James City County/Williamsburg/York County
Comprehensive Transportation Study

Hampton Roads TPO
Transportation Planning Organization

T12-03

March 2012

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COMPREHENSIVE TRANSPORTATION STUDY

JAMES CITY COUNTY/WILLIAMSBURG/YORK COUNTY

PREPARED BY:

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TITLE:
James City County/Williamsburg/York County Comprehensive Transportation Study

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ABSTRACT

The purpose of this report is to assist James City County, Williamsburg, and York County officials with the transportation sections of their Comprehensive Plans. A Comprehensive Plan is a policy document that provides direction for policy makers to guide growth and development by providing the long-range vision, goals, and strategies of their communities. Because of the link between these communities, James City County, Williamsburg, and York County officials are coordinating the timing of their Comprehensive Plan updates, with all three jurisdictions updating their Comprehensive Plans in 2012.

This report is broken down into sections for each of the following transportation modes - Highway, Public Transportation, Intercity Passenger Rail, Bicycle and Pedestrian, and Air Travel. Both the current and future conditions are examined for each of these transportation modes.

ACKNOWLEDGMENTS

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

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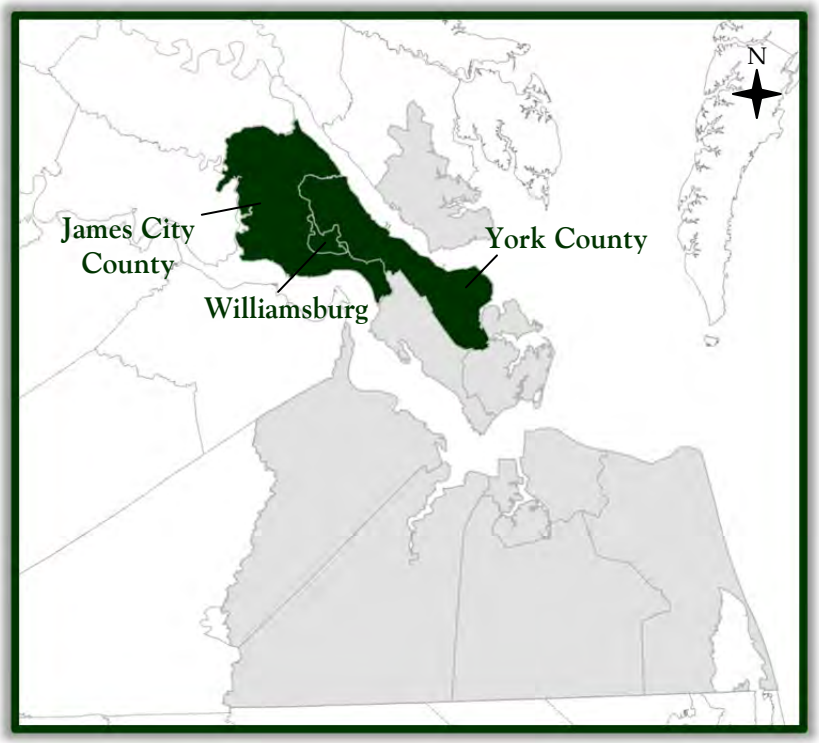
INTRODUCTION

James City County, Williamsburg, and York County are located in the northwestern section of the Hampton Roads Metropolitan Planning Area (**Map 1**). Transportation in and through this area is not only critical to these three communities but to the Hampton Roads region as a whole. I-64 carries many travelers between Richmond and Hampton Roads, and other major highways, including US Routes 17 and 60, also pass through the area. Amtrak provides inter-city rail service through the area between Newport News and Richmond, with a stop in Williamsburg. A portion of Newport News-Williamsburg International Airport is also located within the study area in York County.



Map 1 – James City County, Williamsburg, and York County

The purpose of this report is to assist James City County, Williamsburg, and York County officials with the transportation sections of their Comprehensive Plans. A Comprehensive Plan is a policy document that provides direction for policy makers to guide growth and development by providing the long-range vision, goals, and strategies of their communities. Every Virginia locality is required by state law to have a Comprehensive Plan.

James City County adopted their most recent Comprehensive Plan in 2009, Williamsburg in 2006, and York County in 2005. Because of the link between these communities, James City County, Williamsburg, and York County are coordinating the timing of their Comprehensive Plan updates, with all three jurisdictions updating their Comprehensive Plans in 2012.

This report is broken down into sections for each of the following transportation modes - Highway, Public Transportation, Intercity Rail, Bicycle and Pedestrian, and Air Travel. Both the current and future conditions are examined for each of these transportation modes.

CURRENT CONDITIONS

This chapter looks at current conditions and how they compare to historical trends on the transportation network in James City County, Williamsburg, and York County. This chapter is divided into the following sections based on each transportation mode:

- **Highway** - Includes an inventory of the existing roadway network, description of recent major roadway improvements, current and historical traffic volume data, and an analysis of peak hour roadway congestion.
- **Public Transportation** - Includes a description of the existing transit service provided by the Williamsburg Area Transit Authority and VDOT Park and Ride lots.
- **Intercity Passenger Rail** - Includes a description of the existing Amtrak service provided in the area.
- **Bicycle & Pedestrian** - Includes an inventory of the existing non-motorized transportation network.
- **Air Travel** - Includes ridership trends and general information for the Newport News-Williamsburg International Airport and Williamsburg Jamestown Airport.

HIGHWAY

Roadway Inventory

Roadways are organized into a hierarchy based on their function, and are classified as arterials, collectors, or locals (**Figure 1**). Arterial roadways (which include Interstates, Freeways and Expressways, Other Principal Arterials, and Minor Arterials) provide more mobility, which is defined as the ability of traffic to pass through a defined area in a reasonable amount of time. Local roadways provide more accessibility, which is measured in the roadway's capability to provide access to and between land use activities within a defined area. Collectors offer a mix between providing mobility and accessibility.

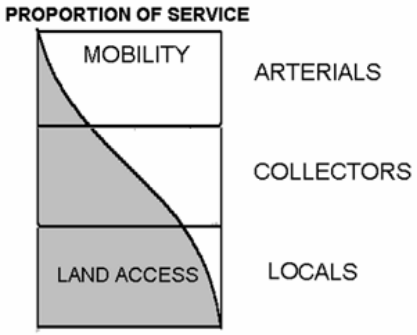


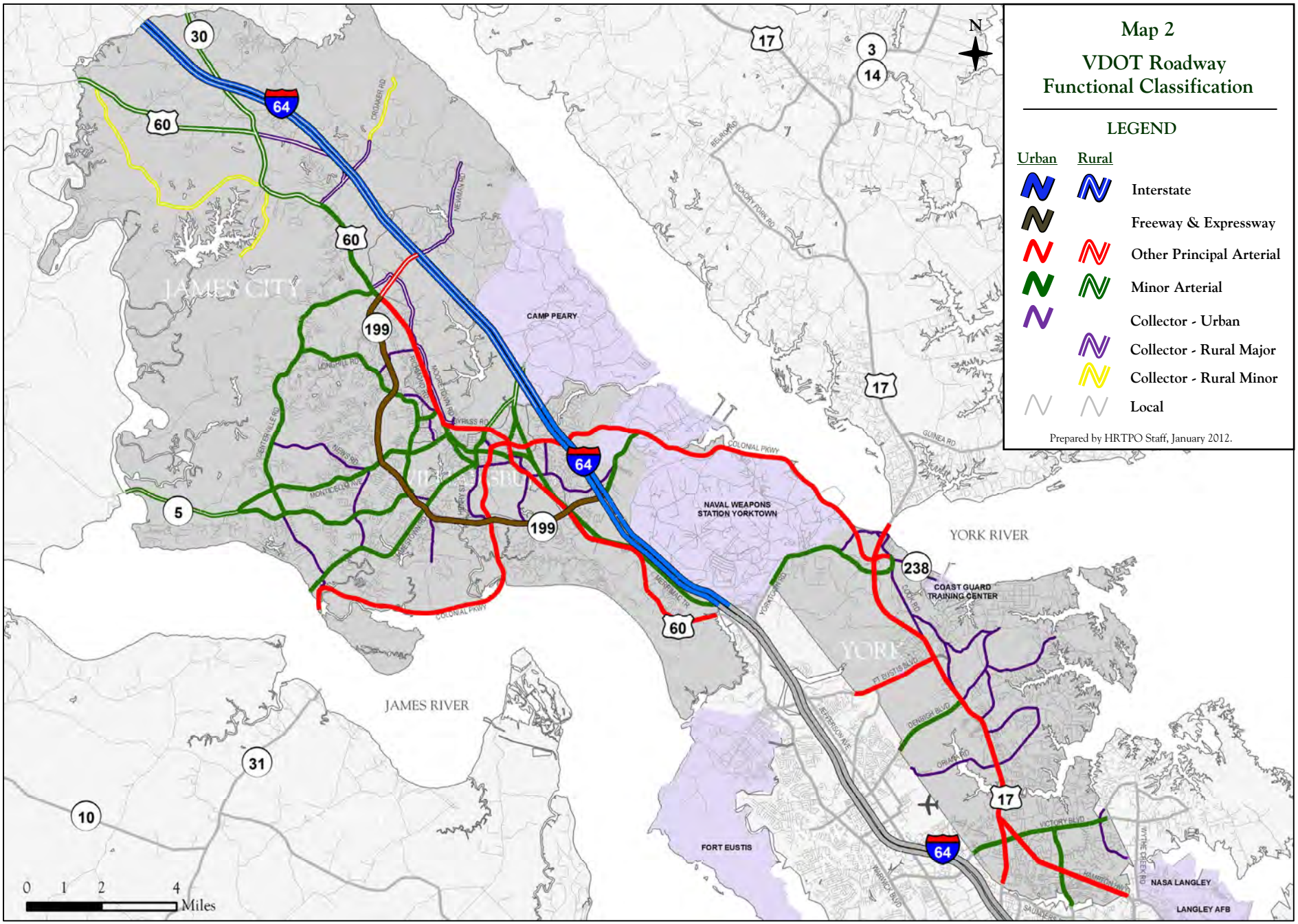
Figure 1 – Roadway Functional Class Definition
Source: FHWA.

Roadways are also classified as urban or rural based on their location as defined by the Census Bureau. While Williamsburg is entirely classified as an urban area, James City County and York County have both urban and rural areas. In rural areas, collectors are classified as major or minor, depending on the type of service they carry.

Table 1 shows the miles of roadway in each jurisdiction by the Virginia Department of Transportation (VDOT) roadway functional classification. **Map 2** on page 3 shows the VDOT functional classification for roadways in the area, and **Appendix A** includes these maps broken down by locality.

	James City		Williamsburg		York	
Roadway Functional Class	Urban	Rural	Urban	Rural	Urban	Rural
Interstate	2.34	8.70	-	-	5.65	5.58
Freeway & Expressway	9.90	-	0.40	-	2.82	-
Other Principal Arterial	14.92	-	6.80	-	32.36	-
Minor Arterial	30.85	6.79	9.39	-	17.29	2.22
Collector	12.42	25.38	5.23	-	31.68	7.86
Local	126.06	177.90	37.06	-	264.44	33.89
TOTAL CENTERLINE MILES	415.26		58.88		403.79	

Table 1 – Miles of Roadway by VDOT Functional Classification (2009)
Data source: VDOT.


Map 2
VDOT Roadway
Functional Classification
LEGEND
Urban
Rural
Interstate
Freeway & Expressway
Other Principal Arterial
Minor Arterial
Collector - Urban
Collector - Rural Major
Collector - Rural Minor
Local
Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
COAST GUARD TRAINING CENTER
JAMES RIVER
FORT EUSTIS
NASA LANGLEY
LANGLEY AFB
0 1 2 4
Miles

Recent Roadway Improvements

A number of roadway improvements have occurred in James City, Williamsburg, and York County over the last decade. The largest of these roadway improvements are shown below in **Table 2**. Two of these projects, widening Ironbound Road and Fort Eustis Boulevard, are both underway, with completion of both projects expected in 2012.

In addition to these major projects, a number of smaller projects have also been completed. This includes projects such as adding or extending intersection turn bays, adding or coordinating traffic signals, installing medians, etc. A list of these projects is included in **Appendix B**.

Route 199 in James City County, widened in 2005.

Traffic Data

VDOT collects traffic volume data at thousands of locations in the study area, of which approximately 200 are on roadways with functional classifications of collectors or above. At most of these 200 locations, data is collected for a 48-hour period once every three years. In James City County, Williamsburg, and York County, these counts were last taken in 2010.

Based on these triennial counts, VDOT produces Annual Average Daily Traffic (AADT) volume estimates. These estimates provide the average number of vehicles that travel each roadway segment based on the total annual traffic estimate divided by the number of days in the year.

Table 3 on pages 5-8 includes historical weekday volumes based on the 48-hour counts, and VDOT's AADT volume estimates for those years where VDOT collected data in the study area. VDOT also produces AADT estimates for many smaller, local roadways, particularly within the counties. These AADT estimates are included in VDOT's Daily Traffic Volume Estimates Jurisdiction reports, which are available on VDOT's website at http://virginiadot.org/info/ct-TrafficCounts.asp.

Among the 171 locations in the study area with functional classifications of collectors or above that were counted in both 2001 and 2010, 103 locations (60%) experienced an increase in AADT volumes over this time period, with 53 locations experiencing an increase of 20% or more. Of the 61 locations that experienced a decrease in AADT volumes over this time period, 24 experienced a decrease of 20% or more.

Juris-diction	Facility	From/To	Improvement	Year Completed
JCC/YC	Grove Connector	I-64 to Busch Gardens	New interchange	2002
JCC/WMB	Ironbound Rd	Strawberry Plains Rd to Longhill Connector Rd	Widening - 2 to 4 lanes	Underway
JCC	Monticello Ave	John Tyler Hwy to News Rd	New 2 lane facility	2001
JCC	SR 5	Chickahominy River Bridge	Replacement bridge	2009
JCC	SR 199	Brookwood Drive to Pocahontas Trail	Widening - 2 to 4 lanes	2005
WMB	Richmond Rd	Monticello Ave to Bypass Rd	Widening - 2 to 4 lanes	2006
WMB	Treyburn Dr	Monticello Ave to Ironbound Rd	New 2-lane facility	2007
YC	Fort Eustis Blvd	Newport News CL to George Washington Hwy	Widening - 2 to 4 lanes	Underway
YC	Fort Eustis Blvd Extended	George Washington Hwy to Old York-Hampton Hwy	New 4-lane facility	2006

Table 2 – Roadway Improvements Since 2001
Compiled from various sources.

James City County

Route Num	Location	Segment From	Segment To	Weekday Volume 2001	2004	2007	2010	Annual Average Daily Traffic (AADT) 2001	2004	2007	2010	Change in AADT 2001 to 2010	
30	Barhamsville Rd	I-64	US 60 - Richmond Rd	7,274	6,215	7,124	9,423	7,100	6,800	6,800	9,400	+2,300	+32.4%
700	Brookwood Dr	Rte 617 - Lake Powell Rd	Route 199	9,239	8,850	9,845	8,761	8,400	8,400	9,400	8,800	+400	+4.8%
614	Centerville Rd	SR 5 - John Tyler Hwy	Rte 633 - Jolly Pond Rd	5,569	4,447	4,719	4,248	5,400	4,900	4,300	4,800	-600	-11.1%
614	Centerville Rd	Rte 633 - Jolly Pond Rd	Adams Hunt Dr	7,291	7,097	9,407	7,414	7,500	7,900	8,700	8,400	+900	+12.0%
614	Centerville Rd	Adams Hunt Dr	US 60 - Richmond Rd	6,764	8,052	10,319	9,095	6,300	7,600	10,000	9,700	+3,400	+54.0%
631	Chickahominy Rd	Rte 632 - Cranstons Mill Pond Rd	US 60 - Richmond Rd	1,408	1,572	1,586	1,592	1,400	1,700	1,500	1,700	+300	+21.4%
	Colonial Pkwy	Jamestown Visitor Center	Williamsburg CL	-	1,728	2,118	-	-	6,100	1,900	2,400	-	-
607	Croaker Rd	US 60 Richmond Rd	Rte 760 - Maxton Ln	8,245	7,723	8,185	8,364	8,000	8,300	7,800	9,100	+1,100	+13.8%
607	Croaker Rd	Rte 760 - Maxton Ln	SR 30 - Rochambeau Dr	7,890	7,423	8,059	8,286	7,700	8,000	7,700	9,100	+1,400	+18.2%
30	Croaker Rd	SR 30 - Rochambeau Dr	I-64	-	-	10,997	11,021	-	-	11,000	12,000	-	-
607	Croaker Rd	I-64	Rte 602 - Fenton Mill Rd	6,681	6,108	6,773	6,494	6,500	6,700	6,400	6,700	+200	+3.1%
607	Croaker Rd	Rte 602 - Fenton Mill Rd	Rte 606 - Ware Creek Rd	3,466	3,073	3,515	3,352	3,400	3,300	3,300	3,700	+300	+8.8%
607	Croaker Rd	Rte 606 - Ware Creek Rd	Rte 605 - Croaker Landing Rd	1,089	935	1,023	1,056	1,100	1,000	970	1,200	+100	+9.1%
603	Diascund Rd	Rte 610 - Forge Rd	US 60 - Richmond Rd	803	766	863	687	780	840	680	750	-30	-3.8%
610	Forge Rd	Rte 603 - Diascund Rd	US 60 - Richmond Rd	2,540	2,496	2,527	2,576	2,500	2,700	2,400	2,700	+200	+8.0%
614	Greensprings Rd	SR 31 - Jamestown Rd	SR 5 - John Tyler Hwy	3,652	3,133	2,959	2,984	3,500	3,500	2,700	3,200	-300	-8.6%
64	I-64	New Kent CL	SR 30 - Old Stage Rd	44,192	44,583	49,376	48,913	41,000	42,000	47,000	53,000	+12,000	+29.3%
64	I-64	SR 30 - Old Stage Rd	Rte 607 - Croaker Rd	40,750	49,374	55,206	51,775	41,000	47,000	56,000	58,000	+17,000	+41.5%
64	I-64	Rte 607 - Croaker Rd	York CL	51,917	55,234	62,101	58,252	50,000	52,000	63,000	64,000	+14,000	+28.0%
64	I-64	York CL	SR 143 Merrimac Trail	78,634	80,740	86,497	87,885	75,000	76,000	81,000	82,000	+7,000	+9.3%
615	Ironbound Rd	Rte 681 - Sandy Bay Rd	SR 5 - John Tyler Hwy	7,424	7,483	7,570	7,150	7,100	7,200	7,300	7,200	+100	+1.4%
615	Ironbound Rd	SR 5 - John Tyler Hwy	Rte 613 - News Road	12,548	10,145	10,509	9,675	12,000	9,700	10,000	9,600	-2,400	-20.0%
783	Ironbound Rd	Rte 613 - News Road	Cul-de-Sac	-	-	1,073	1,070	990	1,700	1,900	2,000	+1,010	+102.0%
615	Ironbound Rd	Cul-de-Sac	Rte 616 - Strawberry Plains Rd	1,638	1,771	2,037	1,988	1,600	1,700	1,900	2,000	+400	+25.0%
615	Ironbound Rd	Rte 616 - Strawberry Plains Rd	SR 321 - Monticello Ave	7,281	8,104	7,659	9,382	6,900	7,800	7,500	9,000	+2,100	+30.4%
615	Ironbound Rd	SR 321 - Monticello Ave	Williamsburg CL	8,741	9,798	9,631	11,023	8,200	9,200	9,300	11,000	+2,800	+34.1%
359	Jamestown Festival Pkwy	Colonial Pkwy	SR 31 - Jamestown Rd	2,428	1,214	1,206	1,498	2,200	1,100	1,100	2,200	0	0.0%
31	Jamestown Rd	Jamestown Ferry	Rte 681 - Sandy Bay Rd	9,056	5,761	7,910	-	8,800	6,500	7,600	-	-	-
31	Jamestown Rd	Rte 681 - Sandy Bay Rd	Williamsburg CL	10,884	9,381	9,820	9,567	10,000	8,800	9,500	8,900	-1,100	-11.0%
5	John Tyler Memorial Hwy	Charles City CL	Rte 5000 - Monticello Ave	3,353	3,100	3,214	2,885	3,300	3,500	3,100	3,000	-300	-9.1%
5	John Tyler Memorial Hwy	Rte 5000 - Monticello Ave	Rte 615 - Ironbound Rd	12,104	8,147	8,147	8,033	12,000	9,000	7,800	8,400	-3,600	-30.0%
5	John Tyler Memorial Hwy	Rte 615 - Ironbound Rd	Rte 652 - Stanley Dr	13,444	11,242	11,506	10,663	13,000	11,000	11,000	9,900	-3,100	-23.8%
5	John Tyler Memorial Hwy	Rte 652 - Stanley Dr	SR 199	19,175	17,789	18,522	17,546	18,000	17,000	18,000	16,000	-2,000	-11.1%
617	Lake Powell Rd	Treasure Island Rd	Rte 700 - Brookwood Dr	1,467	1,432	2,073	1,427	1,400	1,300	2,000	1,500	+100	+7.1%
615	Longhill Connector Rd	Rte 615 - Ironbound Rd	SR 322 - Ashbury Rd	5,249	5,865	6,223	8,151	5,000	5,600	6,100	7,800	+2,800	+56.0%
615	Longhill Connector Rd	SR 322 - Ashbury Rd	Rte 612 - Longhill Rd	6,399	7,504	7,920	9,664	6,100	7,100	7,700	9,300	+3,200	+52.5%
612	Longhill Rd	Rte 614 - Centerville Rd	Rte 658 - Olde Towne Rd	5,496	6,088	7,567	6,577	5,400	6,700	7,000	7,200	+1,800	+33.3%
612	Longhill Rd	Rte 658 - Olde Towne Rd	Rte 615 - Longhill Connector Rd	15,776	15,730	17,721	16,087	15,000	15,000	17,000	17,000	+2,000	+13.3%
612	Longhill Rd	Rte 615 - Longhill Connector Rd	SR 322 - Ashbury Rd	-	-	-	-	14,000	14,000	14,000	12,000	-2,000	-14.3%
612	Longhill Rd	SR 322 - Ashbury Rd	Williamsburg CL	-	4,282	4,215	4,237	9,100	9,200	9,200	8,800	-300	-3.3%
143	Merrimac Trail	York CL	York CL	19,332	15,902	16,543	16,342	18,000	15,000	16,000	15,000	-3,000	-16.7%
143	Merrimac Trail	Newport News CL	York CL	13,084	10,195	10,282	10,021	12,000	9,500	10,000	9,300	-2,700	-22.5%
5000	Monticello Ave	SR 5 - John Tyler Hwy	Rte 614 - Centerville Rd	X	4,237	4,574	-	X	-	-	-	-	-
5000	Monticello Ave	Rte 614 - Centerville Rd	Rte 613 - News Road	X	10,003	11,395	-	X	-	-	-	-	-
5000	Monticello Ave	Rte 613 - News Road	SR 199	26,857	36,548	41,348	-	-	-	-	-	-	-
321	Monticello Ave	SR 199	Rte 615 - Ironbound Rd	16,158	23,662	25,204	24,179	-	-	23,000	24,000	-	-
646	Newman Rd	York CL	Rte 768 - North Cove Rd	1,093	1,178	1,247	1,238	1,100	1,300	1,200	1,300	+200	+18.2%
646	Newman Rd	Rte 768 - North Cove Rd	Rte 606 - Riverview Rd	1,085	886	1,051	1,035	1,100	950	970	1,100	0	0.0%
613	News Rd	Rte 614 - Centerville Rd	Powhatan Secondary	3,700	3,149	3,349	3,440	3,600	3,500	3,200	3,600	0	0.0%
613	News Rd	Powhatan Secondary	Rte 5000 - Monticello Ave	6,256	7,472	7,863	7,908	6,100	8,200	7,600	8,300	+2,200	+36.1%
613	News Rd	Rte 5000 - Monticello Ave	Rte 615 - Ironbound Rd	13,847	12,231	11,003	10,495	-	8,200	10,000	11,000	-	-
742	Old News Rd	Rte 613 - News Rd	Rte 5000 - Monticello Ave	852	1,383	2,756	2,659	870	1,500	2,600	2,800	+1,930	+221.8%
30	Old Stage Hwy	New Kent CL	I-64	7,887	7,601	8,516	9,512	7,500	7,500	8,100	10,000	+2,500	+33.3%

Table 3 – Weekday and Annual Average Daily Traffic Volumes, 2001 to 2010

Data sources: VDOT, James City County. '-' indicates data is not available for that roadway segment and year. 'X' indicates that roadway segment did not exist at that time.

	Route Num	Location	Segment From	Segment To	Weekday Volume 2001	2004	2007	2010	Annual Average Daily Traffic (AADT) 2001	2004	2007	2010	Change in AADT 2001 to 2010	
James City County	658	Olde Towne Rd	Rte 612 - Longhill Rd	King William Dr	9,190	8,581	8,325	8,378	8,600	8,100	7,900	8,100	-500	-5.8%
	658	Olde Towne Rd	King William Dr	Chisel Run Rd	9,948	8,981	9,422	8,537	9,400	8,600	9,100	9,100	-300	-3.2%
	658	Olde Towne Rd	Chisel Run Rd	US 60 - Richmond Rd	9,907	9,936	10,439	9,479	9,400	9,600	9,700	9,100	-300	-3.2%
	60	Pocahontas Trail	Williamsburg CL	SR 199	19,301	9,840	8,513	8,165	17,000	9,300	8,300	7,600	-9,400	-55.3%
	60	Pocahontas Trail	York CL	Newport News CL	11,845	8,950	9,461	9,243	11,000	8,300	9,200	8,600	-2,400	-21.8%
	60	Richmond Rd	New Kent CL	SR 30 - Barhamsville Rd	4,881	5,816	6,793	5,861	4,800	6,500	6,400	6,400	+1,600	+33.3%
	60	Richmond Rd	SR 30 - Barhamsville Rd	Rte 607 - Croaker Rd	13,538	12,743	14,015	13,792	13,000	14,000	13,000	15,000	+2,000	+15.4%
	60	Richmond Rd	Rte 607 - Croaker Rd	Rte 614 - Centerville Rd	18,830	17,891	19,919	21,419	18,000	19,000	19,000	20,000	+2,000	+11.1%
	60	Richmond Rd	Rte 614 - Centerville Rd	SR 199	22,629	23,288	24,656	26,430	-	-	-	25,000	-	-
	60	Richmond Rd	SR 199	Williamsburg CL	19,224	12,710	13,364	15,206	18,000	12,000	13,000	14,000	-4,000	-22.2%
	30	Rochambeau Dr	US 60 - Richmond Rd	Rte 607 - Croaker Rd	4,026	5,442	7,764	7,164	3,900	6,000	7,600	7,500	+3,600	+92.3%
	199	SR 199	US 60 - Richmond Rd	Rte 612 - Longhill Rd	14,863	18,366	22,252	23,523	11,000	19,000	22,000	23,000	+12,000	+109.1%
	199	SR 199	Rte 612 - Longhill Rd	SR 321 - Monticello Ave	19,999	24,063	28,869	29,040	20,000	24,000	28,000	28,000	+8,000	+40.0%
	199	SR 199	SR 321 - Monticello Ave	SR 5 - John Tyler Hwy	18,891	23,273	30,270	27,515	15,000	23,000	29,000	27,000	+12,000	+80.0%
	199	SR 199	SR 5 - John Tyler Hwy	Williamsburg CL	29,427	30,553	37,160	36,498	23,000	29,000	34,000	35,000	+12,000	+52.2%
	199	SR 199	Williamsburg CL	Brookwood Dr	32,067	33,026	37,015	36,180	24,000	31,000	36,000	36,000	+12,000	+50.0%
	199	SR 199	Brookwood Dr	SR 132 - Henry St	29,353	29,003	33,784	34,542	23,000	27,000	32,000	33,000	+10,000	+43.5%
	199	SR 199	SR 132 - Henry St	Mounts Bay Rd	30,731	29,134	34,021	33,078	24,000	28,000	33,000	33,000	+9,000	+37.5%
	199	SR 199	Mounts Bay Rd	US 60 - Pocahontas Trail	28,732	27,649	32,250	31,169	22,000	26,000	31,000	31,000	+9,000	+40.9%
	681	Sandy Bay Rd	SR 31 - Jamestown Rd	Rte 615 - Ironbound Rd	5,954	5,860	5,452	4,994	5,500	5,500	5,300	5,100	-400	-7.3%
	616	Strawberry Plains Rd	SR 5 - John Tyler Hwy	Rte 615 - Ironbound Rd	6,108	6,530	6,946	8,048	5,700	6,100	6,800	7,500	+1,800	+31.6%
Williamsburg	5	Boundary St	Jamestown Rd	Francis St	11,628	12,282	11,076	12,532	11,000	11,000	9,800	12,000	+1,000	+9.1%
	60	Bypass Rd	Richmond Rd	York CL	28,684	21,871	21,128	26,802	26,000	21,000	20,000	25,000	-1,000	-3.8%
	60	Bypass Rd	SR 132 - Henry St	Parkway Dr	20,073	13,304	13,844	15,868	18,000	12,000	12,000	15,000	-3,000	-16.7%
	60	Bypass Rd	Parkway Dr	SR 5 - Capitol Landing Rd	18,242	10,554	11,409	13,198	17,000	10,000	10,000	12,000	-5,000	-29.4%
	5	Capitol Landing Rd	US 60 - Bypass Rd	SR 143 - Merrimac Trail	8,391	6,859	6,754	-	7,900	6,200	6,300	6,900	-1,000	-12.7%
	90003	Colonial Pkwy	James City CL	York CL	5,881	-	2,919	-	5,700	6,200	6,200	4,700	-1,000	-17.5%
	0	England St S	Newport Ave	Francis St	2,300	-	-	1,803	2,400	2,100	2,300	1,800	-600	-25.0%
	5	Francis St	Boundary St	SR 132 - Henry St	8,752	8,528	7,660	8,917	8,100	7,600	6,700	8,200	+100	+1.2%
	7075	Francis St	SR 132 - Henry St	Waller St	7,946	7,629	7,087	6,477	7,500	6,800	6,200	6,000	-1,500	-20.0%
	132	Henry St	SR 199	Ireland St	3,874	3,686	4,120	3,801	3,600	3,400	3,700	3,600	0	0.0%
	132	Henry St	Ireland St	Francis St	-	5,155	5,346	5,660	-	4,800	4,800	5,400	-	-
	5	Henry St	Francis St	SR 162 - Lafayette St	6,229	5,997	5,565	5,803	6,000	5,400	4,900	5,500	-500	-8.3%
	132	Henry St	SR 162 - Lafayette St	SR 132 Y	8,022	7,463	7,504	6,853	7,500	6,800	6,600	6,400	-1,100	-14.7%
	132	Henry St	SR 132 Y	US 60 - Bypass Rd	12,423	9,244	9,114	10,116	12,000	8,600	8,000	9,400	-2,600	-21.7%
	7081	Ironbound Rd	James City CL	Longhill Rd	7,789	8,710	10,115	9,913	7,200	7,900	8,900	9,100	+1,900	+26.4%
	7081	Ironbound Rd	Longhill Rd	Richmond Rd	12,335	12,430	13,632	15,292	12,000	12,000	12,000	14,000	+2,000	+16.7%
	31	Jamestown Rd	Williamsburg CL	SR 199	23,308	18,361	18,414	17,349	21,000	17,000	16,000	16,000	-5,000	-23.8%
	5	Jamestown Rd	SR 199	John Tyler Hwy	10,315	12,010	11,933	11,994	9,800	11,000	11,000	11,000	+1,200	+12.2%
	5	Jamestown Rd	John Tyler Hwy	Boundary St	11,709	13,548	12,235	13,820	11,000	12,000	11,000	13,000	+2,000	+18.2%
	7077	Lafayette St	Richmond Rd	Bacon Ave	9,621	9,479	8,345	8,911	9,200	8,700	7,300	8,200	-1,000	-10.9%
	7077	Lafayette St	Bacon St	SR 132 - Henry St	12,172	10,935	9,796	9,835	12,000	10,000	8,600	9,300	-2,700	-22.5%
	5	Lafayette St	SR 132 - Henry St	Capital Landing Rd	12,425	10,846	9,682	10,151	12,000	10,000	8,500	9,300	-2,700	-22.5%
	5	Lafayette St	Capital Landing Rd	US 60 - Page St	10,511	9,006	7,890	8,263	9,900	8,200	6,900	7,800	-2,100	-21.2%
	7082	Longhill Rd	Ironbound Rd	James City CL	3,985	4,282	4,215	4,237	3,700	3,900	3,700	3,900	+200	+5.4%
	143	Merrimac Trail	York CL	SR 5 - Capital Landing Rd	6,329	7,285	7,617	7,217	6,000	6,600	6,700	6,700	+700	+11.7%
	143	Merrimac Trail	SR 5 - Capital Landing Rd	York CL	9,112	9,141	9,974	9,445	8,500	8,300	8,800	8,800	+300	+3.5%
	321	Monticello Ave	Rte 615 - Ironbound Rd	Compton Dr	-	-	18,412	17,358	-	-	17,000	18,000	-	-
	7083	Monticello Ave	Compton Dr	Richmond Rd	13,944	16,182	15,876	17,074	13,000	15,000	14,000	16,000	+3,000	+23.1%
	60	Page St	SR 5 - Capitol Landing Rd	Second St	20,971	12,309	13,531	15,332	20,000	12,000	12,000	14,000	-6,000	-30.0%
	60	Page St	Second St	Lafayette St	20,750	14,714	-	15,804	19,000	13,000	14,000	15,000	-4,000	-21.1%
	7086	Penniman Rd	Page St	York CL	2,422	2,172	2,375	2,822	2,200	2,000	2,100	2,700	+500	+22.7%

Table 3 (Continued) – Weekday and Annual Average Daily Traffic Volumes, 2001 to 2010

Data sources: VDOT, James City County. '-' indicates data is not available for that roadway segment and year. 'X' indicates that roadway segment did not exist at that time.

	Route Num	Location	Segment From	Segment To	Weekday Volume 2001	2004	2007	2010	Annual Average Daily Traffic (AADT) 2001	2004	2007	2010	Change in AADT 2001 to 2010	
Williamsburg	0	Quarterpath Rd	SR 199	US 60 - York St	1,473	629	-	595	1,400	570	610	550	-850	-60.7%
	60	Richmond Rd	James City CL	Ironbound Rd	22,401	16,902	19,148	23,783	21,000	16,000	17,000	22,000	+1,000	+4.8%
	60	Richmond Rd	Ironbound Rd	Bypass Rd	32,730	26,495	25,776	25,987	30,000	25,000	24,000	24,000	-6,000	-20.0%
	7075	Richmond Rd	Bypass Rd	Monticello Ave	20,168	21,401	19,306	19,001	21,000	19,000	17,000	18,000	-3,000	-14.3%
	7075	Richmond Rd	Monticello Ave	Boundary St	13,180	13,668	12,395	13,511	12,000	12,000	11,000	13,000	+1,000	+8.3%
	132	SR 132 Y	Colonial Parkway	SR 132 - Henry St	7,629	5,267	6,115	2,967	7,200	4,700	5,400	5,900	-1,300	-18.1%
	199	SR 199	James City CL	SR 31 - Jamestown Rd	29,427	30,553	37,160	36,498	23,000	29,000	34,000	35,000	+12,000	+52.2%
	199	SR 199	SR 31 - Jamestown Rd	James City CL	32,067	33,026	37,015	36,180	24,000	31,000	36,000	36,000	+12,000	+50.0%
	7079	Second St	Page St	Parkway Dr	16,723	14,472	13,557	13,965	16,000	13,000	13,000	13,000	-3,000	-18.8%
	7079	Second St	Parkway Dr	York CL	17,976	16,042	15,207	15,123	17,000	15,000	13,000	14,000	-3,000	-17.6%
	60	York St	Lafayette St	James City CL	17,894	12,483	10,850	13,385	16,000	11,000	9,900	13,000	-3,000	-18.8%
York County	1020	Ballard St	Water St	Colonial Pkwy	2,345	1,689	1,760	1,960	2,400	1,500	1,500	1,800	-600	-25.0%
	1020	Ballard St	Colonial Pkwy	SR 238 - Cook Rd	-	3,706	4,940	5,899	-	3,500	4,300	5,400	-	-
	238	Ballard St	SR 238 - Cook Rd	Moore House Rd	1,466	3,210	-	3,329	1,400	2,900	2,600	3,000	+1,600	+114.3%
	238	Ballard St	Moore House Rd	Main Gate Naval Mine Depot	-	-	2,967	2,430	-	2,900	2,600	2,200	-	-
	600	Big Bethel Rd	Hampton CL	SR 134 - Hampton Hwy	11,090	14,165	10,847	9,444	10,000	13,000	9,600	8,600	-1,400	-14.0%
	600	Big Bethel Rd	SR 134 - Hampton Hwy	SR 171 - Victory Blvd	4,804	6,900	6,359	4,971	4,600	6,400	5,600	4,500	-100	-2.2%
	60	Bypass Rd	Williamsburg CL	SR 132 - Henry St	28,684	21,871	21,128	26,802	26,000	21,000	20,000	25,000	-1,000	-3.8%
	782	Carys Chapel Rd	Poquoson CL	SR 171 - Victory Blvd	5,077	5,462	5,681	5,155	4,800	4,900	5,000	4,700	-100	-2.1%
	90003	Colonial Pkwy	Williamsburg CL	Ballard St	2,812	-	6,218	-	-	6,100	5,700	6,000	-	-
	704	Cook Rd	US 17 - George Washington Hwy	Rte 634 - Old York Hampton Hwy	-	-	5,719	5,354	-	4,900	5,000	4,900	-	-
	704	Cook Rd	Rte 634 - Old York Hampton Hwy	Rte 634 - Surrender Rd North	5,661	5,454	6,234	6,368	5,400	4,900	5,600	5,800	+400	+7.4%
	704	Cook Rd	Rte 634 - Surrender Rd North	SR 238 - Goosley Rd	6,177	5,678	6,671	6,125	6,000	5,100	6,000	5,600	-400	-6.7%
	238	Cook Rd	SR 238 - Goosley Rd	Ballard St	-	-	6,500	6,658	-	2,900	5,700	6,300	-	-
	621	Dare Rd	US 17 - George Washington Hwy	Rte 620 - Lakeside Dr	4,517	5,190	4,273	4,946	4,200	4,600	3,800	4,500	+300	+7.1%
	173	Denbigh Blvd	Newport News CL	US 17 - George Washington Hwy	14,842	16,191	16,509	16,203	14,000	15,000	16,000	15,000	+1,000	+7.1%
	782	E Yorktown Rd	SR 171 - Victory Blvd	Poquoson CL	-	5,370	5,681	5,585	-	5,000	5,000	5,100	-	-
	105	Fort Eustis Blvd	Newport News CL	US 17 - George Washington Hwy	15,571	16,373	17,469	-	15,000	16,000	16,000	17,000	+2,000	+13.3%
	1050	Fort Eustis Blvd Ext	US 17 - George Washington Hwy	Rte 634 - Old York Hampton Hwy	X	X	-	-	X	X	3,200	3,300	-	-
	17	George Washington Hwy	Newport News CL	SR 171 - Victory Blvd	32,720	36,142	37,917	38,983	30,000	34,000	35,000	35,000	+5,000	+16.7%
	17	George Washington Hwy	SR 171 - Victory Blvd	SR 134 - Hampton Hwy	-	39,963	41,992	42,347	-	38,000	39,000	38,000	-	-
	17	George Washington Hwy	SR 134 - Hampton Hwy	Rte 621 - Grafton Dr	52,183	57,045	56,977	54,914	49,000	53,000	53,000	51,000	+2,000	+4.1%
	17	George Washington Hwy	Rte 621 - Grafton Dr	SR 173 - Denbigh Blvd	-	36,064	39,975	39,235	-	35,000	37,000	35,000	-	-
	17	George Washington Hwy	SR 173 - Denbigh Blvd	SR 105 - Fort Eustis Blvd	35,184	35,482	38,995	39,111	33,000	34,000	36,000	35,000	+2,000	+6.1%
	17	George Washington Hwy	SR 105 - Fort Eustis Blvd	Rte 704 - Cook Rd	-	34,362	38,170	38,988	-	33,000	35,000	35,000	-	-
	17	George Washington Hwy	Rte 704 - Cook Rd	SR 238 - Goosley Rd	39,068	27,343	28,938	29,384	37,000	26,000	27,000	27,000	-10,000	-27.0%
	17	George Washington Hwy	SR 238 - Goosley Rd	Colonial Pkwy	-	27,414	29,300	30,836	-	25,000	27,000	28,000	-	-
	17	George Washington Hwy	Colonial Pkwy	Mathew St	-	30,577	31,764	34,117	-	29,000	30,000	31,000	-	-
	17	George Washington Hwy	Mathew St	Gloucester CL	32,373	34,392	35,778	34,051	27,000	34,000	34,000	30,000	+3,000	+11.1%
	173	Goodwin Neck Rd	US 17 - George Washington Hwy	Rte 630 - Wolf Trap Rd	10,095	9,319	10,528	9,318	9,500	8,400	9,300	8,500	-1,000	-10.5%
	173	Goodwin Neck Rd	Rte 630 - Wolf Trap Rd	Back Creek Rd	3,406	3,880	5,222	3,811	3,200	3,400	4,600	3,500	+300	+9.4%
	173	Goodwin Neck Rd	Back Creek Rd	Dandy Loop Rd	1,593	2,017	1,602	2,299	1,500	1,800	1,400	2,100	+600	+40.0%
	238	Goosley Rd	SR 238 - Old Williamsburg Rd	US 17 - George Washington Hwy	12,348	6,489	6,809	6,878	11,000	6,000	6,000	6,300	-4,700	-42.7%
	238	Goosley Rd	US 17 - George Washington Hwy	Rte 704 - Cook Rd	-	-	1,668	1,690	-	2,900	1,500	1,600	-	-
	134	Hampton Hwy	US 17 - George Washington Hwy	SR 171 - Victory Blvd	-	23,062	21,843	21,178	-	21,000	19,000	19,000	-	-
	134	Hampton Hwy	SR 171 - Victory Blvd	Rte 600 - Big Bethel Rd	25,086	33,615	29,902	29,041	23,000	30,000	26,000	26,000	+3,000	+13.0%
	134	Hampton Hwy	Rte 600 - Big Bethel Rd	Hampton CL	-	27,998	30,486	27,101	-	26,000	27,000	25,000	-	-
	718	Hornsbyville Rd	Rte 634 - Old York Hampton Hwy	Rte 631 - Waterview Rd	2,160	2,593	3,396	3,021	2,000	2,300	3,000	2,800	+800	+40.0%
	718	Hornsbyville Rd	Rte 631 - Waterview Rd	SR 173 - Goodwin Neck Rd	-	-	1,764	1,553	-	2,300	1,600	1,400	-	-
	716	Hubbard Ln	Rte 641 - Penniman Rd	Lakeshead Dr	3,818	4,856	5,425	5,413	3,600	4,300	4,800	4,900	+1,300	+36.1%
	64	I-64	James City CL	SR 199/Rte 646 - Newman Rd	51,917	55,234	62,101	58,252	50,000	52,000	63,000	64,000	+14,000	+28.0%
	64	I-64	SR 199/Rte 646 - Newman Rd	SR 143 - Camp Peary Rd	49,744	55,337	56,042	56,909	46,000	58,000	61,000	61,000	+15,000	+32.6%

Table 3 (Continued) – Weekday and Annual Average Daily Traffic Volumes, 2001 to 2010

Data sources: VDOT, James City County. '-' indicates data is not available for that roadway segment and year. 'X' indicates that roadway segment did not exist at that time.

York County

Route Num	Location	Segment From	Segment To	Weekday Volume 2001	2004	2007	2010	Annual Average Daily Traffic (AADT) 2001	2004	2007	2010	Change in AADT 2001 to 2010	
64	I-64	SR 143 - Camp Peary Rd	SR 199	56,649	58,253	64,079	65,349	54,000	55,000	60,000	63,000	+9,000	+16.7%
64	I-64	SR 199	Busch Gardens Interchange	78,634	78,626	81,028	83,621	75,000	74,000	78,000	81,000	+6,000	+8.0%
64	I-64	Busch Gardens Interchange	James City CL	78,634	80,740	86,497	87,885	75,000	76,000	78,000	82,000	+7,000	+9.3%
620	Lakeside Dr	US 17 - George Washington Hwy	Rte 614 - Showalter Rd	8,576	8,574	8,969	9,392	8,200	7,800	7,900	8,600	+400	+4.9%
620	Lakeside Dr	Rte 614 - Showalter Rd	Rte 621 - Dare Rd	3,758	4,202	4,402	4,514	3,600	3,800	3,900	4,100	+500	+13.9%
646	Lightfoot Rd	US 60 - Richmond Rd	Mooretown Rd	6,383	8,540	10,166	10,211	6,200	7,900	9,400	9,700	+3,500	+56.5%
1001	Mathews St	US 17 - George Washington Hwy	Water St	3,682	3,252	3,609	4,069	3,500	3,000	3,200	3,700	+200	+5.7%
143	Merrimac Trail	Busch Gardens Interchange	SR 199	16,453	14,817	16,875	14,675	16,000	14,000	15,000	13,000	-3,000	-18.8%
143	Merrimac Trail	Penniman Rd	Second St	-	-	16,543	-	-	14,000	15,000	-	-	-
143	Merrimac Trail	Second St	Williamsburg CL	7,172	7,247	8,640	7,936	6,800	6,600	7,600	7,300	+500	+7.4%
143	Merrimac Trail	Williamsburg CL	SR 132	8,692	9,154	9,643	9,226	8,500	8,600	8,500	8,700	+200	+2.4%
143	Merrimac Trail	SR 132	I-64	18,433	17,104	17,947	19,138	18,000	16,000	16,000	18,000	0	0.0%
143	Merrimac Trail	I-64	Camp Peary Main Gate	1,461	2,693	3,509	2,668	1,400	2,500	3,200	2,500	+1,100	+78.6%
603	Mooretown Rd	Waller Mill Rd	Rte 645 - Airport Rd	3,863	4,622	5,822	6,289	3,800	4,400	5,400	6,000	+2,200	+57.9%
603	Mooretown Rd	Rte 645 - Airport Rd	Old Mooretown Rd	4,368	6,357	8,651	9,283	4,300	5,900	7,900	8,800	+4,500	+104.7%
646	Newman Rd	I-64	James City CL	2,955	2,528	2,755	2,859	2,900	2,400	2,500	2,700	-200	-6.9%
238	Old Williamsburg Rd	Newport News CL	Rte 660 - Baptist Rd	9,767	10,195	10,769	11,158	8,700	8,900	9,400	9,600	+900	+10.3%
238	Old Williamsburg Rd	Rte 660 - Baptist Rd	SR 238 - Goosley Rd	8,208	9,313	9,244	9,833	7,800	8,400	8,200	8,900	+1,100	+14.1%
1020	Old Williamsburg Rd	SR 238 - Goosley Rd	Colonial Pkwy	-	2,265	2,590	3,013	-	2,000	2,300	2,700	-	-
634	Old York Hampton Hwy	US 17 - George Washington Hwy	SR 1050 - Fort Eustis Blvd Ext	3,243	3,150	4,033	4,126	3,100	2,800	3,600	3,800	+700	+22.6%
634	Old York Hampton Hwy	SR 1050 - Fort Eustis Blvd Ext	Rte 718 - Hornsbyville Rd	2,220	2,262	2,627	2,774	2,100	2,000	2,300	2,600	+500	+23.8%
718	Old York Hampton Hwy	Rte 718 - Hornsbyville Rd	Battle Rd	-	-	5,420	4,817	-	2,300	3,000	2,800	-	-
634	Old York Hampton Hwy	Battle Rd	Rte 693 - Wormley Creek Dr	3,561	4,983	4,745	4,157	3,400	4,400	4,200	3,800	+400	+11.8%
634	Old York Hampton Hwy	Rte 693 - Wormley Creek Dr	Rte 704 - Cook Rd	2,040	2,808	3,563	2,868	2,000	2,600	3,200	2,700	+700	+35.0%
620	Oriana Rd	Newport News CL	US 17 - George Washington Hwy	5,878	5,913	6,234	6,037	5,500	5,400	5,500	5,500	0	0.0%
641	Penniman Rd	Williamsburg CL	SR 143 - Merrimac Trail	-	1,941	2,436	2,810	-	1,800	2,200	2,600	-	-
641	Penniman Rd	SR 143 - Merrimac Trail	Fillmore Dr	5,918	5,270	6,294	6,087	5,600	4,800	5,600	5,600	0	0.0%
641	Penniman Rd	Fillmore Dr	SR 199	1,066	2,005	2,152	2,879	1,000	1,800	1,900	2,600	+1,600	+160.0%
641	Penniman Rd	SR 199	Colonial Pkwy	4,473	4,664	5,534	5,479	4,000	4,100	4,900	4,900	+900	+22.5%
60	Pocahontas Trail	SR 199	Busch Gardens Interchange	15,054	11,980	-	-	15,000	9,300	8,300	7,600	-7,400	-49.3%
60	Pocahontas Trail	Busch Gardens Interchange	James City CL	12,492	10,806	10,726	11,459	11,000	10,000	9,600	10,000	-1,000	-9.1%
132	SR 132	US 60 - Bypass Rd	SR 143 - Merrimac Trail	11,584	9,373	8,737	11,135	11,000	8,800	8,300	9,400	-1,600	-14.5%
199	SR 199	I-64	Rte 603 - Mooretown Rd	18,623	20,584	25,199	29,588	19,000	19,000	23,000	24,000	+5,000	+26.3%
199	SR 199	Rte 603 - Mooretown Rd	US 60 - Richmond Rd	15,000	19,733	24,536	27,033	12,000	19,000	22,000	22,000	+10,000	+83.3%
199	SR 199	SR 143 - Merrimac Trail	I-64	27,538	26,961	30,529	30,753	26,000	24,000	27,000	28,000	+2,000	+7.7%
199	SR 199	I-64	Water Country Pkwy	14,916	7,993	10,826	20,012	11,000	7,300	9,500	16,000	+5,000	+45.5%
199	SR 199	Water Country Pkwy	Rte 641 - Penniman Rd	6,590	6,031	7,896	9,598	5,100	5,500	7,100	7,800	+2,700	+52.9%
622	Seaford Rd	SR 173 - Goodwin Neck Rd	Ellerson Ct	8,933	9,473	9,413	9,128	8,400	8,400	8,300	8,300	-100	-1.2%
622	Seaford Rd	Ellerson Ct	Rte 718 - Back Creek Rd	6,556	6,764	6,732	6,855	6,200	6,100	5,900	6,300	+100	+1.6%
162	Second St	Williamsburg CL	SR 143 - Merrimac Trail	17,976	16,042	15,207	15,123	17,000	19,000	21,000	23,000	+6,000	+35.3%
171	Victory Blvd	Newport News CL	US 17 - George Washington Hwy	45,257	52,743	50,111	52,998	42,000	48,000	43,000	49,000	+7,000	+16.7%
171	Victory Blvd	US 17 - George Washington Hwy	SR 134 - Hampton Hwy	-	30,801	32,291	33,648	-	29,000	28,000	31,000	-	-
171	Victory Blvd	SR 134 - Hampton Hwy	Rte 600 - Big Bethel Rd	-	20,450	19,853	20,304	-	19,000	17,000	19,000	-	-
171	Victory Blvd	Rte 600 - Big Bethel Rd	Poquoson CL	18,575	22,254	20,895	21,568	18,000	21,000	18,000	20,000	+2,000	+11.1%
713	Waller Mill Rd	US 60 - Bypass Rd	Rte 643 - Caran Rd	5,801	5,174	4,572	4,634	5,400	4,700	4,000	4,300	-1,100	-20.4%
1020	Water St	Colonial Pkwy	Ballard St	-	-	5,040	5,179	-	1,500	4,100	4,700	-	-
630	Wolf Trap Rd	US 17 - George Washington Hwy	SR 173 - Goodwin Neck Rd	6,483	7,703	8,740	8,219	6,100	6,700	7,700	7,500	+1,400	+23.0%

Table 3 (Continued) – Weekday and Annual Average Daily Traffic Volumes, 2001 to 2010

Data sources: VDOT, James City County. '-' indicates data is not available for that roadway segment and year. 'X' indicates that roadway segment did not exist at that time.

VDOT produces estimates of vehicle-miles of travel based on these traffic counts and AADT estimates. **Table 4** shows the daily average vehicle-miles of travel in the study area in those years between 2001 and 2010 that VDOT collected traffic count data. Both James City County (24.9%) and York County (22.3%) experienced increases in roadway travel between 2001 and 2010 that were much higher than the regional growth of 11.7%. The City of Williamsburg, however, experienced a 6.7% growth in vehicle-miles of travel between 2001 and 2010, well below the Hampton Roads average.

	2001	2004	2007	2010	Growth, 2001 to 2010
James City County	1,438,900	1,529,800	1,704,200	1,797,700	24.9%
Williamsburg	248,900	253,900	250,300	265,500	6.7%
York County	1,769,800	1,996,300	2,037,900	2,165,000	22.3%

Table 4 – Daily Vehicle-Miles of Travel, 2001 to 2010
Data source: VDOT.

Between 2001 and 2010, the population growth outpaced travel growth in James City County (33% population growth) and Williamsburg (13%), but did not outpace travel growth in York County (13%). In spite of this increase in roadway travel, roadway congestion levels have not increased significantly in the study area, as shown in the next section.

Roadway Congestion

The roadway congestion analysis performed for this study is based on the same procedure used in the HRTPO Congestion Management Process (CMP). Congestion levels for each roadway segment were determined using a measure called Level of Service (LOS). Level of Service is categorized on a scale from LOS A through LOS F, with LOS A representing the best operating conditions and LOS F representing the most congested conditions (**Figure 2**). Levels of Service A through D are considered to be acceptable operating conditions, while Levels of Service E and F are considered unacceptable due to severe congestion.

Peak hour congestion levels were calculated using weekday traffic volume data collected by VDOT in 2010. The LOSPLAN software package[1] produced by the Florida Department of Transportation was used to calculate congestion levels. The LOSPLAN software uses methods to calculate Levels of Service based on the Highway Capacity Manual[2], and takes into account various roadway and traffic characteristics. Congestion levels for each roadway segment were determined for the hour (defined as four consecutive 15-minute periods) with the highest traffic volume between 3 pm and 7 pm. This hour is referred to in this report as the PM peak hour.

Map 3 on page 10 shows the current congestion levels during the PM peak hour on major roadways throughout James City County, Williamsburg, and York County. These major roadways are part of the regional Congestion Management Process roadway network, which includes all roadways classified as minor arterials and above and selected collectors.

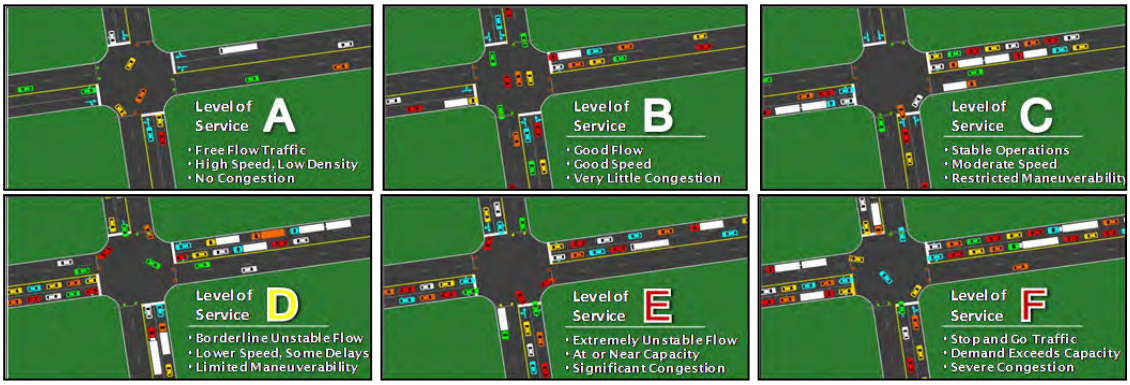
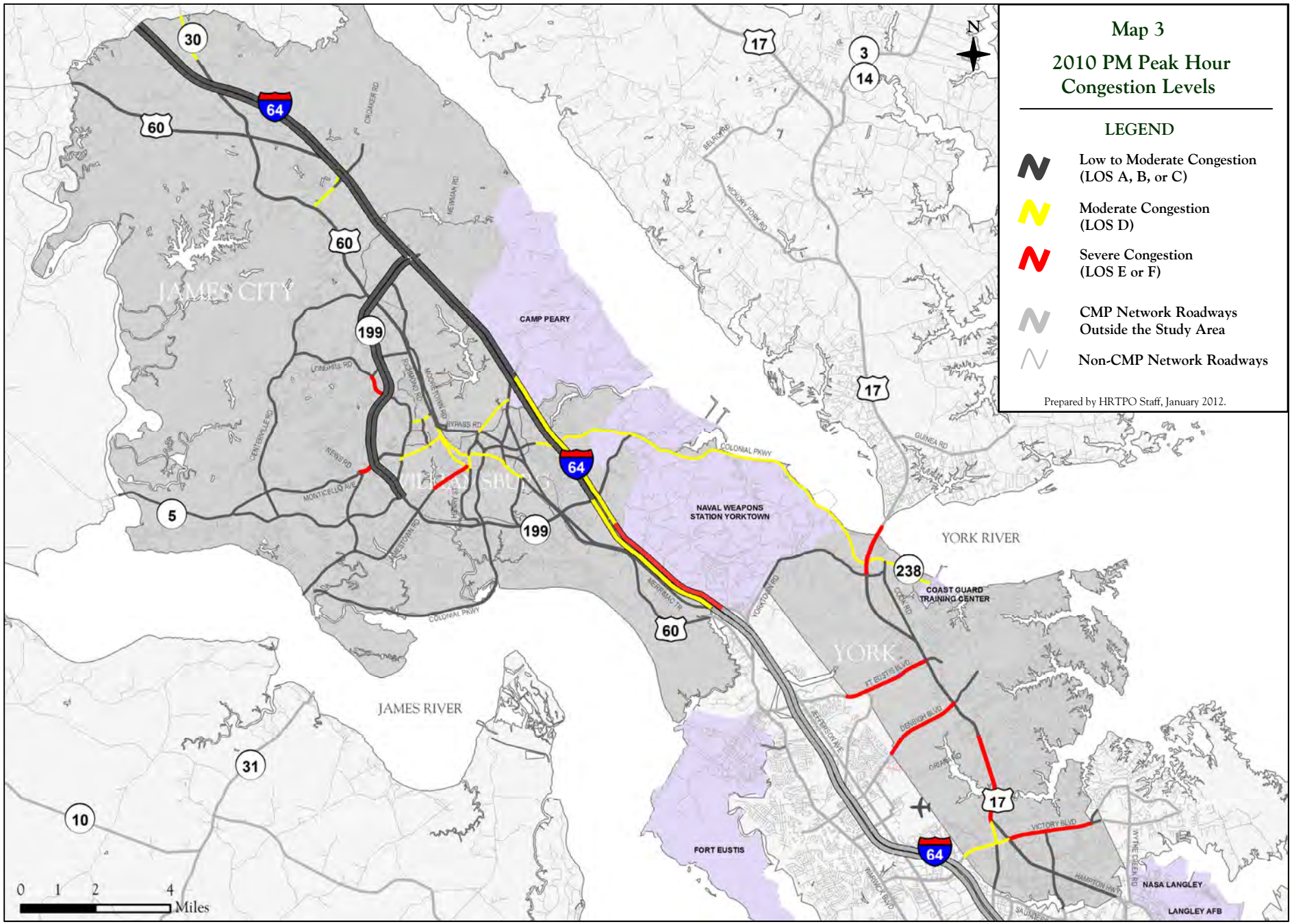


Figure 2 – Level of Service Definitions
Source: HRTPO Congestion Management Process report.

[1] LOSPLAN Software, Florida Department of Transportation, 2009. Information on LOSPLAN Software is available at http://www.dot.state.fl.us/planning/systems/sm/los.

[2] *Highway Capacity Manual*, Transportation Research Board, 2000.


Map 3
2010 PM Peak Hour Congestion Levels
LEGEND
Low to Moderate Congestion (LOS A, B, or C)
Moderate Congestion (LOS D)
Severe Congestion (LOS E or F)
CMP Network Roadways Outside the Study Area
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
COAST GUARD TRAINING CENTER
YORK
JAMES RIVER
FORT EUSTIS
NASA LANGLEY
LANGLEY AFB
0 1 2 4 Miles

Appendix C includes congestion maps for each jurisdiction, and the existing LOS for each roadway segment is also included in **Table 8** on page 28.

There are eleven roadway segments in the study area that are currently operating at severely congested levels (LOS E or F) during the PM peak hour (**Table 5**). Most of these roadway segments are in York County, including portions of I-64, Denbigh Boulevard, Fort Eustis Boulevard, George Washington Memorial Highway, and Victory Boulevard. Portions of I-64, Longhill Road, and Monticello Avenue in James City County are currently severely congested during the PM peak hour, as is a portion of Jamestown Road in the city of Williamsburg.

These eleven severely congested roadway segments comprise a total of 15.6 centerline miles, or 39.2 lane-miles[3] of roadway. In percentage terms, 7% of the CMP roadway network lane-miles in the study area are currently experiencing severe congestion (LOS E or F) during the PM peak hour (**Figure 3**), with another 13% experiencing moderate congestion (LOS D). On a jurisdictional level, York County has the highest percentage of severely congested lane miles at 12% of its CMP roadway network. James City County and Williamsburg have a much lower level of congestion, with only 3% of their CMP roadway networks currently being severely congested.

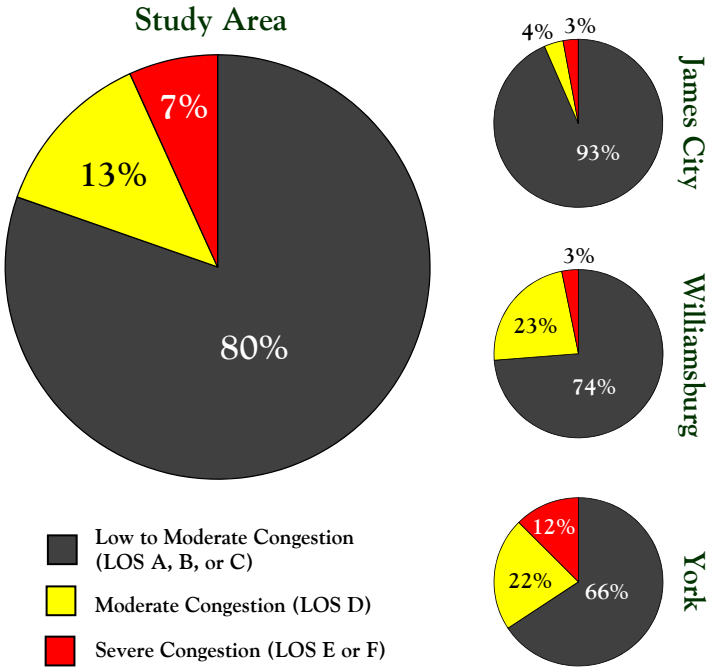


Figure 3 – 2010 PM Peak Hour Congestion by Lane-Mile, CMP Roadway Network
Source: HRTPO.

The study area has less congestion than the region as a whole. 12% of the CMP roadway network lane-miles in Hampton Roads are currently experiencing severe congestion (LOS E or F) during the PM peak hour, with another 20% experiencing moderate congestion (LOS D).

JURISDICTION	FACILITY	FROM/TO	NUMBER OF LANES	LENGTH (MILES)
James City	I-64 Westbound	Newport News CL to York CL	2	2.38
James City	Longhill Rd	Olde Towne Rd to Route 199	2	0.66
James City	Monticello Ave	News Rd to Route 199	4	0.57
Williamsburg	Jamestown Rd	College Creek to Boundary St	2	0.92
York	Denbigh Blvd	Newport News CL to George Washington Hwy	2	2.18
York	Fort Eustis Blvd	Newport News CL to George Washington Hwy	2*	2.36
York	George Washington Hwy	Hampton Hwy to Dare Rd	4	2.37
York	George Washington Hwy	Goosley Rd to Gloucester CL (Coleman Bridge)	4	1.06
York	I-64 Westbound	James City CL to Grove Connector	2	0.85
York	Victory Blvd	Hampton Hwy to Big Bethel Rd	2	1.02
York	Victory Blvd	Big Bethel Rd to Carys Chapel Rd	2	1.25

Table 5 – 2010 Congested Roadway Segments
Source: HRTPO.
* - Fort Eustis Boulevard is currently being widened to four lanes.

[3] A lane-mile is defined as the length of a roadway segment multiplied by the number of lanes. A one-mile long, four-lane wide roadway segment would comprise four lane-miles.

PUBLIC TRANSPORTATION

This section includes details on the public transportation services that are currently provided throughout the study area, as well as the Park and Ride lots that are owned by the Virginia Department of Transportation.

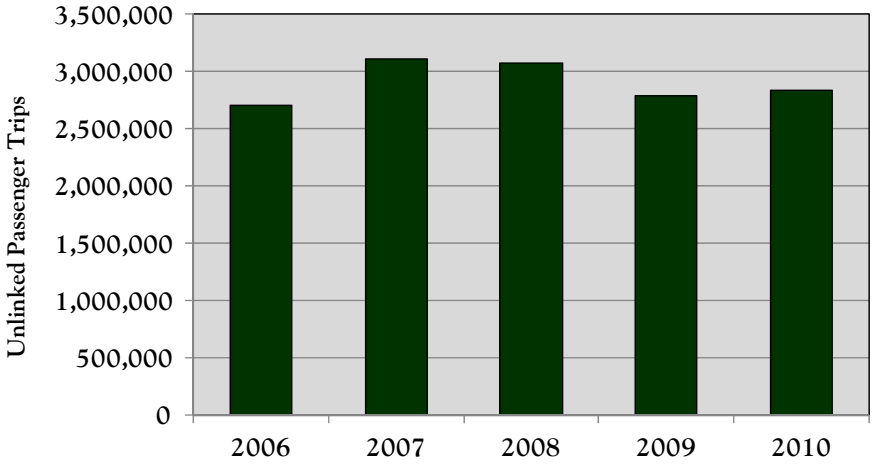


Figure 4 – WATA Ridership, 2006-2010
Data Sources: WATA, American Public Transportation Association.
An unlinked trip is a passenger trip made on one transit vehicle. If a passenger boards two buses to get from origin to destination, that is considered to be two unlinked trips.

Transit

Transit services in James City County, Williamsburg, and northern York County are provided by the Williamsburg Area Transit Authority (WATA). These services, which are provided under the brand name Williamsburg Area Transport, are geared towards residents, William & Mary students, and tourists. Approximately 1% of residents in the study area use public transportation to commute to work according to the Census Bureau[4], which is below the Hampton Roads average of 1.6%.

Year round, WATA operates eight bus routes, on-demand paratransit service, the Surry County Connection, and the Williamsburg Trolley, which provides service to the Merchants Square, High Street, and New Town activity centers (more information on the Williamsburg Trolley is included on page 39). WATA also provides bus service for the Colonial Williamsburg Foundation, which services Historic Triangle tourist destinations. From April through October, WATA also operates the Jamestown Area Shuttle and collaborates with York County in the operation of the Yorktown Trolley. The locations of WATA's routes are shown on **Figure 5** on page 13.

WATA also provides connections to the Hampton Roads Transit (HRT) system at two locations. HRT Route 121 runs from the Newport News Transportation Center and Patrick Henry Mall to the Williamsburg Transportation Center. HRT Route 116, which ends at Patrick Henry Mall, connects to WATA's Gray Line at Lee Hall in Newport News.

WATA Bus

Transfers can be made from the Newport News Transportation Center and Patrick Henry Mall to the rest of the HRT's system.

In 2010, 2,843,000 trips were served on WATA's system (**Figure 4**). The total number of trips on the WATA system increased between 2006 (when WATA began reporting on Historic Triangle transportation services) and 2007, but decreased in 2008 and 2009 before increasing slightly in 2010.

Intercity bus service is also provided in the study area, with Greyhound service available at the Williamsburg Transportation Center. Greyhound provides two buses that travel from Williamsburg toward Richmond and Norfolk each day.

[4] *2005-2009 American Community Survey 5-Yaer Estimates*, US Census Bureau.

Figure 5 – Williamsburg Area Transit Authority Route Map

Source: WATA. The Surry County Connection route is not shown on this map.

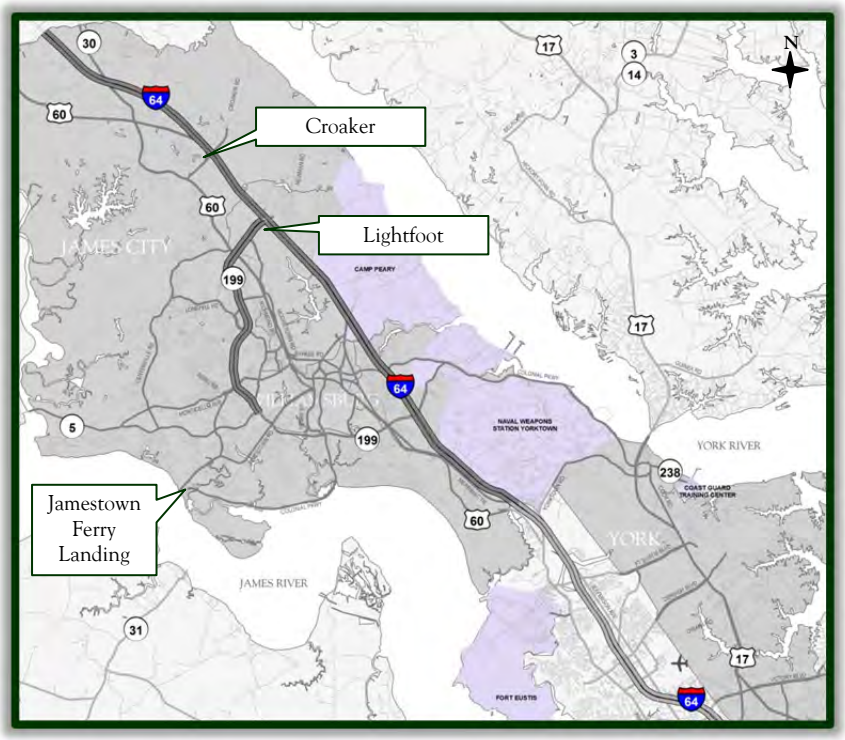
Park and Ride Lots

A number of residents in the study area use carpooling to travel to work. According to the Census Bureau, 5,700 residents in the study area carpooled to work on a regular basis in 2005-2009. This percentage (8.7%) is slightly below the regional carpooling average of 9.9%. The TRAFFIX program, which is funded by HRTPO and operated by Hampton Roads Transit, conducts various efforts to increase the use of transportation alternatives such as carpools, rideshares, and public transit throughout the region and study area.

In order to assist with carpooling and ridesharing efforts, VDOT maintains Park and Ride lots throughout the state, including three lots in the study area (**Map 4**). These Park and Ride lots in the study area include:

- **Lightfoot** - This lot is located on East Rochambeau Drive just to the south of the interchange of I-64 and Route 199. The unpaved Lightfoot Lot has space available for 76 vehicles.
- **Croaker** - The Croaker Lot is located at the corner of Rochambeau Drive and Croaker Road just to the west of I-64. This unpaved lot has space for 75 vehicles.
- **Jamestown Ferry Landing** - This lot is located on Jamestown Road at the Jamestown Settlement, just to the north of the Jamestown-Scotland Ferry. This paved lot has 132 spaces.

VDOT is currently conducting a study of Park and Ride lots statewide. This study will update VDOT's inventory and usage of Park and Ride lots, identify recommendations for new or expanded Park and Ride lots, update VDOT's website to include an interactive map of official lots, develop VDOT's Park and Ride program polices and goals, and assist VDOT in coordinating its Park and Ride lot program with other state and local agencies and the public. This study is expected to be completed in December 2012.



Map 4 – Park and Ride Lots in the Study Area
Data Sources: VDOT, TRAFFIX.

Lightfoot Lot

Croaker Lot

Jamestown Ferry Landing Lot

INTERCITY PASSENGER RAIL

Amtrak provides intercity passenger rail service through the study area along the CSX Railway corridor. This service is part of the Northeast Regional route, which operates between Boston and Newport News. There is one station in the study area, at the Williamsburg Transportation Center on North Boundary Street in Downtown Williamsburg.

As of June 2011, there are two daily northbound trains passing through the Williamsburg station. One leaves Williamsburg in the morning (reaching Washington, D.C. mid-day and Boston by late evening) and one leaves in the afternoon (reaching Washington, D.C. in the evening and Boston the next morning). There are also two daily southbound trains, one which leaves Boston in the evening, passes through Washington, D.C. in the morning and arrives in Williamsburg mid-day and another which leaves Boston in the morning, passes through Washington, D.C. in the afternoon, and arrives in Williamsburg in the evening. On Fridays, there is a third southbound train that arrives in Williamsburg in the evening.

Intercity rail passenger activity is counted via boardings and alightings – the number of people getting on and off of the train at each station. In 2010, there were 47,176 boardings and alightings at the Williamsburg Amtrak Station (**Figure 6**). This number of passengers at the Williamsburg station has decreased slightly since peaking in 2008, but is still above the passenger levels seen from 2002 to 2007.

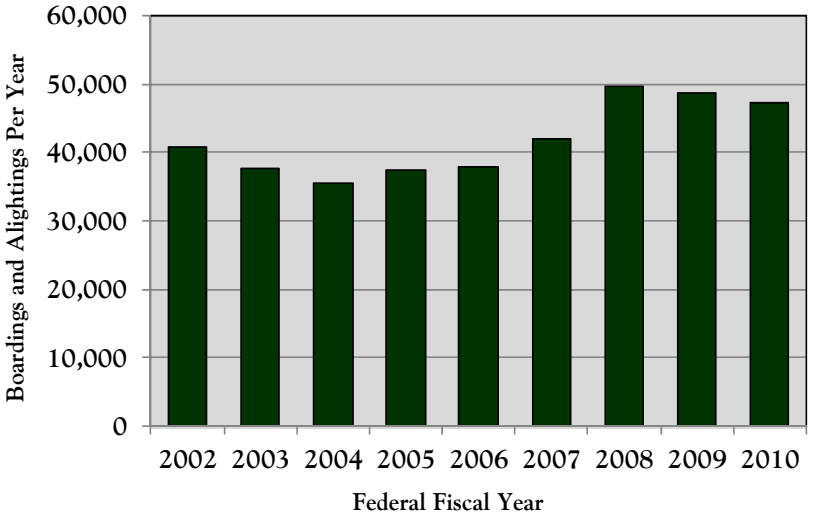


Figure 6 - Amtrak Passenger Activity in Williamsburg, 2002-2010

Data source: Amtrak.
Based on Federal Fiscal Years, which run from October 1 - September 30.

Williamsburg Transportation Center

BICYCLE AND PEDESTRIAN FACILITIES

Bicycling and walking are popular in the study area, not only for recreation but also as an important means of transportation. Approximately 5% of residents in the study area walk or use their bicycle to commute to work according to the Census Bureau, which is more than one and a half times the Hampton Roads regional average. As shown in **Figure 7**, this percentage of residents walking or biking to work is much higher in the City of Williamsburg (26%) than it is in James City County (1%) and York County (5%).

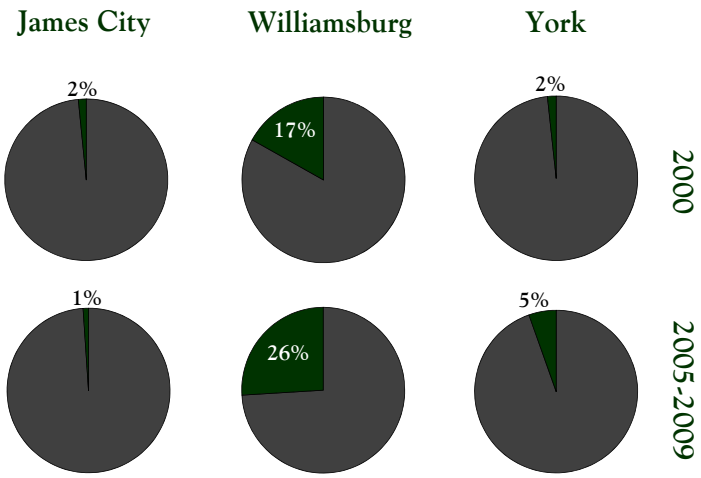


Figure 7 - Percentage of Residents Bicycling or Walking to Commute to Work, 2000 and 2005-2009
Data source: US Census Bureau.

Williamsburg, James City County, and York County joined together in 1993 to take a regional approach to bikeway planning. Together, the three localities developed the *Regional Bicycle Facilities Plan*. This plan was created to encourage the development of a coordinated, comprehensive system of integrated bikeways in the three localities. The benefits of such an integrated bikeway system were expected to be energy conservation, reduced pollution, traffic reduction, improved quality of life, and increased appeal as a tourist destination.

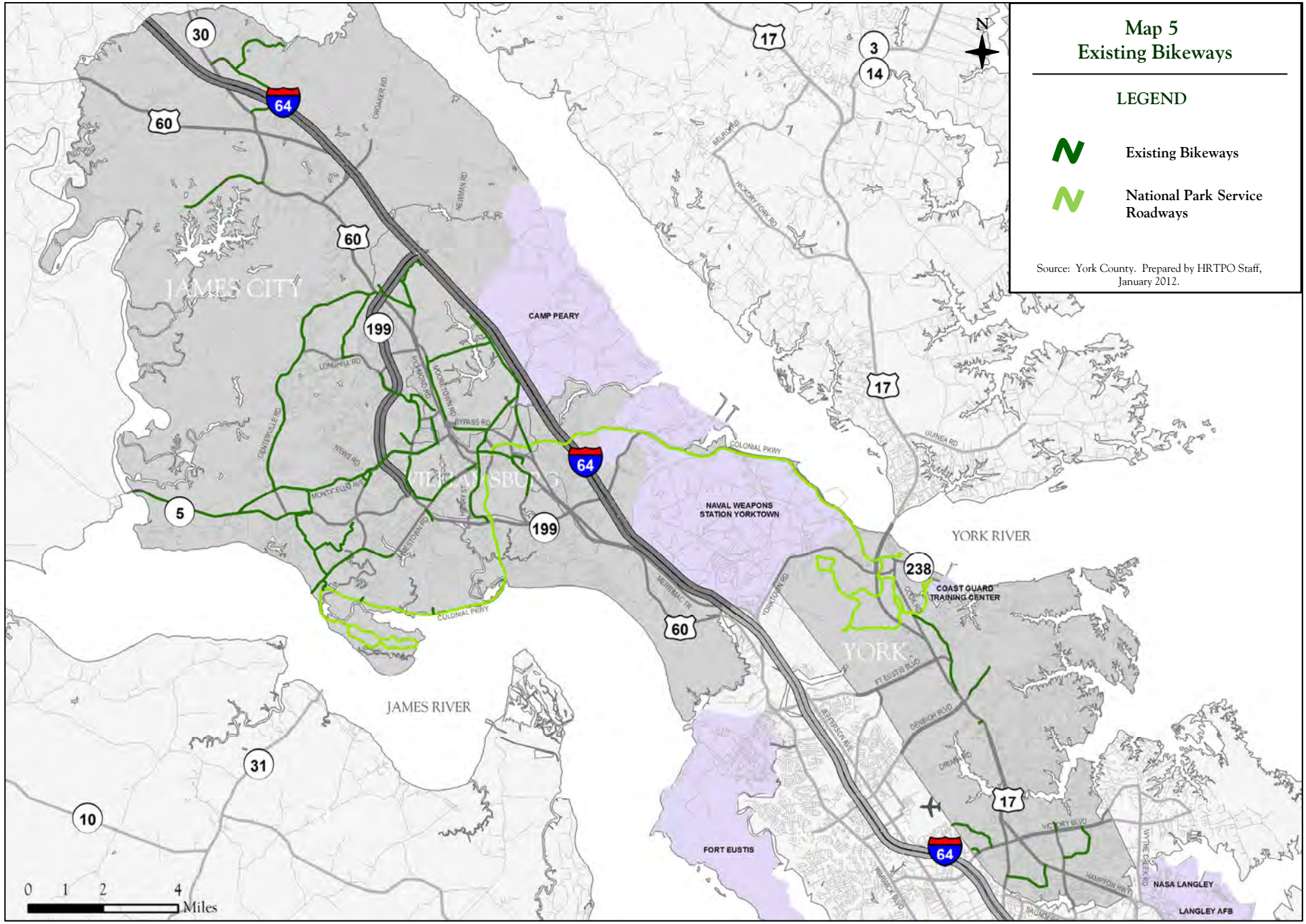
An update to the original plan was completed in 1998. This update included recreational and off-road facilities in addition to the transportation-oriented facilities that were included in the original plan. The updated *Regional Bicycle Facilities Plan* is available on York County's website at http://www.yorkcounty.gov/Default.aspx?tabid=1720.

As part of this effort to improve regional bikeway planning, the three localities formed the Historic Triangle Bicycle Advisory Committee (HTBAC). The HTBAC, which meets on a quarterly basis, is comprised of citizen appointees and staff from Williamsburg, James City County, and York County, as well as staff from the National Park Service, the Colonial Williamsburg Foundation, and the College of William and Mary. The HTBAC is responsible for recommending bikeway projects for implementation in accordance with the Regional Bicycle Facilities Plan; recommending amendments to the plan; and developing and implementing promotional, informational, and safety initiatives related to bicycling.

The three localities also collaborate to produce a Regional Bikeway Plan Map. This map includes existing facilities, proposed bike lanes and facilities, and conceptual locations for future bike paths. **Map 5** on page 17 shows the existing bikeways based on the Regional Bikeway Plan Map. These existing bikeways include:

- **Multi-Use Paths** - Facilities that are physically separated from the roadway and prohibited for use by motorized traffic.
- **Bike Lanes** - Roadways that can accommodate bicyclists. These facilities include bike lanes within the roadway that are delineated for bicycle use only. This also includes paved shoulders and wide outside lanes that provide enough space to accommodate bicyclists along with motorized traffic in cases where constraints don't allow for a delineated lane.
- **Shared Roadways** - Roadways that are signed as a bicycle route but do not have a portion of the roadway that is either reserved exclusively for bicyclists or can accommodate bicyclists and motorized traffic simultaneously.

There are 69 miles of existing bikeway facilities in the three jurisdictions, plus 40 additional miles of shared roadway facilities on roads maintained by the National Park Service (NPS). This includes the Colonial Parkway, Jamestown Island Tour Road,


Map 5
Existing Bikeways
LEGEND
Existing Bikeways
National Park Service Roadways
Source: York County. Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
WILLIAMSBURG
YORK
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
COAST GUARD TRAINING CENTER
YORK RIVER
JAMES RIVER
FORT EUSTIS
NASA LANGLEY
LANGLEY AFB
COLONIAL PKWY
0 1 2 4 Miles

and Yorktown Battlefield Tour Road, and all are heavily used by bicyclists.

A number of high profile bicycle facilities are located in the study area. The Virginia Capital Trail, when completed, will connect Williamsburg and Downtown Richmond via the Colonial Parkway and 54-miles of multi-use path. The eight miles of multi-use path within James City County are complete, running from the Chickahominy Bridge parallel to Route 5 and Greensprings Road to the Jamestown Settlement. Seventeen miles of the Virginia Capital Trail are currently complete, with the remainder of the trail expected to be completed by 2014 according to VDOT.

Virginia Bicycle Route 76 also spans the study area. This route is part of both U.S. Bicycle Route 76, which runs from Illinois to Virginia, and the TransAmerica Bike Route, which connects Oregon with Virginia. Virginia Bicycle Route 76 follows the Virginia Capital Trail and the Colonial Parkway before reaching its terminus at Yorktown.

Bikeway projects completed throughout the study area in recent years are included in **Table 6**. More information on proposed and conceptual bicycle facilities is included in the Future Analysis - Bicycle and Pedestrian Facilities section of this report.

In addition to bikeways, all three localities have a network of sidewalks that accommodate pedestrian activity. The pedestrian facility network is robust in high pedestrian traffic destinations such as Colonial Williamsburg, the College of William and Mary, New Town, and Yorktown Village. In many other portions of the study area, however, there is an incomplete or nonexisting network.

New Town

Each of the three localities has taken steps to address the gaps in their sidewalk networks. James City County created a Sidewalk Master Plan in 1989, amended the plan in 1998, and updated it with a Pedestrian Accommodation Plan in 2011. James City County also provided for the design of "Complete Streets" in its 2009 Comprehensive Plan, which are roadways that are not only designed for motor vehicle use but are designed for pedestrians, bicyclists, and transit as well. Williamsburg has removed many gaps in its sidewalk system, and created a map of needed sidewalk improvements that is included in its 2006 Comprehensive Plan. York County created the York County Sidewalk Plan in 1995, which provided the vision for 33 miles of additional sidewalks that would enable people to walk safely to nearby activity centers such as schools, parks, churches, libraries, and shopping areas.

These gaps in the pedestrian facility network are described further in the Future Analysis - Bicycle and Pedestrian Facilities section of this report.

Juris-diction	UPC	Project	Construction Completed	Cost
JCC	17632	Bikeway - Colonial Pkwy Connections at Neck-O-Land Rd and Treasure Island Rd	August 2001	$84,000
JCC	18087	Shoulder Bike Path - Strawberry Plains Rd from Route 5 to Ironbound Rd	October 2001	$230,000
JCC	57364	Bikeway - Centerville Rd from North of Jolly Pond Rd to Longhill Rd	April 2003	$206,000
JCC	54759	Multi-Use Path - Greensprings Trail	November 2006	$3,575,000
JCC	55051	Virginia Capital Trail - East of Chickahominy Bridge to Greensprings Trail	May 2007	$4,659,000
WMB	-	Shoulder Bike Lanes - Jamestown Road from John Tyler Lane to Ukrop Way	2002	$5,496
WMB	-	Shoulder Bike Lanes - Longhill Road	2008	$3,607
WMB	-	Shoulder Bike Lanes - Penniman Road	2005	$3,949
WMB	-	Shoulder Bike Lanes - Route 132 from the CSX Railroad to Bypass Road	2006	$5,328
YC	17635	Goodwin Neck Rd Bike Lanes	May 2001	$395,000

Table 6 – Bikeway Projects Completed Since 2001
Compiled from various sources.

Air Travel

Three commercial service airports are located within 50 miles of Williamsburg. Newport News-Williamsburg International Airport (airport code PHF) is located in the study area, and Norfolk International (ORF) and Richmond International (RIC) are also used by the study area's residents and travelers. Corporate aviation service is provided at Williamsburg Jamestown Airport (JGG), as well as at the three commercial airports. Finally, there are military airport and heliport facilities located at Camp Peary and the Yorktown Naval Weapons Station in York County.

Newport News-Williamsburg International Airport

Newport News - Williamsburg International Airport

The Newport News-Williamsburg International Airport is located on the border of Newport News and York County. The airport, which is owned and operated by the Peninsula Airport Commission, is currently served by four commercial airlines - AirTran Airways, Delta Air Lines, Frontier Airlines, and US Airways. These airlines provide non-stop service to Atlanta, Boston, Charlotte, Denver, New York City, Orlando, and Philadelphia.

A number of improvements have been completed at Newport News-Williamsburg International Airport in recent years. A new air traffic control tower and parking garage were constructed in 2007, and a new concourse (Concourse A) was opened in 2010. Renovations have also been recently completed throughout the airport, including the Atrium and Concourse B.

Passenger activity at the Newport News-Williamsburg International Airport has more than tripled over the past 20 years, as shown in **Figure 8**. The majority of this growth occurred between 2001 and 2005, as Airtran Airways introduced new and more frequent service. Since 2005, passenger activity at the Newport News-Williamsburg International

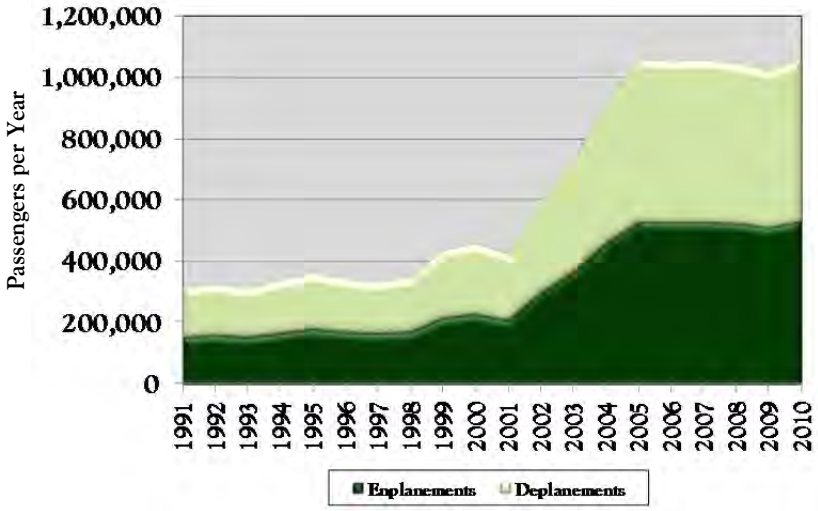


Figure 8 - Newport News-Williamsburg International Airport Passenger Activity, 1991-2010
Data sources: FAA, Newport News-Williamsburg International Airport.

Airport has only increased by 0.4%, due in part to higher airfares and the condition of the economy.

Service and passenger activity will be reduced at Newport News-Williamsburg International Airport in 2012 with Airtran discontinuing service in March. This is addressed further in the Future Conditions - Air Travel section of this report.

Norfolk and Richmond International Airports

Due to their proximity and service levels, many of the study area's residents and travelers use Norfolk International and Richmond International Airports. Norfolk International Airport is served by six commercial airlines, and is the only one of the three commercial service airports currently served by Southwest Airlines. Richmond International Airport is served by nine commercial airlines, with exclusive service from JetBlue Airways, Vision Airlines, and Air Canada among the three airports.

Both Norfolk International and Richmond International Airport had about 1.7 million enplanements (or 3.4 million passengers) in 2010, which is more than three times the passenger level handled at Newport News-Williamsburg International Airport (**Figure 9**). Unlike Newport News-Williamsburg International Airport, however, both Richmond and Norfolk International Airports have seen a decrease in passenger levels since the start of the economic downturn in 2007.

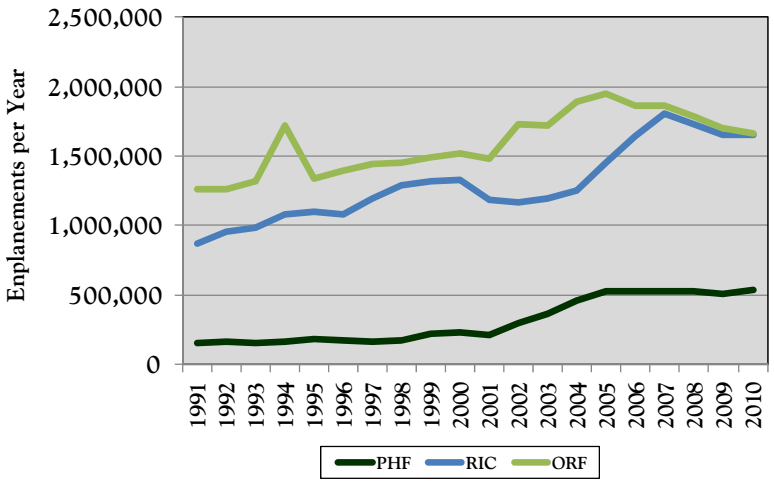


Figure 9 - Enplanements at Newport News-Williamsburg, Richmond, and Norfolk International Airports, 1991-2010
Data source: FAA.

Williamsburg Jamestown Airport

Williamsburg Jamestown Airport

The Williamsburg Jamestown Airport is a small, privately owned and operated general aviation facility located off of Lake Powell Road in James City County. The airport serves small private planes used for recreational and business travel, with no scheduled commercial passenger service available. The facility also serves as the base for a flight school. As of 2009, there were 77 aircraft based at the airport, with approximately 22,000 takeoffs and landings occurring annually.

In 2009, the FAA, Virginia Department of Aviation, and James City County authorized and funded a study[5] to "determine the demand for aviation services and the alternatives available to serve this demand in the James City County area". This study was initiated because the existing owners indicated a desire to sell the airport property. There were discussions about the county buying and operating the airport. At the conclusion of the study, James City County decided not to pursue the purchase of the airport. At this time, the airport is still operating under the ownership of the original owners.

[5] *Airport Feasibility Study*, L. Robert Kimball & Associates, Inc., May 2009.

FUTURE CONDITIONS

This chapter looks at the future conditions on the transportation network in the study area, both in the near and long term. Similar to the Current Conditions chapter, this chapter is divided into five sections based on transportation mode. These sections include:

- **Highway** - Includes a description of planned and programmed roadway improvements, projected traffic volume data for the year 2034, an analysis of the projected 2034 peak hour roadway congestion and how it compares to existing congestion levels, and a description of unfunded roadway projects in the study area.
- **Public Transportation** - Includes a description of transit service improvements included in WATA's Transit Development Plan and the regional Transit Vision Plan.
- **Intercity Passenger Rail** - Includes a description of the Virginia Department of Rail and Public Transportation's planned intercity rail improvements.
- **Bicycle & Pedestrian** - Includes a description of needs in the bicycle and pedestrian network, particularly those gaps in the existing bikeway network.
- **Air Travel** - Includes general information and future plans for the commercial service and general aviation airports used by the study area's residents and tourists.

HIGHWAY

Programmed Roadway Projects

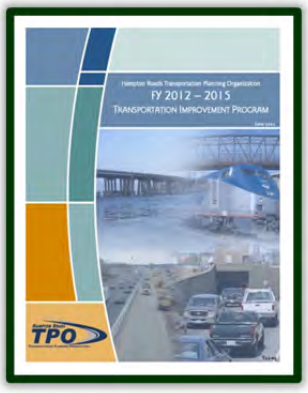
Programmed roadway improvement projects in Hampton Roads are included in two documents, the Six-Year Improvement Program (SYIP) and the Transportation Improvement Program (TIP).

The Six-Year Improvement Program[6] is a statewide document through which the Virginia Commonwealth Transportation Board (CTB) allocates funds for the construction, development, or study of transportation projects. The projects included in the SYIP not only encompass major projects such as new roadway construction and widening existing facilities but also smaller projects such as adding traffic signals, paving shoulders, and adding or extending intersection turn bays.

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 also includes dates for the expected initiation of preliminary engineering design, right-of-way acquisition, and construction phases of each project. The SYIP is developed annually by VDOT and the CTB and is occasionally revised within fiscal years if funding projections are significantly updated.

In addition to the SYIP, the Hampton Roads Transportation Improvement Program[7] is also a multi-year document detailing the implementation of transportation projects. The TIP is a federally-mandated, 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 must be a financially constrained document, which means that the amount of funding programmed in the TIP cannot exceed the expected amount of available funding. Before any federally-funded and/or regionally significant surface transportation project can be built, it must be included in the most recent TIP approved by the HRTPO board. The TIP



[6] *FY 2012-2017 Six-Year Improvement Program*, Commonwealth Transportation Board, June 2011.

[7] *Hampton Roads Transportation Improvement Program FY 2012-2015*, HRTPO, June 2011, with amendments through November 2011.

must also be consistent with the current Long-Range Transportation Plan, which is described further in the next section.

The Hampton Roads TIP may be revised as needed in order to add new projects, delete projects, and update or change project information. Not only roadway projects are included in the TIP; transit, bicycle and pedestrian, enhancement, and freight-related projects are included as well. Although the TIP (which is a federally mandated, regional document that covers a 4-year time horizon) and the SYIP (which is a statewide document that covers a 6-year time horizon) are different documents, most of the projects included in the TIP are also included in the SYIP and vice-versa.

Both the TIP and SYIP are prepared with the assistance of many stakeholders, including transportation engineers and planners from each city and county, VDOT staff, local transit officials, and the public. This is done through various mechanisms such as HRTPO's Transportation Technical Advisory Committee (TTAC) and other regional subcommittees; consultation between local, regional, and state officials; public meetings and workshops; and public comment periods.

Projects and studies that are included in the SYIP and/or TIP and located within the study area are shown in **Table 7** on page 23. Each project's projected construction start date, estimated cost, and allocated funding levels are also included. This list includes those projects that improve roadway capacity or safety, such as new roadways, roadway widenings, traffic signals, turn lanes, shoulders, and rail crossing improvements. Projects involving only the reconstruction of an existing roadway, such as repaving or drainage improvements, are not shown, nor are projects that do not have a site-specific location. The location of each of these projects is shown on **Map 6** on page 24.

A total of 31 roadway projects or studies in James City County, Williamsburg, and York County are included in the current SYIP or TIP as described above. Combined, these projects account for a total of $136 million of allocated funding. Most of these projects are of the smaller variety, such as intersection improvements and new traffic signals.

Fort Eustis Boulevard Construction

Only three of these projects are major roadway widenings that are fully funded for construction. These are the Ironbound Road and Fort Eustis Boulevard widening projects that are currently under construction and a section of George Washington Memorial Highway (Route 17) in York County.

In addition to these 31 projects, there are additional roadway projects and studies that have funds allocated in the SYIP/TIP. These projects are not shown, however, since they are not likely to be completed for various reasons. Examples of these projects include the Route 60 Relocation project, Route 60/143 Connector Study, and paved shoulders on Ironbound Road and Longhill Road. Funds that are currently allocated to these projects ($6.6 million) will likely be transferred to other projects.

Roadway Projects Programmed for Construction

Juris-diction	UPC	Project	Projected Construction Start	Estimated Cost	Allocated Funding in SYIP/TIP
JCC	82961	Add Turn Lanes - Monticello Ave at Ironbound Rd	2014	$2,424,000	$2,424,000
JCC	98823	Bridge Replacement - Route 601 over Diascund Creek	2018	$726,000	$726,000
JCC	60512	Improve Curve - Olde Towne Rd	-	$2,648,000	$1,523,000
JCC	97010	Intersection Improvements - Richmond Rd at Airport Rd	2014	$458,000	$458,000
JCC	*	Intersection Improvements - Route 199 at Brookwood Drive	-	$275,000	$275,000
JCC	*	Intersection Improvements - Route 199 Ramp at Richmond Road	-	$455,000	$455,000
JCC	98279	Signal Upgrade and Install Median Barrier - Longhill Rd at Olde Towne Rd	2012	$401,000	$401,000
JCC	101271	Turn Lane Improvements - Richmond Rd at Centerville Rd/Lightfoot Rd	2012	$1,000,000	$1,000,000
JCC	98435	Upgrade Signal - Route 199 at John Tyler Hwy	Underway	$240,000	$350,000
JCC/WMB	50057	Widening Ironbound Rd from 2 to 4 Lanes - Strawberry Plains Rd to Longhill Connector Rd	Underway	$14,079,000	$14,079,000
WMB	100408	Improve Rail Crossing - Henry St	2012	$75,000	$75,000
WMB	84905	Install Traffic Signal - Richmond Road at Waltz Farm Drive	-	$260,000	$260,000[1]
WMB	84906	Install Traffic Signal - Second St at Parkway Dr	-	$266,000	$40,000[1]
WMB	84908	Install Traffic Signal - York St at Quarterpath Rd	-	$216,000	$200,000[1]
WMB	89062	Widening Ironbound Rd from 2 to 3 Lanes - Longhill Connector Rd to Richmond Rd	-	$3,500,000	-[2]
YC	13714	Construct Turn Lanes - Lakeside Dr between Route 17 and South of Dare Rd	2012	$6,785,000	$6,716,000
YC	97019	Improve Rail Crossing - Wolf Trap Rd South of Hornsbyville Rd	2012	$18,000	$50,000
YC	98247	Intersection Improvements - Dogwood Rd at Old Williamsburg Rd	2012	$56,000	$63,000
YC	95423	Intersection Improvements - East Rochambeau Dr at Airport Rd	2014	$518,000	$514,000
YC	83512	Intersection Improvements - Route 17 at Oriana Rd/Lakeside Dr	-	$3,000,000	$800,000
YC	98098	Lengthen Ramp and Weave Section on I-64 WB at Route 199	2015	$2,677,000	$2,610,000
YC	101276	Paved Shoulder - Cook Rd	2013	$360,000	$360,000
YC	92992	Widening Fort Eustis Blvd from 2 to 4 Lanes - Newport News CL to Route 17	Underway	$23,644,000	$22,717,000
YC	60843	Widening Route 17 from 4 to 6 Lanes - Hampton Hwy to Wolf Trap Rd	2013	$60,376,000	$60,376,000

Roadway Projects Programmed for Preliminary Engineering or Right Of Way Acquisition Only

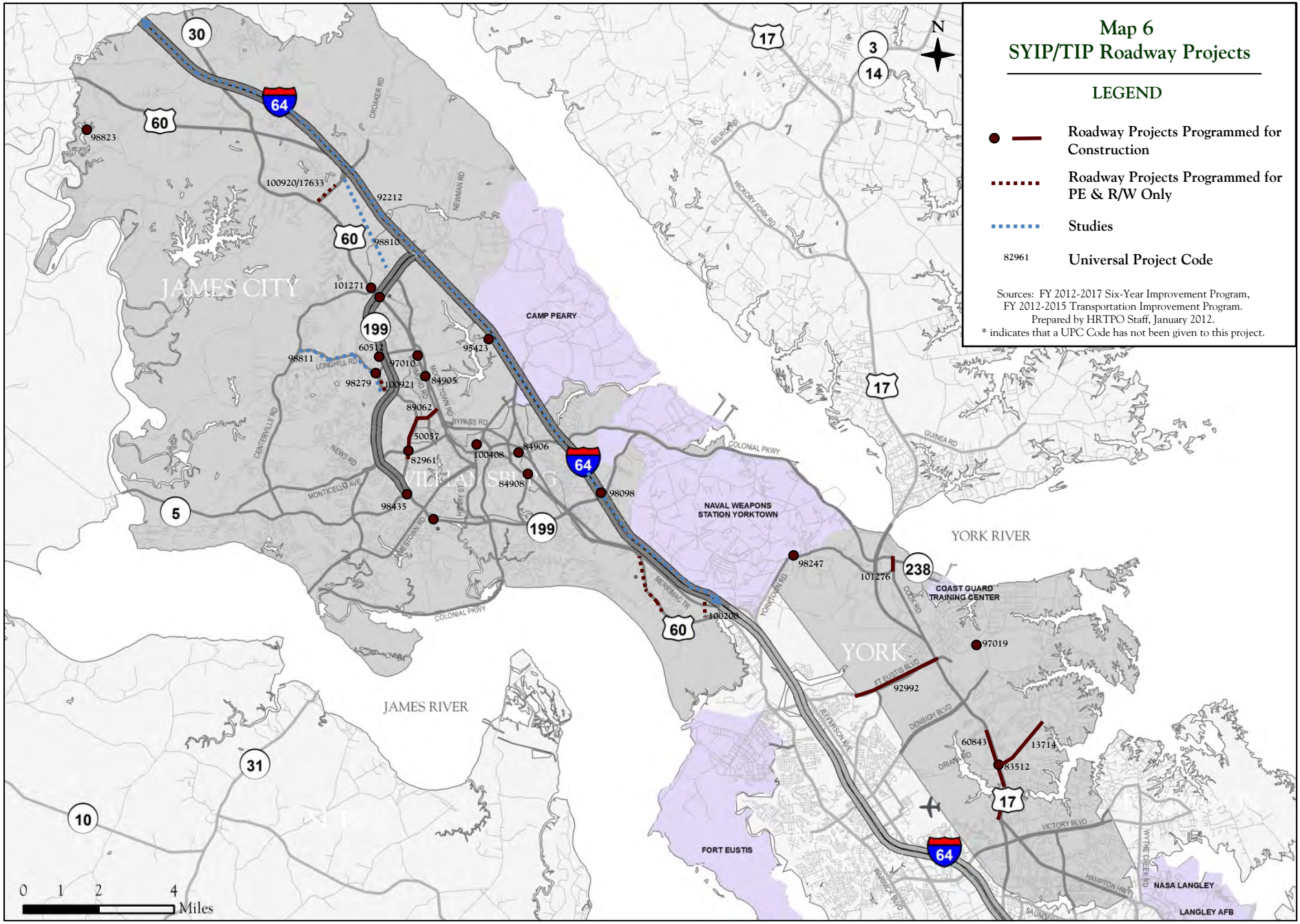
Juris-diction	UPC	Project	Projected Construction Start	Estimated Cost	Allocated Funding in SYIP/TIP
JCC	100200	New Roadway - Skiffes Creek Connector	-	$35,000,000	$10,000,000
JCC	*	Paved Shoulder - Route 60 Corridor	-	$6,100,000	$800,000
JCC	100920 & 17633	Widening Croaker Rd from 2 to 4 Lanes - Richmond Rd to Library (includes multi-use path)	-	$11,950,000	$3,374,000
JCC	100921	Widening Longhill Rd from 2 to 4 Lanes - Route 199 to Olde Towne Rd	-	$11,800,000	$1,272,000

Programmed Studies

Juris-diction	UPC	Study	Estimated Cost	Allocated Funding in SYIP/TIP
JCC	98810	Mooretown Rd Extension	$400,000	$400,000
JCC	98811	Longhill Rd Corridor	$300,000	$500,000
Multi	92212	I-64 Corridor - Richmond to Hampton	$3,000,000	$3,000,000

Table 7 – Roadway Projects and Studies Included in the Six-Year Improvement Program or Transportation Improvement Program

Data sources: VDOT, HRTPO. Based on data collected from the SYIP and TIP as of December 2011. UPC is the Universal Project Code number. Does not include any projects where initial funding is not allocated until after FY 2017.
* indicates that no UPC code has been given.
1 – Williamsburg officials have requested transferring these funds to UPC #89062, Widening Ironbound Road.
2 - Williamsburg officials have requested transfer of $500,000 in Urban funds to this project from UPC #84905, #84906 and #84908, Traffic Signal Installation projects.


Map 6
SYIP/TIP Roadway Projects
LEGEND
Roadway Projects Programmed for Construction
Roadway Projects Programmed for PE & R/W Only
Studies
82961 Universal Project Code
Sources: FY 2012-2017 Six-Year Improvement Program, FY 2012-2015 Transportation Improvement Program. Prepared by HRTPO Staff, January 2012.
* indicates that a UPC Code has not been given to this project.
N
JAMES CITY
CAMP PEARY
WILLIAMSBURG
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
COAST GUARD TRAINING CENTER
YORK
JAMES RIVER
FORT EUSTIS
NASA LANGLEY
LANGLEY AFB
0 1 2 4 Miles

Long Range Planning

The Hampton Roads Transportation Planning Organization is responsible for producing the regional Long-Range Transportation Plan (LRTP). The purpose of the LRTP is to guide investments to projects designed to meet the transportation goals of the HRTPO, which are mobility, safety, economic vitality, and environmental protection.

The LRTP contains a list of transportation projects that are expected to be constructed based on the anticipated funding during the time horizon. These projects cover several modes of surface transportation; however, only roadway projects that add capacity to the regional roadway network and fixed-guideway transit projects (which are those that use exclusive right-of-way such as trains) are typically individually identified in the plan. Smaller projects, such as traffic signals and turn bays, are not typically individually identified in the LRTP. This differs from the SYIP and TIP described in the previous section, which include all of these types of projects.

The LRTP is updated on a quadrennial cycle per federal regulations and encompasses a minimum of a 20-year time horizon, much longer than the 6-year time horizon of the SYIP and the 4-year time horizon of the TIP. Many stakeholders are involved in the preparation of the LRTP including transportation engineers and planners from each city and county, VDOT, local transit officials, and the public.

The 2034 Hampton Roads Long-Range Transportation Plan[8] was approved by the HRTPO Board at its January 2012 meeting. A project prioritization process was utilized for the first time to develop this plan. This prioritization process ranked candidate projects by type based on each project's utility in terms of capacity and operational effectiveness; viability in terms of progress in design, funding, and permitting; and economic vitality in terms of its potential to stimulate economic growth.

[8] *2034 Hampton Roads Long-Range Transportation Plan*, HRTPO, January 2012.

2034 LRTP Projects

Projects included in the 2034 Hampton Roads Long-Range Transportation Plan were chosen based on a variety of factors, including the results of the project prioritization process, recommendations from the HRTPO Transportation Technical Advisory Committee (TTAC), projects in the Governor's Transportation Funding Proposal, and local, state, Federal and public stakeholder input.

Three roadway projects in the study area are included in the 2034 LRTP for construction. These projects are:

- **Fort Eustis Boulevard** - Widening from two to four lanes between the Newport News City Line and George Washington Memorial Highway. The cost of this project, which is under construction, is $23.6 million.
- **Ironbound Road** - Widening from two to four lanes between Strawberry Plains Road and Longhill Connector Road. The cost of this project, which is under construction, is $14.1 million.
- **George Washington Memorial Highway** - Widening from four to six lanes between Hampton Highway and Denbigh Boulevard. The estimated cost of this project is $67.4 million. As mentioned in the previous section, the portion of this project from Hampton Highway to Wolf Trap Road is included in the SYIP/TIP for construction, starting in 2013.

In addition to these three projects slated for construction, the 2034 LRTP also includes five corridors in the study area for preliminary engineering only: Croaker Road, I-64, Longhill Road, Route 60 Relocation, and the Skiffes Creek Connector. Many of these corridors are described further in the Unfunded Projects section of this report.

2034 Traffic Characteristics

As part of long range transportation planning efforts, HRTPO staff forecasts traffic volumes and congestion levels on the Congestion Management Process roadway network in the horizon year.

These volumes are based on output from the regional transportation model, which estimates raw traffic volumes based on socioeconomic projections as well as the assumption that all of the projects included in the LRTP are constructed. Congestion levels are then calculated by applying the methodology described in the Current Conditions - Roadway Congestion section of this report to the forecasted volumes.

Map 7 on page 27 shows the projected 2034 PM Peak Hour congestion levels in the study area. In addition, **Table 8** on pages 28-30 shows the current and projected 2034 traffic volumes and PM Peak Hour Levels-of-Service for CMP roadway segments in the study area. **Appendix D** includes 2034 roadway congestion maps for each jurisdiction.

The amount of vehicular travel and peak hour congestion, both in Hampton Roads as well as in the three jurisdictions in the study area, is expected to grow significantly in the future. A total of 3,774,000 vehicle-miles of travel (VMT) occurred on CMP roadways each weekday in the study area in 2010. By 2034, the vehicle-miles of travel on the CMP network is expected to increase 65%, up to 6,220,000 each weekday. On a jurisdictional level, the amount of weekday VMT on the CMP network in James City County is expected to increase from 1,665,000 in 2010 to 2,789,000 in 2034, a 68% increase. In Williamsburg, this VMT is projected to increase from 231,000 in 2010 to 392,000 in 2034 (a 70% increase), and in York County, the weekday VMT on the CMP network is projected to increase from 1,878,000 in 2010 to 3,039,000 in 2034, a 62% increase. The amount of congestion is expected to increase as these traffic volumes grow. There were eleven roadway segments in the study area that were operating at severely congested levels (LOS E or F) during the PM peak hour in 2010. In 2034, this is expected to increase to 72 roadway segments. These severely congested segments include sections of George Washington Memorial Highway, Hampton Highway, I-64, Merrimac Trail, Route 60, Route 199, Victory Boulevard, and many other roadways.

These 72 severely congested roadway segments would comprise a total of 82.5 centerline miles, or 242.1 lane-miles of roadway, in 2034. This is up from 15.6 centerline miles and 39.2 lane-miles in 2010. In percentage terms, 41% of the CMP roadway network lane-miles in the study area are expected to experience severe congestion (LOS E or F) during the PM peak hour in 2034, up from 7% in 2010 (**Figure 10**). On a jurisdictional level, York County is projected to have the highest percentage of severely congested lane miles at 67% of its CMP roadway network in 2034. This is up from 12% of its CMP roadway network in 2010. James City County and Williamsburg are projected to have a much lower level of congestion, with 22% and 24% of their CMP roadway networks being severely congested during the PM Peak Hour in 2034 respectively. In both jurisdictions, this is up from 3% in 2010.

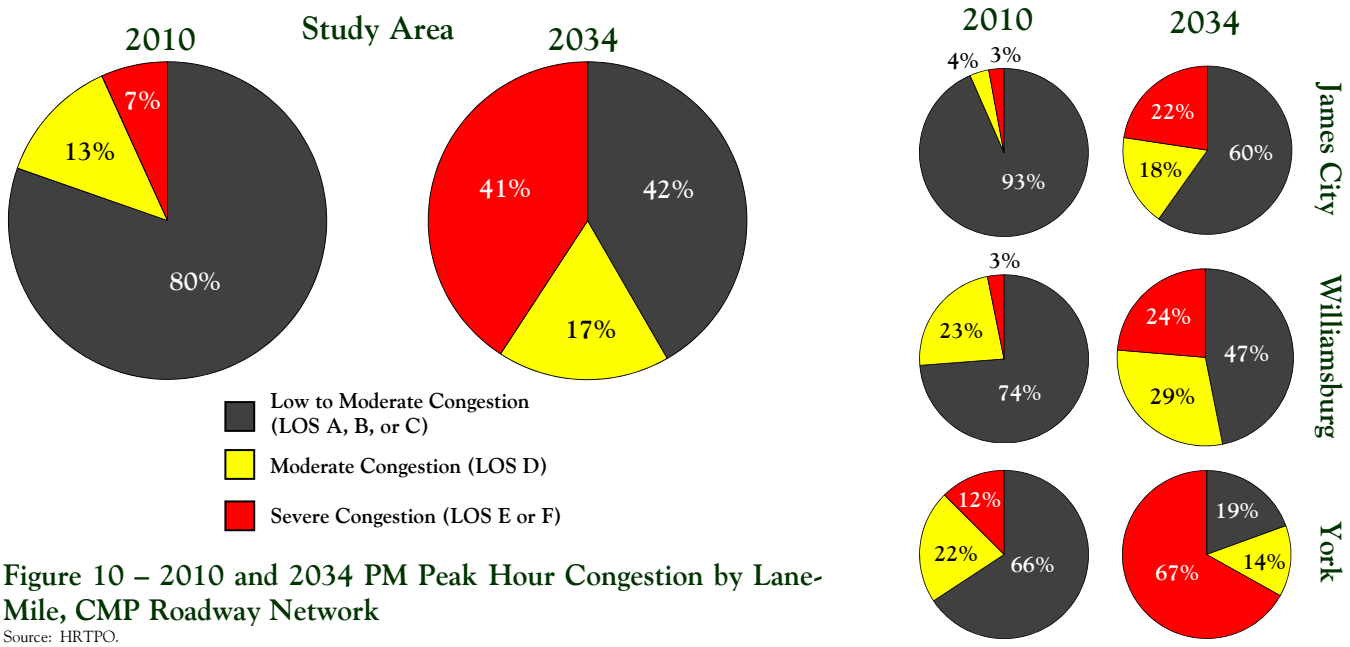
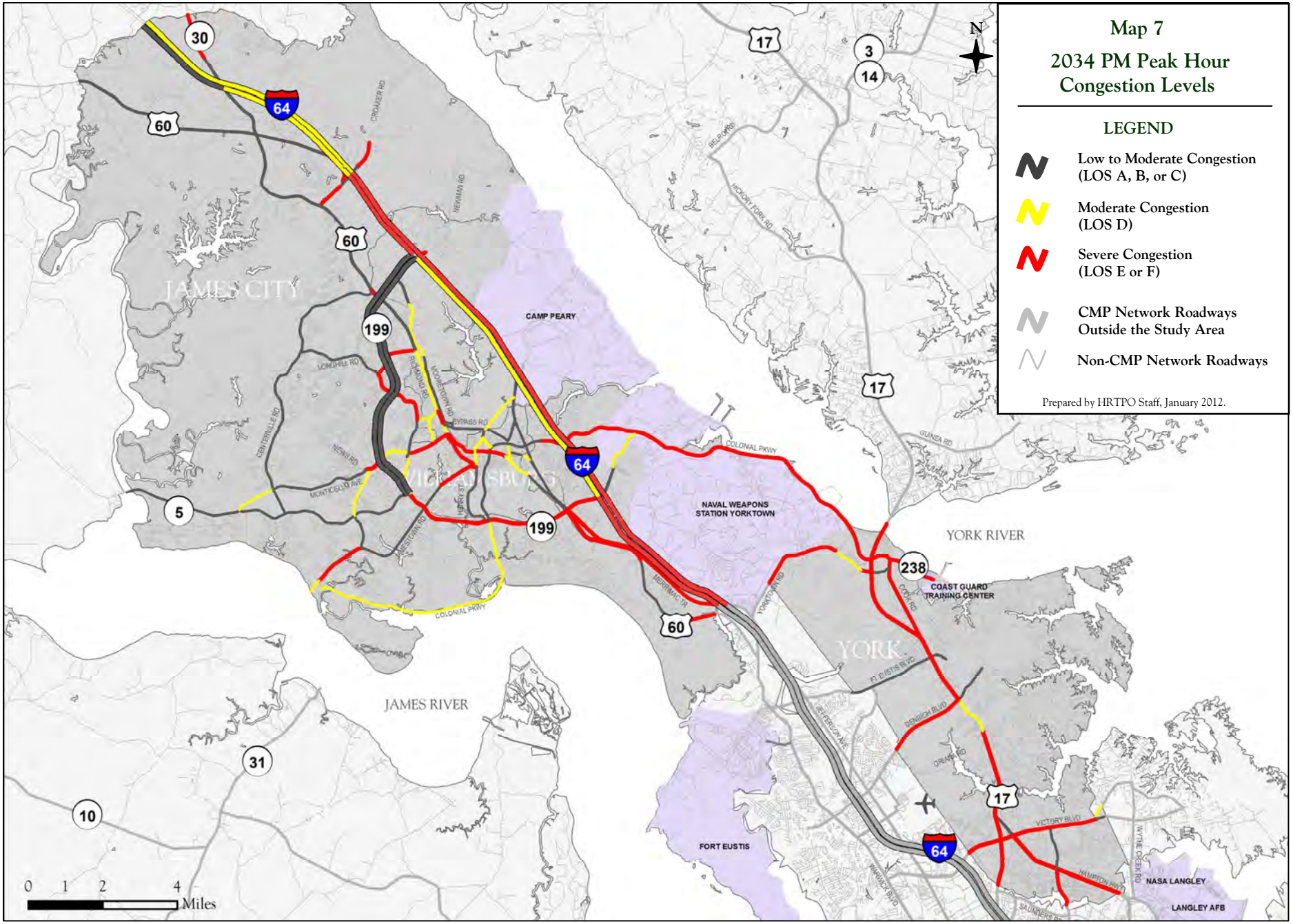


Figure 10 – 2010 and 2034 PM Peak Hour Congestion by Lane-Mile, CMP Roadway Network
Source: HRTPO.


Map 7
2034 PM Peak Hour
Congestion Levels
LEGEND
Low to Moderate Congestion
(LOS A, B, or C)
Moderate Congestion
(LOS D)
Severe Congestion
(LOS E or F)
CMP Network Roadways
Outside the Study Area
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS
STATION YORKTOWN
YORK RIVER
COAST GUARD
TRAINING CENTER
JAMES RIVER
FORT EUSTIS
NASA LANGLEY
LANGLEY AFB
0 1 2 4
Miles

James City County

Facility	Segment From	Segment To	Most Recent Weekday Volume	2034 Weekday Volume	2010 PM Peak Hour LOS	2034 PM Peak Hour LOS
Barhamsville Rd	I-64	Route 60	9,423	29,000	A-C	A-C
Centerville Rd	John Tyler Hwy	Monticello Ave	3,462	8,000	A-C	A-C
Centerville Rd	Monticello Ave	News Rd	4,248	6,000	A-C	A-C
Centerville Rd	News Rd	Longhill Rd	7,414	17,000	A-C	A-C
Centerville Rd	Longhill Rd	Richmond Rd	9,095	17,000	A-C	A-C
Colonial Natl Hist Pkwy	Jamestown/Route 359	Williamsburg CL/Route 199	2,118	7,000	A-C	D
Croaker Rd	Route 60	Maxton Ln (Rte 760)	8,364	16,000	D	E
Croaker Rd	Maxton Ln (Rte 760)	I-64	8,286	28,000	A-C	A-C
Croaker Rd	I-64	Fenton Mill Rd	6,494	18,000	A-C	A-C
Croaker Rd	Fenton Mill Rd	Riverview Rd	3,352	15,000	A-C	E
I-64 EB	New Kent CL	Route 30	48,913	73,000	A-C	A-C
I-64 WB	New Kent CL	Route 30			A-C	D
I-64 EB	Route 30	Croaker Rd (Rte 607)	51,775	80,000	A-C	D
I-64 WB	Route 30	Croaker Rd (Rte 607)			A-C	D
I-64 EB	Croaker Rd (Rte 607)	York CL	58,252	100,000	A-C	E
I-64 WB	Croaker Rd (Rte 607)	York CL			A-C	F
I-64 EB	York CL	Newport News CL	87,885	116,000	D	F
I-64 WB	York CL	Newport News CL			E	F
Ironbound Rd	Strawberry Plains Rd	Monticello Ave	9,382	13,000	D	A-C
Ironbound Rd	Monticello Ave	Williamsburg CL	11,023	12,000	A-C	A-C
Ironbound Rd/News Rd	John Tyler Hwy	Monticello Ave	9,675	18,000	A-C	D
Ironbound Rd/Sandy Bay Rd	Jamestown Rd	John Tyler Hwy	7,150	9,000	A-C	A-C
Jamestown Rd	James River/Ferry	Colonial Parkway (Rte 359)	6,700	10,000	A-C	D
Jamestown Rd	Colonial Parkway (Rte 359)	Sandy Bay Rd (Rte 681)	8,235	17,000	A-C	F
Jamestown Rd	Sandy Bay Rd (Rte 681)	Neck-O-Land Rd	9,567	10,000	A-C	A-C
Jamestown Rd	Neck-O-Land Rd	Williamsburg CL	9,567	10,000	A-C	A-C
John Tyler Hwy	Charles City CL	Monticello Ave	2,885	6,000	A-C	A-C
John Tyler Hwy	Monticello Ave	Centerville Rd (Rte 614)	4,800	8,000	A-C	A-C
John Tyler Hwy	Centerville Rd (Rte 614)	Ironbound Rd (Rte 615)	8,033	10,000	A-C	A-C
John Tyler Hwy	Ironbound Rd (Rte 615)	Stanley Dr (Rte 712)	10,663	15,000	A-C	A-C
John Tyler Hwy	Stanley Dr (Rte 712)	Route 199	17,546	20,000	A-C	A-C
Longhill Connector Rd	Longhill Rd (Rte 612)	Ironbound Rd	9,664	18,000	A-C	F
Longhill Rd	Centerville Rd (Rte 614)	Olde Towne Rd (Rte 658)	6,577	12,000	A-C	A-C
Longhill Rd	Olde Towne Rd (Rte 658)	Route 199	16,087	21,000	F	F
Longhill Rd	Route 199	Longhill Connector Rd	20,000	30,000	A-C	E
Merrimac Trail	Newport News CL @ I-64	York CL (South Of Grove Int)	10,021	30,000	A-C	E
Merrimac Trail	York CL @ Route 199	Penniman Rd (York CL)	16,342	29,000	A-C	A-C
Monticello Ave	John Tyler Hwy	Centerville Rd (Rte 614)	4,574	10,000	A-C	D
Monticello Ave	Centerville Rd (Rte 614)	News Rd	11,395	12,000	A-C	A-C
Monticello Ave	News Rd	Route 199	41,348	45,000	F	F
Monticello Ave	Route 199	Ironbound Rd (Rte 615)	24,179	29,000	A-C	D
Old Stage Rd	New Kent CL	Barnes Rd (Rte 601 S)	9,512	12,000	D	E
Old Stage Rd	Barnes Rd (Rte 601 S)	I-64	9,512	26,000	A-C	A-C
Olde Towne Rd	Longhill Rd	Richmond Rd	8,378	18,000	A-C	F
Pocahontas Trail	Williamsburg CL	York CL @ Route 199	8,165	18,000	A-C	A-C
Pocahontas Trail	York CL	BASF Rd	9,243	20,000	A-C	A-C
Pocahontas Trail	BASF Rd	Newport News CL	11,499	25,000	A-C	F
Richmond Rd	Route 199	Olde Towne Rd (Rte 658)	15,206	35,000	A-C	A-C
Richmond Rd	Olde Towne Rd (Rte 658)	Williamsburg CL	23,783	46,000	A-C	D
Rochambeau Dr	Route 60	0.7 Mi East Of Ashington Way	7,164	11,000	A-C	A-C
Rochambeau Dr	0.7 Mi East Of Ashington Way	Croaker Rd (Rte 607)	7,164	11,000	D	E
Route 199 EB	York CL	Richmond Rd (Route 60)	27,033	34,000	A-C	A-C
Route 199 WB	York CL	Richmond Rd (Route 60)			A-C	A-C
Route 199 EB	Richmond Rd (Route 60)	Longhill Rd (Rte 612)	23,523	40,000	A-C	A-C
Route 199 WB	Richmond Rd (Route 60)	Longhill Rd (Rte 612)			A-C	A-C
Route 199 EB	Longhill Rd (Rte 612)	Monticello Ave (Rte 321)	29,041	41,000	A-C	A-C
Route 199 WB	Longhill Rd (Rte 612)	Monticello Ave (Rte 321)			A-C	A-C
Route 199 EB	Monticello Ave (Rte 321)	John Tyler Hwy (Rte 5)	27,515	38,000	A-C	A-C
Route 199 WB	Monticello Ave (Rte 321)	John Tyler Hwy (Rte 5)			A-C	A-C

Table 8 – Current and 2034 Weekday Traffic Volumes and PM Peak Hour Levels-of Service

Data sources: VDOT, HRTPO.

	Facility	Segment From	Segment To	Most Recent Weekday Volume	2034 Weekday Volume	2010 PM Peak Hour LOS	2034 PM Peak Hour LOS
James City County	Route 199	John Tyler Hwy (Rte 5)	Williamsburg CL	36,498	49,000	A-C	F
	Route 199	Williamsburg CL	Henry St/Colonial Pkwy	34,542	51,000	A-C	F
	Route 199	Henry St/Colonial Pkwy	Mounts Bay Rd/Quarterpath Rd	33,078	57,000	A-C	F
	Route 199	Mounts Bay Rd/Quarterpath Rd	Rte 60/Rte 143/York CL	31,169	57,000	A-C	F
	Route 60	New Kent CL	Route 30	5,861	11,000	A-C	A-C
	Route 60	Route 30	Croaker Rd (Rte 607)	13,792	32,000	A-C	A-C
	Route 60	Croaker Rd (Rte 607)	Lightfoot Rd (Rte 646)	21,419	49,000	A-C	A-C
	Route 60	Lightfoot Rd (Rte 646)	Centerville Rd (Rte 614)	21,419	49,000	A-C	F
	Route 60	Centerville Rd (Rte 614)	Route 199	26,430	57,000	A-C	F
	Strawberry Plains Rd	John Tyler Hwy/Route 199	Ironbound Rd	8,048	11,000	A-C	D
Williamsburg	Boundary St	Jamestown Rd	Francis St	12,532	17,000	D	E
	Bypass Rd	Richmond Rd	York CL	26,802	36,000	A-C	A-C
	Bypass Rd	Route 132/York CL	Page St	15,868	30,000	A-C	A-C
	Capitol Landing Rd	Bypass Rd	Merrimac Trail	6,754	11,000	A-C	A-C
	Colonial Natl Hist Pkwy	James City CL/Rte 199	York CL	2,919	15,000	A-C	A-C
	Francis St	Boundary St	Henry St	8,917	15,000	D	F
	Henry St S.	Route 199	Francis St	3,801	7,000	A-C	A-C
	Henry St	Francis St	Lafayette St	5,803	9,000	D	D
	Henry St N.	Lafayette St	Rte 132Y	6,853	13,000	A-C	D
	Ironbound Rd	James City CL	Longhill Connector Rd	11,023	12,000	A-C	A-C
	Ironbound Rd	Longhill Connector Rd	Longhill Rd	9,913	14,000	D	D
	Ironbound Rd	Longhill Rd	Richmond Rd	15,292	19,000	A-C	D
	Jamestown Rd	James City CL	Route 199	17,349	23,000	A-C	A-C
	Jamestown Rd	Route 199	John Tyler Ln	11,994	13,000	A-C	A-C
	Jamestown Rd	John Tyler Ln	College Creek	13,820	18,000	A-C	A-C
	Jamestown Rd	College Creek	Boundary St	13,820	18,000	E	F
	Lafayette St	Richmond Rd	Henry St	9,835	18,000	D	F
	Lafayette St	Henry St	Capitol Landing Rd	10,151	16,000	D	E
	Lafayette St	Capitol Landing Rd	Page St	8,263	13,000	D	D
	Merrimac Trail	York CL (South)	Capitol Landing Rd	7,217	13,000	A-C	A-C
	Merrimac Trail	Capitol Landing Rd	York CL (North)	9,445	15,000	A-C	A-C
	Monticello Ave	Ironbound Rd	Richmond Rd	17,074	26,000	D	F
	Page St	Bypass Rd	Second St	15,332	32,000	A-C	D
	Page St	Second St	York St	15,804	35,000	A-C	D
	Quarterpath Rd	Route 199	York St	595	-	A-C	-
	Richmond Rd	James City CL	Ironbound Rd	23,783	33,000	A-C	D
	Richmond Rd	Ironbound Rd	Bypass Rd	25,987	45,000	A-C	F
	Richmond Rd	Bypass Rd	Monticello Ave	19,001	28,000	D	D
	Richmond Rd	Monticello Ave	Brooks St	13,511	19,000	D	F
	Richmond Rd	Brooks St	Boundary St	13,511	21,000	D	F
	Route 132	Route 132Y	Bypass Rd/York CL	10,116	16,000	A-C	A-C
	Route 132Y	Route 132	Colonial Pkwy	6,115	13,000	A-C	D
	Route 199	James City CL (West)	Jamestown Rd	36,498	49,000	A-C	F
	Route 199	Jamestown Rd	James City CL (East)	36,180	49,000	A-C	F
	Second St	Page St	York CL	15,123	24,000	A-C	A-C
	Treyburn Dr	Monticello Ave	Ironbound Rd	3,000	8,000	A-C	D
	York St	Page St	James City CL	13,385	20,000	D	D
York County	Ballard St	Colonial Pkwy	Cook Rd	5,899	14,000	D	F
	Ballard St	Cook Rd	Coast Guard Training Center	2,430	10,000	D	F
	Big Bethel Rd	Hampton CL	Hampton Hwy (Rte 134)	9,444	18,000	A-C	F
	Big Bethel Rd	Hampton Hwy (Rte 134)	Victory Blvd (Rte 171)	4,971	11,000	A-C	A-C
	Bypass Rd	Williamsburg CL	Waller Mill Rd	26,802	43,000	A-C	A-C
	Bypass Rd	Waller Mill Rd	Route 132/Williamsburg CL	26,802	43,000	A-C	A-C
	Colonial Natl Hist Pkwy	Williamsburg CL	Ballard St	6,218	16,000	D	F
	Cook Rd	George Washington Hwy	Goosley Rd	6,368	18,000	A-C	F
	Cook Rd	Goosley Rd	Ballard St	6,900	19,000	A-C	F
	Denbigh Blvd	Newport News CL	Route 17	16,203	18,000	E	E

Table 8 (Continued) – Current and 2034 Weekday Traffic Volumes and PM Peak Hour Levels-of Service

Data sources: VDOT, HRTPO.

Facility	Segment From	Segment To	Most Recent Weekday Volume	2034 Weekday Volume	2010 PM Peak Hour LOS	2034 PM Peak Hour LOS
East Yorktown Rd	Victory Blvd	Poquoson CL	5,585	11,000	A-C	D
Fort Eustis Blvd	Newport News CL	Route 17	18,188	37,000	E	A-C
Fort Eustis Blvd Ext	Route 17	Old York - Hampton Hwy	5,000	20,000	A-C	A-C
George Washington Hwy	Newport News CL	Victory Blvd (Rte 171)	38,983	49,000	A-C	E
George Washington Hwy	Victory Blvd (Rte 171)	Hampton Hwy (Rte 134)	42,347	52,000	D	F
George Washington Hwy	Hampton Hwy (Rte 134)	Dare Rd	54,914	87,000	F	F
George Washington Hwy	Dare Rd	Denbigh Blvd (Rte 173)	39,235	71,000	A-C	D
George Washington Hwy	Denbigh Blvd (Rte 173)	Fort Eustis Blvd (Rte 105)	39,111	55,000	A-C	F
George Washington Hwy	Fort Eustis Blvd (Rte 105)	Cook Rd	38,988	61,000	A-C	F
George Washington Hwy	Cook Rd	Goosley Rd (Rte 238)	29,384	61,000	A-C	F
George Washington Hwy	Goosley Rd (Rte 238)	Gloucester CL (Coleman Bridge)	34,117	59,000	F	F
Goodwin Neck Rd	Route 17	Wolf Trap Rd	9,318	15,000	A-C	A-C
Goosley Rd	Old Williamsburg Rd	Crawford Rd	6,878	8,000	A-C	D
Goosley Rd	Crawford Rd	Route 17	6,878	12,000	A-C	F
Goosley Rd	Route 17	Cook Rd	1,690	7,000	A-C	A-C
Hampton Hwy	Route 17	Victory Blvd (Rte 171)	21,178	43,000	A-C	A-C
Hampton Hwy	Victory Blvd (Rte 171)	Big Bethel Rd (Rte 600)	29,041	42,000	A-C	F
Hampton Hwy	Big Bethel Rd (Rte 600)	Hampton CL	27,101	36,000	A-C	F
I-64 EB	James City CL	Route 199/646	58,252	100,000	A-C	E
I-64 WB	James City CL	Route 199/646			A-C	F
I-64 EB	Route 199/646	Route 143	56,909	87,000	A-C	D
I-64 WB	Route 199/646	Route 143			A-C	E
I-64 EB	Route 143	Route 199 (East of Williamsburg)	65,349	88,000	A-C	D
I-64 WB	Route 143	Route 199 (East of Williamsburg)			D	E
I-64 EB	Route 199 (East of Williamsburg)	Grove Connector	83,621	111,000	D	F
I-64 WB	Route 199 (East of Williamsburg)	Grove Connector			D	F
I-64 EB	Grove Connector	James City CL	87,885	116,000	D	F
I-64 WB	Grove Connector	James City CL			E	F
Merrimac Trail	James City CL	Busch Gardens Interchange	10,021	30,000	A-C	F
Merrimac Trail	Busch Gardens Interchange	Route 199/James City CL	14,675	39,000	A-C	F
Merrimac Trail	Penniman Rd/James City CL	Second St	16,543	23,000	A-C	A-C
Merrimac Trail	Second St	Williamsburg CL	7,936	13,000	A-C	A-C
Merrimac Trail	Williamsburg CL	Route 132	9,226	15,000	A-C	A-C
Mooretown Rd	Waller Mill Rd	Airport Rd	6,289	12,000	A-C	A-C
Mooretown Rd	Airport Rd	Old Mooretown Rd	9,283	15,000	A-C	D
Mooretown Rd	Old Mooretown Rd	Route 199	20,000	25,000	A-C	A-C
Newman Rd	I-64	Fenton Mill Rd	2,859	14,000	A-C	E
Old Williamsburg Rd	Newport News CL	Baptist Rd/Main Rd	11,158	15,000	A-C	F
Old Williamsburg Rd	Baptist Rd/Main Rd	Goosley Rd	9,833	14,000	A-C	F
Penniman Rd (Rte 641)	Route 199	Colonial Pkwy	5,479	11,000	A-C	D
Pocahontas Trail	James City CL @ Route 199	Kingsmill Rd	8,600	43,000	A-C	F
Pocahontas Trail	Kingsmill Rd	Busch Gardens Interchange	11,980	43,000	A-C	F
Pocahontas Trail	Busch Gardens Interchange	James City CL	11,459	27,000	A-C	F
Route 132	Bypass Rd/Williamsburg CL	Route 143	11,135	13,000	D	D
Route 143	Route 132	I-64	19,138	27,000	A-C	A-C
Route 199 EB	James City CL (Westside)	Mooretown Rd	27,033	34,000	A-C	A-C
Route 199 WB	James City CL (Westside)	Mooretown Rd			A-C	A-C
Route 199 EB	Mooretown Rd	I-64	29,588	39,000	A-C	A-C
Route 199 WB	Mooretown Rd	I-64			A-C	A-C
Route 199	Rte 60/Rte 143/James City Line	I-64	30,753	60,000	A-C	F
Route 199	I-64	Marquis Pkwy	20,012	31,000	A-C	A-C
Route 199	Marquis Pkwy	Penniman Rd (Rte 641)	9,598	23,000	A-C	A-C
Second St	Williamsburg CL	Merrimac Trail	15,123	24,000	A-C	D
Victory Blvd	Newport News CL	Route 17	52,998	65,000	D	F
Victory Blvd	Route 17	Hampton Hwy (Rte 134)	33,648	41,000	D	F
Victory Blvd	Hampton Hwy (Rte 134)	Big Bethel Rd (Rte 600)	20,304	26,000	F	F
Victory Blvd	Big Bethel Rd (Rte 600)	Carys Chapel Rd (Rte 782)	21,568	27,000	F	F
Victory Blvd	Carys Chapel Rd (Rte 782)	Poquoson CL	13,315	14,000	A-C	A-C
Waller Mill Rd	Route 60	Mooretown Rd	4,634	18,000	A-C	A-C

York County

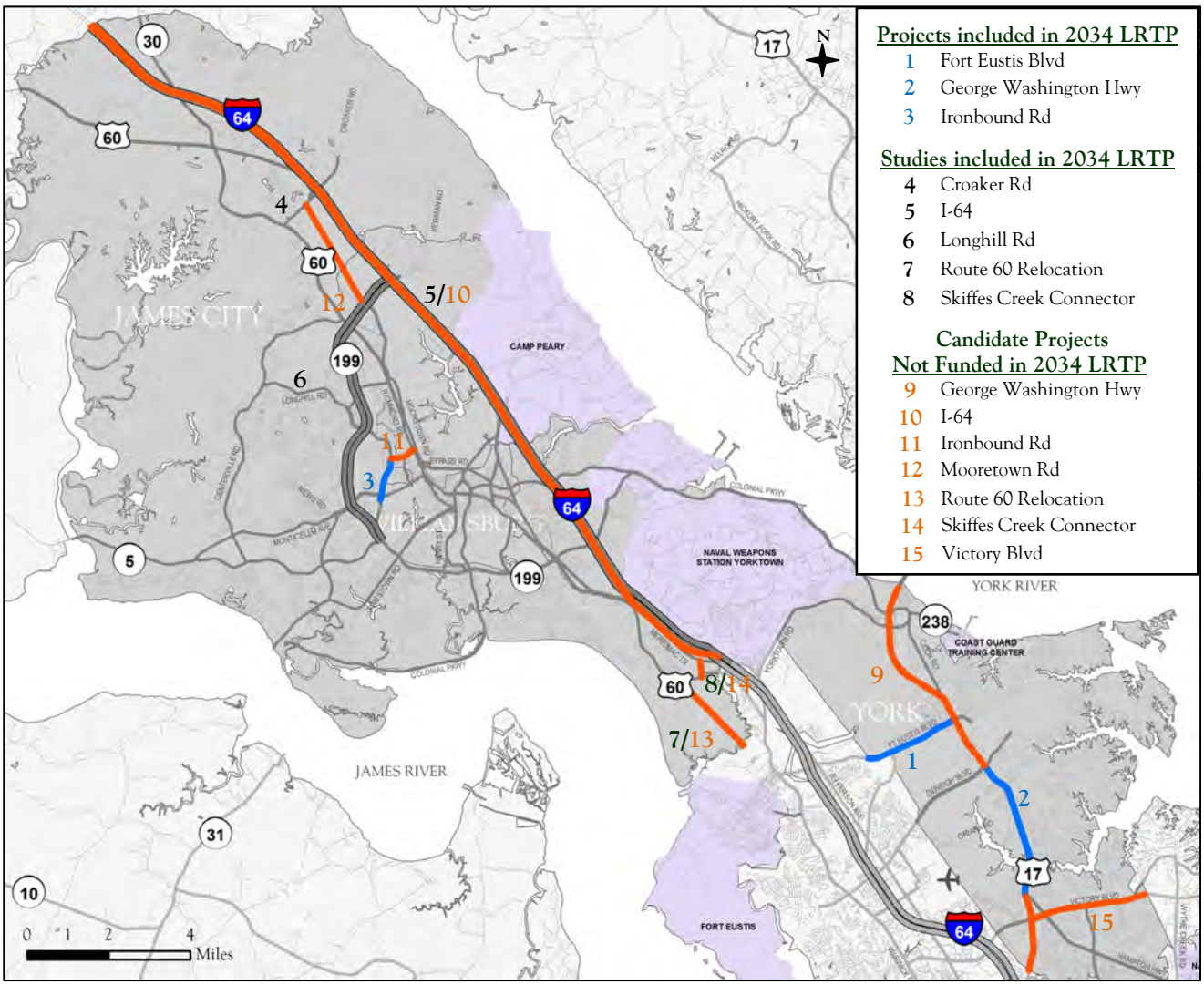
Table 8 (Continued) – Current and 2034 Weekday Traffic Volumes and PM Peak Hour Levels-of Service

Data sources: VDOT, HRTPO.

Unfunded Projects

As stated in the previous section, much of the roadway network in the study area is projected to be congested in 2034. Many transportation projects are needed in addition to the three included in the 2034 Hampton Roads Long-Range Transportation Plan to alleviate this congestion. As part of the 2034 LRTP process, over 150 candidate projects throughout the region were analyzed. The candidate projects in the study area that were not included in the final 2034 Long-Range Transportation Plan are shown in orange in **Map 8**. Each of these seven corridors is also described in detail on the following pages.

It should be noted, however, that many areas in James City County, Williamsburg, and York County are unique both to the region and the nation. These areas are historical, educational, or recreational in nature. Many of the roadways that are expected to be congested in 2034 are located in these areas and could not be widened without severely impacting the character of these areas. Examples of these roadways include the Colonial Parkway, Lafayette Street through Downtown Williamsburg, Jamestown Road and Richmond Road around the William & Mary Campus, Jamestown Road in James City County, and Cook Road and Ballard Street in the area around the Yorktown Battlefield.



Map 8 – Projects/Studies Included in the 2034 LRTP and Candidate Projects Not Funded in the 2034 LRTP

Data Source: HRTPO.

- **George Washington Memorial Highway (Newport News City Line to Hampton Highway and Denbigh Boulevard to Coleman Bridge)** - This unfunded project would widen George Washington Memorial Highway (Route 17) from four to six lanes in those sections throughout York County that are not included in the 2034 Long-Range Transportation Plan.

  George Washington Memorial Highway is not only the most heavily-traveled arterial in the study area but also provides the only direct link between the Middle Peninsula (including Gloucester) and Hampton Roads. George Washington Memorial Highway is currently congested during the PM Peak Hour between Hampton Highway and Dare Road, and at the Coleman Bridge. By 2034, traffic volumes in most sections of this corridor are expected to grow by more than 50%, and nearly the entire length of George Washington Memorial Highway in York County is expected to operate at severely congested levels during the PM Peak Hour. Widening George Washington Memorial Highway would be expected to relieve much of this congestion and improve traffic flow in this area of York County.

  The George Washington Memorial Highway project was broken down into six segments for the 2034 LRTP Project Prioritization Process. These six segments, from south to north, are shown below in **Table 9**. Each of these segments ranked in the top third among the 113 candidate highway projects in the 2034 LRTP Project Prioritization Process.

George Washington Memorial Highway

Two segments of George Washington Memorial Highway were included in the 2034 Long-Range Transportation Plan for construction. The section from Hampton Highway to Wolf Trap Road (which is just to the north of Dare Road, the segment break in the Project Prioritization Process) is included in both the 2034 LRTP and is also fully funded in the current Six-Year Improvement Program and Transportation Improvement Program. The section immediately to the north, between Wolf Trap Road and Denbigh Boulevard, is included in the 2034 LRTP but is not currently funded in the SYIP. These two segments account for $68 million of the estimated $164 million cost to widen George Washington Memorial Highway from four to six lanes throughout York County. Another $96 million is required to complete the additional needed projects in this corridor.

Segment	Segment Length	2034 Projected Weekday Volumes	Estimated Construction Cost	2034 LRTP Project Prioritization Rank	Status
Newport News CL to Victory Blvd	1.20 miles	49,000	$15.3 million	#29 of 113	Not in LRTP
Victory Blvd to Hampton Hwy	0.64 miles	52,000	$12.4 million	#33 of 113	Not in LRTP
Hampton Hwy to Dare Rd	2.78 miles	87,000	$59.5 million	#1 of 113	In SYIP/TIP/LRTP
Dare Rd to Denbigh Blvd	0.67 miles	71,000	$8.1 million	#13 of 113	In LRTP only
Denbigh Blvd to Fort Eustis Blvd	1.38 miles	55,000	$17.2 million	#29 of 113	Not in LRTP
Fort Eustis Blvd to Coleman Bridge	4.03 miles	59,000	$51.4 million	#35 of 113	Not in LRTP
			Total = $164 million		

Table 9 – Segments of George Washington Memorial Highway in York County Analyzed in the 2034 LRTP Project Prioritization Process
Data Sources: VDOT, HRTPO.

- **I-64 (Newport News City Line to New Kent County Line)** - This unfunded project involves widening I-64 throughout the study area from two lanes in each direction to three general purpose lanes plus a High Occupancy Vehicle lane.

  I-64 is a critical link between Hampton Roads and the rest of the state and country, not only for residents but for tourists, freight movement, and the military as well. In the study area, I-64 is currently congested between the Newport News City Line and the Busch Gardens/Grove Interchange during the PM Peak Hour. Weekday traffic volumes on I-64 in the study area are expected to increase from 49,000-88,000 vehicles per day today up to 73,000-116,000 vehicles per day by 2034. This increase will cause nearly the entire length of I-64 in the study area to operate at severely congested levels during the PM Peak Hour in 2034.

  For the 2034 LRTP Project Prioritization Process, this corridor was broken down into two segments. The eastern 13-mile segment spans from Newport News near the Jefferson Avenue Interchange (Exit 255) to the Route 199 Interchange (Exit 242) southeast of Williamsburg. The western 18-mile section continues from Route 199 up to the New Kent County Line.

  VDOT estimates that the cost of the eastern portion of the project from Jefferson Avenue in Newport News to Route 199/Exit 242 is $779 million. Among 113 highway projects throughout the region evaluated in the 2034 LRTP Project Prioritization Process, this segment ranked 6th. The western section of this project from Route 199 up to the New Kent County Line is estimated by VDOT to cost $1.1 billion. In the 2034 LRTP Project Prioritization Process, this segment ranked 24th among the 113 highway projects.

  Although not included for construction in the 2034 LRTP, I-64 between Fort Eustis Boulevard and Route 199 was included as one of four Unfunded Projects for Future Consideration in the plan. According to the HRTPO, these projects — which also include I-64 in Chesapeake, the I-64/Fort Eustis Boulevard Interchange, and the I-64/I-264 Interchange — should be the first projects considered for funding if additional transportation funds become available to the region.

I-64 at Croaker Road

VDOT and FHWA have initiated a study of the I-64 corridor from I-95 in Richmond to I-664 in Hampton. This study, at a cost of $3 million, will identify transportation needs within the I-64 corridor and evaluate the impacts of proposed improvements. As part of this process a Final Environmental Impact Statement will be issued. This study is expected to be completed in early 2014. More information on this study is available at http://virginiadot.org/projects/hamptonroads/i-64_peninsula_study.asp.

This project would be expected to provide many benefits in addition to relieving this congestion, including improved hurricane evacuations, additional opportunities for economic development through the region, and better ingress and egress for the military.

- **Ironbound Road (Longhill Connector Road to Richmond Road)** - This unfunded project involves widening Ironbound Road from two to three lanes between Longhill Connector Road and Richmond Road. This project would increase the capacity and safety of the roadway by improving lane configurations and creating additional turn lanes.

  Mixed-use developments have been constructed in the Ironbound Road corridor in recent years, including the High Street and New Town developments. Roadway improvements serving these areas have also been planned in recent years. Ironbound Road immediately to the southwest of this segment is currently under construction. Williamsburg has recently completed a transportation study of Ironbound Road from Treyburn Drive to Richmond Road. This study determined the most feasible and cost effective lane configuration, which includes widening the roadway from two to three lanes and providing an additional turn lane at the Richmond Road approach. The City of Williamsburg has allocated funds to pay for improvements on this section of roadway. This project is the City's top priority for use of its VDOT Urban Allocation funds, and other funds as they may come available.

  Cost estimates for the Ironbound Road project between Longhill Connector Road and Richmond Road are $3.5 million, and the project ranked 66th among 113 Hampton Roads highway projects in the 2034 LRTP Project Prioritization Process. By 2034, Ironbound Road is expected to carry 14,000-19,000 vehicles each weekday, up from 10,000-15,000 in 2010.

- **Mooretown Road Extended (Lightfoot Road to Croaker Road)** - This unfunded project involves constructing a new 2.8 mile, two-lane roadway between the current northern terminus of Mooretown Road at Lightfoot Road and Croaker Road near its intersection with Rochambeau Drive. The northern half of this corridor is located in James City County, with the southern half located in York County.

Ironbound Road Construction

The Mooretown Road Extended project would create a roadway parallel to Richmond Road (Route 60). Richmond Road is prone to flooding, and the section of Richmond Road between Route 199 and Lightfoot Road is expected to operate at severely congested levels by 2034.

Mooretown Road Extended would also provide access to undeveloped areas in James City and York Counties. These undeveloped areas are designated in both counties' Comprehensive Plans as Economic Opportunity areas, with the potential for large mixed-use developments. Access to these areas, however, is currently limited due to the location of the CSX Railroad as well as a number of environmentally sensitive areas.

VDOT estimates the cost of the Mooretown Road Extended project at $15.8 million. Based on modeling done for the 2034 LRTP, Mooretown Road Extended would be expected to carry 16,000 vehicles per weekday in 2034. This project ranked 77th among 113 Hampton Roads highway projects in the 2034 LRTP Project Prioritization Process.

A transportation study of the Mooretown Road Extended corridor has been funded through Regional Surface Transportation Program (RSTP) funds, which are federal transportation funds that are apportioned to each region and are allocated by the HRTPO in Hampton Roads. This study, at a cost of $400,000, will determine the feasibility of the project as well as its environmental impacts. It is expected to be completed in 2012.

- **Route 60 Relocation (Newport News City Line to Blow Flats Road)** - This unfunded project involves relocating and widening Route 60 from near Fort Eustis Boulevard to Blow Flats Road in James City County. The northern portion of this new, four-lane roadway would be in James City County, with the southern portion located in Newport News.

  Route 60, along with the parallel I-64 and Merrimac Trail, are all expected to be severely congested during the PM Peak Hour in 2034. This project would not only be expected to relieve this congestion along Route 60, but also promote further commercial and industrial development in the vacant parcels around the GreenMount industrial area.

  Based on modeling done for the 2034 LRTP, the Relocated Route 60 would be expected to carry 35,000 vehicles per weekday in 2034. This project ranked 17th among 113 Hampton Roads highway projects in the 2034 LRTP Project Prioritization Process.

  VDOT estimates the cost of the Route 60 Relocation project at $55 million, with the 2.2-mile portion of the project within James City County costing $37 million. There is currently $3.0 million in RSTP funding allocated to the James City County portion of the project. At one point, there was $17.5 million in RSTP funding on this project. $10 million of this funding was transferred to the Skiffes Creek Connector project in 2011 and $4.5 million was reallocated to other projects at the request of James City County officials since the total amount of funding needed to construct the project was not available.

- **Skiffes Creek Connector (Pocahontas Trail to Merrimac Trail)** - This unfunded project involves constructing a new two-lane, 0.4-mile roadway between Pocahontas Trail and Merrimac Trail to the north of the GreenMount Industrial Park. This new roadway would span the CSX Railroad, which currently has no crossings between Elmhurst Street near Yorktown Road and the Grove Interchange, a length of 4.5 miles. In addition to creating this additional rail crossing, the Skiffes Creek Connector would provide better access between Route 60, Route 143, I-64, and the GreenMount industrial area, which currently includes distribution centers for Walmart and Haynes Furniture. This would improve truck movement in the area, as well as make this section of James City County more attractive for industrial development.

  VDOT estimates the cost of the Skiffes Creek Connector project at $35 million. $10 million is currently allocated to the project in the SYIP/TIP, all of which is the result of a transfer of RSTP funds from the Route 60 Relocation project as stated previously. An additional $10 million in RSTP funds for FY 2018 has been allocated to the project by the HRTPO Board in November 2011. This leaves the project $15 million short of being fully funded, which James City County officials hope to cover with future RSTP allocations.

  Based on modeling done for the 2034 LRTP process, the Skiffes Creek Connector would be expected to carry 15,000 vehicles per day in 2034. This project ranked 98th among 113 Hampton Roads highway projects in the 2034 LRTP Project Prioritization Process.

  A study to determine the feasibility of the Skiffes Creek Connector has also been funded with RSTP funds. This study, at a cost of $300,000, is expected to be completed in 2012.

GreenMount Industrial Park

- **Victory Boulevard (George Washington Memorial Highway to Poquoson City Line)** - This unfunded project involves widening Victory Boulevard from five to six lanes between George Washington Memorial Highway and Hampton Highway, and from two to four lanes between Hampton Highway and the Poquoson City Line.

  Victory Boulevard is currently congested during the PM Peak Hour between Hampton Highway and Cary's Chapel Road/East Yorktown Road. By 2034, the entire length of Victory Boulevard in York County is expected to be severely congested during the PM Peak Hour. This project would not only be expected to relieve this congestion, but also improve one of the only two access points to the City of Poquoson.

  VDOT estimates that widening Victory Boulevard between George Washington Memorial Highway and Hampton Highway would cost $4 million, and widening the section between Hampton Highway and the Poquoson City Line would cost $26 million. The right-of-way is available along this corridor for this unfunded widening project.

  The section of Victory Boulevard between George Washington Memorial Highway and Hampton Highway, which is expected to carry 41,000 vehicles each weekday in 2034, ranked 53rd among 113 Hampton Roads highway projects in the 2034 LRTP Project Prioritization Process. The section between Hampton Highway and the Poquoson City Line, which is expected to carry 27,000 vehicles each weekday in 2034, ranked 35th.

Victory Boulevard

PUBLIC TRANSPORTATION

The vision for future public transportation services in James City County, Williamsburg, and York County will largely be driven by regional plans such as WATA's Transit Development Plan and the Hampton Roads Regional Transit Vision Plan. Implementing the services envisioned in these plans, however, will be limited by funding availability.

Funding

Funding for public transportation is provided by a variety of sources. For WATA, like many other transit agencies, these sources include fare box revenues; federal, state, and local grants and contributions; and contracted services. Combined, these revenue sources provided WATA with $7.4 million in funding in Fiscal Year 2012. WATA's primary sources of revenue are federal grants (which include Congestion Mitigation and Air Quality or CMAQ funds), contracted services (primarily from the Colonial Williamsburg Foundation), and state grants and contributions (**Figure 11**).

Local contributions are the fourth largest source of revenues for WATA, providing 14% of WATA's total revenues in Fiscal Year 2012. These local contributions help pay for the operations and maintenance costs associated with running each transit route. James City County is providing the highest level of local contributions among the three localities at $481,158 in FY 2012 (**Figure 12**). Williamsburg and York County are contributing $265,000 and $272,878 to WATA respectively. These annual contributions from James City County, Williamsburg, and York County have remained unchanged since Fiscal Year 2008.

The current SYIP/TIP includes $10.6 million in funding for upcoming specific service and capital improvements on WATA's system, most of which are financed with CMAQ funds. Of this total, $2.9 million was allocated in past years, with the remaining $7.7 million being allocated in the current and future fiscal years (FY 2012-2017). These improvements are included in WATA's Transit Development Plan, as described in the next section.

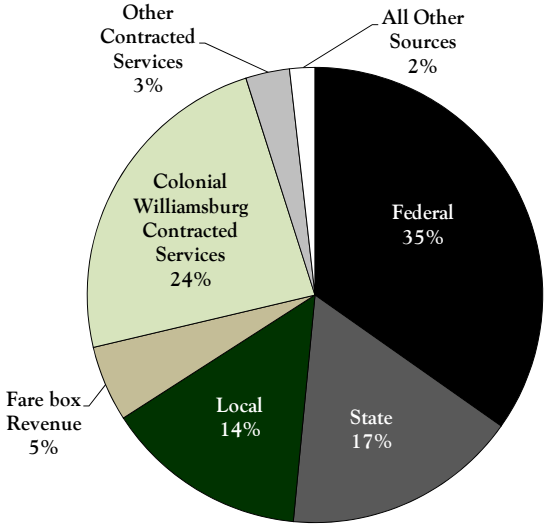


Figure 11 – WATA Revenues by Source, FY 2012
Source: WATA.

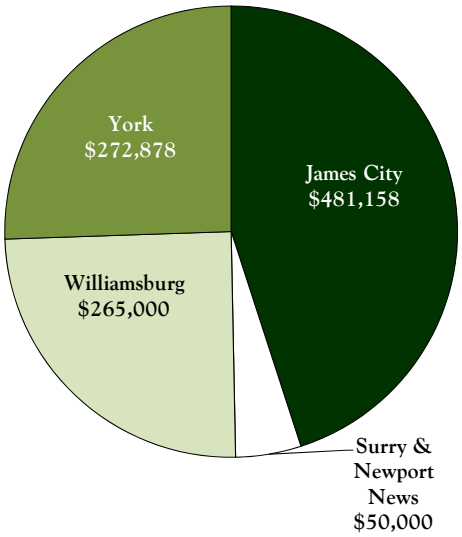


Figure 12 – WATA Locality Revenues, FY 2012
Source: WATA.

Transit Development Plan

Transit Development Plans (TDPs) are documents that identify the needs and resources required to enhance and modify public transportation services. They provide a guide for transit operators to assist with their planning, funding, and transit service implementation efforts. TDPs have been developed for public transportation agencies throughout the state with assistance from the Virginia Department of Rail and Public Transportation (DRPT). DRPT's goals for Transit Development Plans include:

- Serve as a management and policy document for the transit operator.
- Provide DRPT with the information necessary for programming and planning requirements.
- Provide a clear and up-to-date record of the transit operator's capital and operating budgets in order to assess the operator's financial capacity to carry out proposed levels of service and capital improvements.
- Provide the basis for inclusion of an operator's captial and operating programs in the Six-Year Improvement Program (SYIP), Statewide Transportation Improvement Program (STIP), Regional Transportation Improvement Program (TIP), and Long Range Transportation Plan (LRTP).
- Maximize the investment of public funds and achieve the greatest possible public benefit.
- Improve the efficiency and effectiveness of public transportation services in Virginia.

The *Williamsburg Area Transit Authority Transit Development Plan: Fiscal Years 2010-2015* was completed in September 2009. This TDP, which builds on an internal Strategic Plan that WATA officials completed in 2009, includes seven goals and objectives to accomplish over the timeframe of the TDP. These goals, which were developed in coordination with WATA staff, are:

- Expand WATA transit service to meet customer and community needs.

Williamsburg Transportation Center

- Complete the transition of the regional transit system into the Williamsburg Area Transit Authority to provide effective and efficient public transit service in the Williamsburg area.
- Promote and implement green practices that reduce greenhouse emissions and mitigate traffic congestion.
- Improve the customer's transit experience, integrating technology where applicable.
- Develop and maintain an on-going performance monitoring program.
- Improve coordination between transportation, land use, and economic development activities.
- Continue to provide a safe and secure transit system.

To reach these goals, WATA's Transit Development Plan includes an evaluation of the existing system and service, an assessment of service and facility needs within WATA's footprint, a financial plan, and recommendations for service and capital improvements considered feasible over the six year period.

Service Improvements

The TDP builds on recent service improvements that have been made by the Williamsburg Area Transit Authority. These improvements include extending service later in the evening and adding Sunday service in 2008, increasing frequency in the middle of the day on certain transit lines from 60-minute service to 30-minute service in 2009, and implementing new services such as the Surry County Connection.

WATA's Transit Development Plan includes various recommendations for additional service improvements. It recommends five transit routes, including the Williamsburg Trolley which has already been implemented. The other routes proposed in the TDP are the Jamestown Route, Quarterpath Route, Newport News Connection, and New Kent Connection. These routes are described in detail below:

- **Williamsburg Trolley** - WATA provides transit service on the Williamsburg Trolley between Colonial Williamsburg, Merchants Square, the College of William & Mary, and the new mixed-use developments High Street and New Town (**Figure 13**). Per its name, this service is provided on replica trolley buses that aim to be more attractive to users than typical buses. The service, which is provided on a fifteen minute basis, is geared toward area residents, visitors and William & Mary students, the latter accounting for 59% of all trolley riders in September 2011.

  WATA began operating the Williamsburg Trolley in August 2009. Funding for the Williamsburg Trolley service was obtained from multiple sources. WATA purchased three trolley vehicles for the service from Flexible STP funds, and obtained CMAQ funding to pay for the first three years of operations on the route.

  Changes have been made to the Williamsburg Trolley service since the route began operation. The trolley route was extended in March 2010 to include Jamestown Road, providing additional service to the William & Mary campus. The hours of operation of the Williamsburg Trolley have also been extended. Originally, the trolley operated from 3 to 10 pm on Monday through Thursday, 3 to 11 pm on Friday and Saturday, and Noon to 8 pm on Sundays. The current hours of operation for the trolley are Noon to 11 pm on Monday through Thursday, Noon to 1 am on Friday and Saturday, and Noon to 8 pm on Sunday.

Williamsburg Trolley

Figure 13 – Williamsburg Trolley Route Map
Source: WATA.

In spite of these changes to the route and hours of operation, ridership on the Williamsburg Trolley has only increased slightly (**Figure 14**). In 2010, 36,206 riders used the Williamsburg Trolley. At 100 riders each day, this is lower than the ridership levels on most of WATA's regular bus routes. Through the first nine months of 2011, 25,050 riders used the trolley, which is an increase of 1.4% from the first nine months of 2010. Commissioners on the Williamsburg Planning Commission have voiced their concern about the usage of the Williamsburg Trolley, and the impact that the current headways have on ridership levels.

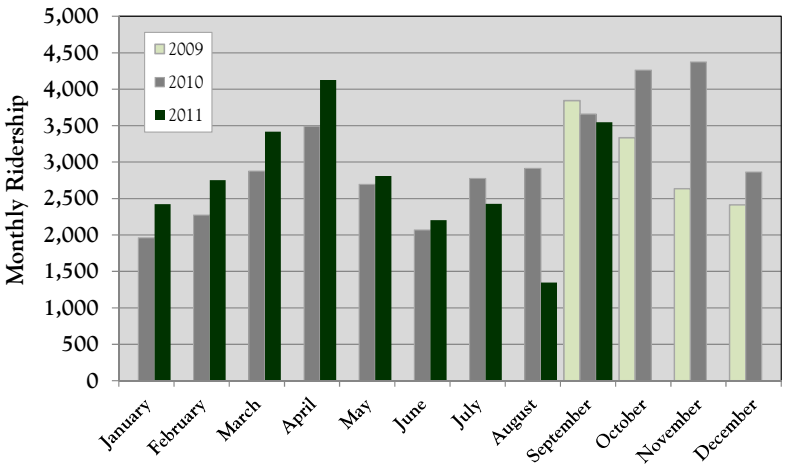


Figure 14 – Williamsburg Trolley Monthly Ridership
Source: WATA.

Ridership levels on the Williamsburg Trolley have been the highest in the spring and fall, when regular semester classes at William & Mary are in session. Nearly 35% of all ridership on the trolley in 2010 occurred in September, October, and November.

On January 3, 2012, WATA adjusted various fares throughout their system and created a pass program for regular users. The Williamsburg Trolley was included in these fare adjustments, raising the round trip fares from 50 cents to $1.00. Disabled and senior fares are still half of the regular rate, and William & Mary students continue to ride the Williamsburg Trolley for free. William & Mary students instead pay a fee each semester for general services at the university that includes transit on the WATA system.

It is expected that the increase in fares will only have a small impact on trolley ridership levels, since William & Mary students will not be directly impacted by the fare increase. WATA conducted a survey in June 2011 in which 73% of the respondents indicated that they would be willing to pay this increased fare to ride the Williamsburg Trolley.

Future funding has been allocated for replacement trolleys as the current trolleys near the end of their useful lives. The HRTPO allocated $432,000 in CMAQ funding to WATA for replacement trolleys in FY 2018. WATA plans to request additional CMAQ funds in future years through FY 2024 for replacement trolleys.

- **Jamestown Route** - The Jamestown Route would provide transit service along the Jamestown Road and John Tyler Highway corridors of James City County and Williamsburg. The area along this route to the south and west of Route 199 is not served by public transportation service. A survey done for WATA in 2008 indicated that passengers preferred this area for transit expansion over all other areas within WATA's footprint.

  WATA is considering using two distinct routes for the Jamestown service, tentatively known as the Silver Line and the Gold Line. The Silver Line (**Figure 15**) would operate on the 180 weekdays throughout the year when public schools in the area are in session. Service on the Silver Line would be provided between the Williamsburg Transportation Center, Jamestown Settlement, and Jamestown High School, which is currently the only secondary school in the Williamsburg-James City County (W-JCC) School District without public transportation service.

  The Gold Line (**Figure 16**) would operate the remainder of the year, which includes weekends throughout the year and seven-day-a-week service during the summer. The Gold Line would provide service between the Williamsburg Transportation Center, Colonial Williamsburg Visitor Center, Colonial Parkway, Jamestown Settlement, and Jamestown Island. The use of the Proposed Gold Line will be contingent on acceptance by the Colonial Williamsburg Foundation. The Gold Line service would provide more access to tourist attractions, whereas the Silver Line service would be oriented towards local residents and W-JCC students.

  The Jamestown Route is fully funded for three years with a total of $823,500 in CMAQ funding, and WATA estimates ridership for the Jamestown Route would be approximately 30,000 passengers per year. WATA staff will be presenting its recommendations concerning this potential route to the WATA Board of Directors early in 2012. Particular attention is being given to the sustainability of the route, since WATA will need to obtain additional funding to continue this route beyond the three years of CMAQ funding.

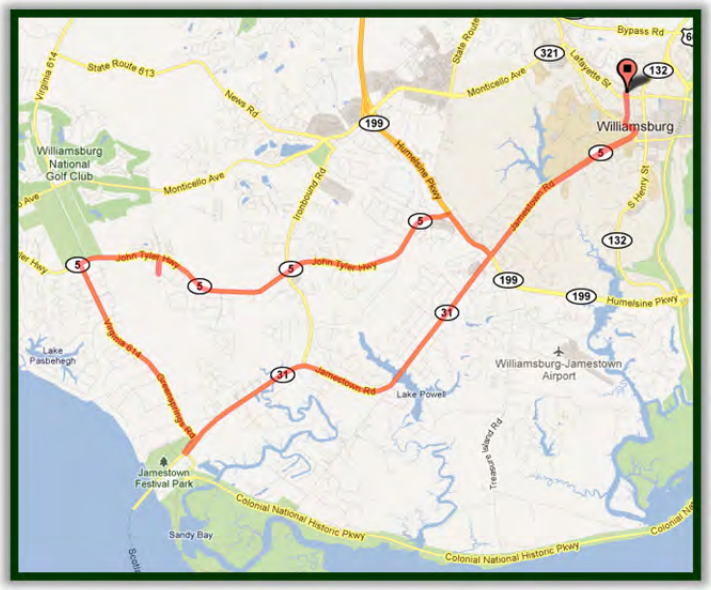


Figure 15 – Jamestown Route - Proposed Silver Line
Data Source: WATA. Map Source: Google.

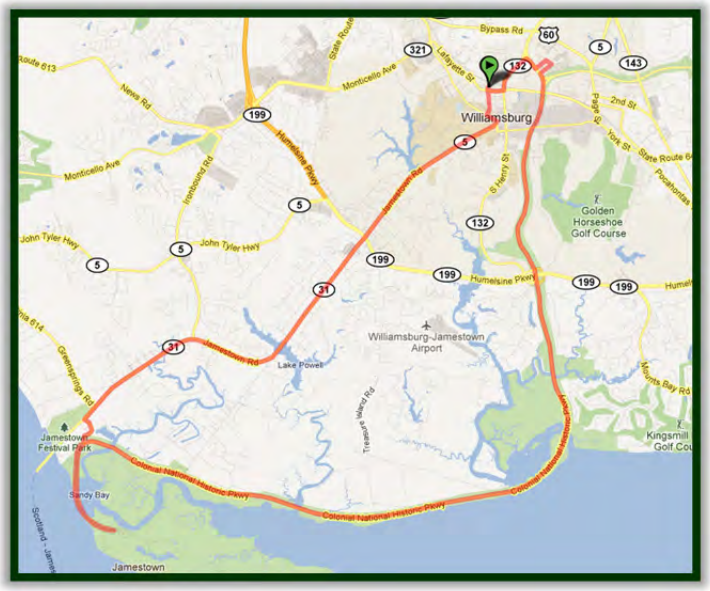


Figure 16 – Jamestown Route - Proposed Gold Line
Data Source: WATA. Map Source: Google.

- **Quarterpath Route** - The Transit Development Plan recommends adding the Quarterpath route which would provide service between the Williamsburg Transportation Center, James City County Government Center, and the Marquis Shopping Center in York County (**Figure 17**). The TDP recommends operating this service on an hourly basis Monday through Saturday, with expanded service if demand warrants it. Estimates for the annual operating costs of the initial service are $259,500-$307,700 according to the TDP.

  WATA is considering instituting service, tentatively known as the Mounts Bay Route, that would provide bus service along the Route 199 portion of the Quarterpath Route. The Mounts Bay Route would also provide service to the New Town development in James City County. This route should also provide access to the new Quarterpath at Williamsburg development, which will include the Riverside Doctors Hospital. There is currently $677,000 in regional CMAQ funding allocated to the Mounts Bay Route service in Fiscal Years 2014 and 2015. Based on this funding, WATA estimates that 43,000 passengers will use the Mounts Bay Route service annually.

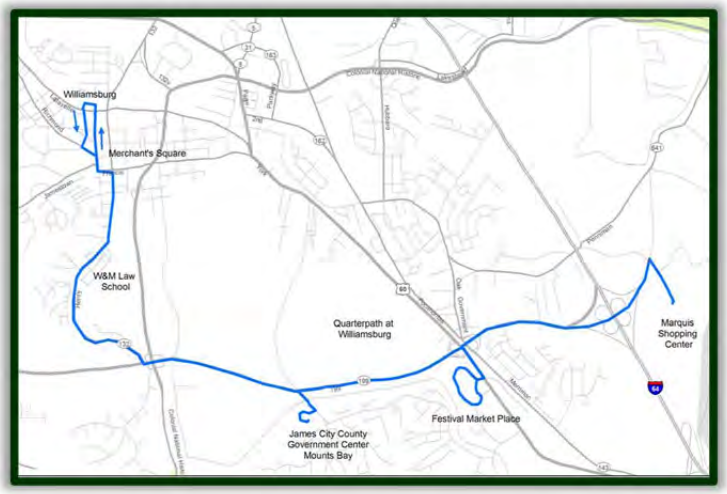


Figure 17 – Quarterpath Route
Source: WATA Transit Development Plan.

Figure 18 – Newport News Connection Route
Source: WATA Transit Development Plan.

- **Newport News Connection** - The Newport News Connection would provide additional transit service between the Williamsburg Transportation Center and Patrick Henry Mall in Newport News (**Figure 18**).

  Hampton Roads Transit (HRT) currently provides express bus service between these two points. This service, however, is limited to four trips each day. Conventional bus service is also provided between these two points, but it requires a transfer between WATA and HRT buses at Lee Hall. Surveys have indicated the desire for more frequent service on this route.

  The TDP proposes that WATA operate this service on an hourly basis seven days a week. Estimates for the annual operating costs for the Newport News Connection are $615,500 according to the TDP. There is currently no funding allocated to this service.

- **New Kent Connection** - The New Kent Connection would provide service between Providence Forge in New Kent County and the Williamsburg Transportation Center (**Figure 19**). The TDP proposes operating this service initially every two hours Monday through Friday, with increased service as necessary.

  Estimates for the initial annual operating costs for the New Kent Connection are $229,300 according to the TDP, with costs doubling to $458,600 if route frequency was increased to hourly service. There is currently no funding allocated to this service.

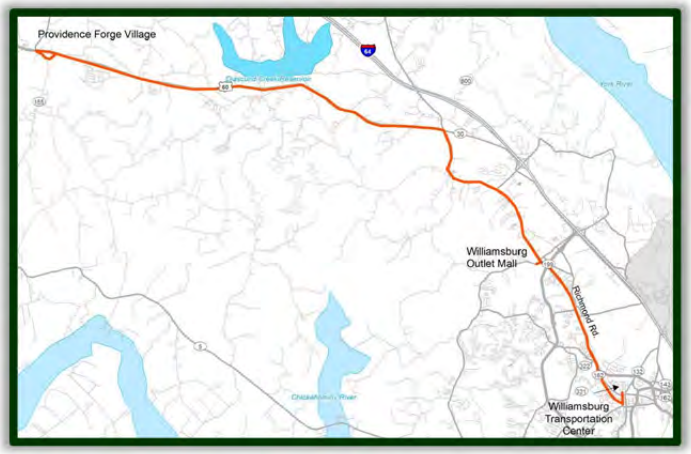


Figure 19 – New Kent Connection Route
Source: WATA Transit Development Plan.

WATA's Transit Development Plan also includes recommendations for service improvements to existing routes. These additional service recommendations include:

- **Later Service** - WATA extended its hours of service until 8:00 pm (10:00 pm in summer) in 2008. The TDP recommends extending these hours further, providing service until 10:00 pm (Midnight in summer) on Mondays through Saturdays to accommodate workers in the tourism industry. According to the TDP, providing later service in the evening on existing routes would cost an additional $404,300 in annual operating and maintenance costs.

- **Additional Service Frequency** - WATA increased service frequencies on the Blue, Tan, Orange, and Gray lines from 60 minute headways to 30 minute headways in 2009. The TDP recommends increasing service frequency from 60 minutes to 30 minutes on the Red, Purple 1, and Purple 2 Lines. This would allow for better connections between routes in the WATA system. According to the TDP, increasing frequency on these routes would cost $108,600 in additional annual operating and maintenance costs.

  The TDP also recommends increasing service frequency on the Surry County Connection, which connects The Town of Surry with the Williamsburg Transportation Center. Reducing average headways from every three hours to every one and a half hours would cost an additional $247,400 in annual operating and maintenance costs according to the TDP.

The TDP also contains long range recommendations beyond its six year timeframe. These recommendations include intercity passenger rail service, express service to the Richmond area, and future regional connections to Hampton, Charles City County, and Gloucester County.

Capital Improvements

In addition to the service recommendations included in the previous section, WATA's Transit Development Plan includes a number of capital recommendations as well. These capital needs reflect investments in vehicles, technology, and infrastructure that are required to maintain and improve the operation of the WATA system. Key capital needs and recommendations listed in WATA's TDP are detailed below:

- **Administrative Operations Center** - One of WATA's largest capital needs is a new Administrative Operations Center. This operations and maintenance facility would replace the existing leased facility on Pocahontas Trail that is undersized and non-ADA accessible.

The new Administrative Operations Center, which is included in the 2034 Hampton Roads Long-Range Transportation Plan, is estimated to cost $9 million. A feasibility study was completed for the facility in 2010 and funding has been allocated from Flexible Surface Transportation Program (Flexible STP) funds for preliminary engineering work. Recently, the HRTPO allocated $3.8 million in Regional Surface Transportation Program (RSTP) funding to the project, with the funding being available in FY 2018.

- **GPS/AVL Tracking System** - This project will employ a Global Positioning System (GPS)/Automatic Vehicle Location (AVL) tracking system for WATA vehicles. The project, at a cost of $480,000, is fully funded with American Recovery and Reinvestment Act (ARRA) and RSTP funds. This system is expected to be implemented in 2012.

- **Automated Fare/Passenger Collection Software** - This upgraded software will allow WATA to introduce a multiple pass program starting in 2012, as well as improve reporting of passenger levels. The project, at a cost of $150,000, is fully funded with ARRA funds.

- **Replacement and Expansion Vehicles** - WATA operates a variety of vehicle types, including heavy-duty buses, body-on-chassis vehicles, and trolleys. These vehicles should be replaced at the end of their useful lives to provide safe and reliable service and control maintenance costs. As transit routes are created or expanded, vehicles are needed to provide the additional service.

  Funding has been allocated to replace many vehicles that WATA currently operates. These replacements include:

  - Heavy Duty Buses - The HRTPO allocated $6,103,000 in CMAQ funds to replace twelve heavy duty buses with more environmentally-friendly vehicles in FY 2012, 2014, and 2015, and four more bus replacements are funded with $3,208,000 in CMAQ funds in FY 2018. The HRTPO has also allocated $878,000 in FY 2018 CMAQ funds to replace Colonial Williamsburg Compressed Natural Gas buses.

  - Body-on-Chassis Vehicles - WATA uses body-on-chassis vehicles to provide demand responsive paratransit service and fixed route service in rural areas. $130,000 was allocated in ARRA funds to replace two of these vehicles, with an additional $150,000 included in DRPT's Six-Year Improvement Program for FY 2012.

  - Yorktown Trolley - The Yorktown Trolley provides service to tourist attractions in the vicinity of Yorktown Village. The HRTPO allocated $315,000 in CMAQ funding to replace the older of the two Yorktown Trolley vehicles. This replacement will likely occur in 2012.

  Purchasing buses for expanded service is also included in the Public Transportation section of the FY 2012-2017 SYIP, at a total cost of $3.2 million.

- **Bus Shelters** - The need for more bus shelters has been voiced at various stakeholder and public meetings. $80,000 in funding was allocated to bus shelters in ARRA, and the HRTPO allocated $300,000 in CMAQ funding to add a sheltered bus transfer center at Lee Hall for WATA and HRT.

A number of other capital needs are included in the TDP. These capital needs include administrative and operational support vehicles, lease costs for the Williamsburg Transportation Center and Williamsburg Outlet Mall locations, replacement bus stop signage, replacement bike racks, automated data processing system and software upgrades, and equipment and parts required for system maintenance. These capital needs are included in the Public Transportation section of the SYIP.

Transit Vision Plan

The Virginia Department of Rail and Public Transportation, Hampton Roads Transit, and Williamsburg Area Transit Authority developed *The Hampton Roads Regional Transit Vision Plan* over the last two years. The Hampton Roads Transportation Planning Organization, its member localities, and the Hampton Roads Partnership also participated in this effort. The purpose of Hampton Roads Regional Transit Vision Plan is to provide a concept for a regional rapid transit network that connects major employment and population centers in Hampton Roads. This, in turn, will allow the region to advance transit enhancements in the future guided by a strategic regional plan.

This long-term framework for transit development includes a number of proposed corridors and projects. These projects — which include light rail, commuter rail, streetcar, enhanced bus service, express bus, bus rapid transit, and ferry — are grouped by time frame. Projects are classified as short range (today to 2015), mid range (2016-2025), long range (2026-2035), or extended range (2035+).

The Transit Vision Plan, which is available at http://www.drpt.virginia.gov/activities/files/Final_Report_03-17-11.pdf, includes four corridors in the study area. They are Corridor 11 - Downtown Newport News to Williamsburg, Corridor 14 – Oyster Point to Gloucester, Corridor 15a – Oyster Point to Poquoson, and Corridor A - Downtown Newport News to Toano. These corridors are shown in **Figures 20 and 21** on page 46.

Corridor 11: Downtown Newport News to Williamsburg

Corridor 11 runs for 31 miles from Williamsburg to Downtown Newport News. Commuting demand in this corridor is high. According to the Transit Vision Plan, this is due to high employee transit demand in Williamsburg, high employment in both Williamsburg and Newport News, a number of major activity centers along the corridor, and the availability of express bus service provided by Hampton Roads Transit between Williamsburg and Downtown Newport News (Route 121).

The Transit Vision Plan envisions expanding this express bus service along Corridor 11 in the short (today to 2015) and mid (2016-2025) ranges. This service could be provided as a MAX service by Hampton Roads Transit, which serves regional commuter trips with coach bus vehicles. The plan estimates that the capital costs for express bus service in this corridor are between $3.1 million and $4.8 million in 2009 dollars.

In the long range, the Transit Vision Plan recommends replacing express bus service between Williamsburg and Downtown Newport News with commuter rail along Corridor A.

Corridor 14: Oyster Point to Gloucester

Corridor 14 runs through York County along the Route 17 corridor, between Oyster Point in Newport News and the Gloucester Courthouse area. The Transit Vision Plan envisions implementing express bus service along this corridor in the long range (2026-2035). The plan estimates that the capital costs for express bus service in this corridor are between $2.5 million and $4.0 million in 2009 dollars, and ridership would be 25 passengers per weekday.

Corridor 15a: Oyster Point to Poquoson

Corridor 15a runs for 11 miles between Oyster Point in Newport News and Poquoson. In York County, Corridor 15a follows George Washington Memorial Highway and Victory Boulevard. The Transit Vision Plan envisions implementing express bus service along this corridor in the extended range (2035+). The plan estimates that the capital costs for express bus service in this corridor are between $1.5 million and $2.3 million in 2009 dollars, and ridership would be 25 passengers per weekday.

Corridor A: Downtown Newport News to Toano

Corridor A follows the CSX corridor from Toano in the northern section of James City County to Downtown Newport News. The Transit Vision Plan recommends that commuter rail be operated along the CSX railway in this corridor in the long range (2026-2035), replacing the express bus service in Corridor 11 recommended above for the short (today to 2015) and mid (2016-2025) ranges. Commuter rail, which is commonly used for trips that are from 20 to 60 miles in length, consists of heavy rail equipment such as diesel locomotives pulling multiple rail coach cars. One example of commuter rail service is the Virginia Railway Express (VRE) in Northern Virginia.

According to the Transit Vision Plan, commuter rail service should begin between Downtown Newport News and Williamsburg in the long range, with service being extended to Lightfoot and Toano in the extended range (2035+). One reason for the extended time frame for this recommendation is the capacity problem created by commuter rail, Amtrak, and freight rail sharing the same corridor. This capacity issue would need to be addressed before implementing commuter rail in this corridor.

In addition, the extension of this commuter rail line from Williamsburg to Lightfoot and Toano would be dependent on the land use patterns that emerge in this area. Both counties will need to develop a land use vision to support this service, according to the plan. The James City County and York County Comprehensive Plans designate the likely Lightfoot station location as an Economic Opportunity site, which allows for transit oriented uses such as high density mixed-use development.

The overall ridership for commuter rail in Corridor A is projected to be between 2,200 and 3,700 riders per weekday in 2034 according to the Transit Vision Plan, considered "medium" usage in the report. This ridership level covers the segment between Downtown Newport News and Lightfoot, as ridership on the segment between Lightfoot and Toano was not estimated as part of the study.

The capital cost estimate for commuter rail in this corridor is between $201 million and $612 million (in 2009 dollars), considered "high" according to the study. This capital cost does not include the cost for the segment from Lightfoot to Toano, which was also not estimated as part of the Transit Vision Plan.

Figure 20 - Peninsula Transit Vision Plan Bus Network Recommendations
Source: Hampton Roads Regional Transit Vision Plan.

Figure 21 - Regional Transit Vision Plan
Source: Hampton Roads Regional Transit Vision Plan.

INTERCITY PASSENGER RAIL

The Virginia Department of Rail and Public Transportation (DRPT) and Hampton Roads Transportation Planning Organization are cooperatively conducting studies to improve intercity passenger rail to the Hampton Roads region.

DRPT is investigating improved passenger rail service between Hampton Roads and Richmond as an extension of the Southeast High Speed Rail Corridor (SEHSR). DRPT developed the Richmond/Hampton Roads Passenger Rail Project Tier I Draft Environmental Impact Statement (EIS), which recommends an additional round-trip train per day (for a total of three) at conventional speeds on the Peninsula, with higher speed rail service being established on the Southside from Norfolk to Richmond via Petersburg. The Draft EIS estimates that the additional train on the Peninsula would almost double the number of passengers in 2025, from 250,000 passengers per year up to 450,000 passengers per year. The Draft EIS has been submitted to the Federal Railroad Administration and is awaiting a Record of Decision. Updates on the Richmond/Hampton Roads Passenger Rail Project can be found online at http://www.rich2hrrail.info.

DRPT is also studying replacing the existing Newport News Amtrak station with two stations in Newport News, one in the Downtown area and the other near Bland Boulevard. The proposed new station at Bland Boulevard would provide more convenient intercity passenger rail options to the southern portion of York County. Currently the station relocation project is in the preliminary engineering phase, with $20 million allocated to this project in current and future CMAQ and RSTP funding.

Expansion of intercity passenger rail is also a priority of the Hampton Roads Transportation Planning Organization. The HRTPO Board approved a resolution in October 2009 supporting the Commonwealth's efforts to establish high-speed passenger rail service on the Southside and enhance the existing intercity passenger rail service on the Peninsula. In order to improve the region's potential for making these intercity passenger rail

improvements a reality, the HRTPO Board retained a consultant specialized in passenger rail planning. This has resulted in two preliminary studies — the Hampton Roads Passenger Rail Preliminary Vision Plan (Phase 1) and the Hampton Roads Passenger Rail Plan Blueprint Study (Phase 1B) — being completed to examine these improvements.

The HRTPO and the consultant, working with the DRPT, will continue to pursue the passenger rail vision plan for the region and study area in 2012. More information on HRTPO's intercity passenger rail efforts is available at http://hrtpo.org/TPO_HSRIPR.asp.

BICYCLE AND PEDESTRIAN FACILITIES

As stated in the Current Conditions section of this report, bicycling and walking are popular modes of transportation and recreation in the study area. Many non-motorized transportation facilities of varying types have been constructed in the study area in recent years, and there are currently over 100 miles of documented bikeway facilities in James City County, Williamsburg, and York County. In addition, many of the rural low-volume roadways, particularly in northern James City and York Counties, are popular with recreational cyclists.

This section looks at bikeway and sidewalk projects included in the Six-Year Improvement Program and Transportation Improvement Program, the vision of the network provided by the *Regional Bicycle Facilities Plan* and officials in the area, and other issues impacting bicycle and pedestrian facilities.

SYIP/TIP Bicycle and Pedestrian Projects

A number of proposed bicycle and pedestrian facilities in the study area are included in the Six-Year Improvement Program (SYIP) and Transportation Improvement Program (TIP). These projects are shown in **Table 10** and on **Map 9** on page 49. These facilities range from small sidewalk and shoulder improvements to long multi-use paths along heavily traveled corridors.

In addition to these six projects, there are additional bicycle and pedestrian projects that have funds allocated in the SYIP/TIP. These projects are not shown, however, since they are not likely to be constructed for various reasons. Examples of these projects include bikeways on Airport Road, Cook Road, Longhill Road, and Route 60.

Virginia Capital Trail

Bikeways

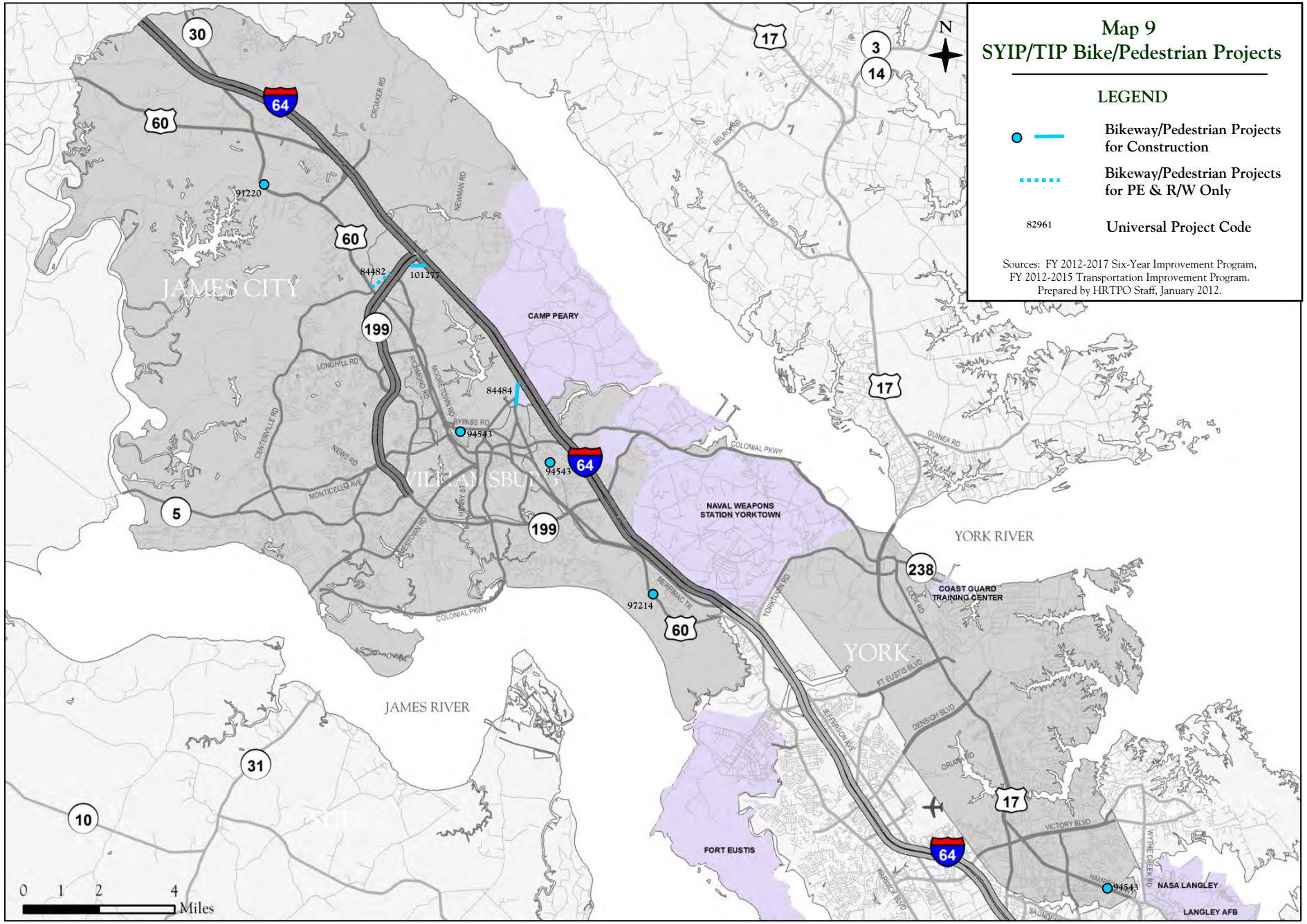
In spite of the large existing bicycle facility network, officials in the study area have a vision for a much larger, complete system. This would not only provide further accommodation of people using bicycles as a means of transportation and recreation but also make the area more likely to become a destination for bicycling tourism. The *Regional Bikeway Facilities Plan* includes this vision of a complete regional bikeway network. This vision includes proposed multi-use paths, bike lanes, and shared roadways, as well as conceptual corridors. Combined, these existing, proposed, and conceptual corridors comprise 400 miles of bike facilities in the study area.

The vision included in the *Regional Bicycle Facilities Plan*, however, will take many decades and millions of dollars to become a reality. In the shorter term, those projects in the *Regional Bicycle Facilities Plan* that address gaps in the existing system are a priority. Officials in James City County,

Juris-diction	UPC	Project	Projected Construction Start	Estimated Cost	Allocated Funding in SYIP/TIP
JCC	91220	Construct Sidewalks - Richmond Road in Toano	2013	$84,000	$84,000
JCC	97214	Crossing Improvement at James River Elementary School	2012	$126,000	$126,000
YC	84484	Capitol Landing Rd Bikeway	2013	$491,000	$491,000
YC	94543	Construct Sidewalks - Hampton Hwy, Hubbard Ln, Commons Way	Completed	$369,000	$375,000
YC	84482	Lightfoot Rd Bikeway (PE/RW Only)	-	$1,269,000	$184,000
YC	101277	Paved Shoulder - Rochambeau Dr	2012	$40,000	$40,000

Table 10 – Bikeway and Sidewalk Projects Included in the Six-Year Improvement Program or Transportation Improvement Program

Data sources: VDOT, HRTPO. UPC is the Universal Project Code number. The Croaker Road bikeway project (UPC #17633) is included in the Programmed Roadway Projects section of this report with the Croaker Road widening project (UPC #100200).


Map 9
SYIP/TIP Bike/Pedestrian Projects
LEGEND
Bikeway/Pedestrian Projects for Construction
Bikeway/Pedestrian Projects for PE & R/W Only
82961
Universal Project Code
Sources: FY 2012-2017 Six-Year Improvement Program, FY 2012-2015 Transportation Improvement Program. Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
COAST GUARD TRAINING CENTER
YORK
JAMES RIVER
FORT EUSTIS
NASA LANGLEY
LANGLEY AFB
91220
84482
101277
84484
94543
97214
0 1 2 4 Miles

Williamsburg, and York County are targeting those gaps in the existing bikeway system that, if completed, would best connect existing facilities and create an integrated system of bikeways throughout the study area.

Based on discussions with officials from James City County, Williamsburg, and York County, those projects in the *Regional Bicycle Facilities Plan* that are critical gaps in the existing system include:

- **1 - Capitol Landing Road (Lafayette Street to Merrimac Trail)** - This link would provide another connection between the bikeways on Lafayette Street and Merrimac Trail in Williamsburg. One possible method of providing this facility would be to reduce the number of lanes on the northern section of Capitol Landing Road from 4 lanes to 3 lanes with bike lanes, and signing the southern 2 lane section as a shared facility. Current and future traffic volumes are low enough on the 4-lane section to not impact congestion levels.

- **2 - Cook Road (Surrender Road to Ballard Street)** - This link would provide a more convenient connection between the Yorktown Village/Colonial Parkway and other National Park Service roadways in the Yorktown Battlefield. Combined with Surrender Road and existing bike lanes on Old York-Hampton Highway, this would also provide a connection to the Grafton area of York County. This narrow stretch of Cook Road, which spans between the Battlefield Visitor Center and the National Cemetery, is heavily-used by pedestrians and bicyclists.

  Funding is allocated from the CMAQ program for bike lanes on Cook Road. This project, however, is unlikely to happen due to concerns from the National Park Service. Instead, paved shoulders are planned for this section of Cook Road (as shown in the Programmed Roadway Projects section of this report), which will benefit both motorists and bicyclists.

- **3 - CSX Railroad Crossings -** The CSX railroad creates a barrier to bicycle and pedestrian mobility in the study area. This is especially true southeast of Williamsburg, where there are no authorized crossings between Page Street in Williamsburg and Elmhurst Street in Newport News, a length of 8.5 miles. As a result, bicyclists and pedestrians commonly walk across the tracks illegally along this segment.

  Officials from the study area have discussed constructing a crossing for bicyclists and pedestrians between York Street in Williamsburg and Penniman Road in York County. The *Regional Bicycle Facilities Plan* includes a proposed multi-use path crossing the CSX Railroad in the area of Busch Gardens. These crossings would require approval from CSX officials, and would not prevent many bicyclists and pedestrians from continuing to cross in unauthorized areas.

- **4 - East Rochambeau Drive (Mooretown Road to Airport Road)** - Many sections of East Rochambeau Drive in York County have bike lanes in place. This project would add bike lanes to the remaining two miles of East Rochambeau Drive, creating a continuous bike path between Mooretown Road and Route 143. Funding is included in the SYIP/TIP to complete 0.3 miles of this gap.

- **5 - Freedom Boulevard (Old York-Hampton Highway to Goodwin Neck Road)** - This short link would connect two existing bike lanes and create a continuous bikeway between Seaford Road and Yorktown Battlefield, a length of six miles. Freedom Boulevard is located in an industrial area, and on-street parking is permitted. These two factors currently make Freedom Boulevard less conducive to bicycling.

- **6 - Ironbound Road (Strawberry Plains Road to Monticello Avenue)** - Bicycling facilities are being added to Ironbound Road north of Monticello Avenue as part of the current widening project. Adding this link, when combined with the widening project, will connect bike facilities on Jamestown Road, John Tyler Lane and Strawberry Plains Road

with facilities along Longhill Road and Longhill Connector Road.

- **7 - Ironbound Road (Longhill Connector Road to Longhill Road)** - This link would connect existing bike facilities on Ironbound Road, Longhill Road, Longhill Connector Road, and Treyburn Drive. Although the *Regional Bicycle Facilities Plan* recommends bike lanes for this section, consideration should be given to a multi-use trail on Ironbound Road, which would connect to the existing multi-use trail along Longhill Connector Road. A multi-use trail along Ironbound Road is recommended in the City's recently completed *Ironbound Road Corridor Study*.

- **8 - Ironbound Road/Sandy Bay Road (Jamestown Road to Monticello Avenue)** - This link would provide another connection between the Monticello Avenue and Jamestown Road bikeways, and would provide more convenient access to Mid County Park.

- **9 - Jamestown Road (Between Route 199 and John Tyler Lane)** - This link would connect the Jamestown Road and Strawberry Plains Road bikeways to a multi-use trail across Route 199 that connects to Lake Powell Road. This low-volume roadway provides access to many neighborhoods and the Colonial Parkway. This facility would also provide another crossing of Route 199. However, due to the turn lanes at the Route 199 intersection, there is no room in the existing pavement to add bike lanes. Adding this facility would require widening the roadway.

- **10 - Jamestown Road (Ukrop Way to Landrum Drive)** - This short segment in front of the William & Mary campus would connect Downtown Williamsburg with the Jamestown Road and Strawberry Plains Road bike lanes. On-street parking is permitted on this section of Jamestown Road, but it may be possible to modify the existing pavement markings to provide bike lanes with on-street parking on one side of the roadway.

- **11 - Lightfoot Road/Richmond Road (Centerville Road to Old Mooretown Road)** - This corridor would connect the Centerville Road and Warhill Trail bikeways with the Old Mooretown Road bikeway. Although this project is important in filling in a critical gap, York County officials consider the bikeway cost-prohibitive based on a pre-scoping of the project completed by VDOT.

- **12 - Longhill Road (Centerville Road to Olde Towne Road)** - This link would provide a bike facility from the Centerville Road and Warhill Trail bike facilities to ones entering Williamsburg. A study of the Longhill Road corridor, including this section, is included in the SYIP/TIP and 2034 LRTP.

- **13 - Mooretown Road (Airport Road to Old Mooretown Road)** - This facility would connect existing sections of bikeway on Mooretown Road and provide better access between Williamsburg and shopping areas in York County, as well as a connection to the Centerville Road bike lanes.

- **14 - Quarterpath Road (Redoubt Park to Battery Boulevard)** – This facility would connect to the existing multi-use trail on the west side of Quarterpath Road that runs between Redoubt Park and the Quarterpath Recreation Center. The existing section of Quarterpath Road would be closed to vehicular traffic and improved as a multi-use trail, preserving the historic and environmental character of the area. This facility would enable connections to bicycle and pedestrian facilities in the adjacent Quarterpath at Williamsburg development. This facility could also be linked to the South England Street/Country Road facility mentioned on the next page, creating a scenic recreational loop.

- **15 - Richmond Road/Airport Road (Waltz Farm Drive to Mooretown Road)** - This would provide a link between the Mooretown Road and Airport Road bikeways with the neighborhoods to the west of Richmond Road. Low-volume roadways in these

neighborhoods provide a convenient connection between Richmond Road and Longhill Road. This facility would also improve the crossing of the CSX railroad for bicyclists. CMAQ funding has been allocated for a portion of this facility, although more funding would be needed for construction.

- **16 - Richmond Road and Old Stage Road (James City County)** - Many of the rural low-volume roadways in northern James City and York Counties are used by recreational cyclists. However, travel between rural roadways is difficult where they intersect Richmond Road and Old Stage Road. Providing bike accommodations along these two roads, which are designated for bike lanes in the *Regional Bicycle Facilities Plan*, would not only improve safety for recreational cyclists but also provide more convenient access to services used by these cyclists. Many sections of Richmond Road have wide shoulders, so improvements should be targeted to those areas in the corridor without shoulders.

- **17 - Route 143 (Williamsburg City Line to Route 132)** - This short segment would connect Route 143 bikeways located in York County and Williamsburg. A portion of this gap is covered by project UPC #84484, which is fully funded for construction through CMAQ allocations.

- **18 - South England Street/Country Road** - This facility would establish an important recreational connection for cyclists and pedestrians between Colonial Williamsburg, the James City County Governmental Center and Kingsmill, utilizing the existing South England Street and a portion of the former Carters Grove Country Road. Creating this bikeway will require cooperation between James City County and Williamsburg, and would necessitate the acquisition of the Country Road from the Colonial Williamsburg Foundation.

- **19 - Victory Boulevard (North Bowman Terrace and East Yorktown Road)** - This facility would connect existing bikeways and neighborhoods along the Victory Boulevard corridor, as well as provide better access to Tabb High School.

Map 10 on page 54 shows the vision of the regional network included in the *Regional Bicycle Facilities Plan*, as well as those gaps in the existing network listed above that would best create an interconnected bikeway network throughout the study area.

James City County, Williamsburg, and York County officials should work with the Historic Triangle Bicycle Advisory Committee during their 2012 Comprehensive Plan Updates to review these critical gaps as well as the overall *Regional Bicycle Facilities Plan*.

Sidewalks

Gaps in the bikeway system are not the only nonmotorized transportation concern in James City County, Williamsburg, and York County. As in many areas, gaps in the sidewalk network are also an issue in the study area.

Gaps are particularly prevalent on major roadways in the counties. Many important corridors in James City County and York County have gaps in their sidewalk networks, or do not have sidewalks at all. Examples include sections of Ironbound Road, John Tyler Highway, Longhill Road, and Olde Towne Road in James City County, and George Washington Memorial Highway, Hampton Highway, Merrimac Trail, and Victory Boulevard in York County.

Williamsburg also has gaps in its sidewalk system, although these gaps are not as widespread as in the counties. Examples in Williamsburg include sections of Bypass Road, Compton Drive, Lafayette Street, and Monticello Avenue.

These gaps in each locality's sidewalk system are due, in part, to past roadway construction policies. In 2004 VDOT changed its policies, publishing the *Policy for Integrating Bicycle and Pedestrian Accommodations*. This policy requires VDOT staff to "initiate all highway construction projects with the presumption that the projects shall accommodate bicycling and walking." In recent years, each

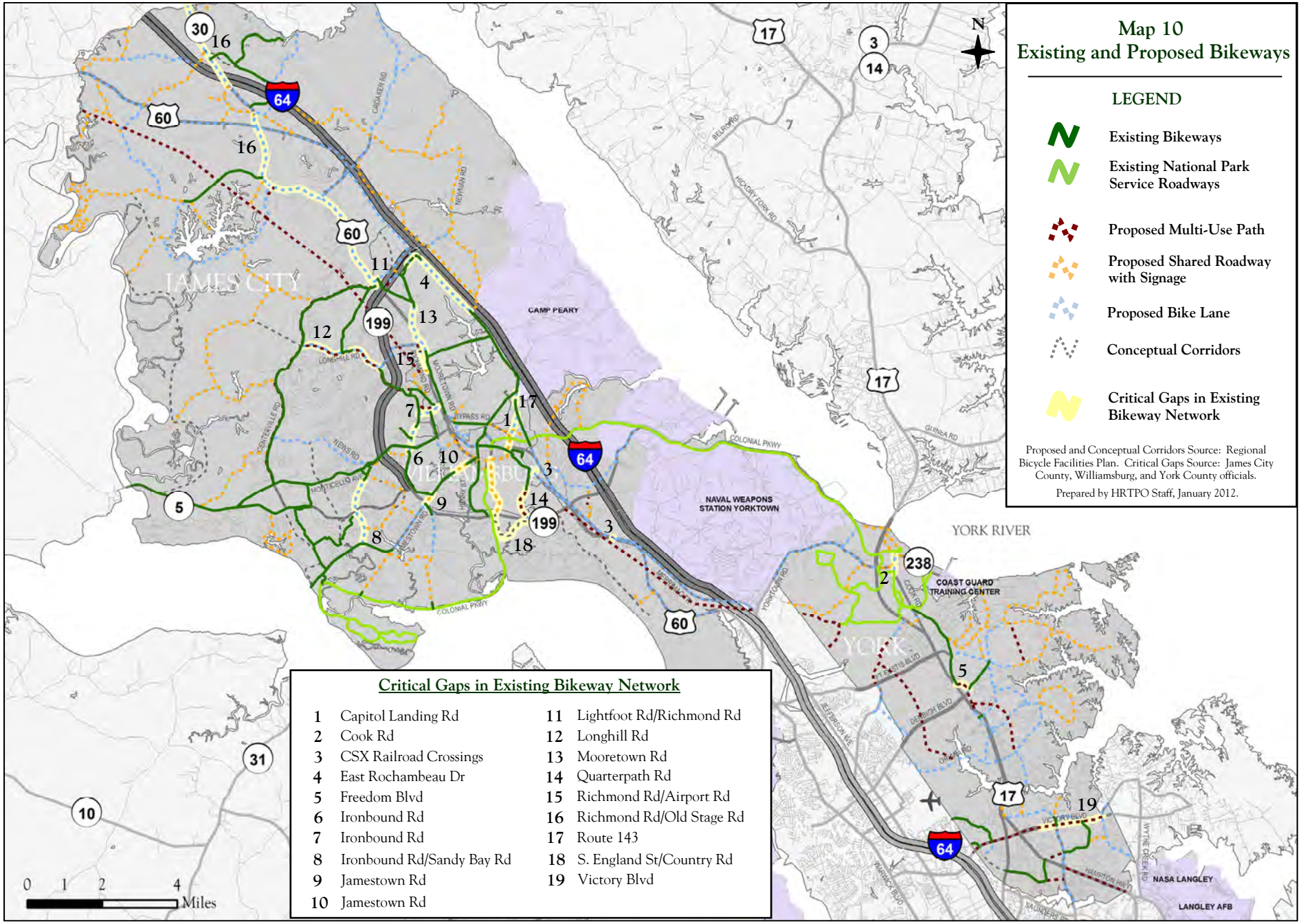
locality's development policies have also been updated to require sidewalks. These policies, however, will not fill those gaps in the sidewalk system where roadway construction or development will not occur in the foreseeable future.

As mentioned in the Current Conditions section of this report, each of these localities will continue to address deficiencies in their sidewalk networks through their Sidewalk Master Plans and Comprehensive Plans.

Maintenance

Maintenance of bikeways and sidewalks is also an issue for the localities in the study area. Some sidewalks in older areas have fallen into disrepair, and some bikeways have narrowed due to vegetation growth and crumbling pavement. In many areas, bikeways are compromised by accumulations of sand, gravel and debris.

Per the *Policy for Integrating Bicycle and Pedestrian Accommodations*, VDOT will "maintain bicycle and pedestrian accommodations as necessary to keep the accommodations usable and accessible." Like roadways, however, this is dependent upon the amount of funding available for these efforts, both for VDOT and for cities.


Map 10
Existing and Proposed Bikeways
LEGEND
Existing Bikeways
Existing National Park Service Roadways
Proposed Multi-Use Path
Proposed Shared Roadway with Signage
Proposed Bike Lane
Conceptual Corridors
Critical Gaps in Existing Bikeway Network
Proposed and Conceptual Corridors Source: Regional Bicycle Facilities Plan. Critical Gaps Source: James City County, Williamsburg, and York County officials.
Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
COAST GUARD TRAINING CENTER
NASA LANGLEY
LANGLEY AFB
0 1 2 4 Miles
Critical Gaps in Existing Bikeway Network
1 Capitol Landing Rd
2 Cook Rd
3 CSX Railroad Crossings
4 East Rochambeau Dr
5 Freedom Blvd
6 Ironbound Rd
7 Ironbound Rd
8 Ironbound Rd/Sandy Bay Rd
9 Jamestown Rd
10 Jamestown Rd
11 Lightfoot Rd/Richmond Rd
12 Longhill Rd
13 Mooretown Rd
14 Quarterpath Rd
15 Richmond Rd/Airport Rd
16 Richmond Rd/Old Stage Rd
17 Route 143
18 S. England St/Country Rd
19 Victory Blvd

Air Travel

While there has not been much growth in passenger air travel in the past few years both on a national and regional level, it is expected that passenger air travel will increase as the economy improves. Each local airport prepares for this anticipated growth through its Master Plan.

Newport News-Williamsburg International Airport

Newport News - Williamsburg International Airport

Passenger service levels at Newport News-Williamsburg International Airport will be greatly impacted in the near future by the loss of Airtran Airways. Southwest Airlines recent acquisition of Airtran Airways will result in a consolidation of their services, with the Airtran Airways name eventually being retired. As part of this consolidation, Southwest Airlines has announced that they will discontinue Airtran Airways service at Newport News-Williamsburg International Airport in March 2012, with Southwest Airlines continuing to serve the region through Norfolk International Airport. Frontier Airlines has also announced that its service between Newport News and Denver will only operate on a seasonal basis. On the other hand, Allegiant Air began four day a week service between Newport News-Williamsburg International Airport and the Orlando area in November 2011.

The Peninsula Airport Commission is currently updating the Newport News-Williamsburg International Airport's Master Plan. Various growth scenarios were developed as part of the plan, with the anticipated number of people using the airport ranging from 622,000 to 1.092 million enplaned passengers per year by 2025, up from 520,000 in 2010. The plan also anticipates moderate growth in commercial aircraft operations and aircraft based at the airport.

The update to the airport's Master Plan is currently in the Solutions Phase, where alternatives for improving the airport are developed and evaluated. Possible recommendations include improving check-in and baggage claim processes, consolidating security lines, reconfiguring existing runways, and increasing access to the airport. The Master Plan is expected to be completed in 2012.

Norfolk International Airport

The last update to the Norfolk International Airport Master Plan occurred in 2008. The Master Plan anticipates significant growth at Norfolk International Airport, from the current level of 1.7 million enplanements per year up to between 3 million and 3.75 million enplanements per year by 2024. The airport anticipates accommodating this growth by closing the current cross-runway and adding a runway parallel to the existing primary one. Upcoming improvements also include expanded baggage areas, concourses, security checkpoints, and rental car check-in positions, along with a new south access point.

In the short term, Norfolk International Airport will likely gain some flights due to Southwest Airlines acquisition of Airtran Airways, which is resulting in Southwest Airlines discontinuing Airtran Airways service at Newport News-Williamsburg International Airport.

Richmond International Airport

Richmond International Airport updated its Master Plan in 2009, making recommendations for necessary improvements in order to meet anticipated demand through 2026. The plan forecasts passenger enplanements to increase from the current 1.7 million enplanements each year to between 2.5 million and 3.5 million passengers per

year by 2026. Air cargo is expected to grow at approximately 3.5% per year, matching the expected rate for U.S. domestic air cargo. General aviation operations and the number of based aircraft are expected to increase at 2.5% per year.

The airport has undergone many changes in recent years, including a new two-level terminal, new air traffic control tower, an increase in the total number of gates, widened security checkpoints, new parking garages, and a new terminal roadway. Access to the airport was also improved with the new Airport Connector from the Pocahontas Parkway (Route 895) being completed in 2011.

The airport has plans to add more gates as well as extend two existing runways and reconfigure another runway. Along with the runway changes, a new heavy aircraft maintenance and modification facility, a Federal Bureau of Investigation complex, and additional corporate aviation facilities are planned. Additional possibilities include an East Airside Development Access Road and a connection to the light rail system proposed in the Richmond Rail Transit Feasibility Study.

Williamsburg Jamestown Airport

The 2009 Airport Feasibility Study projected an increase in total aircraft operations from the current 23,310 operations per year to 29,980 operations per year in 2025. However, as mentioned previously, the future of the Williamsburg Jamestown Airport is unknown due to the current airport owner's interest in selling the facility. James City County officials are supportive of the Williamsburg Jamestown Airport remaining in use as an airport facility.

Public Review and Comments

As part of the Hampton Roads Transportation Planning Organization's (HRTPO) efforts to provide opportunities for the public to review and comment on this draft report prior to the final product being published, a 2-week public comment period was provided. The public review period for the draft version of this study was conducted from February 1, 2012 through February 15, 2012. No public comments were received.

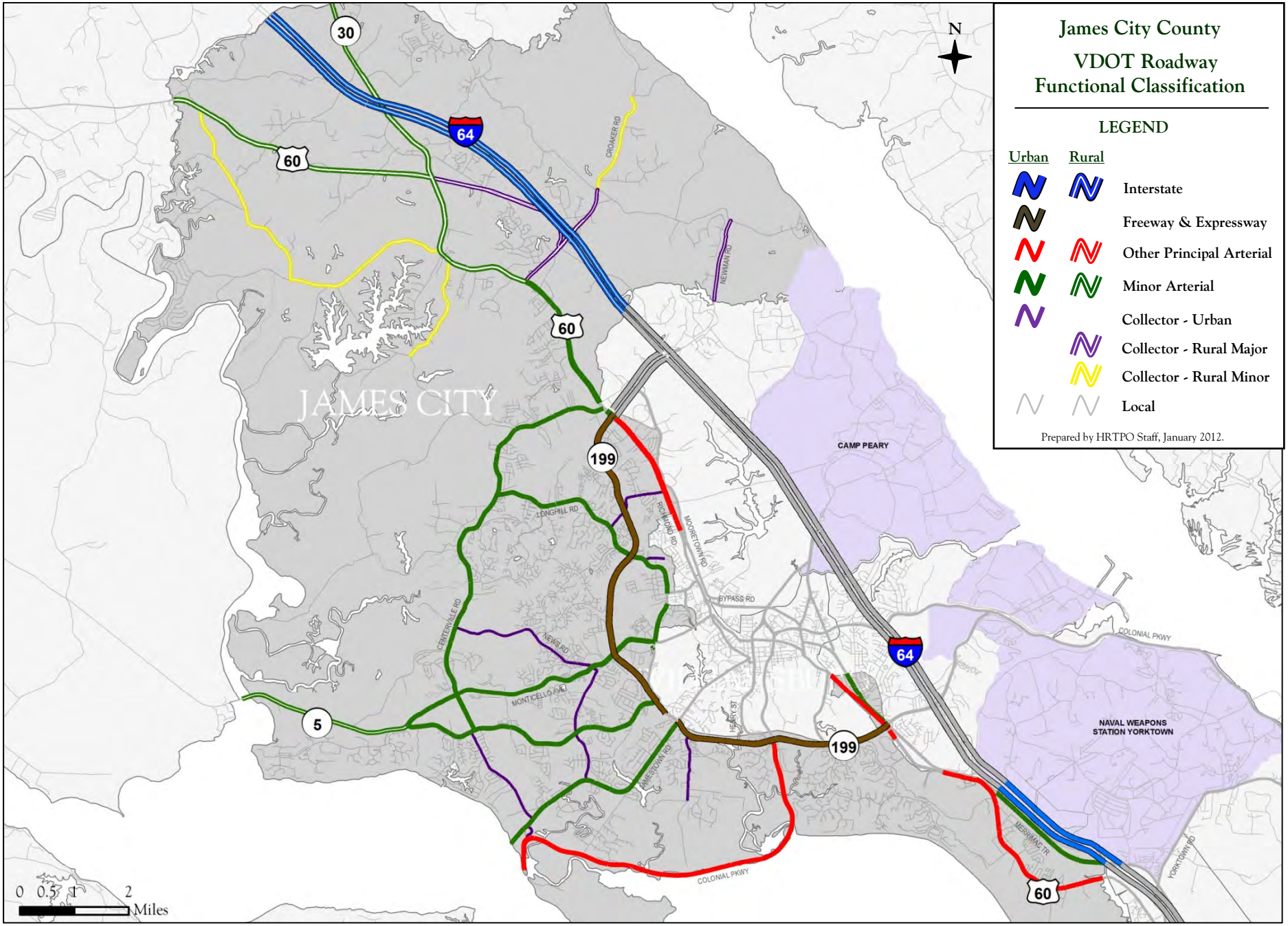
Appendices

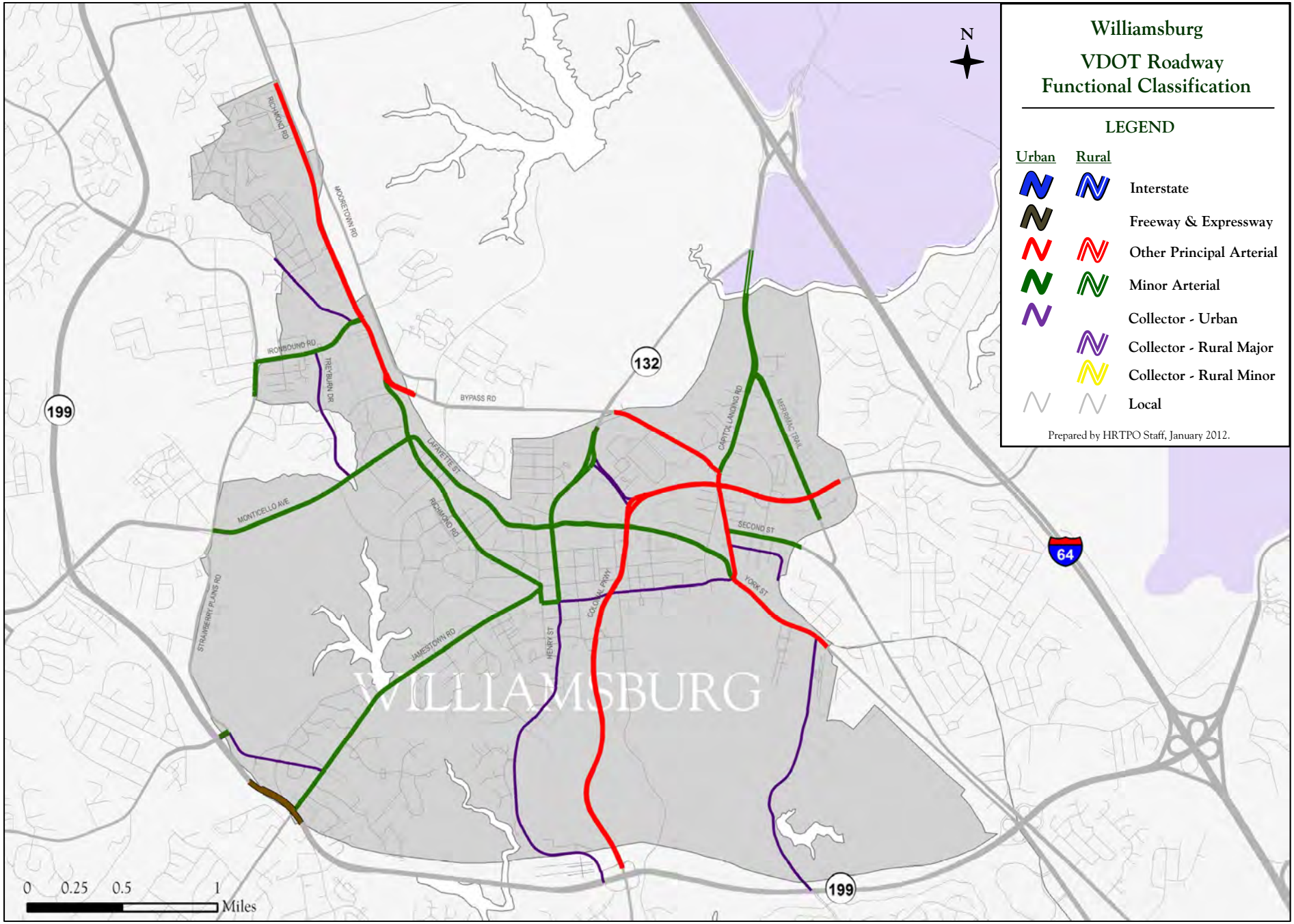
APPENDIX A - VDOT Roadway Functional Classification by Locality

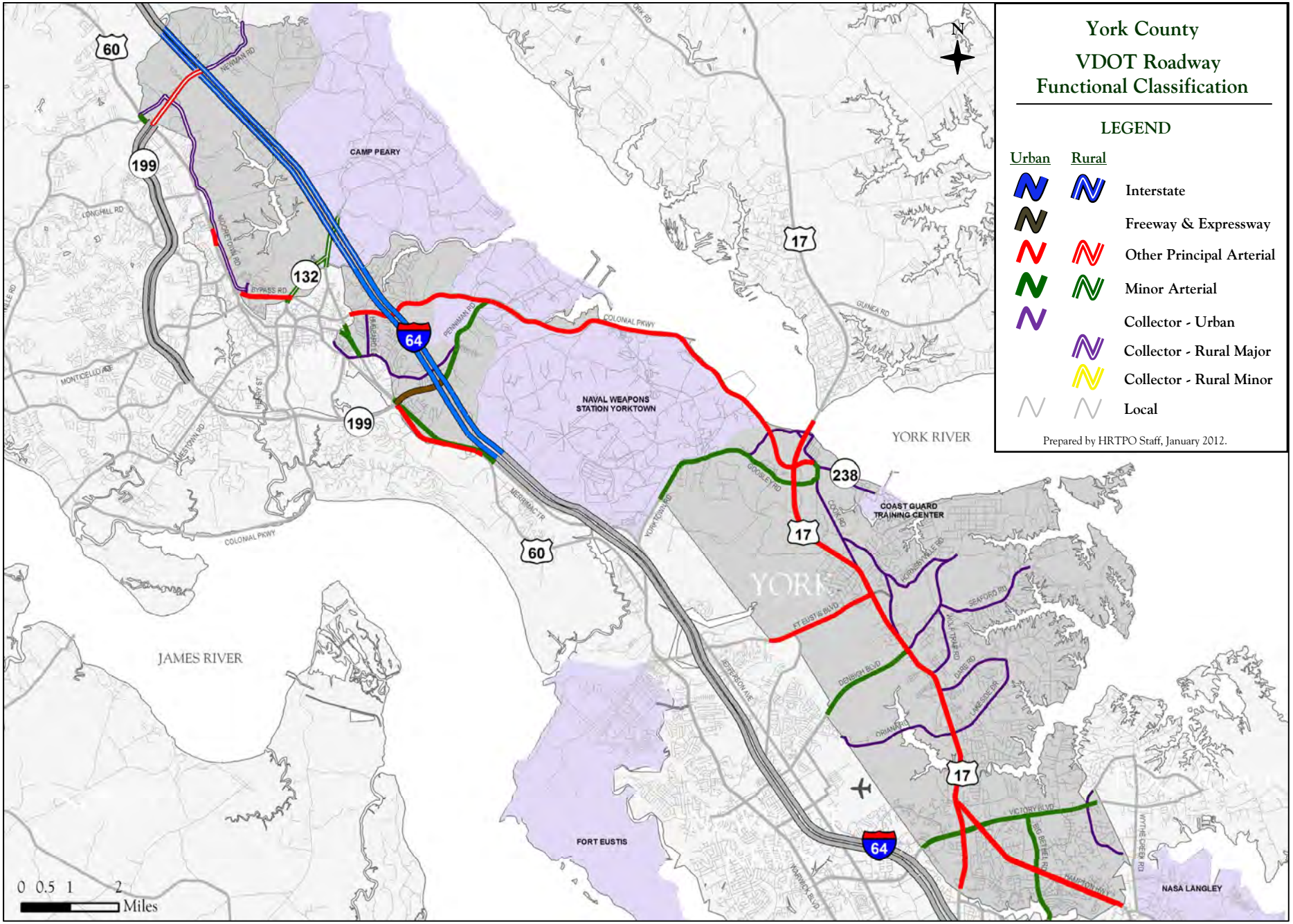
APPENDIX B - Roadway Projects Completed Since 2001

APPENDIX C - 2010 PM Peak Hour Congestion Levels by Locality

APPENDIX D - 2034 PM Peak Hour Congestion Levels by Locality


James City County
VDOT Roadway
Functional Classification
LEGEND
Urban
Rural
Interstate
Freeway & Expressway
Other Principal Arterial
Minor Arterial
Collector - Urban
Collector - Rural Major
Collector - Rural Minor
Local
Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS
STATION YORKTOWN
30
64
60
199
5
CROAKER RD
NEWMAN RD
LONGHILL RD
RICHMOND RD
MOORETOWN RD
BYPASS RD
CENTERVILLE RD
NEWS RD
MONTICELLO AVE
HENRY ST
JAMESTOWN RD
COLONIAL PKWY
MERRIMACTR
YORKTOWN RD
0 0.5 1 2
Miles

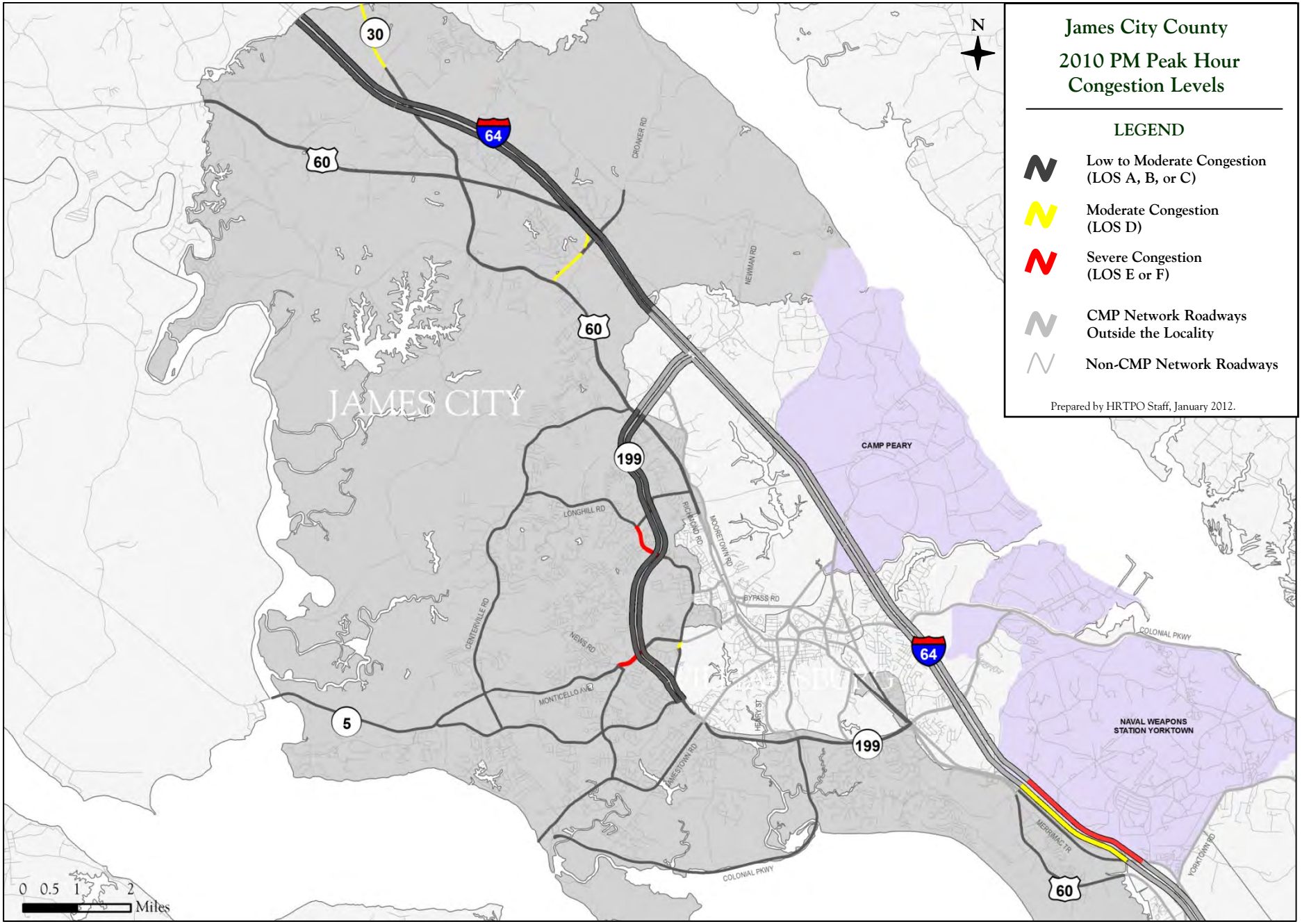

N
Williamsburg
VDOT Roadway
Functional Classification
LEGEND
Urban
Rural
Interstate
Freeway & Expressway
Other Principal Arterial
Minor Arterial
Collector - Urban
Collector - Rural Major
Collector - Rural Minor
Local
Prepared by HRTPO Staff, January 2012.
WILLIAMSBURG
199
132
64
RICHMOND RD
MOORETOWN RD
IRONBOUND RD
TREYBURN DR
BYPASS RD
LAFAYETTE ST
MONTICELLO AVE
STRAWBERRY PLAINS RD
JAMESTOWN RD
HENRY ST
COLONIAL PKWY
CAPITOLANDING RD
MERRIMAC TRAIL
SECOND ST
YORK ST
0 0.25 0.5 1
Miles


York County
VDOT Roadway
Functional Classification
LEGEND
Urban
Rural
Interstate
Freeway & Expressway
Other Principal Arterial
Minor Arterial
Collector - Urban
Collector - Rural Major
Collector - Rural Minor
Local
Prepared by HRTPO Staff, January 2012.
N
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
JAMES RIVER
FORT EUSTIS
COAST GUARD TRAINING CENTER
NASA LANGLEY
60
199
132
64
17
238
0 0.5 1 2
Miles

Juris-diction	UPC	Project	Construction Completed	Cost
JCC	18202	New Roadway - Monticello Ave between John Tyler Hwy at News Rd	December 2001	$12,447,000
JCC	2058	New Interchange - I-64 Grove Interchange	December 2003	$43,536,000
JCC	60408	Add Right Turn Lane - Croaker Rd at Richmond Rd	November 2004	$120,000
JCC	65273	Widening Route 199 from 2 to 4 Lanes - Williamsburg CL to South Henry St	November 2004	$10,221,000
JCC	65191	Widening Route 199 from 2 to 4 Lanes - South Henry St to Pocahontas Trail	November 2004	$16,412,000
JCC	65276	Relocation of Route 359 at Jamestown Settlement	May 2005	$2,345,000
JCC	65146	Improve Rail Crossing - Diascund Rd at CSX Railroad	January 2006	$97,000
JCC	60034	Widen Approaches - Monticello Ave at Ironbound Rd	March 2007	$3,324,000
JCC	77065	Add Right Turn Lane - Ironbound Rd at John Tyler Hwy	September 2008	$393,000
JCC	87687	Install Traffic Signal - Richmond Rd at Croaker Rd	December 2008	$111,000
JCC	71883	Route 5 Bridge Replacement	April 2010	$40,808,000
JCC	94645	Install Traffic Signal - Richmond Rd at Fire Station #2	October 2010	$160,000
JCC	90435	Add Turn Lanes - Centerville Rd at Longhill Rd	January 2011	$714,000
JCC	94541	Add Turn Lanes - Route 199 at John Tyler Hwy	April 2011	$1,006,000
JCC	87686	Install Traffic Signal - Centerville Rd at Longhill Rd	November 2011	$241,000
WMB	65275	Intersection Improvements - Route 199 at Brookwood Drive	May 2005	$3,789,000
WMB	68074	Improve Rail Crossing - Henry St at CSX Railroad	December 2005	$73,000
WMB	14750	Widening Richmond Rd from 2 to 3/4 Lanes - Bypass Rd to Brooks St	November 2006	$15,748,000
WMB	16054	New Roadway - Treyburn Dr	December 2007	$4,523,000
YC	14701	Construct Through Lane - George Washington Hwy from York Crossing Rd to Wolf Trap Rd	April 2001	$1,630,000
YC	50552	Add Turn Lanes - George Washington Hwy at Victory Blvd	July 2001	$612,000
YC	13715	Add Tun Lane - Dare Rd East of George Washington Hwy	September 2003	$1,253,000
YC	64916	Extend Turn Lane - Victory Blvd at George Washington Hwy	November 2003	$69,000
YC	52521	Install Left Turn Lanes - Route 143 at Rochambeau Dr/I-64 Ramp	March 2004	$253,000
YC	57022	Install Traffic Signal and Left Turn Lanes - Mooretown Rd at Airport Rd	May 2004	$576,000
YC	17935	Intersection Improvements - Carys Chapel Rd/East Yorktown Rd at Victory Blvd	April 2006	$2,620,000
YC	14627	New Roadway - Fort Eustis Blvd Extended	December 2006	$6,450,000
YC	11267	Add Turn Lanes - Big Bethel Rd at Victory Blvd and Hampton Hwy	May 2007	$2,930,000
YC	52342	Intersection Realignment - Grafton Dr at Amory Ln	March 2008	$1,193,000
YC	87688	Install Traffic Signal - Old Williamsburg Rd at Baptist Rd/Yorktown Weapons Station Ent	December 2008	$109,000
YC	94129	Improve Traffic Signal - Route 199 at Merrimac Trail	October 2010	$119,000
YC	94127	Rebuild Existing Traffic Signal - Route 132 at Route 143	November 2010	$150,000
YC	93024	Improve Rail Crossing - Pocahontas Trail at CSX Railroad near Busch Gardens	January 2011	$335,000
YC	94459	Extend Turn Lane - Hampton Hwy at Tabb Smith Trail	June 2011	$117,000
YC	96880	Improve Rail Crossing - George Washington Hwy South of Fort Eustis Blvd	October 2011	$50,000

Roadway Projects Completed Since 2001

Data sources: VDOT, HRTPO. Based on data collected from the SYIP as of October 2011. UPC is the Universal Project Code number.


James City County
2010 PM Peak Hour Congestion Levels
LEGEND
Low to Moderate Congestion (LOS A, B, or C)
Moderate Congestion (LOS D)
Severe Congestion (LOS E or F)
CMP Network Roadways Outside the Locality
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
30
64
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199
5
CROAKER RD
NEWMAN RD
LONGHILL RD
RICHMOND RD
MOORETOWN RD
BYPASS RD
CENTERVILLE RD
NEWS RD
MONTICELLO AVE
HENRY ST
JAMESTOWN RD
COLONIAL PKWY
MERRIMAC TR
YORKTOWN RD
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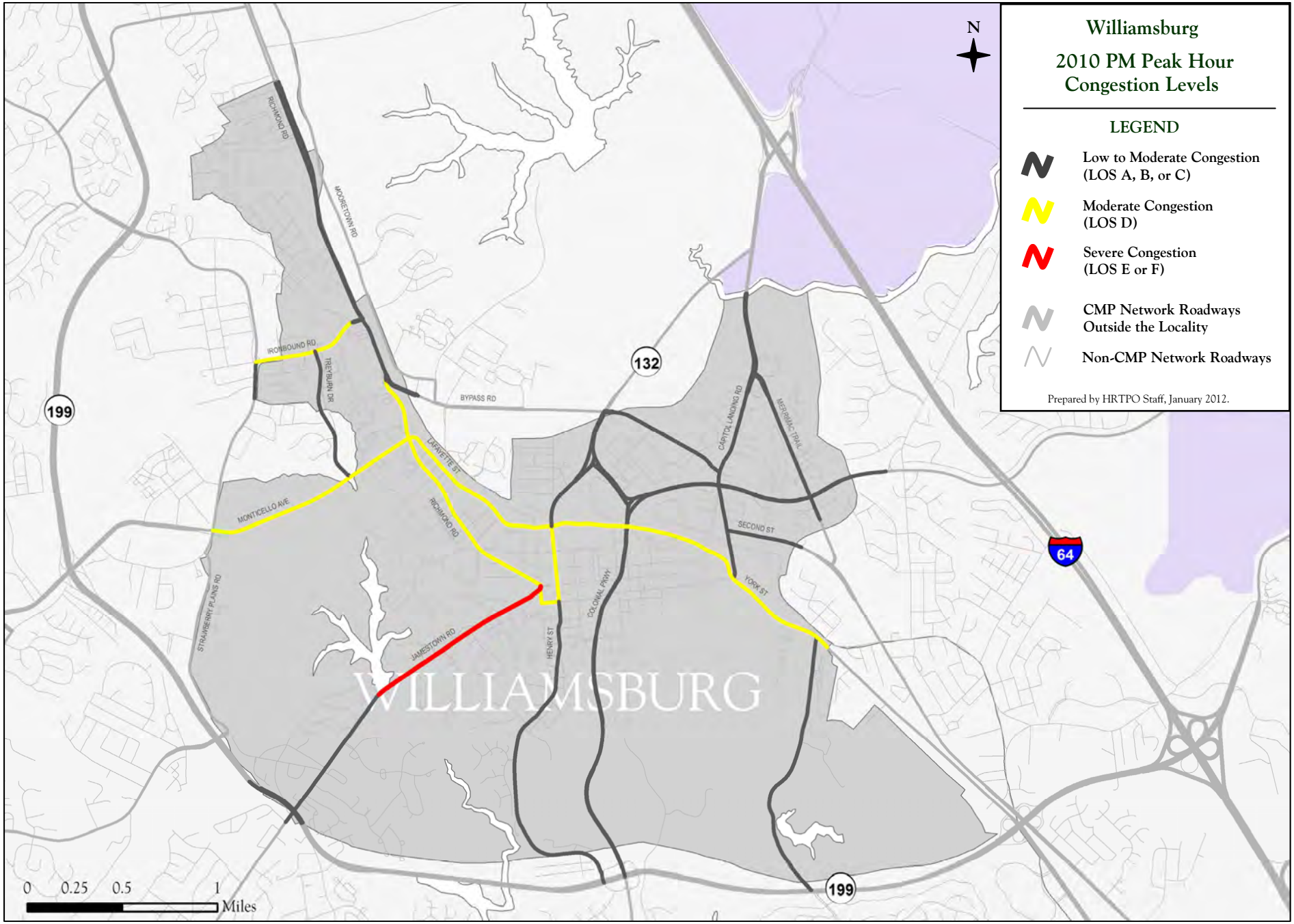
Miles


N
Williamsburg
2010 PM Peak Hour Congestion Levels
LEGEND
Low to Moderate Congestion (LOS A, B, or C)
Moderate Congestion (LOS D)
Severe Congestion (LOS E or F)
CMP Network Roadways Outside the Locality
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
WILLIAMSBURG
RICHMOND RD
MOORETOWN RD
IRONBOUND RD
TREYBURN DR
BYPASS RD
LAFAYETTE ST
MONTICELLO AVE
STRAWBERRY PLAINS RD
JAMESTOWN RD
HENRY ST
COLONIAL PKWY
CAPITOL LANDING RD
MERRIMAC TRAIL
SECOND ST
YORK ST
132
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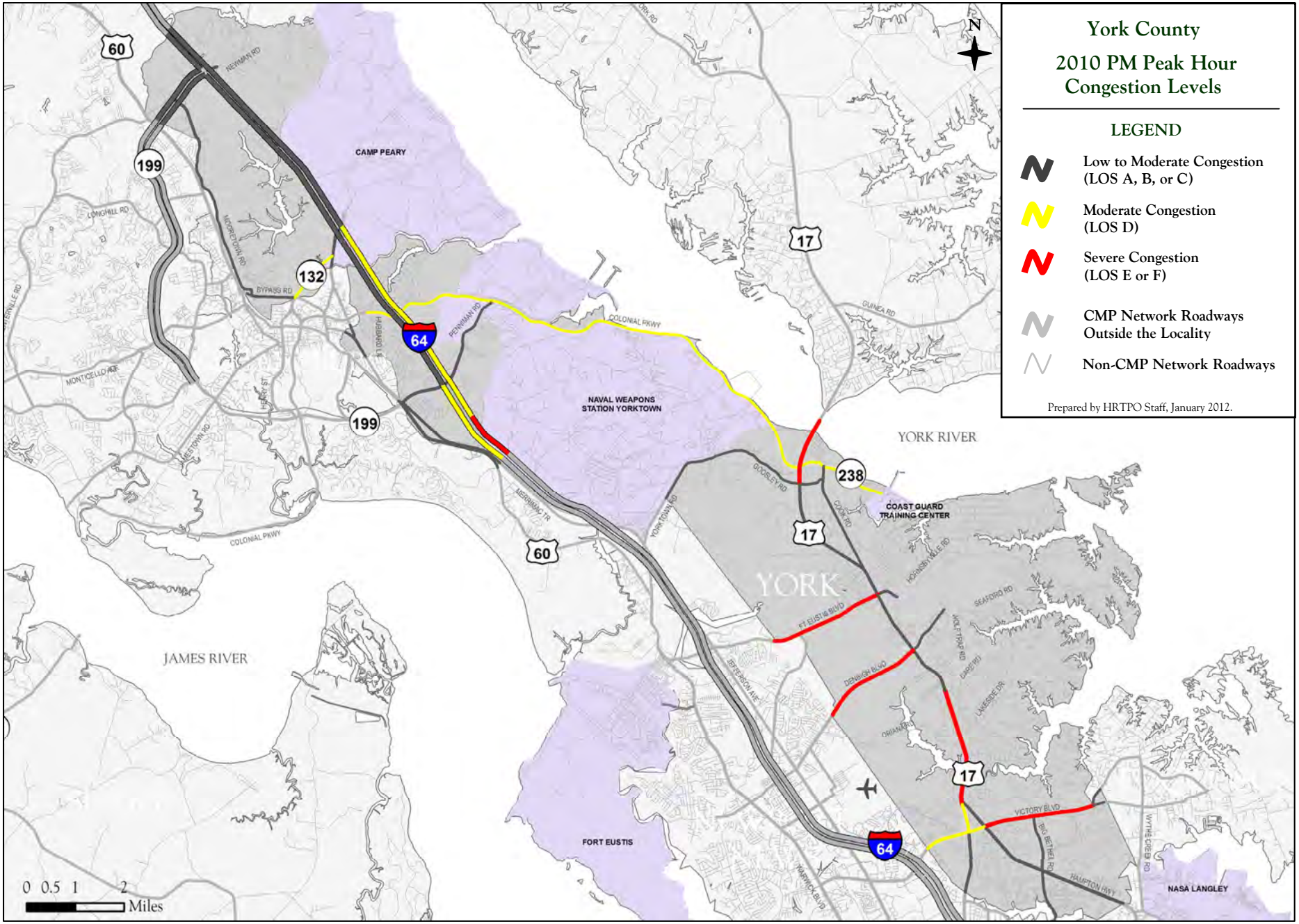
York County
2010 PM Peak Hour Congestion Levels
LEGEND
Low to Moderate Congestion (LOS A, B, or C)
Moderate Congestion (LOS D)
Severe Congestion (LOS E or F)
CMP Network Roadways Outside the Locality
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
N
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
JAMES RIVER
FORT EUSTIS
COAST GUARD TRAINING CENTER
NASA LANGLEY
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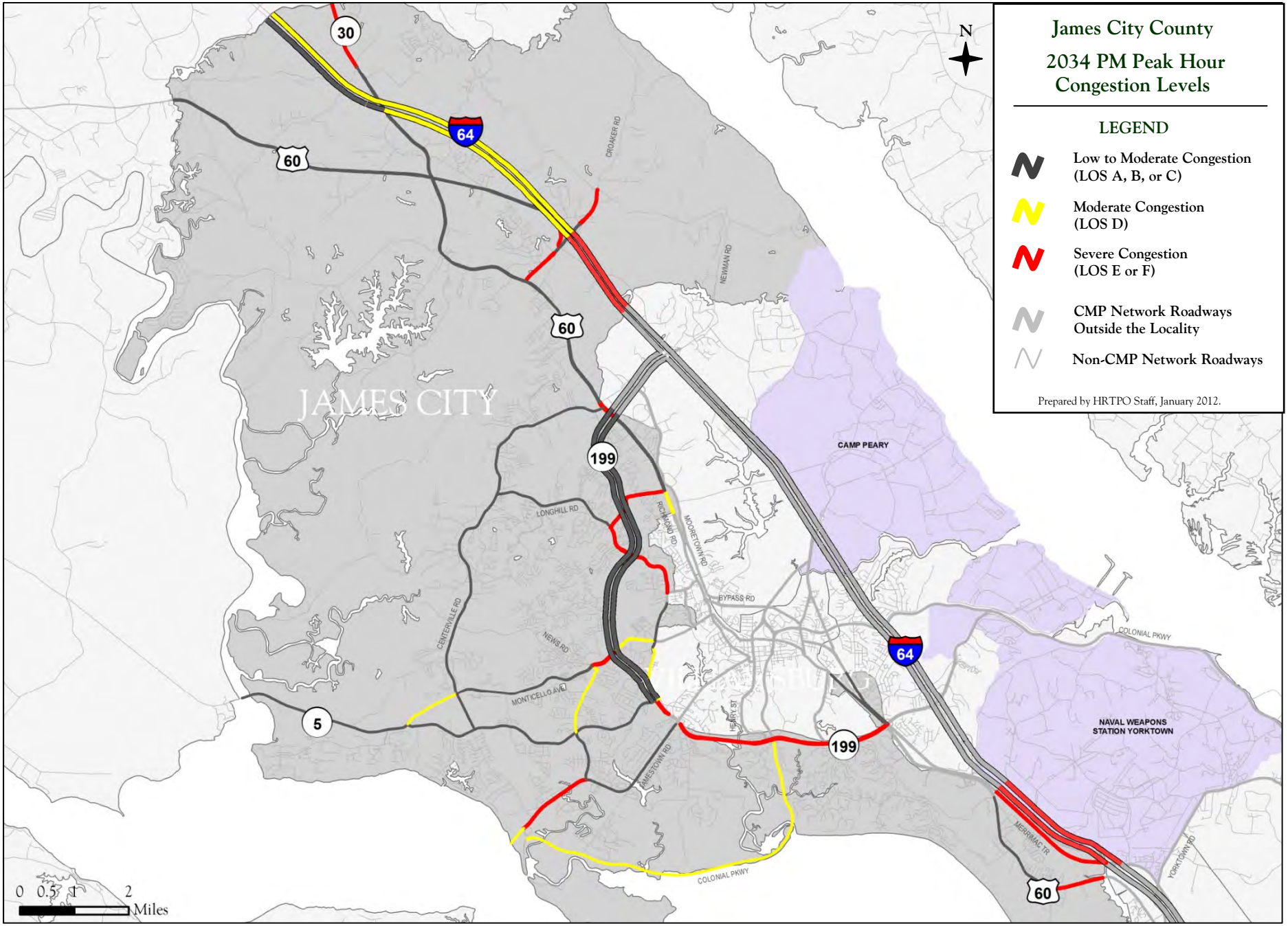
James City County
2034 PM Peak Hour Congestion Levels
LEGEND
Low to Moderate Congestion (LOS A, B, or C)
Moderate Congestion (LOS D)
Severe Congestion (LOS E or F)
CMP Network Roadways Outside the Locality
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
N
JAMES CITY
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
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CROAKER RD
NEWMAN RD
LONGHILL RD
RICHMOND RD
MOORETOWN RD
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CENTERVILLE RD
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MONTICELLO AVE
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JAMESTOWN RD
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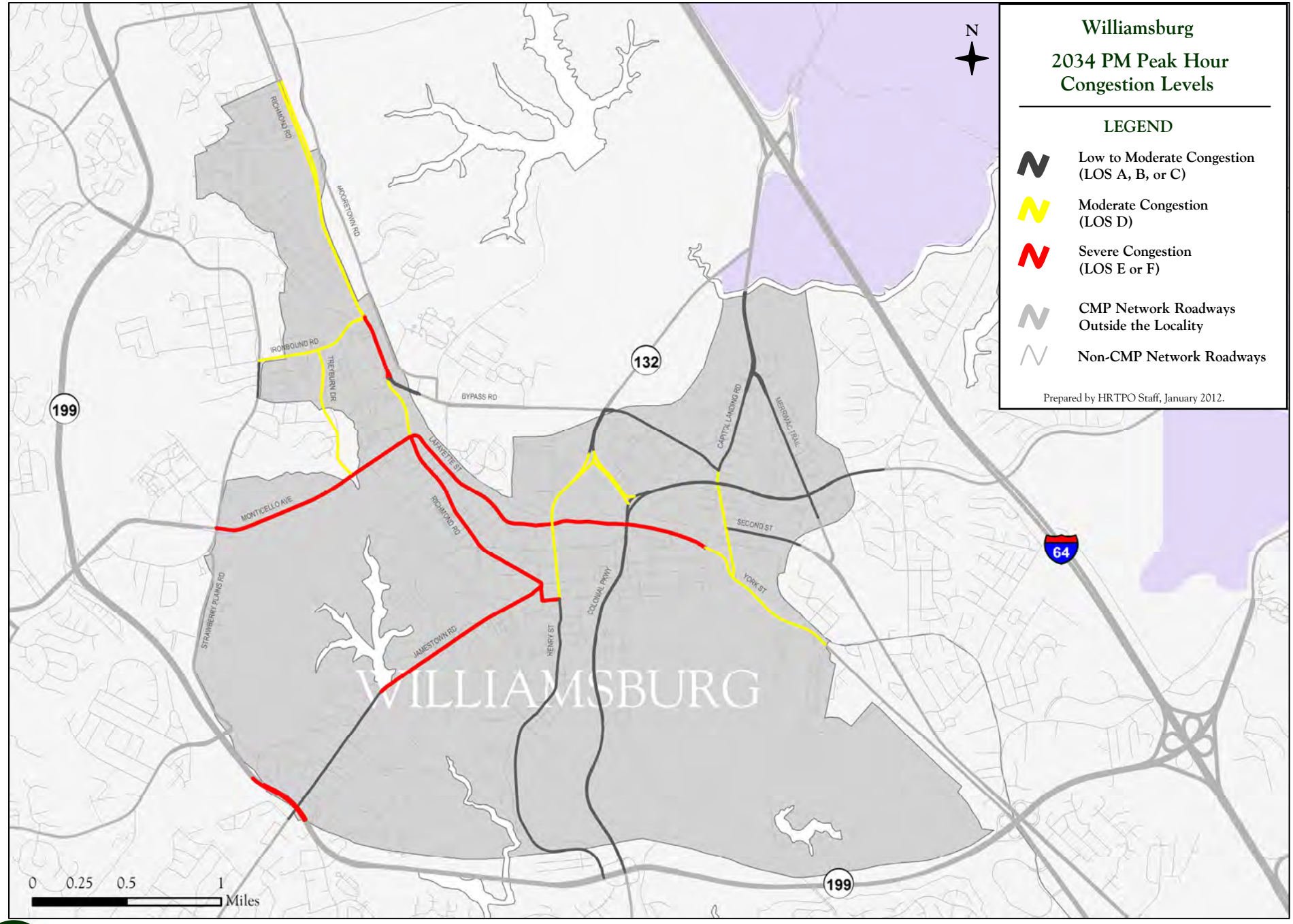
N
Williamsburg
2034 PM Peak Hour Congestion Levels
LEGEND
Low to Moderate Congestion (LOS A, B, or C)
Moderate Congestion (LOS D)
Severe Congestion (LOS E or F)
CMP Network Roadways Outside the Locality
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
RICHMOND RD
MOORETOWN RD
IRONBOUND RD
TREYBURN DR
BYPASS RD
LAFAYETTE ST
MONTICELLO AVE
RICHMOND RD
STRAWBERRY PLAINS RD
JAMESTOWN RD
HENRY ST
COLONIAL PKWY
CAPITOL LANDING RD
MERRIMAC TRAIL
SECOND ST
YORK ST
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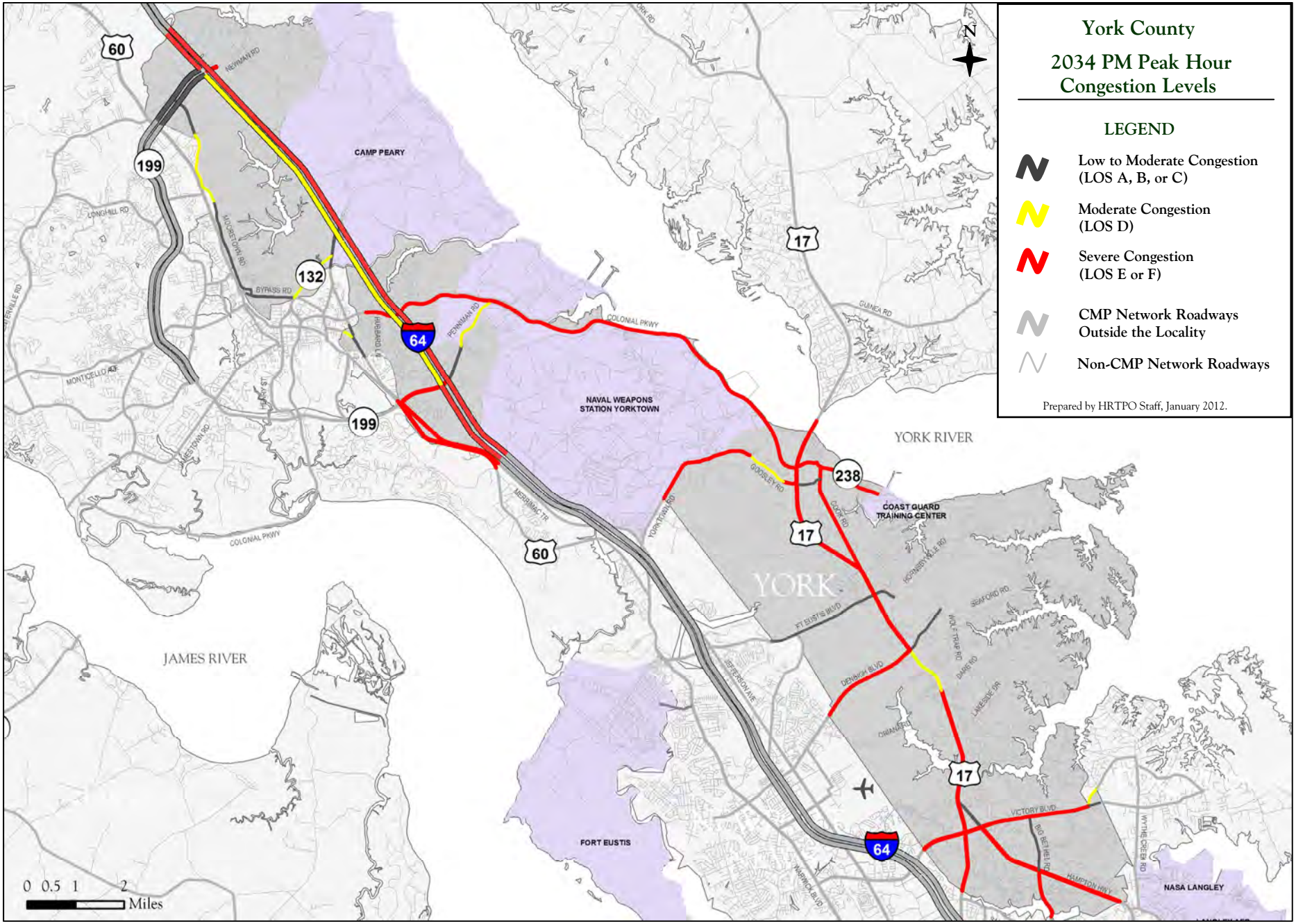
WILLIAMSBURG
0 0.25 0.5 1
Miles


York County
2034 PM Peak Hour Congestion Levels
LEGEND
Low to Moderate Congestion (LOS A, B, or C)
Moderate Congestion (LOS D)
Severe Congestion (LOS E or F)
CMP Network Roadways Outside the Locality
Non-CMP Network Roadways
Prepared by HRTPO Staff, January 2012.
N
CAMP PEARY
NAVAL WEAPONS STATION YORKTOWN
YORK RIVER
JAMES RIVER
FORT EUSTIS
COAST GUARD TRAINING CENTER
NASA LANGLEY
YORK
60
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COLONIAL PKWY
PENNIMAN RD
BYPASS RD
MERRIMAC TR
GOOSLEY RD
FT EUSTIS BLVD
DENBIGH BLVD
JEFFERSON AVE
VICTORY BLVD
HAMPTON HWY
0 0.5 1 2
Miles