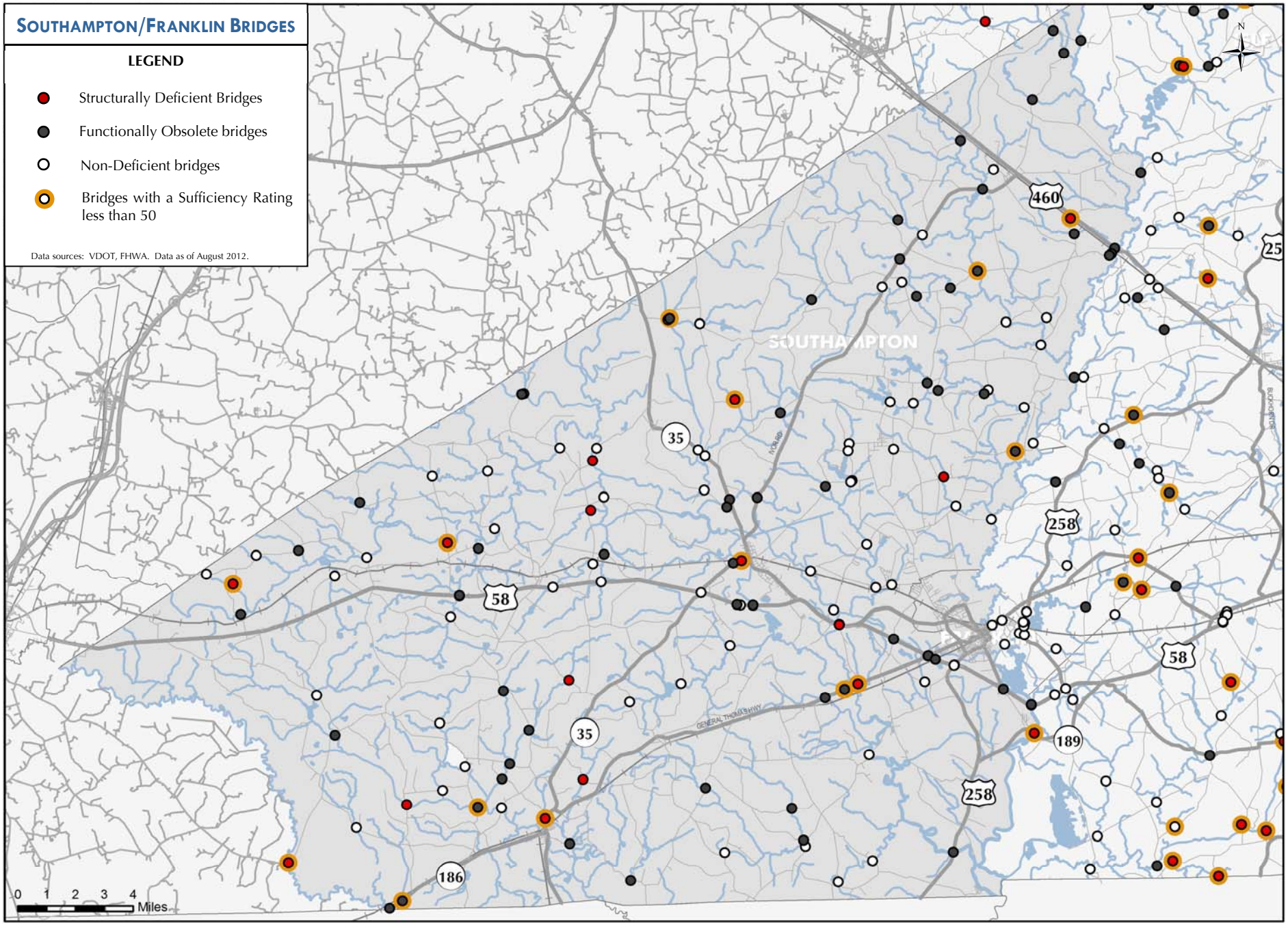
Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
PORTSMOUTH	21197		CEDAR LANE	ROUTE 164	2	1989	-	VDOT	-	6	7	6	N	100.0	-	-
PORTSMOUTH	26832		CLIFFORD STREET	BAINES CREEK	2	2005	-	City	-	8	9	9	N	92.8	-	-
PORTSMOUTH	21193		COURT STREET	I-264 WB	1	1951	1990	VDOT	-	7	7	7	N	75.8	-	-
PORTSMOUTH	21190		GREENWOOD DRIVE	I-264	2	1976	-	VDOT	-	6	6	6	N	85.2	-	-
PORTSMOUTH	21199	17	HIGH STREET	W BR ELIZABETH RIVER	2	1951	1975	City	SD	5	5	4	N	47.9	-	-
PORTSMOUTH	21233	264	I-264	DES MOINES AVENUE	2	1964	1979	VDOT	-	6	6	6	N	85.0	-	-
PORTSMOUTH	21240	264	I-264	EFFINGHAM STREET	2	1966	1985	VDOT	-	6	6	6	N	79.3	-	-
PORTSMOUTH	21244	264	I-264	ELM AVENUE	2	1966	1985	VDOT	FO	6	6	5	N	69.0	-	-
PORTSMOUTH	21229	264	I-264	FREDERICK BLVD	2	1964	1979	VDOT	FO	6	5	5	N	80.0	-	-
PORTSMOUTH	21220	264	I-264	MCLEAN AVENUE	2	1964	1979	VDOT	-	6	6	6	N	79.7	-	-
PORTSMOUTH	21224	264	I-264	NORFOLK & PORTSMOUTH R/R	2	1964	1980	VDOT	FO	5	5	5	N	68.0	-	-
PORTSMOUTH	21225	264	I-264	PORTSMOUTH BLVD	2	1964	1978	VDOT	FO	6	5	5	N	68.0	-	-
PORTSMOUTH	21231	264	I-264	PORTSMOUTH BLVD RAMP	2	1964	1979	VDOT	FO	6	6	5	N	68.0	-	-
PORTSMOUTH	21235	264	I-264	RAMP FROM FREDERICK BLVD	2	1964	1979	VDOT	FO	6	5	6	N	80.0	-	-
PORTSMOUTH	21218	264	I-264	RODMAN AVENUE	2	1964	-	VDOT	-	6	6	6	N	71.1	-	-
PORTSMOUTH	21237	264	I-264	VICTORY BLVD	2	1963	1979	VDOT	FO	5	6	6	N	91.0	-	-
PORTSMOUTH	21242	264	I-264	WB RAMP FROM EFFINGHAM STREET	2	1966	1985	VDOT	FO	6	5	5	N	64.0	Y	-
PORTSMOUTH	21222	264	I-264 EB RAMP	FREDERICK BLVD	2	1964	-	VDOT	FO	5	6	5	N	68.0	-	-
PORTSMOUTH	21227	264	I-264 EB RAMP	PORTSMOUTH BLVD	2	1964	-	VDOT	-	6	6	6	N	90.8	-	-
PORTSMOUTH	21246	264	I-264 WB ON RAMP	RAMP FROM I-264 WB	2	1985	-	VDOT	FO	5	6	5	N	88.0	-	-
PORTSMOUTH	21248	264	I-264 EB OFF RAMP	RAMP TO EB DOWNTOWN TUNNEL	2	1985	-	VDOT	-	7	6	6	N	99.0	-	-
PORTSMOUTH	21202	58	LONDON BOULEVARD	MLK FREEWAY	2	1971	-	City	-	7	6	7	N	88.3	-	-
PORTSMOUTH	21200	58	LONDON BOULEVARD	N&P R/R & VIRGINIA AVE	2	1971	-	City	-	7	6	8	N	87.5	-	-
PORTSMOUTH	26653	58	MLK FREEWAY	CLEVELAND STREET & CSX R/R	2	2005	-	VDOT	-	7	8	6	N	91.6	-	-
PORTSMOUTH	28239	164	ROUTE 164 EB	APM BLVD	2	2006	-	VDOT	-	6	7	8	N	98.0	-	-
PORTSMOUTH	28241	164	ROUTE 164 WB	APM BLVD	2	2006	-	VDOT	-	6	8	8	N	96.9	-	-
PORTSMOUTH	21208	164	ROUTE 164 EB	FORMER COAST GUARD BLVD	2	1991	-	VDOT	-	N	7	N	N	84.0	Y	-
PORTSMOUTH	21206	164	ROUTE 164 WB	FORMER COAST GUARD BLVD	2	1991	-	VDOT	FO	7	5	6	N	84.0	Y	-
PORTSMOUTH	28376	164	ROUTE 164 WB	MLK & WESTERN FREEWAY & PMT	2	2006	-	VDOT	-	7	7	7	N	95.8	-	-
PORTSMOUTH	28384	164	ROUTE 164 EB	PORTSMOUTH MARINE TERM.	2	2006	-	VDOT	-	7	7	7	N	94.6	-	-
PORTSMOUTH	21215	164	ROUTE 164	W BR ELIZABETH RIVER	2	1978	-	VDOT	FO	6	5	6	N	69.0	-	-
PORTSMOUTH	27133	164	ROUTE 164 EB	W BR ELIZABETH RIVER	2	2006	-	VDOT	-	7	7	7	N	81.4	-	-
PORTSMOUTH	28217	164	ROUTE 164 WB	W BR ELIZABETH RIVER	2	2006	-	VDOT	-	7	7	7	N	81.4	-	-
PORTSMOUTH	21210	164	ROUTE 164 EB	W. NORFOLK ROAD & NS R/R	2	1991	-	VDOT	-	6	7	6	N	92.0	-	-
PORTSMOUTH	21212	164	ROUTE 164 WB	W. NORFOLK ROAD & NS R/R	2	1991	-	VDOT	-	6	7	6	N	92.0	-	-
PORTSMOUTH	28396	164	ROUTE 164 EB RAMP TO EB MIDTOWN TUNNE	MLK FREEWAY WB & PMT	2	2006	-	VDOT	-	7	7	7	N	95.3	-	-
PORTSMOUTH	28350	164	ROUTE 164 WB RAMP FROM CLEVELAND ST	MLK FREEWAY & PMT	2	2006	-	VDOT	-	7	7	7	N	90.8	-	-
PORTSMOUTH	28348	164	ROUTE 164 RAMP FROM WB ROUTE 58	PORTSMOUTH MARINE TERM.	2	2006	-	VDOT	-	7	7	7	N	99.5	-	-
PORTSMOUTH	28349	164	ROUTE 164 EB RAMP TO CLEVELAND ST	PORTSMOUTH MARINE TERM.	2	2006	-	VDOT	-	7	7	7	N	88.6	-	-
PORTSMOUTH	21195		TOWN POINT ROAD	ROUTE 164	2	1989	-	VDOT	-	6	6	6	N	98.0	-	-
PORTSMOUTH	21217	239	VICTORY BLVD	PARADISE CREEK	1	1944	-	City	SD	5	5	4	N	18.3	-	-

NORFOLK/PORTSMOUTH BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


SOUTHAMPTON/FRANKLIN BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
N
SOUTHAMPTON
460
35
58
258
189
186
0 1 2 3 4
Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
SOUTHAMPTON	17785	615	ADAMS GROVE ROAD	BROWNS BRANCH	2	1932	-	VDOT	SD	5	4	5	N	25.3	-	10/-/-
SOUTHAMPTON	17786	615	ADAMS GROVE ROAD	THREE CREEK	4	1957	-	VDOT	FO	7	7	5	N	81.4	-	-
SOUTHAMPTON	17804	626	APPLETON ROAD	ROUND HILL SWAMP	19	1978	-	VDOT	-	N	N	N	6	100.0	-	-
SOUTHAMPTON	17835	652	BARHAMS HILL ROAD	ANGELICO CREEK	2	1932	-	VDOT	FO	7	7	5	N	68.9	-	-
SOUTHAMPTON	17877	677	BARNS CHURCH CIR	BRANCH	2	1932	-	VDOT	-	7	6	6	N	79.2	-	-
SOUTHAMPTON	17801	622	BELL ROAD	SEACOCK SWAMP	2	1963	-	VDOT	-	7	7	6	N	92.0	-	-
SOUTHAMPTON	17821	640	BEREA CHURCH ROAD	BRANCH	2	1932	-	VDOT	SD	7	7	4	N	70.0	-	-
SOUTHAMPTON	17815	635	BLACK CREEK ROAD	BLACK CREEK	4	1956	-	VDOT	-	7	7	6	N	79.8	-	-
SOUTHAMPTON	17816	635	BLACK CREEK ROAD	BRANCH	5	1983	-	VDOT	-	7	7	6	N	92.3	-	-
SOUTHAMPTON	17847	658	BLACKHEAD SIGNPOST ROAD	MILL SWAMP	5	1965	-	VDOT	-	7	7	6	N	81.5	-	-
SOUTHAMPTON	25493	655	BRANDY POND ROAD	HORNET SWAMP	19	1998	-	VDOT	-	N	N	N	7	100.0	-	-
SOUTHAMPTON	17843	655	BRANDY POND ROAD	THREE CREEK	1	1973	-	VDOT	-	7	7	7	N	97.6	-	-
SOUTHAMPTON	17838	652	BUCKHORN QUARTER ROAD	BUCKHORN SWAMP	2	1963	-	VDOT	FO	7	5	6	N	64.3	-	18/-/-
SOUTHAMPTON	17797	619	BURDETTE ROAD	BLACK CREEK	2	1932	1983	VDOT	FO	7	5	5	N	49.3	-	14/-/-
SOUTHAMPTON	17798	619	BURDETTE ROAD	BLACKWATER RIVER	2	1983	-	VDOT	-	7	7	7	N	99.7	-	-
SOUTHAMPTON	17901	743	BURNT REED ROAD	TARRARA CREEK	2	1932	1997	VDOT	FO	7	5	6	N	55.5	-	-
SOUTHAMPTON	26227	606	CABIN POINT ROAD	BRANCH	19	2000	-	VDOT	-	N	N	N	7	100.0	-	-
SOUTHAMPTON	17892	702	CABIN POND ROAD	BRANCH ROSA SWAMP	19	1972	-	VDOT	-	N	N	N	6	98.9	-	-
SOUTHAMPTON	29234	58	CAMP PARKWAY	BLACKWATER RIVER	2	2009	-	VDOT	-	7	8	7	N	68.0	-	-
SOUTHAMPTON	17841	653	CARYS BRIDGE ROAD	NOTTOWAY RIVER	2	1954	-	VDOT	SD	5	5	4	N	52.3	-	-
SOUTHAMPTON	17839	653	CARYS BRIDGE ROAD	OVERFLOW NOTTOWAY RIVER	19	1969	-	VDOT	-	N	N	N	6	98.6	-	-
SOUTHAMPTON	17846	658	CEDAR VIEW ROAD	ANGELICO CREEK	2	1932	-	VDOT	-	8	8	6	N	66.5	-	15/-/-
SOUTHAMPTON	17862	668	CLARKSBURY ROAD	ROSA SWAMP	19	1973	-	VDOT	FO	N	N	N	5	86.8	-	-
SOUTHAMPTON	17861	668	CLARKSBURY ROAD	TARRARA CREEK	2	1969	-	VDOT	FO	7	7	5	N	71.5	-	-
SOUTHAMPTON	17802	623	CLAYTON ROAD	SEACOCK SWAMP	2	1968	-	VDOT	-	7	6	7	N	98.9	-	-
SOUTHAMPTON	17823	642	COBB ROAD	BRANCH	19	1978	-	VDOT	-	N	N	N	6	99.0	-	-
SOUTHAMPTON	17831	649	COUNTRY CLUB ROAD	BRANCH	19	1976	-	VDOT	-	N	N	N	6	99.1	-	-
SOUTHAMPTON	17832	649	COUNTRY CLUB ROAD	NOTTOWAY SWAMP	2	1965	-	VDOT	-	7	8	6	N	76.3	-	-
SOUTHAMPTON	17854	665	CROSS KEYS ROAD	DEAL SWAMP	19	1975	-	VDOT	SD	N	N	N	4	72.7	-	-
SOUTHAMPTON	17796	618	CRUMPLER ROAD	TERRAPIN SWAMP	2	1962	-	VDOT	FO	7	5	7	N	70.2	-	-
SOUTHAMPTON	17824	643	DARDEN SCOUT ROAD	BRANCH	19	1974	-	VDOT	-	N	N	N	7	99.0	-	-
SOUTHAMPTON	17825	643	DARDEN SCOUT ROAD	BRANCH	19	1975	-	VDOT	-	N	N	N	6	98.9	-	-
SOUTHAMPTON	17856	665	DAVIS LANE	VICKS CREEK	1	1987	-	VDOT	-	7	7	7	N	91.0	-	-
SOUTHAMPTON	17889	687	DELAWARE ROAD	ROUTE 58	2	1979	-	VDOT	FO	7	5	6	N	80.1	-	-
SOUTHAMPTON	24615	600	DOLES ROAD	BRANCH	19	1996	-	VDOT	-	N	N	N	6	100.0	-	-
SOUTHAMPTON	17820	638	DRAKE ROAD	JOHNSONS MILL	2	1961	-	VDOT	-	6	6	6	N	68.4	-	14/-/-
SOUTHAMPTON	29357	607	FARMERS BRIDGE ROAD	ASSAMOOSIC SWAMP	19	2009	-	VDOT	-	N	N	N	7	98.9	-	-
SOUTHAMPTON	17767	607	FARMERS BRIDGE ROAD	ASSAMOOSIC SWAMP	2	1932	-	VDOT	FO	7	5	5	N	47.9	-	10/-/-
SOUTHAMPTON	17776	611	FLAGGY RUN ROAD	FLAGGY RUN	2	1967	-	VDOT	-	7	8	6	N	86.6	-	-
SOUTHAMPTON	17780	612	FORTSVILLE ROAD	APPLE WHITE SWAMP	19	1975	-	VDOT	FO	N	N	N	5	88.0	-	-
SOUTHAMPTON	26570	612	FORTSVILLE ROAD	BROWNS BRANCH	19	2000	-	VDOT	-	N	N	N	7	99.9	-	-
SOUTHAMPTON	24456	612	FORTSVILLE ROAD	RAWLINGS SWAMP	19	1996	-	VDOT	-	N	N	N	7	100.0	-	-
SOUTHAMPTON	17851	659	FORTSVILLE ROAD	THREE CREEK	1	1967	-	VDOT	-	6	6	7	N	91.5	-	-
SOUTHAMPTON	17864	671	GENERAL THOMAS HWY	BRANCH	19	1977	-	VDOT	FO	N	N	N	5	81.7	-	-
SOUTHAMPTON	17865	671	GENERAL THOMAS HWY	NOTTOWAY RIVER	5	1960	-	VDOT	SD	4	4	4	N	11.8	-	-
SOUTHAMPTON	17866	671	GENERAL THOMAS HWY	NOTTOWAY RIVER OVERFLOW	5	1960	-	VDOT	FO	5	5	5	N	28.2	-	-
SOUTHAMPTON	17827	646	GOVERNOR DARDEN ROAD	BRANCH NOTTOWAY RIVER	19	1972	-	VDOT	FO	N	N	N	5	88.7	-	-
SOUTHAMPTON	17828	646	GOVERNOR DARDEN ROAD	DARDEN MILL POND	2	1968	-	VDOT	-	7	8	7	N	80.3	-	-
SOUTHAMPTON	17872	673	GRAY'S SHOP ROAD	STREAM	2	1932	-	VDOT	-	7	7	7	N	78.5	-	-
SOUTHAMPTON	17754	186	HUGO ROAD	MEHERRIN RIVER	4	1936	-	VDOT	FO	6	6	5	N	74.9	-	-

SOUTHAMPTON COUNTY/FRANKLIN BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
SOUTHAMPTON	17752	186	HUGO ROAD	OVERFLOW MEHERRIN RIVER	4	1937	1993	VDOT	FO	7	7	5	N	40.4	-	-
SOUTHAMPTON	17812	634	INDIAN BRANCH LANE	INDIAN BRANCH	2	1932	-	VDOT	SD	5	4	5	N	34.5	-	11/-/-
SOUTHAMPTON	17834	651	INDIAN TOWN ROAD	BUCKHORN SWAMP	1	1986	-	VDOT	-	7	7	7	N	86.9	-	-
SOUTHAMPTON	17788	616	IVOR ROAD	BARLOW MILL RUN	19	1973	-	VDOT	-	N	N	N	7	99.1	-	-
SOUTHAMPTON	17791	616	IVOR ROAD	BRANCH	19	1976	-	VDOT	FO	N	N	N	5	88.1	-	-
SOUTHAMPTON	17792	616	IVOR ROAD	BR ROUND HILL SWAMP	19	1975	-	VDOT	FO	N	N	N	5	86.7	-	-
SOUTHAMPTON	17789	616	IVOR ROAD	LIGHTWOOD SWAMP	19	1976	-	VDOT	-	N	N	N	7	99.0	-	-
SOUTHAMPTON	17793	616	IVOR ROAD	SEACOCK SWAMP	5	1960	-	VDOT	FO	5	5	5	N	62.5	-	-
SOUTHAMPTON	17822	641	JOHNSON'S MILL ROAD	JOHNSONS MILL	1	1989	-	VDOT	-	7	7	7	N	99.8	-	-
SOUTHAMPTON	17763	601	KELLOS MILL ROAD	LIGHTWOOD SWAMP	2	1963	-	VDOT	FO	7	7	5	N	65.4	-	-
SOUTHAMPTON	17840	653	LITTLE TEXAS ROAD	FLAT SWAMP	2	1971	-	VDOT	FO	7	7	5	N	73.9	-	-
SOUTHAMPTON	9139	730	LITTLE TEXAS ROAD	MEHERRIN RIVER	2	1953	-	VDOT	SD	7	5	4	N	39.1	-	-
SOUTHAMPTON	17882	683	MARY HUNT ROAD	COKEMOKE CREEK	5	1981	-	VDOT	FO	5	5	6	N	79.3	-	-
SOUTHAMPTON	17724	35	MEHERRIN ROAD	NOTTOWAY RIVER	10	1929	-	VDOT	SD	4	4	5	N	10.4	Y	-/23/28
SOUTHAMPTON	17728	35	MEHERRIN ROAD	OVERFLOW, NOTTOWAY RIVER	19	1979	-	VDOT	FO	N	N	N	5	82.1	-	-
SOUTHAMPTON	24961	35	MEHERRIN ROAD	ROUTE 58	2	1997	-	VDOT	-	7	7	7	N	99.6	-	-
SOUTHAMPTON	17768	608	MILL NECK ROAD	RACOON SWAMP	2	1932	-	VDOT	FO	6	5	5	N	56.2	-	9/-/-
SOUTHAMPTON	17769	608	MILL NECK ROAD	RACOON SWAMP	2	1932	1985	VDOT	FO	5	5	6	N	83.0	-	-
SOUTHAMPTON	17809	631	MISSION CHURCH ROAD	BLACK CREEK	2	1962	-	VDOT	FO	7	5	5	N	72.3	-	-
SOUTHAMPTON	17885	684	MONROE ROAD	DARDEN MILL RUN	2	1982	-	VDOT	-	7	6	7	N	97.8	-	-
SOUTHAMPTON	25627	684	MONROE ROAD	NOTTOWAY RIVER	2	1999	-	VDOT	-	6	6	7	N	98.6	-	-
SOUTHAMPTON	17863	670	NUMBER 8 SCHOOL HOUSE ROAD	TARRARA CREEK	4	1956	-	VDOT	FO	6	6	5	N	67.2	-	-
SOUTHAMPTON	26226	652	OLD BELFIELD ROAD	PLEASANT CREEK	19	2000	-	VDOT	-	N	N	N	6	99.9	-	-
SOUTHAMPTON	17800	621	OLD BLACKWATER ROAD	BLACKWATER RIVER	5	1963	-	VDOT	FO	6	6	5	N	71.6	-	-
SOUTHAMPTON	17857	666	OLD BRANCHVILLE ROAD	TARRARA CREEK	1	1969	-	VDOT	-	6	6	6	N	93.5	-	-
SOUTHAMPTON	17852	661	OLD CHURCH ROAD	BELLYACHE SWAMP	19	1964	-	VDOT	-	N	N	N	7	98.9	-	-
SOUTHAMPTON	17845	657	OLD PLACE ROAD	TARRARA CREEK	19	1988	-	VDOT	SD	N	N	N	4	73.0	-	-
SOUTHAMPTON	17721	35	PLANK ROAD	ASSAMOOSICK CREEK	2	1980	-	VDOT	-	6	7	6	N	97.5	-	-
SOUTHAMPTON	17726	35	PLANK ROAD	BRANCH	1	1932	1971	VDOT	FO	6	6	5	N	87.3	-	-
SOUTHAMPTON	17722	35	PLANK ROAD	MILL RUN	2	1921	1998	VDOT	-	6	7	7	N	96.9	-	-
SOUTHAMPTON	17773	609	POPES STATION ROAD	BRANCH	19	1979	-	VDOT	SD	N	N	N	4	72.9	-	-
SOUTHAMPTON	17772	609	POPES STATION ROAD	BUCKHORN SWAMP	2	1978	-	VDOT	-	7	7	7	N	81.5	-	-
SOUTHAMPTON	17774	609	POPES STATION ROAD	THREE CREEK	2	1965	-	VDOT	-	7	6	7	N	92.9	-	-
SOUTHAMPTON	17895	714	PRETLOW ROAD	ROUTE 58	2	1980	-	VDOT	FO	7	5	5	N	88.4	-	-
SOUTHAMPTON	17790	616	PROCTORS BRIDGE ROAD	HICKANECK SWAMP	19	1990	-	VDOT	FO	N	N	N	5	88.9	-	-
SOUTHAMPTON	17787	616	PROCTORS BRIDGE ROAD	PROCTOR SWAMP	19	1987	-	VDOT	FO	N	N	N	5	99.9	-	-
SOUTHAMPTON	17899	731	RIDLEY ROAD	MILL SWAMP	19	1968	-	VDOT	-	N	N	N	6	98.9	-	-
SOUTHAMPTON	17829	647	RIVER ROAD	ASSAMOOSICK SWAMP	2	1971	-	VDOT	-	7	7	6	N	98.9	-	-
SOUTHAMPTON	17830	647	RIVER ROAD	CUSCORA BRANCH	19	1972	-	VDOT	FO	N	N	N	5	88.9	-	-
SOUTHAMPTON	17779	612	RIVER'S MILL ROAD	RIVERS MILL	2	1971	-	VDOT	FO	5	5	5	N	70.9	-	-
SOUTHAMPTON	29358	688	ROSE VALLEY ROAD	BRANCH	19	2010	-	VDOT	-	N	N	N	7	99.9	-	-
SOUTHAMPTON	17727	35	ROUTE 35	TARRARA CREEK	4	1946	-	VDOT	SD	4	4	4	N	39.1	-	-
SOUTHAMPTON	17731	58	ROUTE 58 EB	ANGELICO CREEK	2	1990	-	VDOT	-	7	7	7	N	89.1	-	-
SOUTHAMPTON	17730	58	ROUTE 58 WB	ANGELICO CREEK	5	1948	1981	VDOT	FO	7	7	5	N	81.1	-	-
SOUTHAMPTON	23647	58	ROUTE 58 EB	ARMORY DRIVE	2	1993	-	VDOT	-	7	7	7	N	89.9	-	-
SOUTHAMPTON	17740	58	ROUTE 58 WB	ARMORY DRIVE	2	1979	-	VDOT	FO	7	6	5	N	76.8	-	-
SOUTHAMPTON	17732	58	ROUTE 58	BRANCH	19	1988	-	VDOT	-	N	N	N	6	77.2	-	-
SOUTHAMPTON	17733	58	ROUTE 58	BRANCH	19	1988	-	VDOT	-	N	N	N	7	70.5	-	-
SOUTHAMPTON	23715	58	ROUTE 58 EB	CSX R/R	2	1993	-	VDOT	-	7	7	6	N	91.9	-	-
SOUTHAMPTON	17742	58	ROUTE 58 WB	CSX R/R	2	1979	-	VDOT	FO	6	5	5	N	78.9	-	-

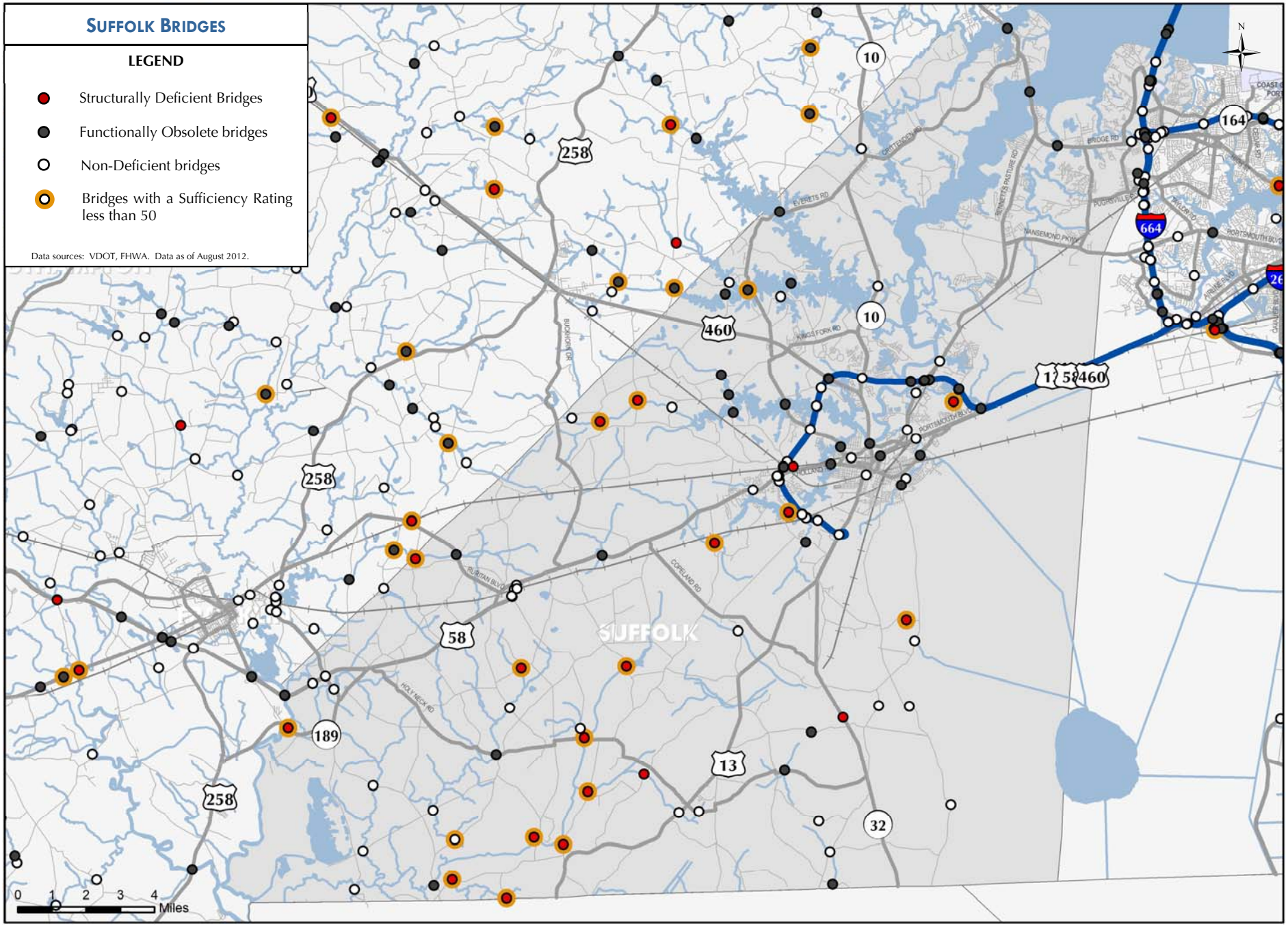
SOUTHAMPTON COUNTY/FRANKLIN BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
SOUTHAMPTON	17749	58	ROUTE 58 EB	NOTTOWAY RIVER	2	1984	-	VDOT	-	7	7	6	N	97.2	-	-
SOUTHAMPTON	23609	58	ROUTE 58 WB	NOTTOWAY RIVER	2	1993	-	VDOT	FO	7	6	5	N	86.0	-	-
SOUTHAMPTON	17729	58	ROUTE 58 EB	NOTTOWAY SWAMP	2	1930	1978	VDOT	SD	6	6	4	N	64.5	-	-
SOUTHAMPTON	17739	58	ROUTE 58 WB	NOTTOWAY SWAMP	5	1966	-	VDOT	FO	7	7	5	N	67.6	-	-
SOUTHAMPTON	17750	58	ROUTE 58	OVERFLOW NOTTOWAY RIVER	2	1984	-	VDOT	-	7	7	7	N	96.2	-	-
SOUTHAMPTON	23630	58	ROUTE 58	OVERFLOW NOTTOWAY RIVER	2	1993	-	VDOT	FO	7	7	5	N	86.0	-	-
SOUTHAMPTON	23648	58	ROUTE 58 EB	ROUTE 258	2	1993	-	VDOT	-	7	7	7	N	97.0	-	-
SOUTHAMPTON	17744	58	ROUTE 58 WB	ROUTE 258	2	1980	-	VDOT	-	7	6	6	N	97.0	-	-
SOUTHAMPTON	17795	618	SADLER ROAD	BAR B Q RUN	2	1932	-	VDOT	FO	7	7	5	N	68.5	-	-
SOUTHAMPTON	17811	633	SAINT LUKES ROAD	HORSE PEN RUN	2	1962	-	VDOT	FO	7	5	5	N	76.1	-	21/-/-
SOUTHAMPTON	17874	674	SANDS ROAD	DARDEN MILL RUN	2	1932	2000	VDOT	FO	7	7	5	N	70.3	-	24/-/-
SOUTHAMPTON	17887	686	SANDY RIDGE ROAD	MILL CREEK	4	1970	-	VDOT	-	6	7	6	N	97.8	-	-
SOUTHAMPTON	17784	614	SEACOCK CHAPEL ROAD	BLACKWATER RIVER	2	1971	-	VDOT	FO	7	7	5	N	79.1	-	-
SOUTHAMPTON	17782	614	SEACOCK CHAPEL ROAD	BRANCH	2	1932	-	VDOT	FO	6	5	5	N	57.6	-	19/-/-
SOUTHAMPTON	17783	614	SEACOCK CHAPEL ROAD	ROUND HILL SWAMP	1	1967	-	VDOT	FO	7	7	5	N	85.3	-	-
SOUTHAMPTON	17781	614	SEACOCK CHAPEL ROAD	SEACOCK SWAMP	2	1953	-	VDOT	FO	5	5	6	N	38.4	-	21/-/-
SOUTHAMPTON	17756	258	SMITHS FERRY ROAD	NOTTOWAY RIVER	2	1960	-	VDOT	FO	5	6	6	N	61.1	-	-
SOUTHAMPTON	17755	189	SOUTH QUAY ROAD	BLACKWATER RIVER	17	1940	1962	VDOT	SD	5	4	4	N	10.7	Y	-/22/28
SOUTHAMPTON	17833	650	STORYS STATION ROAD	FLAGGY RUN	2	1932	-	VDOT	-	7	7	7	N	77.5	-	-
SOUTHAMPTON	17775	611	STORYS STATION ROAD	NOTTOWAY SWAMP	2	1966	-	VDOT	-	7	7	6	N	90.0	-	-
SOUTHAMPTON	26972	680	SUNBEAM ROAD	COKEMOKE MILL	10	2002	-	VDOT	-	7	7	7	N	94.0	Y	-
SOUTHAMPTON	17810	632	SYCAMORE AVENUE	BRANCH	19	1974	-	VDOT	-	N	N	N	6	98.9	-	-
SOUTHAMPTON	17859	667	SYKES FARM ROAD	TARRARA CREEK	2	1972	-	VDOT	FO	7	5	6	N	73.4	-	-
SOUTHAMPTON	17853	663	THE HALL ROAD	FLAT SWAMP	4	1968	-	VDOT	SD	7	7	4	N	64.8	-	-
SOUTHAMPTON	17900	735	THREE CREEK ROAD	HORNET SWAMP	1	1985	-	VDOT	-	7	7	7	N	95.8	-	-
SOUTHAMPTON	17757	308	THREE CREEK ROAD	THREE CREEK	4	1948	-	VDOT	SD	4	4	5	N	44.4	-	-
SOUTHAMPTON	17826	645	TRINITY CHURCH ROAD	INDIAN BRANCH	2	1932	-	VDOT	FO	8	8	5	N	68.9	-	-
SOUTHAMPTON	17817	635	TUCKER SWAMP ROAD	BRANCH	2	1960	-	VDOT	FO	7	8	5	N	77.3	-	-
SOUTHAMPTON	17813	635	TUCKER SWAMP ROAD	NORFOLK SOUTHERN R/R	3	1915	-	Other	SD	5	4	5	N	19.7	Y	11/-/-
SOUTHAMPTON	17814	635	TUCKER SWAMP ROAD	SEACOCK SWAMP	4	1956	-	VDOT	-	6	6	6	N	74.5	-	-
SOUTHAMPTON	17764	603	UNITY ROAD	WHITEFIELD MILL	2	1966	-	VDOT	FO	7	7	5	N	76.0	-	-
SOUTHAMPTON	17849	659	VICKS MILLPOND ROAD	FLAT SWAMP	2	1932	-	VDOT	FO	7	7	5	N	48.7	-	20/-/-
SOUTHAMPTON	17848	659	VICKS MILLPOND ROAD	VICKS CREEK	2	1932	-	VDOT	-	7	7	7	N	77.6	-	-
SOUTHAMPTON	17855	665	WHITE MEADOW ROAD	TARRARA CREEK	2	1974	-	VDOT	FO	7	7	5	N	78.3	-	-
SOUTHAMPTON	17898	730	WHITEHEAD ROAD	FLAT SWAMP	1	1988	-	VDOT	-	7	7	6	N	99.9	-	-
SOUTHAMPTON	17805	626	WOMBLE MILL ROAD	WADE BRANCH	19	1999	-	VDOT	-	N	N	N	6	97.9	-	-
SOUTHAMPTON	17806	626	WOMBLE MILL ROAD	WADE MILL POND	19	1968	-	VDOT	FO	N	N	N	5	88.9	-	-
SOUTHAMPTON	17881	682	WOODLAND ROAD	BR DARDEN MILL RUN	2	1932	-	VDOT	FO	7	5	5	N	66.8	-	-

Southampton County/Franklin Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


SUFFOLK BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
N
SUFFOLK
0 1 2 3 4 Miles
10
258
460
58
189
13
32
164
664
64

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
SUFFOLK	22123	642	ADAMS SWAMP ROAD	ADAMS SWAMP	19	1970	-	City	-	N	N	N	7	98.7	-	-
SUFFOLK	21996	810	ARMISTEAD ROAD	I-664	2	1988	-	VDOT	-	6	6	7	N	100.0	-	-
SUFFOLK	22131	643	ARTHUR DRIVE	LANGSTON SWAMP	2	1945	-	City	SD	6	6	6	N	26.1	-	9/-/-
SUFFOLK	22130	643	ARTHUR DRIVE	SPIVEY SWAMP	2	1960	-	City	SD	5	5	5	N	18.6	-	6/-/-
SUFFOLK	22154	674	BADGER ROAD	WASHINGTON DITCH	2	1945	-	City	SD	5	5	5	N	20.1	-	8/-/-
SUFFOLK	22139	662	BOX ELDER ROAD	NORFLEETS SWAMP	2	1958	1994	City	SD	7	5	6	N	26.7	-	13/-/-
SUFFOLK	22023	17	BRIDGE ROAD EB	BENNETTS CREEK	2	1969	-	City	FO	5	7	6	N	86.7	-	-
SUFFOLK	22025	17	BRIDGE ROAD WB	BENNETTS CREEK	2	1969	-	City	FO	5	7	6	N	86.7	-	-
SUFFOLK	28594	17	BRIDGE ROAD	COMMONWEALTH RAILWAY	2	2009	-	City	-	7	8	8	N	99.3	-	-
SUFFOLK	22024	17	BRIDGE ROAD	NANSEMOND RIVER	2	1981	-	City	FO	6	5	5	N	62.0	-	-
SUFFOLK	24841	0	BROAD STREET	SBD & NS R/R	5	1997	-	City	-	7	7	7	N	95.1	-	-
SUFFOLK	22161	745	CAMP POND ROAD	SOMERTON CREEK	1	1988	-	City	-	7	7	7	N	99.9	-	-
SUFFOLK	22027	32	CAROLINA ROAD	CYPRESS SWAMP	2	1924	1972	City	SD	5	4	5	N	68.2	-	-
SUFFOLK	22026	17	CARROLLTON BLVD	CHUCKATUCK CREEK	2	1988	-	VDOT	FO	6	5	6	N	73.0	-	-
SUFFOLK	22157	678	CHERRY GROVE ROAD	STREAM	19	1971	-	City	-	N	N	N	7	96.9	-	-
SUFFOLK	22082	135	COLLEGE DRIVE	I-664	2	1991	-	VDOT	-	6	7	7	N	100.0	-	-
SUFFOLK	22080	135	COLLEGE DRIVE	ROUTE 164	2	1991	-	VDOT	-	6	7	7	N	99.0	-	-
SUFFOLK	22147	667	CORINTH CHAPEL ROAD	CHAPEL SWAMP	19	1973	-	City	-	N	N	N	5	87.9	-	-
SUFFOLK	29441	667	CORINTH CHAPEL ROAD	MARCH SWAMP	19	2010	-	City	-	N	N	N	8	99.9	-	-
SUFFOLK	22155	675	CYPRESS CHAPEL ROAD	TRIB TO CYPRESS SWAMP	19	1991	-	City	FO	N	N	N	5	88.9	-	-
SUFFOLK	22096	604	DESERT ROAD	CYPRESS SWAMP	2	1981	-	City	-	7	7	7	N	95.9	-	-
SUFFOLK	22095	604	DESERT ROAD	MOSS SWAMP	19	1975	-	City	-	N	N	N	7	99.8	-	-
SUFFOLK	22110	613	ELWOOD ROAD	KINGSALE SWAMP	2	1962	-	City	SD	5	5	6	N	20.0	-	6/-/-
SUFFOLK	22093	603	EVERETTS ROAD	W BR NANSEMOND RIVER	2	1963	-	City	FO	6	6	5	N	63.6	-	-
SUFFOLK	22104	606	EXETER DRIVE	LAKE PRINCE	1	1967	-	City	-	7	7	6	N	88.7	-	-
SUFFOLK	22148	668	FREEMAN MILL ROAD	SPIVEY SWAMP	2	1954	1976	City	SD	6	4	6	N	65.2	-	23/-/-
SUFFOLK	22108	611	GARDNER LANE	LAKE PRINCE	1	1967	-	City	FO	5	5	6	N	77.9	-	-
SUFFOLK	24215	666	GATES ROAD	MARCH SWAMP	19	1995	-	City	-	N	N	N	8	99.4	-	-
SUFFOLK	22162	759	GATES ROAD	SOMERTON CREEK	2	1985	-	City	FO	5	7	7	N	89.0	-	-
SUFFOLK	22153	673	GATES RUN ROAD	ADAMS SWAMP	2	1970	-	City	FO	6	5	6	N	70.6	-	-
SUFFOLK	22103	605	GIRL SCOUT ROAD	BR LAKE PRINCE	2	1990	-	City	-	7	8	7	N	88.9	-	-
SUFFOLK	22102	605	GIRL SCOUT ROAD	EXCHANGE CREEK	2	1962	-	City	FO	5	5	7	N	68.9	-	-
SUFFOLK	26220	10	GODWIN BLVD	CHUCKATUCK CREEK	5	1999	-	City	-	7	7	7	N	89.8	-	-
SUFFOLK	22004	10	GODWIN BLVD	SUFFOLK BYPASS	2	1973	-	City	-	6	6	6	N	91.0	-	-
SUFFOLK	22001	10	GODWIN BLVD	W BR NANSEMOND RIVER	2	1984	-	City	-	6	6	6	N	89.6	-	-
SUFFOLK	29212	641	HARVEST DRIVE	KINGSALE SWAMP	19	2009	-	City	-	N	N	N	7	99.8	-	-
SUFFOLK	22136	653	HOLLAND CORNER ROAD	STREAM	19	1987	-	City	-	N	N	N	6	98.9	-	-
SUFFOLK	22030	58	HOLLAND ROAD	LAKE MEADE	4	1942	1958	City	FO	5	5	5	N	62.0	-	-
SUFFOLK	22112	616	HOLY NECK ROAD	CHAPEL SWAMP	19	1967	-	City	FO	N	N	N	5	87.9	-	-
SUFFOLK	23099	664	I-664 NB	COMMONWEALTH RAILWAY	2	1991	-	VDOT	-	6	7	6	N	98.0	-	-
SUFFOLK	23095	664	I-664 NB	ROUTES 17 & 164 EB RAMP	2	1991	-	VDOT	FO	5	7	7	N	96.0	-	-
SUFFOLK	23096	664	I-664 SB	ROUTES 17 & 164 EB RAMP	2	1991	-	VDOT	-	6	7	7	N	97.0	-	-
SUFFOLK	23091	664	I-664 NB	ROUTE 164	2	1991	-	VDOT	-	6	7	6	N	97.0	-	-
SUFFOLK	23092	664	I-664 SB	ROUTE 164	2	1991	-	VDOT	FO	7	5	6	N	97.0	-	-
SUFFOLK	22142	664	I-664	STREETER CREEK	19	1990	-	VDOT	-	N	N	N	6	83.0	-	-
SUFFOLK	23097	664	I-664 RAMP	ROUTE 17	2	1991	-	VDOT	-	6	6	6	N	95.0	-	-
SUFFOLK	23093	664	I-664 RAMP	ROUTE 164	2	1991	-	VDOT	-	7	7	6	N	92.9	-	-
SUFFOLK	22144	664	I-664 RAMP	STREETER CREEK	19	1990	-	VDOT	-	N	N	N	7	100.0	-	-
SUFFOLK	22160	736	JOSHUA LANE	LAKE CAHOON	19	1967	-	City	FO	N	N	N	5	88.9	-	-
SUFFOLK	22117	634	KINGS FORK ROAD	COHOON CREEK	2	1968	-	City	-	7	6	7	N	82.6	-	-

SUFFOLK BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
SUFFOLK	22116	634	KINGS FORK ROAD	LAKE COHOON	5	1961	-	City	FO	5	5	6	N	71.0	-	-
SUFFOLK	22121	639	LAKE CAHOON ROAD	SBD SYS & NS R/R	2	1962	1974	City	SD	4	5	6	N	57.0	-	-
SUFFOLK	22118	637	LAKE MEADE DRIVE	LAKE COHOON	1	1961	-	City	FO	5	5	6	N	80.6	-	-
SUFFOLK	22099	604	LAKE PRINCE DRIVE	LAKE PRINCE	2	1954	-	City	FO	5	5	6	N	44.5	-	18/-/-
SUFFOLK	22152	673	LIBERTY SPRING ROAD	CYPRESS SWAMP	19	1970	-	City	-	N	N	N	7	98.8	-	-
SUFFOLK	22137	660	LONGSTREET LANE	SOMERTON CREEK	2	1968	-	City	SD	6	4	4	N	49.0	-	17/-/-
SUFFOLK	22018	13	MAIN STREET	HALL AVE, POPLAR AVE, & NS R/R	2	1978	-	City	-	6	6	6	N	97.0	-	-
SUFFOLK	22002	10	MAIN STREET	NANSEMOND RIVER	2	1935	1987	City	FO	5	7	5	N	53.0	-	-
SUFFOLK	22132	643	MANNING BRIDGE ROAD	STREAM	2	1945	-	City	SD	4	5	5	N	46.0	-	10/-/-
SUFFOLK	22111	616	MINERAL SPRINGS ROAD	JONES SWAMP	2	1955	1977	City	SD	5	4	5	N	15.1	-	8/-/-
SUFFOLK	22114	616	MINERAL SPRINGS ROAD	SPIVEY SWAMP	19	1975	-	City	-	N	N	N	6	100.0	-	-
SUFFOLK	22119	638	MURPHY'S MILL ROAD	SUFFOLK BYPASS	2	1974	-	City	-	7	6	7	N	99.9	-	-
SUFFOLK	22091	337	NANSEMOND PARKWAY	BEAMONS MILL POND	2	1920	-	City	SD	5	4	5	N	15.4	-	-
SUFFOLK	22109	612	O'KELLY DRIVE	CHAPEL SWAMP	19	1989	-	City	-	N	N	N	6	99.9	-	-
SUFFOLK	22105	607	OLD MILL ROAD	COHOON CREEK	2	1955	1981	City	SD	5	4	6	N	32.3	-	27/-/-
SUFFOLK	22115	632	OLD MYRTLE ROAD	COHOON CREEK	2	1949	1980	City	-	8	7	7	N	86.3	-	-
SUFFOLK	22163	759	PINEVIEW ROAD	CHAPEL SWAMP	4	1949	-	City	-	6	7	6	N	49.7	-	-/27/38
SUFFOLK	21998	0	PINNER STREET	N/S, SBD, & CNW R/R	2	1984	-	City	FO	6	6	5	N	69.2	-	-
SUFFOLK	22097	604	PITCHKETTLE ROAD	LAKE MEADE	2	1973	-	City	FO	6	6	5	N	79.7	-	-
SUFFOLK	22098	604	PITCHKETTLE ROAD	LAKE MEADE	1	1969	-	City	FO	5	5	5	N	74.5	-	-
SUFFOLK	22100	604	PITCHKETTLE ROAD	SUFFOLK BYPASS	2	1974	-	City	-	7	6	7	N	92.6	-	-
SUFFOLK	22150	668	PITTMANTOWN ROAD	MILL SWAMP	2	1950	-	City	SD	6	5	7	N	32.9	-	8/-/-
SUFFOLK	22012	13	PORTSMOUTH BLVD	SHINGLE CREEK	1	1963	1976	City	-	6	6	6	N	78.2	-	-
SUFFOLK	22143	664	RAMP TO SB I-664	STREETER CREEK	19	1990	-	VDOT	FO	N	N	N	5	89.0	-	-
SUFFOLK	22151	669	ROBBIE ROAD	MILL SWAMP	2	1955	-	City	SD	5	5	4	N	35.9	-	12/-/-
SUFFOLK	22113	616	ROUNTREE CRESCENT	CYPRESS SWAMP	19	1980	-	City	FO	N	N	N	5	85.9	-	-
SUFFOLK	23301	58	ROUTE 58 EB	BLACKWATER RIVER	2	1992	-	VDOT	-	6	7	7	N	97.0	-	-
SUFFOLK	22029	58	ROUTE 58 WB	BLACKWATER RIVER	2	1981	-	VDOT	FO	6	5	6	N	69.0	-	-
SUFFOLK	22068	58	ROUTE 58 WB	BUS ROUTE 58 EB	2	1976	-	City	-	6	6	6	N	92.0	-	-
SUFFOLK	22032	58	ROUTE 58	LAKE KILBY	19	1932	-	City	-	N	N	N	7	69.0	-	-
SUFFOLK	22071	58	ROUTE 58 EB	NORFOLK SOUTHERN R/R	2	1976	-	City	-	7	6	6	N	97.1	-	-
SUFFOLK	22070	58	ROUTE 58 WB	NORFOLK SOUTHERN R/R	2	1976	-	City	-	6	6	6	N	92.0	-	-
SUFFOLK	22072	58	ROUTE 58 EB	OLD DUTCH ROAD	2	1976	-	City	-	7	6	6	N	92.0	-	-
SUFFOLK	22074	58	ROUTE 58 WB	OLD DUTCH ROAD	2	1976	-	City	-	7	6	6	N	95.0	-	-
SUFFOLK	22034	58	ROUTE 58 EB	QUAKER SWAMP	1	1939	1976	City	FO	5	5	6	N	76.8	-	-
SUFFOLK	22077	58	ROUTE 58	TRIB BLACKWATER RIVER	19	1981	-	City	-	N	N	N	6	85.0	-	-
SUFFOLK	23094	164	ROUTE 164 EB	COMMONWEALTH RAILWAY	2	1991	-	VDOT	-	7	7	7	N	88.3	-	-
SUFFOLK	23098	164	ROUTE 164 EB	ROUTE 17	2	1991	-	VDOT	-	7	7	6	N	96.0	-	-
SUFFOLK	22085	189	ROUTE 189	DUCKS CREEK	19	1986	-	City	-	N	N	N	6	98.4	-	-
SUFFOLK	23300	189	ROUTE 189	ROUTE 58	2	1992	-	City	-	6	7	6	N	98.2	-	-
SUFFOLK	22037	58	RURITAN BLVD	KINGSALE SWAMP	4	1923	1975	City	FO	6	5	5	N	82.5	-	-
SUFFOLK	22107	608	SIMONS DRIVE	COHOON CREEK	2	1945	-	City	SD	7	4	5	N	31.0	-	14/-/-
SUFFOLK	22166	1310	SOUTH 6TH STREET	SHINGLE CREEK	19	1960	-	City	-	N	N	N	7	77.2	-	-
SUFFOLK	25658	13	SOUTHWEST SUFFOLK BYPASS NB	CAROLINA ROAD	2	2002	-	City	-	7	8	7	N	93.0	-	-
SUFFOLK	25663	13	SOUTHWEST SUFFOLK BYPASS NB	LAKE KILBY	2	2002	-	City	-	7	7	7	N	97.5	-	-
SUFFOLK	25664	13	SOUTHWEST SUFFOLK BYPASS SB	LAKE KILBY	2	2002	-	City	-	7	7	7	N	97.5	-	-
SUFFOLK	25661	13	SOUTHWEST SUFFOLK BYPASS NB	NORFOLK SOUTHERN R/R	2	2002	-	City	-	7	8	7	N	97.5	-	-
SUFFOLK	25662	13	SOUTHWEST SUFFOLK BYPASS SB	NORFOLK SOUTHERN R/R	2	2002	-	City	-	7	8	7	N	97.5	-	-
SUFFOLK	25667	13	SOUTHWEST SUFFOLK BYPASS SB	ROUTE 58	2	2002	-	City	-	7	8	7	N	93.8	-	-
SUFFOLK	27252	13	SOUTHWEST SUFFOLK BYPASS	STREAM	19	2002	-	City	-	N	N	N	7	77.5	-	-

SUFFOLK BRIDGES

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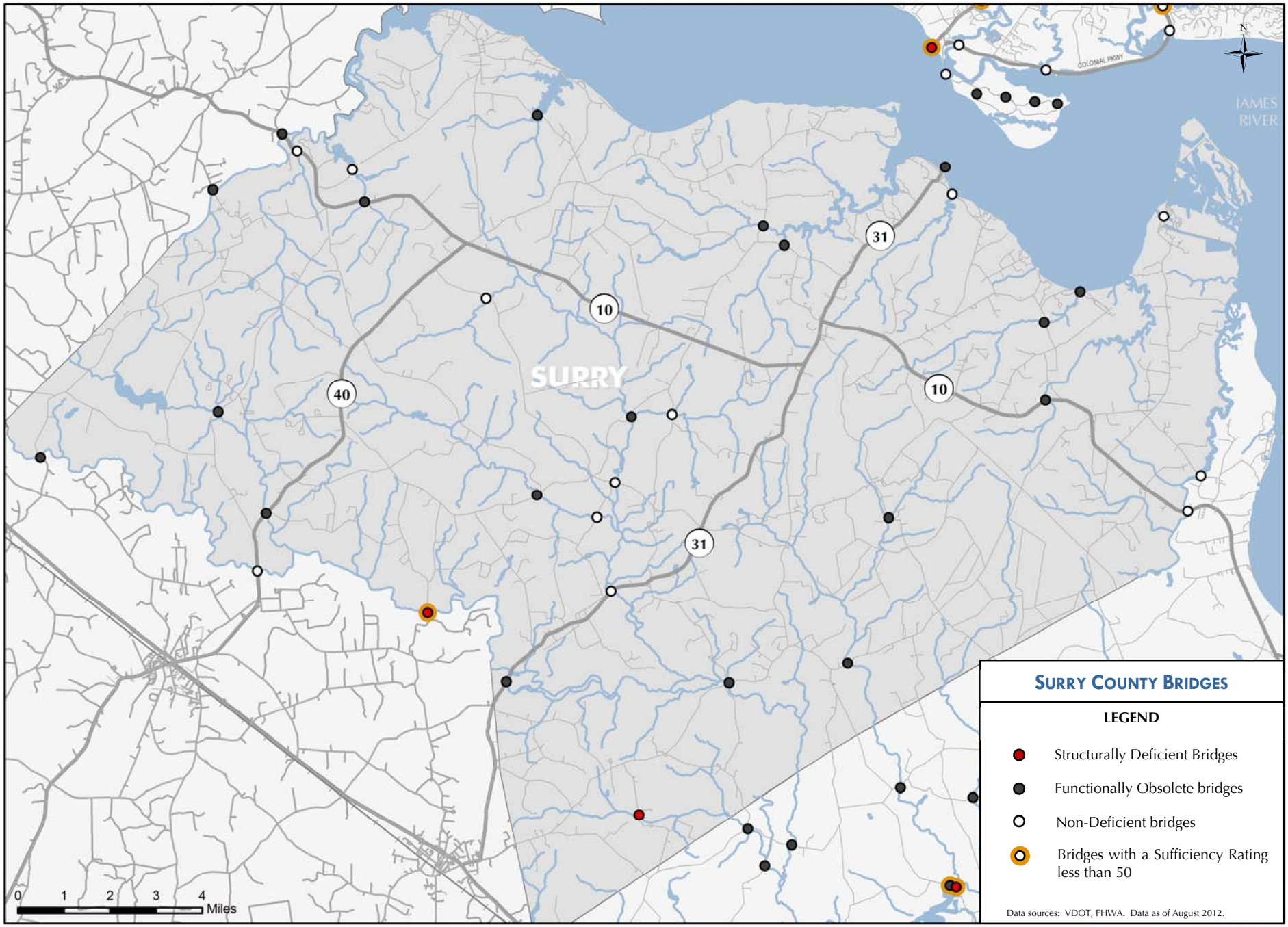
Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
SUFFOLK	25668	13	SOUTHWEST SUFFOLK BYPASS NB	TURLINGTON ROAD	2	2002	-	City	-	7	8	8	N	93.8	-	-
SUFFOLK	25669	13	SOUTHWEST SUFFOLK BYPASS SB	TURLINGTON ROAD	2	2002	-	City	-	7	8	7	N	95.5	-	-
SUFFOLK	25671	13	SOUTHWEST SUFFOLK BYPASS RAMP	HOLLAND ROAD	2	2002	-	City	-	7	7	8	N	96.2	-	-
SUFFOLK	27256	58	SOUTHWEST SUFFOLK BYPASS RAMP	ROUTE 58	2	2002	-	City	-	7	8	7	N	96.9	-	-
SUFFOLK	25670	13	SOUTHWEST SUFFOLK BYPASS RAMP	TURLINGTON ROAD	2	2002	-	City	-	8	7	7	N	96.3	-	-
SUFFOLK	22138	661	SOUTHWESTERN BLVD	CHAPEL SWAMP	2	1956	-	City	SD	5	5	5	N	20.2	-	9/-/-
SUFFOLK	22055	13	SUFFOLK BYPASS EB	LAKE COHOON ROAD	2	1974	-	City	-	7	6	6	N	96.3	-	-
SUFFOLK	22057	13	SUFFOLK BYPASS WB	LAKE COHOON ROAD	2	1974	-	City	-	6	6	6	N	96.3	-	-
SUFFOLK	22059	13	SUFFOLK BYPASS EB	LAKE MEADE	2	1974	-	City	-	6	6	6	N	90.8	-	-
SUFFOLK	22060	13	SUFFOLK BYPASS WB	LAKE MEADE	2	1974	-	City	-	6	6	7	N	90.8	-	-
SUFFOLK	22047	13	SUFFOLK BYPASS EB	N.F.& D. R/R	2	1974	-	City	FO	7	6	5	N	69.0	-	-
SUFFOLK	22048	13	SUFFOLK BYPASS WB	N.F.& D. R/R	2	1973	-	City	FO	7	5	6	N	69.0	-	-
SUFFOLK	22043	13	SUFFOLK BYPASS EB	NANSEMOND PKWY	2	1973	-	City	FO	6	5	5	N	79.1	-	-
SUFFOLK	22045	13	SUFFOLK BYPASS WB	NANSEMOND PKWY	2	1973	-	City	FO	6	5	5	N	79.1	-	-
SUFFOLK	22039	13	SUFFOLK BYPASS EB	NANSEMOND RIVER	2	1972	-	City	FO	6	5	6	N	83.9	-	-
SUFFOLK	22040	13	SUFFOLK BYPASS WB	NANSEMOND RIVER	2	1972	-	City	-	6	6	7	N	85.0	-	-
SUFFOLK	22061	13	SUFFOLK BYPASS EB	NORFOLK SOUTHERN R/R	2	1974	2002	City	FO	6	5	7	N	79.1	-	-
SUFFOLK	22062	13	SUFFOLK BYPASS WB	NORFOLK SOUTHERN R/R	2	1974	2002	City	-	6	6	6	N	91.1	-	-
SUFFOLK	22053	13	SUFFOLK BYPASS EB	PRUDEN BLVD	2	1973	-	City	FO	7	6	5	N	78.7	-	-
SUFFOLK	22063	13	SUFFOLK BYPASS WB	PRUDEN BLVD	2	1974	-	City	-	7	6	6	N	96.2	-	-
SUFFOLK	22049	13	SUFFOLK BYPASS EB	WILROY ROAD	2	1973	-	City	FO	5	5	5	N	75.0	-	-
SUFFOLK	22051	13	SUFFOLK BYPASS WB	WILROY ROAD	2	1973	-	City	FO	5	5	5	N	65.5	-	-
SUFFOLK	22016	13	SUFFOLK BYPASS RAMP TO PORTSMOUTH BLV	SUFFOLK BYPASS	2	1973	-	City	FO	6	5	6	N	98.0	-	-
SUFFOLK	23086	658	TOWN POINT ROAD EB	I-664	2	1991	-	VDOT	-	6	6	6	N	99.0	-	-
SUFFOLK	23087	658	TOWN POINT ROAD WB	I-664	2	1991	-	VDOT	-	6	6	6	N	98.0	-	-
SUFFOLK	22159	688	TURLINGTON ROAD	BR KILBY CREEK-SPILLWAY	2	1957	-	City	SD	5	4	5	N	5.0	-	19/-/-
SUFFOLK	22158	688	TURLINGTON ROAD	KILBY CREEK	19	1973	-	City	FO	N	N	N	5	87.8	-	-
SUFFOLK	22088	337	WASHINGTON STREET	JERICO CANAL	1	1932	-	City	FO	6	5	6	N	78.4	-	-
SUFFOLK	22008	13	WHALEYVILLE BLVD	SPIVEY SWAMP	1	1945	1975	City	-	7	7	7	N	87.2	-	-
SUFFOLK	22128	642	WHITE MARSH ROAD	CYPRESS SWAMP	4	1959	-	City	-	7	7	6	N	82.8	-	-
SUFFOLK	22129	642	WHITE MARSH ROAD	SHINGLE CREEK	19	1972	1984	City	FO	N	N	N	5	84.7	-	-
SUFFOLK	23524	642	WHITE MARSH ROAD	WASHINGTON DITCH	5	1992	-	City	-	7	8	8	N	90.4	-	-
SUFFOLK	27625	642	WILROY ROAD	BURNETTS MILL CREEK	1	2003	-	City	-	7	7	8	N	71.8	-	-
SUFFOLK	27627	642	WILROY ROAD	MAGNOLIA CREEK	1	2003	-	City	-	7	7	8	N	70.6	-	-
SUFFOLK	22125	642	WILROY ROAD	SHINGLE CREEK	1	1958	-	City	-	7	7	6	N	67.9	-	-

SUFFOLK BRIDGES

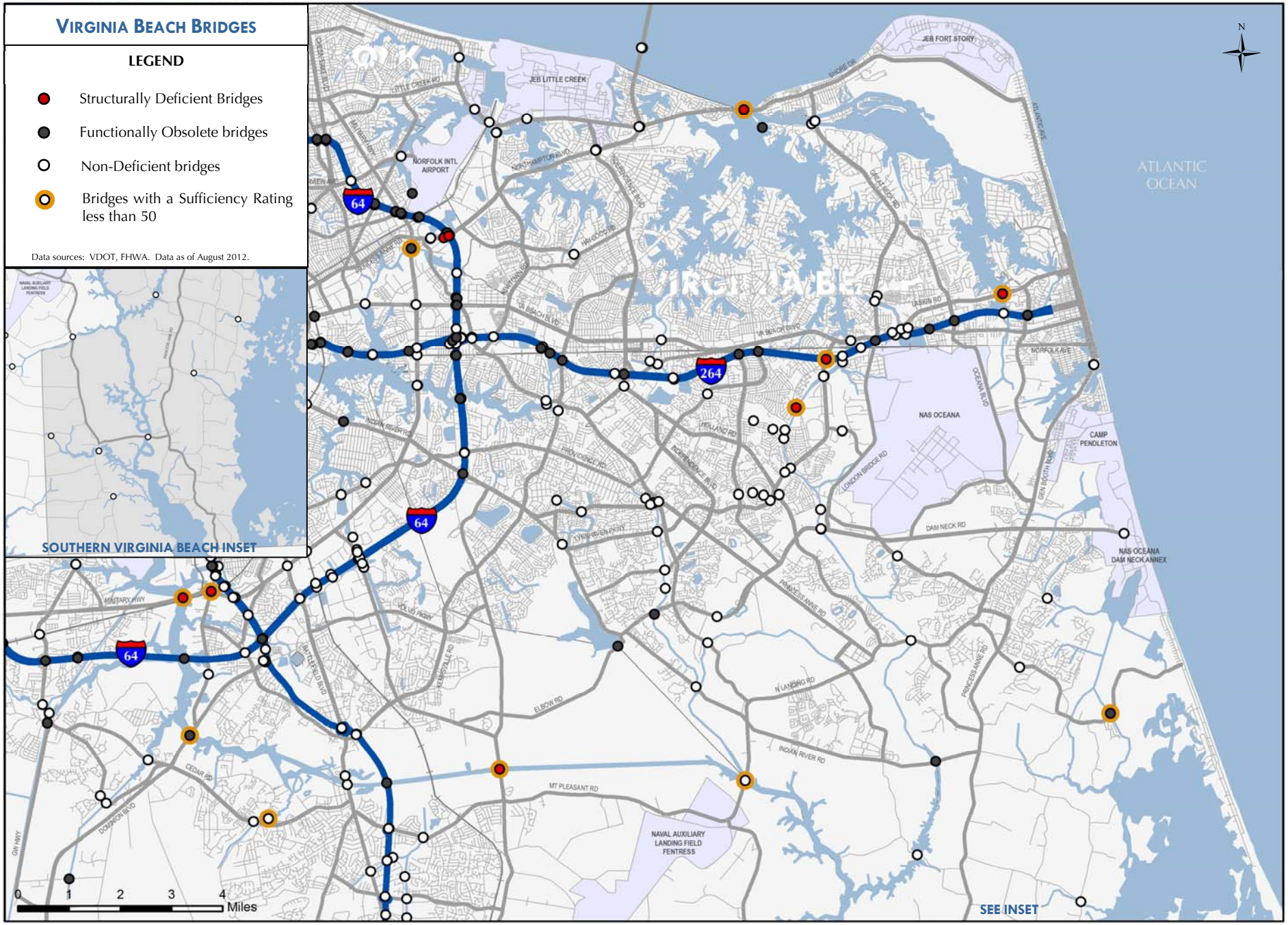
Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


SURRY
JAMES RIVER
COLONIAL PKWY
N
10
10
31
31
40
0 1 2 3 4 Miles
SURRY COUNTY BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
SURRY	18216	634	ALLIANCE ROAD	COLLEGE RUN	2	1932	2003	VDOT	FO	7	8	5	N	56.6	-	-
SURRY	18206	626	BEAVERDAM ROAD	SUNKEN MEADOW CREEK	2	1932	-	VDOT	FO	7	7	5	N	58.9	-	15/-/-
SURRY	18208	626	BEECHLAND ROAD	TRIB. MOORES SWAMP	1	1956	-	VDOT	FO	6	6	5	N	75.9	-	-
SURRY	23585	613	CABIN POINT ROAD	UPPER CHIPPOKES CREEK	19	1993	-	VDOT	-	N	N	N	7	98.6	-	-
SURRY	18221	783	CHIPPOKES PARK ROAD	COLLEGE RUN CREEK	2	1982	-	VDOT	FO	6	5	6	N	77.4	-	-
SURRY	18179	10	COLONIAL TRAIL	LOWER CHIPPOKES CREEK	1	1932	1951	VDOT	FO	6	6	5	N	74.1	-	-
SURRY	18173	10	COLONIAL TRAIL	MILL RUN	4	1920	1971	VDOT	FO	5	5	5	N	81.0	-	-
SURRY	18178	10	COLONIAL TRAIL	TRIB CHIPPOKES CREEK	1	1932	1971	VDOT	-	6	6	6	N	93.4	-	-
SURRY	18181	10	COLONIAL TRAIL	UPPER CHIPPOKES CREEK	1	1932	1971	VDOT	FO	5	5	7	N	76.9	-	-
SURRY	26713	647	CYPRESS SWAMP LANE	CYPRESS SWAMP	19	2001	-	VDOT	-	N	N	N	7	93.6	-	-
SURRY	18187	604	GOODRICH FORK ROAD	TERRAPIN SWAMP	2	1932	-	VDOT	SD	7	5	4	N	61.7	-	23/-/-
SURRY	18220	650	HOG ISLAND ROAD	VEPCO DISCHARGE CANAL	2	1969	-	VDOT	-	6	6	6	N	62.0	-	-
SURRY	18205	618	HOLLY BUSH ROAD	BR CYPRESS SWAMP	19	1974	-	VDOT	-	N	N	N	6	99.0	-	-
SURRY	18189	607	HUNTINGTON ROAD	OTTERDAM SWAMP	4	1953	-	VDOT	FO	7	6	5	N	84.7	-	-
SURRY	18301	602	LAUREL SPRINGS ROAD	BLACKWATER RIVER	2	1974	-	VDOT	FO	7	6	5	N	88.5	-	-
SURRY	18212	628	LAWNES DRIVE	LAWNES CREEK	2	1975	-	VDOT	-	7	7	7	N	99.9	-	-
SURRY	18209	626	LEBANON ROAD	GRAYS CREEK	19	1954	-	VDOT	FO	N	N	N	5	87.6	-	-
SURRY	18213	630	LOAFERS OAK ROAD	CYPRESS SWAMP	2	1932	-	VDOT	FO	6	5	5	N	52.3	-	8/-/-
SURRY	28616	40	MLK HWY	BLACKWATER RIVER	1	2008	-	VDOT	-	7	8	8	N	93.9	-	-
SURRY	18185	40	MLK HWY	OTTERDAM SWAMP	2	1954	-	VDOT	FO	5	5	5	N	67.8	-	-
SURRY	14080	600	MONTPELIER ROAD	UPPER CHIPPOKES CREEK	19	1977	-	VDOT	FO	N	N	N	5	87.9	-	-
SURRY	18199	616	NEW DESIGN ROAD	CYPRESS SWAMP	1	1965	-	VDOT	-	6	6	6	N	92.9	-	-
SURRY	18197	616	NEW DESIGN ROAD	JOHNCHECOHUNK CREEK	19	1968	-	VDOT	FO	N	N	N	5	88.0	-	-
SURRY	18218	637	PLEASANT POINT ROAD	CROUCHES CREEK	1	1964	-	VDOT	-	6	6	6	N	92.4	-	-
SURRY	18182	31	ROLFE HIGHWAY	BLACKWATER RIVER	1	1958	-	VDOT	FO	5	5	5	N	65.7	-	-
SURRY	18184	31	ROLFE HIGHWAY	CYPRESS SWAMP	4	1969	-	VDOT	-	6	6	7	N	92.8	-	-
SURRY	23137	31	SCOTLAND WHARF	JAMES RIVER	3	1991	1995	VDOT	FO	5	5	5	N	52.6	Y	-/16/28
SURRY	18204	618	SOUTHWARK ROAD	GRAYS CREEK	4	1954	-	VDOT	FO	5	5	5	N	76.9	-	-
SURRY	18214	630	SPRATELY MILL ROAD	JOHNCHECOHUNK SWAMP	2	1970	-	VDOT	-	8	8	8	N	90.7	-	-
SURRY	18304	603	THREE BRIDGES ROAD	BLACKWATER RIVER	2	1932	-	VDOT	SD	5	4	5	N	40.9	-	8/-/-
SURRY	18200	617	WHITE MARSH ROAD	BLACKWATER RIVER	2	1979	-	VDOT	FO	6	5	6	N	79.6	-	-
SURRY	18201	617	WHITE MARSH ROAD	MILL SWAMP	4	1959	-	VDOT	FO	6	6	5	N	70.5	-	-

SURRY COUNTY BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


VIRGINIA BEACH BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
SOUTHERN VIRGINIA BEACH INSET
SEE INSET
N
0 1 2 3 4 Miles
JEB FORT STORY
JEB LITTLE CREEK
NORFOLK INTL AIRPORT
ATLANTIC OCEAN
NAS OCEANA
CAMP PENDLETON
NAS OCEANA DAM NECK ANNEX
NAVAL AUXILIARY LANDING FIELD FENTRESS
64
264

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
VA BEACH	22178		BLACKWATER ROAD	BLACKWATER CREEK	1	1975	-	City	-	6	6	7	N	85.0	-	-
VA BEACH	23523		BLACKWATER ROAD	MILLDAM CREEK	1	1992	-	City	-	8	8	7	N	79.5	-	-
VA BEACH	22189		BONNEY ROAD	THALIA CREEK	19	1982	-	City	-	N	N	N	6	82.1	-	-
VA BEACH	28047		BOW CREEK BLVD	DRAINAGE CANAL	19	2000	-	City	-	N	N	N	7	78.0	-	-
VA BEACH	28049		BOW CREEK BLVD	DRAINAGE CANAL	19	2000	-	City	-	N	N	N	6	80.0	-	-
VA BEACH	24508		BOW CREEK BLVD	LONDON BRIDGE CREEK	1	1996	-	City	-	7	7	7	N	96.9	-	-
VA BEACH	12750	13	CBBT NB	CHESAPEAKE BAY	2	1964	-	CBBT	-	8	7	7	N	78.5	-	-
VA BEACH	26075	13	CBBT SB	CHESAPEAKE BAY	2	1998	-	CBBT	-	8	8	8	N	99.6	-	-
VA BEACH	12755	13	CBBT NB	CHESAPEAKE BAY	4	1964	-	CBBT	-	8	7	7	N	78.0	-	-
VA BEACH	26628	13	CBBT SB	CHESAPEAKE BAY	2	1998	-	CBBT	-	8	8	8	N	99.6	-	-
VA BEACH	12752	13	CBBT NB	CHESAPEAKE BAY	10	1964	-	CBBT	-	8	7	7	N	68.4	Y	-
VA BEACH	26721	13	CBBT SB	CHESAPEAKE BAY	2	1999	-	CBBT	-	8	8	8	N	91.5	-	-
VA BEACH	12754	13	CBBT NB	CHESAPEAKE BAY	4	1964	-	CBBT	-	8	7	8	N	78.0	-	-
VA BEACH	26630	13	CBBT SB	CHESAPEAKE BAY	2	1998	-	CBBT	-	8	8	8	N	91.5	-	-
VA BEACH	12747	13	CBBT NB	CHESAPEAKE BAY & LOOKOUT RD	4	1964	-	CBBT	-	8	7	7	N	76.5	-	-
VA BEACH	26056	13	CBBT SB	CHESAPEAKE BAY & LOOKOUT RD	2	1998	-	CBBT	-	8	8	8	N	87.5	-	-
VA BEACH	26631	13	CBBT NB	FISHERMAN'S INLET	2	1998	-	CBBT	-	8	8	8	N	92.5	-	-
VA BEACH	12753	13	CBBT SB	FISHERMAN'S INLET	2	1964	-	CBBT	-	8	7	7	N	78.5	-	-
VA BEACH	28045		CLUB HOUSE ROAD	DRAINAGE CANAL	19	2000	-	City	-	N	N	N	6	94.1	-	-
VA BEACH	29370		CONSTITUTION DRIVE	THALIA CREEK	2	2010	-	City	-	9	8	9	N	99.6	-	-
VA BEACH	28050		CULVER LANE	DRAINAGE CANAL	0	1989	-	City	-	N	7	7	N	76.0	-	-
VA BEACH	28472		DAM NECK ROAD	CANAL 4	12	2006	-	City	-	N	8	8	N	82.7	-	-
VA BEACH	22167		DAM NECK ROAD	DRAINAGE CANAL	1	1991	-	City	-	6	6	7	N	61.0	-	-
VA BEACH	23548		DAM NECK ROAD EB	WEST NECK CREEK	2	1992	-	City	-	7	7	7	N	96.4	-	-
VA BEACH	23549		DAM NECK ROAD WB	WEST NECK CREEK	2	1992	-	City	-	7	7	7	N	96.4	-	-
VA BEACH	29371	166	DIAMOND SPRINGS ROAD NB	WATERWORKS CANAL	1	2009	-	City	-	8	8	8	N	86.5	-	-
VA BEACH	29367	166	DIAMOND SPRINGS ROAD SB	WATERWORKS CANAL	1	2010	-	City	-	7	7	8	N	95.8	-	-
VA BEACH	22210		DORCHESTER LANE	DRAINAGE CANAL	2	1986	-	City	-	7	7	7	N	82.5	-	-
VA BEACH	22202		E GREEN GARDEN CIR	SUNSET CANAL	1	1973	-	City	-	7	7	7	N	84.8	-	-
VA BEACH	22176		ELBOW ROAD	NORTH LANDING RIVER	2	1960	-	City	FO	5	5	5	N	64.1	-	-
VA BEACH	22211		FERRELL PARKWAY	DRAINAGE CANAL	19	1976	1989	City	-	N	N	N	7	77.1	-	-
VA BEACH	23668		FERRELL PARKWAY	DRAINAGE CANAL	2	1993	-	City	-	7	7	7	N	91.2	-	-
VA BEACH	23694		FERRELL PARKWAY	PRINCESS ANNE ROAD	2	1993	-	City	-	7	7	6	N	95.1	-	-
VA BEACH	23667		FERRELL PARKWAY EB	SALEM ROAD	2	1993	-	City	-	7	7	7	N	96.2	-	-
VA BEACH	23666		FERRELL PARKWAY WB	SALEM ROAD	2	1993	-	City	-	7	7	7	N	96.2	-	-
VA BEACH	24173		GENERAL BOOTH BLVD NB	RUDEE INLET	2	1995	-	City	-	7	7	7	N	75.6	-	-
VA BEACH	22191		GENERAL BOOTH BLVD SB	RUDEE INLET	5	1968	-	City	-	6	6	6	N	77.7	-	-
VA BEACH	22280	279	GREAT NECK ROAD NB	BROAD BAY ROAD & LONG CREEK	2	1988	-	City	-	7	7	7	N	77.3	-	-
VA BEACH	22278	279	GREAT NECK ROAD SB	BROAD BAY ROAD & LONG CREEK	2	1988	-	City	-	7	7	7	N	77.3	-	-
VA BEACH	22282	279	GREAT NECK ROAD	WOLFSNARE CREEK	19	1979	-	City	-	N	N	N	6	77.5	-	-
VA BEACH	22196		GREENWICH ROAD	DRAINAGE CANAL	19	1932	-	City	FO	N	N	N	5	85.1	-	-
VA BEACH	22177		HEAD OF RIVER ROAD	BLACKWATER RIVER	19	1979	-	City	-	N	N	N	7	98.8	-	-
VA BEACH	22169		HOLLAND ROAD	DRAINAGE CANAL	19	1985	-	City	-	N	N	N	6	73.1	-	-
VA BEACH	22267	64	I-64 EB	E BR ELIZABETH RIVER	2	1967	1992	VDOT	FO	7	7	5	N	75.4	-	-
VA BEACH	22265	64	I-64 WB	E BR ELIZABETH RIVER	2	1967	1992	VDOT	FO	6	7	5	N	87.1	-	-
VA BEACH	22243	264	I-264	BIRDNECK ROAD	2	1967	1996	VDOT	FO	6	5	5	N	75.3	-	-
VA BEACH	22239	264	I-264	FIRST COLONIAL ROAD	2	1967	1986	VDOT	FO	7	5	6	N	79.0	-	-
VA BEACH	22242	264	I-264	GREAT NECK CREEK	2	1967	1982	VDOT	-	6	7	6	N	87.8	-	-
VA BEACH	22222	264	I-264	INDEPENDENCE BLVD	2	1967	1992	VDOT	FO	6	5	5	N	70.0	-	-
VA BEACH	22230	264	I-264	LONDON BRIDGE CREEK	2	1967	1986	VDOT	-	6	6	6	N	85.0	-	-

Virginia Beach Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
VA BEACH	22232	264	I-264	LONDON BRIDGE ROAD	2	1967	1982	VDOT	FO	6	5	5	N	65.0	-	-
VA BEACH	22228	264	I-264	LYNNHAVEN PARKWAY	2	1967	1986	VDOT	SD	7	4	5	N	49.0	-	-
VA BEACH	22219	264	I-264	NORFOLK SOUTHERN R/R	2	1967	1992	VDOT	FO	6	5	5	N	74.0	-	-
VA BEACH	22231	264	I-264	NORFOLK SOUTHERN R/R	2	1967	1982	VDOT	-	7	7	6	N	79.0	-	-
VA BEACH	22226	264	I-264	PLAZA TRAIL	2	1967	1977	VDOT	FO	6	5	6	N	67.0	-	-
VA BEACH	22224	264	I-264	ROSEMONT ROAD	2	1967	1977	VDOT	FO	6	5	6	N	67.0	-	-
VA BEACH	22241	264	I-264	THALIA CREEK	19	1967	-	VDOT	-	N	N	N	7	70.0	-	-
VA BEACH	22249	264	I-264	TRIB E BR ELIZABETH RIVER	19	1967	1985	VDOT	-	N	N	N	6	70.0	-	-
VA BEACH	22251	264	I-264	TRIB THALIA CREEK	19	1967	-	VDOT	-	N	N	N	7	70.0	-	-
VA BEACH	22236	264	I-264	TRIB WOLFSNARE CREEK	19	1967	1967	VDOT	-	N	N	N	6	75.1	-	-
VA BEACH	22237	264	I-264	VA BEACH BLVD	2	1967	1982	VDOT	FO	7	7	5	N	64.0	-	-
VA BEACH	22220	264	I-264	WITCHDUCK ROAD	2	1967	1992	VDOT	FO	7	5	5	N	74.0	-	-
VA BEACH	22217	264	I-264 EB RAMP	BAXTER ROAD	2	1990	-	VDOT	-	6	7	6	N	81.0	-	-
VA BEACH	22234	264	I-264 EB RAMP TO LASKIN ROAD	I-264	2	1967	-	VDOT	-	7	6	6	N	95.7	-	-
VA BEACH	22194		INDEPENDENCE BLVD	DRAINAGE CANAL	1	1990	-	City	-	6	6	7	N	93.4	-	-
VA BEACH	22274	225	INDEPENDENCE BLVD NB	NORTHAMPTON BLVD	2	1969	-	City	-	6	7	7	N	77.4	-	-
VA BEACH	22276	225	INDEPENDENCE BLVD SB	NORTHAMPTON BLVD	2	1969	-	City	-	6	7	7	N	77.4	-	-
VA BEACH	22209		INDIAN LAKES BLVD	DRAINAGE CANAL	19	1974	-	City	-	N	N	N	6	81.8	-	-
VA BEACH	22172		INDIAN RIVER ROAD	DRAINAGE CANAL	19	1987	-	City	-	N	N	N	6	85.0	-	-
VA BEACH	23579		INDIAN RIVER ROAD	I-64	2	1993	-	VDOT	FO	6	7	5	N	83.0	-	-
VA BEACH	25101		INDIAN RIVER ROAD	NORTH LANDING RIVER	1	1997	-	City	-	7	8	7	N	97.4	-	-
VA BEACH	22170		INDIAN RIVER ROAD	WEST NECK CREEK	2	1975	-	City	FO	5	5	6	N	67.0	-	-
VA BEACH	25480		INLET ROAD	INLET OF LYNNHAVEN RIVER	2	1982	-	City	FO	6	5	5	N	50.4	-	-
VA BEACH	22212		INTERNATIONAL PARKWAY EB	DRAINAGE CANAL #2	2	1987	-	City	-	7	7	7	N	79.2	-	-
VA BEACH	26138		INTERNATIONAL PARKWAY WB	DRAINAGE CANAL #2	2	1997	-	City	-	7	8	7	N	80.2	-	-
VA BEACH	22273	190	KEMPSVILLE ROAD	DRAINAGE DITCH	19	1969	-	City	-	N	N	N	7	71.7	-	-
VA BEACH	22252	58	LASKIN ROAD	LINKHORN BAY	2	1938	1956	City	SD	5	4	4	N	40.3	-	-
VA BEACH	25189		LONDON BRIDGE ROAD	DRAINAGE CANAL	19	1996	-	City	-	N	N	N	7	79.4	-	-
VA BEACH	22206		LORD DUNMORE DRIVE	DRAINAGE DITCH	19	1932	-	City	-	N	N	N	6	85.0	-	-
VA BEACH	28706		LYNNHAVEN PARKWAY	DRAINAGE CANAL	5	2010	-	City	-	7	7	7	N	94.2	-	-
VA BEACH	22203		LYNNHAVEN PARKWAY	DRAINAGE CANAL	1	1989	-	City	-	7	7	6	N	78.3	-	-
VA BEACH	29369		LYNNHAVEN PARKWAY	DRAINAGE CANAL	19	2010	-	City	-	N	N	N	7	85.3	-	-
VA BEACH	22195		LYNNHAVEN PARKWAY	GREEN RUN DRAINAGE CANAL	19	1982	-	City	-	N	N	N	6	68.0	-	-
VA BEACH	22198		LYNNHAVEN PARKWAY NB	LONDON BRIDGE CREEK	1	1974	1982	City	-	7	7	7	N	80.2	-	-
VA BEACH	22199		LYNNHAVEN PARKWAY SB	LONDON BRIDGE CREEK	5	1974	1982	City	-	7	7	7	N	79.7	-	-
VA BEACH	22174		MUDDY CREEK ROAD	BRANCH NORTH BAY	1	1985	-	City	-	7	7	7	N	93.9	-	-
VA BEACH	22171		NANNEYS CREEK ROAD	NANNEY CREEK	1	1982	-	City	-	7	7	7	N	97.9	-	-
VA BEACH	22213	13	NORTHAMPTON BLVD NB	SHORE DRIVE	2	1963	-	City	-	6	7	6	N	76.8	-	-
VA BEACH	22215	13	NORTHAMPTON BLVD SB	SHORE DRIVE	2	1963	-	City	-	6	7	6	N	76.6	-	-
VA BEACH	22186		POTTERS ROAD	LONDON BRIDGE CREEK	2	1977	-	City	-	7	6	7	N	75.3	-	-
VA BEACH	22270	165	PRINCESS ANNE ROAD	TIDAL STREAM	19	1969	-	City	-	N	N	N	6	81.6	-	-
VA BEACH	24949	149	PRINCESS ANNE ROAD	WEST NECK CREEK	1	1997	-	City	-	7	7	7	N	69.5	-	-
VA BEACH	22287		PROVIDENCE ROAD EB	I-64	2	1967	-	VDOT	-	6	6	6	N	75.5	-	-
VA BEACH	22285		PROVIDENCE ROAD WB	I-64	2	1967	-	VDOT	-	6	6	6	N	77.6	-	-
VA BEACH	22190		PUNGO FERRY ROAD	NORTH LANDING RIVER	2	1991	-	City	-	7	7	7	N	99.4	-	-
VA BEACH	22256	58	RAMP TO LASKIN ROAD	VA BEACH BLVD	2	1967	-	VDOT	-	7	6	7	N	95.4	-	-
VA BEACH	22200		ROSEMONT ROAD	SUNSET CANAL	1	1975	1989	City	-	7	7	6	N	90.6	-	-
VA BEACH	22185		SALEM ROAD	DRAINAGE CANAL	19	1980	-	City	-	N	N	N	6	98.0	-	-
VA BEACH	22208		SANDBRIDGE ROAD	DRAINAGE DITCH	19	1984	-	City	-	N	N	N	6	95.8	-	-
VA BEACH	22183		SANDBRIDGE ROAD	HELLS POINT CREEK	5	1961	-	City	FO	5	5	7	N	35.2	-	-

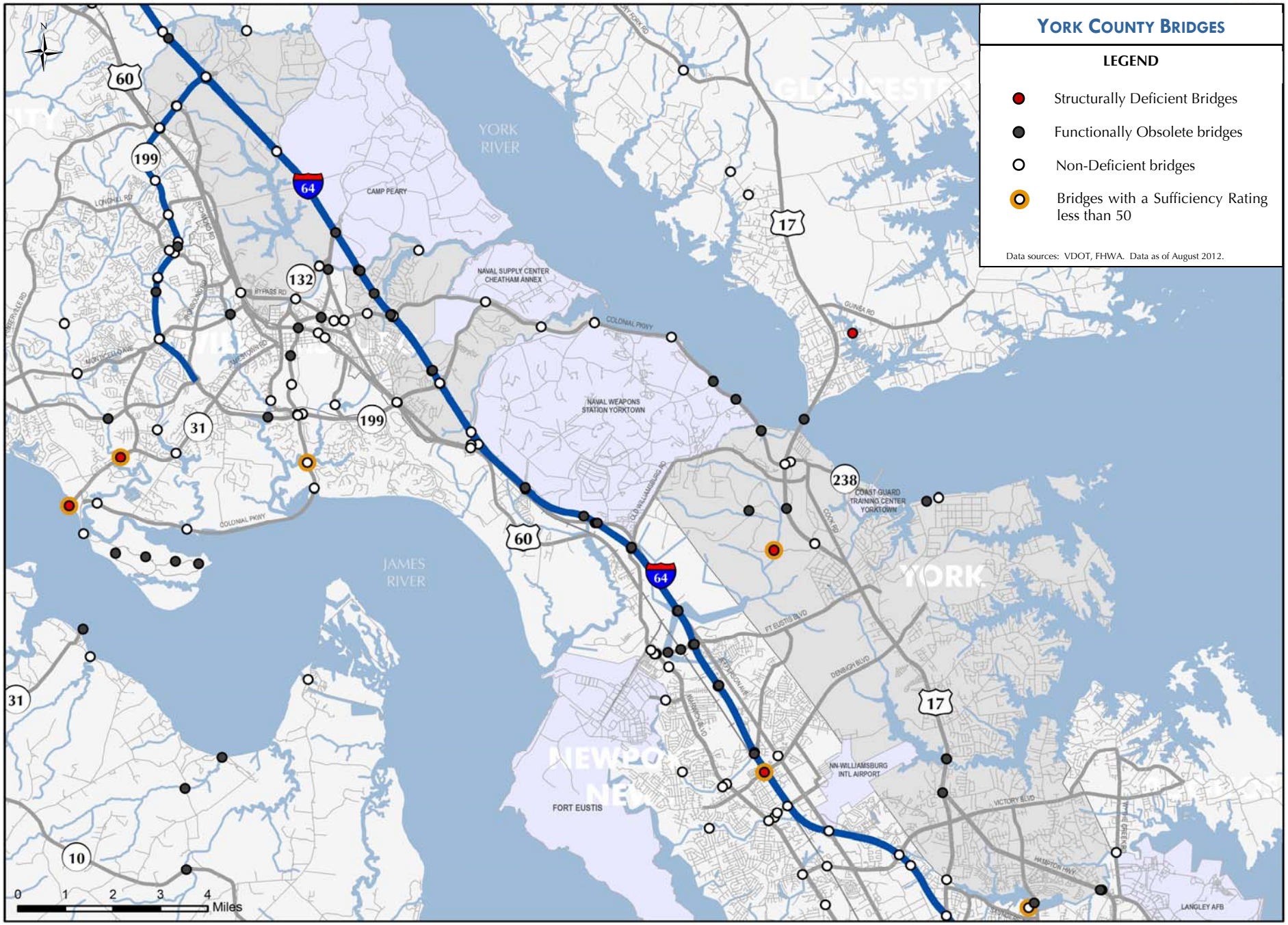
Virginia Beach Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
VA BEACH	28622		SHIPS CORNER ROAD	DRAINAGE LYNNHAVEN INLET	2	2006	-	City	-	N	8	8	N	97.8	-	-
VA BEACH	22262	60	SHORE DRIVE	BAY COAST RAILROAD	2	1986	-	City	-	7	7	7	N	91.9	-	-
VA BEACH	22261	60	SHORE DRIVE	LAKE SMITH SPILLWAY	19	1987	-	City	-	N	N	N	7	68.0	-	-
VA BEACH	22260	60	SHORE DRIVE EB	LYNNHAVEN INLET	2	1958	-	City	SD	6	4	5	N	39.0	-	-
VA BEACH	22264	60	SHORE DRIVE WB	LYNNHAVEN INLET	2	1967	-	City	SD	6	4	5	N	34.9	-	-
VA BEACH	22173		SOUTH BOULEVARD	THALIA CREEK	19	1985	-	City	-	N	N	N	6	96.9	-	-
VA BEACH	22187		SOUTH LYNNHAVEN ROAD	LONDON BRIDGE CREEK	2	1966	-	City	SD	5	6	4	N	49.5	-	-
VA BEACH	23693		SOUTH PLAZA TRAIL	DRAINAGE CANAL	1	1992	-	City	-	7	7	7	N	91.3	-	-
VA BEACH	22255	58	VA BEACH BLVD	I-264 WB RAMP	2	1967	-	VDOT	-	7	7	6	N	89.7	-	-
VA BEACH	22253	58	VA BEACH BLVD	LYNNHAVEN RIVER	2	1989	-	City	-	7	7	7	N	92.5	-	-
VA BEACH	22254	58	VA BEACH BLVD	THALIA CREEK	2	1987	-	City	-	7	7	7	N	96.5	-	-
VA BEACH	22258	58	VA BEACH BLVD	TRIB WOLFSNARE CREEK	19	1967	-	VDOT	-	N	N	N	7	81.3	-	-
VA BEACH	22168		WARE NECK DRIVE	NORTH LANDING RIVER	19	1988	-	City	-	N	N	N	7	99.0	-	-
VA BEACH	22197		WESLEYAN DRIVE	DRAINAGE CANAL	19	1985	-	City	-	N	N	N	6	82.4	-	-
VA BEACH	22180		W GREAT NECK ROAD	LONG CREEK & BROAD BAY ROAD	2	1961	-	City	-	6	6	6	N	74.2	-	-
VA BEACH	22201		W GREEN GARDEN CIR	SUNSET CANAL	1	1973	-	City	-	7	7	7	N	84.9	-	-
VA BEACH	23664		WEST NECK ROAD	WEST NECK CREEK	2	1993	-	City	-	7	7	7	N	94.3	-	-
VA BEACH	22204		WOLFSNARE ROAD	WOLFSNARE CREEK	19	1979	-	City	-	N	N	N	6	81.1	-	-

VIRGINIA BEACH BRIDGES

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.


YORK COUNTY BRIDGES
LEGEND
Structurally Deficient Bridges
Functionally Obsolete bridges
Non-Deficient bridges
Bridges with a Sufficiency Rating less than 50
Data sources: VDOT, FHWA. Data as of August 2012.
YORK RIVER
JAMES RIVER
CAMP PEARY
NAVAL SUPPLY CENTER CHEATHAM ANNEX
NAVAL WEAPONS STATION YORKTOWN
COAST GUARD TRAINING CENTER YORKTOWN
FORT EUSTIS
NN-WILLIAMSBURG INTL AIRPORT
LANGLEY AFB
60
64
17
199
132
31
238
10
0 1 2 3 4 Miles

Jurisdiction	Federal Structure ID	Route	Facility	Crossing	Span Type	Year Built	Year Reconst	Ownership	Structurally Deficient (SD)/ Functionally Obsolete (FO)	Bridge Condition Ratings				Sufficiency Rating	Fracture Critical	Posted Weight Limit (tons)
										Deck Condition	Superstructure Condition	Substructure Condition	Culvert Condition			
YORK	19871	604	BARLOW ROAD	I-64	7	1979	-	VDOT	-	6	6	6	N	93.8	-	-
YORK	19870	600	BIG BETHEL ROAD	BIG BETHEL RESERVOIR	6	1931	1986	VDOT	FO	6	6	5	N	76.1	-	-
YORK	19826	60	BYPASS ROAD	TRIB QUEENS CREEK	19	1968	-	VDOT	-	N	N	N	6	79.2	-	-
YORK	19824	17	COLEMAN BRIDGE	YORK RIVER	17	1952	1996	VDOT	FO	6	6	5	N	62.3	Y	-
YORK	4290011		COLONIAL PARKWAY	FELGATE'S CREEK	2	1981	-	Federal	-	6	7	6	N	57.0	-	Posted
YORK	4290014		COLONIAL PARKWAY	HUBBARD'S LANE	1	1964	-	Federal	-	7	7	7	N	70.5	-	-
YORK	4290010		COLONIAL PARKWAY	INDIAN FIELD CREEK	2	1933	1981	Federal	-	6	5	5	N	55.9	-	Posted
YORK	4290012		COLONIAL PARKWAY	KINGS CREEK	2	1933	1981	Federal	-	6	5	5	N	58.8	-	Posted
YORK	4290009		COLONIAL PARKWAY	NAVAL WEAPONS ROAD	1	1931	1981	Federal	FO	6	6	7	N	70.6	-	Posted
YORK	4290008		COLONIAL PARKWAY	NORTH PIER ACCESS ROAD	1	1962	-	Federal	FO	6	6	7	N	88.0	-	-
YORK	4290013		COLONIAL PARKWAY	PENNIMAN ROAD	1	1964	-	Federal	-	6	6	7	N	69.6	-	Posted
YORK	4290006		COLONIAL PARKWAY	ROUTE 17	2	1956	-	Federal	-	5	5	7	N	64.3	-	Posted
YORK	4290005		COLONIAL PARKWAY	YORKTOWN CREEK	2	1955	-	Federal	-	6	6	6	N	69.1	-	Posted
YORK	19883	716	EAST QUEENS DRIVE	QUEENS CREEK - SPILLWAY	2	1932	1997	VDOT	-	7	7	6	N	77.9	-	11/-/-
YORK	19819	17	GEORGE WASHINGTON HWY NB	POQUOSON RIVER	4	1965	-	VDOT	FO	5	5	5	N	83.2	-	-
YORK	19818	17	GEORGE WASHINGTON HWY SB	POQUOSON RIVER	4	1924	1952	VDOT	FO	5	5	5	N	62.3	-	-
YORK	19820	17	GEORGE WASHINGTON HWY NB	YORKTOWN BATTLEFIELD TOUR ROAD	1	1968	-	VDOT	-	6	6	6	N	91.9	-	-
YORK	19822	17	GEORGE WASHINGTON HWY SB	YORKTOWN BATTLEFIELD TOUR ROAD	1	1968	-	VDOT	-	6	6	6	N	91.9	-	-
YORK	25281	64	GROVE INTERCHANGE	I-64	2	2002	-	VDOT	-	6	7	7	N	93.9	-	-
YORK	25282	64	GROVE INTERCHANGE	I-64 RAMP	2	2002	-	VDOT	-	7	8	6	N	93.5	-	-
YORK	25283	64	GROVE INTERCHANGE	ROUTES 60 & 143 AND CSX R/R	2	2002	-	VDOT	-	6	7	7	N	100.0	-	-
YORK	19838	64	I-64 EB	COLONIAL PKWY	11	1965	-	VDOT	-	6	6	7	N	85.9	-	-
YORK	19840	64	I-64 WB	COLONIAL PKWY	11	1965	-	VDOT	-	6	6	7	N	91.5	-	-
YORK	19834	64	I-64 EB	LAKES HEAD DRIVE	2	1965	-	VDOT	FO	6	5	6	N	78.6	-	-
YORK	19836	64	I-64 WB	LAKES HEAD DRIVE	2	1965	-	VDOT	-	6	6	6	N	90.5	-	-
YORK	19828	64	I-64 EB	PENNIMAN ROAD	2	1965	1977	VDOT	FO	6	5	5	N	81.7	-	-
YORK	19830	64	I-64 WB	PENNIMAN ROAD	2	1965	1977	VDOT	FO	6	5	5	N	82.2	-	-
YORK	19842	64	I-64 EB	QUEENS CREEK	2	1965	-	VDOT	FO	5	5	5	N	64.8	-	-
YORK	19843	64	I-64 WB	QUEENS CREEK	2	1965	-	VDOT	FO	5	5	5	N	65.4	-	-
YORK	19827	64	I-64	SKIMINO CREEK	19	1956	1979	VDOT	FO	N	N	N	5	59.0	-	-
YORK	19832	64	I-64 EB	WB RAMP TO ROUTE 143	2	1965	1982	VDOT	-	7	7	6	N	85.4	-	-
YORK	19856	134	MAGRUDER BLVD EB	BRICK KILN CREEK	1	1973	-	VDOT	FO	5	6	6	N	97.7	-	-
YORK	19855	134	MAGRUDER BLVD WB	BRICK KILN CREEK	4	1930	-	VDOT	FO	5	5	5	N	63.9	-	-
YORK	19853	134	MAGRUDER BLVD	ROUTE 17	2	1965	-	VDOT	FO	5	5	5	N	78.6	-	-
YORK	4290007		OLD WILLIAMSBURG ROAD	COLONIAL PARKWAY	11	1956	-	Federal	FO	N	7	7	N	61.8	-	-
YORK	19851	132	ROUTE 132	QUEENS CREEK	1	1996	-	VDOT	-	7	7	7	N	97.8	-	-
YORK	19857	143	ROUTE 143	I-64	2	1965	-	VDOT	FO	5	5	5	N	75.2	-	-
YORK	19860	143	ROUTE 143	QUEENS CREEK	2	1941	1944	VDOT	FO	5	5	5	N	55.4	-	-/19/30
YORK	19866	199	ROUTE 199 EB	I-64	2	1977	-	VDOT	-	6	6	6	N	96.7	-	-
YORK	19868	199	ROUTE 199 WB	I-64	2	1977	-	VDOT	-	7	7	6	N	95.7	-	-
YORK	25213	199	ROUTE 199 NB	MOORETOWN ROAD	2	1999	-	VDOT	-	6	7	6	N	98.3	-	-
YORK	25212	199	ROUTE 199 SB	MOORETOWN ROAD	2	1999	-	VDOT	-	6	7	6	N	99.3	-	-
YORK	19862	199	ROUTE 199 NB	ROUTES 60 & 143 & CSX R/R	2	1977	-	VDOT	-	7	6	6	N	94.5	-	-
YORK	19864	199	ROUTE 199 SB	ROUTES 60 & 143 & CSX R/R	2	1977	-	VDOT	-	7	6	6	N	94.5	-	-
YORK	19877	646	ROUTE 199/NEWMAN ROAD EB	I-64	2	1979	-	VDOT	-	6	6	6	N	98.6	-	-
YORK	19879	646	ROUTE 199/NEWMAN ROAD WB	I-64	2	1979	-	VDOT	-	6	6	6	N	98.6	-	-
YORK	19874	631	WATERVIEW ROAD	VEPCO DISCHARGE CANAL	19	1955	-	Other	-	N	N	N	6	90.7	-	-
YORK	19875	631	WATERVIEW ROAD	VEPCO INTAKE CANAL	2	1955	1974	Other	FO	5	5	6	N	62.1	-	-
YORK	19884	716	WEST QUEENS DRIVE	I-64	2	1965	-	VDOT	FO	6	5	5	N	56.2	-	-
YORK	4290002		YORKTOWN BATTLEFIELD TOUR ROAD	BEAVERDAM CREEK	2	1975	-	Federal	SD	6	6	4	N	27.5	-	Posted
YORK	4290003		YORKTOWN BATTLEFIELD TOUR ROAD	CRAWFORD ROAD	7	1956	-	Federal	FO	6	7	7	N	74.1	-	-
YORK	4290004		YORKTOWN BATTLEFIELD TOUR ROAD	ROUTE 17	2	1959	1968	Federal	FO	6	6	7	N	58.4	-	Posted

York County Bridges

Source: HRTPO analysis of VDOT and FHWA data. Data for Hampton Roads bridges as of August 2012. A description of codes used in this table is included on page 71.

CLOSED BRIDGES IN HAMPTON ROADS

Two bridges in Hampton Roads have been closed in recent years due to their deteriorating condition. These two structures are the Jordan Bridge and the Kings Highway Bridge.

JORDAN BRIDGE

The Jordan Bridge was a structure that spanned the Southern Branch of the Elizabeth River between Chesapeake and Portsmouth. The bridge opened as the Norfolk-Portsmouth Bridge in 1928 as a privately-owned toll facility, creating a convenient fixed route between Norfolk and points to the west. Ownership of the bridge was transferred to Chesapeake in 1977.

By the middle of last decade, the Jordan Bridge was the oldest operating drawbridge in the state of Virginia, and was falling into disrepair despite undergoing maintenance through the years. The weight limit was restricted to three tons in order to remain in service, meaning only passenger vehicles could use the bridge. On November 8, 2008, the City of Chesapeake closed the Jordan Bridge to traffic.

In January 2009, the Chesapeake City Council approved a proposal from Figg Bridge Developers for a privately-funded, tolled structure to replace the Jordan Bridge. The new South Norfolk Jordan Bridge opened to traffic on October 29, 2012. With a 145-foot vertical clearance, the new structure is the tallest bridge in Hampton Roads.

KINGS HIGHWAY BRIDGE

The Kings Highway Bridge was a structure that carried Virginia Route 125 across the Nansemond River near the village of Chuckatuck in the City of Suffolk. Similar to the Jordan Bridge, the Kings Highway Bridge opened to traffic in 1928 as a privately-owned toll facility. VDOT purchased the bridge in 1963 and maintained the bridge as a toll-free facility.


OLD JORDAN BRIDGE HRTPO

KINGS HIGHWAY BRIDGE VDOT

In 2002, the Kings Highway Bridge carried 2,700 vehicles each day. By this time, however, the bridge was falling into disrepair. Load limits were implemented which prohibited heavy vehicles, including school buses and emergency vehicles, from using the bridge. Finally, on March 19, 2005, the Kings Highway Bridge was closed to all traffic. This created a 16-mile detour from one side of the bridge to the other, since the adjacent bridges are five miles to the north (Bridge Road) and five miles to the south (Suffolk Bypass). Because rehabilitation costs were prohibitive, the Kings Highway Bridge was demolished in early 2008.

According to city officials, the cost to replace the Kings Highway Bridge was estimated to be between $26 million and $29 million in the middle of the last decade. Partial funding was allocated for a replacement to the Kings Highway Bridge early in the 2000s. However, this funding was transferred to other projects. There is currently no funding in place for the project, nor is it included in the Hampton Roads Transportation Improvement Program or Hampton Roads 2034 Long-Range Transportation Plan.