Isle of Wight County Transportation Study

the *heartbeat* of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

JULY 2019

T19-09

HAMPTON ROADS TRANSPORTATION PLANNING ORGANIZATION
VOTING MEMBERS
Robert A. Crum, Jr. – Executive Director

VOTING MEMBERS:

CHESAPEAKE
Rick West
Ella P. Ward – Alternate

JAMES CITY COUNTY
Michael Hipple
Vacant - Alternate

SOUTHAMPTON COUNTY
Barry T. Porter
R. Randolph Cook - Alternate

FRANKLIN
Barry Cheatham
Frank Rabil – Alternate

NEWPORT NEWS
McKinley L. Price
David H. Jenkins - Alternate

SUFFOLK
Linda T. Johnson
Leroy Bennett - Alternate

GLOUCESTER COUNTY
Phillip Bazzani
Christopher A. Hutson – Alternate

NORFOLK
Kenneth Alexander
Martin A. Thomas, Jr. – Alternate

VIRGINIA BEACH
Robert Dyer
James Wood- Alternate

HAMPTON
Donnie Tuck
Jimmy Gray – Alternate

POQUOSON
W. Eugene Hunt, Jr.
Herbert R. Green – Alternate

WILLIAMSBURG
Paul Freiling
Douglas Pons – Alternate

ISLE OF WIGHT COUNTY
Joel Acree
Rudolph Jefferson - Alternate

PORTSMOUTH
John Rowe – Vice Chair
Shannon E. Glover – Alternate

YORK COUNTY
Thomas G. Shepperd, Jr. – Chair
Sheila Noll - Alternate

MEMBERS OF THE VIRGINIA SENATE
The Honorable Mamie E. Locke
The Honorable John A. Cosgrove

MEMBERS OF THE VIRGINIA HOUSE OF DELEGATES
The Honorable Christopher P. Stolle
The Honorable David Yancey

TRANSPORTATION DISTRICT COMMISSION OF HAMPTON ROADS
William E. Harrell, President/Chief Executive Officer
Ray Amoruso – Alternate

VIRGINIA DEPARTMENT OF TRANSPORTATION
Christopher Hall , Hampton Roads District Engineer
Dawn Odom – Alternate

VA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION
Jennifer Mitchell, Director
Jennifer DeBruhl – Alternate

VIRGINIA PORT AUTHORITY
John Reinhart, CEO/Executive Director
Cathie Vick – Alternate

WILLIAMSBURG AREA TRANSIT AUTHORITY
Zach Trogdon, Executive Director
Joshua Moore – Alternate

HAMPTON ROADS TRANSPORTATION PLANNING ORGANIZATION

NON-VOTING MEMBERS:

CHESAPEAKE James E. Baker	**JAMES CITY COUNTY** Scott Stevens	**SOUTHAMPTON COUNTY** Michael W. Johnson
FRANKLIN Amanda Jarratt	**NEWPORT NEWS** Cindy Rohlf	**SUFFOLK** Patrick Roberts
GLOUCESTER COUNTY J. Brent Fedors	**NORFOLK** Douglas L. Smith	**VIRGINIA BEACH** David Hansen
HAMPTON Mary Bunting	**POQUOSON** J. Randall Wheeler	**WILLIAMSBURG** Andrew Trivette
ISLE OF WIGHT COUNTY Randy Keaton	**PORTSMOUTH** Lydia Pettis Patton	**YORK COUNTY** Neil A. Morgan

FEDERAL HIGHWAY ADMINISTRATION
Jessie Yung, Acting Division Administrator – Virginia Division

FEDERAL TRANSIT ADMINISTRATION
Terry Garcia Crews, Region 3 Administrator

FEDERAL AVIATION ADMINISTRATION
Jeffrey W. Breeden, Airport Planner, Washington Airports District Office

VIRGINIA DEPARTMENT OF AVIATION
Mark Flynn, Director

PENINSULA AIRPORT COMMISSION
Michael A. Giardino, Executive Director

NORFOLK AIRPORT AUTHORITY
Robert S. Bowen, Executive Director

COMMUNITY TRANSPORTATION ADVISORY COMMITTEE
Theresa Danaher, Chair

FREIGHT TRANSPORTATION ADVISORY COMMITTEE
Larry Ewan (Nonvoting Board Member)
Delegate Christopher P. Stolle, Co-Chair (Voting Board Member)

MILITARY LIAISONS
Michael Moore, Captain, U.S. Navy
Richard Hayes, Captain, U.S. Navy - Alternate
Kevin Carroll, Captain, U.S. Coast Guard
Ed Vedder, Colonel, Langley-Eustis

INVITED PARTICIPANT
John Malbon, CTB
Stephen A. Johnsen, CTB
W. Sheppard Miller, CTB

HRTPO PROJECT STAFF

Michael S. Kimbrel	Deputy Executive Director, HRTPO
Keith M. Nichols, PE	Principal Transportation Engineer
Sam Belfield	Senior Transportation Engineer
Uros Jovanovic	Transportation Engineer
Andrew Margason	General Services Manager
Christopher Vaigneur	Assistant General Services Manager

ISLE OF WIGHT COUNTY TRANSPORTATION STUDY

PREPARED BY:

the heartbeat of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

JULY 2019

T19-09

Report Documentation

TITLE:
Isle of Wight County Transportation Study

AUTHORS:
Samuel S. Belfield
Uros Jovanovic
Keith M. Nichols, PE

PROJECT MANAGER:
Keith M. Nichols, PE

REPORT DATE:
July 2019

GRANT/SPONSORING AGENCY:
FHWA/VDOT/LOCAL FUNDS

ORGANIZATION NAME, ADDRESS, & TELEPHONE
Hampton Roads Transportation Planning Organization
723 Woodlake Drive
Chesapeake, Virginia 23320
757.420.8300
http://www.hrtpo.org

ABSTRACT

The purpose of this report is to assist Isle of Wight County officials with the transportation section of their Comprehensive Plan update. 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. Isle of Wight County -- which adopted their most recent Comprehensive Plan in 2008 – has begun the process of updating their Comprehensive Plan.

This report is broken down into separate sections for current and future conditions in Isle of Wight County. Roadway travel and congestion, safety, commuting patterns, bicycle and pedestrian accommodations, rail, bridges, freight, airports, and public transportation are all examined in this report.

ACKNOWLEDGMENTS & DISCLAIMERS
Prepared in cooperation with the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), Virginia Department of Transportation (VDOT), and Isle of Wight County. The contents of this report reflect the views of the Hampton Roads Transportation Planning Organization (HRTPO). The HRTPO is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the FHWA, VDOT or Hampton Roads Planning District Commission. This report does not constitute a standard, specification, or regulation. FHWA or VDOT acceptance of this report as evidence of fulfillment of the objectives of this planning study does not constitute endorsement/approval of the need for any recommended improvements nor does it constitute approval of their location and design or a commitment to fund any such improvements. Additional project level environmental impact assessments and/or studies of alternatives may be necessary.

Table of Contents

Table of Contents

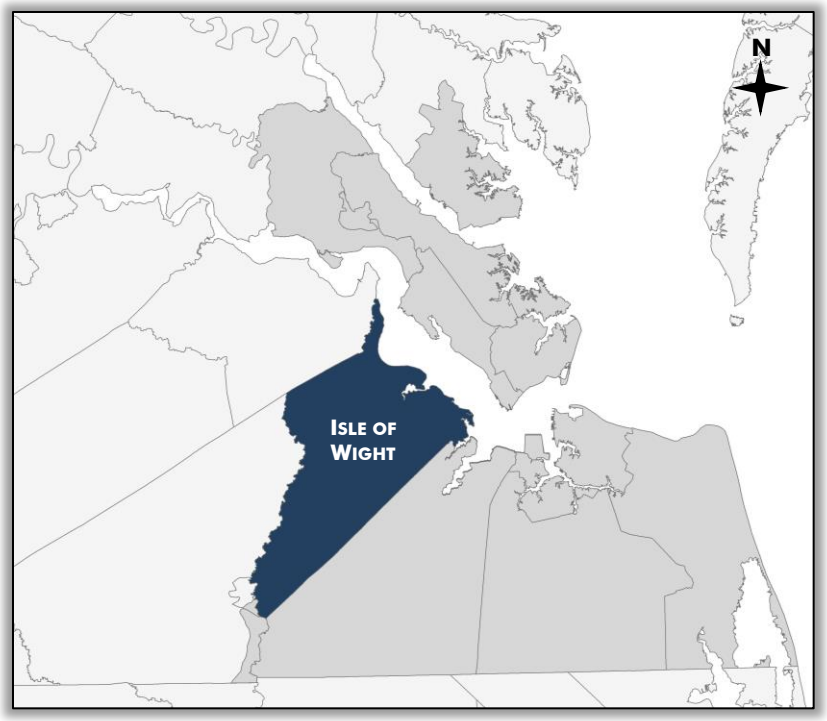
List of Maps

List of Figures

Table of Contents

Introduction

Isle of Wight County is located in the western section of the Hampton Roads Metropolitan Planning Area (**Map 1**) and serves as a gateway for residents and tourists to the Hampton Roads region. Route 460 is one of the largest freight gateways to and from the region, and many warehouse distribution centers and industries are located in the county. Three other US Routes – Route 17, Business Route 58, and Route 258 – also span the county. CSX and Norfolk Southern provide freight rail service through the southern portion of Isle of Wight County, and Amtrak uses the Norfolk Southern corridor to provide inter-city rail service through the area between Norfolk and Petersburg.



Map 1 - Isle of Wight County

According to the county's website "Transportation in Isle of Wight County is managed collaboratively by the Virginia Department of Transportation (VDOT) and the County's Transportation Division." Isle of Wight County, however, does not own and maintain any roadways within the county. Most Isle of Wight County roadways are owned and maintained by VDOT. The Town of Smithfield maintains 48 miles of secondary roadways within the town boundary, and other roadways are privately owned and maintained by individual property owners.

The purpose of this report is to assist Isle of Wight County officials with the transportation section of their Comprehensive Plan update. 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. Isle of Wight County – which adopted their most recent Comprehensive Plan in 2008 – has begun the process of updating their Comprehensive Plan.

This report is broken down into separate sections for current and future conditions. Each of the following transportation features is examined in this report:

- Highway
- Roadway Safety
- Commuting Patterns
- Bicycle and Pedestrian Accommodations
- Rail
- Bridges
- Freight
- Airports
- Public Transportation

CURRENT CONDITIONS - HIGHWAY

This chapter looks at current roadway conditions in Isle of Wight County and how they compare to historical trends. This chapter is divided into the following sections:

- **Roadway Inventory** - Includes an inventory of those roadways in Isle of Wight County that are classified as minor collectors and above. A description of Corridors of Statewide Significance in Isle of Wight County is also included, as is a summary of the mileage of the roadway network. This section also includes a description of roadway improvements that have occurred in Isle of Wight County over the last decade.
- **Roadway Travel** - Includes current and historical traffic volume data on roadways in Isle of Wight County, and a summary of the current and historical roadway travel levels in terms of vehicle-miles of travel.
- **Roadway Congestion** - Includes an analysis of peak hour roadway congestion levels during the morning and afternoon peak travel periods.

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 the roadway to move people and goods. 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. Major and Minor Collectors offer a mix between providing mobility and accessibility.

Roadways are also classified as urban or rural based on their location as defined by the Census Bureau. Most of Isle of Wight County is classified as rural; however, there are three areas of the county that are classified as urban: the Smithfield Urban Cluster, the portions of Isle of Wight County that are in the Franklin Urban Cluster, and the portions of the county along the Route 17 corridor that are within the Hampton Roads (Virginia Beach) Urbanized Area.

Figure 2 shows both the number of miles (centerline miles) and the number of lane-miles[1] of roadway in Isle of Wight County by the Virginia Department of Transportation (VDOT) roadway functional classification. **Map 2** on page 3 shows the VDOT functional classification for roadways in the county.

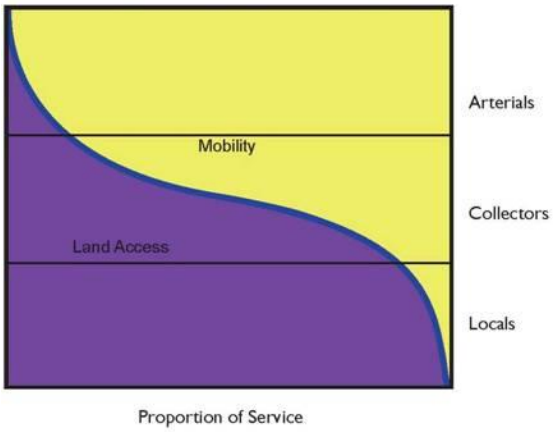
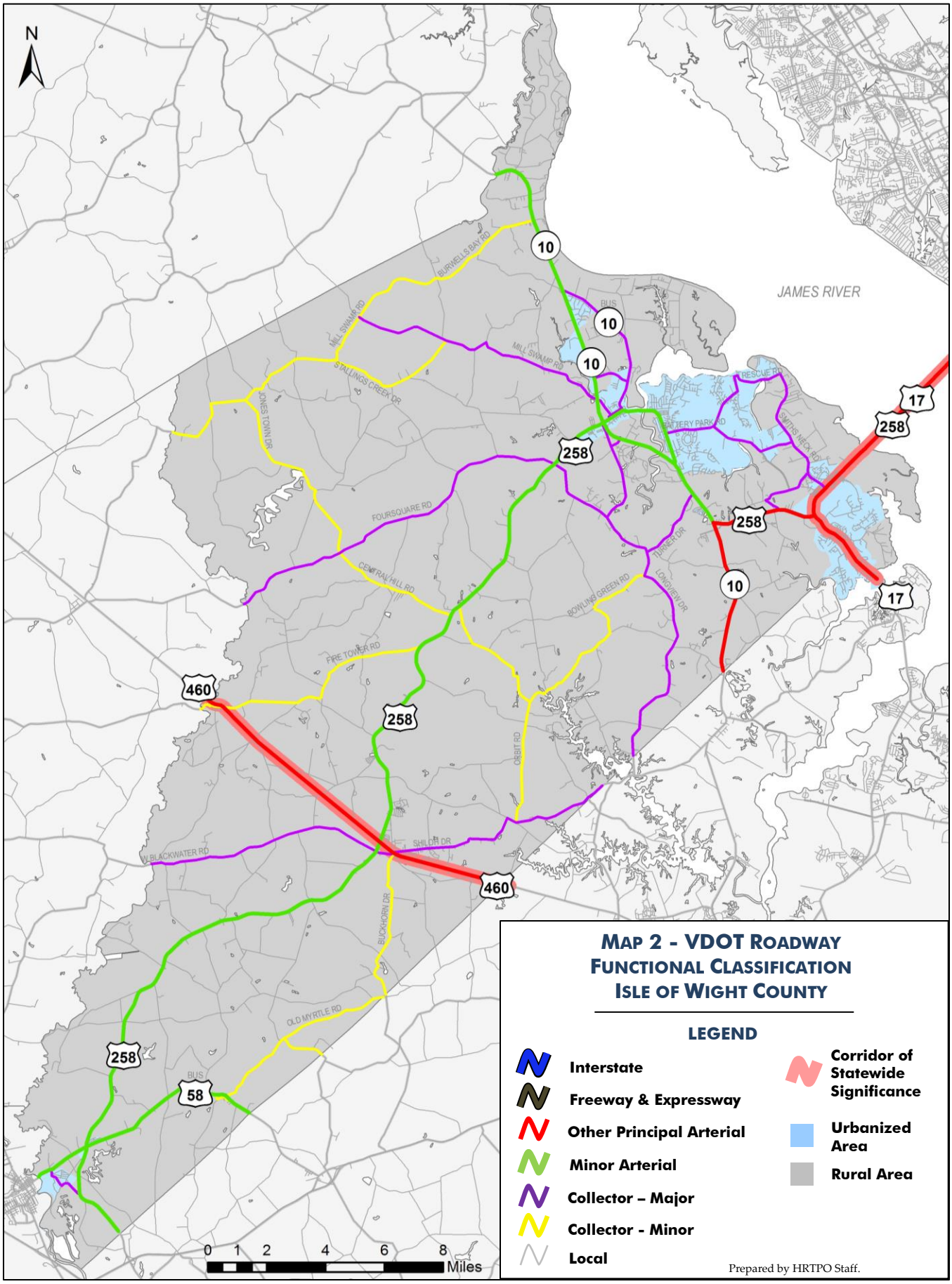


FIGURE 1 – ROADWAY FUNCTIONAL CLASS DEFINITION
Source: FHWA.

Roadway Functional Class	Centerline Miles	Lane-Miles
Interstate	-	-
Freeway and Expressway	-	-
Other Principal Arterial	26.19	104.76
Minor Arterial	51.93	110.22
Collector - Major	65.50	131.00
Collector - Minor	56.97	113.94
Local	376.80	753.06
ISLE OF WIGHT TOTAL	577.39	1,212.98

FIGURE 2 – CENTERLINE MILES AND LANE-MILES OF ROADWAY BY VDOT FUNCTIONAL CLASSIFICATION (2017)
Data source: VDOT.

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



Map 2 - VDOT Roadway Functional Classification Isle of Wight County

LEGEND

- Interstate
- Freeway & Expressway
- Other Principal Arterial
- Minor Arterial
- Collector – Major
- Collector - Minor
- Local
- Corridor of Statewide Significance
- Urbanized Area
- Rural Area

Prepared by HRTPO Staff.

Corridors of Statewide Significance

In recent years, the state has designated a network of Corridors of Statewide Significance (CoSS), and recent legislation mandates that localities include local segments of the CoSS in their comprehensive plan updates.

Corridors of Statewide Significance are defined as "An integrated, multimodal network of transportation facilities that connect major centers of activity within and through the Commonwealth and promote the movement of people and goods essential to the economic prosperity of the state." Corridors identified as CoSS must demonstrate all of the following characteristics:

- Multiple modes and/or an extended freight corridor.
- Connection among regions, states, and/or major activity centers.
- High volume of travel.
- Unique statewide function and/or fulfillment of statewide goal.

There are twelve Corridors of Statewide Significance throughout Virginia. Two of these corridors – the Coastal Corridor (US Route 17) and the Heartland Corridor (US Route 460) – are located within Isle of Wight County. These corridors are shown in **Map 2** on page 3. A component of a third corridor (Southside Corridor - Business Route 58) is also located within the county. More information on these corridors is included in the Future Conditions - VTrans section of this report.

Recent Roadway Improvements

A number of roadway improvements have occurred in Isle of Wight over the last decade. These improvements – shown below in **Figure 3** – include both major projects such as new roadways and smaller projects such as extending intersection turn bays. Bridge rehabilitation and replacement projects and those projects that only improve active transportation facilities are not included in Figure 3; these are included in sections of this report devoted to those topics.

The largest roadway improvement project in the county over the last decade was the modification of the intersection of Benns Church Boulevard (Virginia Route 10 and US Route 258) and Brewers Neck Boulevard (US Route 258). This intersection was modified to improve traffic movement and reduce wait times. Westbound left-turn movements are now accommodated by the newly-constructed Benns Grant Boulevard, which is located to the

Route Num	Facility	Improvement	Year Completed
17	Route 17	Improve intersection lighting and extend NB left turn lane to Smiths Neck Road	2012
17	Route 17	Extend northbound left-turn lane at Kings Cove Way	2012
620	Broadwater Rd	Reconstruction from Strawberry Plains Rd (Rte 681) to Central Hill Rd (Rte 637)	2012
615	Jenkins Mill Rd	Upgrade flashing lights and add gates at CSX R/R	2014
17	Route 17	Extend southbound left turn lane and improve signing at Kings Cove Way	2015
10/258	Route 10/258	Reconfiguration of the Benn's Church intersection and Benn's Grant Boulevard	2016
258	Route 258	Add left and right turn lanes at Scotts Factory Rd (Rte 620)	2017

FIGURE 3 – ROADWAY IMPROVEMENTS IN ISLE OF WIGHT COUNTY, 2008-2018

Source: HRTPO analysis of VDOT data. Bridge rehabilitation and replacement projects and those projects that only improve active transportation facilities are not included in this Figure.

southeast of the intersection. The new layout of this intersection – which was completed in August 2016 – is shown in **Figure 4**.

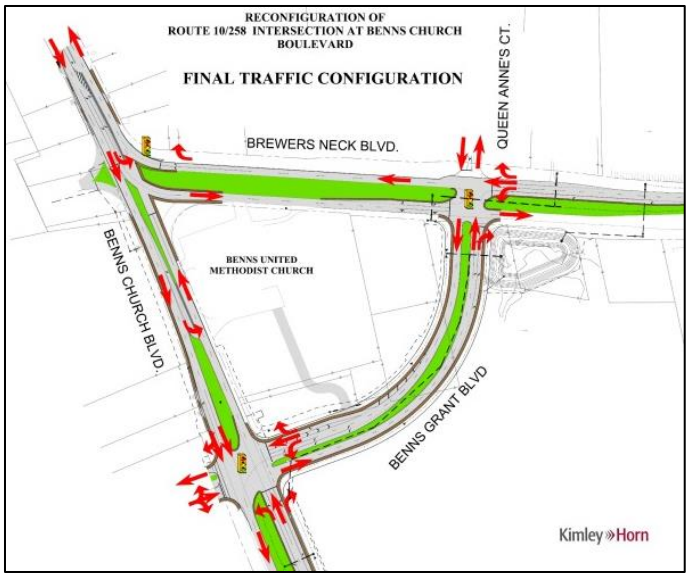


FIGURE 4 – RECONFIGURED BENNS CHURCH BLVD/ BREWERS NECK BLVD INTERSECTION
Source: Kimley-Horn.

Roadway Travel

VDOT collects traffic volume data at hundreds of locations in Isle of Wight County, of which approximately 130 locations are on roadways with functional classifications of minor collectors or above. At most of these 130 locations, data is collected once every three years over a 48-hour period. In Isle of Wight County, these counts were most recently collected in 2017.

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

Figure 6 on pages 6-8 includes historical weekday volumes for roadways classified as minor collectors and above based on the 48-hour counts, and VDOT's AADT volume estimates for those years where VDOT collected data. These AADTs are also shown on **Map 3** on page 9. VDOT also produces AADT estimates for many local roadways within 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 130 locations in the study area that were counted in both 2008 and 2017, 75 locations (58%) experienced an increase in AADT volumes over this time period, with 30 locations experiencing an increase of 20% or more. Of the 48 locations that experienced a decrease in AADT volumes over this time period, 15 experienced a decrease of 20% or more.

Based on these traffic counts and AADT estimates, VDOT produces estimates of total roadway travel in each locality (in terms of vehicle-miles of travel). **Figure 5** shows the average daily vehicle-miles of travel (VMT) in Isle of Wight County in those years between 2008 and 2017 where VDOT collected traffic count data. In 2017 there were just over 1.2 million vehicle-miles of travel each day throughout the county. The amount of roadway travel in the county increased 4.2% between 2008 and 2017, with most of this growth occurring after 2014. The roadway travel growth rate in Isle of Wight County is higher than the 1.0% growth rate that was experienced throughout Hampton Roads over the same period.

Year	Countywide Daily VMT
2008	1,156,233
2011	1,189,554
2014	1,172,870
2017	1,205,273

FIGURE 5 – DAILY VEHICLE-MILES OF TRAVEL IN ISLE OF WIGHT COUNTY, 2008 TO 2017
Source: HRTPO analysis of VDOT data.

Route Num	Location	Segment From	Segment To	Weekday Volume 2008	2011	2014	2017	2017 COUNT DATE	Annual Average Daily Traffic (AADT) 2008	2011	2014	2017	Change in AADT 2008 to 2017	
603	Bank St	WCL Windsor	US 460 Windsor Blvd	2,258	2,082	2,248	2,426	2/21-2/23	2,000	2,100	2,300	2,500	+500	+25.0%
643	Battery Park Rd	South Church St	ECL Smithfield; Kendall Haven	11,003	9,536	10,983	10,612	1/31-2/2	10,000	9,500	10,000	10,000	0	0.0%
704	Battery Park Rd	ECL Smithfield; Kendall Haven	Rte 669 Nike Park Rd	10,723	9,787	10,867	10,770	2/8-2/9	9,800	9,800	10,000	10,000	+200	+2.0%
704	Battery Park Rd	Rte 669 Nike Park Rd	Rte 671 Country Way	4,106	3,795	3,668	3,818	2/8-2/9	3,700	3,800	3,500	3,600	-100	-2.7%
10	Benns Church Blvd	NCL Suffolk	US 258 S. Brewers Neck Blvd	10,894	11,182	11,096	11,603	2/7-2/8	10,000	12,000	11,000	11,000	+1,000	+10.0%
258	Benns Church Blvd	SR 32 Brewers Neck Blvd	SCL Smithfield; 46-644 Turner Dr	24,481	24,822	26,112	25,746	2/7-2/8	23,000	26,000	25,000	25,000	+2,000	+8.7%
258	Benns Church Blvd	SCL Smithfield; 46-644 Turner Dr	Old SCL Smithfield	24,394	23,871	25,585	24,742	1/31-2/2	22,000	24,000	25,000	24,000	+2,000	+9.1%
258	Benns Church Blvd	Old SCL Smithfield	Bus US 258	28,868	28,016	29,654	28,271	1/31-2/2	26,000	28,000	29,000	27,000	+1,000	+3.8%
666	Berry Hill Rd	SR 10	NCL Smithfield	-	-	2,630	3,140	2/7-2/8	4,700	4,000	2,600	3,300	-1,400	-29.8%
603	Blackwater Rd	Southampton County Line	Rte 641 W. Barrett Town Rd	1,131	1,104	1,121	1,232	2/21-2/23	1,000	1,100	1,200	1,300	+300	+30.0%
603	Blackwater Rd	Rte 641 W. Barrett Town Rd	US 258 Walters Hwy	1,431	1,488	1,523	1,643	2/21-2/23	1,300	1,500	1,600	1,700	+400	+30.8%
603	Blackwater Road East	US 258 Walters Hwy	WCL Windsor	862	857	819	1,036	2/21-2/23	780	850	850	1,100	+320	+41.0%
644	Bowling Green Rd	Rte 654 Carroll Bridge Rd	Rte 602 Longview Dr	1,013	1,085	1,183	1,244	2/22-2/23	970	1,100	1,200	1,300	+330	+34.0%
644	Bowling Green Rd	Rte 602 Longview Dr	Rte 620 W. Scotts Ferry Rd	1,633	1,693	1,730	1,769	2/15-2/16	1,600	1,700	1,700	1,800	+200	+12.5%
258	Brewers Neck Blvd	SR 10 Benns Church Blvd	US 17 Carrollton Blvd	24,573	24,015	25,202	25,459	2/7-2/8	22,000	25,000	24,000	24,000	+2,000	+9.1%
620	Broadwater Rd	Southampton County Line	Rte 637 Central Hill Rd	1,411	1,638	1,694	1,953	2/15-2/16	1,300	1,700	1,800	2,000	+700	+53.8%
610	Buckhorn Dr	WCL Suffolk	Rte 687 Parsons Dr	365	314	322	351	2/21-2/23	340	310	340	370	+30	+8.8%
610	Buckhorn Dr	Rte 687 Parsons Dr	Rte 609 Sunset Dr	538	472	452	487	2/21-2/23	490	460	470	510	+20	+4.1%
610	Buckhorn Dr	Rte 609 Sunset Dr	Rte 635 Dunston Dr	556	522	484	511	2/21-2/23	500	510	510	540	+40	+8.0%
610	Buckhorn Dr	Rte 635 Dunston Dr	SCL Windsor	578	599	669	698	2/21-2/23	520	620	700	730	+210	+40.4%
621	Burwells Bay Rd	Rte 626 S. Mill Swamp Dr	Rte 627 Moonlight Rd	163	166	143	96	2/14-2/16	150	170	130	100	-50	-33.3%
621	Burwells Bay Rd	Rte 627 Moonlight Rd	SR 10 Old Stage Hwy	317	420	291	263	2/14-2/16	300	400	290	280	-20	-6.7%
258	Camp Family Hwy	Rte 656 Union Camp Dr	US 258. C4US 58	1,047	659	852	1,057	2/28-3/1	940	920	890	920	-20	-2.1%
654	Carroll Bridge Rd	Rte 600 N. Woodland Dr	Rte 644 Bowling Green Rd	587	535	598	612	2/22-2/23	550	550	580	640	+90	+16.4%
17	Carrollton Blvd	NCL Suffolk	US 258; SR 32 Bartlett	15,213	15,139	15,829	16,617	2/7-2/8	14,000	15,000	15,000	16,000	+2,000	+14.3%
17	Carrollton Blvd	US 258; SR 32 Bartlett	WCL Newport News	29,593	29,792	30,100	31,593	All 2017	28,000	28,000	28,000	29,000	+1,000	+3.6%
58	Carrsville Hwy	Southampton County Line	US 258 Walters Hwy	8,358	6,785	6,352	6,883	2/28-3/1	7,500	7,000	6,600	6,600	-900	-12.0%
58	Carrsville Hwy	US 258 Walters Hwy	WCL Suffolk	3,035	2,803	2,751	2,363	10/24-10/26	2,700	2,900	2,900	2,200	-500	-18.5%
631	Cary St	Main St	Smithfield Corp Limits	2,344	2,302	2,154	2,080	1/31-2/2	2,200	2,300	2,100	2,000	-200	-9.1%
0	Cedar St	Underwood La	Church St	-	1,432	1,761	2,347	1/31-6/15	1,600	1,400	1,700	1,900	+300	+18.8%
637	Central Hill Rd	US 258 S. Courthouse Hwy	Rte 650 Whispering Pines Trail	864	391	767	768	2/15-2/16	810	810	750	800	-10	-1.2%
637	Central Hill Rd	Rte 650 Whispering Pines Trail	Rte 620 Broadwater/Foursquare Rd	465	340	382	353	2/15-2/16	440	350	370	370	-70	-15.9%
603	Church St	US 460 Windsor Blvd	Rte 1805 Roberts Ave	2,498	2,208	2,416	2,268	2/21-2/23	2,200	2,200	2,500	2,400	+200	+9.1%
603	Church St	Rte 1805 Roberts Ave	ECL Windsor	1,631	1,429	1,628	1,543	2/21-2/23	1,500	1,400	1,700	1,600	+100	+6.7%
258	Church St	Main Street	Red Point Drive	14,310	-	12,576	12,392	1/31-2/2	13,000	13,000	12,000	12,000	-1,000	-7.7%
610	Court St	SCL Windsor	N & W St	876	798	814	725	2/21-2/23	790	760	850	770	-20	-2.5%
610	Court St	N & W St	US 460 Windsor Blvd	1,174	1,095	1,066	979	2/21-2/23	1,100	1,000	1,100	1,000	-100	-9.1%
258	Courthouse Hwy	NCL Windsor	Rte 637 Orbit Rd	4,844	4,420	4,192	4,521	2/22-2/23	4,400	4,500	4,400	4,700	+300	+6.8%
258	Courthouse Hwy	Rte 637 Orbit Rd	Rte 620 Foursquare Rd	5,472	5,106	4,540	5,001	2/22-2/23	4,900	5,100	4,700	5,200	+300	+6.1%
258	Courthouse Hwy	WCL Smithfield; 46-709 Waterworks	Old WCL Smithfield	10,113	9,428	8,785	9,794	1/31-2/2	9,100	9,400	8,800	9,400	+300	+3.3%
603	Everets Rd	Rte 606 E. Five Forks Rd	Rte 605 Murphy Mill Rd	935	988	1,169	1,260	2/22-2/23	900	1,000	1,200	1,300	+400	+44.4%
603	Everets Rd	Rte 605 Murphy Mill Rd	WCL Suffolk	1,004	1,052	1,234	1,320	2/22-2/23	950	1,100	1,300	1,400	+450	+47.4%
644	Fire Tower Rd	US 460 EAST	Rte 645 W. Yellow Hammer Rd	608	593	549	575	2/22-2/23	560	590	540	600	+40	+7.1%
644	Fire Tower Rd	Rte 645 W. Yellow Hammer Rd	Rte 646 N. Beale Place Dr	515	504	466	478	2/22-2/23	470	500	460	500	+30	+6.4%
644	Fire Tower Rd	Rte 646 N. Beale Place Dr	US 258 S. Courthouse Hwy	614	579	595	600	2/22-2/23	560	600	590	630	+70	+12.5%
606	Five Forks Rd	Rte 603 W. Shiloh Dr	Rte 603 E; Rte 637	1,452	1,452	1,652	1,744	2/22-2/23	1,400	1,500	1,700	1,800	+400	+28.6%
620	Foursquare Rd	Rte 637 Central Hill Rd	Rte 647 Tings Rd	1,397	1,637	1,689	1,911	2/15-2/16	1,300	1,600	1,800	2,000	+700	+53.8%
620	Foursquare Rd	Rte 647 Tings Rd	Rte 652 S. Harry Wilson Rd	1,472	1,747	1,769	1,994	2/15-2/16	1,400	1,700	1,800	2,100	+700	+50.0%
620	Foursquare Rd	Rte 652 S. Harry Wilson Rd	Rte 680 Magnet Dr	1,948	2,171	2,161	2,389	2/15-2/16	1,800	2,100	2,300	2,500	+700	+38.9%
620	Foursquare Rd	Rte 680 Magnet Dr	US 258 Courthouse Hwy	2,314	2,510	2,718	2,864	2/15-2/16	2,200	2,500	2,500	2,800	+600	+27.3%

FIGURE 6 – WEEKDAY AND ANNUAL AVERAGE DAILY TRAFFIC VOLUMES, 2008 TO 2017

Data source: VDOT. '-' indicates data is not available for that roadway segment and year.

Route Num	Location	Segment From	Segment To	Weekday Volume 2008	2011	2014	2017	2017 COUNT DATE	Annual Average Daily Traffic (AADT) 2008	2011	2014	2017	Change in AADT 2008 to 2017	
A258	Grace St	Main St	Cary St	3,433	3,516	3,659	3,806	1/31-2/2	3,100	3,500	3,400	3,700	+600	+19.4%
A258	Grace St	Cary St	North Church St	3,154	2,748	2,877	3,303	1/31-2/2	2,800	2,800	2,800	3,200	+400	+14.3%
258	Great Mill Hwy	NCL Suffolk	Rte 656 Union Camp Drive	3,748	1,457	2,245	2,579	11/7-11/9	3,400	1,500	2,300	2,600	-800	-23.5%
655	Great Springs Rd	Rte 620 Scotts Factory Rd	SCL Smithfield	884	813	838	907	2/7-2/8	810	810	820	870	+60	+7.4%
640	Great Springs Rd	Smithfield Corp Limits	Main St	1,217	981	1,088	1,077	1/31-2/2	1,200	980	1,100	1,000	-200	-16.7%
641	Harvest Dr/Old Carrsville Rd	Rte 632 Old Myrtle Rd	Bus US 58 E. Carrsville Hwy	-	-	493	522	11/1-11/2	660	200	510	520	-140	-21.2%
691	Jamestown Lane	Rte 656 Union Camp Dr	Bus US 58 Carrsville Hwy	1,921	711	1,036	1,321	2/28-3/1	1,700	730	1,100	1,300	-400	-23.5%
637	Jones Town Dr	Rte 646 Rattlesnake Trail	Rte 621 Mill Swamp Rd	143	79	83	78	2/15-2/16	140	80	80	80	-60	-42.9%
602	Longview Dr	WCL Suffolk	Rte 600 S. Oliver Dr	330	382	333	374	2/22-2/23	310	380	330	390	+80	+25.8%
602	Longview Dr	Rte 600 S. Oliver Dr	Rte 644 Bowling Green Rd	566	620	588	652	2/22-2/23	530	620	580	680	+150	+28.3%
0	Lumar Rd	Red Point Dr	Moonfield Dr	-	1,653	1,602	1,483	1/31-2/2	1,700	1,600	1,500	1,400	-300	-17.6%
B258	Main St	Old WCL Smithfield	SR 10 Bypass	13,737	12,800	11,790	12,765	1/31-2/2	13,000	13,000	12,000	12,000	-1,000	-7.7%
B258	Main St	SR 10 Bypass	Grace Street	9,427	8,948	9,172	8,488	6/13-6/15	8,500	8,900	8,500	7,800	-700	-8.2%
B258	Main St	Grace Street	Cary Street	6,381	5,932	5,851	5,436	6/13-6/15	5,900	5,900	5,400	5,000	-900	-15.3%
B258	Main St	Cary Street	Church Street	4,972	4,146	4,112	3,407	6/13-6/15	4,500	4,100	3,800	3,100	-1,400	-31.1%
1826	Maple St	Dead End	Rte 603 Bank St	57	52	-	48	2/21-2/23	50	50	50	50	0	0.0%
621	Mill Swamp Rd	Rte 637 Jones Town Dr	Rte 680 Stallings Creek Dr	333	287	317	204	2/15-2/16	300	270	290	210	-90	-30.0%
621	Mill Swamp Rd	Rte 680 Stallings Creek Dr	Rte 626 S. Mill Swamp Rd	402	364	384	284	2/14-2/16	370	340	350	310	-60	-16.2%
626	Mill Swamp Rd	Rte 621 S. Mill Swamp Rd	Rte 681 Stallings Ck Dr	817	792	703	655	2/14-2/16	770	800	700	690	-80	-10.4%
626	Mill Swamp Rd	Rte 681 Stallings Ck Dr	Rte 678 Bethany Church Rd	1,296	1,275	1,146	1,134	2/14-2/16	1,200	1,300	1,100	1,200	0	0.0%
626	Mill Swamp Rd	Rte 678 Bethany Church Rd	NCL Smithfield	1,438	1,379	1,290	1,246	2/14-2/16	1,400	1,400	1,300	1,300	-100	-7.1%
0	Moonfield Dr	Lumar Rd	Cul-de-Sac	-	2,400	2,200	2,161	1/31-2/1	2,400	2,300	2,100	2,100	-300	-12.5%
669	Nike Park Rd	Rte 704 Battery Park Rd	Rte 668 Titus Creek Dr	9,492	8,899	9,999	-	-	8,700	8,900	9,300	9,900	+1,200	+13.8%
669	Nike Park Rd	Rte 668 Titus Creek Dr	Rte 2030 Titus Creek Lane	2,965	2,759	3,075	-	-	2,700	2,800	3,000	3,000	+300	+11.1%
670	Norsworthy Slant Dr	Rte 665 Reynolds Dr	US 258 Brewers Neck Blvd	955	1,016	1,087	1,044	2/8-2/9	870	1,000	1,100	1,100	+230	+26.4%
10	North Church St	Bus US 258 Main St	Berry Hill Rd	8,375	6,500	6,224	6,089	1/31-2/2	7,500	6,500	6,100	5,800	-1,700	-22.7%
10	North Church St	Berry Hill Rd	NCL Smithfield	4,621	5,696	6,208	6,091	1/31-2/2	4,200	5,700	6,200	5,800	+1,600	+38.1%
621	Old Blackwater/Proctors Br	Southampton County Line	Rte 637 Jones Town Dr	295	174	189	158	2/15-2/16	290	160	170	170	-120	-41.4%
632	Old Carrsville Rd	Rte 641 Harvest Dr	Rte 1701; Old Carrsville Rd	-	-	517	237	11/1-11/2	600	610	490	480	-120	-20.0%
1701	Old Carrsville Rd	Rte 632 Old Myrtle Rd	Bus US 58. Carrsville Hwy	-	-	204	309	11/1-11/2	590	290	210	300	-290	-49.2%
632	Old Myrtle Rd	Rte 1701 Old Carrsville Hwy	Rte 612 E. Outland Dr	421	503	408	480	11/1-11/2	380	510	430	470	+90	+23.7%
632	Old Myrtle Rd	Rte 612 E. Outland Dr	WCL Suffolk	152	145	163	168	11/14-11/15	140	150	170	160	+20	+14.3%
10	Old Stage Hwy	Surry County Line	Bus SR 10 West Of Smithfield	7,244	7,033	6,975	6,974	2/7-2/8	6,600	7,000	6,900	7,400	+800	+12.1%
10	Old Stage Hwy	NCL Smithfield	Rte 674 Blounts Corner Rd	4,221	3,718	3,552	3,425	2/7-2/8	3,800	3,700	3,500	3,600	-200	-5.3%
600	Oliver Dr	Rte 602 S. Longview Dr	Rte 1430 Holloway Dr	-	-	-	1,069	2/22-2/23	880	910	910	1,100	+220	+25.0%
637	Orbit Rd	Rte 603 Everets Rd	Rte 600 N. Woodland Dr	502	472	476	494	2/15-2/16	470	480	460	520	+50	+10.6%
637	Orbit Rd	Rte 600 N. Woodland Dr	Rte 644 E. Bowling Green Rd	314	316	-	372	2/15-2/16	280	330	330	390	+110	+39.3%
637	Orbit Rd	Rte 644 E. Bowling Green Rd	Rte 644 W. Redhouse Rd	663	702	-	836	2/15-2/16	630	720	740	870	+240	+38.1%
637	Orbit Rd	Rte 644 W. Redhouse Rd	US-258 N. Courthouse Hwy	307	332	-	365	2/15-2/16	290	340	350	380	+90	+31.0%
612	Outland Dr	WCL Suffolk	Rte 632 E. Old Myrtle Rd	91	98	83	100	2/28-3/1	80	100	90	110	+30	+37.5%
258	Prince Blvd N	US 460 Windsor Blvd	NCL Windsor	5,980	5,371	5,374	5,658	2/21-2/23	5,400	5,500	5,600	5,900	+500	+9.3%
258	Prince Blvd S	WCL Windsor	US 460 Windsor Blvd	5,359	4,814	4,641	5,274	2/21-2/23	4,800	5,100	4,800	5,500	+700	+14.6%
637	Racetrack Rd/Jones Town Dr	Rte 620 Broadwater Rd	Rte 646 Rattlesnake Trail	335	274	266	231	2/15-2/16	320	280	260	240	-80	-25.0%
0	Red Point Dr	Church St	Lumar Rd	-	341	307	306	1/31-2/1	350	330	290	290	-60	-17.1%
704	Rescue Rd	Rte 1002 Newport St	Rte 665 Smiths Neck Rd	966	929	1,050	-	-	880	960	1,000	850	-30	-3.4%
665	Reynolds Dr	Rte 670 Norsworthy Dr	Rte 669 W. Nike Park Rd	1,566	1,725	1,842	1,764	2/8-2/9	1,400	1,800	1,800	1,700	+300	+21.4%
665	Reynolds Dr	Rte 669 W. Nike Park Rd	Rte 669 E. Smiths Neck Rd	3,183	2,926	3,144	3,170	2/8-2/9	2,900	3,000	3,000	3,000	+100	+3.4%
0	Ridgeland Dr	Jefferson Dr	Pegan Rd	-	165	187	172	1/31-2/1	200	160	180	160	-40	-20.0%
10	Route 10 Bypass	Bus US 258/Bus SR 10 Church St S	Main St West	17,861	19,239	18,841	18,489	1/31-2/2	16,000	19,000	18,000	18,000	+2,000	+12.5%
10	Route 10 Bypass	US 258 Main St West	NCL Smithfield	10,707	9,757	10,591	10,275	1/31-2/2	9,700	9,800	9,900	9,900	+200	+2.1%

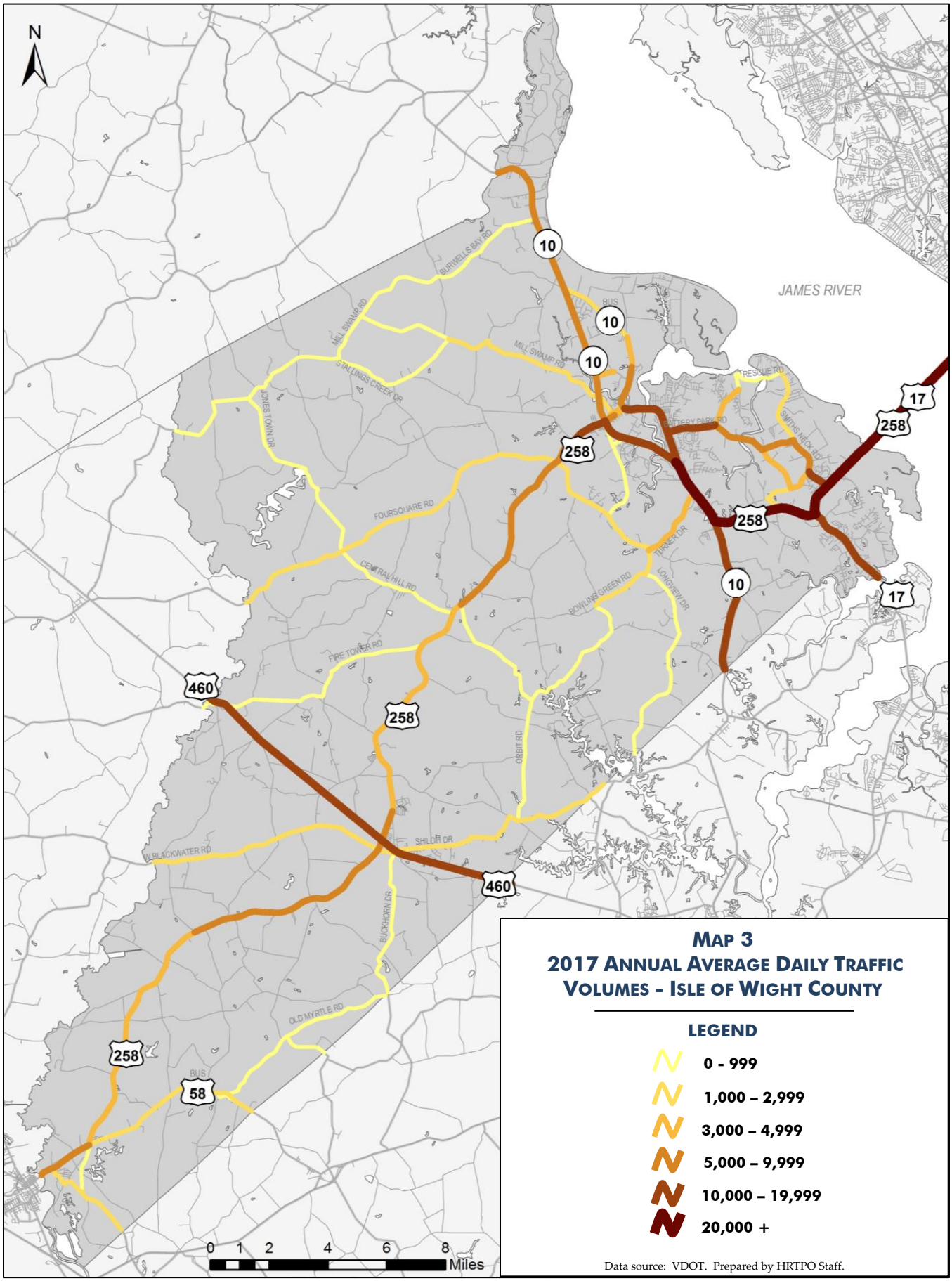
FIGURE 6 (CONTINUED) – WEEKDAY AND ANNUAL AVERAGE DAILY TRAFFIC VOLUMES, 2008 TO 2017

Data source: VDOT. '-' indicates data is not available for that roadway segment and year.

Route Num	Location	Segment From	Segment To	Weekday Volume 2008	2011	2014	2017	2017 COUNT DATE	Annual Average Daily Traffic (AADT) 2008	2011	2014	2017	Change in AADT 2008 to 2017	
10	Route 10 Bypass	NCL Smithfield	Bus SR 10 West Of Smithfield	7,152	7,532	7,211	7,335	2/7-2/8	6,500	7,400	7,100	7,000	+500	+7.7%
620	Scotts Factory Rd	US 258 Courthouse Hwy	Rte 654 Carroll Bridge Rd	1,462	1,471	1,479	1,381	2/15-2/16	1,400	1,500	1,400	1,400	0	0.0%
620	Scotts Factory Rd	Rte 654 Carroll Bridge Rd	Rte 655 Great Springs Rd	2,010	1,952	1,872	1,707	2/15-2/16	1,900	1,900	1,800	1,800	-100	-5.3%
620	Scotts Factory Rd	Rte 655 Great Springs Rd	Rte 644 W. Bowling Green Rd	1,780	1,954	1,773	1,807	2/15-2/16	1,700	1,900	1,700	1,900	+200	+11.8%
603	Shiloh Dr	ECL Windsor	Rte 606 W. Five Forks Rd	1,009	1,011	1,107	1,113	2/21-2/23	970	1,000	1,200	1,200	+230	+23.7%
669	Smiths Neck Rd	US 17 Carrollton Blvd	Rte 665 E. Reynolds Dr	11,894	10,658	12,116	11,726	2/8-2/9	11,000	11,000	11,000	11,000	0	0.0%
665	Smiths Neck Rd	Rte 665 E. Reynolds Dr	Rte 668 Titus Creek Rd	8,757	8,162	8,644	9,048	2/8-3/9	8,000	8,200	8,200	8,500	+500	+6.3%
665	Smiths Neck Rd	Rte 668 Titus Creek Rd	Rte 704 Rescue Rd	1,688	1,574	1,817	1,657	2/8-2/9	1,500	1,600	1,800	1,600	+100	+6.7%
258	South Church St	SR 10 Bypass	Battery Park Road	15,705	14,191	15,423	13,956	1/31-2/2	14,000	14,000	14,000	13,000	-1,000	-7.1%
258	South Church St	Battery Park Road	Red Point Drive	14,240	10,771	12,547	12,512	1/31-2/2	13,000	11,000	12,000	12,000	-1,000	-7.7%
680	Stallings Creek Dr	Rte 621 Mill Swamp Rd	Rte 683 Green Level Rd	291	229	225	210	2/14-2/16	270	230	220	220	-50	-18.5%
680	Stallings Creek Dr	Rte 683 Green Level Rd	Rte 681 W. Comet Rd	399	368	340	286	2/14-2/16	350	380	340	300	-50	-14.3%
680	Stallings Creek Dr	Rte 681 W. Comet Rd	Rte 681 E. Stallings Creek Dr	493	440	423	388	2/14-2/16	460	450	420	410	-50	-10.9%
681	Stallings Creek Rd	Rte 680 E. Stallings Creek Rd	Rte 626 Mill Swamp Rd	297	289	258	240	2/14-2/16	280	290	260	250	-30	-10.7%
668	Titus Creek Dr	Rte 669 Nike Park Rd	Rte 665 Smiths Neck Rd	6,941	6,449	7,118	6,866	2/8-2/9	6,300	6,500	6,600	6,500	+200	+3.2%
704	Todd Ave/Warwick St	Rte 671 Country Way	Rte 1002; Rte 1009	1,117	1,035	1,175	1,009	2/8-2/9	1,000	1,100	1,100	960	-40	-4.0%
644	Turner Dr	Rte 620 W. Scotts Ferry Rd	Rte 620 E. Muddy Cross Dr	3,029	3,298	3,088	3,179	2/7-2/8	2,900	3,300	3,000	3,000	+100	+3.4%
644	Turner Dr	Rte 620 E. Muddy Cross Dr	US 258 E; SR 10	3,351	3,393	3,175	3,220	2/7-2/8	3,200	3,400	3,100	3,100	-100	-3.1%
0	Underwood Lane	Cedar St	Main St	-	1,731	1,707	2,478	1/31-6/15	1,600	1,700	1,600	2,100	+500	+31.3%
656	Union Camp Dr	US 258 Great Mill Hwy	Rte 691 Jamestown Lane	-	-	2,834	1,979	10/24-10/26	1,100	70	2,600	1,800	+700	+63.6%
0	Wainwright Dr	Lumar Rd	Jefferson Dr	-	572	602	563	1/31-2/1	570	550	570	540	-30	-5.3%
258	Walters Hwy	Bus US 58 Carrsville Hwy	Rte 614 W. River Run Trail	3,935	3,074	3,304	3,478	2/28-3/1	3,600	3,200	3,400	3,600	0	0.0%
258	Walters Hwy	Rte 614 W. River Run Trail	WCL Windsor	5,460	5,174	4,822	5,282	2/28-3/1	4,900	5,200	5,000	5,500	+600	+12.2%
10	West Main St	Rte 674 Blounts Corner Rd	SR 10 West of Smithfield	1,816	1,440	1,455	1,516	2/7-2/8	1,600	1,400	1,400	1,600	0	0.0%
460	Windsor Blvd	Southampton County Line	US 258 Prince Blvd	9,697	9,861	9,279	10,032	3/8-3/9	10,000	11,000	10,000	11,000	+1,000	+10.0%
460	Windsor Blvd	US 258 Prince Blvd N; Prince Blvd S	Rte 610 Court Street North; Court Str	13,942	14,054	14,326	15,319	3/8-3/9	15,000	16,000	16,000	17,000	+2,000	+13.3%
460	Windsor Blvd	Rte 610 Court Street North; Court Str	WCL Suffolk	13,236	15,315	14,115	15,587	3/8-3/9	14,000	17,000	16,000	18,000	+4,000	+28.6%
600	Woodland Dr	Rte 637 N. Orbit Rd	Rte 654 N. Carroll Bridge Rd	205	229	247	-	-	220	240	240	280	+60	+27.3%
600	Woodland Dr	Rte 654 N. Carroll Bridge Rd	Rte 602 N. Longview Dr	-	-	-	492	2/22-2/23	480	490	490	490	+10	+2.1%
644	Zuni Circle	US 460 West	US 460 East	-	-	417	419	3/1-3/2	590	600	440	420	-170	-28.8%

FIGURE 6 (CONTINUED) – WEEKDAY AND ANNUAL AVERAGE DAILY TRAFFIC VOLUMES, 2008 TO 2017

Data source: VDOT. '-' indicates data is not available for that roadway segment and year.



MAP 3
2017 ANNUAL AVERAGE DAILY TRAFFIC VOLUMES - ISLE OF WIGHT COUNTY

LEGEND

- 0 - 999
- 1,000 – 2,999
- 3,000 – 4,999
- 5,000 – 9,999
- 10,000 – 19,999
- 20,000 +

Data source: VDOT. Prepared by HRTPO Staff.

Roadway Congestion

The roadway congestion analysis performed for this study is similar to the procedure used in the HRTPO Congestion Management Process (CMP).[2] In the Congestion Management Process, weekday peak period congestion levels are determined for each roadway segment that comprises the CMP Roadway Network, which includes all roadways classified as minor arterials and above, as well as selected collectors. Roadway segment congestion levels were determined using speed data and Highway Capacity Manual (HCM) traffic volume-based level of service methods for roadways where speed data is not available.

The travel time and speed data used in this analysis was collected by INRIX. INRIX collects travel time and speed data on a continuous basis, using millions of GPS-enabled fleet vehicles (taxis, airport shuttles, service vehicles, and long haul trucks), mobile devices that have INRIX's real-time traffic applications installed, traditional road sensors, and other sources. This data has been purchased by VDOT and access is provided to Metropolitan Planning Organizations throughout the state.

Congestion levels for roadways in Isle of Wight County where INRIX speed data is available were determined based on travel time index (TTI). The TTI represents the ratio of the actual travel time during the peak hour to the travel time in free-flow conditions. For example, a TTI of 1.20 means a trip that takes 20 minutes under free-flow conditions takes 24 minutes (20% longer) in the peak hour.

HRTPO staff calculated the travel time index for each roadway segment by direction for each 15-minute interval during the AM and PM Peak Periods in 2017. The highest 15-minute travel time index during the AM Peak Period (defined as occurring between 5:00 am and 9:00 am) and the PM Peak Period (defined as occurring between 3:00 pm and 7:00 pm) was used to determine each roadway segment's peak period congestion level.

CONGESTION LEVELS FOR ROADWAYS WITH SPEED DATA

Congestion Level		Freeway	Arterial
Low	LOW	TTI < 1.15	TTI < 1.25
Moderate	MOD	1.15 ≤ TTI < 1.3	1.25 ≤ TTI < 1.4
Severe	SEV	TTI ≥ 1.3	TTI ≥ 1.4

Each roadway segment was classified as having a "low", "moderate", or "severe" level of peak period congestion based on this highest travel time index, using the thresholds shown in the table above.

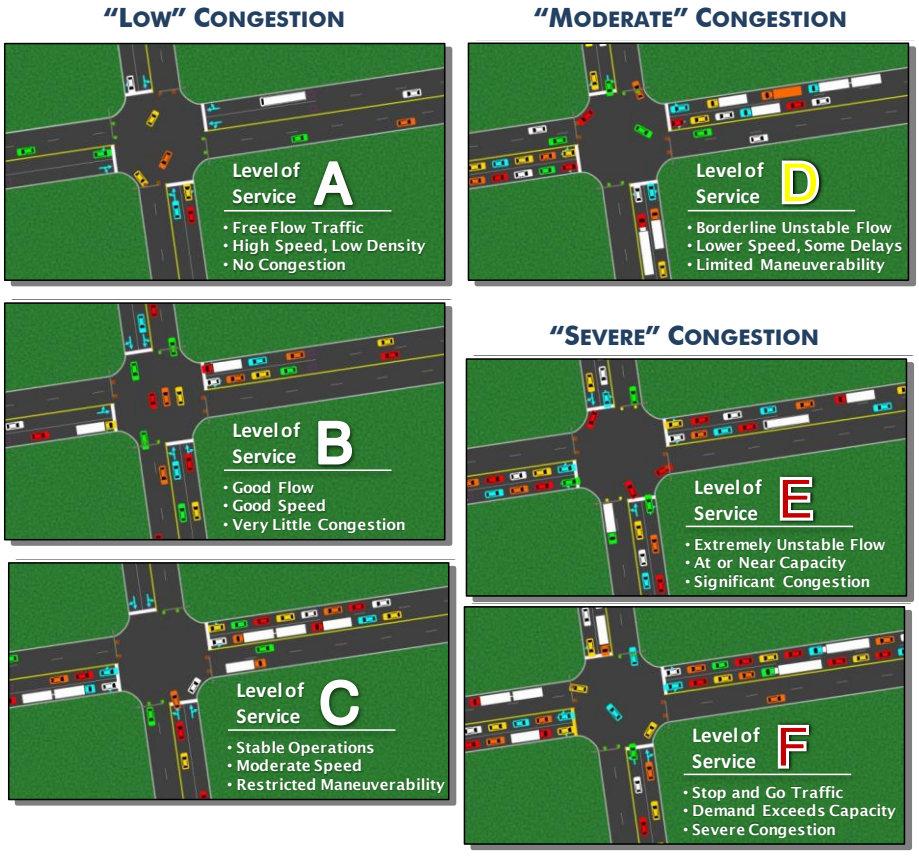


FIGURE 7 – LEVEL OF SERVICE DEFINITIONS
Source: HRTPO Congestion Management Process report.

[2] *Hampton Roads Congestion Management Process: System Performance and Mitigation Report*, HRTPO, October 2014.

Congestion levels for roadways without INRIX speed data were determined using traffic volumes and Highway Capacity Manual[3] (HCM) level of service (LOS) methods. The HCM is a widely accepted engineering standard. The HCM describes LOS as a measure of operating conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver traffic interruptions, and comfort and convenience.

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 7** on page 10). Levels of Service A through D are considered to be acceptable operating conditions, while Levels of Service E and F (shown in red in the congestion maps) are considered unacceptable operating conditions with severe congestion. LOS D is the "warning" level condition where favorable conditions are on the verge of becoming unfavorable.

CONGESTION LEVELS FOR ROADWAYS WITHOUT SPEED DATA

Congestion Level		HCM LOS
Low	LOW	A-C
Moderate	MOD	D
Severe	SEV	E-F

Congestion levels for roadways in Isle of Wight County without INRIX speed data were calculated for both the AM Peak Period and PM Peak Period using weekday traffic volume data collected by VDOT in 2017. This analysis was done using the LOSPLAN software package[4] produced by the Florida Department of Transportation. The LOSPLAN software uses HCM methods to calculate Levels of Service based on various roadway and traffic characteristics. Congestion levels for each roadway segment were determined for the hour with the highest traffic volume during the AM Peak Period (which is defined as the highest volume of weekday traffic in four consecutive 15-minute periods from 5 to 9 am) and the PM Peak Period (between 3 pm and 7 pm).

Figure 8 on page 12 shows the current (2017) congestion levels during the AM Peak Period and PM Peak Period for major roadways (those roadways that are part of the regional CMP Roadway Network) in Isle of Wight County. These congestion levels are also shown on **Map 4** on page 13 and **Map 5** on page 14.

As shown in **Figure 8**, there are seven roadway segments in Isle of Wight County that operate at severely congested levels (LOS E or F) at some point throughout the day. These segments include:

- Benns Church Boulevard (Route 10/258) between Turner Drive and S. Church Street.
- Carrollton Boulevard (Route 17) between the James River Bridge and Smiths Neck Road.
- Carrollton Boulevard (Route 17) between Smiths Neck Road and Brewers Neck Road.
- South Church Street (Business Route 10/258). between the Cypress Creek Bridge and Main Street.
- Route 460 between Route 258 and Court Street
- Smiths Neck Road between Carrollton Boulevard and Reynolds Drive.
- Smiths Neck Road between Reynolds Drive and Titus Creek Drive.

Three of these severely congested roadways – Benns Church Boulevard (Route 10/258), Carrollton Boulevard (Route 17), and Route 460 – have INRIX travel time data available. **Figure 9** on page 15 shows detailed information on these severely congested roadway segments including speeds during the AM and PM peak periods, travel time

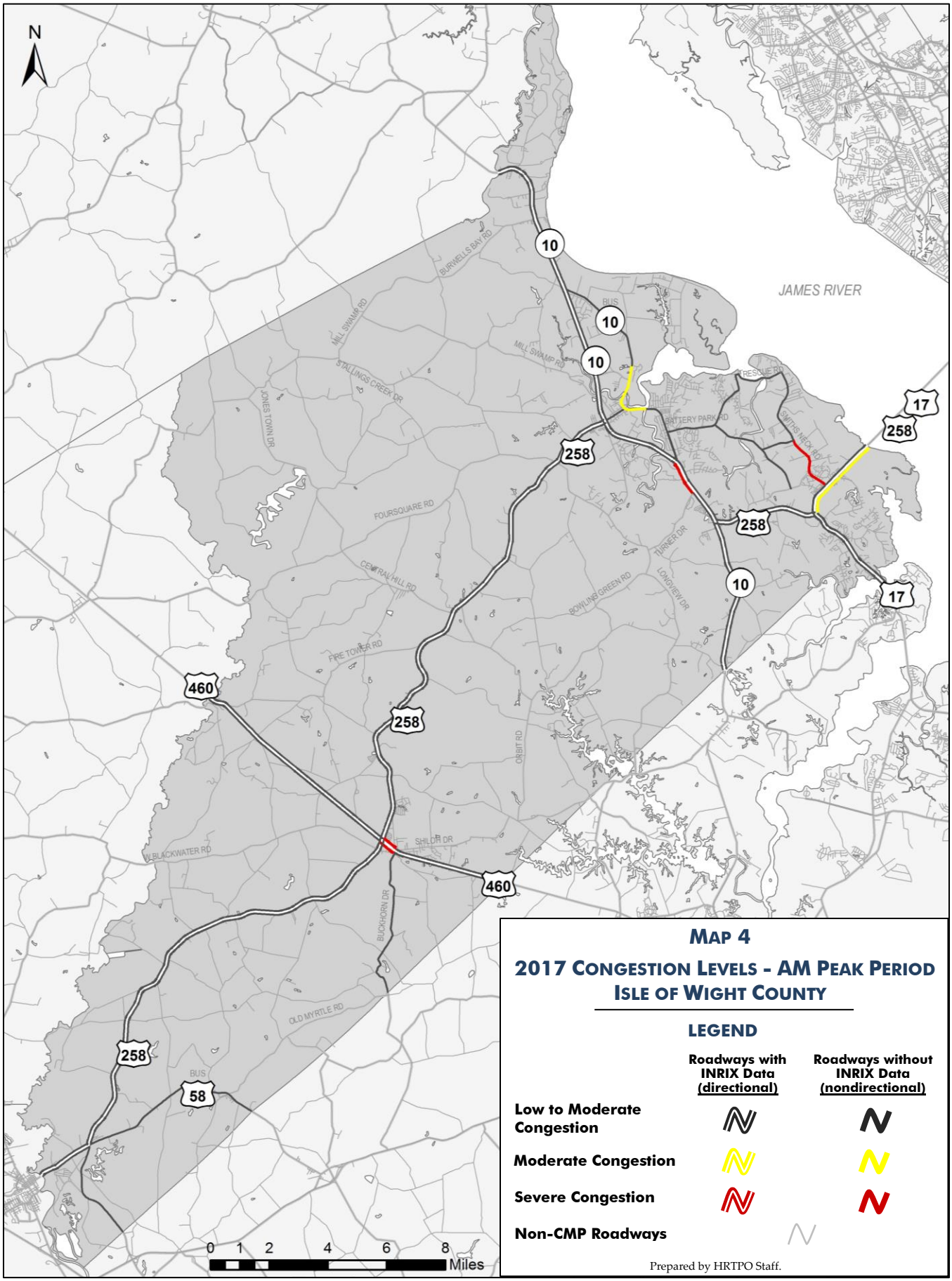
[3] *Highway Capacity Manual*, Transportation Research Board, 2010.

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

Route Num	Facility	Segment From	Segment To	Existing Weekday Volume	2017 Peak Hour Congestion Level AM NB/EB	AM SB/WB	PM NB/EB	PM SB/WB
704	Battery Park Rd	S Church St	Nike Park Rd	10,612	LOW		LOW	
704	Battery Park Rd	Nike Park Rd	Country Way	3,818	LOW		LOW	
10	Benns Church Blvd	Suffolk CL	Riddick Rd	11,603	LOW	LOW	LOW	LOW
10	Benns Church Blvd	Riddick Rd	Brewers Neck Blvd	11,603	LOW	LOW	LOW	LOW
258	Benns Church Blvd	Brewers Neck Blvd	Turner Dr (Rte 644)	25,746	LOW	LOW	LOW	LOW
10	Benns Church Blvd	Turner Dr (Rte 644)	Church St S	28,271	LOW	SEV	SEV	SEV
258	Brewers Neck Blvd	Benns Church Blvd	Norsworthy Dr (Rte 670)	25,459	LOW	LOW	LOW	LOW
258	Brewers Neck Blvd	Norsworthy Dr (Rte 670)	Route 17	25,459	LOW	LOW	LOW	LOW
610	Buckhorn Dr	Suffolk CL	Sunset Dr (Rte 609)	487	LOW		LOW	
610	Buckhorn Dr	Sunset Dr (Rte 609)	SCL Windsor	511	LOW		LOW	
10	Bus Rte 10	NCL Smithfield	Jenkins Lane	6,091	LOW		MOD	
10	Bus Rte 10	Jenkins Lane	Route 10 Bypass	1,516	LOW		LOW	
58	Bus Rte 58/Bus Rte 258	Franklin CL	Jamestown Ln (Rte 691)	6,883	LOW	LOW	LOW	LOW
58	Bus Rte 58/Bus Rte 258	Jamestown Ln (Rte 691)	Route 258	6,883	LOW	LOW	LOW	LOW
58	Bus Rte 58	Route 258	Suffolk CL	2,363	LOW		LOW	
17	Carrollton Blvd	Suffolk CL	West End Chuckatuck Bridge	16,617	LOW	LOW	LOW	LOW
17	Carrollton Blvd	West End Chuckatuck Bridge	Route 258	16,617	LOW	LOW	LOW	LOW
17	Carrollton Blvd	Route 258	Smith's Neck Rd	31,593	MOD	LOW	LOW	SEV
17	Carrollton Blvd	Smith's Neck Rd	West End James River Bridge	31,593	MOD	LOW	LOW	SEV
10	Church St S	Route 10 Bypass	Battery Park Rd	13,956	LOW		LOW	
10	Church St S	Battery Park Rd	Cypress Creek Bridge	12,512	LOW		MOD	
10	Church St S	Cypress Creek Bridge	Main St	12,392	MOD		SEV	
10	Church St N	Main St	Smithfield CL	6,089	MOD		MOD	
610	Court St	SCL Windsor/Buckhorn Dr	Route 460	725	LOW		LOW	
258	Main St	Route 10 Bypass	Church St	3,407	LOW		LOW	
669	Nike Park Rd	Battery Park Rd	Titus Creek Dr	9,999	LOW		LOW	
669	Nike Park Rd	Titus Creek Dr	Reynolds Dr	3,075	LOW		LOW	
704	Rescue Rd	Newport St	Smith's Neck Rd	1,009	LOW		LOW	
10	Route 10 (Old Stage Hwy)	Bus Rte 10	Surry CL	6,974	LOW	LOW	LOW	LOW
10	Route 10 Bypass	Church St S	Fairway Dr	18,489	LOW	LOW	MOD	MOD
10	Route 10 Bypass	Fairway Dr	Main St	18,489	LOW	LOW	MOD	MOD
10	Route 10 Bypass	Main St	NCL Smithfield	10,275	LOW	LOW	LOW	LOW
10	Route 10 Bypass	NCL Smithfield	Bus Route 10	7,335	LOW	LOW	LOW	LOW
258	Route 258	Suffolk CL	Union Camp Dr (Rte 656)	2,579	LOW		LOW	
258	Route 258	Union Camp Dr (Rte 656)	Carrsville Hwy (Bus Rte 58)	1,057	LOW		LOW	
258	Route 258	Carrsville Hwy (Bus Rte 58)	Burdette Rd (Rte 619)	3,478	LOW	LOW	LOW	LOW
258	Route 258	Burdette Rd (WRte 619)	River Run Trail (Rte 614)	3,478	LOW	LOW	LOW	LOW
258	Route 258	River Run Trail (Rte 614)	Blackwater Rd (Rte 603)	5,282	LOW	LOW	LOW	LOW
258	Route 258	Blackwater Rd (Rte 603)	WCL Windsor	5,274	LOW	LOW	LOW	LOW
258	Route 258	WCL Windsor	Route 460	5,274	LOW	LOW	LOW	LOW
258	Route 258	Route 460	ECL Windsor	5,658	LOW	LOW	LOW	LOW
258	Route 258	ECL Windsor	Court St North (Rte 610)	5,658	LOW	LOW	LOW	LOW
258	Route 258	Court St North (Rte 610)	Iron Mine Springs Rd (Rte 605)	4,521	LOW	LOW	LOW	LOW
258	Route 258	Iron Mine Springs Rd (Rte 605)	Central Hill Rd (Rte 637)	4,521	LOW	LOW	LOW	LOW
258	Route 258	Central Hill Rd (Rte 637)	Scotts Factory Rd (Rte 620)	5,001	LOW	LOW	LOW	LOW
258	Route 258	Scotts Factory Rd (Rte 620)	WCL Smithfield	9,794	LOW	LOW	LOW	LOW
258	Route 258/N Main St	WCL Smithfield	Route 10 Bypass	12,765	LOW	LOW	LOW	LOW
460	Route 460	Southampton CL	Firetower Rd (Rte 644)	10,032	LOW	LOW	LOW	LOW
460	Route 460	Firetower Rd (Rte 644)	WCL Windsor	10,032	LOW	LOW	LOW	LOW
460	Route 460	WCL Windsor	Route 258	10,032	LOW	LOW	LOW	LOW
460	Route 460	Route 258	Court St (Rte 610)	15,319	SEV	SEV	MOD	SEV
460	Route 460	Court St (Rte 610)	ECL Windsor	15,587	LOW	LOW	LOW	LOW
460	Route 460	ECL Windsor	Suffolk CL	15,587	LOW	LOW	LOW	LOW
669	Smith's Neck Rd	Carrollton Blvd	Reynolds Dr	11,726	SEV		SEV	
665	Smith's Neck Rd	Reynolds Dr	Titus Creek Dr	9,048	SEV		MOD	
665	Smith's Neck Rd	Titus Creek Dr	Rescue Rd	1,657	LOW		LOW	
668	Titus Creek Dr	Smith's Neck Rd	Nike Park Rd	6,866	LOW		LOW	
704	Todd Ave/Warwick St	Country Way	Newport St	1,009	LOW		LOW	

FIGURE 8 – CURRENT (2017) WEEKDAY AM AND PM PEAK PERIOD CONGESTION LEVELS

Source: HRTPO analysis of VDOT and INRIX data.



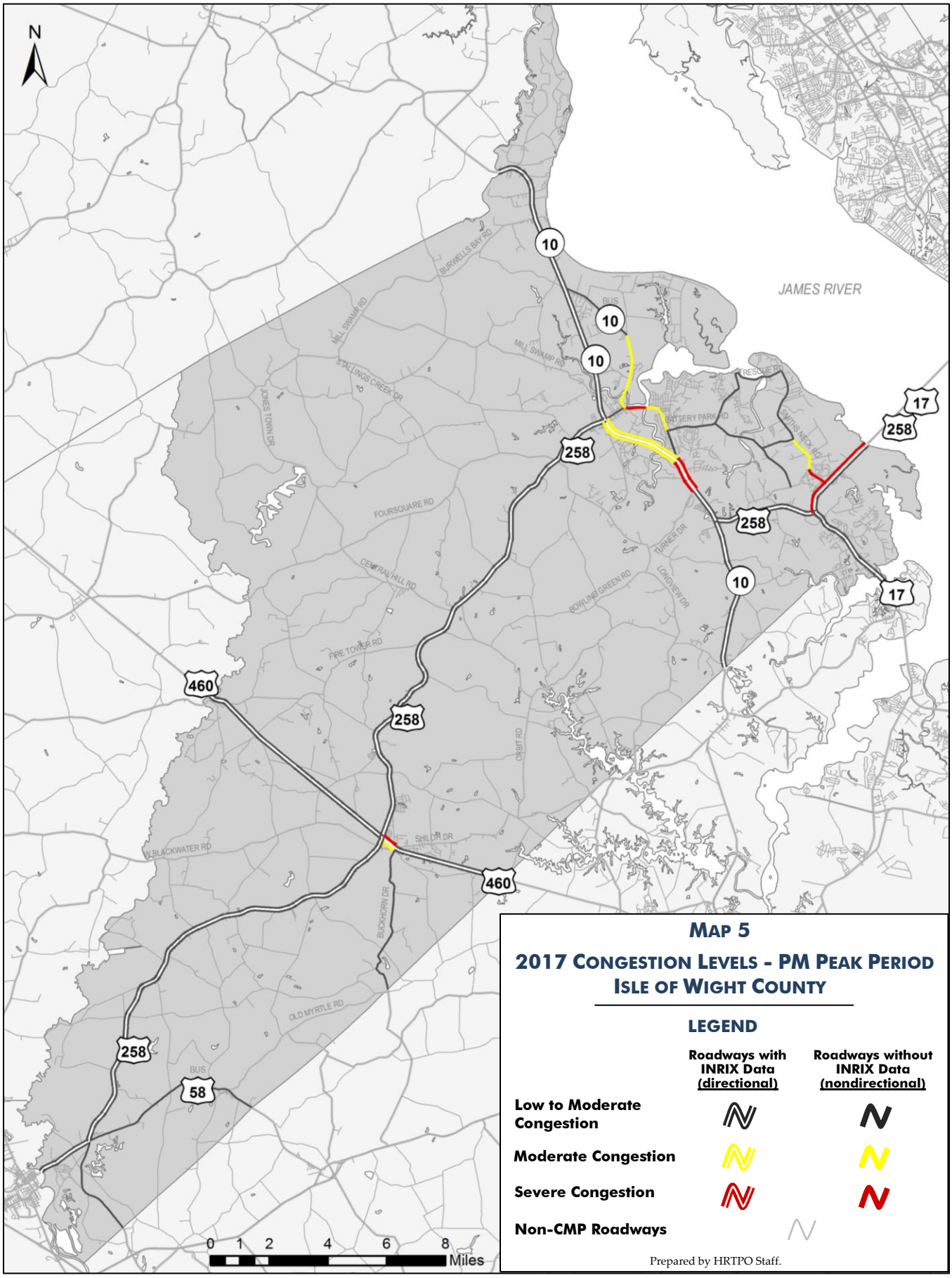
MAP 4

2017 CONGESTION LEVELS - AM PEAK PERIOD
ISLE OF WIGHT COUNTY

LEGEND

	Roadways with INRIX Data (directional)	Roadways without INRIX Data (nondirectional)
Low to Moderate Congestion		
Moderate Congestion		
Severe Congestion		
Non-CMP Roadways		

Prepared by HRTPO Staff.



Map 5

2017 Congestion Levels - PM Peak Period
Isle of Wight County

LEGEND

	Roadways with INRIX Data (directional)	Roadways without INRIX Data (nondirectional)
Low to Moderate Congestion		
Moderate Congestion		
Severe Congestion		
Non-CMP Roadways		

Prepared by HRTPO Staff.

indices, the time of day with the slowest speeds, and the duration of congestion in terms of the number of 15-minute intervals that experience congested conditions (these terms are explained in further detail in the footnote of Figure 9). Information for all roadways with INRIX data is included in **Figure 11** on page 16.

Of these roadways, southbound Benns Church Boulevard between South Church Street and Turner Drive had the highest travel time index during the AM Peak Period (1.85) and Route 17 between the end of the James River Bridge and Route 258 had the highest travel time index during the PM Peak Period (1.70).

A total of 7.3 lane-miles[5] of roadway are severely congested in Isle of Wight County during the AM Peak Period. In percentage terms, just over 3% of Isle of Wight's major roadway lane-miles are currently experiencing severe congestion during the AM peak period (**Figure 10**). Another 4% experience moderate congestion, and the remaining 93% experience low congestion levels.

In the PM Peak Period, 12.2 lane-miles of roadway in Isle of Wight County are severely congested. This represents 5% of Isle of Wight's major roadway network lane-miles. Another 6% experience moderate congestion, and 89% experiences low congestion levels.

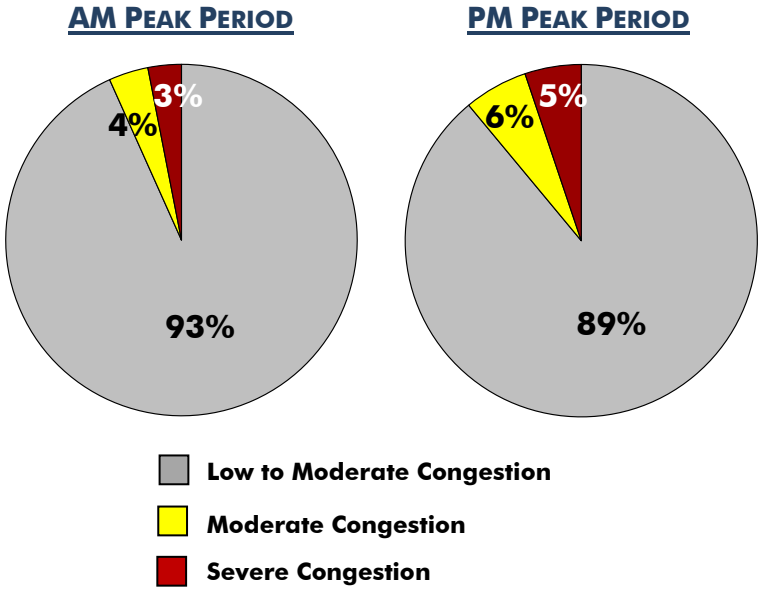


FIGURE 10 – PEAK PERIOD CONGESTION LEVELS BY LANE-MILE IN ISLE OF WIGHT COUNTY, 2017

Source: HRTPO. Only includes those roadways in the Regional CMP Roadway Network.

AM PEAK PERIOD

Route Num	Facility	Segment From	Segment To	Speed (mph)	Travel Time Index	Peak Time Start	Duration (15 mins)
10	Benns Church Blvd - Southbound	Church St S	Turner Dr (Rte 644)	22.0	1.846	7:30	2
460	Route 460 - Eastbound	Route 258	Court St (Rte 610)	24.4	1.420	7:30	1
460	Route 460 - Westbound	Court St (Rte 610)	Route 258	18.1	1.729	7:30	3

PM PEAK PERIOD

Route Num	Facility	Segment From	Segment To	Speed (mph)	Travel Time Index	Peak Time Start	Duration (15 mins)
10	Benns Church Blvd - Northbound	Turner Dr (Rte 644)	Church St S	25.1	1.618	17:15	7
10	Benns Church Blvd - Southbound	Church St S	Turner Dr (Rte 644)	26.2	1.548	15:00	10
17	Carrollton Blvd - Southbound	James River Bridge	Smith's Neck Rd	26.6	1.701	16:15	8
17	Carrollton Blvd - Southbound	Smith's Neck Rd	Route 258	26.6	1.701	16:15	8
460	Route 460 - Westbound	Court St (Rte 610)	Route 258	21.2	1.482	17:30	7

FIGURE 9 – CONGESTED ROADWAY SEGMENTS WITH INRIX DATA (2017)

Source: HRTPO analysis of INRIX data.

Speed represents the yearly average travel speed during the slowest 15-minute interval during each period.

Travel Time Index is the ratio of travel time in the peak period to travel time in free-flow conditions. A TTI of 1.20 means a 20-minute trip in free-flow conditions takes 24 minutes in the peak period.

Peak Time Start represents the starting time of the 15-miunte period where the average speeds are the slowest during the peak period.

Duration represents the total number of 15-minute intervals that experience severely congested conditions during each period. The higher the duration number, the longer severely congested conditions exist.

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

Route Num	Facility	Segment From	Segment To	2017 Speeds and Congestion Levels											
				AM Peak Period						PM Peak Period					
				Speed (mph)		Travel Time Index		Congestion Level		Speed (mph)		Travel Time Index		Congestion Level	
				NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
10	Benns Church Blvd	Suffolk CL	Riddick Rd	48.0	48.7	1.03	1.05	LOW	LOW	48.3	50.5	1.03	1.01	LOW	LOW
10	Benns Church Blvd	Riddick Rd	Brewers Neck Blvd	48.0	48.7	1.03	1.05	LOW	LOW	48.3	50.5	1.03	1.01	LOW	LOW
258	Benns Church Blvd	Brewers Neck Blvd	Turner Dr (Rte 644)	37.8	40.0	1.12	1.08	LOW	LOW	37.4	39.1	1.13	1.11	LOW	LOW
10	Benns Church Blvd	Turner Dr (Rte 644)	Church St S	35.7	22.0	1.14	1.85	LOW	SEV	25.1	26.2	1.62	1.55	SEV	SEV
258	Brewers Neck Blvd	Benns Church Blvd	Norsworthy Dr (Rte 670)	39.1	45.2	1.21	1.06	LOW	LOW	38.8	42.2	1.22	1.14	LOW	LOW
258	Brewers Neck Blvd	Norsworthy Dr (Rte 670)	Route 17	39.1	45.2	1.21	1.06	LOW	LOW	38.8	42.2	1.22	1.14	LOW	LOW
58	Bus Rte 58/Bus Rte 258	Franklin CL	Jamestown Ln (Rte 691)	29.7	30.2	1.09	1.08	LOW	LOW	29.3	30.2	1.10	1.08	LOW	LOW
58	Bus Rte 58/Bus Rte 258	Jamestown Ln (Rte 691)	Route 258	29.7	30.2	1.09	1.08	LOW	LOW	29.3	30.2	1.10	1.08	LOW	LOW
17	Carrollton Blvd	Suffolk CL	West End Chuckatuck Bridge	43.6	45.4	1.14	1.08	LOW	LOW	42.8	44.6	1.17	1.10	LOW	LOW
17	Carrollton Blvd	West End Chuckatuck Bridge	Route 258	43.6	45.4	1.14	1.08	LOW	LOW	42.8	44.6	1.17	1.10	LOW	LOW
17	Carrollton Blvd	Route 258	Smith's Neck Rd	38.2	39.1	1.25	1.18	MOD	LOW	41.9	26.6	1.14	1.70	LOW	SEV
17	Carrollton Blvd	Smith's Neck Rd	West End James River Bridge	38.2	39.1	1.25	1.18	MOD	LOW	41.9	26.6	1.14	1.70	LOW	SEV
10	Route 10 (Old Stage Hwy)	Bus Rte 10	Surry CL	47.2	50.9	1.08	1.01	LOW	LOW	49.1	49.3	1.04	1.04	LOW	LOW
10	Route 10 Bypass	Church St S	Fairway Dr	46.3	46.3	1.05	1.05	LOW	LOW	38.5	38.5	1.27	1.27	MOD	MOD
10	Route 10 Bypass	Fairway Dr	Main St	46.3	46.3	1.05	1.05	LOW	LOW	38.5	38.5	1.27	1.27	MOD	MOD
10	Route 10 Bypass	Main St	NCL Smithfield	50.6	50.2	1.07	1.06	LOW	LOW	53.0	47.8	1.02	1.11	LOW	LOW
10	Route 10 Bypass	NCL Smithfield	Bus Route 10	50.6	50.2	1.07	1.06	LOW	LOW	53.0	47.8	1.02	1.11	LOW	LOW
258	Route 258	Carrsville Hwy (Bus Rte 58)	Burdette Rd (Rte 619)	48.9	47.9	1.05	1.07	LOW	LOW	48.9	48.1	1.05	1.07	LOW	LOW
258	Route 258	Burdette Rd (WRte 619)	River Run Trail (Rte 614)	48.9	47.9	1.05	1.07	LOW	LOW	48.9	48.1	1.05	1.07	LOW	LOW
258	Route 258	River Run Trail (Rte 614)	Blackwater Rd (Rte 603)	48.9	47.9	1.05	1.07	LOW	LOW	48.9	48.1	1.05	1.07	LOW	LOW
258	Route 258	Blackwater Rd (Rte 603)	WCL Windsor	48.9	47.9	1.05	1.07	LOW	LOW	48.9	48.1	1.05	1.07	LOW	LOW
258	Route 258	WCL Windsor	Route 460	48.9	47.9	1.05	1.07	LOW	LOW	48.9	48.1	1.05	1.07	LOW	LOW
258	Route 258	Route 460	ECL Windsor	48.6	45.5	1.06	1.11	LOW	LOW	50.2	46.1	1.03	1.10	LOW	LOW
258	Route 258	ECL Windsor	Court St North (Rte 610)	48.6	45.5	1.06	1.11	LOW	LOW	50.2	46.1	1.03	1.10	LOW	LOW
258	Route 258	Court St North (Rte 610)	Iron Mine Springs Rd (Rte 605)	48.6	45.5	1.06	1.11	LOW	LOW	50.2	46.1	1.03	1.10	LOW	LOW
258	Route 258	Iron Mine Springs Rd (Rte 605)	Central Hill Rd (Rte 637)	48.6	45.5	1.06	1.11	LOW	LOW	50.2	46.1	1.03	1.10	LOW	LOW
258	Route 258	Central Hill Rd (Rte 637)	Scotts Factory Rd (Rte 620)	46.5	44.1	1.12	1.17	LOW	LOW	47.4	48.7	1.09	1.06	LOW	LOW
258	Route 258	Scotts Factory Rd (Rte 620)	WCL Smithfield	34.0	35.5	1.16	1.15	LOW	LOW	34.5	33.9	1.14	1.20	LOW	LOW
258	Route 258/N Main St	WCL Smithfield	Route 10 Bypass	34.0	35.5	1.16	1.15	LOW	LOW	34.5	33.9	1.14	1.20	LOW	LOW
460	Route 460	Southampton CL	Firetower Rd (Rte 644)	55.4	54.2	0.99	1.02	LOW	LOW	55.1	52.9	1.00	1.04	LOW	LOW
460	Route 460	Firetower Rd (Rte 644)	WCL Windsor	55.4	54.2	0.99	1.02	LOW	LOW	55.1	52.9	1.00	1.04	LOW	LOW
460	Route 460	WCL Windsor	Route 258	55.4	54.2	0.99	1.02	LOW	LOW	55.1	52.9	1.00	1.04	LOW	LOW
460	Route 460	Route 258	Court St (Rte 610)	24.4	18.1	1.42	1.73	SEV	SEV	25.0	21.2	1.39	1.48	MOD	SEV
460	Route 460	Court St (Rte 610)	ECL Windsor	48.9	49.9	1.01	0.99	LOW	LOW	48.1	49.6	1.02	1.00	LOW	LOW
460	Route 460	ECL Windsor	Suffolk CL	48.9	49.9	1.01	0.99	LOW	LOW	48.1	49.6	1.02	1.00	LOW	LOW

FIGURE 11 – PEAK PERIOD SPEEDS AND CONGESTION LEVELS FOR ROADWAYS WITH INRIX DATA (2017)

Source: HRTPO analysis of INRIX data.

Speed represents the yearly average travel speed during the slowest 15-minute interval during each period.

Travel Time Index is the ratio of travel time in the peak period to travel time in free-flow conditions. A TTI of 1.20 means a 20-minute trip in free-flow conditions takes 24 minutes in the peak period.

Roadway Safety

Roadway crashes have a wide range of impacts, not only on the transportation system but also on families, friends, and society as a whole. Because of these impacts, roadway safety must be a priority in the transportation planning process.

There have been 9,557 traffic crashes in Isle of Wight County (**Figure 12**) since the year 2000. These crashes resulted in 112 fatalities and 5,499 injuries. The number of crashes in Isle of Wight County has increased in recent years after decreasing throughout the economic downturn late in the last decade (**Figure 13**). The annual number of crashes experienced in Isle of Wight County in 2017 (610) is 18% higher than the number of crashes experienced in 2000, and is 75% higher than the low seen in 2010 (349).

While the number of crashes in Isle of Wight County is increasing, the number of injuries resulting from these crashes continues to decrease. The number of injuries in Isle of Wight County in 2017 (241) is 37% lower than the number of injuries experienced in 2000, and is only 9% higher than the low seen in 2010 (221).

Year	Number of Fatalities	Number of Injuries	Number of Crashes
2000	6	382	517
2001	7	381	516
2002	5	370	568
2003	7	354	567
2004	7	341	592
2005	6	395	586
2006	10	311	595
2007	11	306	528
2008	9	330	538
2009	6	315	439
2010	6	221	349
2011	3	249	402
2012	4	245	446
2013	6	265	512
2014	9	244	560
2015	2	242	601
2016	4	307	631
2017	4	241	610

Figure 12 – Number of Fatalities, Injuries, and Crashes in Isle of Wight County, 2000-2017
Source: HRTPO analysis of VDOT data.

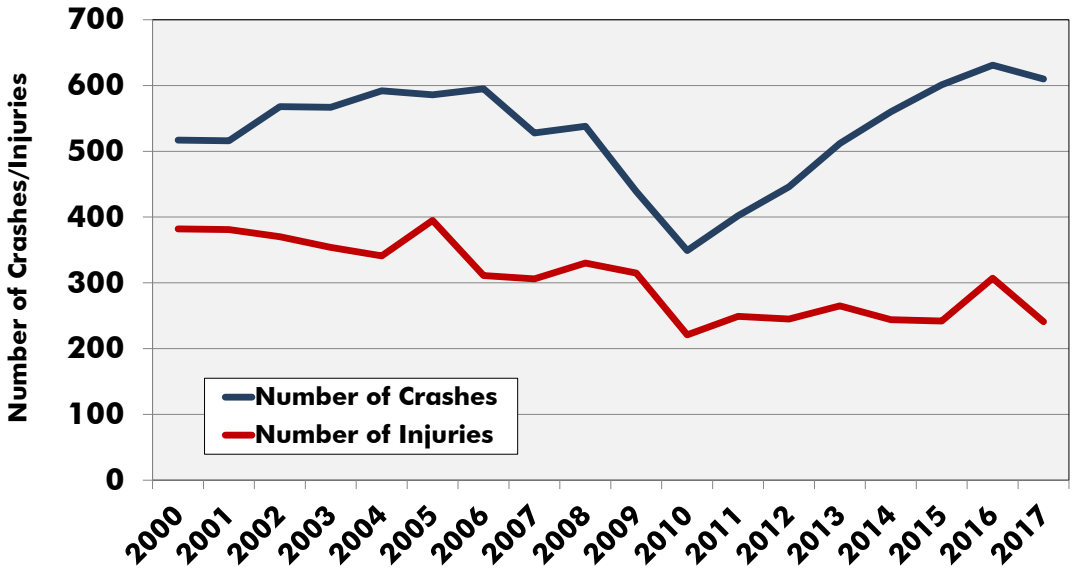


Figure 13 – Number of Crashes and Injuries in Isle of Wight County, 2000-2017
Source: HRTPO analysis of VDOT data.

Looking over the last five years (2013-2017), there was an average of 583 crashes each year with 5 fatalities and 260 injuries. Some of the characteristics of these crashes over this time period are shown in **Figure 14**. Notable among these characteristics – which are emphasis areas in the current Virginia Strategic Highway Safety Plan – include:

- **Alcohol Use** – Although 7% of all crashes in the county involve alcohol use, 27% of all fatalities resulting from traffic crashes involve alcohol use.
- **Distracted Driving** – Nearly one out of four crashes (24%) and four out of every ten fatalities (39%) results from distracted driving.
- **Roadway Departure** – In over half of all fatalities in Isle of Wight County (54%), the vehicle departed the roadway.
- **Speeding** – Nearly half of all fatalities in the county (46%) involved speeding.
- **Safety Belt Use** – More than four out of every ten people killed in crashes in Isle of Wight County (42%) were not using a safety belt.

	% of Crashes	% of Injuries	% of Fatalities
Alcohol	7.3%	9.3%	26.9%
Bike/Pedestrian	0.5%	1.1%	11.5%
Distracted Driving	24.0%	26.8%	38.5%
Intersections	34.9%	40.4%	19.2%
Road Departure	28.2%	26.3%	53.8%
Speeding	17.1%	23.2%	46.2%
Unbelted	6.8%	17.5%	42.3%
Young Drivers	19.3%	19.9%	15.4%

Figure 14 – Characteristics of Crashes in Isle of Wight County, 2013-2017
Source: HRTPO analysis of VDOT data. Image source: VDOT.

Roadway Segments

In order to determine the location of crashes on roadway segments throughout Isle of Wight County, HRTPO staff analyzed VDOT crash location data for the five-year period from 2013-2017. Based on this analysis, HRTPO produced two measures that evaluate the safety of each roadway segment:

- **Crash Rate** – The crash rate is simply the number of crashes on a roadway segment divided by the total amount of roadway travel. This roadway travel is listed in terms of million vehicle-miles of travel (MVMT).
- **EPDO Rate** - The Equivalent Property Damage Only (EPDO) Rate not only takes into account the number or rate of crashes but the severity of crashes as well. Priority should be given to those roadway segments with the highest EPDO Rates. EPDO Rates are calculated by first categorizing crashes into those that involve at least one fatality (FAT crashes), at least one injury but no fatalities (INJ crashes), and that only result in property damage (PDO crashes). Weighting factors are then applied to FAT and INJ crashes to account for the increased severity of these types of crashes. This analysis uses the same weighting factors (3 for INJ crashes, 12 for FAT) that HRTPO used in the Hampton Roads

Regional Safety Study[6], which results in the following formula:

$$\text{EPDO Rate} = \frac{1{,}000{,}000 \times \left[\begin{array}{c}\text{Annual PDO crashes} \\ +\ 3 \times \text{Annual INJ crashes} \\ +\ 12 \times \text{Annual FAT crashes}\end{array}\right]}{365 \times \text{AADT} \times \text{Segment Length}}$$

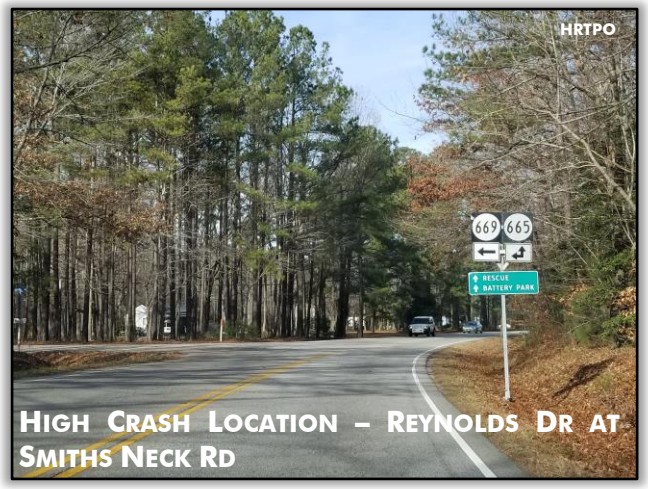
Figure 15 on pages 20-21 shows both the Crash Rate and EPDO Rate for 2013-2017 for all of the roadway segments in Isle of Wight County that are classified as minor collectors or above. In addition, **Map 6** on page 23 shows the EPDO Rate for these roadways.

The roadways in Isle of Wight County with the highest EPDO Rates between 2013 and 2017 are:

- Blackwater Road/Bank Street between Route 258 and Route 460 in Windsor.
- Reynolds Drive between Norsworthy Drive and Nike Park Road.
- Jones Town Drive between Rattlesnake Trail and Mill Swamp Road.
- Reynolds Drive between Nike Park Road and Smiths Neck Road.
- Berry Hill Road between Route 10 Bypass and Business Route 10.

For many of these roadways in Isle of Wight County with high EPDO Rates, the primary cause is one or more high-crash intersections along the segment. For the five roadway segments with the highest EPDO Rates in Isle of Wight County (with EPDO Rates greater than 10.0), some of the primary causes and possible remedies are shown below:

- **Blackwater Road/Bank Street** – Most of the crashes on this segment occurred at the intersection of Bank Street with Route 460/Court Street/Church Street, which is a six-legged signalized intersection in the Town of Windsor. There were 23 crashes – 3 of which involved injuries – in the vicinity of this intersection between 2013 and 2017. Most of these crashes occurred on the Route 460 approaches to the intersection.



HIGH CRASH LOCATION – REYNOLDS DR AT SMITHS NECK RD

Projects have been proposed through the years to improve the safety and operation of the intersection, largely by removing certain approaches or restricting certain movements. A project was submitted by Isle of Wight County for the FY 2020 SMART SCALE Process (described later in this report) to remove the Bank Street approach. However, the recommended funding scenario did not include funding for this project.

- **Reynolds Drive between Norsworthy Drive and Nike Park Road** – Of the 25 crashes that occurred on this roadway segment between 2013 and 2017, 15 crashes occurred at the unsignalized intersection of Reynolds Drive and Nike Park Road, resulting in 6 injuries.

  Improvements will be made to the intersection of Reynolds Drive and Nike Park Road as part of the Nike Park Road Extension project. These improvements include new turn bays on both Reynolds Drive and Nike Park Road, and a median on Nike Park Road. In addition, improvements as part of the project such as new pavement and pavement markings, new signage, and widened vegetation clearance zones will also likely improve safety.

- **Jones Town Drive between Rattlesnake Trail and Mill Swamp Road** – This roadway has a high EPDO Rate largely due to its low daily traffic volume (AADT = 80 vehicles per day). There were only two crashes (with one injury) on this roadway segment between 2013 and 2017.

[6] *Hampton Roads Regional Safety Study 2013/2014 Update*, HRTPO, October 2013.

Route Num	Facility	Segment From	Segment To	Crashes per MVMT	EPDO per MVMT
704	Battery Park Rd	S Church St	Nike Park Rd	1.63	2.77
704	Battery Park Rd/Todd Ave	Nike Park Rd	Newport St (Rte 1002)	1.65	2.52
10	Benns Church Blvd	Suffolk CL	Route 258 (Brewers Neck Blvd)	0.77	1.20
10/258	Benns Church Blvd	Route 258 (Brewers Neck Blvd)	Church St S	1.67	2.59
666	**Berry Hill Rd**	**Route 10**	**Bus Route 10**	**6.05**	**10.31**
603	Blackwater Rd	Southampton County Line	Rte 641 W. Barrett Town Rd	2.35	5.10
603	Blackwater Rd	Rte 641 W. Barrett Town Rd	Route 258	1.02	1.92
603	**Blackwater Rd/Bank St**	**Route 258**	**Route 460**	**13.51**	**18.42**
644	Bowling Green Rd	Rte 654 Carroll Bridge Rd	Rte 602 Longview Dr	3.53	4.62
644	Bowling Green Rd	Rte 602 Longview Dr	Rte 620 W. Scotts Ferry Rd	5.23	7.13
258	Brewers Neck Blvd	Route 10 & 32 (Benn's Church)	Route 17	1.09	1.73
620	Broadwater Rd	Southampton County Line	Rte 637 Central Hill Rd	1.84	2.81
610	Buckhorn Dr	Suffolk CL	Rte 609 Sunset Dr	4.24	7.63
610	Buckhorn Dr/Court St	Rte 609 Sunset Dr	Route 460	5.38	8.24
621	Burwells Bay Rd	Rte 626 S. Mill Swamp Dr	Rte 627 Moonlight Rd	4.56	7.60
621	Burwells Bay Rd	Rte 627 Moonlight Rd	Route 10 Old Stage Hwy	5.57	7.80
10	Bus Rte 10	NCL Smithfield	Route 10 Bypass	1.67	2.97
58	Bus Rte 58/Bus Rte 258	Franklin CL	Route 258	0.90	1.22
58	Bus Rte 58	Route 258	Suffolk CL	1.02	1.97
17	Carrollton Blvd	Suffolk CL	Route 258	1.75	3.44
17	Carrollton Blvd	Route 258	Smith's Neck Rd	1.37	2.48
17	Carrollton Blvd	Smith's Neck Rd	West End James River Bridge	1.94	3.13
654	Carroll Bridge Rd	Rte 600 N. Woodland Dr	Rte 644 Bowling Green Rd	7.20	9.25
637	Central Hill Rd	Rte 620 Broadwater/Foursquare Rd	Route 258	2.17	2.97
10	Church St S	Route 10 Bypass	Battery Park Rd	2.31	3.58
10	Church St S	Battery Park Rd	Main St	1.76	2.78
10	Church St N	Main St	Smithfield CL	0.97	2.08
603	Everets Rd/Five Forks Rd	Rte 603 W. Shiloh Dr	WCL Suffolk	2.02	2.34
710	Fairway Drive	Great Springs Rd	Route 10	7.33	7.33
644	Fire Tower Rd	Route 460	Rte 646 N. Beale Place Dr	5.59	8.38
644	Fire Tower Rd	Rte 646 N. Beale Place Dr	Route 258	3.63	4.23
620	Foursquare Rd	Rte 637 Central Hill Rd	Rte 652 S. Harry Wilson Rd	1.24	2.23
620	Foursquare Rd	Rte 652 S. Harry Wilson Rd	Route 258	2.66	4.75
A258	Grace St	Main St	North Church St	3.55	5.48
655	Great Springs Rd	Rte 620 Scotts Factory Rd	Main St	4.69	6.92
691	Jamestown Lane/Union Camp Dr	Bus Route 58 Carrsville Hwy	Route 258	3.41	6.45
637	**Jones Town Dr**	**Rte 646 Rattlesnake Trail**	**Rte 621 Mill Swamp Rd**	**6.40**	**12.80**
602	Longview Dr	WCL Suffolk	Rte 600 S. Oliver Dr	2.49	8.73
602	Longview Dr	Rte 600 S. Oliver Dr	Rte 644 Bowling Green Rd	4.46	5.20
258	Main St	Route 10 Bypass	Church St	3.62	6.79
621	Mill Swamp Rd	Rte 637 Jones Town Dr	Rte 680 Stallings Creek Dr	4.71	6.06
621	Mill Swamp Rd	Rte 680 Stallings Creek Dr	Rte 626 S. Mill Swamp Rd	2.40	4.80
626	Mill Swamp Rd	Rte 621 S. Mill Swamp Rd	Rte 681 Stallings Ck Dr	1.17	2.34
626	Mill Swamp Rd	Rte 681 Stallings Ck Dr	Rte 678 Bethany Church Rd	2.38	5.55
626	Mill Swamp Rd/Cary St	Rte 678 Bethany Church Rd	Main St	1.48	2.46
669	Nike Park Rd	Battery Park Rd	Titus Creek Dr	2.28	3.40
669	Nike Park Rd	Titus Creek Dr	Reynolds Dr	3.14	6.38
670	Norsworthy Dr	Rte 665 Reynolds Dr	Brewers Neck Blvd	1.18	3.54
632	Old Myrtle Rd/Harvest Dr	Bus Route 58 Carrsville Hwy	Rte 612 E. Outland Dr	1.59	3.18
632	Old Myrtle Rd	Rte 612 E. Outland Dr	WCL Suffolk	5.57	5.57
637	Orbit Rd	Rte 603 Everets Rd	Rte 600 N. Woodland Dr	1.36	1.36
637	Orbit Rd	Rte 600 N. Woodland Dr	US-258 N. Courthouse Hwy	3.14	4.04
612	Outland Dr	WCL Suffolk	Rte 632 E. Old Myrtle Rd	8.78	8.78
621	Proctors Bridge Rd	Southampton County Line	Rte 637 Jones Town Dr	1.19	3.58
637	Racetrack Rd/Jones Town Dr	Rte 620 Broadwater Rd	Rte 646 Rattlesnake Trail	2.57	3.86
704	Rescue Rd	Newport St (Rte 1002)	Smith's Neck Rd	0.43	0.43
665	**Reynolds Dr**	**Rte 670 Norsworthy Dr**	**Rte 669 W. Nike Park Rd**	**10.26**	**16.00**
665	**Reynolds Dr**	**Rte 669 W. Nike Park Rd**	**Rte 669 E. Smiths Neck Rd**	**6.96**	**10.44**
10	Route 10 (Old Stage Hwy)	Bus Route 10	Surry CL	1.63	3.14
10	Route 10 Bypass	Church St S	Main St	0.85	1.57
10	Route 10 Bypass	Main St	Bus Route 10	1.27	2.04
258	Route 258	Suffolk CL	Carrsville Hwy (Bus Rte 58)	0.77	1.29
258	Route 258	Carrsville Hwy (Bus Rte 58)	Burdette Rd (W Rte 619)	1.27	2.46
258	Route 258	Burdette Rd (W Rte 619)	River Run Trail (W Rte 614)	0.51	0.51
258	Route 258	River Run Trail (W Rte 614)	Route 460	1.05	1.79

FIGURE 15 – ROADWAY SEGMENT CRASH AND EPDO RATES IN ISLE OF WIGHT COUNTY, 2013-2017

Source: HRTPO analysis of VDOT data.

Route Num	Facility	Segment From	Segment To	Crashes per MVMT	EPDO per MVMT
258	Route 258	Route 460	Court St North (Rte 610)	1.26	2.86
258	Route 258	Court St North (Rte 610)	Iron Mine Springs Rd (Rte 605)	1.56	2.75
258	Route 258	Iron Mine Springs Rd (Rte 605)	Central Hill Rd (W Rte 637)	1.06	1.49
258	Route 258	Central Hill Rd (W Rte 637)	Scotts Factory Rd (Rte 620)	1.43	2.39
258	Route 258	Scotts Factory Rd (Rte 620)	Rte 10 Bypass	3.45	6.71
460	Route 460	Southampton CL	Route 258	0.97	1.59
460	Route 460	Route 258	Court St (Rte 610)	2.06	3.33
460	Route 460	Court St (Rte 610)	Suffolk CL	1.21	1.83
620	Scotts Factory Rd	Route 258	Rte 654 Carroll Bridge Rd	1.61	2.26
620	Scotts Factory Rd	Rte 654 Carroll Bridge Rd	Rte 655 Great Springs Rd	2.55	3.12
620	Scotts Factory Rd	Rte 655 Great Springs Rd	Rte 644 W. Bowling Green Rd	2.62	4.23
603	Shiloh Dr/Church St	Route 460	Rte 606 W. Five Forks Rd	3.19	4.79
669	Smith's Neck Rd	Carrollton Blvd	Reynolds Dr	2.38	3.46
665	Smith's Neck Rd	Reynolds Dr	Titus Creek Dr	2.61	4.53
665	Smith's Neck Rd	Titus Creek Dr	Rescue Rd	2.10	3.60
680	Stallings Creek Dr	Rte 621 Mill Swamp Rd	Rte 626 Mill Swamp Rd	1.00	1.67
668	Titus Creek Dr	Smith's Neck Rd	Nike Park Rd	2.69	3.94
644	Turner Dr	Rte 620 W. Scotts Ferry Rd	US 258 E; SR 10	3.02	6.68
600	Woodland Dr	Rte 637 N. Orbit Rd	Rte 654 N. Carroll Bridge Rd	2.07	2.07
644	Zuni Circle	Route 460 West	Route 460 East	7.80	7.80

FIGURE 15 (CONTINUED) – ROADWAY SEGMENT CRASH AND EPDO RATES IN ISLE OF WIGHT COUNTY, 2013-2017

Source: HRTPO analysis of VDOT data.

- **Reynolds Drive between Nike Park Road and Smiths Neck Road** – As described above, the intersection of Reynolds Drive and Nike Park Road had 15 crashes between 2013 and 2017. In addition, the intersection of Reynolds Drive and Smiths Neck Road had a high number of crashes. There were 25 crashes (4 of which involved injuries) in the vicinity of this unsignalized intersection between 2013 and 2017, with most of these crashes occurring on the southern Smiths Neck Road approach.

  Visibility of the intersection is a problem traveling in the northbound direction on Smiths Neck Road. Of the 25 crashes at the intersection, 10 crashes involved rear end crashes where each vehicle was traveling in the northbound direction. A remedy to improve safety at the intersection of Reynolds Drive and Smiths Neck Road is to construct a northbound left-turn lane on Smiths Neck Road. Currently all legs of the intersection have one-lane approaches with no dedicated turn bays.

  In addition, the visibility of the intersection from the eastbound Reynolds Drive approach is a concern. Of the 25 crashes at the intersection, 7 crashes involved vehicles traveling on Reynolds Drive that did not stop at the intersection. Remedies to improve this visibility issue include additional signage, pavement markings, and lighting.

  Another possible remedy to improve safety at the intersection is to install a roundabout. This would lower speeds through the intersection and improve visibility.

- **Berry Hill Road** – Most of the crashes on Berry Hill Road occurred at the intersection with the Route 10 Bypass. There were nine crashes (only one of which involved an injury) at this unsignalized intersection between 2013 and 2017.

  The causes of crashes at this intersection vary, although five of the nine crashes involved a collision with a tree or other fixed object and eight of the nine crashes occurred in dark conditions. There does not appear to be any issues at the intersection related to visibility or sight distance during daylight hours; however, there is no lighting at the intersection. Improving the lighting at the intersection may improve the safety of the intersection during dark conditions.

The EPDO Rate and Crash Rate on Primary roadways in Isle of Wight County – such as Route 10, US Route 17, US Route 258, and US Route 460 – are lower than many of the less-traveled roadways throughout the county. This is typical, as rural collectors statewide have crash rates that are nearly 3 times higher than the rate on rural principal arterials according to VDOT[7].

Figure 16 shows how the crash rates on Primary roadways in Isle of Wight County compare to statewide crash rates for similar roadways. Most Primary roadway segments in the county have crash rates that are either lower than or near the statewide rate. However, two Primary roadway segments in the county have crash rates that are more than twice the statewide average crash rate. These segments are US Route 258 between Scotts Factory Road and the Route 10 Bypass, and Route 460 between Route 258 and Court Street in the Town of Windsor.

	Segment	Crashes per MVMT	Statewide Crash Rate
10	Suffolk CL to Route 258 (Brewers Neck Blvd)	0.77	0.79
	Route 258 (Brewers Neck Blvd) to S Church St	1.67	2.35
	S Church St to Route 258/Main St	0.85	
	Route 258/Main St to Bus Route 10 N	1.27	1.27
	Bus Route 10 N to Surry CL	1.63	
17	Suffolk CL to Route 258 (Brewers Neck Blvd)	1.75	
	Route 258 (Brewers Neck Blvd) to Smith's Neck Rd	1.37	1.92
	Smith's Neck Rd to West End James River Bridge	1.94	
258	Suffolk CL to Carrsville Hwy (Bus Rte 58)	0.77	
	Carrsville Hwy (Bus Rte 58) to Burdette Rd (Rte 619)	1.27	
	Burdette Rd (Rte 619) to River Run Trail (Rte 614)	0.51	
	River Run Trail (Rte 614) to Route 460	1.05	
	Route 460 to Court St (Rte 610)	1.26	1.27
	Court St (Rte 610) to Iron Mine Springs Rd (Rte 605)	1.56	
	Iron Mine Springs Rd (Rte 605) to Central Hill Rd (Rte 637)	1.06	
	Central Hill Rd (Rte 637) to Scotts Factory Rd (Rte 620)	1.43	
	Scotts Factory Rd (Rte 620) to Route 10 Bypass	**3.45**	
460	Southampton CL to Route 258	0.97	
	Route 258 to Court St	**2.06**	0.79
	Court St to Suffolk CL	1.21	

FIGURE 16 – PRIMARY ROADWAY SEGMENT CRASH RATES IN ISLE OF WIGHT COUNTY, 2013-2017

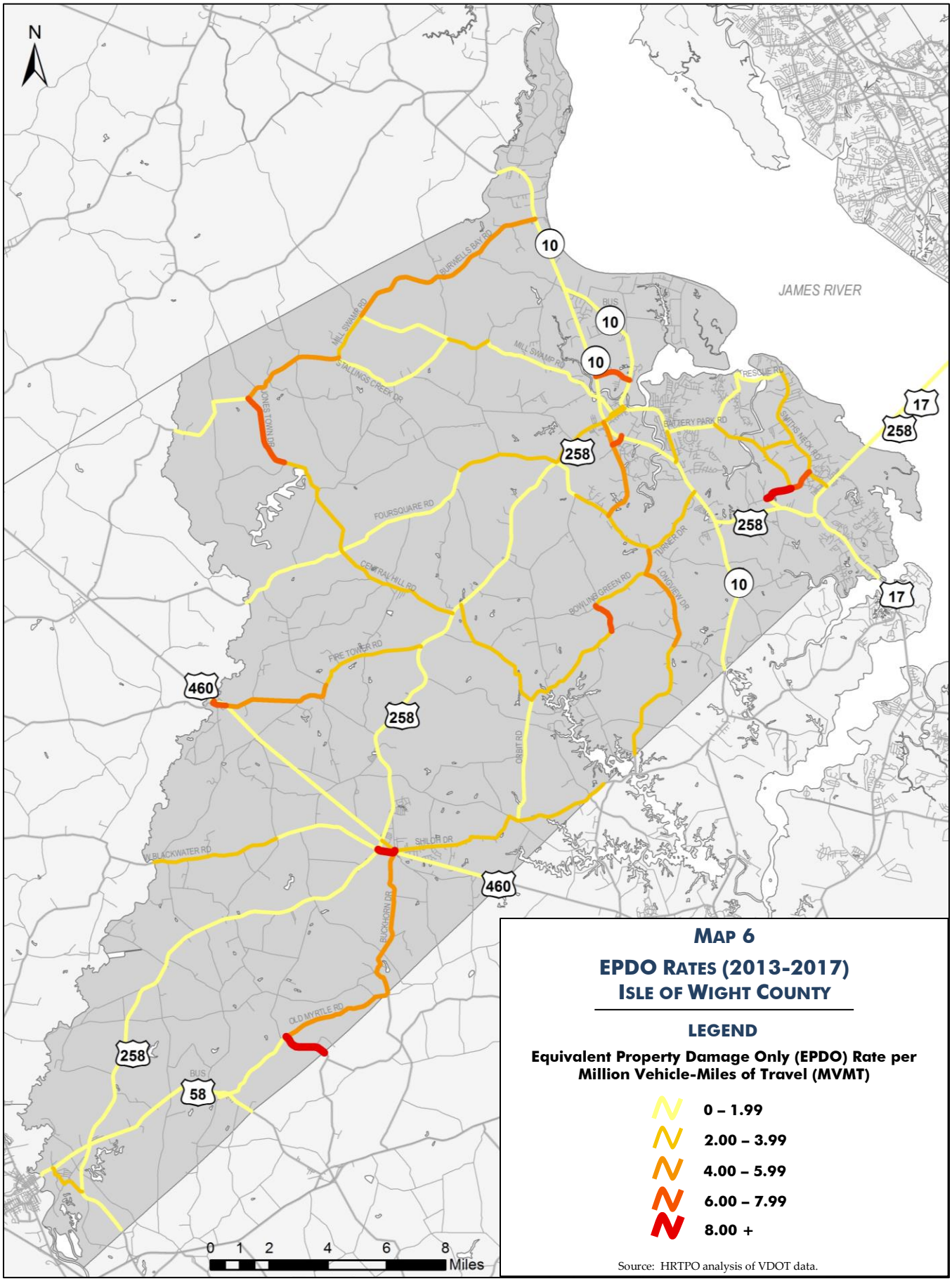
Source: HRTPO analysis of VDOT data.
The statewide crash rate represents the average rate for the same roadway functional classification for the years 2013-2016.

US Route 258 is a two-lane roadway between Scotts Factory Road and just west of Hearn Drive, and is a two-lane roadway with a two-way left-turn lane between Hearn Drive and Route 10 Bypass. The intersection of Route 258 and Scotts Factory Road (Route 620) – which experienced eleven crashes between 2013 and 2017 – was improved in 2017 with new turn lanes, which should reduce the number of rear end collisions at this location. On the two-lane section between Scotts Factory Road and Hearn Drive, there were seven rear end crashes between 2013 and 2017. Most of these collisions could be avoided by extending the two-way left-turn lane beyond Waterworks Road (Route 709).

Route 460 between Route 258 and Court Street in the Town of Windsor is a four-lane, undivided roadway with no turn lanes except at the intersection of Route 258. In addition to no turn lanes, there is little access management on this section of Route 460. Between 2013 and 2017, there were 10 crashes at the intersection of Route 460 and Route 258, 23 crashes at the intersection of Route 460 and Bank Street/Court Street/Church Street, and 17 crashes on Route 460 between these two intersections. Most of the crashes between the two intersections are either rear end crashes involving left-turning vehicles or crashes involving vehicles turning into or out of residential and commercial uses in the corridor.

In the late 2000s and early 2010s there was an $11 million project to add a two-way left-turn lane on this section of Route 460 included in the VDOT Six-Year Improvement Program (SYIP). However, the project was only funded for preliminary engineering and was ultimately removed from the SYIP in 2012.

[7] *2016 Summary of Crash Data*, VDOT, May 2017.



MAP 6
EPDO RATES (2013-2017)
ISLE OF WIGHT COUNTY

LEGEND

Equivalent Property Damage Only (EPDO) Rate per Million Vehicle-Miles of Travel (MVMT)

- 0 – 1.99
- 2.00 – 3.99
- 4.00 – 5.99
- 6.00 – 7.99
- 8.00 +

Source: HRTPO analysis of VDOT data.

Commuting Patterns

The U.S. Census Bureau's American Community Survey (ACS) helps illustrate the degree to which localities are inter-connected by detailing commuting patterns between localities. **Figure 17** illustrates the journeys commuters take to and from Isle of Wight County each day.

Approximately 17,300 residents of Isle of Wight County commuted to work every day in the period between 2009 and 2013, and about 68% of these residents (11,500) commuted outside of County borders to work. The top three destinations residents of Isle of Wight County commuted to are:

- Newport News - 3,439 commuters (29% of commuters outside of County borders)
- Suffolk - 2,117 commuters (18% of commuters outside of County borders)
- Norfolk - 1,174 commuters (10% of commuters outside of County borders)

Similarly, 10,497 residents commuted to locations within Isle of Wight County for work every day during this period and about 45% (4,736) are residents are from other localities. The top three localities where people commute to Isle of Wight County from are:

- Suffolk - 1,063 commuters (22% of commuters from other localities)
- Southampton County - 688 commuters (15% of commuters from other localities)
- Newport News - 567 commuters (12% of commuters from other localities)

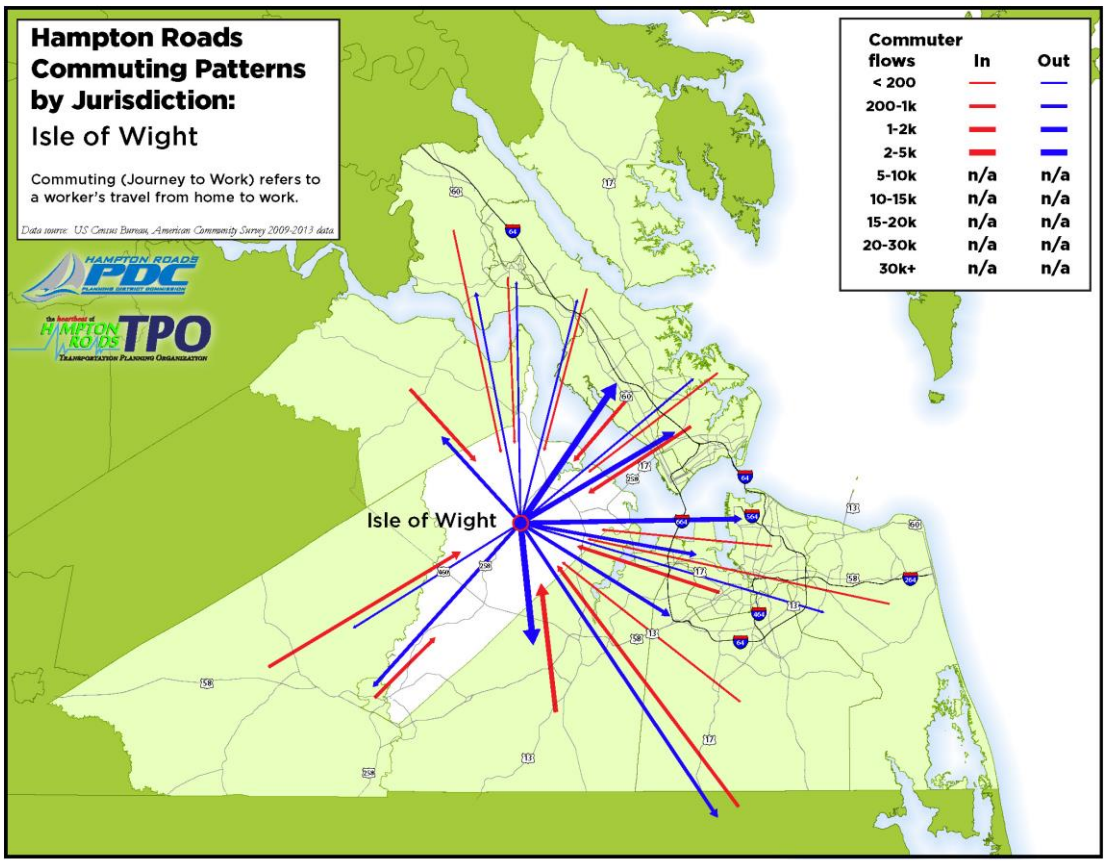
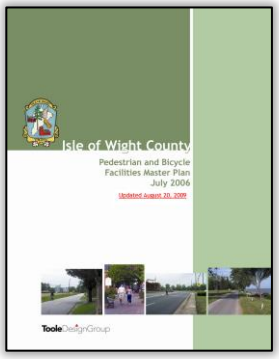


Figure 17 – Isle of Wight Commuting Patterns (2009-2013)
Source: HRTPO analysis of Census Bureau Data.

Bicycle and Pedestrian Facilities

The Isle of Wight Pedestrian and Bicycle Facilities Master Plan was prepared by Toole Design Group, LLC, the Isle of Wight County Pedestrian and Bicycle Facilities Committee, and the Parks and Recreation Department of the County in 2011. The purpose of the Master Plan is to promote an approach for the development of bicycle and pedestrian facilities and ultimately guiding the creation of a network of these facilities in the Isle of Wight County.



According to the Master Plan, the following bicycle and pedestrian facilities are provided in the Isle of Wight County:

- Sidewalks:
  - Both sides on most streets in historic Smithfield, Founder's Pointe, and Windsor Woods.
  - One side on older sections of roadways in the Town of Windsor, Route 10 Business North, and the Gatling Pointe and Eagle Harbor developments.
- Marked Crosswalks: On US Route 258 at the International Paper plant, Route 10 Business at the Smithfield packing plant, the intersection of Route 10 Business and Main Street in Smithfield, the Route 10 Bypass and US Route 258, and South Church Street at Battery Park Road.
- Paved Shoulders: On US Route 17, US Route 258, the Route 10 Bypass, Brewers Neck Road, and on bridges over the Pagan River and Jones Creek.

Map 7 on page 26 shows a network of the existing bicycle and pedestrian routes from the Master Plan.

In addition, planning is underway on a number of regional, statewide, and national bicycle trails that will pass through Isle of Wight County. These trails include the East Coast Greenway, Beaches to Bluegrass Trail, James River Heritage Trail, and Birthplace of America Trail. More information on these trails is included in the Future Conditions section of this report.

Since the Master Plan was prepared, two bicycle and pedestrian facility projects have been completed in Isle of Wight County. Sidewalks were improved on North and South Church Street in Smithfield in 2012. In addition, a sidewalk was constructed in the Town of Windsor along North Court Street and Route 258 up to the Windsor Athletic Association ball fields at Five Forks Road. This project was completed in 2015.

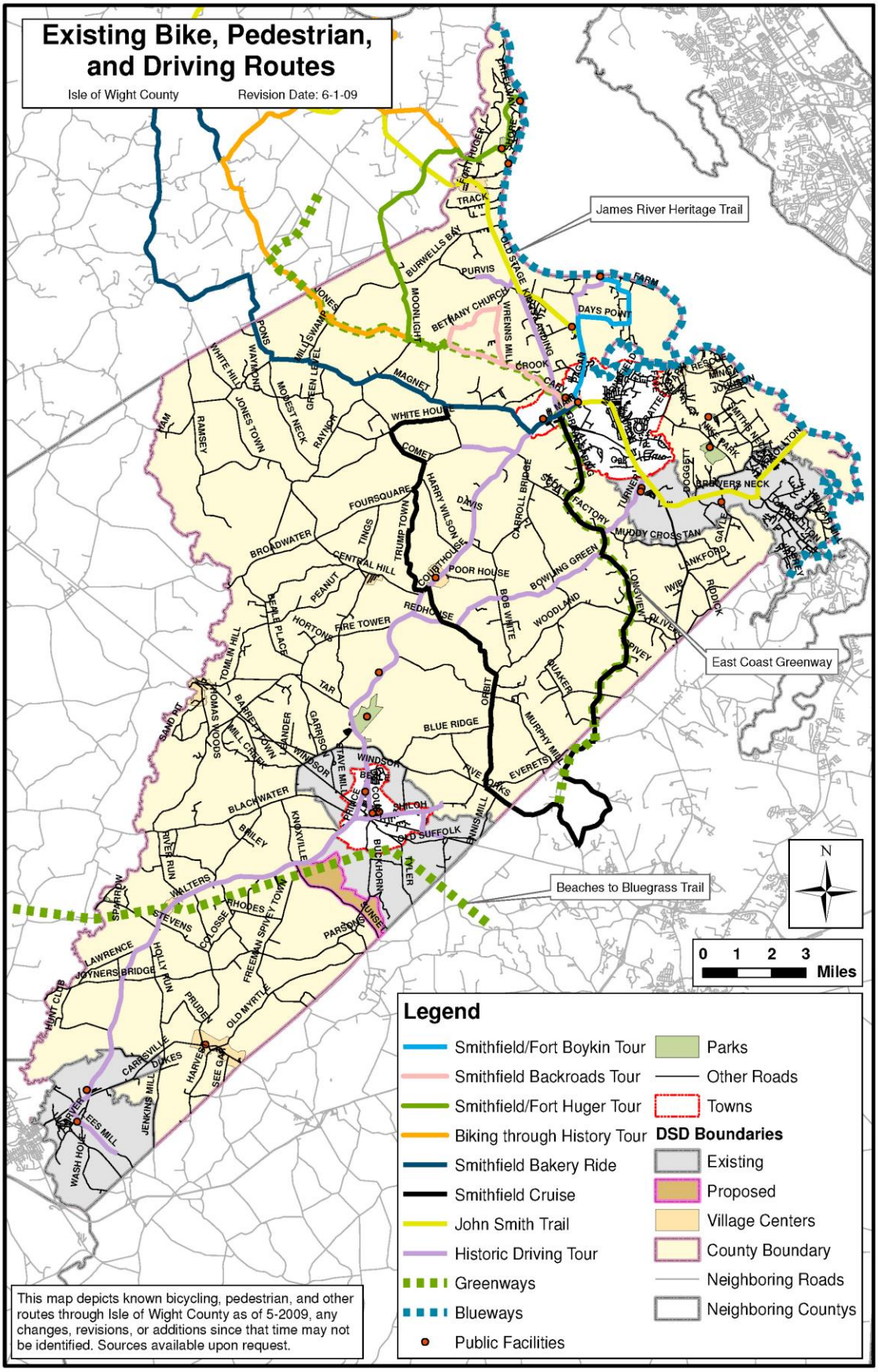
Construction is currently underway on the Nike Park Trail, which will be a four mile multi-use path connecting the Town of Smithfield to Nike Park in Carrollton. This trail is addressed in the Future Conditions section of this report.

The Master Plan pinpointed a number of areas in Isle of Wight County with crosswalk shortages:

- Zuni
- Carrsville
- West Main Street in Smithfield to Little's Supermarket and to Westside Elementary
- Benns Church Boulevard
- Battery Park Road
- US 460 on the east side of Windsor
- US 258 in Windsor

Many intersections were also identified in the Master Plan that are difficult for pedestrians to cross. These intersections typically do not have marked crosswalks and no median refuge areas.

COURT STREET SIDEWALKS IN SMITHFIELD

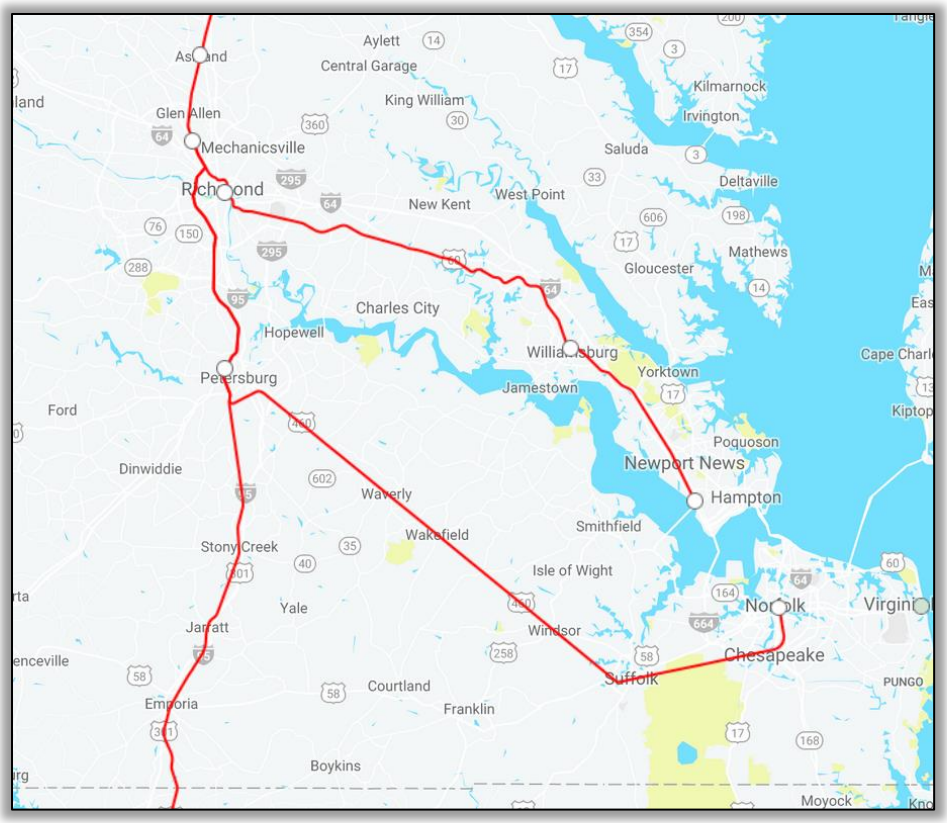


MAP 7 - EXISTING BICYCLE, PEDESTRIAN AND DRIVING ROUTES

Source: Isle of Wight County

Rail

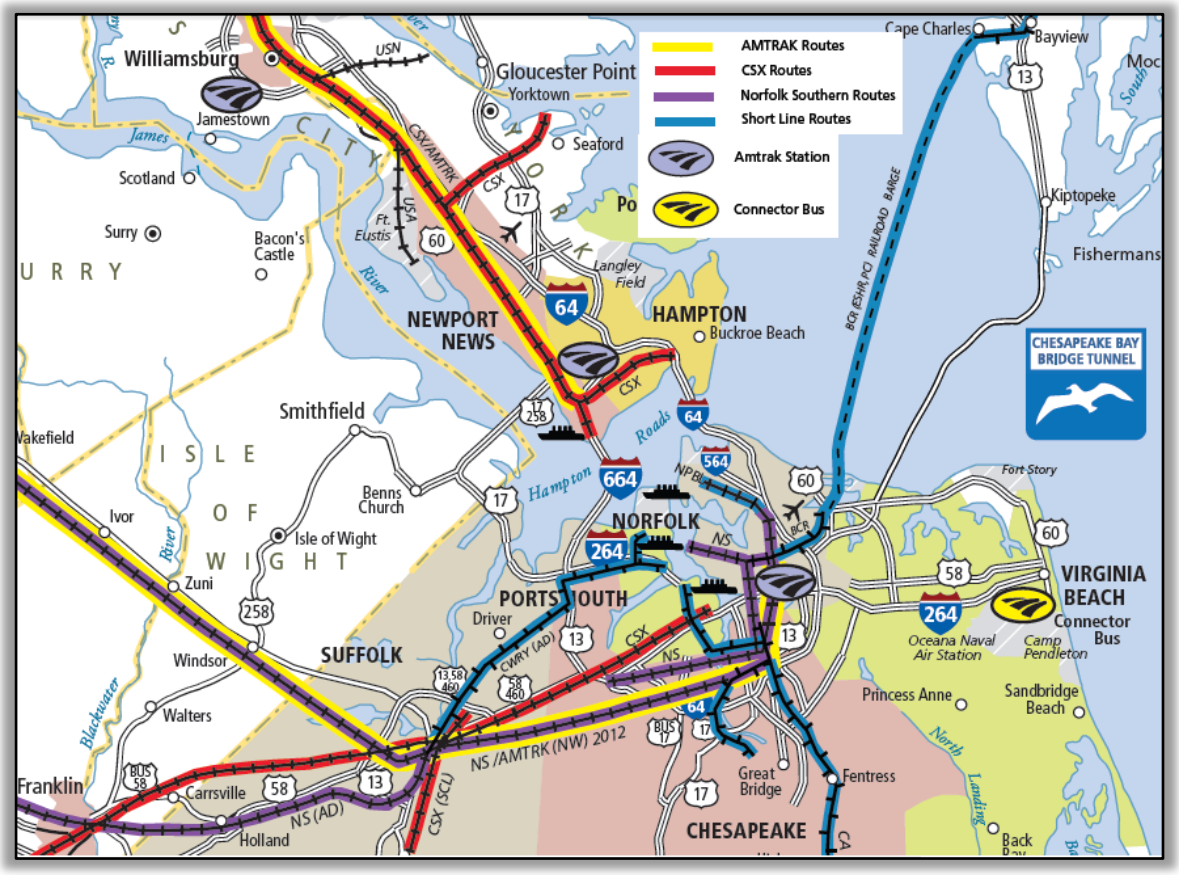
Amtrak provides intercity passenger rail service through Isle of Wight County along the Norfolk Southern corridor between Norfolk and Petersburg (**Map 8**). This service – which was introduced in December 2012 – is part of the Northeast Corridor 3 route, which operates between Boston and Newport News/Norfolk. Although rail service between Norfolk and Petersburg crosses the county, the closest Amtrak passenger station for most County residents is the Newport News station on Warwick Boulevard.



Map 8 – Existing Amtrak Passenger Rail Service Map
Source: www.amtrak.com, April 2018.

Two Class I railroads – CSX Transportation and Norfolk Southern – provide freight rail service to and from destinations outside of the Hampton Roads region. Norfolk Southern has two rail lines along the US Route 460 and US Route 58 corridors (**Maps 9 and 10** on page 28) and offers freight and piggyback service. In rail transport, the practice of carrying trailers or semi-trailers in a train on top of a flatcar is referred to as "piggybacking". CSX Transportation has one rail line through the southern portion of Isle of Wight County along the Carrsville Highway corridor towards I-95/Weldon, NC and provides both freight and piggyback service. Both Norfolk Southern and CSX Transportation serve industrial sites in the county.

US 258 Rail Crossing in Windsor



Map 9 – Railroads in Southeastern Virginia

Source: VDRPT 2013 Virginia Statewide Rail Plan.

Map 10 – Virginia Railroad Network

Source: VDRPT 2012 Virginia State Rail Map.

Bridges

There are 85 bridges[8] in Isle of Wight County. These bridges range from culverts crossing small streams to the 4.5-mile long James River Bridge connecting the county with the Peninsula.

Due to the importance of bridges to the regional transportation system and concerns about the condition and funding of bridges, HRTPO prepares the Hampton Roads Regional Bridge Study on a recurring basis. The following section includes information from the most recent study, which was released in May 2018[9].

Bridge Age

The median age of bridges in Isle of Wight County is 45 years as of December 2017. This is 6 years older than the regional median age of 39 years but is equal to the statewide median age. Among Hampton Roads jurisdictions, Isle of Wight County has the fifth oldest median age, behind Williamsburg (57 years), Surry County (53 years), York County (52 years), and Southampton County (46 years).

Figure 18 shows the bridges in Isle of Wight County by year built. Among the existing 85 bridges, the decade when the largest number of bridges were constructed in Isle of Wight County is the 1950s, with 19 bridges. The next largest number were constructed in the 1990s (14 bridges) and the 1970s (13 bridges).

Structurally Deficient Bridges

A bridge is classified as structurally deficient if it has elements that need to be monitored and/or repaired. Structurally deficient bridges typically require maintenance and eventually need to be rehabilitated or replaced to address deficiencies.

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

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

- Deck Condition Rating ≤ 4
- Superstructure Condition Rating ≤ 4
- Substructure Condition Rating ≤ 4
- Culvert Condition Rating ≤ 4

The Structural Condition and Waterway Adequacy Ratings were previously included in determining whether bridges were classified as structurally deficient. However, as of January 2018, the

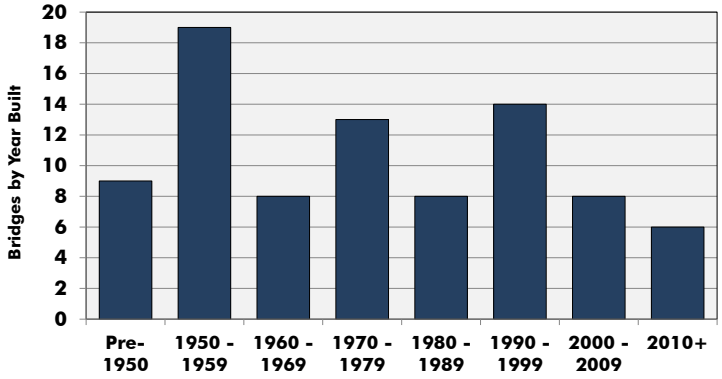


Figure 18 – Bridges in Isle of Wight County by Year Built
Source: HRTPO analysis of VDOT data.

[8] The definition of a "bridge" used in this analysis is based on the National Bridge Inspection Standards (NBIS). The bridge must be located on a roadway open to the general public, be more than 20 feet in length, and must carry a roadway.

[9] *Hampton Roads Regional Bridge Study – 2018 Update*, HRTPO, May 2018.

Structural Condition Rating and Waterway Adequacy Rating are no longer used in this determination.

There are eight bridges in Isle of Wight County that are classified as structurally deficient as of January 2018, which comprises 9.4% of the bridges in the county. These bridges are shown in **Figure 19** and in **Map 11** on page 32. By comparison, 4.8% of the bridges in Hampton Roads and 4.9% of the bridges in the Commonwealth are structurally deficient as of January 2018.

Federal Bridge #	Facility	Crossing	Year Built
10441	Dews Plantation Road (Rte 683)	Stallings Creek	1954
10442	Ennis Mill Road (Rte 690)	Ennis Pond	1961
10424	Fire Tower Road (Rte 644)	Pope Swamp	1948
10394	Jenkins Mill Road (Rte 615)	Kingsale Swamp	1964
10417	Mill Creek Road (Rte 638)	Burnt Mill Swamp	1951
10416	Orbit Road (Rte 637)	Carbell Swamp	1972
22615	South Church Street (Rte 10)	Cypress Creek	1975
10445	Uzzell Church Road (Rte 692)	Champion Swamp	1951

FIGURE 19 – STRUCTURALLY DEFICIENT BRIDGES IN ISLE OF WIGHT COUNTY

Source: HRTPO analysis of VDOT data. Data as of January 2018.

Functionally Obsolete Bridges

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

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

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

By rule, any structure that is classified as structurally deficient cannot also be classified as functionally obsolete. Structures that have ratings that would qualify the bridge to be classified as both structurally deficient and functionally obsolete are classified as structurally deficient.

There are 24 bridges in Isle of Wight County that are classified as functionally obsolete as of January 2018, which comprises 28% of the bridges in the county. These bridges are shown in **Figure 20** and in **Map 11** on page 32.

Federal Bridge #	Facility	Crossing	Year Built
10419	Barrett Town Road (Rte 641)	Antioch Swamp	1955
10420	Bows & Arrows Road (Rte 641)	Ducks Swamp	1952
26218	Butler Farm Road (Rte 691)	Beaverdam Swamp	1999
10431	Carroll Bridge Road (Rte 654)	Champion Swamp	1966
29863	Carrsville Hwy (Bus Rte 58)	Old Myrtle Road & CSX R/R	2017
10421	Colosse Road (Rte 641)	Corrowaugh Swamp	1955
10440	Comet Road (Rte 681)	Comet Swamp	1955
10389	Freeman Drive (Rte 612)	Corrowaugh Swamp	1954
10427	Garrison Drive (Rte 646)	Burnt Mill Swamp	1945
10422	Harvest Drive (Rte 641)	Kingsale Swamp	1955
10443	Jamestown Lane (Rte 691)	Csx Railroad	1938
10413	Jones Town Drive (Rte 637)	Br. Rattlesnake Swamp	1945
10382	Longview Drive (Rte 602)	Chuckatuck Creek	1951
10403	Mill Swamp Road (Rte 621)	Mill Swamp	1952
10407	Mill Swamp Road (Rte 626)	Mount Holly Creek	1957
10406	Mill Swamp Road (Rte 626)	Stallings Creek	1945
10435	Nike Park Road (Rte 669)	Jones Creek	1961
10411	Old Myrtle Road (Rte 632)	Stream	1953
10429	Pope Swamp Trail (Rte 647)	Pope Swamp	1952
27434	Rescue Road (Rte 704)	Stream	2004
10398	Scotts Factory Road (Rte 620)	Champion Swamp	1976
10384	Shiloh Drive (Rte 603)	Ennis Pond	1955
10434	Titus Creek Drive (Rte 668)	Titus Creek	1966
10436	Wrenns Mill Road (Rte 677)	Wrenns Mill Spillway	1946

FIGURE 20 – FUNCTIONALLY OBSOLETE BRIDGES IN ISLE OF WIGHT COUNTY

Source: HRTPO analysis of VDOT data. Data as of January 2018.

Federal Bridge Performance Measures

Recent federal legislation established that states and Metropolitan Planning Organizations (MPOs) will be required to prepare and use a set of federally-established performance measures and set targets in a number of areas, including the condition of bridges.

As part of this legislation, each bridge must be classified as being in good, fair, or poor condition. This is determined using the deck, superstructure, and substructure ratings, which are all rated from 0 to 9, with 9 representing a component in excellent condition and 0 representing a failed condition or a closed bridge. For culverts, a single rating is given to assess the general condition of the entire culvert.

The lowest of these three condition ratings (or the culvert condition rating) is the rating used to determine whether the bridge is in good, fair, or poor condition. If the lowest condition rating is ≥ 7, the bridge is considered to be in good condition. If the lowest condition rating is 5 or 6, the bridge is in fair condition. Those bridges with the lowest condition rating ≤ 4 are considered to be in poor condition.

Using the federal standards, 30 bridges (35%) in Isle of Wight County are in good condition, 47 bridges (55%) are in fair condition, and 8 bridges (9%) are in poor condition as of January 2018. By comparison, 30% of bridges in Hampton Roads and 35% of bridges in Virginia are in good condition, and 5% of bridges in both Hampton Roads and in Virginia are in poor condition

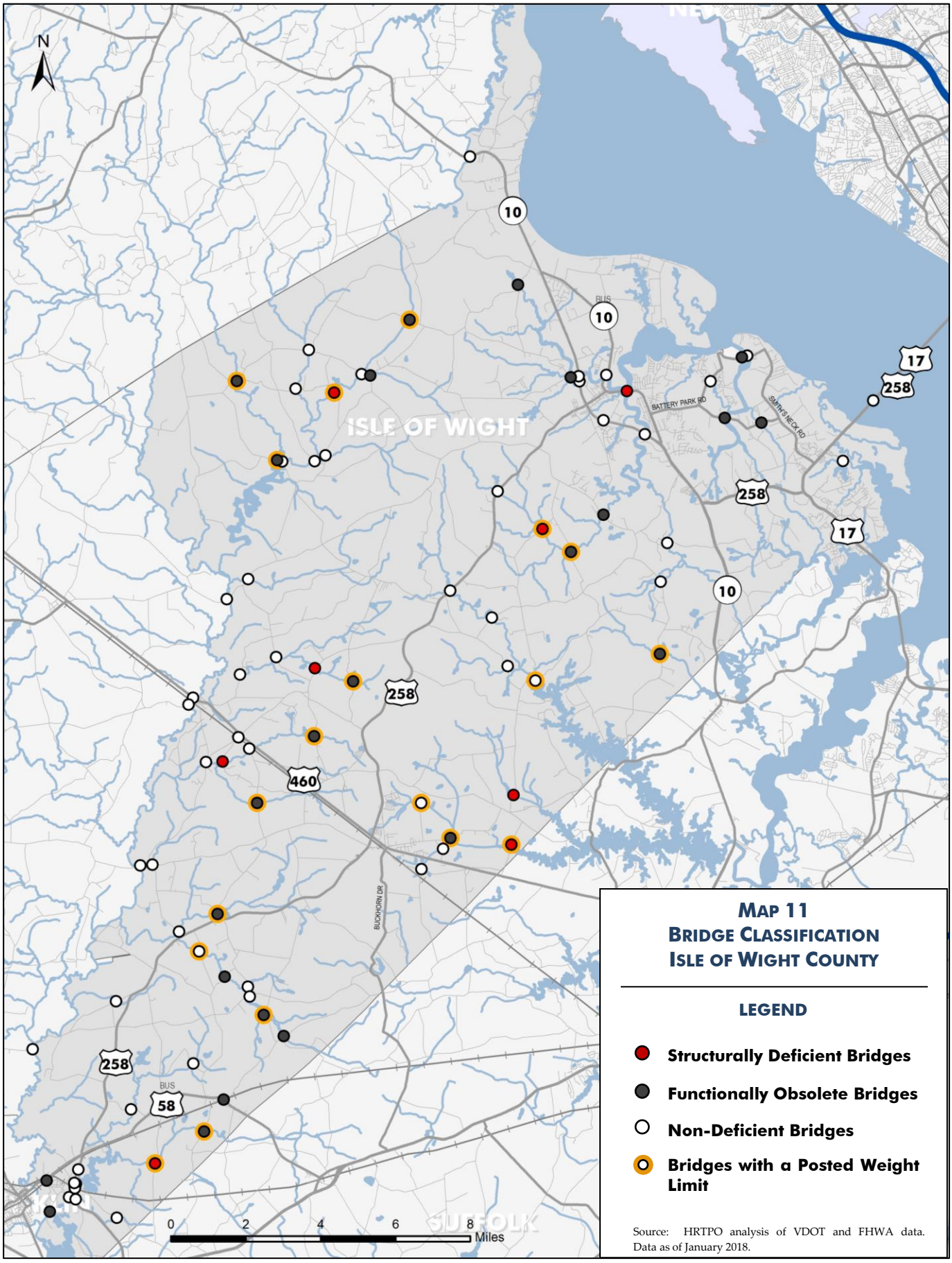
Map 12 on page 33 shows those bridges in good, fair, and poor condition in Isle of Wight County as of January 2018.

Recent Bridge Projects

There have been nine bridges replaced or rehabilitated in Isle of Wight County since 2008. These bridges are shown in **Figure 21**. The largest of these bridge replacement projects is the Carrsville Highway Bridge over Old Myrtle Road and the CSX Railroad, at a cost of $6.7 million. After 18 months of construction, the new Carrsville Highway Bridge was opened to vehicular traffic on August 31, 2017.

Federal Bridge #	Facility	Type	Opening Date
29863	Carrsville Highway (Bus Rte 58) over Route 632 & CSX R/R	Replacement	2017
10421	Collosse Road (Rte 641) over Corrowaugh Swamp	Rehabilitation	2017
10414	Jones Town Drive (Rte 637) Bridge over Rattlesnake Swamp	Rehabilitation	2016
10409	Lawrence Drive (Rte 630) over Stream	Rehabilitation	2016
29858	Longview Drive (Rte 602) over Pagan Creek	Replacement	2015
29859	Mill Swamp Road (Rte 621) over Passenger Swamp	Replacement	2016
29856	Orbit Road (Rte 637) over Nuby Run	Replacement	2014
30284	Stallings Creek Rd (Rte 680) over Stallings Creek	Replacement	2016
29488	Whippingham Pkwy (Rte 662) over Ragged Island Creek	Replacement	2017

FIGURE 21 – BRIDGES REHABILITATED OR REPLACED IN ISLE OF WIGHT COUNTY, 2008-2018
Source: HRTPO analysis of VDOT data.

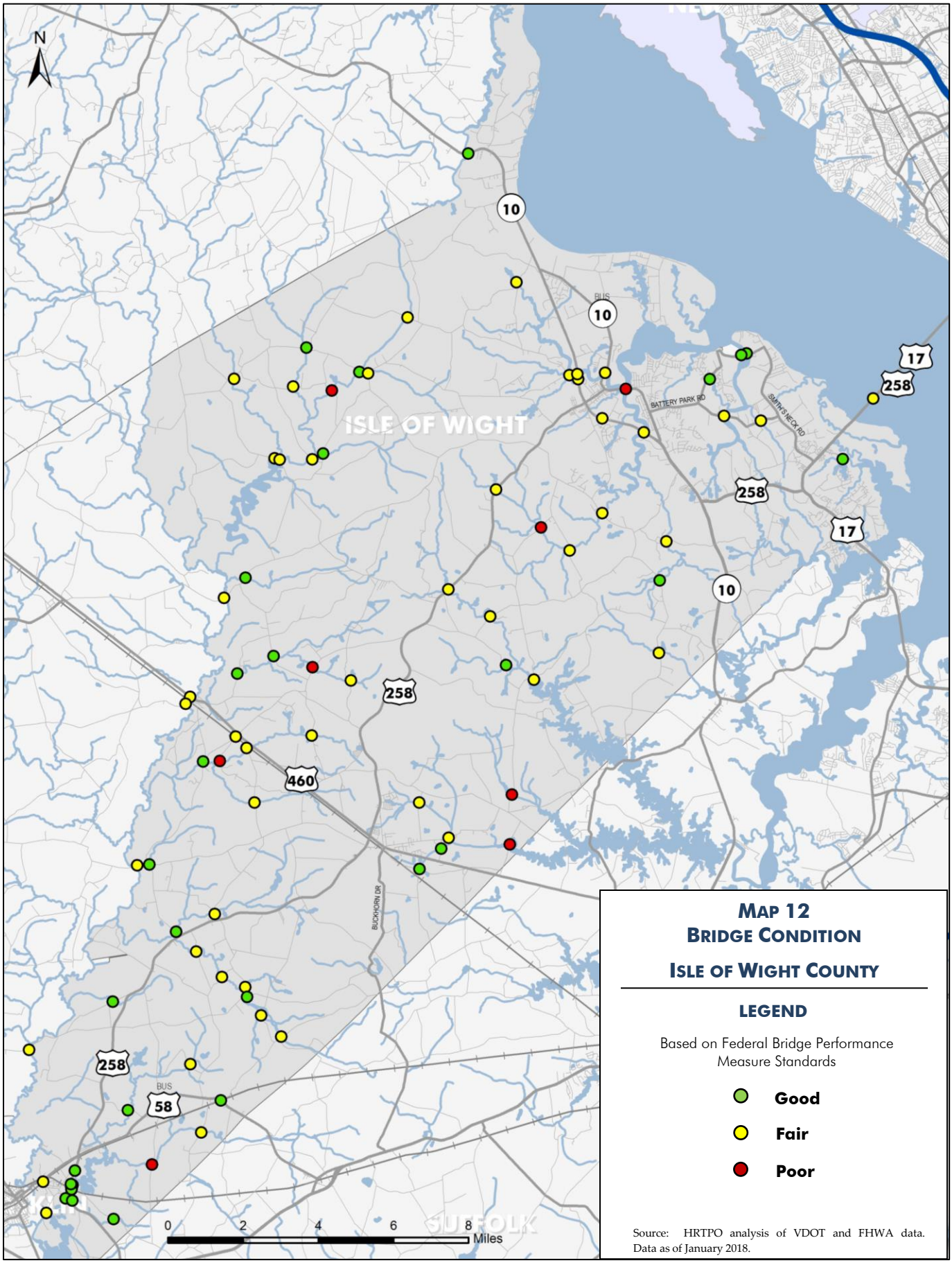


Map 11
Bridge Classification
Isle of Wight County

LEGEND

- Structurally Deficient Bridges
- Functionally Obsolete Bridges
- Non-Deficient Bridges
- Bridges with a Posted Weight Limit

Source: HRTPO analysis of VDOT and FHWA data. Data as of January 2018.



Map 12
Bridge Condition
Isle of Wight County

LEGEND

Based on Federal Bridge Performance Measure Standards

- Good
- Fair
- Poor

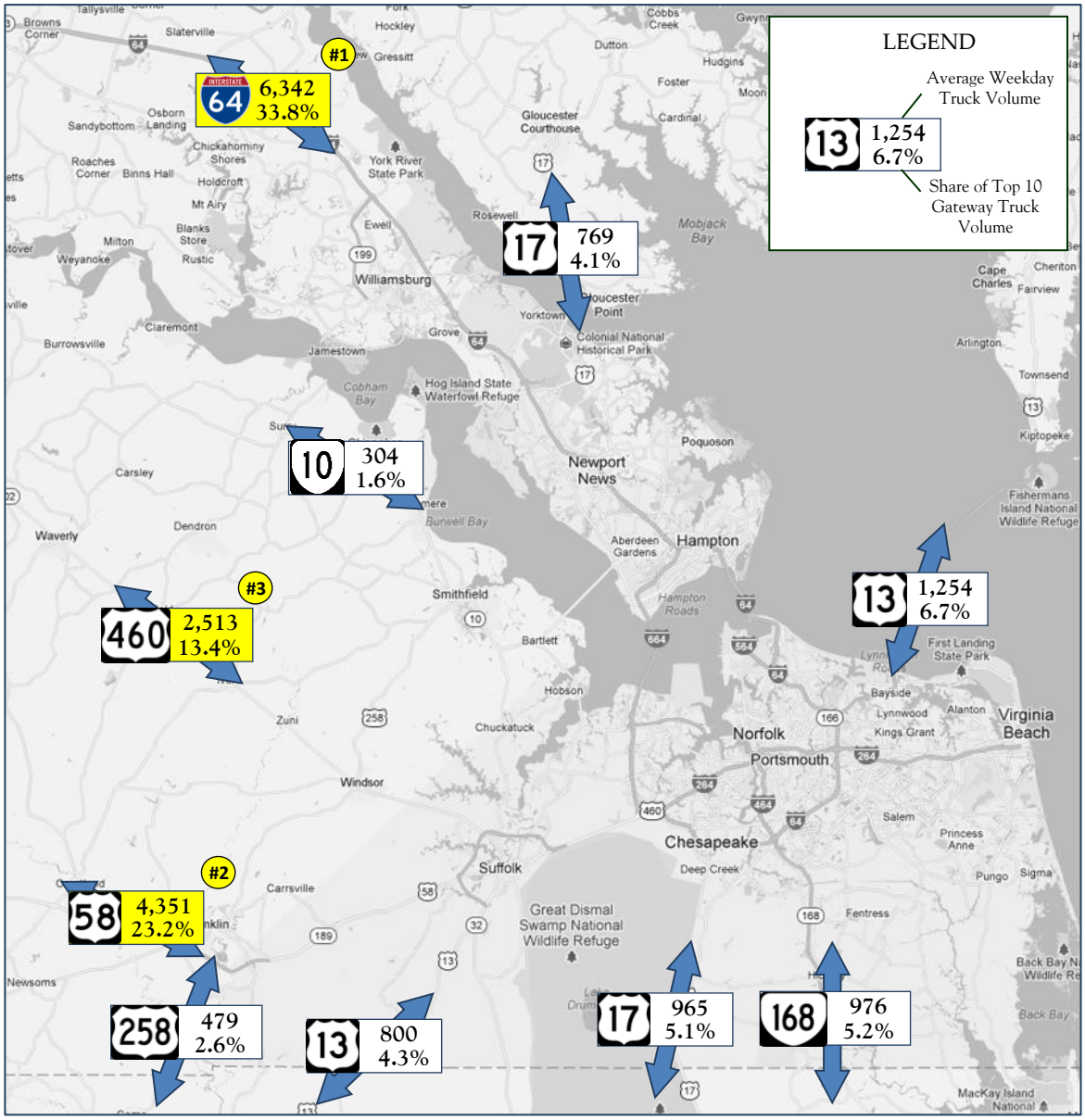
Source: HRTPO analysis of VDOT and FHWA data. Data as of January 2018.

Freight

Freight transportation influences every aspect of our daily lives and keeps our businesses and industries competitive in the local, state, and global economy. Hampton Roads is a multimodal region that includes ports, airports, rail, private trucking, shipping and warehouse distribution facilities, as well as a network of road and rail corridors for the delivery of freight, goods, and services. Isle of Wight County is a critical part of the freight community, serving as a gateway to the region and housing a number of distribution facilities and industrial sites. Since the predominant mover of freight is by trucks across highways for both Hampton Roads and Isle of Wight County, the focus of this section is on truck movements.

Truck Movements through Regional Gateways

Within the HRTPO's Regional Freight Study[10], an analysis was completed that showed the Top 10 regional gateways for trucks each weekday. **Map 13**



Map 13 – Number and Share of Trucks Passing Through the Top 10 Regional Gateways Each Weekday, 2017

Source: HRTPO analysis of VDOT and CBBT data. Background map source: Google.

[10] *Hampton Roads Regional Freight Study: 2017 Update*, HRTPO, July 2017.

provides an updated version for the year 2017. The top gateways for trucks entering and exiting Hampton Roads is I-64, Route 58, and – most importantly to Isle of Wight County – Route 460. Route 460 through Isle of Wight County has experienced a significant increase in truck volumes over the last decade, particularly over the last three years. A total of 2,513 trucks used the Route 460 gateway (the VDOT count station is located to the west of Isle of Wight County near Ivor) in 2017, up from 1,927 trucks in 2012. **Figure 22** shows how the average weekday truck volume for the Route 460 gateway has increased in recent years.

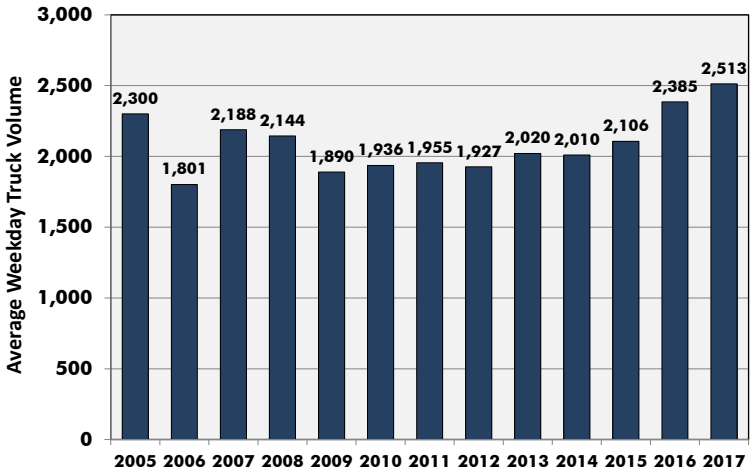


FIGURE 22 – ROUTE 460 AVERAGE WEEKDAY TRUCK VOLUMES, 2005 - 2017
Source: HRTPO analysis of VDOT data.

Combined, I-64, Route 58, and Route 460 accounted for 70% of all trucks passing through the region's major gateways in 2017. This is up from 67% in 2006 (**Figure 23**). However, the share of trucks using these three gateways has been shifting over the last decade from I-64 towards Routes 58 and 460. More trucks now use the combination of Routes 58/460 to enter or exit the region than use I-64.

Daily Truck Movements

Figure 24 on page 36 shows the 2017 existing weekday truck volumes and daily percentages for roadways within Isle of Wight County. **Maps 14 and 15** on pages 37 and 38 provide a geographic depiction of the 2017 existing weekday truck volumes and percentages within the county.

Route 460 carries the highest truck volumes in Isle of Wight County, ranging from 2,412 trucks each weekday near the Southampton County line to 3,748 trucks each weekday near the City of Suffolk line.

Benns Church Boulevard (Routes 10/258) carries the second highest weekday truck volumes with 1,532 to 1,682 trucks each weekday between Brewers Neck Boulevard and South Church Street. Brewers Neck Boulevard (Route 258) between Benns Church Boulevard and Route 17 carries the third highest volumes at 1,098 trucks each weekday.

Route 258 between the Suffolk line and Carrsville Highway has the highest percentage of trucks for the 2017 existing during each weekday, ranging between 32% and 35%. The second highest truck percentage location during a typical weekday is Route 460 at 24%. The third highest roadway segment is Route 258 between Carrsville Highway and River Run Trail carrying 10% trucks each weekday. Route 10 (Old Stage Highway) between Business Route 10 and the Surry County line carries 8% trucks each weekday.

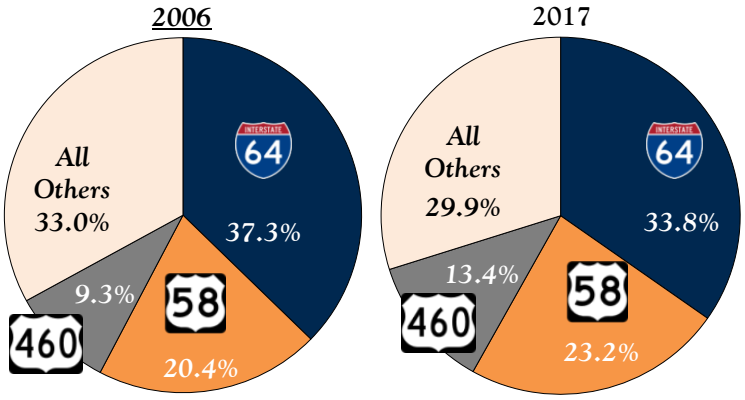
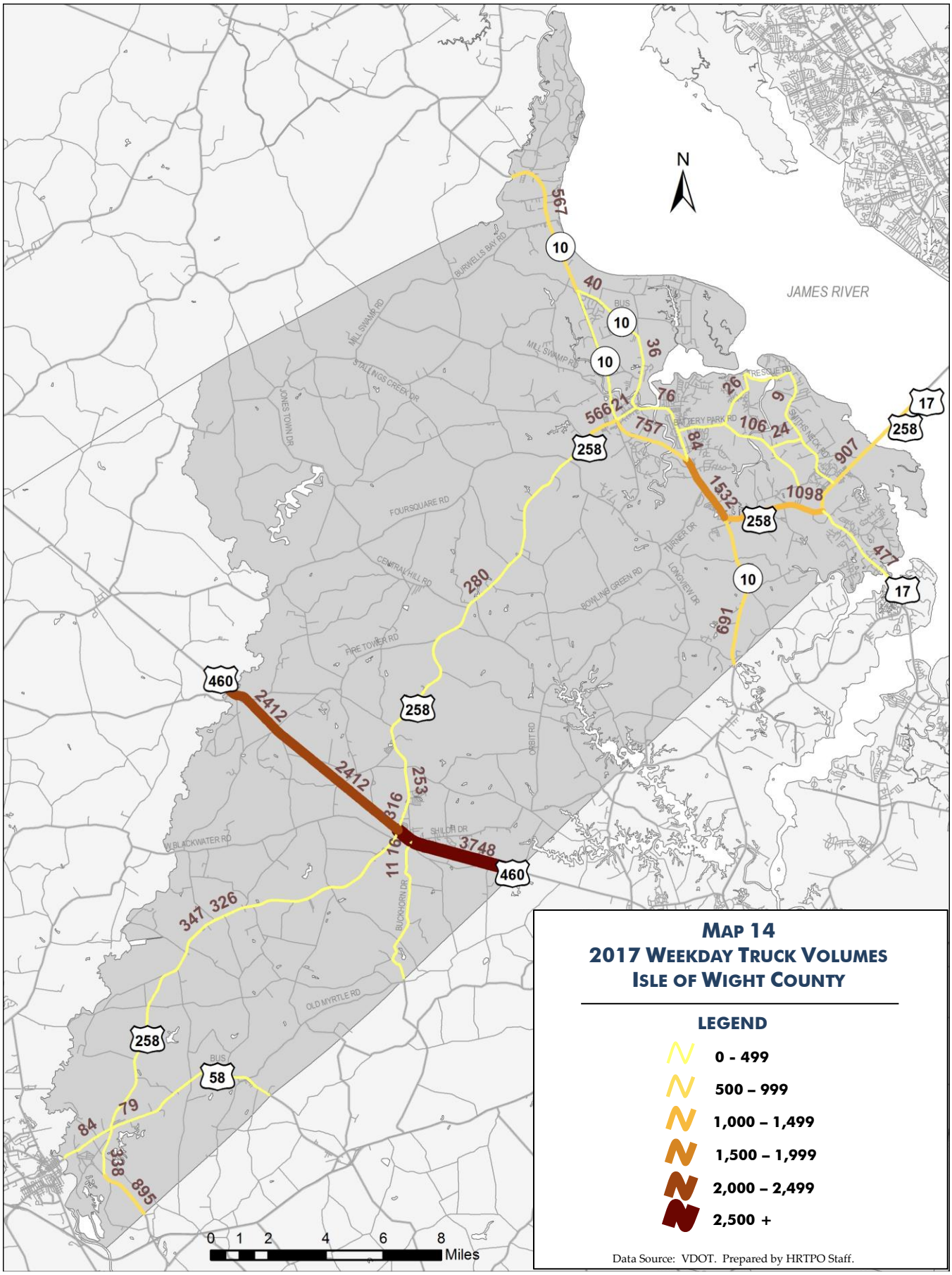


FIGURE 23 – SHARE OF TRUCKS PASSING THROUGH REGIONAL GATEWAYS EACH WEEKDAY, 2006 AND 2017
Source: HRTPO analysis of VDOT and CBBT data.

Route Num	Facility	Segment From	Segment To	2017 Existing Weekday Trucks	2017 Existing Weekday Truck %
704	Battery Park Rd	S Church St	Nike Park Rd	150	1.4%
704	Battery Park Rd	Nike Park Rd	Country Way	26	0.7%
10	Benns Church Blvd	Suffolk CL	Riddick Rd	691	6.0%
10	Benns Church Blvd	Riddick Rd	Brewers Neck Blvd	691	6.0%
258	Benns Church Blvd	Brewers Neck Blvd	Turner Dr (Rte 644)	1,532	6.0%
10	Benns Church Blvd	Turner Dr (Rte 644)	Church St S	1,682	6.0%
258	Brewers Neck Blvd	Benns Church Blvd	Norsworthy Dr (Rte 670)	1,098	4.3%
258	Brewers Neck Blvd	Norsworthy Dr (Rte 670)	Route 17	1,098	4.3%
610	Buckhorn Dr	Suffolk CL	Sunset Dr (Rte 609)	11	2.2%
610	Buckhorn Dr	Sunset Dr (Rte 609)	SCL Windsor	11	2.2%
10	Bus Rte 10	NCL Smithfield	Jenkins Lane	36	0.6%
10	Bus Rte 10	Jenkins Lane	Route 10 Bypass	40	2.6%
58	Bus Rte 58/Bus Rte 258	Franklin CL	Jamestown Ln (Rte 691)	84	1.2%
58	Bus Rte 58/Bus Rte 258	Jamestown Ln (Rte 691)	Route 258	84	1.2%
58	Bus Rte 58	Route 258	Suffolk CL	79	3.4%
17	Carrollton Blvd	Suffolk CL	West End Chuckatuck Bridge	477	2.9%
17	Carrollton Blvd	West End Chuckatuck Bridge	Route 258	477	2.9%
17	Carrollton Blvd	Route 258	Smith's Neck Rd	907	2.9%
17	Carrollton Blvd/James River Bridge	Smith's Neck Rd	West End James River Bridge	907	2.9%
10	Church St S	Route 10 Bypass	Battery Park Rd	84	0.6%
10	Church St S	Battery Park Rd	Cypress Creek Bridge	76	0.6%
10	Church St S	Cypress Creek Bridge	Main St	75	0.6%
10	Church St N	Main St	Smithfield CL	36	0.6%
610	Court St	SCL Windsor/Buckhorn Dr	Route 460	16	2.2%
258	Main St	Route 10 Bypass	Church St	21	0.6%
669	Nike Park Rd	Battery Park Rd	Titus Creek Dr	106	1.1%
704	Rescue Rd	Newport St	Smith's Neck Rd	7	0.7%
10	Route 10 (Old Stage Hwy)	Bus Rte 10	Surry CL	567	8.1%
10	Route 10 Bypass	Church St S	Fairway Dr	757	4.1%
10	Route 10 Bypass	Fairway Dr	Main St	757	4.1%
10	Route 10 Bypass	Main St	NCL Smithfield	369	3.6%
10	Route 10 Bypass	NCL Smithfield	Bus Route 10	264	3.6%
258	Route 258	Suffolk CL	Union Camp Dr (Rte 656)	895	34.7%
258	Route 258	Union Camp Dr (Rte 656)	Carrsville Hwy (Bus Rte 58)	338	32.0%
258	Route 258	Carrsville Hwy (Bus Rte 58)	Burdette Rd (Rte 619)	347	10.0%
258	Route 258	Burdette Rd (WRte 619)	River Run Trail (Rte 614)	347	10.0%
258	Route 258	River Run Trail (Rte 614)	Blackwater Rd (Rte 603)	326	6.2%
258	Route 258	Blackwater Rd (Rte 603)	WCL Windsor	325	6.2%
258	Route 258	WCL Windsor	Route 460	325	6.2%
258	Route 258	Route 460	ECL Windsor	316	5.6%
258	Route 258	ECL Windsor	Court St North (Rte 610)	316	5.6%
258	Route 258	Court St North (Rte 610)	Iron Mine Springs Rd (Rte 605)	253	5.6%
258	Route 258	Iron Mine Springs Rd (Rte 605)	Central Hill Rd (Rte 637)	253	5.6%
258	Route 258	Central Hill Rd (Rte 637)	Scotts Factory Rd (Rte 620)	280	5.6%
258	Route 258	Scotts Factory Rd (Rte 620)	WCL Smithfield	496	5.1%
258	Route 258/N Main St	WCL Smithfield	Route 10 Bypass	566	4.4%
460	Route 460	Southampton CL	Firetower Rd (Rte 644)	2,412	24.0%
460	Route 460	Firetower Rd (Rte 644)	WCL Windsor	2,412	24.0%
460	Route 460	WCL Windsor	Route 258	2,412	24.0%
460	Route 460	Route 258	Court St (Rte 610)	3,684	24.0%
460	Route 460	Court St (Rte 610)	ECL Windsor	3,748	24.0%
460	Route 460	ECL Windsor	Suffolk CL	3,748	24.0%
669	Smith's Neck Rd	Carrollton Blvd	Reynolds Dr	63	0.5%
665	Smith's Neck Rd	Reynolds Dr	Titus Creek Dr	48	0.5%
665	Smith's Neck Rd	Titus Creek Dr	Rescue Rd	9	0.5%
668	Titus Creek Dr	Smith's Neck Rd	Nike Park Rd	24	0.3%
704	Todd Ave/Warwick St	Country Way	Newport St	7	0.7%

FIGURE 24 – WEEKDAY TRUCK VOLUMES AND PERCENTAGES BY ROADWAY SEGMENT IN ISLE OF WIGHT COUNTY, 2017

Source: HRTPO analysis of VDOT data.

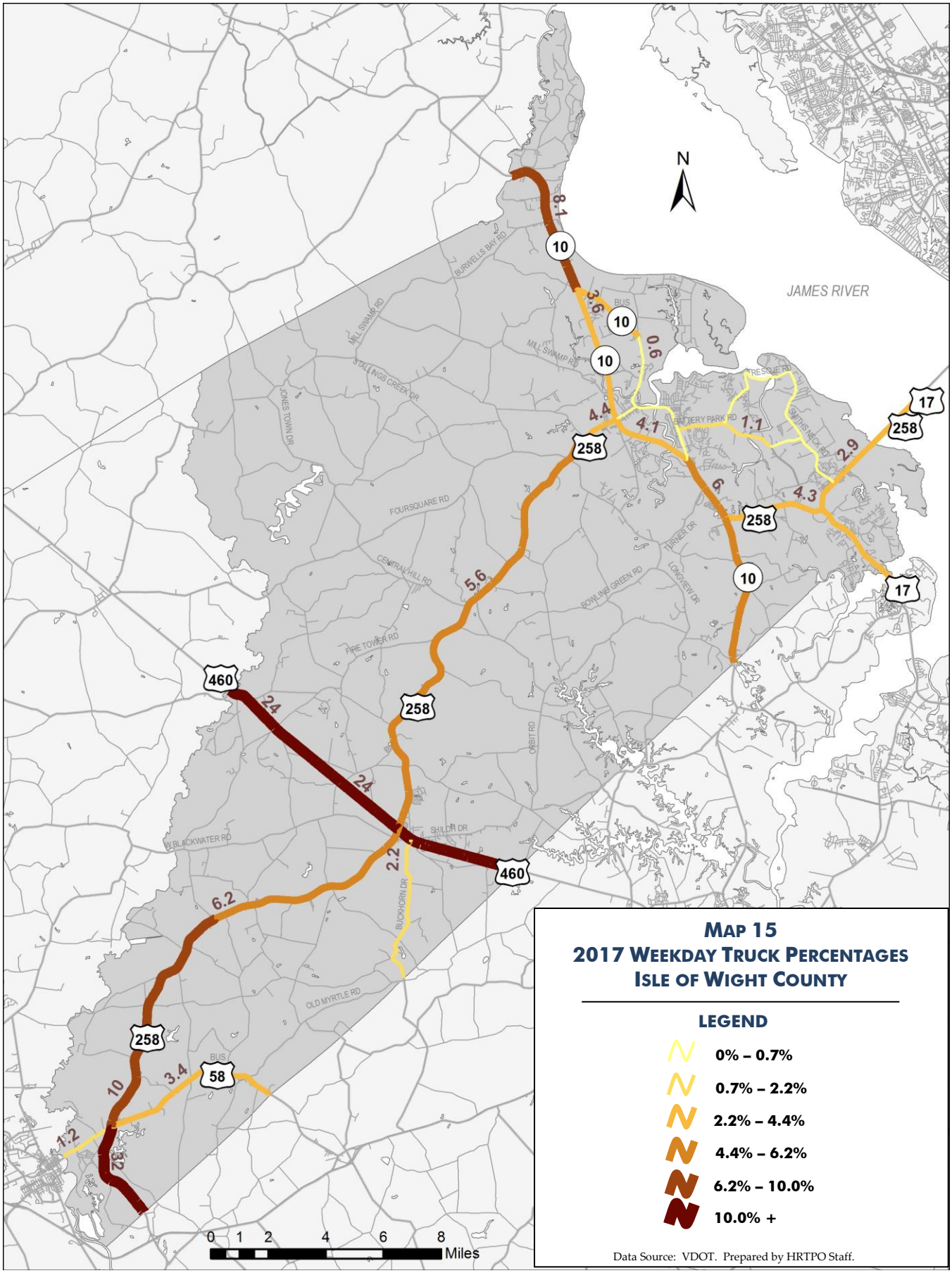


Map 14
2017 Weekday Truck Volumes
Isle of Wight County

LEGEND

- 0 - 499
- 500 – 999
- 1,000 – 1,499
- 1,500 – 1,999
- 2,000 – 2,499
- 2,500 +

Data Source: VDOT. Prepared by HRTPO Staff.



Map 15
2017 Weekday Truck Percentages
Isle of Wight County

LEGEND

- 0% – 0.7%
- 0.7% – 2.2%
- 2.2% – 4.4%
- 4.4% – 6.2%
- 6.2% – 10.0%
- 10.0% +

Data Source: VDOT. Prepared by HRTPO Staff.

Highway Gateways Used by Port Trucks

The HRTPO's Highway Gateways Used by Port Trucks Study[11] shows which highway routes are primarily used by port-related trucks. For this analysis, HRTPO staff analyzed StreetLight origin-destination data, which utilizes location-based services data and GPS-based fleet management data for truck travel. StreetLight was used to determine the highways used by trucks from Port-Related Distribution Centers.

Figure 25 shows the average weekday share of trucks passing through regional highway gateways from Port-Related Distribution Centers in Hampton Roads. This analysis shows that I-64 on the Peninsula is the primary gateway (57%) followed by US Route 460 (18%) and US Route 58 (16%).

Figure 26 shows the average weekday share of trucks passing through regional highway gateways from Port-Related Distribution Centers on the Southside. This anlaysis shows that US Route 460 (39%) and US Route 58 (34%) are the primary gateways for trucks.

Figure 27 on page 40 compares the average weekday share of all trucks versus port-related trucks passing through regional highway gateways in Hampton Roads. I-64 on the Peninsula and US Route 460 appear to be even more important to port-related trucks than they are to all trucks. This finding highlights the importance of US Route 460 through Isle of Wight County as a major regional gateway for port-related truck traffic.

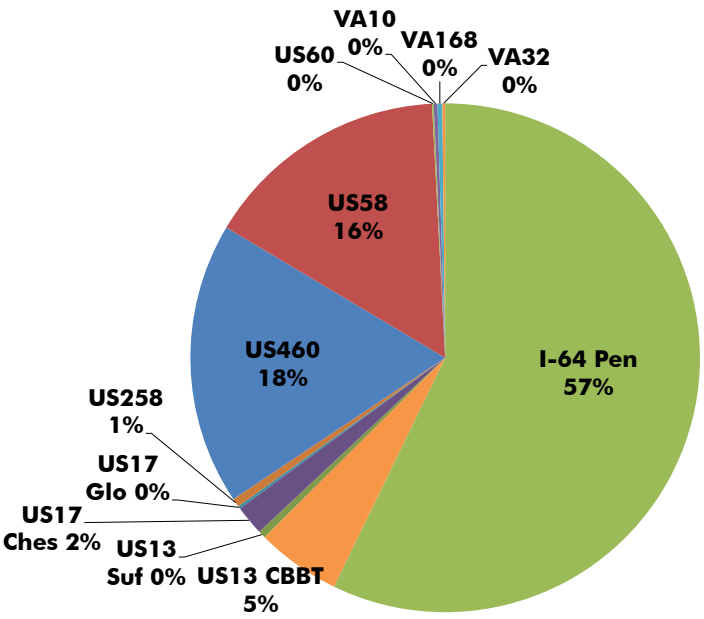


FIGURE 25 – TRUCK USAGE OF GATEWAYS BY HAMPTON ROADS PORT-RELATED DISTRIBUTION CENTERS, JULY 2016-JUNE 2017

Source: HRTPO analysis of StreetLight data.

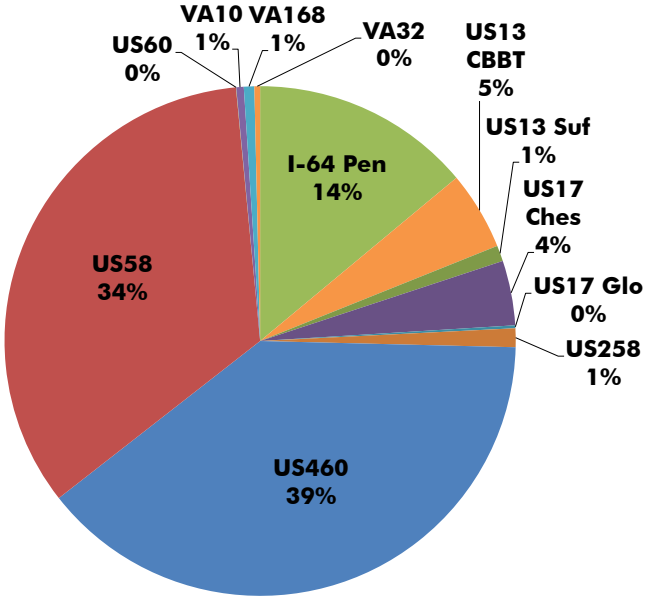


FIGURE 26 – TRUCK USAGE OF GATEWAYS BY *SOUTHSIDE* PORT-RELATED DISTRIBUTION CENTERS, JULY 2016-JUNE 2017

Source: HRTPO analysis of StreetLight data.

[11] *Highway Gateways Used by Port Trucks*, HRTPO, March 2018.

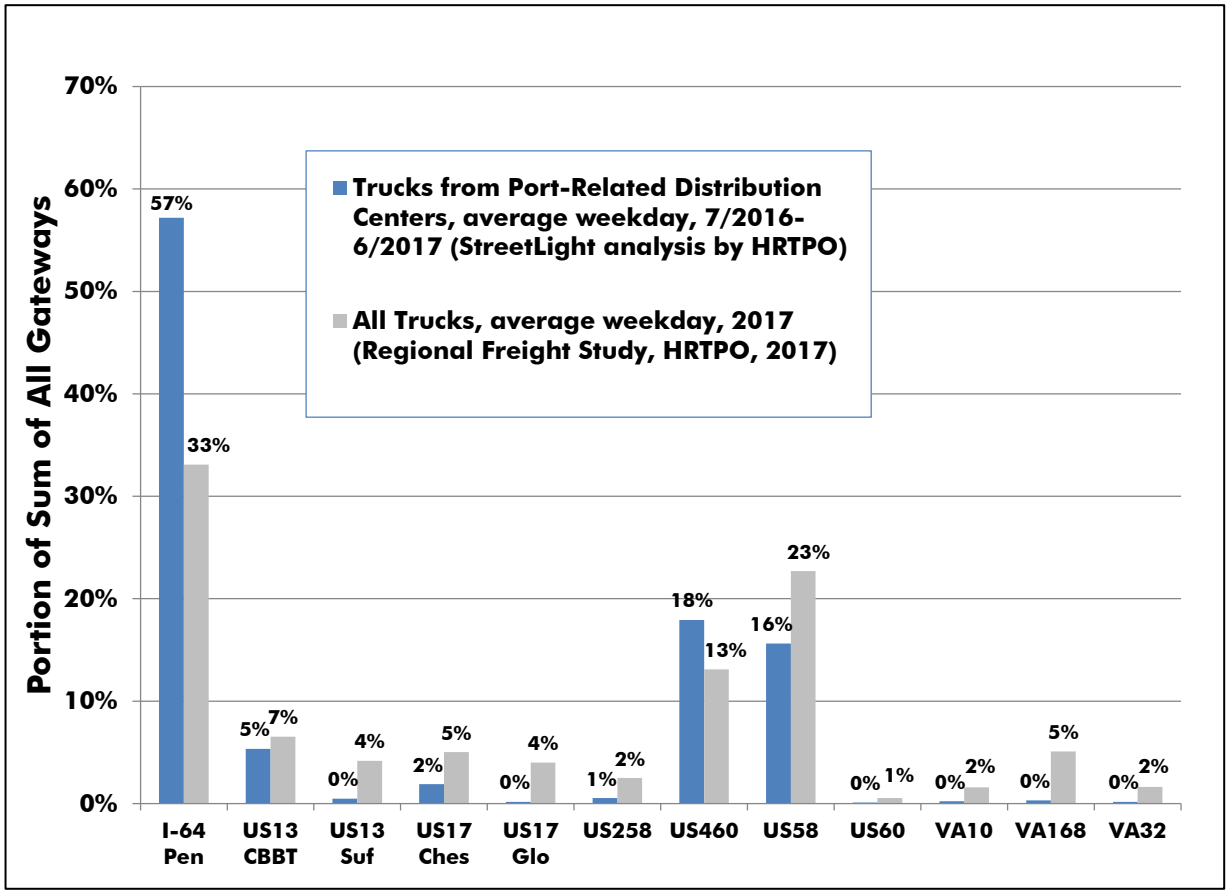


FIGURE 27 – COMPARISON OF TRUCK USAGE THROUGH REGIONAL GATEWAYS

Source: HRTPO analysis of StreetLight data. "All Trucks" from HRTPO Regional Freight Study was updated with 2017.

Airports

For air transportation, Isle of Wight residents and travelers can choose from a range of options. Two commercial passenger service airports are located within a 45-minute drive of the county—Newport News-Williamsburg International Airport (PHF) and Norfolk International Airport (ORF). Richmond International Airport (RIC) is also an option for residents located about 70 miles to the northwest and 1-hour and 15-minutes away. There is also a general aviation airport – John Beverly Rose – located within the county near Franklin. Finally, there are several heliport facilities and two private air facilities (Aberdeen Field Airport in Smithfield and Garner Airport in Windsor).

Newport News - Williamsburg International Airport

The Newport News-Williamsburg International Airport (PHF) 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 two commercial airlines - Delta Air Lines and American Airlines. These airlines provide non-stop service to Atlanta, Charlotte, and Philadelphia.

Figure 28 shows the enplanements or "passenger boardings" at the Newport News-Williamsburg, Richmond, and Norfolk International Airports from 1991 through 2016. As shown in Figure 27, passenger activity at the Newport News-Williamsburg International Airport increased between 2001 and 2005 but has decreased since 2012. A majority of the growth between 2001 and 2005 occurred when low-cost carrier Airtran Airways introduced new and more frequent service. In March 2012, Airtran Airways ceased operations due to their merger with Southwest Airlines, which was already operating at Norfolk International Airport. With the departure of Airtran, passenger activity declined substantially in 2012. Another contributor to passenger increases and decreases was Frontier Airlines, which began nonstop service in 2010 but withdrew service in January 2015.

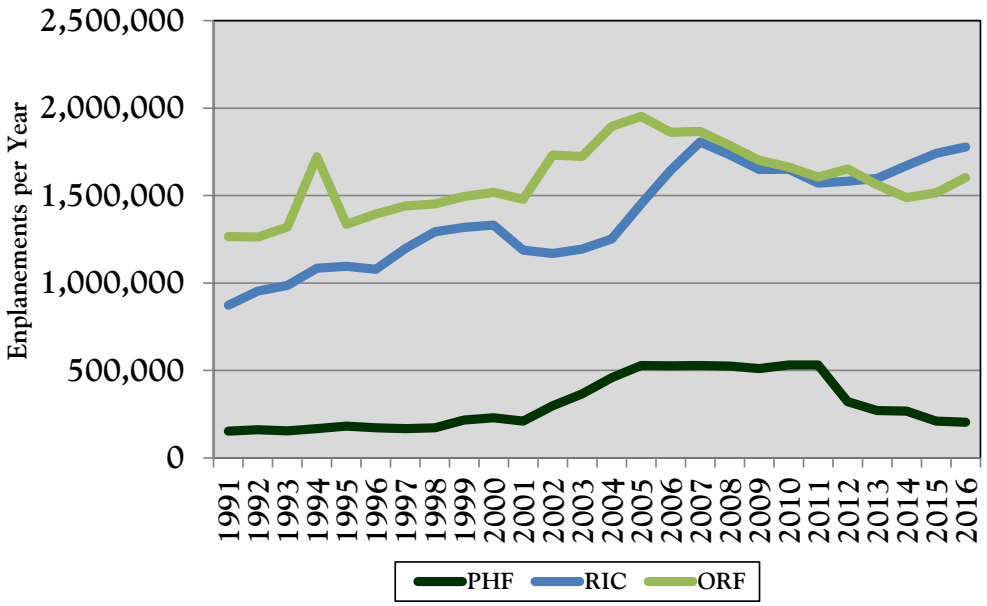


Figure 28 - Enplanements at Newport News-Williamsburg, Richmond, and Norfolk International Airports, 1991-2016
Data source: FAA.

Norfolk International Airport

Norfolk International Airport (ORF) is the second closest commercial passenger service airport to Isle of Wight County, located about 40 miles away. The airport is owned by the City of Norfolk and operated by the Norfolk Airport Authority. Norfolk International Airport is served by six commercial airlines (Allegiant, American, Delta, Frontier, Southwest, and United).

As shown in **Figure 26**, Norfolk International Airport experienced a rise in enplanements between 1991 (1.27 million enplanements) and 2005 (1.95 million enplanements). Passenger levels at Norfolk International Airport decreased throughout the economic downturn but have increased again in recent years, up to 1.6 million enplanements in 2016.

Richmond International Airport

Due to its proximity, Isle of Wight residents and travelers have the option to use Richmond International Airport (RIC), which is located about 70 miles away and takes 1-hour and 15-minutes by car. Richmond International Airport is located in Sandston, Virginia, which is seven miles southeast of downtown Richmond.

Passenger levels at Richmond International Airport more than doubled between 1991 (870,000 enplanements) and 2007 (1.80 million enplanements). Similar to Norfolk International Airport, Richmond International Airport experienced a decrease in passenger levels throughout the economic downturn. Since 2011, however, enplanements at RIC have increased every year. At 1.78 million enplanements in 2016, Richmond International Airport now carries more passengers than Norfolk International Airport and is the third-busiest airport in Virginia behind Washington D.C.'s two major airports, Dulles and Reagan National.

General Aviation Airports

The Franklin Municipal-John Beverly Rose Airport is a general aviation airport in Isle of Wight County that is owned by the City of Franklin. It is located on the southern end of the county approximately two miles northeast of Downtown Franklin. It features a 4,977 foot lighted runway, three hangers that can accommodate 22 small aircraft and four large aircraft hangers with a total of 56,000 square feet of storage space. The following free services are offered: courtesy transportation/car, aircraft parking, passenger terminal & lounge, pilot lounge, restrooms, shower, and weather system. Hangers, flight school/training, aircraft rental, fueling services, and maintenance facilities are available for a fee.

Three other general aviation airports – Hampton Roads Executive Airport in Chesapeake, Suffolk Executive Airport, and Wakefield Municipal Airport – are located within 25 miles of Isle of Wight County.

Public Transportation

Isle of Wight residents currently have two public transportation services available to them—scheduled bus service through Hampton Roads Transit and I-Ride Transit through Senior Services of Southeastern Virginia.

HRT Bus Route 064

Hampton Roads Transit (HRT) initiated Bus Route 064 between Newport News and Smithfield on September 7, 2004. This scheduled bus service operates weekdays from 4:40 am to 7:52 am and from 2:10 pm to 5:27 pm. The HRT bus route 064 location and stop schedule is shown on **Map 16** and **Figure 29** on page 45.

I-Ride Transit

Senior Services of Southeastern Virginia provides I-Ride Transit offering accessible transportation options for residents in metro Hampton Roads and Western Tidewater, including Isle of Wight, Smithfield, and Franklin. Senior Services partners with other local organizations that provide transportation as well. If I-Ride Transit is not able to provide service, a resource coordinator will help riders find another service provider. I-Ride Transit offers fixed routes, medical transportation, paratransit, and on-demand response transit. Transportation is also provided to medical and therapy appointments, local wellness and senior centers, adult day care centers, shopping and more.

For some areas of Isle of Wight County, these services are a lifeline, providing the only means to get to jobs, receive medical care, and remain vital members of the community. As the population increases and ages in small urban and rural communities, providing travel options such as ridesharing in lieu of driving alone will be essential.

Fixed Routes

I-Ride Transit provides rides via fixed routes in the Smithfield area and the portion of Isle of Wight County near Franklin. Fares are as follows:

I-Ride Transit Bus

- Children 4 and under ride free, accompanied by an adult.
- Children 5-12 years old, fare: $.50
- Senior citizens 60 or older, fare: $1.00
- Ages 12-59, fare: $1.50

I-Ride Transit service into the Smithfield area began on September 1, 2016. The current I-Ride Transit Smithfield route is shown on **Map 16** on page 45. The I-Ride Transit Franklin service began on June 2, 2014 and the current route map is shown on **Map 17** on page 46.

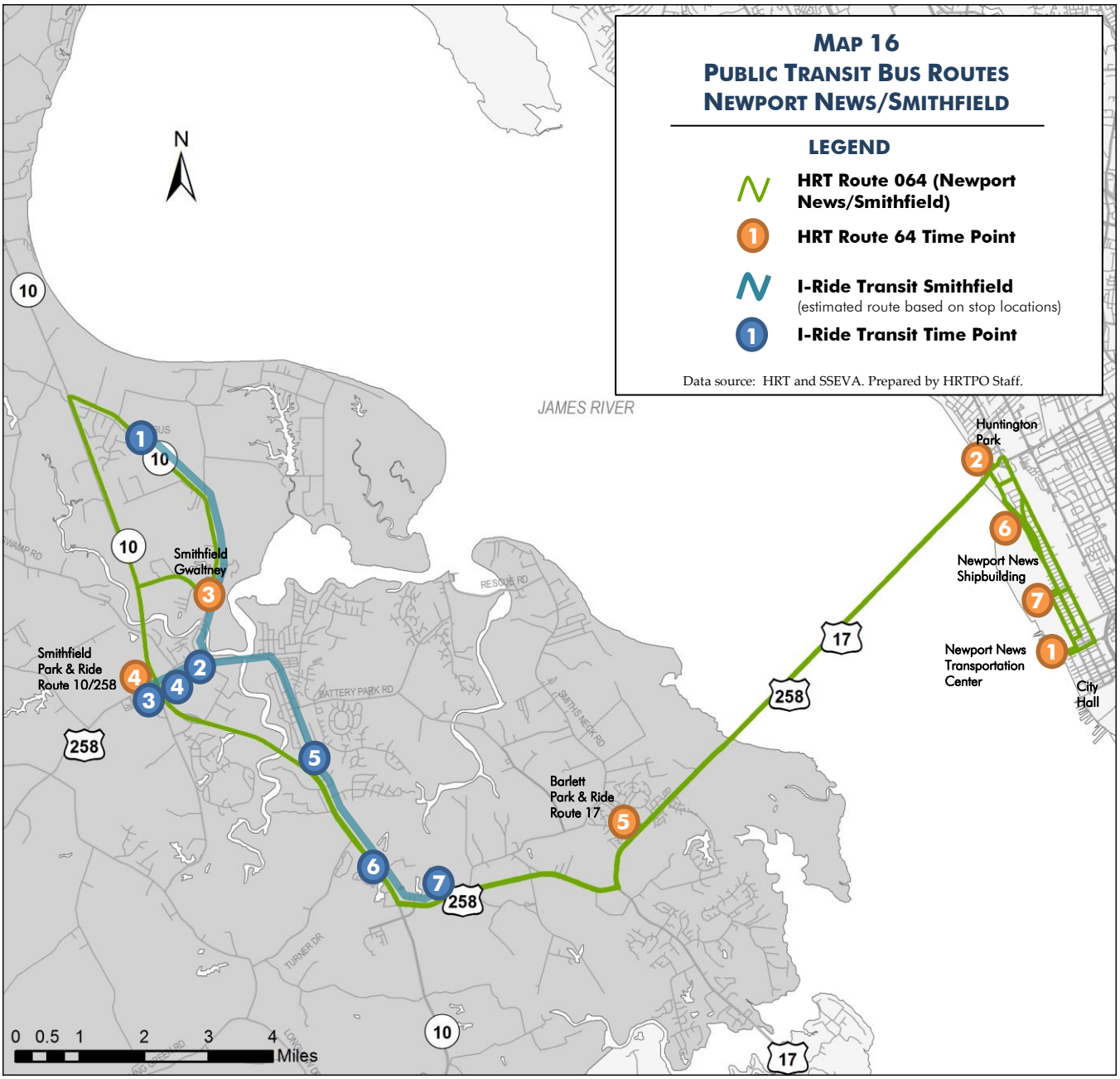
Medical Rides

These rides are currently limited to seniors over 60 years old and individuals with disabilities. Rides are qualified based on customer's age, Medicaid eligibility, and other criteria. Isle of Wight residents in need of a ride to a doctor or other medical transportation should contact I-Ride, and a voluntary contribution of $4 is suggested for non-Medicaid qualified riders.

Wellness Center Transportation

Isle of Wight senior residents (60+) in need of a ride to a senior nutrition and wellness center should call 757-516-8556. This transportation is available several times a week and is dependent on individual wellness center schedules. A voluntary contribution is suggested each way.

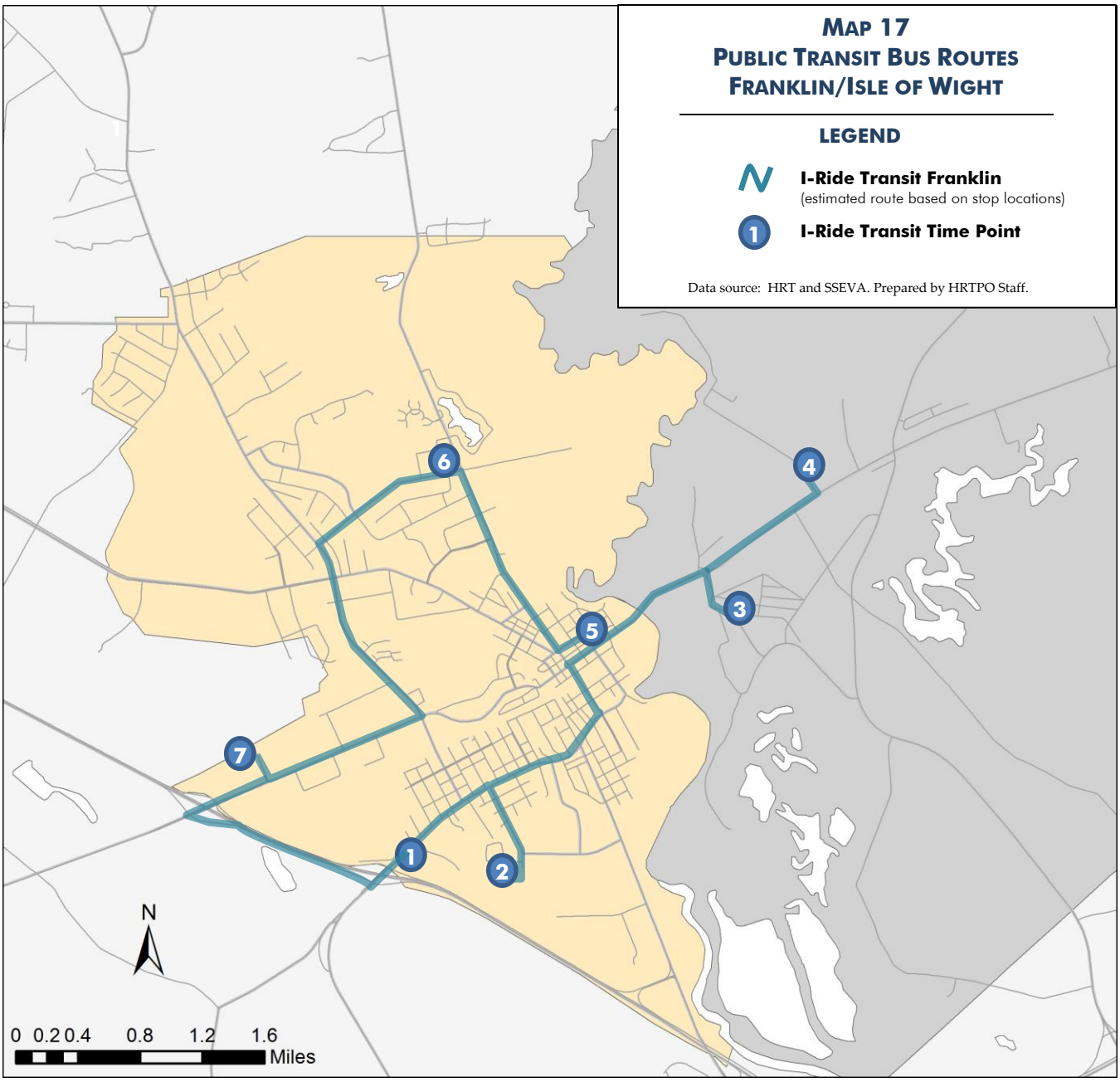
For more information on I-Ride Transit, including current stops and timetables, visit: https://www.ssseva.org/page/i_ride-transit.



	WEEKDAY: A.M. SERVICE									WEEKDAY: P.M. SERVICE								
	1	2	3	4	5	2	6	7	1	1	7	6	2	5	4	3	2	1
	Newport News Transportation Center	Huntington Park Park & Ride	Smithfield Gwaltney	Park & Ride Route 10/258	Park & Ride Route 17 Barlett	Huntington Park Park & Ride	North Gate N.N. Shipbuilders	49th & Washington Ave	Newport News Transportation Center	Newport News Transportation Center	49th & Washington Ave	North Gate N.N. Shipbuilders	Huntington Park Park & Ride	Park & Ride Route 17 Barlett	Park & Ride Route 10/258	Smithfield Gwaltney	Huntington Park Park & Ride	Newport News Transportation Center
	4:40	4:50	5:16	5:35	5:51	6:00	6:04	6:07	6:12	**2:10**	**2:14**	**2:22**	**2:27**	**2:40**	**2:58**	**3:05**	**3:35**	**3:48**
	6:20	6:30	6:56	7:15	7:31	7:40	7:44	7:47	7:52	**3:42**	**3:52**	**4:00**	**4:06**	**4:19**	**4:37**	**4:47**	**5:19**	**5:27**

FIGURE 29 – HRT BUS ROUTE 064 STOPS AND TIMES BY LOCATION

Source: Hampton Roads Transit, May 2018.


MAP 17
PUBLIC TRANSIT BUS ROUTES
FRANKLIN/ISLE OF WIGHT
LEGEND
I-Ride Transit Franklin
(estimated route based on stop locations)
I-Ride Transit Time Point
Data source: HRT and SSEVA. Prepared by HRTPO Staff.
1
2
3
4
5
6
7
N
0 0.2 0.4 0.8 1.2 1.6
Miles

Local Planning Efforts

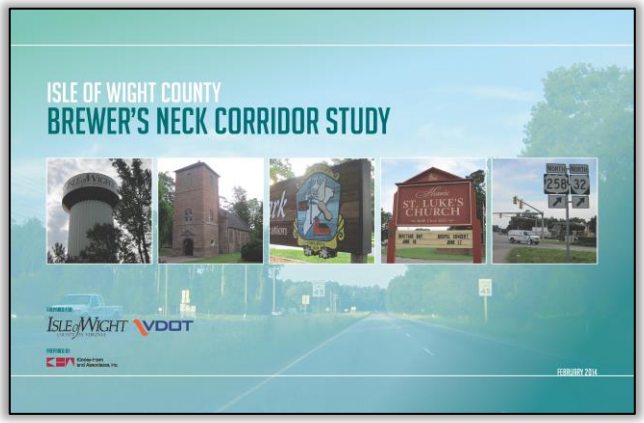
In recent years, there have been a number of corridor and subarea transportation studies prepared for areas of Isle of Wight County. Some of these studies are described in detail below.

Brewers Neck Corridor Study

Kimley-Horn and Associates prepared a corridor study for Isle of Wight County and VDOT in February 2014 which provides a thorough analysis of operational and capacity improvements in the Brewers Neck Corridor. The study looks at what would be required to meet the needs of expected volume growth in the northern part of Isle of Wight County. Roadways analyzed as part of the study included Battery Park Road, Brewers Neck Boulevard, Carrollton Boulevard, Nike Park Road, Reynolds Drive, Smiths Neck Road, and Titus Creek Drive. In addition, 20 key intersections were analyzed as part of the study.

The study looks at existing and future intersection and arterial traffic volumes and congestion levels, safety issues and countermeasures based on recent crash data, active transportation facilities, and potential improvements. The study summarizes recommendations based on short-term, mid-term and long-term time horizons. The list of recommendations includes:

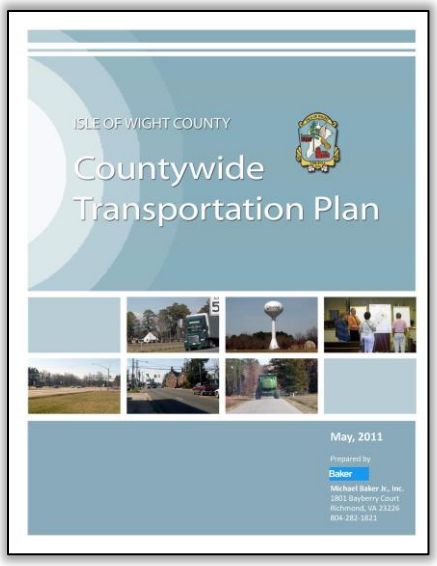
1. **Short-Term Recommendations** – The study recommends making improvements to the Carrollton Boulevard signal system, extending Nike Park Road with a two-lane facility from Reynolds Drive to Route 17, improving Smiths Neck Road, and constructing a roundabout at the intersection of Battery Park Road and Nike Park Road.
2. **Mid-Term Recommendations** – The study recommends making improvements to the Carrollton Boulevard corridor including widening the corridor from four to six lanes, interconnecting the signal system wirelessly, and installing new or improved traffic signals at Nike Park Road Extension, North Gate Drive, Smiths Neck Road and Eagle Harbor/Kings Crossing. The study also includes mid-term recommendations for the Brewers Neck Boulevard corridor including installing wireless signal system interconnect and upgrading traffic signals at Queen Anne's Court, Sentara Way, Norsworthy Drive/New Towne Haven Lane, and Carrollton Boulevard.
3. **Long-Term Recommendations** – Over the long-term, the study recommends widening Nike Park Road between Battery Park Road and Carrollton Boulevard, installing a signal and new turn lanes at Nike Park Road and Reynolds Drive, upgrading the proposed Battery Park Road/Nike Park Road roundabout, and consider installing a new traffic signal at Nike Park Road and Titus Creek Drive.



Countywide Transportation Master Plan

Isle of Wight County funded a Countywide Transportation Plan (CTP) in 2010 in order to identify and address the challenges associated with capacity on major roadways and intersections throughout the County. The plan was created in order to help County officials make informed decisions regarding the necessary improvements for future development and prioritize them.

A capacity analysis for roadways and intersections was conducted to characterize the existing performance of the transportation system. Future conditions for the year 2035 were also analyzed based on assumed annual growth rates.



Ten intersections were identified for further analysis based on feedback from stakeholder meetings, County officials, and VDOT staff. These intersections are:

1. Route 460 at Route 258
2. Route 460 at Court Street/Church Street/Bank Street
3. Route 460 at Route 607 (Old Mill Road)
4. Route 10 Bypass at Route 666 (Berry Hill Road)
5. Route 10 Bypass at Route 258 (Main Street)
6. Route 10 (Benns Church Boulevard) at Route 10 Business (South Church Street)
7. Route 10 (Benns Church Boulevard) at Route 258 (Brewers Neck Boulevard)
8. Route 704 (Battery Park Road) at Route 669 (Nike Park Road)
9. Route 17 (Carrollton Boulevard) at Route 669 (Smiths Neck Road)
10. Route 17 (Carrollton Boulevard) at Route 258 (Brewers Neck Boulevard)

Six of the ten analyzed intersections were experiencing poor levels of service (LOS E or F) in either the AM or PM peak hour at the time of the analysis. Based on the future volumes, the plan concluded that only one of the identified intersections would be expected to operate at an acceptable LOS D or better in both the AM and PM peak hours, while eight of the ten analyzed intersections were expected to operate at unacceptable levels (LOS E or LOS F) in both the AM and PM peak hours.

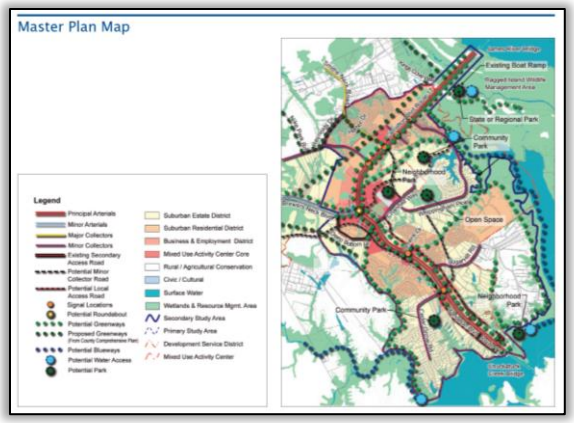
US Route 17 Corridor Master Plan

The US Route 17 Corridor Master Plan was adopted by the Isle of Wight Board of Supervisors in November 2007. The plan, which was prepared by Raybould Associates LLC, recognized that the Route 17 corridor would continue to experience development between the Brewers Neck intersection and the James River Bridge. However, Route 17's primary function will continue to be a principal arterial providing high speed and high volume intraregional travel.

As traffic volumes increase, safe and efficient travel on Route 17 should be maintained through various combinations of improvements such as highway widening and access management. VDOT's 2025 Transportation Plan recommended widening the two-lane Chuckatuck Bridge to a minimum of four through lanes and widening Route 17 to a total of six through lanes between Brewers Neck Boulevard and the James River Bridge.

The US Route 17 Corridor Master Plan recommends connecting the streets on each side of the corridor to provide a parallel network to the maximum extent practicable. The increased interconnectivity would also increase on-road and off-road bike lane and trail opportunities.

In addition to street network connectivity, access options can be further enhanced by connecting commercial parking lots, thereby minimizing curb cuts along Route 17. The study recommends two signalized intersections between Brewers Neck Road and the Chuckatuck Bridge. The signal at Omera Drive is retained and the planned Sugar Hill Road signal is relocated to Cedar Grove Road.



HRTPO US Route 460 Corridor Study

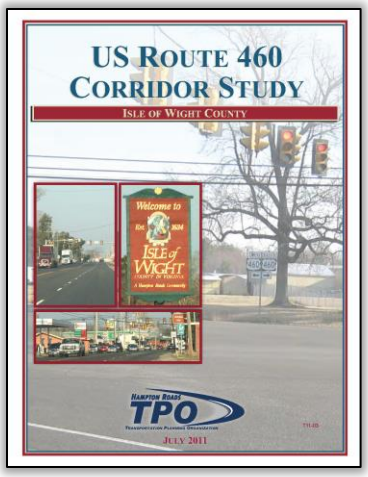
In 2011, Isle of Wight County requested that HRTPO complete a corridor study for US Route 460 from the City of Suffolk line to the Southampton County line. US Route 460 is a four-lane, undivided highway throughout the County and a major commercial artery through the Town of Windsor.

The study addressed both safety and capacity issues. The safety section included an analysis of crash data, recommendations for signal clearance intervals and driveway widths, and bicycle and pedestrian improvements. The capacity analysis examined existing volumes, historic growth rates and projected future volumes. The Shirley T. Holland Intermodal Park Traffic Impact Analysis asserted that the full development of this park would be feasible only with the construction of the new US Route 460 alignment. Consequently, two sets of projected development volumes were used in this study:

- 100% of the projected traffic for the Shirley T. Holland Intermodal Park (identified in the analysis scenarios as "100% Intermodal Park").
- 50% of the projected traffic for the Shirley T. Holland Intermodal Park (identified in the analysis scenarios as "50% Intermodal Park").

Seven scenarios were analyzed for the US 460 corridor:

1. **2010 Existing** - Provides a baseline analysis for comparison to other scenarios, using the existing geometry, signal timing and traffic volumes to model the network as it currently functions.
2. **2010 Optimized** - Uses the existing geometry and traffic volumes, but updates the traffic signal timing.
3. **2030 No-Build (100% Intermodal Park)** - The network was analyzed with "100% Intermodal Park" future volumes to determine the resulting congestion severity.
4. **2030 No-Build (50% Intermodal Park)** - Same as the previous scenario, except it includes the "50% intermodal park" turning movement counts.



5. **Countywide Transportation Plan Improvement (50% Intermodal Park)** - Same as the previous scenario, except it includes improvements recommended in the *Countywide Transportation Plan.*
6. **HRTPO Staff Improvements (50% Intermodal Park)** - This scenario is the same as the 2030 No-Build (50% Intermodal Park) scenario except it incorporates lower cost improvements to improve traffic operations along the US Route 460 study corridor.
7. **HRTPO Staff Expanded Improvements (50% Intermodal Park)** - Same as the previous scenario except it includes additional roadway improvements that address capacity as well as safety issues.

Two performance measures were used to compare the overall performance of the scenarios. The first measure is the average delay of all vehicles on US Route 460, while the second measure is the average travel time from the Southampton County line to the City of Suffolk line.

Based on the report's analysis, the following recommendations for the US 460 Corridor were presented:

- Safety recommendations:
  - Widen shoulders along the length of US Route 460.
  - Install additional "Deer Crossing" signs along the corridor and enhance all existing signs with warning flags.
  - Raise awareness of the active deer season through local media.
  - Add a two–way left–turn lane throughout

the corridor outside of downtown Windsor.
    - Add intersection warning signs approaching the corridor's intersections.
    - Narrow the driveways at certain businesses to between 24–40 feet, per VDOT guidelines.
    - Close driveways that are located in the functional area of the intersections of US Route 258 and Court Street/Church Street/Bank Street.
    - Adjust the yellow interval and all–red intervals at signalized intersections.
    - Extend sidewalks from Windsor Pharmacy to Food Lion.
    - Relocate sidewalks away from roadway.
    - Add pedestrian crosswalks at the intersections of US Route 258 and Church/Court/Bank Streets.
- Capacity recommendations:
    - Add a left–turn lane on both US Route 258 approaches and a right–turn lane on all four approaches.
    - Close the Church Street and Bank Street intersection approaches.
    - Signalize the intersection of Roberts Avenue and add a left–turn lane on eastbound US Route 460.

Business Route 58 Corridor Economic Development and Land Use Plan

The *Route 58 Corridor Economic Development and Land Use Plan* was completed by the Renaissance Planning Group and Thomas Point Associates in January 2010. The purpose of the study was to identify how future growth and potential quality of life enhancements should occur in the Camptown Development Service District (DSD). This area is located in the southern portion of the County and includes Business Route 58 between the City of Franklin and the Village of Carrsville and Route 258 from the City of Suffolk to north of Beaverdam Road. The plan employs economic, land use and transportation analysis to create a plan with community support.

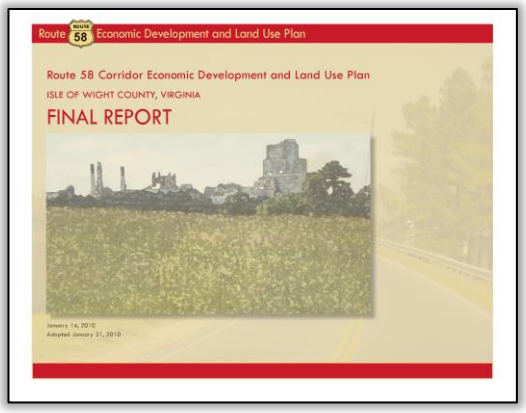
The existing conditions analysis indicated that both roadways (Business Route 58 and Route 258) were operating at acceptable levels of service. Three defined development phases were identified in the capacity analysis associated with ultimate build years of 2025, 2040 and 2050. The background traffic volume for each of the build years was projected based on traffic demand data from VDOT's long-range planning process. A capacity analysis was also performed to evaluate the level of service along Business Route 58 and Route 258 for each of the three phase build years.

The west end of Business Route 58 between the City of Franklin and Route 258 is the only section expected to operate at LOS E by the year 2025. The current three-lane section from the Route 258 intersection to Jamestown Lane would require widening to a four-lane divided facility to alleviate congestion based on the report.

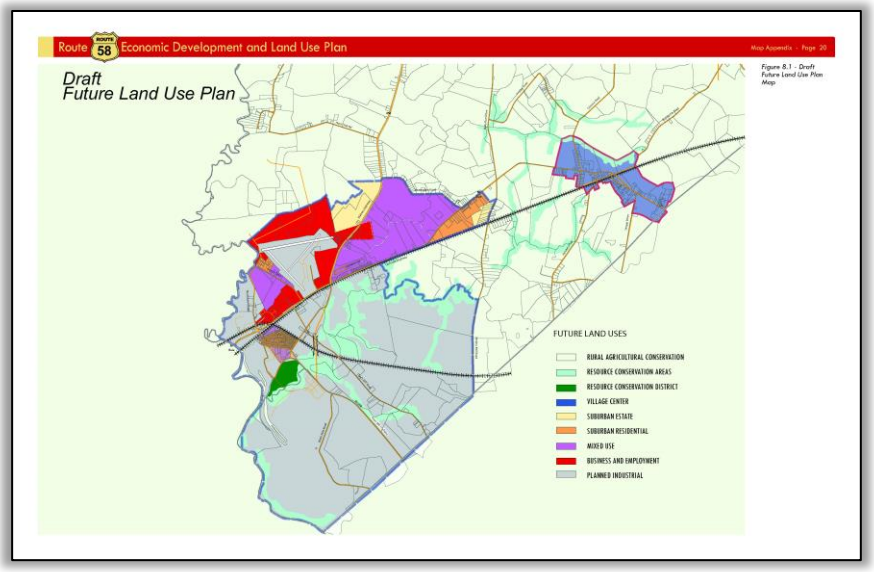
The eastern section of Business Route 58 from Route 258 through Carrsville is expected to operate satisfactorily under all of the given preferred development alternatives.

The north end of the Route 258 section was expected to operate at LOS E in the year 2040 and 2050. However, an incremental analysis showed that the LOS in 2040 was expected to be just over the LOS D/E threshold. The south end of the Route 258 study link was expected to operate at LOS E in the year 2050.

The northern segment of Route 258 was identified as one that would require widening by 2050. It was assumed that a potential Route 258 project would be part of a much larger Route 258 corridor plan that would result in a series of projects along the corridor.



The development of mixed use areas near the Business Route 58 and Route 258 intersection, as well as the redevelopment of the Camptown and Carrsville areas to include network grids, would facilitate walking and bicycling as viable options. A multiuse path was suggested since it would provide non-motorized access to the denser areas of development.



US 58 Arterial Management Plan

US Route 58 is one of the most critical gateways to Hampton Roads, serving an important role in facilitating tourist travel, freight movement, and evacuation from and to points to the south and west of the region. The US 58 Arterial Management Plan was requested in order to identify ways to improve the safety and preserve the capacity of the Route 58 corridor. Although the Route 58 Corridor is not located within Isle of Wight County, county officials are included as stakeholders for the study due to the importance of the corridor and its proximity to the county.

The study is split into three phases. The first phase, which has been completed, involved initial meetings with stakeholders, including study scoping meetings and stakeholder coordination.

The second phase, which began in June 2017 and is currently underway, represents the Arterial Management Plan. The Plan will pinpoint recommendations for improving safety and preserving the corridor. An analysis of traffic and crash data and a field review has been completed to identify safety and geometric deficiencies. Recommendations are being prepared for arterial management improvements that could be submitted for future Highway Safety Improvement Program (HSIP) and SMART SCALE funding.

The third phase of the study would examine the possibility of improving the US 58 corridor to interstate standards. It has not been determined whether this future phase will be completed.

Future Conditions - Highway

The remainder of this report looks at the future conditions on the Isle of Wight transportation network, both in the near and long term. Similar to the Current Conditions chapter, this chapter is divided into separate sections based on transportation mode.

This chapter looks at projected roadway conditions in Isle of Wight County and how they compare to historical trends. This chapter is divided into the following sections:

- **Programmed Roadway Projects** - Includes a description of those projects that are funded and programmed in VDOT's Six-Year Improvement Program and HRTPO's Transportation Improvement Program. This section also provides a description of VDOT's project selection process.
- **Long Range Planning** - Includes information on the projects, studies, and vision plan included in the current Hampton Roads Long-Range Transportation Plan, and their projected impacts on congestion levels in Isle of Wight County.
- **Long Range Scenarios** – As part of the comprehensive plan update, Isle of Wight is looking at alternative future scenarios. These scenarios and their potential impacts on transportation in the county are highlighted.
- **VTrans** – The VTrans statewide long-range multimodal transportation plan and its impact on the county is described in this section.

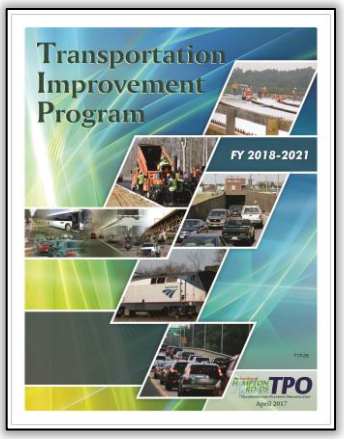
Programmed Roadway Projects

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

Developed annually, the Six-Year Improvement Program[12] 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, installing guardrail, and adding or extending intersection turn bays. In addition, non-roadway projects such as improvements to bike lanes, sidewalks, rail, and public transportation are also included in the SYIP.

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.

In addition to the SYIP, the Hampton Roads Transportation Improvement Program[13] 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.



[12] *FY 2019-2024 Six-Year Improvement Program*, Commonwealth Transportation Board, June 2018.

[13] *Hampton Roads Transportation Improvement Program FY 2018-2021*, HRTPO, April 2017, with amendments through July 2018.

The TIP is 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 constructed, it must be included in the most recent TIP approved by the HRTPO Board. The TIP must also be consistent with the Long-Range Transportation Plan, which is described further later in this report.

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

Many of the projects that are included in the TIP and SYIP are chosen through the SMART SCALE process. Signed into law in 2014, Virginia House Bill (HB) 2 was created to ensure that limited tax dollars are invested in the projects that meet the most critical transportation needs in Virginia. Starting with the FY 2017 SYIP, candidate transportation projects throughout the Commonwealth are being scored biennially using a prioritization process – now referred to as SMART SCALE – that is based on an objective analysis of the congestion mitigation, economic development, safety, environmental quality, accessibility, and land use impacts of each project.

Each screened candidate project that is submitted by an eligible applicant (which includes localities and regional entities such as Planning District Commissions, Metropolitan Planning Organizations, and transit agencies) is scored and ranked, and the Commonwealth Transportation Board (CTB) uses this information as guidance when selecting projects for inclusion in the Six-Year Improvement Program. This process is used to allocate funding from the construction District Grants Program (DGP) and the High-Priority Projects Program (HPPP), and projects must meet an identified need in the VTrans

statewide long-range multimodal transportation plan (described later in this report).

As part of the SMART SCALE process, different weights are applied to each of the six factors in different parts of the state. Isle of Wight, along with most of Hampton Roads, is in Weighting Category A. Congestion mitigation is a priority for areas in Category A, with 45% of the proposed project's SMART SCALE Project Score being based on congestion mitigation in these areas. Other factors, such as economic development (5%) and safety (5%), have much lower weights in Category A areas.

By comparison, Southampton and Surry Counties are in Weighting Category D. Congestion mitigation is only 10% of the proposed project's SMART SCALE Project Score in Category D areas. Economic development (35%) and safety (30%) comprise a much larger percentage of the SMART SCALE weighting in these rural areas.

This weighting scale could put many Isle of Wight County candidate projects at a disadvantage, since congestion levels are generally higher in the more urbanized areas of Hampton Roads than they are in Isle of Wight County. Projects in the rural areas of the county would also be at a disadvantage compared to similar rural projects in adjacent counties due to these different weighting levels.

Figure 30 on page 54 details the 15 projects in Isle of Wight County that are included in the current SYIP and/or TIP, and **Map 18** on page 55 shows the location of these projects. Each project's projected construction start date, estimated cost, and allocated

funding levels are also shown. Combined, these projects account for a total of $44 million of allocated funding over the next six years.

More details on some of the roadway projects are included below. More information on bridge replacement and rehabilitation projects is included in the Bridge section, and more information on active transportation facilities is also included in the Bicycle and Pedestrian Facilities section.

Nike Park Road Extension

This project will create a new one-mile, two-lane divided roadway that extends Nike Park Road from its current terminus at Reynolds Drive to US Route 17. The project will also include the construction of a multi-use path parallel to the roadway. Turn bay improvements will be made at the intersection of Nike Park Road and Reynolds Drive, and a traffic signal will be installed at the new intersection of Nike Park Road and US Route 17. This project – which is shown in **Figure 31** – has received $11.7 million in SMART SCALE funding. Preliminary engineering on this project is currently underway, and construction is expected to begin in 2021.

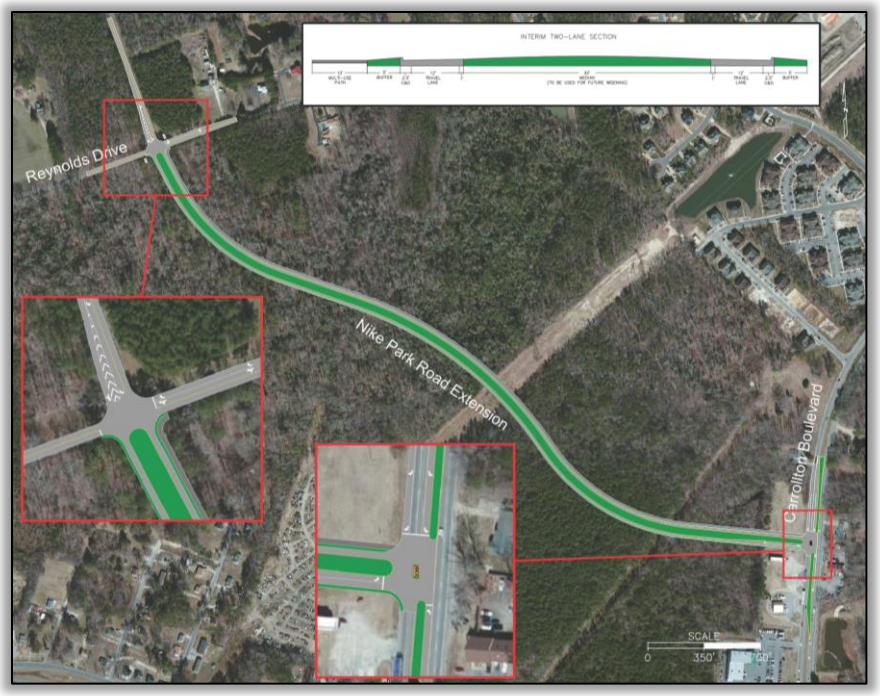
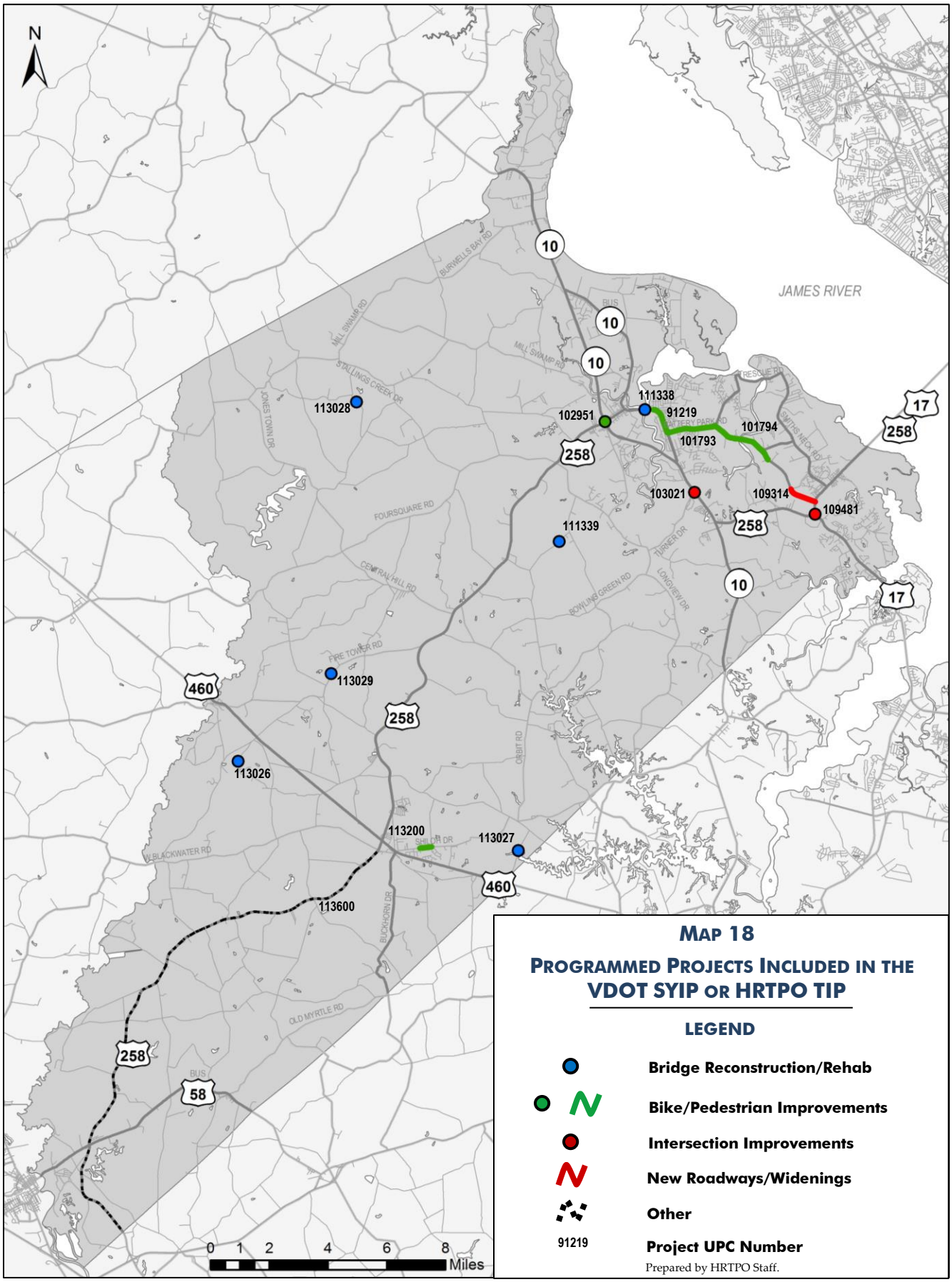


FIGURE 31 – NIKE PARK ROAD EXTENSION PROJECT
Source: Isle of Wight County.

UPC	Project	Projected Construction Start	Project Cost	Allocated Funding
113028	Bridge Replacement - Dews Plantation Road (Rte 683) over Stallings Creek	2022	$3,800,000	$3,800,000
113027	Bridge Replacement - Ennis Mill Road (Rte 690) over Ennis Pond	2021	$2,700,000	$2,700,000
113029	Bridge Replacement - Fire Tower Road (Rte 644) over Pope Swamp	2022	$4,200,000	$4,200,000
113026	Bridge Replacement - Mill Creek Road (Rte 638) over Burnt Mill Swamp	2022	$2,700,000	$2,700,000
111338	Bridge Rehabilitation - South Church Street (Bus Rte 10) over Cypress Creek	2020	$1,600,000	$1,600,000
111339	Bridge Replacement - Uzzell Church Road (Rte 692) over Champion Swamp	2021	$1,250,000	$1,250,000
113600	Install Rumble Stripes - Route 258 between Suffolk and Windsor	2024	$352,000	$352,000
113200	Install Sidewalk - Church Street/Shiloh Drive from Johnson Ave to John Henry St	2020	$671,000	$609,000
109481	Intersection Improvements - Route 17 at Route 258	2021	$6,770,000	$6,770,000
103021	Intersection Improvements - Turner Drive at Benns Church Blvd	Underway	$698,000	$511,000
109314	New Roadway - Nike Park Road Extension from Reynolds Drive to Route 17	2021	$14,548,000	$11,658,000
102951	Pedestrian Improvements - Main Street in Smithfield	2020	$1,106,000	$1,106,000
91219	Pedestrian Improvements - Nike Park Trail from Cypress Creek Bridge to Battery Park Rd	Underway	$850,000	$2,738,000
101793	Pedestrian Improvements - Nike Park Trail from South Church St to Nike Park Rd	Underway	$1,562,000	$775,000
101794	Pedestrian Improvements - Nike Park Trail from Battery Park Rd to Nike Park	Underway	$4,801,000	$3,118,000

FIGURE 30 – PROGRAMMED PROJECTS INCLUDED IN THE VDOT SYIP OR HRTPO TIP
Sources: HRTPO, VDOT.



Map 18

Programmed Projects Included in the VDOT SYIP or HRTPO TIP

LEGEND

- Bridge Reconstruction/Rehab
- Bike/Pedestrian Improvements
- Intersection Improvements
- New Roadways/Widenings
- Other
- 91219 — Project UPC Number

Prepared by HRTPO Staff.

Turner Drive at Benns Church Boulevard Intersection

Turner Drive (Route 644) – which carries 3,100 vehicles each weekday – provides access to Smithfield High School. Currently there is only one approach lane on Eastbound Turner Drive at the signalized intersection with Benns Church Boulevard, which serves left-turning, right-turning, and through traffic (**Figure 32**). This project will add a dedicated right-turn lane on Turner Drive at the intersection. Preliminary engineering on the $350,000 project is complete and construction will begin in late 2018.

FIGURE 32 – TURNER DR AT BENNS CHURCH BLVD
Source: Google.

Route 17 at Route 258 Intersection

The intersection of US Route 17 (Carrollton Boulevard) and US Route 258 (Brewers Neck Boulevard) is currently a signalized three-leg intersection (**Figure 33**). This project will add a second left-turn lane in the northbound direction on US Route 17 and the right-turn lane on eastbound US Route 258 will be extended (**Figure 34**). Improvements will also be made to the traffic signal, including adding communication with adjacent signals.

In the future, a new mixed-use development will add a fourth, eastern leg to the intersection. This modification, however, is not part of this project.

Preliminary engineering on the $6.8 million project (which is being partially funded by the developer of the mixed-use project) is currently underway, and construction is expected to begin in 2020.

FIGURE 33 – ROUTE 17 AT ROUTE 258
Source: Google.

FIGURE 34 – IMPROVEMENTS AT THE INTERSECTION OF ROUTE 17 AT ROUTE 258
Source: Isle of Wight County.

SMART SCALE Round 3 Project Submittals

The third round of the SMART SCALE project prioritization process commenced in early 2018. Isle of Wight County officials submitted four proposals:

- **Route 258 at Route 460** – This submittal proposes adding turn lanes on the Route 258 approaches to the intersection. The proposal also includes adding sidewalks on the northern side of the intersection to connect with the existing sidewalks in the Town of Windsor on Route 460.
- **Route 460 at Bank St/Church St/Court St** – This submittal would improve the operation of the six-leg intersection in the Town of Windsor by removing the Bank Street approach from the intersection. Although the removal of the Church Street approach was also considered, it was not included in the SMART SCALE submittal.
- **Carrollton Boulevard (Route 17) Crosswalks** – This submittal would provide a safe pedestrian facility to cross Carrollton Boulevard (Route 17) at the intersection of Eagle Harbor Parkway. It includes constructing a median pedestrian refuge island on Route 17, replacing the existing ADA curb ramps, adding crosswalk striping, and installing pedestrian signals with pushbuttons. The crossing at Smiths Neck Road and Graystone Drive would also be improved.
- **Broadwater Road (Route 620) Reconstruction** – This submittal proposes reconstructing nearly two miles of Broadwater Road between the Southampton County line and Central Hill Road (Route 637). Widened lanes, improved shoulders that could accommodate bicycle traffic, and stormwater and drainage improvements would result from the project.

SMART SCALE Round 3 project submittals were scored throughout late 2018 and the recommended funding scenario results were released in January 2019. Among the four candidate projects submitted by Isle of Wight County, the only project included in the recommended funding scenario is the Carrollton Boulevard crosswalks project. This project had a

SMART SCALE Score of 3.82, whereas the Route 258 at Route 460 submittal had a SMART SCALE Score of 1.20, the Route 460 at Bank St/Church St/Court St submittal had a score of 0.19, and the Broadwater Road Reconstruction submittal had a score of 0.19. The lowest project SMART SCALE Score in Hampton Roads to be included in the recommended funding scenario was 1.79.

The Commonwealth Transportation Board will adopt the SYIP with the selected SMART SCALE Round 3 projects in June 2019.

Long-Range Planning

The Hampton Roads Transportation Planning Organization is responsible for producing the regional Long-Range Transportation Plan (LRTP). The LRTP is a comprehensive and multimodal transportation blueprint that identifies and plans for critically important transportation improvements that impact the region's economic vitality and every citizen's quality of life. The LRTP is designed to meet the transportation goals of the HRTPO, which include enhancing mobility and accessibility for all users, increasing reliability across modes, improving safety, minimizing negative impacts to the environment, and identifying funding to maintain and improve the transportation system.

The LRTP contains a list of transportation projects that are expected to be constructed based on the anticipated funding available during the time horizon. These projects cover several modes of surface transportation; however, only roadway projects that add capacity to the regional roadway network, fixed-guideway transit projects (which are those that use exclusive right-of-way such as trains), and certain active transportation projects are typically individually identified in the plan. The LRTP also contains a number of "studies" as well as a "Vision Plan." These include projects that were submitted for consideration but not included for construction due to insufficient funding over the horizon period. Smaller projects, such as traffic signals and turn bays, are not individually identified in the LRTP. This differs from the Six-Year Improvement Program (SYIP) and Transportation Improvement Program (TIP) described in the previous section, which include all of these types of projects.

The LRTP must be updated every five years in metropolitan areas such as Hampton Roads that are in attainment of all applicable National Ambient Air Quality Standards. The LRTP must encompass a minimum of a 20-year time horizon, which is 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 planners and engineers from each city and county, VDOT, the military, the Port, local transit officials, and the public.

Projects included in the 2040 Hampton Roads Long-Range Transportation Plan – which was approved by the HRTPO Board in July 2016 – were chosen based on a variety of factors, including the results of a project prioritization process. This prioritization process ranked candidate projects 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.

2040 LRTP Projects

There is one roadway project in Isle of Wight County – Nike Park Road Extension – that is included in the 2040 LRTP for construction. Construction on this project (LRTP Project ID 2040-600) is expected to begin in 2021. More information on this project is included in the Programmed Roadway Projects section of this report on page 52.

2040 LRTP Studies

In addition to fiscally-constrained projects, the LRTP also includes "studies". This category includes Environmental Impact Statements (EIS), other preliminary engineering tasks, or conceptual project designs where funding for construction is not provided in the fiscally-constrained plan. Generally, these studies scored high enough in the LRTP's project prioritization process to warrant inclusion in the plan but did not score high enough to be included in the fiscally-constrained project list.

There is one location in Isle of Wight County that is included as a study in the 2040 Hampton Roads LRTP – US Route 460.

US Route 460

US Route 460 provides a critical gateway to Southside Hampton Roads. The 50-mile corridor between the Suffolk Bypass and I-295 near Petersburg – 9.5 miles of which passes through Isle of Wight County – not only provides an alternative to I-64 but also carries the third-highest number of trucks entering and exiting the region. Although Route 460 is a 4-lane facility, it is mostly built to substandard design. Most of US Route 460 is undivided, has narrow lanes, and many sections of the corridor pass through towns, requiring lower speed limits and traffic signals.

Various plans have been completed in recent years to upgrade US Route 460. This corridor was included as part of the High Priority East–West TransAmerica Corridor by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The section of this corridor between Beckley, West Virginia and Hampton Roads was analyzed for the West Virginia DOT and VDOT in the late 1990s as part of the TransAmerica Corridor Feasibility Study. This study examined the feasibility of improving sections of the corridor to either a four-lane divided highway or a limited-access freeway. Based on the TransAmerica study, the Virginia Transportation Act of 2000 designated US Route 460 as a High Priority Corridor between I-295 and the Suffolk Bypass.

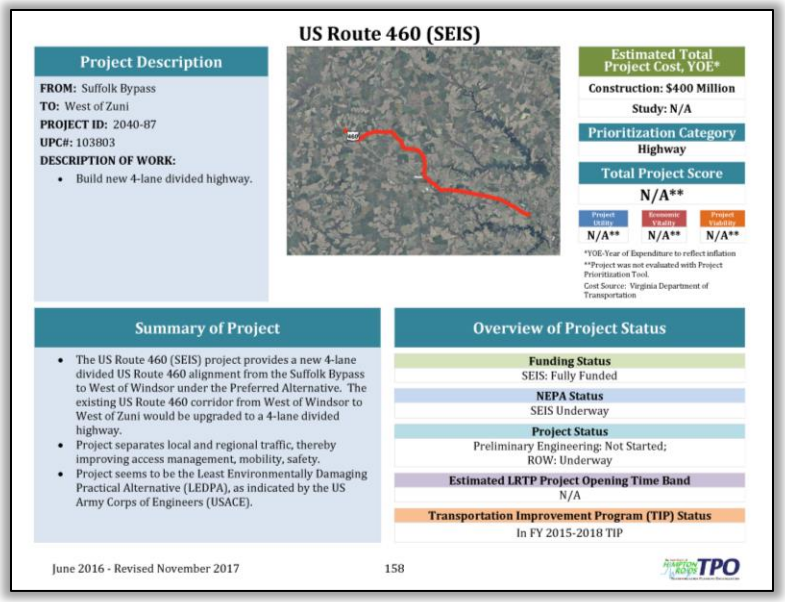
Earlier this decade, state officials decided to construct a limited-access freeway between I-295 and the Suffolk Bypass to the south of the existing US Route 460 roadway. The $1.4 billion project was going to be implemented through a public-private partnership with tolls, federal loans, and public funding expected to cover the project's cost. US 460 Mobility Partners – a consortium of five companies – was awarded the design-build contract in late 2012, and design of the project and acquisition of right-of-way proceeded in 2013.

The state, however, suspended work in early 2014 and canceled the contract in April 2015 after the US Army Corps of Engineers (USACE) indicated that they would not issue environmental permits for the preferred route of

the project due to the project's adverse impacts on wetlands.

In its place, VDOT proposed an alternative project for a shorter, limited-access section of US Route 460. This 16-mile project would provide a new 11-mile limited-access freeway between the Suffolk Bypass and west of Windsor. In addition, five miles of the existing US Route 460 would be improved to a divided highway from this location west of Windsor to the west of Zuni, including a flood-prone section of roadway at the Blackwater River. The estimated cost of this project would be $400-$450 million.

There were concerns from Isle of Wight and Windsor officials concerning the new alignment. In the previous alternative, the new US Route 460 Freeway was located to the south of the Town of


US Route 460 (SEIS)

Project Description
FROM: Suffolk Bypass
TO: West of Zuni
PROJECT ID: 2040-87
UPC#: 103803
DESCRIPTION OF WORK:
- Build new 4-lane divided highway.

Estimated Total Project Cost, YOE*
Construction: $400 Million
Study: N/A

Prioritization Category
Highway

Total Project Score
N/A**

Project Delay	Economic Vitality	Project Viability
N/A**	N/A**	N/A**

*YOE-Year of Expenditure to reflect inflation
**Project was not evaluated with Project Prioritization Tool.
Cost Source: Virginia Department of Transportation

Summary of Project
- The US Route 460 (SEIS) project provides a new 4-lane divided US Route 460 alignment from the Suffolk Bypass to West of Windsor under the Preferred Alternative. The existing US Route 460 corridor from West of Windsor to West of Zuni would be upgraded to a 4-lane divided highway.
- Project separates local and regional traffic, thereby improving access management, mobility, safety.
- Project seems to be the Least Environmentally Damaging Practical Alternative (LEDPA), as indicated by the US Army Corps of Engineers (USACE).

Overview of Project Status
Funding Status
SEIS: Fully Funded
NEPA Status
SEIS Underway
Project Status
Preliminary Engineering: Not Started;
ROW: Underway
Estimated LRTP Project Opening Time Band
N/A
Transportation Improvement Program (TIP) Status
In FY 2015-2018 TIP

June 2016 - Revised November 2017 158

FIGURE 35 – US ROUTE 460 STUDY (LRTP)
Source: HRTPO.

Windsor. In the new shorter alternative, US Route 460 was relocated to the north of the Town of Windsor. Both County and Town officials voiced concern with this location as future growth – particularly related to future phases of the Shirley T. Holland Commerce Park and the 1,700 acre tract referred to as the Norfolk Southern Site – will be oriented to the south of the current US Route 460 corridor.

The Commonwealth Transportation Board recommended that this shorter alternative be scored as part of the FY 2018 SMART SCALE prioritization process. The project received a SMART SCALE Score of 0.54. Projects with a SMART SCALE Score of less than 1.0 are generally not considered a candidate for SMART SCALE funding. The project, however, remains in the 2040 LRTP as a study (LRTP Project ID 2040-87).

Unfunded Projects

Due to fiscal-constraint requirements, not all of the approximately 190 candidate transportation projects evaluated with the HRTPO Project Prioritization Tool could be incorporated into the 2040 LRTP. The remaining candidate projects that were not included in the fiscally-constrained LRTP became part of the Hampton Roads Regional Transportation Vision Plan, an illustrative list of beneficial transportation projects. These unfunded projects warrant future consideration for inclusion in an amended 2040 LRTP or future LRTPs should additional funding be identified.

Three widening projects in Isle of Wight County are included in the 2040 Vision Plan – Battery Park Road, Route 258, and South Church Street.

Battery Park Road Widening

This project (LRTP Project ID 2040-212) would widen Battery Park Road from two to four lanes between South Church Street and Nike Park Road in Smithfield. As shown in the following section, Battery Park Road is expected to experience severe peak hour congestion in 2040, the horizon year of the current LRTP.

The projected cost of this project is $12 million (in year of expenditure $). The candidate project received a score of 69 in the 2040 LRTP, ranking 89th among the 109 candidate highway projects that were scored for the 2040 LRTP.

Route 258 Widening

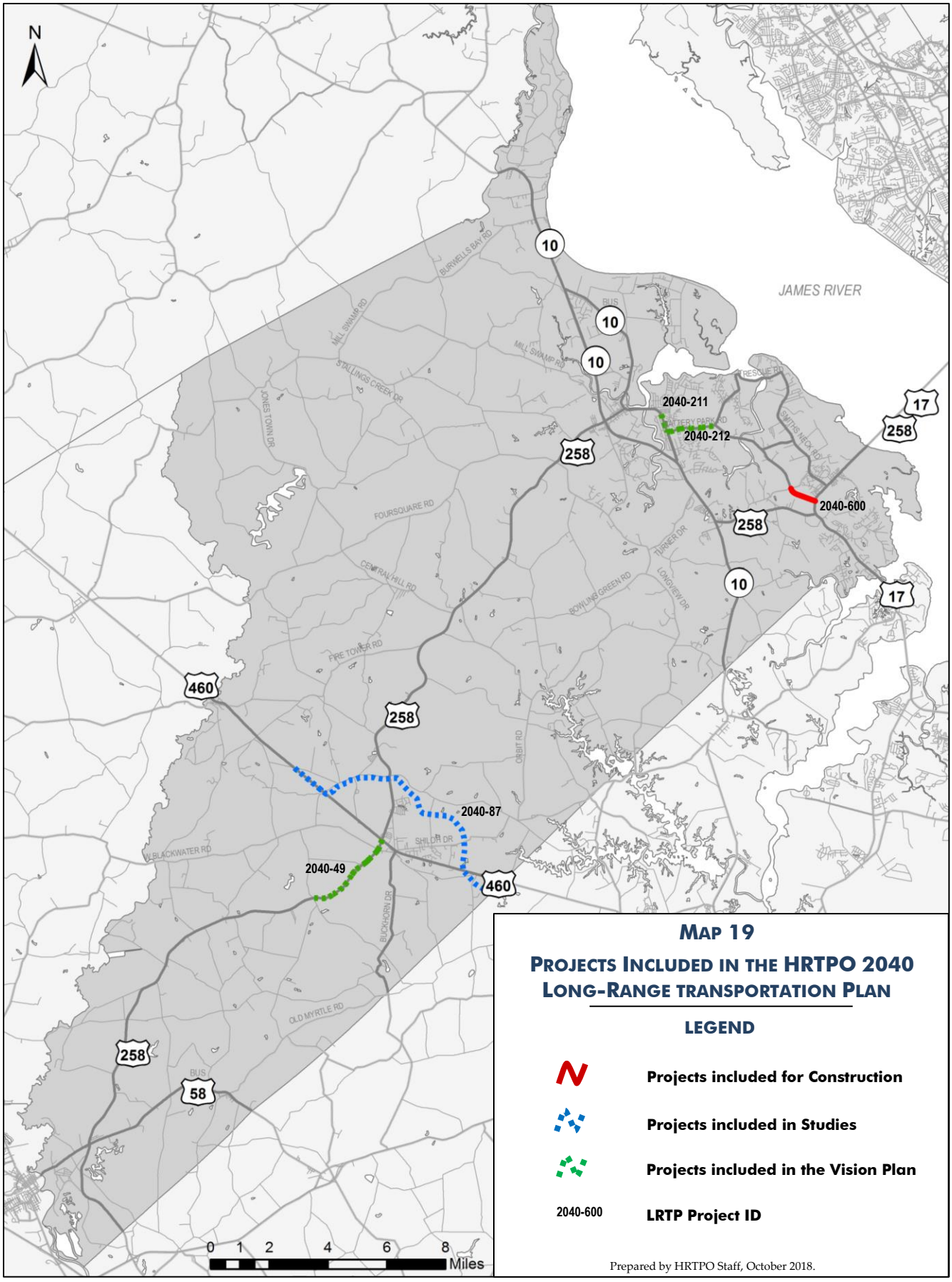
This project (LRTP Project ID 2040-49) would widen Route 258 from two to four lanes between Sunset Drive and Route 460 in Windsor.

This roadway is only projected to experience moderate peak period congestion in the 2040 LRTP. The projected cost of this project is $40 million (in year of expenditure $). The project received a score of 90 in the 2040 LRTP, ranking 65th among the 109 candidate highway projects.

South Church Street Widening

This project (LRTP Project ID 2040-211) would widen South Church Street from two to four lanes between Battery Park Road and Talbot Drive in Smithfield. Similar to Battery Park Road, this section of South Church Street is expected to experience severe peak hour congestion in 2040.

The projected cost of this project is $146 million (in year of expenditure $). The project received a score of 72 in the 2040 LRTP, ranking 86th among the 109 candidate highway projects.



Map 19

Projects Included in the HRTPO 2040 Long-Range transportation Plan

LEGEND

- **Projects included for Construction**
- **Projects included in Studies**
- **Projects included in the Vision Plan**
- 2040-600 **LRTP Project ID**

Prepared by HRTPO Staff, October 2018.

2040 Traffic Characteristics

As part of long-range transportation planning efforts, HRTPO staff forecasts horizon year daily traffic volumes on the Congestion Management Process roadway network. These forecasted volumes are based on output from the regional travel demand model, which estimates raw traffic volumes based on socioeconomic projections and the 2040 regional roadway network, with the assumption that all of the fiscally-constrained projects included in the LRTP are constructed. For Isle of Wight County, this includes the Nike Park Road Extension project. However, roadways that are included as Studies in the LRTP or are included in the Vision Plan are not incorporated into the model's analysis.

HRTPO staff used these forecasted 2040 daily traffic volumes to estimate peak hour congestion levels on the CMP roadway network. The methodology used to determine these future congestion levels is largely similar to the methodology described in the Current Conditions - Roadway Congestion section of this report for those roadways without speed data.

Figure 37 on page 63 shows the current and forecasted 2040 LRTP weekday traffic volumes and PM Peak Hour congestion levels for CMP roadway segments in Isle of Wight County. **Map 20** on page 64 shows the projected 2040 LRTP PM Peak Hour congestion levels.

The amount of vehicular travel and peak hour congestion is projected to grow significantly in Isle of Wight County. In 2017, there were a total of 794,000 vehicle-miles of travel (VMT) that occurred each weekday on CMP roadways. By 2040, HRTPO forecasts that the VMT on the CMP network will increase 44%, up to 1,140,000 each weekday.

Peak period roadway congestion levels in Isle of Wight County are expected to increase as the amount of vehicular traffic grows. Thirteen roadway segments in Isle of Wight County are projected to operate at severely congested levels (LOS E or F) during the PM Peak Hour in 2040. These severely congested roadways include sections of Battery Park Road, Business Route 10 in Smithfield, Carrollton Boulevard (Route 17), Nike Park Road, Route 10 Bypass, and Route 258.

These severely congested roadway segments comprise a total of 14 centerline miles, or 33 lane-miles, of roadway in 2040. This is a large increase over the 12 lane-miles that were severely congested in 2017. In percentage terms, 14% of the CMP roadway network lane-miles in Isle of Wight County are expected to experience severe congestion during the PM Peak Hour in 2040, up from 5% in 2017 (**Figure 36**).

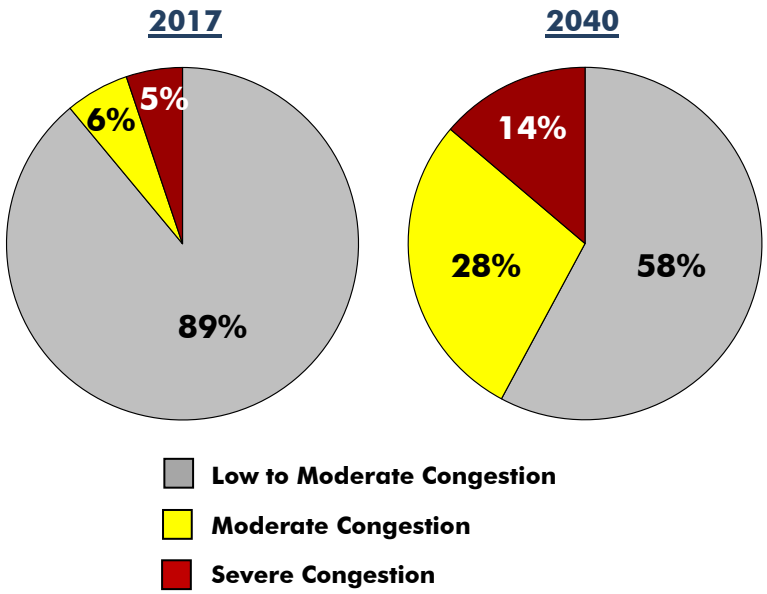


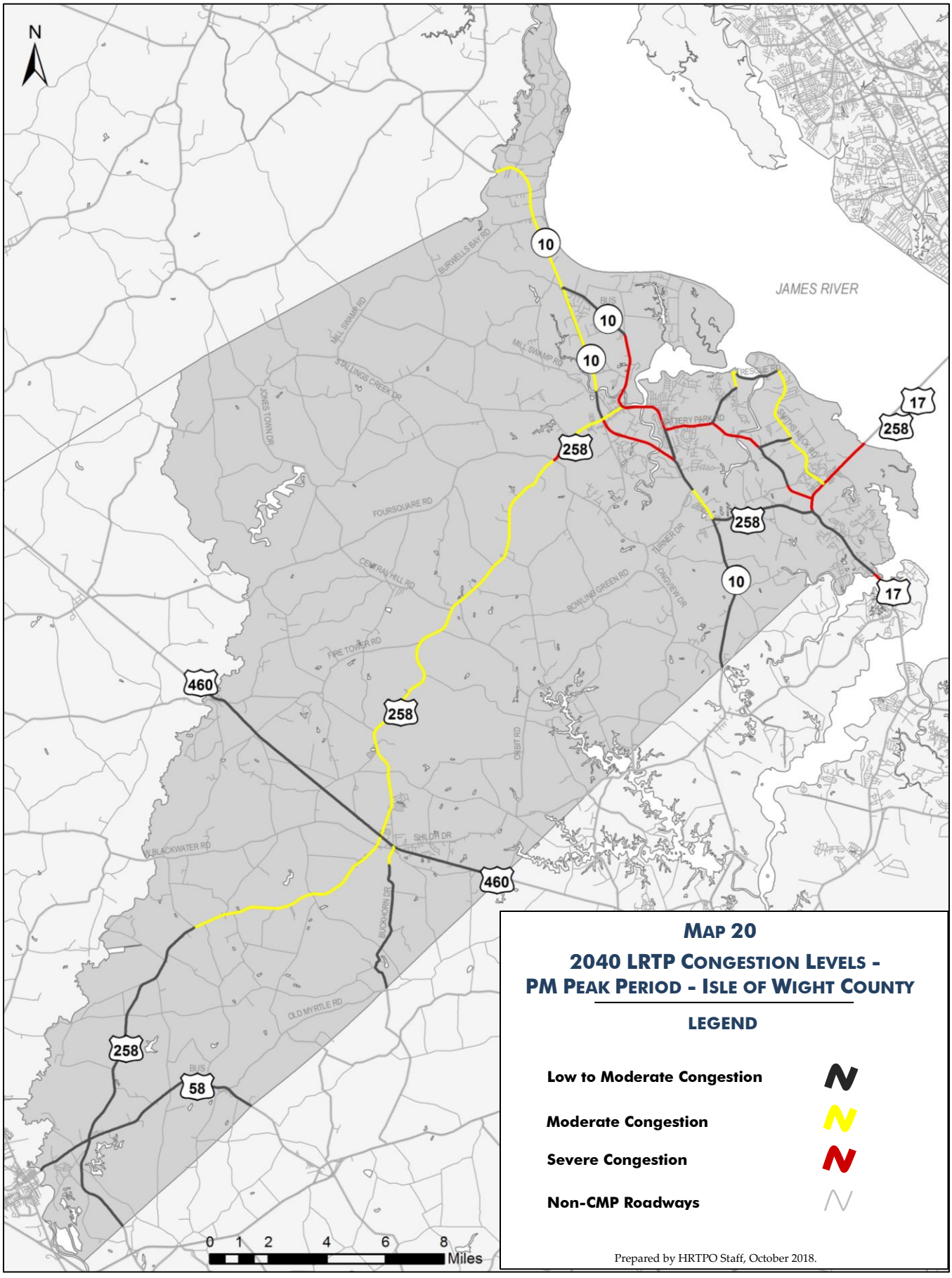
FIGURE 36 – 2017 AND 2040 LRTP PM PEAK PERIOD CONGESTION LEVELS BY LANE-MILE IN ISLE OF WIGHT COUNTY

Source: HRTPO. Only includes those roadways in the Regional CMP Roadway Network.

Route Num	Facility	Segment From	Segment To	Weekday Volume		PM Peak Hour Congestion Level 2017		PM Peak Hour Congestion Level 2040
				Existing	2040	NB/EB	SB/WB	
704	Battery Park Rd	S Church St	Nike Park Rd	10,612	17,000	LOW		SEV
704	Battery Park Rd	Nike Park Rd	Country Way	3,818	6,000	LOW		LOW
10	Benns Church Blvd	Suffolk CL	Riddick Rd	11,603	22,000	LOW	LOW	LOW
10	Benns Church Blvd	Riddick Rd	Brewers Neck Blvd	11,603	22,000	LOW	LOW	LOW
258	Benns Church Blvd	Brewers Neck Blvd	Turner Dr (Rte 644)	25,746	38,000	LOW	LOW	MOD
10	Benns Church Blvd	Turner Dr (Rte 644)	Church St S	28,271	40,000	SEV	SEV	LOW
258	Brewers Neck Blvd	Benns Church Blvd	Norsworthy Dr (Rte 670)	25,459	39,000	LOW	LOW	LOW
258	Brewers Neck Blvd	Norsworthy Dr (Rte 670)	Route 17	25,459	39,000	LOW	LOW	LOW
610	Buckhorn Dr	Suffolk CL	Sunset Dr (Rte 609)	487	3,000	LOW		LOW
610	Buckhorn Dr	Sunset Dr (Rte 609)	SCL Windsor	511	3,000	LOW		LOW
10	Bus Rte 10	NCL Smithfield	Jenkins Lane	6,091	7,000	MOD		SEV
10	Bus Rte 10	Jenkins Lane	Route 10 Bypass	1,516	2,000	LOW		LOW
58	Bus Rte 58/Bus Rte 258	Franklin CL	Jamestown Ln (Rte 691)	6,883	8,000	LOW	LOW	LOW
58	Bus Rte 58/Bus Rte 258	Jamestown Ln (Rte 691)	Route 258	6,883	9,000	LOW	LOW	LOW
58	Bus Rte 58	Route 258	Suffolk CL	2,363	4,000	LOW		LOW
17	Carrollton Blvd	Suffolk CL	West End Chuckatuck Bridge	16,617	23,000	LOW	LOW	SEV
17	Carrollton Blvd	West End Chuckatuck Bridge	Route 258	16,617	23,000	LOW	LOW	LOW
17	Carrollton Blvd	Route 258	Smith's Neck Rd	31,593	44,000	LOW	SEV	SEV
17	Carrollton Blvd/James River Br	Smith's Neck Rd	James River Bridge	31,593	50,000	LOW	SEV	SEV
10	Church St S	Route 10 Bypass	Battery Park Rd	13,956	23,000	LOW		LOW
10	Church St S	Battery Park Rd	Cypress Creek Bridge	12,512	19,000	MOD		SEV
10	Church St S	Cypress Creek Bridge	Main St	12,392	19,000	SEV		SEV
10	Church St N	Main St	Smithfield CL	6,089	11,000	MOD		SEV
610	Court St	SCL Windsor/Buckhorn Dr	Route 460	725	3,000	LOW		MOD
258	Main St	Route 10 Bypass	Church St	3,407	8,000	LOW		MOD
669	Nike Park Rd	Battery Park Rd	Titus Creek Dr	9,999	15,000	LOW		SEV
669	Nike Park Rd	Titus Creek Dr	Reynolds Dr	3,075	12,000	LOW		LOW
669	Nike Park Rd Ext	Reynolds Dr	Route 17	-	17,000	-		SEV
704	Rescue Rd	Newport St	Smith's Neck Rd	1,009	2,000	LOW		LOW
10	Route 10 (Old Stage Hwy)	Bus Rte 10	Surry CL	6,974	9,000	LOW	LOW	MOD
10	Route 10 Bypass	Church St S	Fairway Dr	18,489	21,000	MOD	MOD	SEV
10	Route 10 Bypass	Fairway Dr	Main St	18,489	21,000	MOD	MOD	SEV
10	Route 10 Bypass	Main St	NCL Smithfield	10,275	14,000	LOW	LOW	LOW
10	Route 10 Bypass	NCL Smithfield	Bus Route 10	7,335	8,000	LOW	LOW	MOD
258	Route 258	Suffolk CL	Union Camp Dr (Rte 656)	2,579	3,000	LOW		LOW
258	Route 258	Union Camp Dr (Rte 656)	Carrsville Hwy (Bus Rte 58)	1,057	2,000	LOW		LOW
258	Route 258	Carrsville Hwy (Bus Rte 58)	Burdette Rd (Rte 619)	3,478	4,000	LOW	LOW	LOW
258	Route 258	Burdette Rd (WRte 619)	River Run Trail (Rte 614)	3,478	4,000	LOW	LOW	LOW
258	Route 258	River Run Trail (Rte 614)	Blackwater Rd (Rte 603)	5,282	6,000	LOW	LOW	MOD
258	Route 258	Blackwater Rd (Rte 603)	WCL Windsor	5,274	6,000	LOW	LOW	MOD
258	Route 258	WCL Windsor	Route 460	5,274	6,000	LOW	LOW	MOD
258	Route 258	Route 460	ECL Windsor	5,658	7,000	LOW	LOW	MOD
258	Route 258	ECL Windsor	Court St North (Rte 610)	5,658	7,000	LOW	LOW	MOD
258	Route 258	Court St North (Rte 610)	Iron Mine Springs Rd (Rte 605)	4,521	6,000	LOW	LOW	MOD
258	Route 258	Iron Mine Springs Rd (Rte 605)	Central Hill Rd (Rte 637)	4,521	6,000	LOW	LOW	MOD
258	Route 258	Central Hill Rd (Rte 637)	Scotts Factory Rd (Rte 620)	5,001	7,000	LOW	LOW	MOD
258	Route 258	Scotts Factory Rd (Rte 620)	WCL Smithfield	9,794	11,000	LOW	LOW	SEV
258	Route 258/N Main St	WCL Smithfield	Route 10 Bypass	12,765	15,000	LOW	LOW	MOD
460	Route 460	Southampton CL	Firetower Rd (Rte 644)	10,032	12,000	LOW	LOW	LOW
460	Route 460	Firetower Rd (Rte 644)	WCL Windsor	10,032	13,000	LOW	LOW	LOW
460	Route 460	WCL Windsor	Route 258	10,032	13,000	LOW	LOW	LOW
460	Route 460	Route 258	Court St (Rte 610)	15,319	18,000	MOD	SEV	LOW
460	Route 460	Court St (Rte 610)	ECL Windsor	15,587	20,000	LOW	LOW	LOW
460	Route 460	ECL Windsor	Suffolk CL	15,587	20,000	LOW	LOW	LOW
669	Smith's Neck Rd	Carrollton Blvd	Reynolds Dr	11,726	6,000	SEV		MOD
665	Smith's Neck Rd	Reynolds Dr	Titus Creek Dr	9,048	7,000	MOD		MOD
665	Smith's Neck Rd	Titus Creek Dr	Rescue Rd	1,657	5,000	LOW		MOD
668	Titus Creek Dr	Smith's Neck Rd	Nike Park Rd	6,866	5,000	LOW		LOW
704	Todd Ave/Warwick St	Country Way	Newport St	1,009	3,000	LOW		MOD

FIGURE 37 – CURRENT AND 2040 LRTP WEEKDAY TRAFFIC VOLUMES AND PM PEAK HOUR LEVELS-OF SERVICE

Data sources: VDOT, HRTPO.



Map 20
2040 LRTP Congestion Levels - PM Peak Period - Isle of Wight County

LEGEND

- Low to Moderate Congestion
- Moderate Congestion
- Severe Congestion
- Non-CMP Roadways

Prepared by HRTPO Staff, October 2018.

Long Range Scenarios

Planning for horizon periods of 20+ years provides for many unknowns. By testing various future alternatives, scenario planning provides a framework for developing a shared vision for the future. This is done by considering and analyzing various factors (such as demographic, economic, environmental, and land use) that will have an impact on future growth.

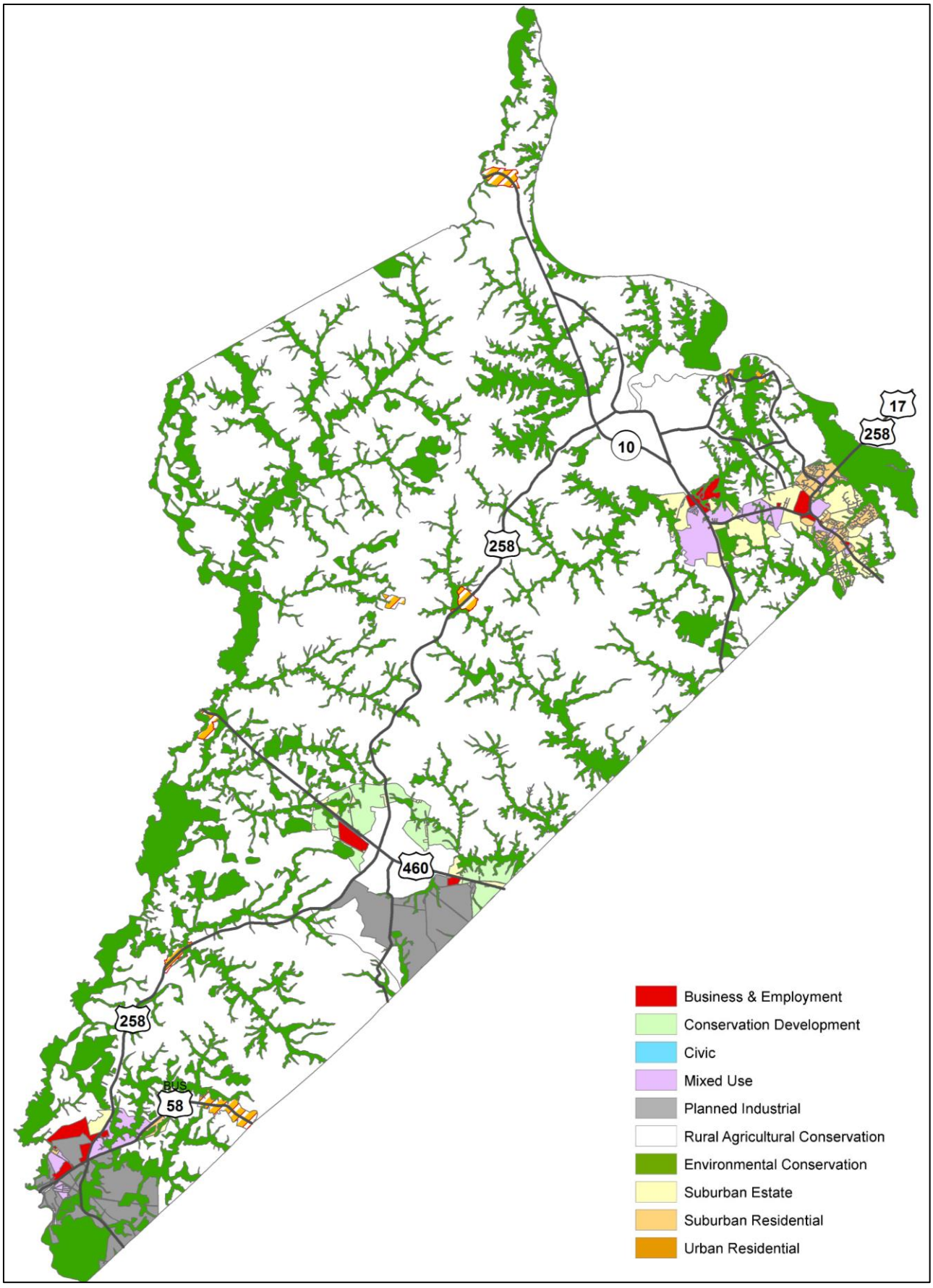
As part of the comprehensive plan update, Isle of Wight planners asked the community how growth should take place throughout the county over the next thirty years. Based on the response the county examined two land-use scenarios that are alternates to the County's current Comprehensive plan, which serves as the HRTPO's Base 2040 land use (shown in **Map 21** on page 66). These two land use scenarios include one that is more conservative in nature and one that is more progressive. Scenario 1 (shown in **Map 22** on page 67) is the more conservative scenario that assumes that there will be lower levels of growth, that growth may be less dense, and that growth will remain within existing Development Service District (DSD) boundaries. Scenario 2 (shown in **Map 23** on page 68) is the more progressive scenario that assumes that there will be higher levels of growth, that the growth may have more density, and that the existing DSD boundaries may change. After analyzing both scenarios and holding additional public meetings County officials prepared a Final Future Land Use Plan (shown in **Map 24** on page 69) that is largely a combination of Scenario 1 and Scenario 2.

Figure 38 shows the total number of acres of each land use type under the HRTPO 2040 Land Use Scenario, Scenario 1, and Scenario 2, and the County Final Future Land Use Plan.

Land Use Type		Land Use Description	HRTPO 2040 Land Use	Scenario 1 Conservative	Scenario 2 Progressive	Final Land Use Plan
BE	Business & Employment	These areas, which include planned office parks and large independent facilities, are located where the roads are adequate to accommodate traffic flows and where public sewer and water are proposed with a capacity for intensive development.	1,070	581	755	761
CD	Conservation Development Area	Areas which are currently undeveloped and near or adjacent to environmental resources which are sensitive to disturbances associated with land development.	2,305	125	1,081	458
CI	Civic	These areas include or are proposed to develop publicly-owned lands, government-owned buildings, and other public and semi-public institutional uses.	0	575	575	600
MU	Mixed Use Areas/Activity Center	These areas are designated for a mixture of uses with more intensive development along major roadways and should consist of large tracts that allow for a diversity and integration of uses. Areas with existing major commercial facilities are also included.	1,965	1,790	2,005	2,020
PI	Planned Industrial	Locations where existing industry and industrial zoning exists with access to major highway corridors and/or rail service. Public sewer and water and other public facilities are or will be adequate to accommodate industrial development.	5,528	4,497	4,679	3,321
RAC	Rural/Agricultural Conservation	This covers the vast majority of the County that is outside of DSDs and encompasses large areas devoted to agriculture and forests.	138,928	117,422	114,923	100,565
RC	Resource Conservation Area	Includes environmental features that are sensitive to development (e.g. wetlands, flood prone areas, streams, unique habitat areas and Resource Protection Areas).	50,416	73,600	73,619	81,095
SE	Suburban Estate	Locations suitable for development but are generally removed from major transportation routes. Development would be limited to single family residential development with 1 to 2 acre lot sizes.	2,937	3,217	3,912	3,308
SR	Suburban Residential	Locations are in close proximity to major transportation routes and adjacent to Mixed Use Activity Centers, Business & Employment areas, or adjacent to residentially developed areas within the Towns. Single family detached development would be limited to 0.25 to 1 acre lot sizes.	956	2,467	2,584	2,439
UR	Urban Residential	These locations are designated to accommodate devleopment at a higher, largely residential density of 5 to 10 units per acre. They are adjacent to Mixed Use Areas, Business & Employment areas, or adjacent to highly developed areas within Towns.	0	364	758	752
VC	Village Center	Small communities outside the DSD located at rural crossroads that serve as the institutional, commercial, social and religious focal points of rural areas.	1,243	1,132	881	880

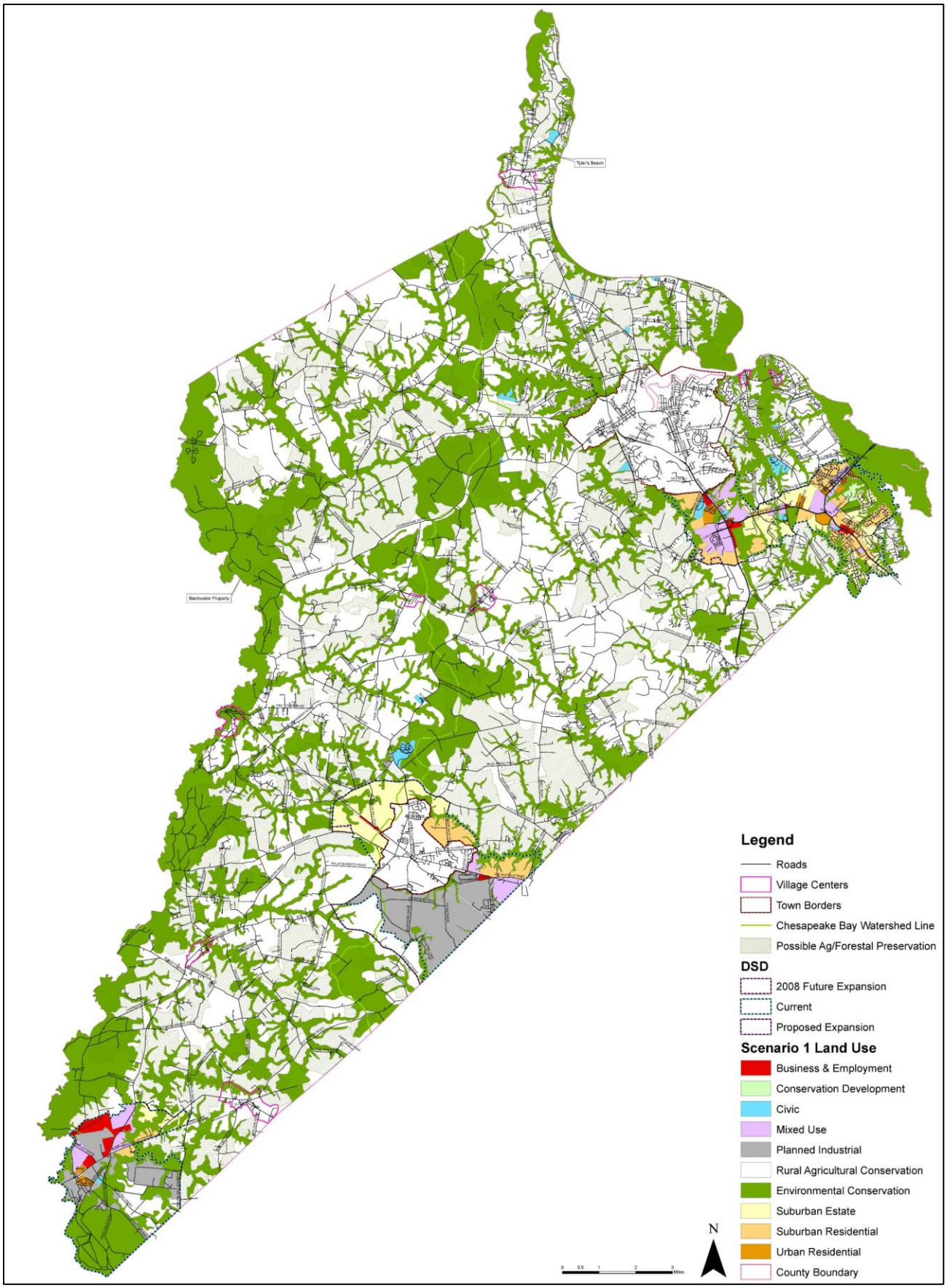
FIGURE 38 – NUMBER OF ACRES OF EACH LAND USE TYPE IN ISLE OF WIGHT COUNTY BY SCENARIO

Source: HRTPO, Isle of Wight County.



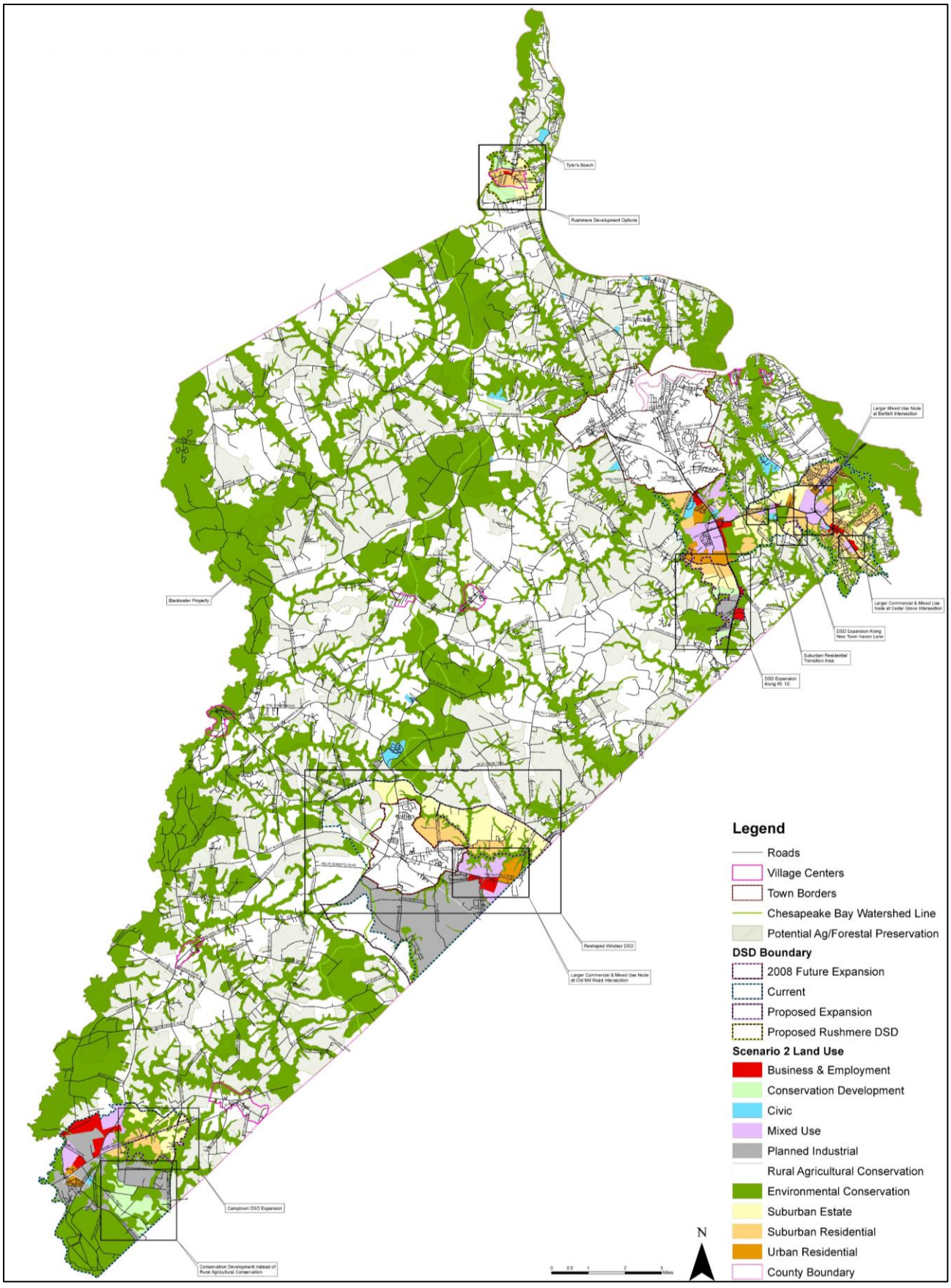
MAP 21 – HRTPO 2040 LAND USE

Source: Isle of Wight County.



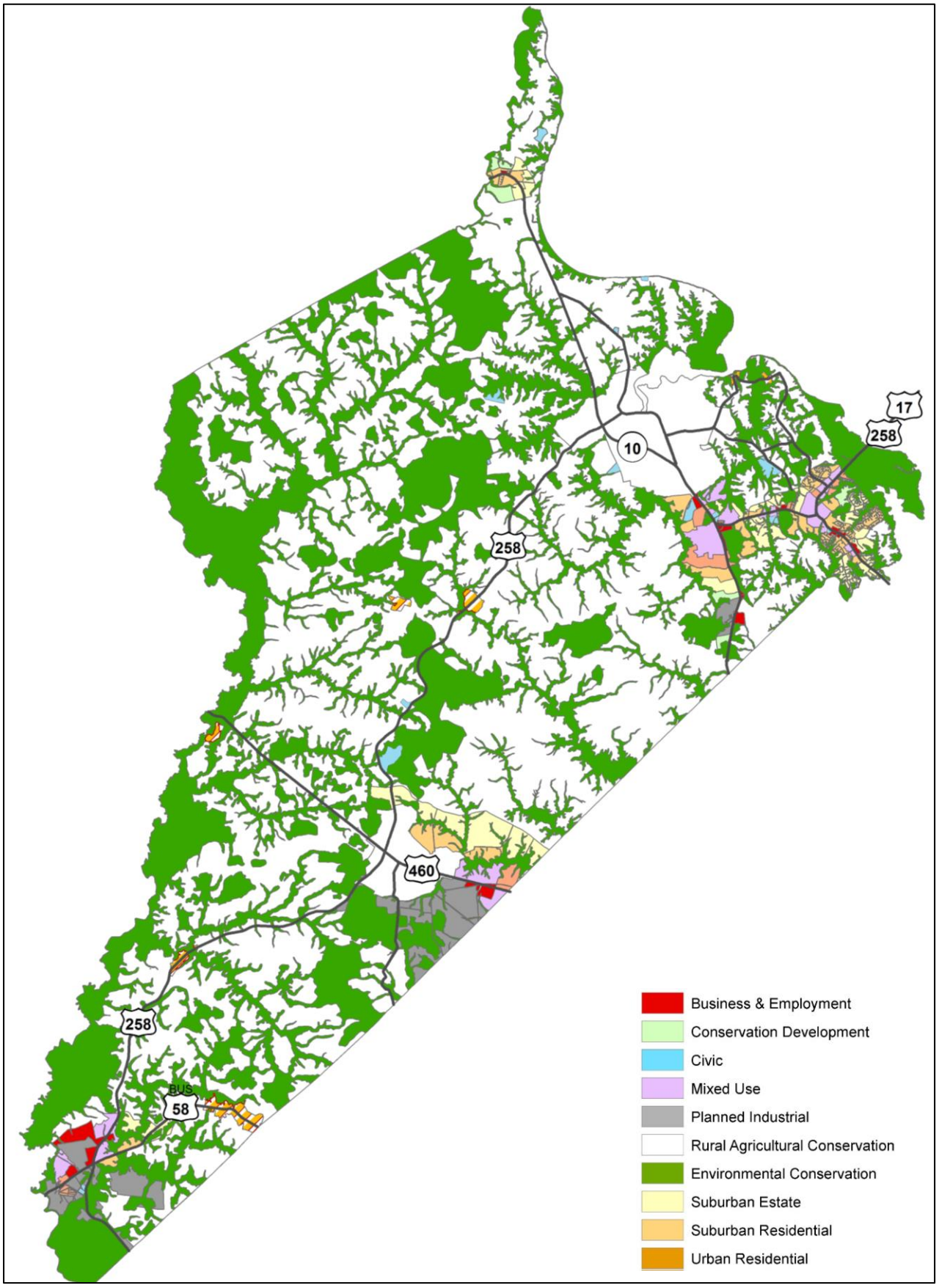
MAP 22 – LAND USE IN SCENARIO 1

Source: Isle of Wight County.



MAP 23 – LAND USE IN SCENARIO 2

Source: Isle of Wight County.



MAP 24 – LAND USE IN THE FINAL FUTURE LAND USE PLAN

Source: Isle of Wight County.

HRTPO staff analyzed the possible impacts of these future land use scenarios on the county's roadway network. For this analysis, HRTPO staff performed the following tasks and made the following assumptions:

- HRTPO staff combined the land uses for each of the four scenarios shown on the previous pages into Transportation Analysis Zones (TAZs). TAZs are the base geographic unit of analysis used in the regional travel demand model to forecast trip volumes, commuting patterns, and modes of travel. They represent an area containing similar kinds of land use and socioeconomic data (population, employment, automobile ownership, etc.). More information on TAZs, of which there are currently 21 in Isle of Wight County, is available in HRTPO's Hampton Roads 2040 Socioeconomic Forecast and TAZ Allocations report.
- HRTPO staff made assumptions of the number of households and employment levels (classified as retail, industrial, office, and other) in each TAZ based on the amount of acres of each land use type. For example, HRTPO assumed there would be 5.2 households per acre in areas zoned Urban Residential, but 3.2 households per acre for those areas zoned Suburban Residential. These assumptions are based on those used by Isle of Wight for the comprehensive plan update. Calculations were made for each land use and employment type for each TAZ (i.e. there are 106 retail jobs in areas zoned as BE in TAZ #726 in Scenario 1).
- It was assumed that each land use type was fully utilized or "built-out" in the horizon year of 2040, meaning the volume analysis is looking at a high or "worst-case scenario."
- These values were summed up to produce a total number of households and total employment (broken down by type) in each TAZ for each of the four scenarios.

Based on these assumptions, HRTPO staff input the new scenario-specific household and employment data for each TAZ in Isle of Wight County into the 2040 regional travel demand model. All other assumptions that were originally included in the regional travel demand model, including TAZ allocations in other jurisdictions and roadway projects included in the 2040 LRTP, were unchanged. The model was then run for each scenario to produce future weekday traffic volumes for each CMP roadway segment in the county.

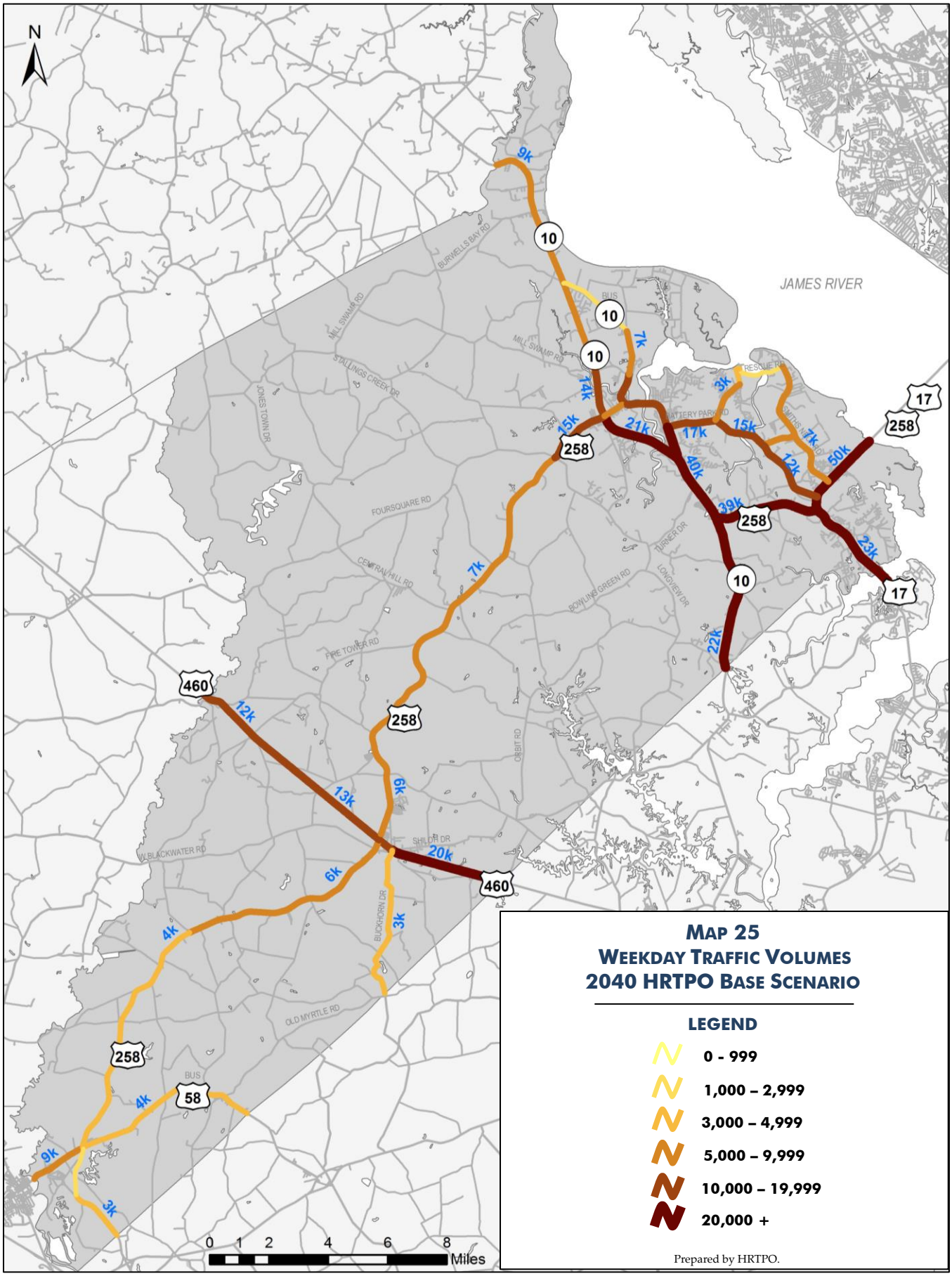
Map 25 on page 71 shows the projected weekday traffic volumes in the "2040 HRTPO Base" alternative which is based on the 2040 Hampton Roads Long-Range Transportation Plan. **Map 26** on page 72 shows the projected weekday traffic volumes in Scenario 1, **Map 27** on page 73 shows the projected volumes in Scenario 2, and **Map 28** on page 74 shows the projected volumes in the County's Final Future Land Use Plan.

In order to further compare the scenarios, **Maps 29 - 31** on pages 75-77 show the expected difference in weekday traffic volumes between the 2040 HRTPO Base alternative, Scenario 1, Scenario 2, and the Final Future Land Use Plan.

The traffic volumes produced under both Scenario 1 and Scenario 2 differ from the 2040 HRTPO Base Scenario. Traffic volumes are higher in both Scenario 1 and Scenario 2 in the Route 17 corridor, along Route 258 to the south of Windsor, and along Route 460 to the east of Windsor. Both Scenario 1 and Scenario 2 also have lower traffic volumes in the Smithfield area compared to the 2040 HRTPO Base Scenario.

Traffic volumes throughout the county are generally projected to be higher under Scenario 2 compared to Scenario 1. This is especially true in the Benns Church Boulevard, Brewers Neck Boulevard, and Carrollton Boulevard corridors. However, Scenario 2 had lower traffic volumes than Scenario 1 along the Route 460 corridor to the west of Windsor.

Although the Final Future Land Use Plan is a combination of Scenario 1 and Scenario 2, the traffic volumes produced in the Final Future Land Use Plan scenario are generally more similar to those in Scenario 2 than those in Scenario 1.

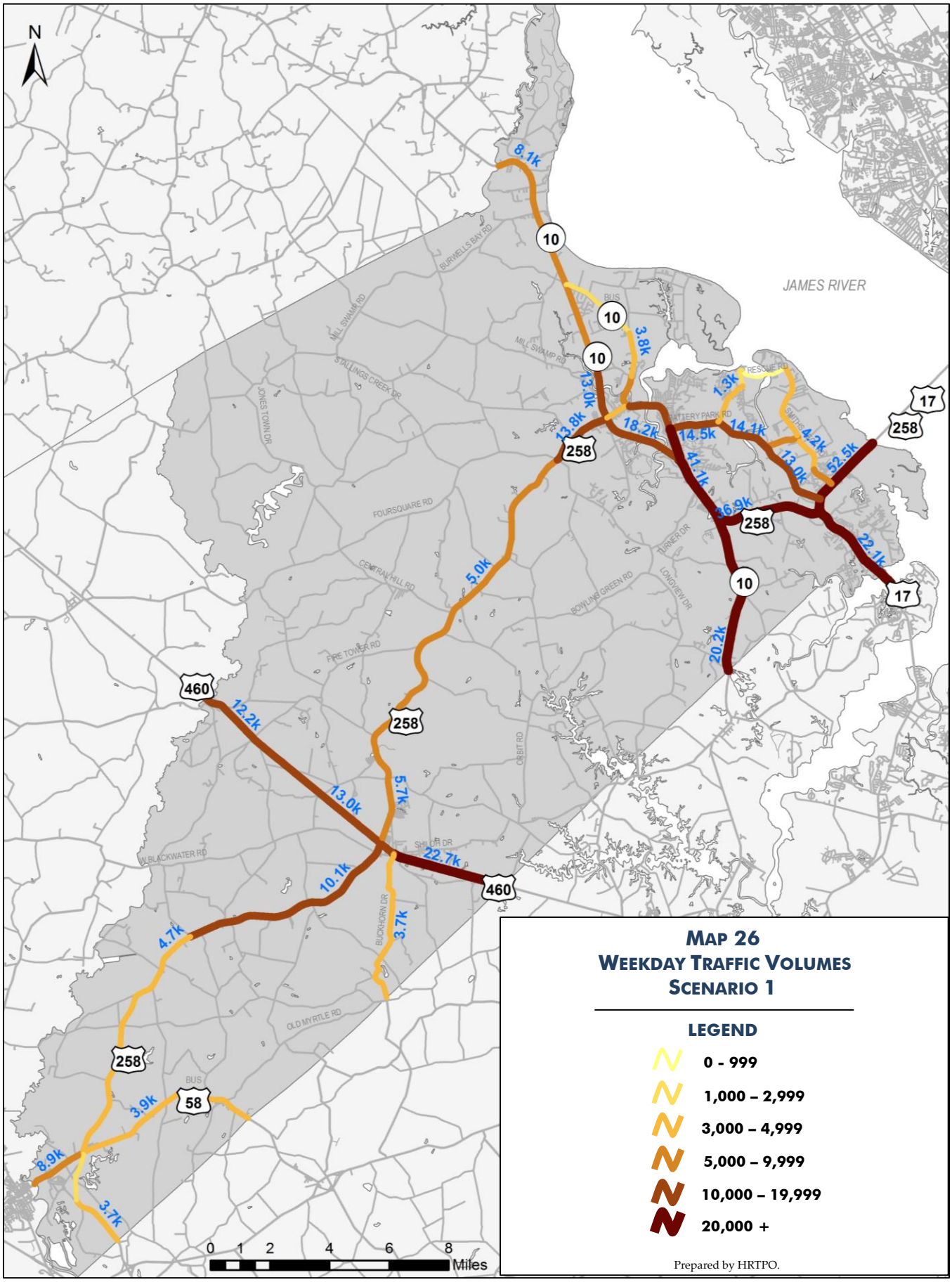


Map 25
Weekday Traffic Volumes
2040 HRTPO Base Scenario

LEGEND

- 0 - 999
- 1,000 – 2,999
- 3,000 – 4,999
- 5,000 – 9,999
- 10,000 – 19,999
- 20,000 +

Prepared by HRTPO.

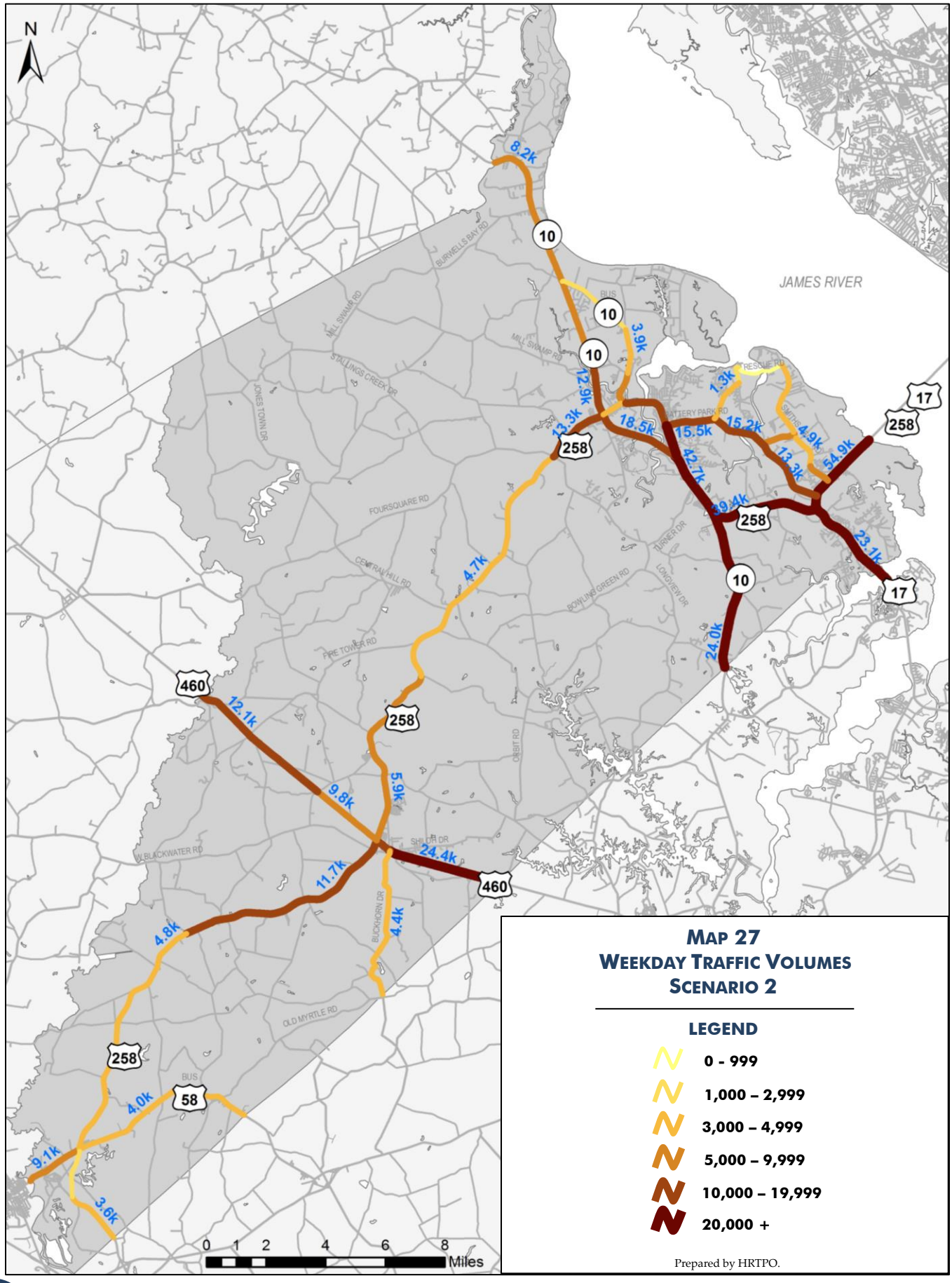


Map 26
Weekday Traffic Volumes
Scenario 1

LEGEND

- 0 - 999
- 1,000 – 2,999
- 3,000 – 4,999
- 5,000 – 9,999
- 10,000 – 19,999
- 20,000 +

Prepared by HRTPO.

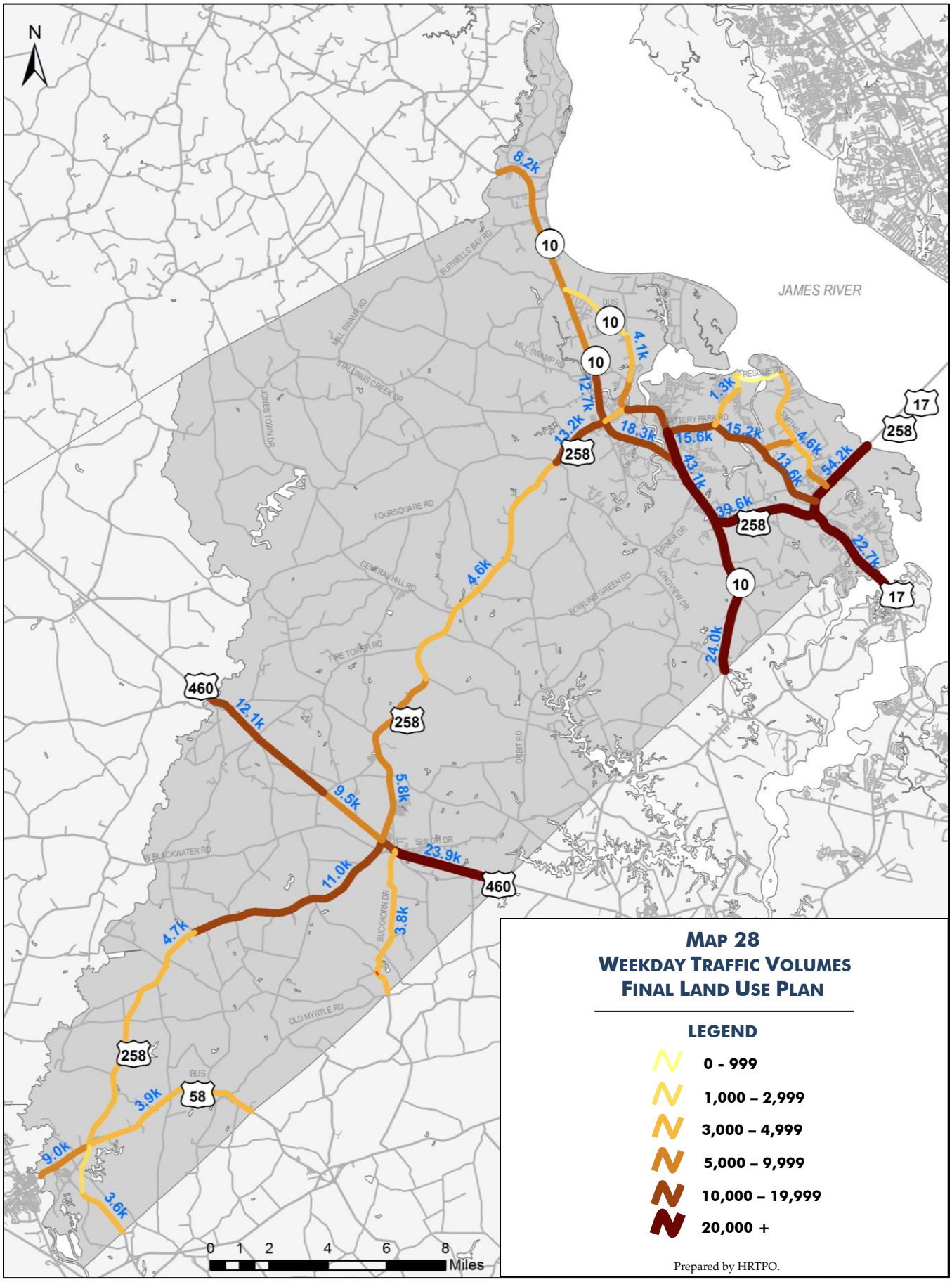


Map 27
Weekday Traffic Volumes
Scenario 2

LEGEND

- 0 - 999
- 1,000 – 2,999
- 3,000 – 4,999
- 5,000 – 9,999
- 10,000 – 19,999
- 20,000 +

Prepared by HRTPO.

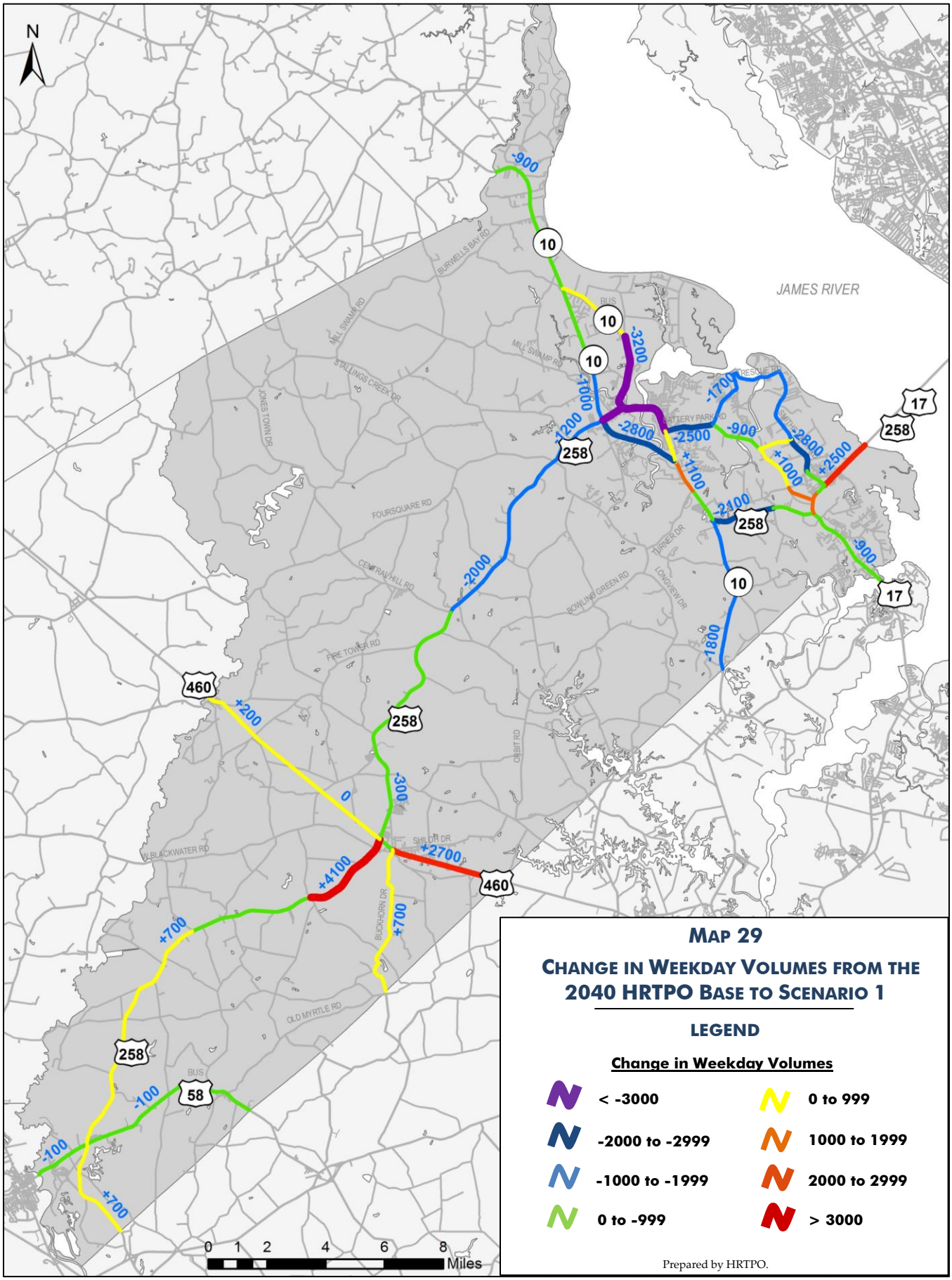


Map 28
Weekday Traffic Volumes
Final Land Use Plan

LEGEND

- 0 - 999
- 1,000 – 2,999
- 3,000 – 4,999
- 5,000 – 9,999
- 10,000 – 19,999
- 20,000 +

Prepared by HRTPO.



Map 29

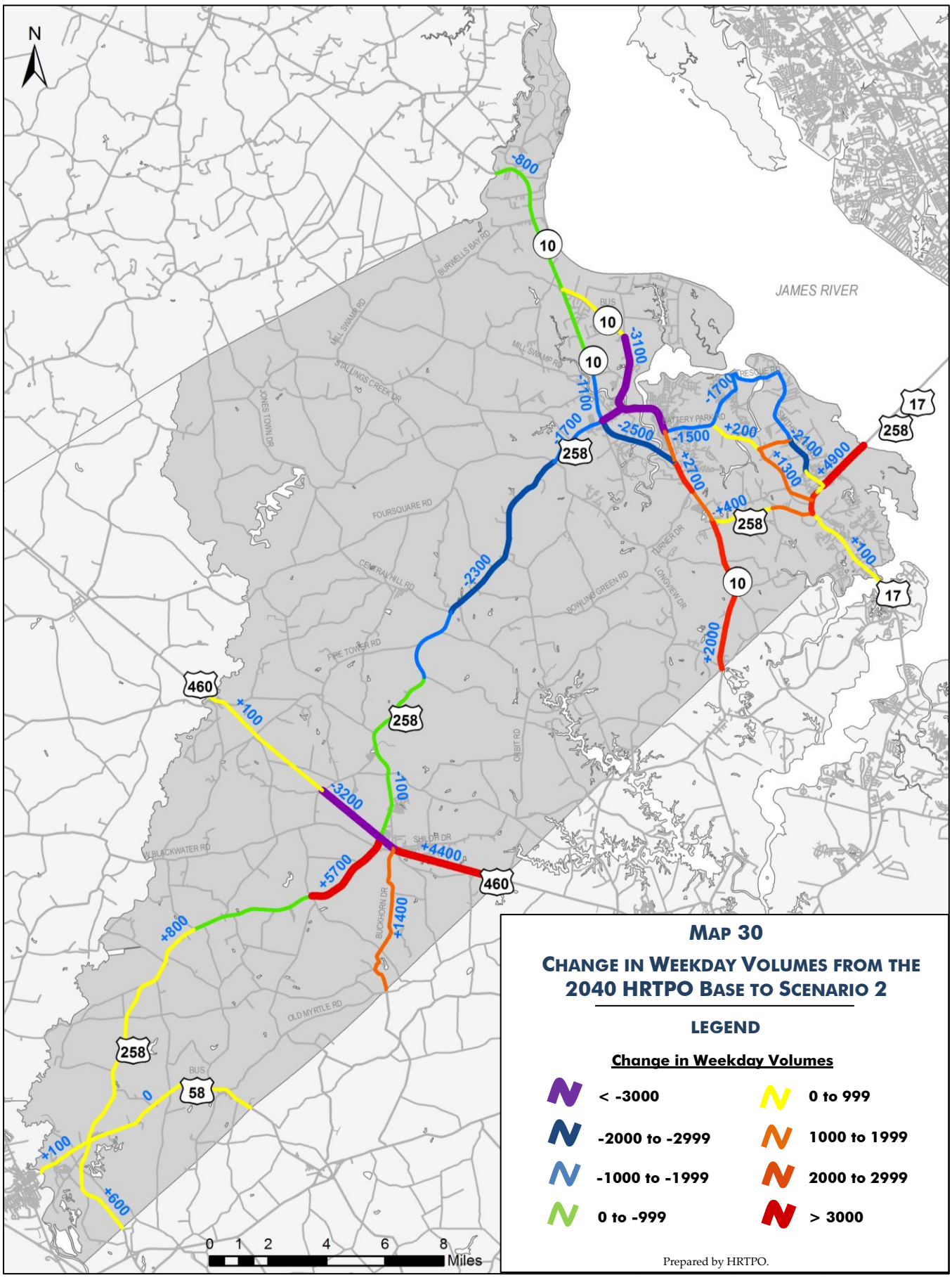
Change in Weekday Volumes from the 2040 HRTPO Base to Scenario 1

LEGEND

Change in Weekday Volumes

- < -3000
- -2000 to -2999
- -1000 to -1999
- 0 to -999
- 0 to 999
- 1000 to 1999
- 2000 to 2999
- > 3000

Prepared by HRTPO.



Map 30

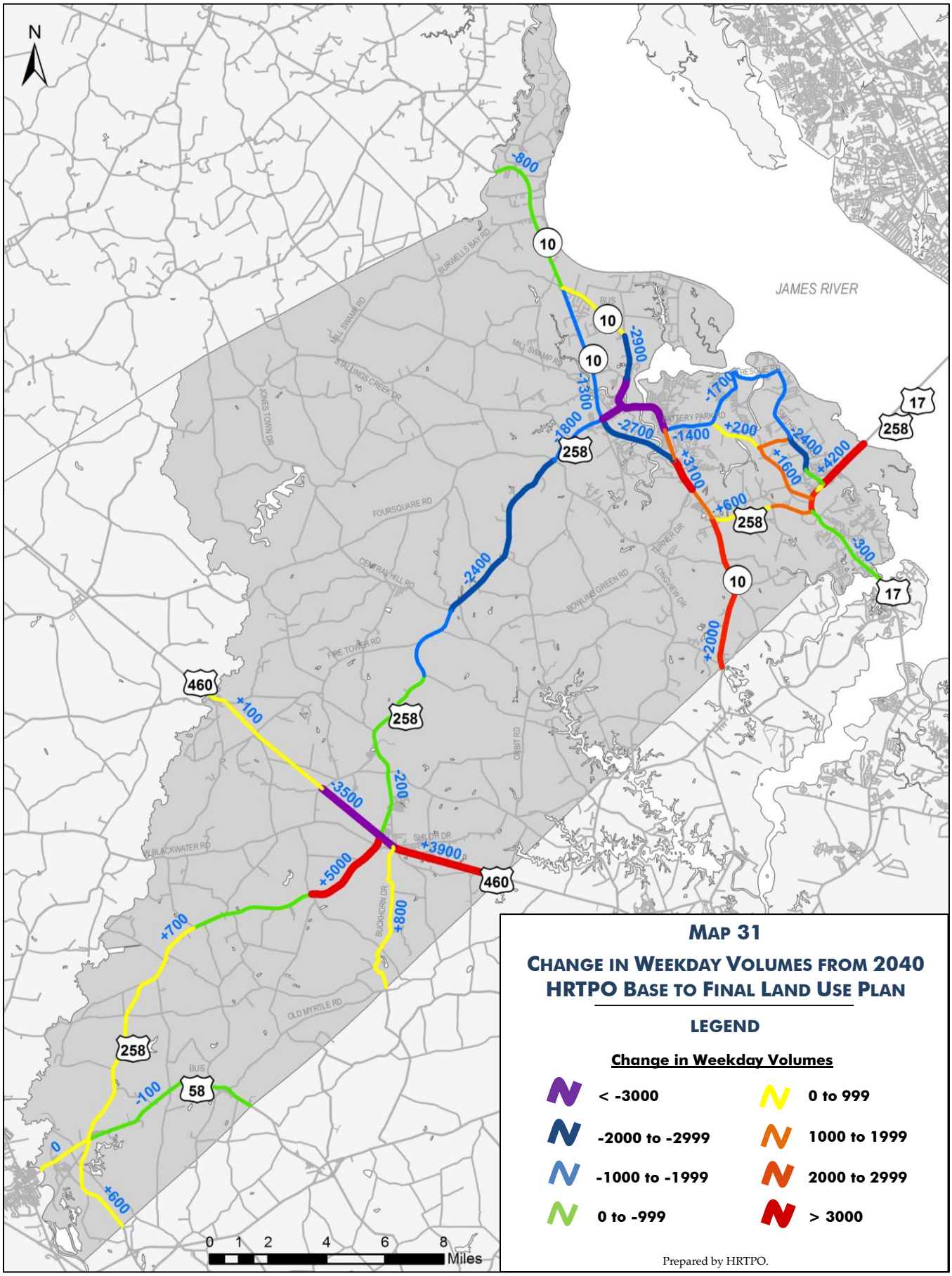
Change in Weekday Volumes from the 2040 HRTPO Base to Scenario 2

LEGEND

Change in Weekday Volumes

- < -3000
- -2000 to -2999
- -1000 to -1999
- 0 to -999
- 0 to 999
- 1000 to 1999
- 2000 to 2999
- > 3000

Prepared by HRTPO.



Map 31

Change in Weekday Volumes from 2040 HRTPO Base to Final Land Use Plan

LEGEND

Change in Weekday Volumes

- < -3000
- -2000 to -2999
- -1000 to -1999
- 0 to -999
- 0 to 999
- 1000 to 1999
- 2000 to 2999
- > 3000

Prepared by HRTPO.

Rte Num	Facility	Segment From	Segment To	Projected Weekday Volume				PM Peak Hour Congestion Level			
				HRTPO 2040 Base	Scenario 1	Scenario 2	Final Land Use Plan	HRTPO 2040 Base	Scenario 1	Scenario 2	Final Land Use Plan
704	Battery Park Rd	S Church St	Nike Park Rd	17,000	14,500	15,500	15,600	SEV	SEV	SEV	SEV
704	Battery Park Rd	Nike Park Rd	Country Way	6,000	4,300	4,300	4,300	LOW	LOW	LOW	LOW
10	Benns Church Blvd	Suffolk CL	Riddick Rd	22,000	20,200	24,000	24,000	LOW	LOW	LOW	LOW
10	Benns Church Blvd	Riddick Rd	Brewers Neck Blvd	22,000	20,200	24,000	24,000	LOW	LOW	LOW	LOW
258	Benns Church Blvd	Brewers Neck Blvd	Turner Dr (Rte 644)	38,000	37,300	39,100	39,000	MOD	MOD	SEV	SEV
10	Benns Church Blvd	Turner Dr (Rte 644)	Church St S	40,000	41,100	42,700	43,100	LOW	SEV	SEV	SEV
258	Brewers Neck Blvd	Benns Church Blvd	Norsworthy Dr (Rte 670)	39,000	36,900	39,400	39,600	LOW	LOW	LOW	LOW
258	Brewers Neck Blvd	Norsworthy Dr (Rte 670)	Route 17	39,000	38,800	40,800	40,700	LOW	LOW	LOW	LOW
610	Buckhorn Dr	Suffolk CL	Sunset Dr (Rte 609)	3,000	3,700	4,400	3,800	LOW	LOW	MOD	LOW
610	Buckhorn Dr	Sunset Dr (Rte 609)	SCL Windsor	3,000	3,700	4,400	3,800	LOW	MOD	MOD	MOD
10	Bus Rte 10	NCL Smithfield	Jenkins Lane	7,000	3,800	3,900	4,100	SEV	MOD	MOD	MOD
10	Bus Rte 10	Jenkins Lane	Route 10 Bypass	2,000	2,100	2,300	2,500	LOW	LOW	LOW	LOW
58	Bus Rte 58/Bus Rte 258	Franklin CL	Jamestown Ln (Rte 691)	8,000	7,900	8,100	8,000	LOW	LOW	LOW	LOW
58	Bus Rte 58/Bus Rte 258	Jamestown Ln (Rte 691)	Route 258	9,000	8,900	9,100	9,000	LOW	LOW	LOW	LOW
58	Bus Rte 58	Route 258	Suffolk CL	4,000	3,900	4,000	3,900	LOW	LOW	LOW	LOW
17	Carrollton Blvd	Suffolk CL	West End Chuckatuck Bridge	23,000	22,100	23,100	22,700	SEV	SEV	SEV	SEV
17	Carrollton Blvd	West End Chuckatuck Bridge	Route 258	23,000	22,100	23,100	22,700	LOW	LOW	LOW	LOW
17	Carrollton Blvd	Route 258	Smith's Neck Rd	44,000	45,200	46,400	46,200	SEV	SEV	SEV	SEV
17	Carrollton Blvd/James River Br	Smith's Neck Rd	James River Bridge	50,000	52,500	54,900	54,200	SEV	SEV	SEV	SEV
10	Church St S	Route 10 Bypass	Battery Park Rd	23,000	23,400	24,200	24,500	LOW	LOW	LOW	LOW
10	Church St S	Battery Park Rd	Cypress Creek Bridge	19,000	14,300	15,400	15,700	SEV	MOD	MOD	SEV
10	Church St S	Cypress Creek Bridge	Main St	19,000	14,300	15,400	15,700	SEV	SEV	SEV	SEV
10	Church St N	Main St	Smithfield CL	11,000	6,100	6,100	6,300	SEV	MOD	MOD	MOD
610	Court St	SCL Windsor/Buckhorn Dr	Route 460	3,000	3,700	4,400	3,800	MOD	MOD	MOD	MOD
258	Main St	Route 10 Bypass	Church St	8,000	3,200	4,200	4,200	MOD	LOW	LOW	LOW
669	Nike Park Rd	Battery Park Rd	Titus Creek Dr	15,000	14,100	15,200	15,200	SEV	SEV	SEV	SEV
669	Nike Park Rd	Titus Creek Dr	Reynolds Dr	12,000	13,000	13,300	13,600	LOW	MOD	MOD	MOD
669	Nike Park Rd Ext	Reynolds Dr	Route 17	17,000	18,500	18,700	18,400	SEV	SEV	SEV	SEV
704	Rescue Rd	Newport St	Smith's Neck Rd	2,000	300	300	300	LOW	LOW	LOW	LOW
10	Route 10 (Old Stage Hwy)	Bus Rte 10	Surry CL	9,000	8,100	8,200	8,200	MOD	MOD	MOD	MOD
10	Route 10 Bypass	Church St S	Fairway Dr	21,000	18,200	18,500	18,300	SEV	SEV	SEV	SEV
10	Route 10 Bypass	Fairway Dr	Main St	21,000	18,200	18,500	18,300	SEV	SEV	SEV	SEV
10	Route 10 Bypass	Main St	NCL Smithfield	14,000	13,000	12,900	12,700	LOW	LOW	LOW	LOW
10	Route 10 Bypass	NCL Smithfield	Bus Route 10	8,000	7,200	7,200	7,000	MOD	LOW	LOW	LOW
258	Route 258	Suffolk CL	Union Camp Dr (Rte 656)	3,000	3,700	3,600	3,600	LOW	LOW	LOW	LOW
258	Route 258	Union Camp Dr (Rte 656)	Carrsville Hwy (Bus Rte 58)	2,000	2,700	2,700	2,600	LOW	LOW	LOW	LOW
258	Route 258	Carrsville Hwy (Bus Rte 58)	Burdette Rd (Rte 619)	4,000	4,700	4,800	4,700	LOW	LOW	LOW	LOW
258	Route 258	Burdette Rd (WRte 619)	River Run Trail (Rte 614)	4,000	3,800	3,700	3,700	LOW	LOW	LOW	LOW
258	Route 258	River Run Trail (Rte 614)	Blackwater Rd (Rte 603)	6,000	10,100	11,700	11,000	MOD	SEV	SEV	SEV
258	Route 258	Blackwater Rd (Rte 603)	WCL Windsor	6,000	10,100	11,700	11,000	MOD	SEV	SEV	SEV
258	Route 258	WCL Windsor	Route 460	6,000	10,100	11,700	11,000	MOD	SEV	SEV	SEV
258	Route 258	Route 460	ECL Windsor	7,000	6,700	7,000	6,900	MOD	MOD	MOD	MOD
258	Route 258	ECL Windsor	Court St North (Rte 610)	7,000	6,700	7,000	6,900	MOD	MOD	MOD	MOD
258	Route 258	Court St North (Rte 610)	Iron Mine Springs Rd (Rte 605)	6,000	5,700	5,900	5,800	MOD	MOD	MOD	MOD
258	Route 258	Iron Mine Springs Rd (Rte 605)	Central Hill Rd (Rte 637)	6,000	5,100	4,600	4,500	MOD	LOW	LOW	LOW
258	Route 258	Central Hill Rd (Rte 637)	Scotts Factory Rd (Rte 620)	7,000	5,000	4,700	4,600	MOD	LOW	LOW	LOW
258	Route 258	Scotts Factory Rd (Rte 620)	WCL Smithfield	11,000	9,800	9,300	9,200	SEV	MOD	MOD	MOD
258	Route 258/N Main St	WCL Smithfield	Route 10 Bypass	15,000	13,800	13,300	13,200	MOD	MOD	MOD	MOD
460	Route 460	Southampton CL	Firetower Rd (Rte 644)	12,000	12,200	12,100	12,100	LOW	LOW	LOW	LOW
460	Route 460	Firetower Rd (Rte 644)	WCL Windsor	13,000	13,000	9,800	9,500	LOW	LOW	LOW	LOW
460	Route 460	WCL Windsor	Route 258	13,000	13,000	9,800	9,500	LOW	LOW	LOW	LOW
460	Route 460	Route 258	Court St (Rte 610)	18,000	17,800	14,800	14,400	LOW	LOW	LOW	LOW
460	Route 460	Court St (Rte 610)	ECL Windsor	20,000	22,700	24,400	23,900	LOW	LOW	LOW	LOW
460	Route 460	ECL Windsor	Suffolk CL	20,000	22,700	24,400	23,900	LOW	LOW	LOW	LOW
669	Smith's Neck Rd	Carrollton Blvd	Reynolds Dr	6,000	5,300	6,100	5,700	MOD	MOD	MOD	MOD
665	Smith's Neck Rd	Reynolds Dr	Titus Creek Dr	7,000	4,200	4,900	4,600	MOD	LOW	LOW	LOW
665	Smith's Neck Rd	Titus Creek Dr	Rescue Rd	5,000	3,300	3,300	3,300	MOD	LOW	LOW	LOW
668	Titus Creek Dr	Smith's Neck Rd	Nike Park Rd	5,000	5,900	6,600	6,400	LOW	LOW	LOW	LOW
704	Todd Ave/Warwick St	Country Way	Newport St	3,000	1,300	1,300	1,300	MOD	LOW	LOW	LOW

FIGURE 39 – PROJECTED WEEKDAY VOLUMES AND PM PEAK HOUR CONGESTION LEVELS UNDER THE HRTPO 2040 BASE SCENARIO, SCENARIO 1, SCENARIO 2, AND THE FINAL FUTURE LAND USE PLAN

Source: HRTPO.

HRTPO staff used these projected weekday traffic volumes to determine roadway congestion levels under each of these scenarios. These projected peak hour congestion levels, along with weekday volumes, are shown in **Figure 39**.

Most of the roadways that are severely congested in the 2040 HRTPO Base scenario are also congested in Scenario 1, Scenario 2, and the Final Future Land Use Plan scenario. Roadways that are severely congested in all four scenarios include:

- Battery Park Road – South Church Street to Nike Park Road
- Carrollton Boulevard – At the Chuckatuck Bridge
- Carrollton Boulevard – Route 258 to the James River Bridge

- Nike Park Road – Battery Park Road to Titus Creek Drive
- Nike Park Road Extension – Future roadway from Reynolds Drive to Route 17
- Route 10 Bypass – South Church Street to Main Street
- South Church Street – Cypress Creek Bridge to Main Street

There are a few roadway segments, however, that are severely congested in at least one but not all three scenarios. These roadways include:

- Benns Church Boulevard – Brewers Neck Boulevard to Turner Drive (congested in Scenario 2 and the Final Land Use scenario)
- Benns Church Boulevard – Turner Drive to South Church Street (congested in Scenario 1, Scenario 2, and the Final Land Use Plan scenario)
- Business Route 10 – Main Street to Jenkins Lane (congested in the 2040 HRTPO Base Scenario)
- Route 258 – River Run Trail to Route 460 (congested in Scenario 1, Scenario 2, and the Final Land Use Plan scenario)
- Route 258 – Scotts Factory Road to the Smithfield Line (congested in the 2040 HRTPO Base Scenario)
- South Church Street – Battery Park Road to the Cypress Creek Bridge (congested in the 2040 HRTPO Base Scenario and the Final Land Use Plan scenario)

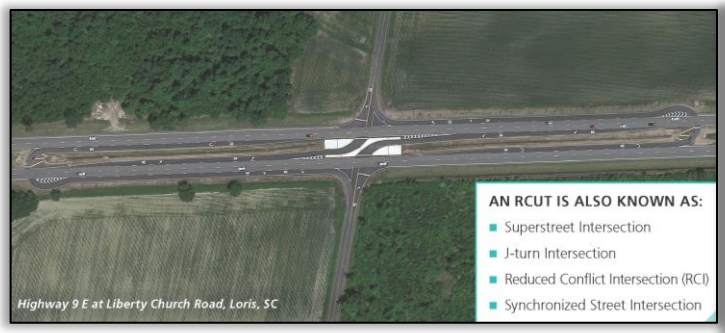
Although the traffic volumes vary between Scenario 1 and Scenario 2, only one roadway segment – Benns Church Boulevard between Brewers Neck Boulevard and Turner Drive – is projected to cross the threshold from uncongested conditions in Scenario 1 to severely congested conditions in Scenario 2. This roadway is also severely congested in the Final Future Land Use Plan scenario.

Figure 41 on page 80 includes a list of potential projects that would be candidates to alleviate severely congested operating conditions. Most of these potential projects involve adding a travel lane in each direction or a center left-turn lane to increase roadway capacity. Included in this list are the scenarios where each roadway segment is expected to be severely congested, the estimated planning level cost of each improvement, and the projected peak period congestion level if the project was implemented. Projected planning level costs are largely based on unit costs included in the VDOT Transportation and Mobility Planning Division's (TMPD) Statewide Planning Level Cost Estimates worksheet. The range shown in the projected planning level costs represents the range between the low and high unit construction costs for the Hampton Roads region.

The most expensive project – at an estimated cost of $75-$99 million in 2018 dollars – would be widening approximately 5 miles of Route 258 from 2 to 4 lanes between River Run Trail and Route 460. The next most expensive project involves widening Carrollton Boulevard (Route 17) from 4 to 6 lanes between Brewers Neck Boulevard (Route 258) and the James River Bridge. This project would be expected to cost $53-$86 million in 2018 dollars.

A potential project that was examined was upgrading Carrollton Boulevard (Route 17) to Superstreet standards. This alternative involves constructing Restricted Crossing U-Turn (RCUT) intersections at all signalized intersections in the corridor. RCUTs are intersections that are designed where all side street movements begin with a right turn (**Figure 40** on page 80). Side street vehicles turn right and make a U-turn at a downstream median opening to complete left turn and through movements. Superstreet designs tend to improve the safety and efficiency of median-divided highways with heavy through traffic volumes when left-turn and through traffic volumes on the side streets are low.

According to research done for the North Carolina Department of Transportation a Superstreet would be expected to reach severely congested conditions when daily volumes exceed 50,300 vehicles per day on the major street. This, however, largely depends on how the Superstreet is designed and how each individual intersection operates. Although the projected volumes in Scenario 1, Scenario 2, and the Final Land Use Plan scenario are slightly above the congestion threshold for a Superstreet, an in-depth analysis may indicate that each intersection could be designed to operate at acceptable levels.



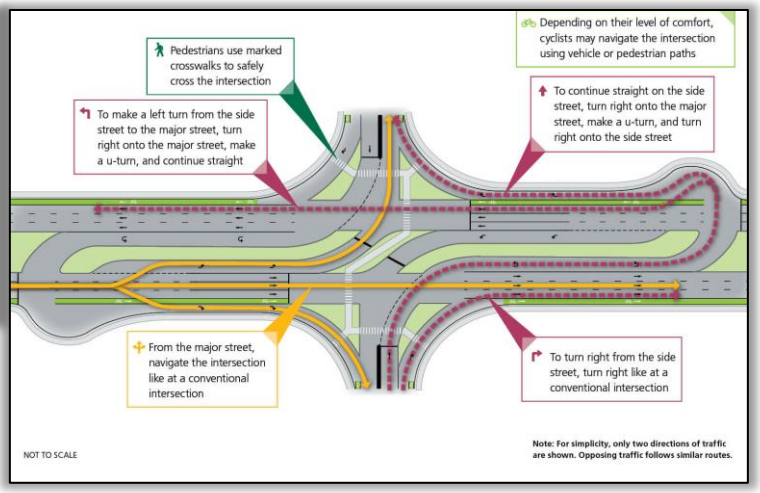


FIGURE 40 – SUPERSTREET DESIGN WITH RCUTS

Source: VDOT.

Facility	Applicable Scenario: HRTPO 2040 Base	Scenario 1	Scenario 2	Final LU Plan	Candidate Project	Included in Other Studies	Projected Planning Level Cost ($2018 millions)	Projected LOS*: HRTPO 2040 Base	Scenario 1	Scenario 2	Final LU Plan
Battery Park Rd from S Church Street to Nike Park Road	X	X	X	X	Widen from 2 to 3 lanes	-	$13.4 - $22.0	SEV	LOW	LOW	LOW
					Widen from 2 to 4 lanes	A	$23.6 - $39.1	LOW	LOW	LOW	LOW
Benns Church Blvd from Brewers Neck Blvd to Turner Drive			X	X	Widen from 4 to 6 lanes	-	$23.0 - $37.2	LOW	LOW	LOW	LOW
Benns Church Blvd from Turner Drive to South Church Street		X	X	X	Widen from 4 to 6 lanes	-	$22.1 - $35.8	LOW	LOW	LOW	LOW
Carrollton Blvd (Route 17) at the Chuckatuck Bridge	X	X	X	X	Widen bridge from 2 to 4 lanes	B, C	$27.2 - $39.9	LOW	LOW	LOW	LOW
Carrollton Blvd (Route 17) from Route 258 to the James River Bridge	X	X	X	X	Widen from 4 to 6 lanes	A, C	$52.9 - $85.7	LOW	LOW	MOD	MOD
					Improve to Superstreet standards	-	$26.2 - $28.7	MOD	SEV	SEV	SEV
Nike Park Road from Battery Park Road to Titus Creek Drive	X	X	X	X	Widen from 2 to 3 lanes	-	$15.6 - $25.7	LOW	LOW	LOW	LOW
					Widen from 2 to 4 lanes	A	$27.5 - $45.5	LOW	LOW	LOW	LOW
Nike Park Road Extension from Reynolds Drive to Route 17	X	X	X	X	Widen from 2 to 4 lanes	A	$12.6 - $21.6	LOW	LOW	LOW	LOW
Route 10 Bypass from South Church Street to Main Street	X	X	X	X	Widen from 2 to 4 lanes	-	$29.0 - $49.7	LOW	LOW	LOW	LOW
Route 258 from River Run Trail to Route 460		X	X	X	Widen from 2 to 3 lanes	-	$52.8 - $70.1	LOW	MOD	MOD	MOD
					Widen from 2 to 4 lanes	B	$75.2 - $99.4	LOW	LOW	LOW	LOW
Route 258 from Scotts Factory Road to WCL Smithfield	X				Widen from 2 to 3 lanes	-	$9.2 - $12.2	MOD	MOD	MOD	MOD
					Widen from 2 to 4 lanes	-	$13.0 - $17.2	LOW	LOW	LOW	LOW

FIGURE 41 – POTENTIAL PROJECTS TO ALLEVIATE CONGESTION ON FUTURE SEVERELY CONGESTED ROADWAYS

Source: HRTPO. * - Projected LOS represents the projected PM Peak Hour congestion level for each facility based on implementing the candidate project. "LOW" represents low congestion levels that include Levels-of-Service A-C, "MOD" represents moderate congestion levels that include Level-of-Service D, and "SEV" represents severe congestion levels that include Levels-of-Service E-F.

Planning Level Cost Source: HRTPO analysis using VDOT TMPD Statewide Planning Level Cost Estimates worksheet. The Projected Planning Level Cost represents the range between low and high unit costs for the Hampton Roads region.

The "Improve to Superstreet standards" alternative assumes the construction of Restricted Crossing U-Turn (RCUT) intersections at all currently signalized intersections in the corridor. Superstreet costs are based on the estimated average cost included in *Safety Evaluation of Signalized Restricted Crossing U-turn Intersections (FHWA-HRT-17-082)*, FHWA, December 2017. The congestion analysis of the Superstreet alternative is based on *Superstreet Benefits and Capacities*, prepared for the North Carolina Department of Transportation, December 2010.

Widening to 3 lanes represents installing a two-way left turn lane throughout the segment. All widenings to 4 or more lanes are assumed to be divided with a median.

For projects "Included in Other Studies", A = Brewers Neck Corridor Study. B = Countywide Transportation Master Plan. C = US Route 17 Corridor Master Plan.

VTrans

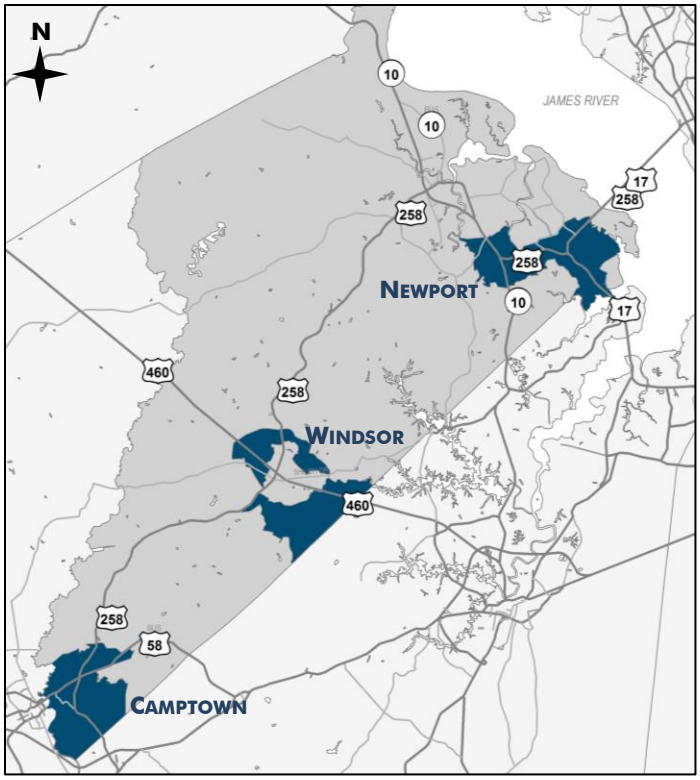
VTrans is the Commonwealth of Virginia's statewide long-range multimodal transportation plan. VTrans – which is prepared by Virginia's Office of Intermodal Planning and Investment (OIPI) in cooperation with a variety of stakeholders – identifies the overarching vision and goals for transportation in the state. VTrans also identifies transportation investment priorities and provides direction on strategies and programs that can be incorporated into locality and MPO plans. Recent legislation passed by the Virginia General Assembly mandates that each locality's transportation component of their comprehensive plan must be consistent with VTrans.

VTrans focuses on the transportation needs on three levels: 1) Interregional travel through Corridors of Statewide Significance, 2) Intraregional travel through Regional Networks, and 3) Travel in local activity centers through Urban Development Areas.

As part of the original VTrans effort, the state developed a network of Corridors of Statewide Significance (CoSS). VTrans defines these CoSS – which are also described in detail in the Existing Conditions section of this report – as "an integrated, multimodal network of transportation facilities that connect major centers of activity within and through the Commonwealth and promote the movement of people and goods essential to the economic prosperity of the state."

Two of the twelve Corridors of Statewide Significance throughout the state – the Coastal Corridor (US Route 17) and the Heartland Corridor (US Route 460) – are located within Isle of Wight County. A component of a third corridor (Southside Corridor - Business Route 58) is also located within the county.

In addition to the Corridors of Statewide Significance, VTrans focuses on Regional Networks. Regional Networks are defined in VTrans as multimodal networks that facilitate intraregional travel within urbanized areas. While Corridors of Statewide Significance serve statewide objectives, Regional Networks – which is a new concept that was introduced in VTrans2040 – focus on the transportation network needed to support each region's economic competiveness.



MAP 32 – URBAN DEVELOPMENT AREAS IN ISLE OF WIGHT COUNTY
Data source: Virginia OIPI.

VTrans also focuses on the needs of local activity centers referred to as Urban Development Areas (UDAs). UDAs can be any area designated by a locality for higher density development that incorporates traditional neighborhood development principles in their comprehensive plan. UDAs cover a wide variety of community types, including small towns, village centers, suburban activity areas, and urban downtown areas. UDAs were created to help localities and regional entities focus investments that attract both businesses and workers.

There are three designated UDAs in Isle of Wight County: Camptown, Newport, and Windsor. The locations of these UDAs are shown in **Map 32**.

VTrans2040

OIPI recently led the development of the VTrans2040 plan. The plan focuses on the needs of the statewide network of Corridors of Statewide Significance, the multimodal regional networks that support travel within metropolitan regions, and improvements to locally designated Urban Development Areas. The plan was developed in two phases: the VTrans2040 Vision and the VTrans2040 Multimodal Transportation Plan.

The VTrans2040 Vision was adopted by the CTB in December 2015. The VTrans2040 Vision is:

> "Virginia's multimodal transportation system will be **Good for Business**, **Good for Communities**, and **Good to Go**. Virginians will benefit from a sustainable, reliable transportation system that advances Virginia businesses, attracts a 21st century workforce, and promotes healthy communities where Virginians of all ages and abilities can thrive."

In addition to the above vision, the VTrans2040 Vision document includes guiding principles, goals, and objectives to direct investment decisions over the horizon of the plan. These guiding principles, goals, and objectives are shown in **Figure 42**. The Vision also includes an analysis of the trends and impacts in demographic changes, commuting and mobility, economic trends, climate change, rural areas, transportation technology, and freight movement. Stakeholder input and a public survey were also included in the Vision document.

The VTrans2040 Multimodal Transportation Plan is comprised of two components: (1) 2025 Transportation Needs Assessment and (2) 2040 Scenario Analysis. The 2025 Transportation Needs Assessment addresses statewide transportation needs at the three levels listed previously – Corridors of Statewide Significance (CoSS), Regional Networks, and Urban Development Areas (UDAs). One of the key purposes of the Transportation Needs Assessment is to serve as a screen for projects applying for consideration under the SMART SCALE project prioritization process.

The VTrans 2025 Transportation Needs Assessment

Guiding Principles

1 **Optimize Return on Investments**
Implement the right solution at the right price, striving to meet current needs while advancing long-term prosperity and livability.

2 **Ensure Safety, Security, and Resiliency**
Provide a transportation system that is safe for all users, responds immediately to short-term shocks such as weather events or security emergencies, and adapts effectively to long-term stressors such as sea level rise.

3 **Efficiently Deliver Programs**
Deliver high-quality projects and programs in a cost-effective and timely manner.

4 **Consider Operational Improvements and Demand Management First**
Maximize capacity of the transportation network through increased use of technology and operational improvements as well as managing demand for the system before investing in major capacity expansions.

5 **Ensure Transparency & Accountability, & Promote Performance Management**
Work openly with partners and engage stakeholders in project development and implementation, and establish performance targets that consider the needs of all communities, measure progress towards targets, and adjust programs and policies as necessary to achieve the established targets.

6 **Improve Coordination Between Transportation and Land Use**
Encourage local governments to plan and manage transportation-efficient land development by providing incentives, technical support, and collaborative initiatives.

7 **Ensure Efficient Intermodal Connections**
Provide seamless connections between modes of transportation to harness synergies.

Goals and Objectives

A **Economic Competitiveness and Prosperity**
Invest in a transportation system that supports a robust, diverse, and competitive economy.
- A.1 - Reduce the amount of travel that takes place in severe congestion.
- A.2 - Reduce the number and severity of freight bottlenecks.
- A.3 - Improve reliability on key corridors for all modes.

B **Accessible and Connected Places**
Increase the opportunities for people and businesses to efficiently access jobs, services, activity centers, and distribution hubs.
- B.1 - Reduce average peak-period travel times in metropolitan areas.
- B.2 - Reduce average daily trip lengths in metropolitan areas.
- B.3 - Increase the accessibility to jobs via transit, walking and driving in metropolitan areas.

C **Safety for All Users**
Provide a safe transportation system for passengers and goods on all travel modes.
- C.1 - Reduce the number and rate of motorized fatalities and severe injuries.
- C.3 - Reduce the number and rate of non-motorized fatalities and severe injuries.

D **Proactive System Management**
Maintain the transportation system in good condition and leverage technology to optimize existing and new infrastructure.
- D.1 - Improve the condition of all bridges based on deck area.
- D.2 - Increase the lane miles of pavement in good or fair condition.
- D.3 - Increase percent of transit vehicles and facilities in good or fair condition.

E **Healthy Communities and Sustainable Transportation Communities**
Support a variety of community types promoting local economies and healthy lifestyles that provide travel options, while preserving agricultural, natural, historic, and cultural resources.
- E.1 - Reduce per-capita vehicle miles traveled.
- E.2 - Reduce transportation related NOX, VOC, PM and CO emissions.
- E.3 - Increase the number of trips traveled by active transportation.

FIGURE 42 – GUIDING PRINCIPLES, GOALS, AND OBJECTIVES OF VTRANS2040
Source: Virginia OIPI.

includes the following needs for Isle of Wight County:

Corridors of Statewide Significance

- **Coastal Corridor (Route 17)** - There are no needs listed in the 2025 Needs Assessment for this corridor in Isle of Wight County. However, the assessment refers to the Mills Godwin Bridge in Suffolk as a bottleneck since the bridge is a two-lane facility while the remainder of Route 17 is a four-lane roadway. While not listed, this would also apply to the Chuckatuck Bridge that connects Isle of Wight County with the City of Suffolk.
- **Heartland Corridor (Route 460)** - The 2025 Needs Assessment indicates that redundancy is an issue for this corridor in Isle of Wight County (**Figure 43**). According to the 2025 Needs Assessment, needs for redundant paths were identified between major centers of activity based on the level of demand between origin-destination pairs. Any origin-destination pair that accounts for at least 1% of the inter-city passenger travel in the Commonwealth was identified as having high enough statewide demand to consider a redundant highway path as a need. Segments such as US Route 460 that met this threshold and did not already have a redundant highway path were identified as having a need in this category.
- **Southside Corridor (Business Route 58)** - There are no needs listed for this corridor in Isle of Wight County.

Regional Networks

Regional Networks are multimodal networks that facilitate intra-regional travel within urbanized areas and focus on the transportation network needed to support each region's economic competiveness. There are no roadways in Isle of Wight with needs included in the Regional Network Needs Assessment.

Urban Development Areas

As described previously there are three designated UDAs in Isle of Wight County: Camptown (near Franklin), Newport (near Smithfield), and Windsor. Currently, the 2025 Transportation Needs Assessment indicates that the needs of the three UDAs in Isle of Wight County are "to be determined based on coordination with locality."

The Multimodal Transportation Plan also includes a 2040 Scenario Analysis. This addresses the uncertainty of long-range planning by testing the potential impacts of alternative future trends. Four scenarios were analyzed in VTrans2040: Industrial Renaissance, Techtopia, Silver Age, and General Slowdown. More information is available at http://www.vtrans2040.com.

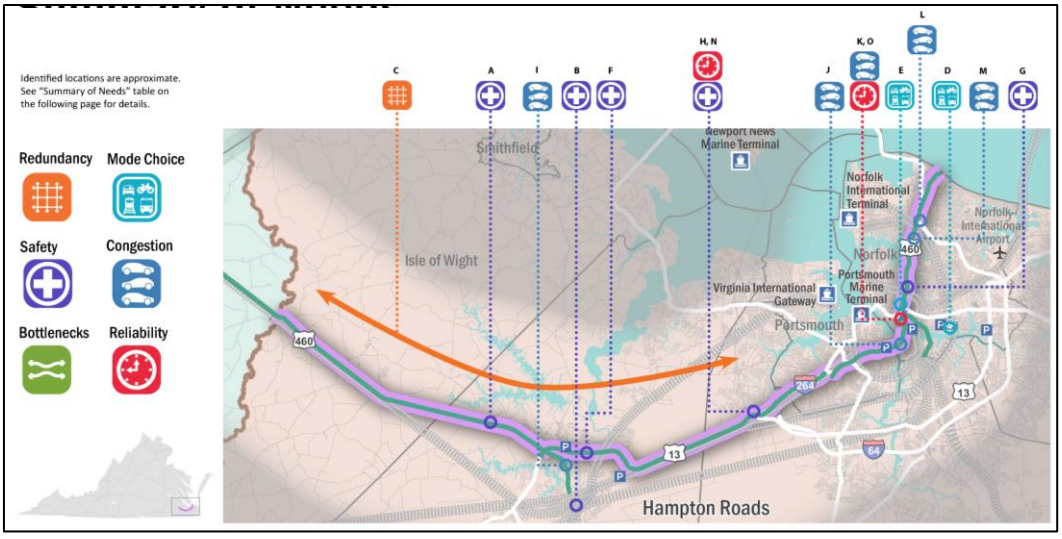


FIGURE 43 – VTRANS2040 SUMMARY OF NEEDS – HEARTLAND (ROUTE 460) CORRIDOR
Source: Virginia OIPI.

Future Conditions - Bicycle and Pedestrian Facilities

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 Isle of Wight County Pedestrian and Bicycle Facilities Master Plan and the Birthplace of America Trail Study, and other issues impacting bicycle and pedestrian facilities.

SYIP/TIP Bicycle and Pedestrian Projects

Five bikeway and sidewalk projects are included in the current SYIP and TIP. These projects include three segments of the Nike Park Multi-Use Trail, Main Street Pedestrian Improvements in Smithfield, and a new sidewalk on Church Street/Shiloh Drive in Windsor (**Figure 44**).

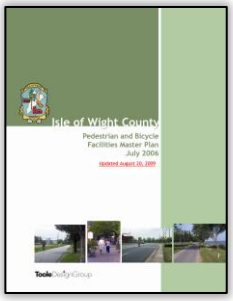
The goal of the Nike Park Multi-Use Trail (**Figure 45** on page 85) is to connect Downtown Smithfield (and Windsor Castle Park) and Carrollton Nike Park with a pedestrian and bicycle trail. Segment 1 of the project involves constructing the path along Battery Park Road from Nike Park Road to South Church Street in the Town of Smithfield. Segment 2 involves constructing the path along Nike Park Road from Battery Park Road to the Carrollton Nike Park, and Segment 3 will construct the path along South Church Street. The total length of these three segments is approximately four miles.

Constructing sidewalks to connect existing sidewalks in Smithfield to the Park and Ride Lot at the intersection of Main St and the Route 10 Bypass is the objective of Main Street Pedestrian Improvement project. This project will also include adding a crosswalk at the intersection of the Route 10 Bypass and Main Street.

The final project involves installing a sidewalk on Church Street in Windsor between its current terminus near Johnson Avenue and the Holland Meadows neighborhood at John Henry Street. This project will extend the sidewalk by 0.35 miles on the south side of the street.

Isle of Wight County Pedestrian and Bicycle Facilities Master Plan

According to the Pedestrian and Bicycle Facilities Master Plan Survey, Isle of Wight residents were requesting better conditions for active transportation. Residents were also recognizing a mix of opportunities and challenges to walking and bicycling. Future projects and recommendations included in the plan were broken down to short-term, medium-term, and long-term recommendations.



Short-Term Recommendations (0-5 years)

- **Projects (Facility Improvements)**

1. **Battery Park Road Multi-Use Path:** A ten foot-wide multi-use path on the south side of the road to enhance access to Nike Park Road. This path is the first step in making an important non-motorized connection between Smithfield, Carrollton Nike Park and the US 17 corridor.
2. **Jones Creek Bridge Enhancement Grant:** This would serve as a link for pedestrian and bicycle access between Smithfield, Carrollton Nike Park, and the US 17 Corridor.
3. **US 17 Pedestrian Crossing Improvements:** Provide high visibility crosswalks, add pedestrian signals, and add pedestrian lighting to increase the safety of pedestrians.

UPC	Project	Projected Construction Start	Project Cost
113200	Install Sidewalk - Church Street/Shiloh Drive from Johnson Ave to John Henry St	2020	$671,000
102951	Pedestrian Improvements - Main Street in Smithfield	2020	$1,106,000
91219	Pedestrian Improvements - Nike Park Trail from Cypress Creek Bridge to Battery Park Rd	Underway	$850,000
101793	Pedestrian Improvements - Nike Park Trail from Battery Park Rd to Nike Park Rd	Underway	$1,562,339
101794	Pedestrian Improvements - Nike Park Trail from Battry Park Rd to Nike Park	Underway	$4,801,000

Figure 44 – Bikeway and Sidewalk Projects in Isle of Wight County Included in the SYIP/TIP Sources: HRTPO, VDOT.

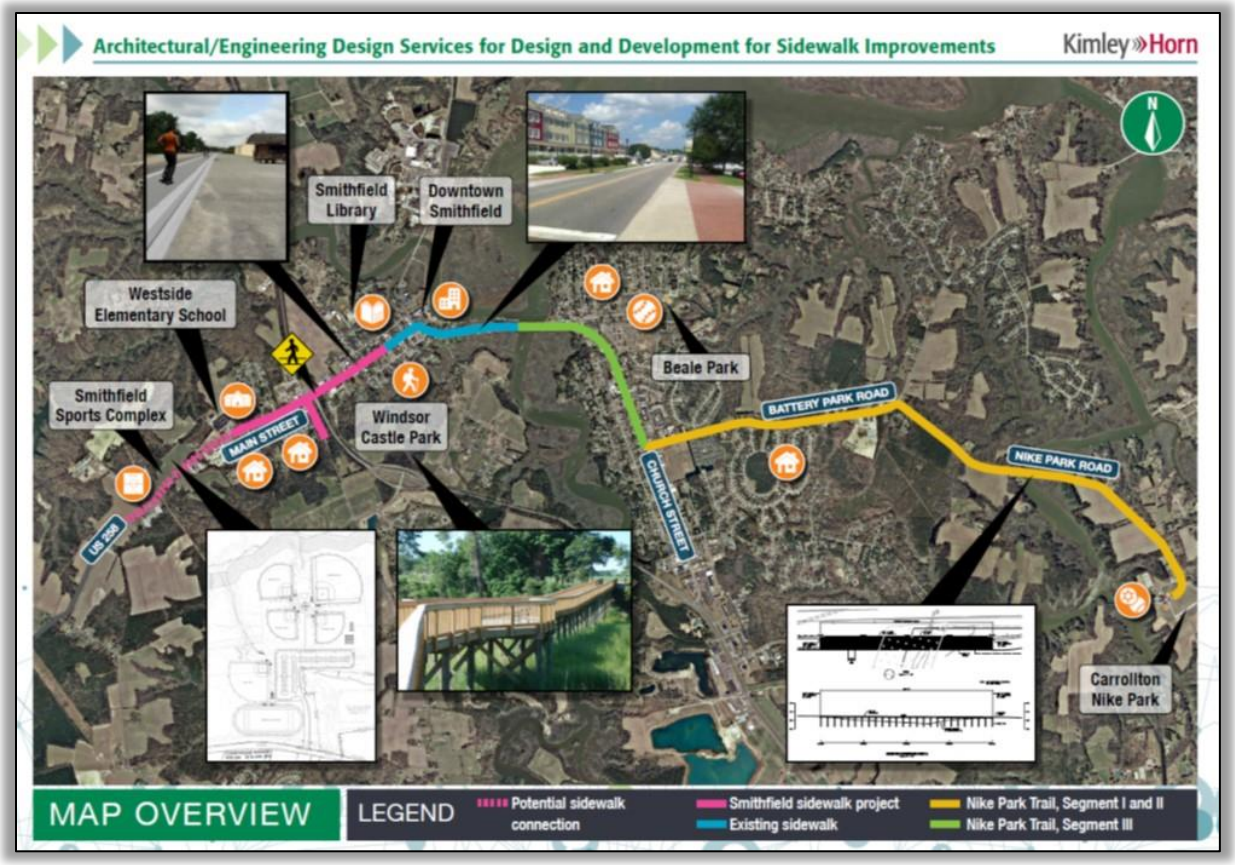


FIGURE 45 – NIKE PARK TRAIL

Sources: Isle of Wight County, Kimley-Horn.

4. **Route 10 Bypass & US 258 Intersection Pedestrian Crossing Improvements:** Should be coordinated with the pedestrian connectivity improvements to the north and south of the intersection.
5. **US 460 & Route 610 Intersection Pedestrian Crossing Improvements**: This crossing serves as a pedestrian connection to businesses on US 460, nearby residents, parks, and the high school, as well as for bicyclists traveling through Windsor.
6. **VA 10 Business Crosswalk Improvements:** Improvements to the pedestrian facilities at the packing plants associated with Smithfield Foods Corporation (Route 10 Business).
7. **US 258/West Smithfield Pedestrian and Bicycle Facilities**: Bike lanes on paved shoulders between Westside Elementary School and Route 620/Foursquare Road.
8. **South Church Street sidewalk:** Pedestrian facility improvement in Smithfield.
9. **North Windsor/Heritage Park Pedestrian and Bicycle Pathway:** A pathway between US 460 in Windsor and Heritage Park. It would consist of a signed on-roadway bike route and multi-use path or paved shoulders near Windsor Middle School and between Route 610 and Heritage Park.
10. **Blackwater River Bridge Improvements:** Pedestrian and bicycle accommodations on the Blackwater River Bridge near Franklin.
11. **Lake Gaston Pipeline Trail (Phase 1):** A shared use path along the Lake Gaston Pipeline Right-of-Way in the vicinity of Walters. This section would be the first phase of a trail that would extend across much of Isle of Wight County and ultimately provide connections between Southampton County and Town of Windsor.
12. **Signage:** Signed bicycle routes and Share the Road Signage.
13. **Sidewalks in New Developments:** Sidewalks in new developments on both

sides of all streets and bicycle facilities on main roadways.

14. **Bicycle Parking and Commuter Parking Lots:** Bicycle racks and bicycle lockers at the Park and Ride Lot near the intersection of US 17 and Smiths Neck Road and at the commuter parking lot near the intersection of the Route 10 Bypass and US 258.
15. **New trails:** Mountain bike and hiking trails.

- **Programs (Education, Encouragement, Enforcement):**

1. Maps and Brochures.
2. Safe Routes to Schools (SRTS).
3. Bike/Walk Rodeos.
4. Maintenance and Enforcement Hotline.
5. Organized Bike Rides/Walking Tours.

Medium-Term Recommendations (0 to 10 Years)

- **Projects (Facilities)**

1. **Battery Park Road Sidewalk and On-Road Bicycle Improvements:** Sidewalk construction on the north side and bicycle lanes on both sides of Battery Park Road between South Church Street and Country Way to complement the multi-use path that should be constructed on Battery Park Road in the short-term.
2. **Windsor Boulevard East Sidewalk (US 460):** Construct a five-foot sidewalk on the North side of US 460 in Windsor between Holland Drive and Lovers Lane and provide access to businesses along US 460.
3. **Pedestrian and Bicycle Connection across Route 10 Bypass**: A combination of sidewalks, paved shoulders, and safe roadway crossings for pedestrians and bicyclists for a safe access between the Cypress Creek development and Jericho Road across the Route 10 Bypass.
4. **Benns Church Boulevard Pedestrian and Bicycle Access**: Paved shoulders and wide sidewalks between South Church Street and the southern limit of the Benns Grant Development.
5. **Brewers Neck Boulevard Pedestrian and Bicycle Access**: Paved shoulders and wide sidewalks between Benns Church Boulevard and Reynolds Drive.
6. Moonfield Drive Pedestrian and Bicycle Improvements
7. **North Windsor Pedestrian Facility Improvements**: Provide sidewalks on the east side of US 258 between US 460 and Route 610.
8. **International Paper Crosswalk Improvement (US 258):** Provide a raised pedestrian refuge, install a high-visibility crosswalk, improve pedestrian lighting and consider adding flashing beacons to the pedestrian warning signs.
9. **Westside Elementary Crosswalk Improvement**: Provide two or three raised pedestrian refuge islands on US 258 to improve safety.
10. **US 17 Pedestrian Crossing Improvements (East):** Provide high visibility crosswalks, add pedestrian signals, add pedestrian lighting, and make other improvements to increase the safety of US 17 at Channel Way and Sugar Hill Road as developments occur.
11. Gatling Pointe Parkway & Battery Park Road Intersection Crossing Improvements.
12. Battery Park Road & South Church Street Intersection Crossing Improvements.
13. US 258 & US 460 Intersection Crossing Improvements.
14. US 258 & Heritage Park Access Road Intersection Crossing Improvements.
15. Benns Church Boulevard & Brewers Neck Boulevard Intersection Crossing Improvements.
16. Benns Church Boulevard & South Access Road to Benns Grant Development Intersection Crossing Improvements.
17. Signed Bicycle Routes.
18. Foursquare Road (Route 620) shoulders.
19. US 258 shoulders on the southwest side of Smithfield and west side of Windsor.
20. Nike Park Road shoulders.
21. Smith's Neck Road shoulders.

- **Programs (Education, Encouragement, Enforcement)**

1. Safe Route to Schools (SRTS).
2. **Targeted Enforcement**: A focused enforcement campaign to target unsafe driving behaviors around pedestrians and bicyclists and unsafe pedestrian and bicyclists behaviors.

Long-Term Recommendations (0 to 25 years)

1. Construction of shoulders on higher-volume rural roadways and much of the greenway trail system.

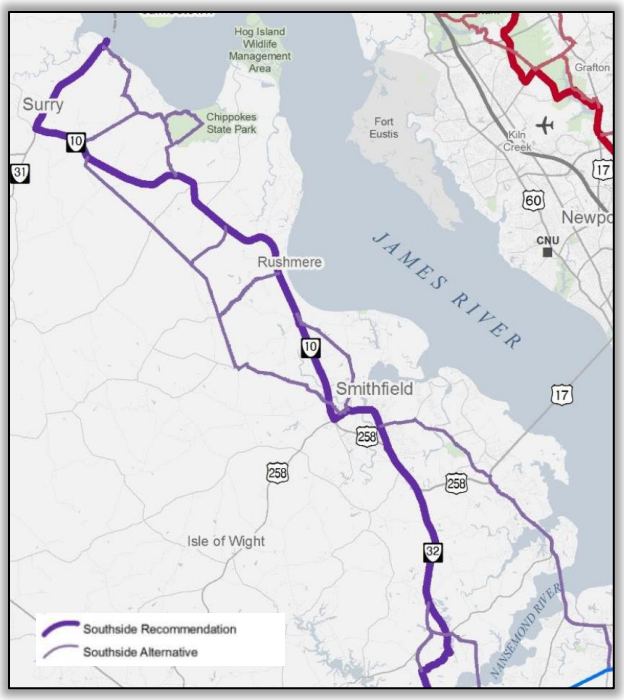
Regional, Statewide, and National Trails

Planning is underway on a number of regional, statewide, and national bicycle networks. The East Coast Greenway is anticipated to be a 3,000 mile trail network, of which 81 miles is slated to run through Hampton Roads on the complementary Historic Coastal Route. The Hampton Roads alignment travels through the northern section of Isle of Wight County as shown in **Map 34** on page 88. As of 2017, 30% of the East Coast Greenway is complete.

The James River Heritage Trail is a planned statewide trail network that follows the James River from the foothills of the Allegheny Mountains to the Chesapeake Bay. The plan defines a trail network that would include both an on-road bicycle route and a "Blueway" system that includes the James River and its tributaries as well as water trail access points.

The Beaches to Bluegrass Trail is a proposed statewide shared-use path and multi-use trail that would connect communities between Cumberland Gap and the Virginia Beach Oceanfront. The trail is expected to pass through southern Isle of Wight County, first following the Business Route 58 corridor as an interim on-road route, followed by an off-road, multi-use path in the Virginia Beach Pipeline corridor.

The Birthplace of America Trail is envisioned as an extension of the Virginia Capital Trail from its current terminus at Jamestown to Fort Monroe and the western terminus of the South Hampton Roads Trail in Suffolk. In Isle of Wight County, the Birthplace of America Trail is largely expected to follow the Route 10 corridor, although a number of alternative routes have been identified as shown in **Map 33**.



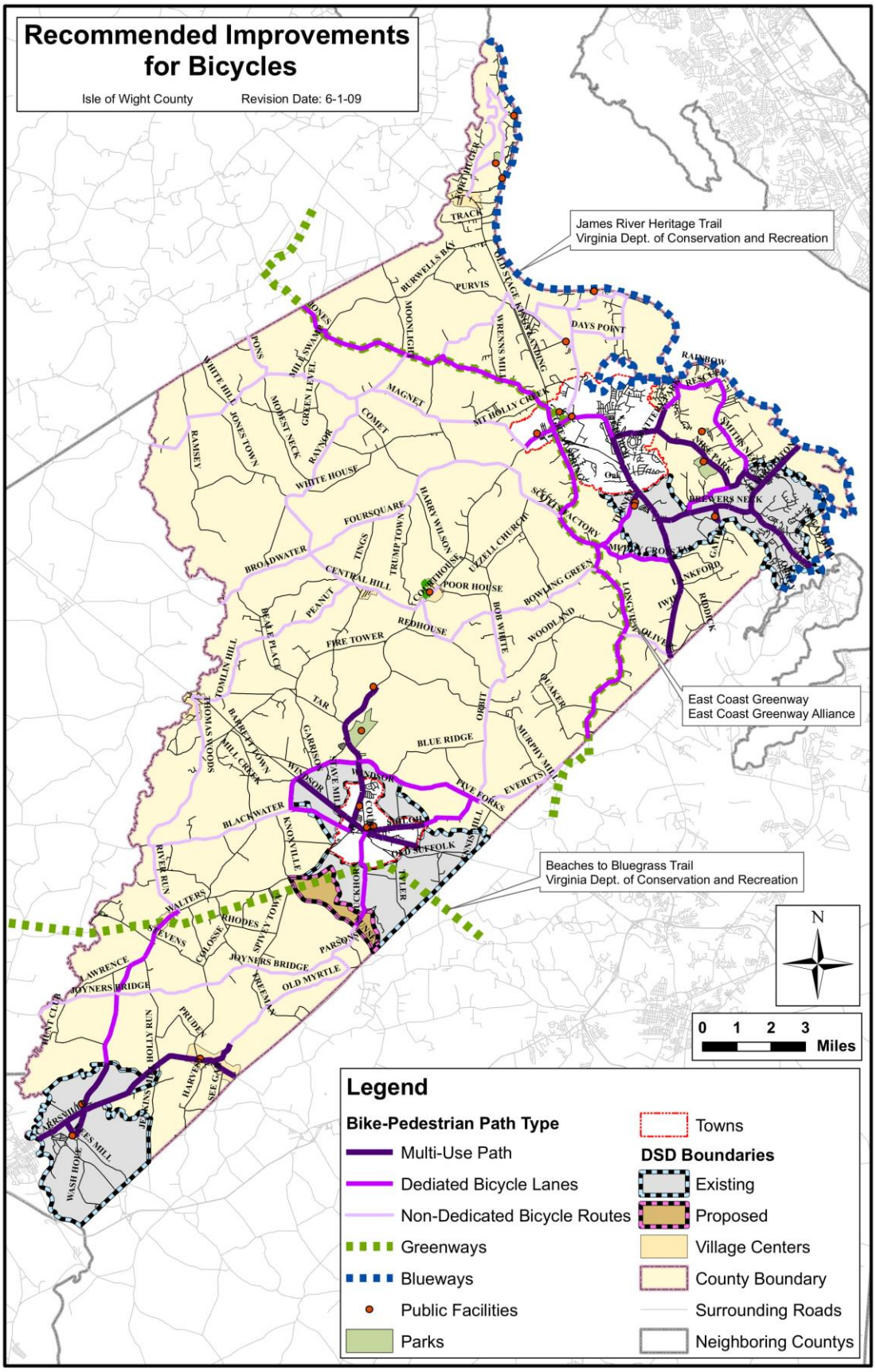
MAP 33 – BIRTHPLACE OF AMERICA TRAIL RECOMMENDED AND ALTERNATIVE ROUTES
Source: Birthplace of America Trail Study

The Birthplace of America Trail study was adopted by regional officials in 2017. With the study adopted, HRTPO staff and localities will be working towards finding funding for constructing and marketing the trail.

Maintenance

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

Per VDOT's *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 VDOT, both towns and the County for these efforts.



MAP 34 – RECOMMENDED IMPROVEMENTS FOR BICYCLE FACILITIES

Source: Isle of Wight County

Future Conditions – Rail

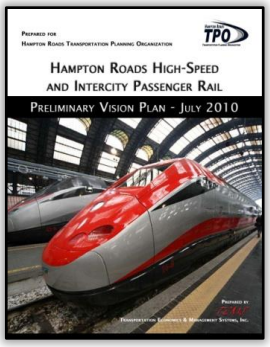
Higher Speed Passenger Rail

Beginning in 2009, the Virginia Department of Rail and Public Transportation (DRPT) began investigating improved passenger rail service between Richmond and Hampton Roads as an extension of the Southeast High Speed Rail Corridor. The resulting Richmond/Hampton Roads TIER 1 Final Environmental Impact Statement was approved by the Federal Railroad Administration (FRA) in August 2012 and TIER 1 Record of Decision approved by FRA in December 2012.

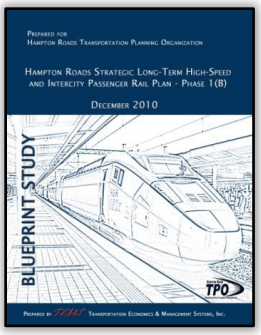
To complement DRPT's work in the Richmond to Hampton Roads passenger rail corridor, the HRTPO Board approved a resolution to support High-Speed and Intercity Passenger Rail at a special meeting held in October 2009. The resolution supported the designation of a high-speed rail corridor along the Norfolk Southern/Route 460 rail corridor from Norfolk to Richmond (which passes through Isle of Wight County), and endorsed enhanced intercity passenger rail service along the CSX/I-64 rail corridor from Newport News to Richmond.

Furthermore, the resolution identified the need to procure consultant services to advise the HRTPO on necessary steps to position Hampton Roads to be competitive for future rounds of federal high speed and intercity passenger rail funding, and to develop a regional high-speed and intercity passenger rail campaign and vision plan component for the HRTPO 2034 Long-Range Transportation Plan.

Hampton Roads Passenger Rail Vision Plan



Subsequent to the October 2009 HRTPO board resolution, a consultant team specializing in passenger rail planning was secured for the HRTPO, in coordination with DRPT and Virginia Department of Transportation, to evaluate the potential of high speed and enhanced passenger rail service alternatives in the designated corridors. Additionally, a Passenger Rail Task Force was created to provide input and direction to the consultant team at key decision making points throughout the planning process.



Since 2010, the consultant has worked closely with HRTPO and DRPT staff, and the Passenger Rail Task Force to receive technical assistance, guidance, and stakeholder input as study progressed. To date, the following technical reports have been produced by the consultant and approved by the HRTPO Board:

Phase 1 (approved July 2010)

- Preliminary Vision Plan Report
- Preliminary Ridership and Revenue Forecasts
- Preliminary Operations and Operating Costs
- Preliminary Infrastructure Analysis

Phase 1B - Blueprint Study (approved December 2010)

Phase 2A - Data Collection for the Norfolk-Richmond Corridor (approved March 2013)

Phase 2B - Hampton Roads Passenger Rail Vision Plan Alternatives Analysis (approved March 2014)

- Executive Summary
- Final Report
- Appendices

Hampton Roads High Speed Passenger Rail Vision Plan (approved November 2014)

- Executive Summary
- Final Report
- Appendices

The Hampton Roads High Speed Passenger Rail Vision Plan was an important step in developing new conventional passenger rail service in the Hampton Roads corridor. For the Norfolk-Richmond corridor, which passes through Isle of Wight County, there were three initial route options developed by utilizing a combination of greenfield and existing rail rights-of-way (**Figure 46**). Nearly

all of the Norfolk-Richmond route options run parallel to the existing Norfolk Southern rail right-of-way through Isle of Wight County.

Although no new stations are included in Isle of Wight County as part of these improvements, a new station is envisioned nearby near Downtown Suffolk.

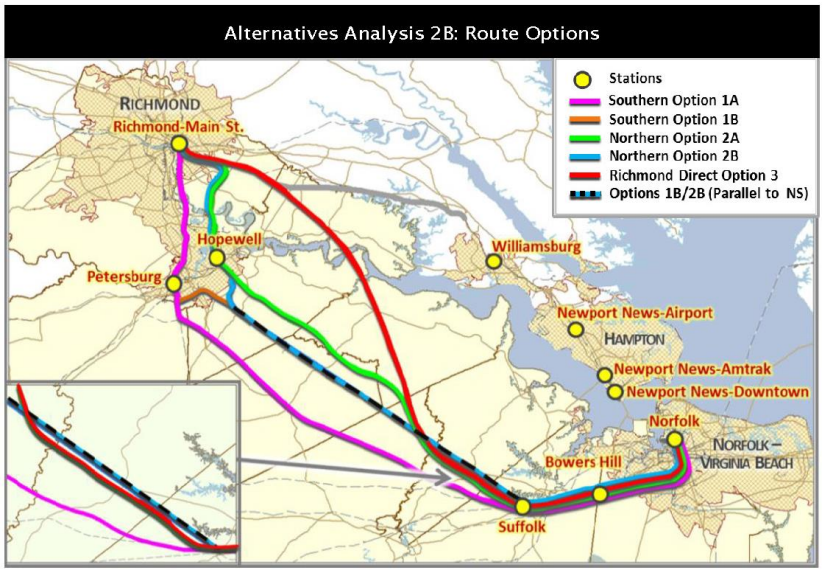


FIGURE 46 – NORFOLK-RICHMOND CORRIDOR ROUTE OPTIONS

Source: Hampton Roads High Speed Passenger Rail Vision Plan.

Funding for Passenger Rail Improvements

More than $643 million has been made available for passenger rail projects in the Virginia Department of Rail and Public Transportation's Fiscal Year 2019-2024 Six-Year Improvement Program. In Hampton Roads, $20 million in DRPT funding is allocated to building the Newport News Multimodal Station and nearly $25 million is allocated to expand Amtrak service in Norfolk to a second and third train each day. These trains would pass through Isle of Wight County on the Norfolk Southern tracks. Funds are also allocated to existing Amtrak service on the Peninsula and Southside.

Master Rail Plan for the Port of Virginia

Figure 47 on page 91 shows the primary rail corridors that are used by Port of Virginia cargo. Two Class I carriers – CSX Transportation and Norfolk Southern (NS) – provide rail service to and from destinations outside of the region. The Norfolk Southern rail line travels through Isle of Wight County along the US Route 460 corridor and the CSX rail line is located in the southern part of the County. These rail corridors are described below:

- **CSX's** Southside rail network consists of a rail corridor between CSX's intermodal yard in Portsmouth, through Isle of Wight County to its north-south corridor along I-95. The north-south corridor provides connections to The Port of Virginia's Midwest rail markets via Washington D.C. and the National Gateway project.
- **Norfolk Southern** provides double-stack intermodal service between the Portlock rail yard in Hampton Roads and NS intermodal facilities in Chicago, IL and Columbus, OH. The Heartland Corridor passes through Isle of Wight County to Petersburg and Roanoke, and then westward to Ohio via West Virginia. The Heartland Corridor also intersects with NS's Crescent Corridor.

Port officials expect the amount of freight handled by rail to continue to increase. **Figure 48** on page 91 shows the historical and projected containerized rail volume handled by the Port of Virginia through 2040. According to the Port's Master Rail Plan[14], the Port of Virginia projects that it will transport nearly 1,000,000 containers by rail by the year 2040, double what was handled by the Port in 2016. The projection is unconstrained, meaning that is reflects the anticipated opportunity for rail cargo. Average annual growth rate over the entire planning horizon is approximately 3%. This growth will lead to more and longer trains passing through Isle of Wight County in both the NS and CSX corridors. However, based on research included in the Journal of Transportation Engineering[15], no at-grade rail

[14] *Master Rail Plan for the Port of Virginia,* Presented to Office of Intermodal Planning and Investment, Moffatt & Nichol, R.L. Banks & Associates, Inc., page 11, April 16, 2015.

[15] *Screening Tools for Considering Grade Separation at Rail-Highway Crossings,* Journal of Transportation Engineering, January 2006.

crossing in Isle of Wight County is expected to meet the criterion for preliminary qualification of a rail-highway crossing for grade separation under any of the future scenarios. This includes Route 258 in Windsor, which is the rail crossing with the highest volumes in the county.

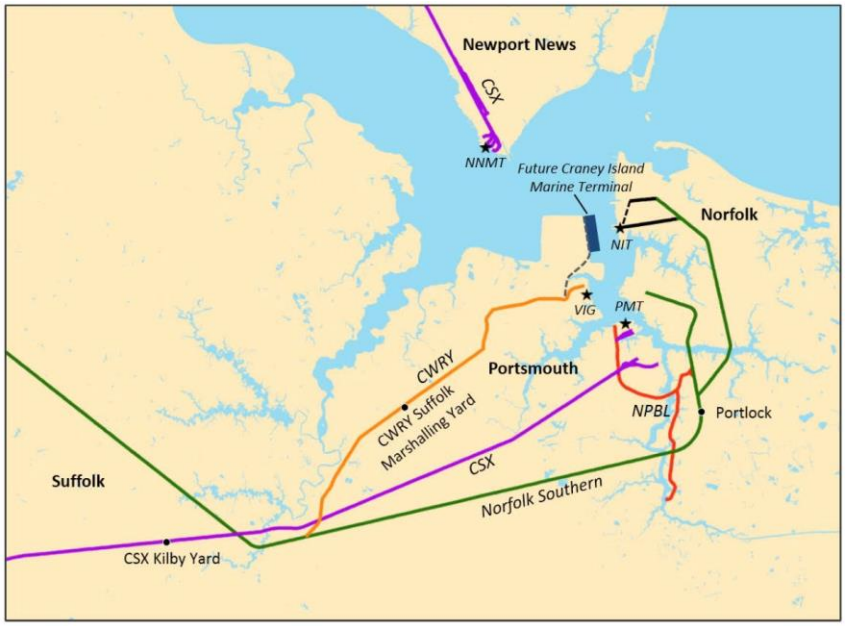


FIGURE 47 – PRIMARY HAMPTON ROADS RAIL CORRIDORS USED BY THE PORT OF VIRGINIA CARGO

Source: Master Rail Plan for the Port of Virginia, OIPI, 2015.

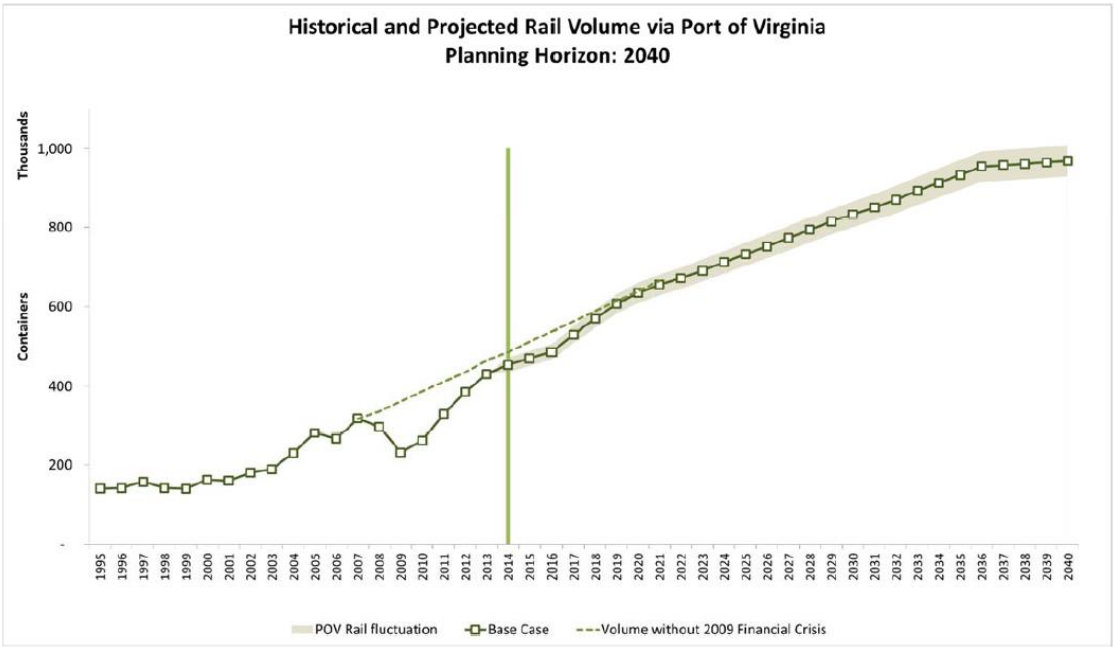


FIGURE 48 – HISTORICAL AND UNCONSTRAINED PROJECTED RAIL CONTAINER VOLUME AT THE PORT OF VIRGINIA

Source: The Port of Virginia from the Master Rail Plan for the Port of Virginia, OIPI, 2015.

Future Conditions – Resiliency & Sea Level Rise

Extreme flooding events currently disrupt transportation networks and will likely become more prevalent as sea levels are expected to rise at an accelerated pace for many coastal regions, such as Hampton Roads. Hampton Roads—second only to New Orleans in terms of vulnerability to sea level rise in the United States—is seeing more frequent storm surges and higher tides than before[16]. Based on past storm events, Hampton Roads' east coast location makes it prone to significant storm surges about every four to five years.

Sea level rise will cause significant impacts to coastal regions. Some areas are already experiencing permanent inundation, while other areas are seeing more frequent flooding. As sea levels continue to rise, some areas that have not seen flooding will start to experience it, which will have major infrastructure impacts.

Isle of Wight County officials will be required to address sea level rise under new state legislation. On March 16, 2015, Governor McAuliffe signed Senate Bill (SB) 1443, which amended the Code of Virginia by adding section 15.2-2223.3 for comprehensive plans to incorporate strategies to combat sea-level rise and recurrent flooding:

> "Beginning July 1, 2015, any locality included in the Hampton Roads Planning District Commission shall incorporate into the next scheduled and all subsequent reviews of its comprehensive plan strategies to combat projected relative sea-level rise and recurrent flooding. Such review shall be coordinated with the other localities in the Hampton Roads Planning District Commission."

HRTPO Study

HRTPO staff has recently partnered with Hampton Roads Planning District Commission (HRPDC) staff to conduct a GIS-based flooding vulnerability analysis for potential sea level rise and storm surge impacts to regional roadways by 2045 (next Long-Range Transportation Plan horizon year). The

Flooding near Blackwater River

study[17] was approved by the HRTPO Board in 2016 and contains potential flooding scenarios for Hampton Roads localities, including Isle of Wight County. Identification of flood prone areas and addressing problems with mitigation strategies will help communities in the region to become more resilient to extreme weather and climate impacts.

Given the uncertainty in how much relative sea level rise (SLR) will occur over time, current research suggests that 2.0 feet of rise could occur in Hampton Roads sometime between 2043 and 2083. With the forecast year of the next HRTPO Long-Range Transportation Plan being 2045, a 2.0 foot relative sea level rise scenario was conservatively used in this analysis.

The three scenarios used in the flooding vulnerability analysis were as follows:

1) 2.0 foot relative sea level rise
2) 2.0 foot relative sea level rise + 25-year storm surge
3) 2.0 foot relative sea level rise + 50-year storm surge

Map 35 on page 94 shows the potential submergence of roadways by 2045 in Isle of Wight County. Areas in the county prone to flooding are along the James River, Blackwater River, Nansemond River, Pagan River, Jones Creek, and Chuckatuck Creek. One roadway section with a high level of flooding is Route 17 just to the west of the James River Bridge. Other roadways with expected flooding by 2045 include: Route 17 near the Chuckatuck Creek, Titus Creek Drive near Jones Creek, Rescue Road, Nike Park Road near Jones Creek, and Church Street/Commerce Street near the Pagan River.

[16] *Virginia Conservation Network website*, "Confronting Climate Change" webpage, www.vcnva.org, April 2013.

[17] *Sea Level Rise and Storm Surge Impacts to Roadways in Hampton Roads*, HRTPO, May 2016.

Route 17 at James River Bridge

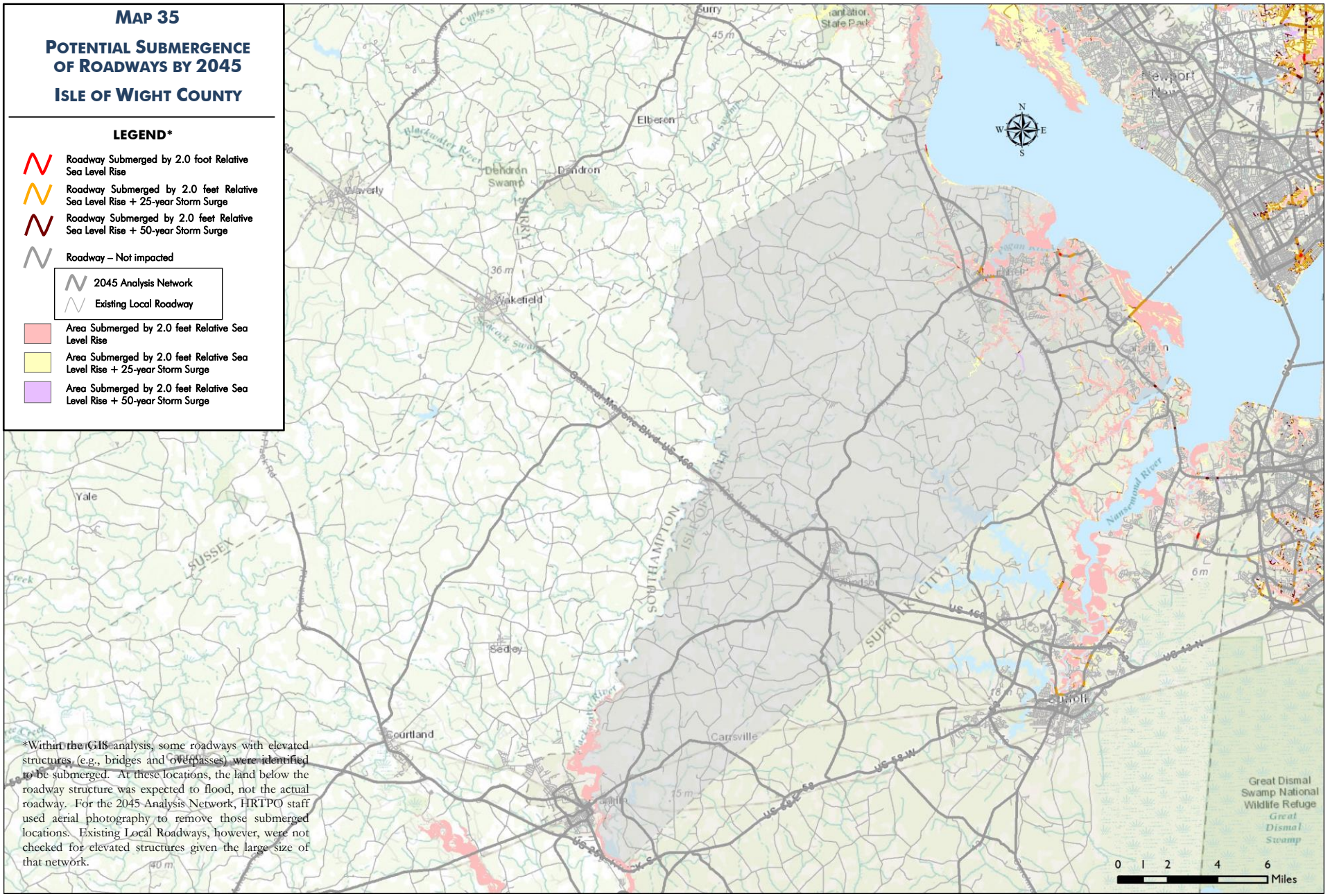
Map 36 on page 95 shows a closer view of the results for the northeastern part of the county. Route 17 just west of the James River Bridge is shown to be flooded during Scenario 2 (2.0 foot relative sea level rise + 25-year storm surge). This section of roadway has also experienced flooding during storm events in past years. Raising this section of Route 17, along with the other less-traveled sections of roadway listed above, should be considered in order to prevent future flooding and improve resiliency.

FLOOD PRONE AREA ALONG ROUTE 17 NEAR THE JAMES RIVER BRIDGE

Map 35

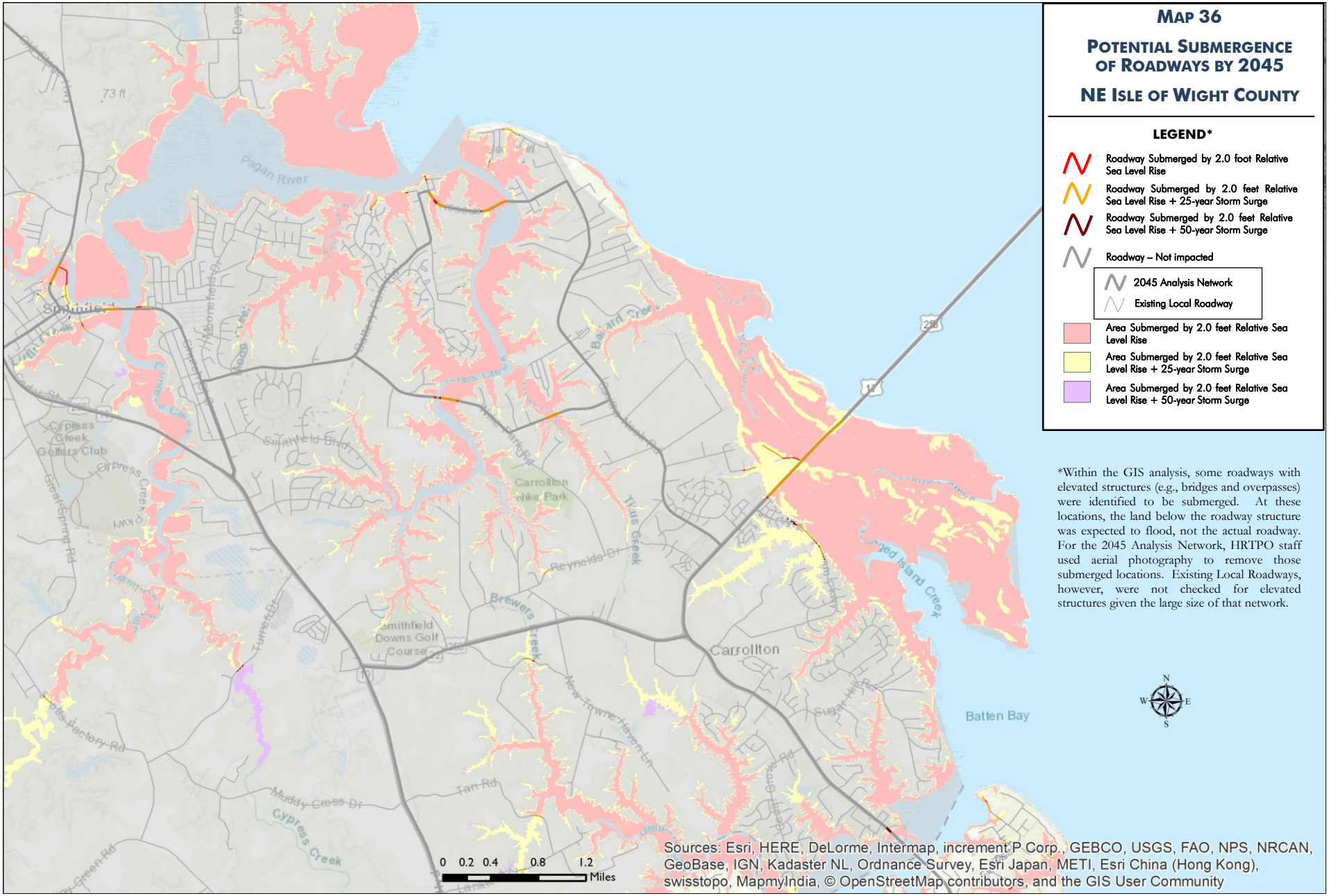
Potential Submergence of Roadways by 2045

Isle of Wight County



Prepared by: HRTPO Staff, October 2015

Data source for projected flooded areas: HRPDC Staff, October 2015



Prepared by: HRTPO Staff, October 2015

Data source for projected flooded areas: HRPDC Staff, October 2015

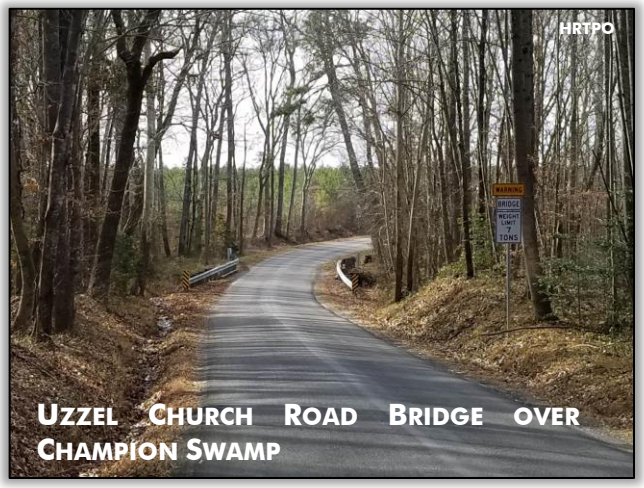
Future Conditions – Bridges

As structures continue to age, allocating adequate funding to maintain bridges will continue to be difficult. The Virginia General Assembly passed House Bill 1887 in 2015 to provide a dedicated funding source for improving the condition of Virginia's bridges and pavements.

HB 1887 – also referred to as the State of Good Repair (SGR) program – requires that 45% of the state's construction program be allocated to improve deficient bridges and pavements. The Commonwealth Transportation Board approved a resolution in June 2016 that stated that structures will be selected for SGR program funds based on a prioritization formula. Bridge projects will be eligible for SGR funding if they meet the following criteria:

- The bridge is classified as structurally deficient
- The bridge meets the definition required to be included in the National Bridge Inventroy (public roadway, greater than 20 feet in length)
- The project meets the definition of bridge rehabiliation and replacement in FHWA's Bridge Preservation Guide
- The proposed project must take the bridge out of structurally deficient status
- Inspections on the structure must be current

Bridges are prioritized for rehabilitation or replacement based on a formula that includes factors



Uzzel Church Road Bridge over Champion Swamp

that take into account the bridge's importance, condition, design redundancy, structure capacity, and improvement cost-effectiveness. A SGR Score is calculated for each eligible bridge using this formula, and those bridges with higher SGR Scores are generally prioritized over those with lower SGR Scores.

As detailed in the Current Conditions section of this report, there are eight bridges in Isle of Wight County that are currently classified as structurally deficient. Rehabilitation or replacement of each of these eight bridges is funded in VDOT's FY 2019 Six-Year Improvement Program (SYIP). In addition, the bridge that carries Bows & Arrows Road (Route 641) over Ducks Swamp, which is classified as functionally obsolete, is scheduled to be improved in the SYIP. Details on these projects are shown in **Figure 49**.

Most of these bridge rehabilitation and replacement projects are scheduled to be funded through the

Federal Bridge #	Facility	Type	UPC Code	Construct-ion Start	Estimated Project Cost	Funding Source
10420	Bows & Arrows Road (Rte 641) over Ducks Swamp	Rehabilitation	-	-	-	M & R
10441	Dews Plantation Road (Rte 683) over Stallings Creek	Replacement	113028	2022	$3,800,000	SGR
10442	Ennis Mill Road (Rte 690) over Ennis Pond	Replacement	113027	2021	$2,700,000	SGR
10424	Fire Tower Road (Rte 644) over Pope Swamp	Replacement	113029	2022	$4,200,000	SGR
10394	Jenkins Mill Road (Rte 615) over Kingsale Swamp	Replacement	-	-	-	M & R
10417	Mill Creek Road (Rte 638) over Burnt Mill Swamp	Replacement	113026	2021	$2,700,000	SGR
10416	Orbit Road (Rte 637) over Carbell Swamp	Rehabilitation	-	-	-	M & R
22615	South Church Street (Rte 10) over Cypress Creek	Rehabilitation	111338	2020	$1,600,000	SGR
10445	Uzzell Church Road (Rte 692) over Champion Swamp	Replacement	111339	2021	$1,250,000	SGR

Figure 49 – Programmed Bridge Projects in Isle of Wight County

Source: HRTPO analysis of VDOT data. Figure includes those bridges in the current Six-Year Improvement Program (FY 2019-2024).
SGR - To be funded via the State of Good Repair program. M & R - To be funded and scheduled under the District Maintenance and Repair Contract.

State of Good Repair program. However, some of the smaller bridge repair projects are scheduled to be funded via the VDOT Hampton Roads District bridge maintenance and repair contract.

As part of the Hampton Roads Regional Bridge Study, HRTPO analyzed the cost of maintaining bridges in Hampton Roads through 2045, which is the horizon year for the next regional Long-Range Transportation Plan. HRTPO staff used a similar methodology to the one used by VDOT for the analysis. HRTPO staff assumed that bridges would need to be replaced at an age of 70 years, and the replacement cost for those bridges that are currently 70+ years old and/or currently classified as structurally deficient are divided up over the next 25 years. The bridge replacement costs used in this analysis were based on the Statewide Planning Level Cost Estimates provided by VDOT's Transportation and Mobility Planning Division (TMPD) and inflated to expected year of expenditure.

HRTPO determined that if none of the existing bridges in the region are replaced between now and 2045, nearly half (48%) of the bridges in the region will be 70 years old or older by 2045. Based on this, HRTPO staff calculated that $4.5 billion would be necessary to fund the maintenance of bridges in Hampton Roads through 2045.

Looking only at those bridges in Isle of Wight County, 46 bridges (54%) would be expected to be 70+ years old by 2045 if none of the existing bridges are replaced. Funding for the maintenance of these bridges is estimated to require $112 million (in year of expenditure) through 2045.

Future Conditions - Freight

Since the predominant mover of freight is by trucks across highways for both Hampton Roads and Isle of Wight County, the focus of this section is on truck movements. Using IHS Transearch from the Regional Freight Study[18], HRTPO summarized all truck freight transported in the Commonwealth of Virginia for 2012 and 2040. This analysis includes all freight moved by truck in Virginia, which includes inbound, outbound, through Virginia, and within Virginia.

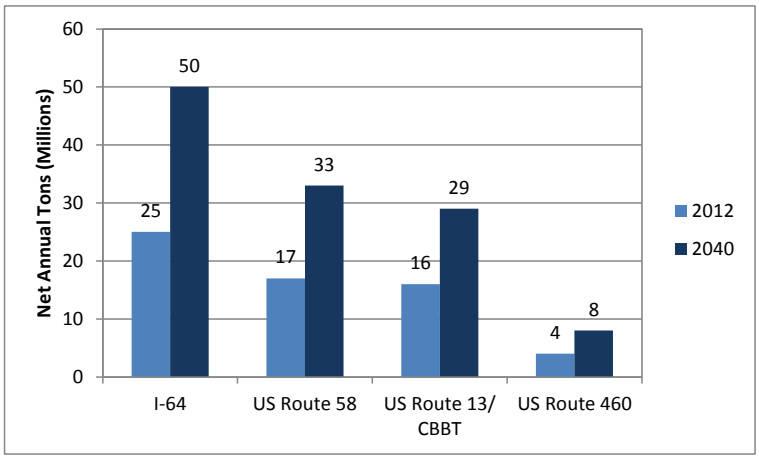


Figure 50 – Net Annual Tonnage Carried by Truck at Hampton Roads Regional Gateways, 2012 and 2040

Source: HRTPO analysis of IHS Transearch Data. Includes all freight in Virginia – Inbound, Outbound, Through, and Within.

IHS Transearch

IHS Transearch is a unique planning tool that helps transportation planners, transportation providers, and government agencies analyze current and future freight flows by origin, destination, commodity, and transport mode[19]. IHS Transearch is the most widely recognized and used commercial freight data source in the United States and has been used extensively over the last three decades to support freight decision-making.

IHS Transearch was purchased by the Virginia Department of Transportation (VDOT) and distributed to Metropolitan Planning Organizations and Planning District Commissions within the Commonwealth of Virginia. The Virginia dataset includes all commodity flows that travel through the state of Virginia or have origins or destinations of cities/counties in Virginia. The HRTPO obtained the 2012 IHS Transearch data in January 2016.

Future Truck Movements through Regional Gateways

Within the HRTPO's 2017 Regional Freight Study, an analysis was completed that shows the net annual tonnage carried by truck at the four major regional gateways in 2012 and 2040 (**Figure 50**). In 2012, the highest amount of freight that was moved in Hampton Roads in terms of weight (annual tonnage) was along the I-64 corridor and US Route 58 between I-664 and the Suffolk Bypass. By 2040, the top corridors for moving freight tonnage will be I-64, US Route 58, US Route 13/CBBT, and I-264 in Norfolk and Portsmouth. By 2040, the top two primary gateways for freight by annual tonnage are expected to be I-64 and US Route 58. The US Route 460 gateway in Isle of Wight County is expected to double from 4 to 8 million annual tons from 2012 to 2040.

[18] *Hampton Roads Regional Freight Study: 2017 Update*, HRTPO, July 2017.

[19] *Transearch 2012 Modeling Methodology Documentation: Prepared for Virginia DOT*, IHS Inc., May 2014.

Net Annual Tonnage Carried by Truck - Isle of Wight County

Maps 37 and 38 on pages 100-101 show the net annual tonnage carried by truck in 2012 and 2040 for primary routes within Isle of Wight County. See **Figure 51** below for the anticipated growth in weight (annual tonnage) carried by trucks for specific roadway segments.

Net Annual Dollars Carried by Truck - Isle of Wight County

Maps 39 and 40 on pages 102-103 show the net annual dollars carried by truck in 2012 and 2040 for primary routes within Isle of Wight County. See **Figure 52** below for the anticipated growth in value (annual dollars) carried by trucks for specific roadway segments.

Route Num	Facility	Segment From	Segment To	2012 Net Annual Tons	2040 Net Annual Tons	Percent Change
258/10	Benns Church Blvd	Brewers Neck Blvd	Church St S	0.42 M	1.18 M	179%
258	Brewers Neck Blvd	Benns Church Blvd	Route 17	1.27 M	2.11 M	66%
17	Carrollton Blvd	Suffolk CL	Route 258	0.24 M	0.82 M	245%
17	Carrollton Blvd/ James River Br	Smith's Neck Rd	James River Bridge	1.03 M	1.29 M	25%
258/10	Route 10 Bypass	Church St S	Main St	0.32 M	0.96 M	198%
10	Route 10 Bypass	Main St	Bus Route 10	0.63 M	1.79 M	183%
10	Route 10 (Old Stage Hwy)	Bus Rte 10	Surry CL	0.46 M	1.40 M	204%
258	Route 258	Franklin CL	Carrsville Hwy (Bus Rte 58)	0.38 M	1.03 M	169%
258	Route 258	Carrsville Hwy (Bus Rte 58)	Route 460	0.38 M	1.03 M	169%
258	Route 258	Route 460	Route 10 Bypass	0.02 M	0.02 M	0%
460	Route 460	Southampton CL	Route 258	3.70 M	7.74 M	109%
460	Route 460	Route 258	Suffolk CL	3.68 M	7.73 M	110%

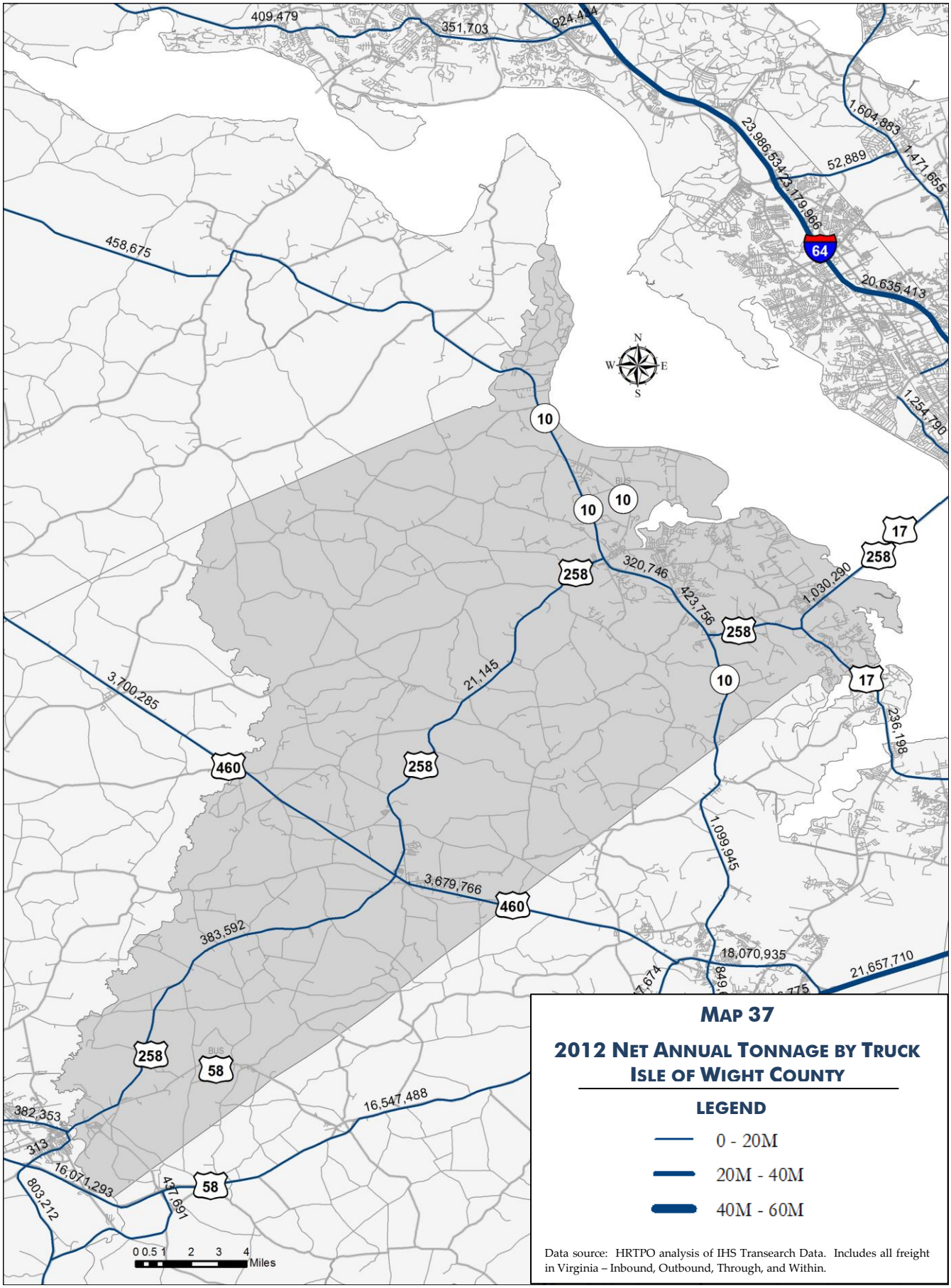
FIGURE 51 – NET ANNUAL TONNAGE CARRIED BY TRUCK, 2012 AND 2040

Source: HRTPO analysis of IHS Transearch Data. Includes all freight in Virginia – Inbound, Outbound, Through, and Within.

Route Num	Facility	Segment From	Segment To	2012 Net Annual Dollars	2040 Net Annual Dollars	Percent Change
258/10	Benns Church Blvd	Brewers Neck Blvd	Church St S	$436 M	$1,403 M	222%
258	Brewers Neck Blvd	Benns Church Blvd	Route 17	$3,539 M	$6,322 M	79%
17	Carrollton Blvd	Suffolk CL	Route 258	$355 M	$1,289 M	264%
17	Carrollton Blvd/ James River Br	Smith's Neck Rd	James River Bridge	$3,184 M	$5,032 M	58%
258/10	Route 10 Bypass	Church St S	Main St	$290 M	$1,008 M	247%
10	Route 10 Bypass	Main St	Bus Route 10	$835 M	$2,555 M	206%
10	Route 10 (Old Stage Hwy)	Bus Rte 10	Surry CL	$778 M	$2,462 M	216%
258	Route 258	Franklin CL	Carrsville Hwy (Bus Rte 58)	$732 M	$2,142 M	193%
258	Route 258	Carrsville Hwy (Bus Rte 58)	Route 460	$732 M	$2,142 M	193%
258	Route 258	Route 460	Route 10 Bypass	$16 M	$12 M	-24%
460	Route 460	Southampton CL	Route 258	$3,232 M	$7,257 M	124%
460	Route 460	Route 258	Suffolk CL	$3,217 M	$7,245 M	125%

FIGURE 52 – NET ANNUAL DOLLARS CARRIED BY TRUCK, 2012 AND 2040

Source: HRTPO analysis of IHS Transearch Data. Includes all freight in Virginia – Inbound, Outbound, Through, and Within.



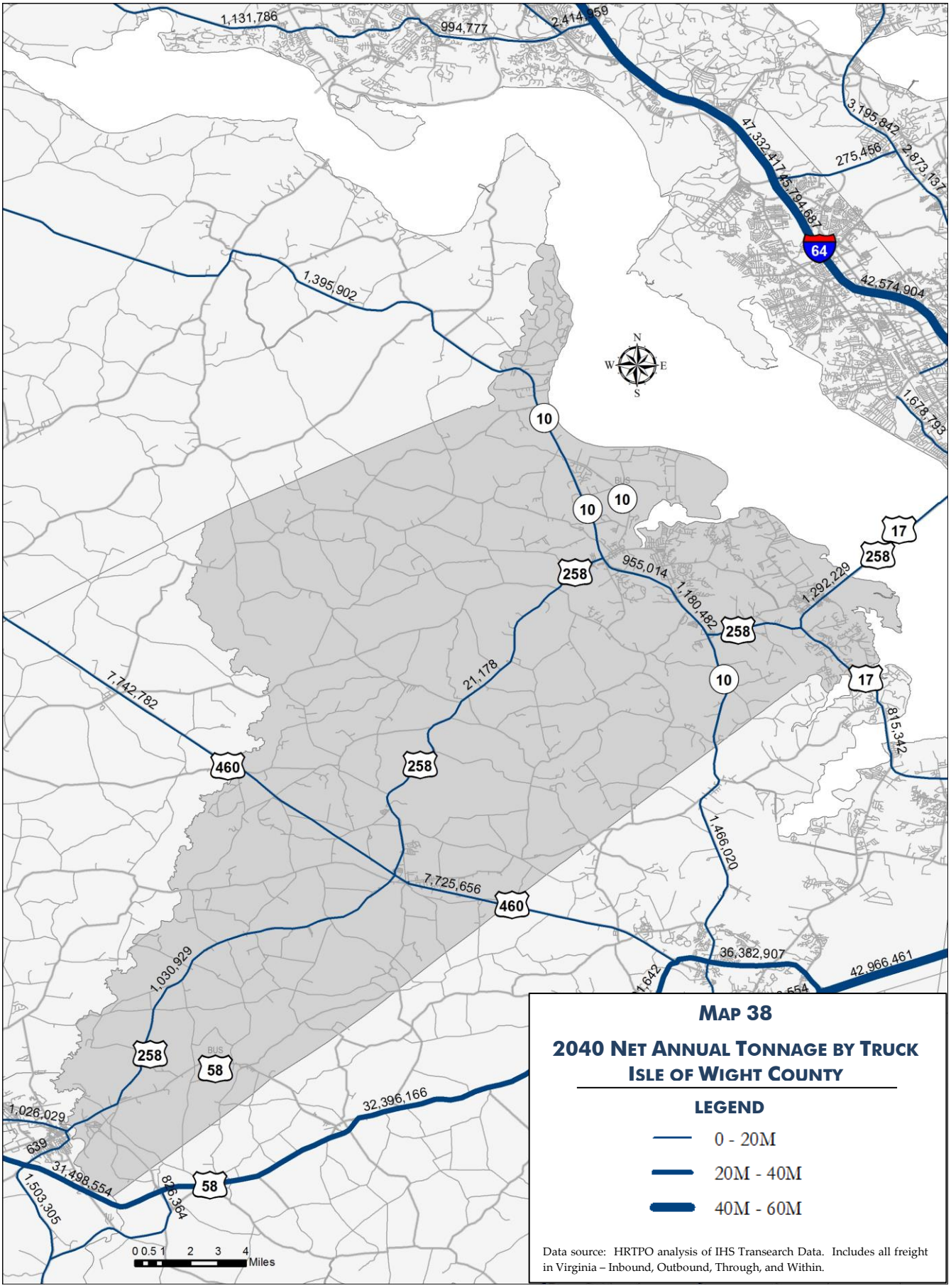
Map 37

2012 Net Annual Tonnage by Truck
Isle of Wight County

LEGEND

- 0 - 20M
- 20M - 40M
- 40M - 60M

Data source: HRTPO analysis of IHS Transearch Data. Includes all freight in Virginia – Inbound, Outbound, Through, and Within.



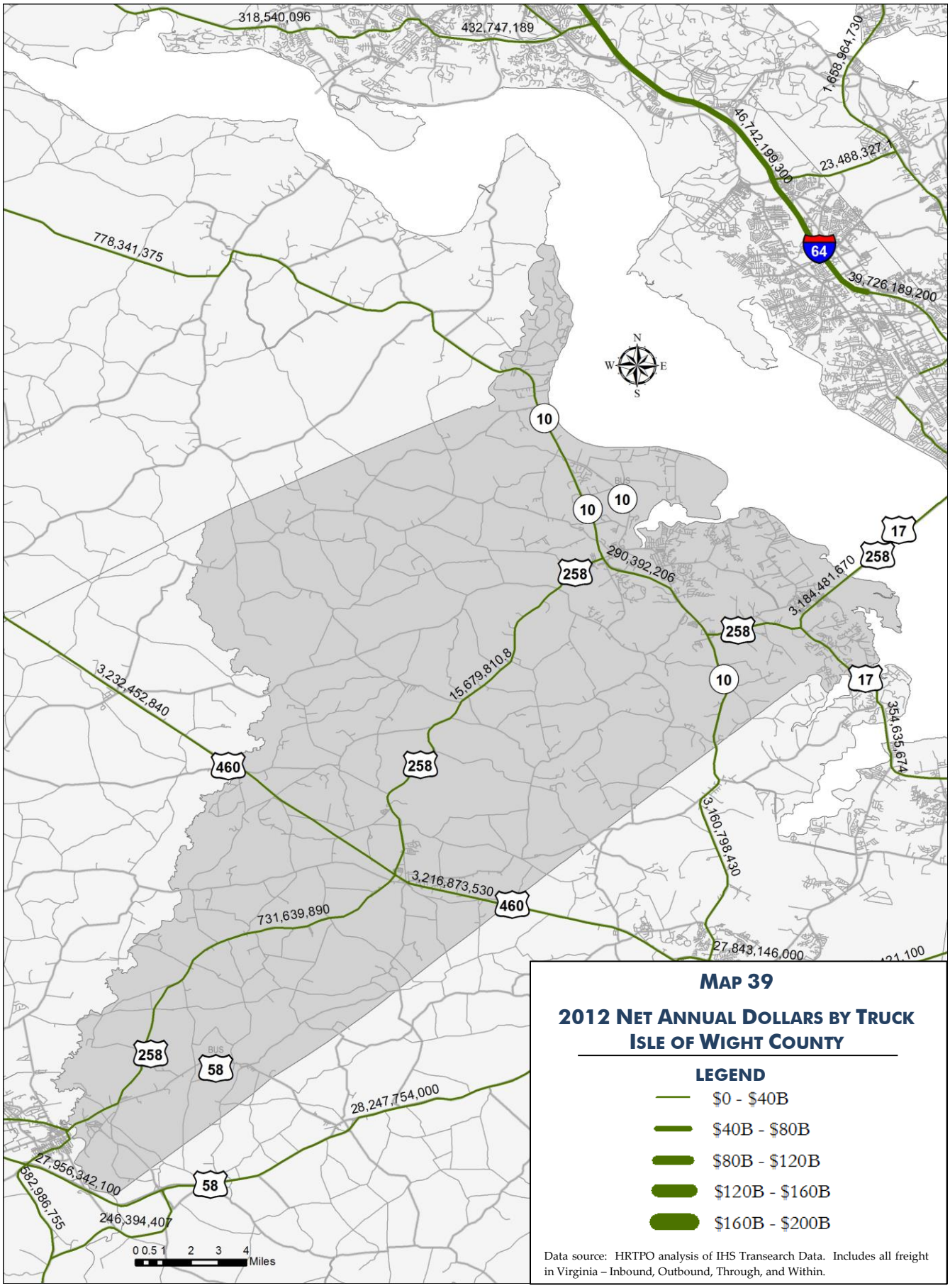
Map 38

2040 Net Annual Tonnage by Truck
Isle of Wight County

LEGEND

- 0 - 20M
- 20M - 40M
- 40M - 60M

Data source: HRTPO analysis of IHS Transearch Data. Includes all freight in Virginia – Inbound, Outbound, Through, and Within.



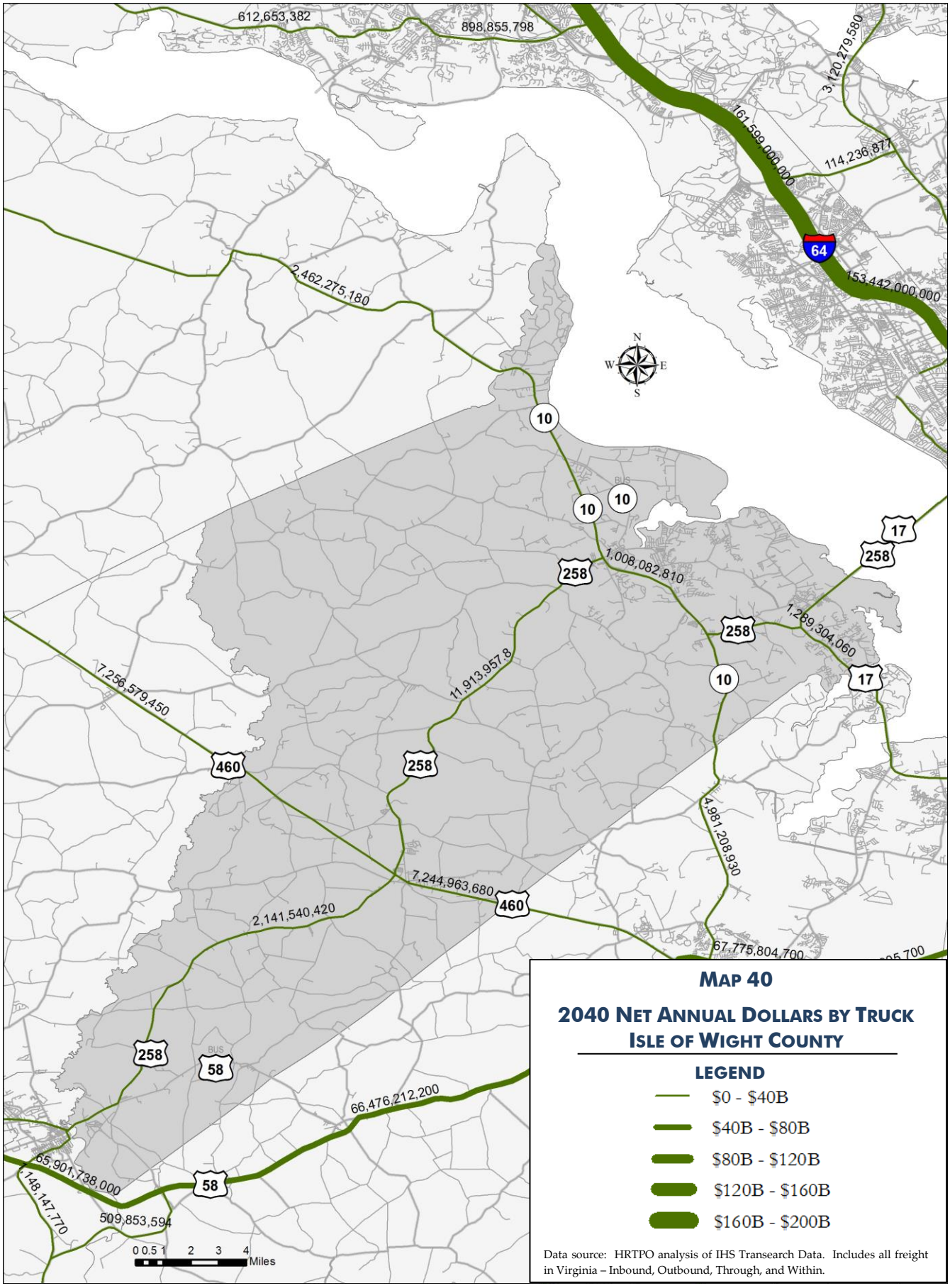
Map 39

2012 Net Annual Dollars by Truck
Isle of Wight County

LEGEND

- $0 - $40B
- $40B - $80B
- $80B - $120B
- $120B - $160B
- $160B - $200B

Data source: HRTPO analysis of IHS Transearch Data. Includes all freight in Virginia – Inbound, Outbound, Through, and Within.



Map 40

2040 Net Annual Dollars by Truck
Isle of Wight County

LEGEND

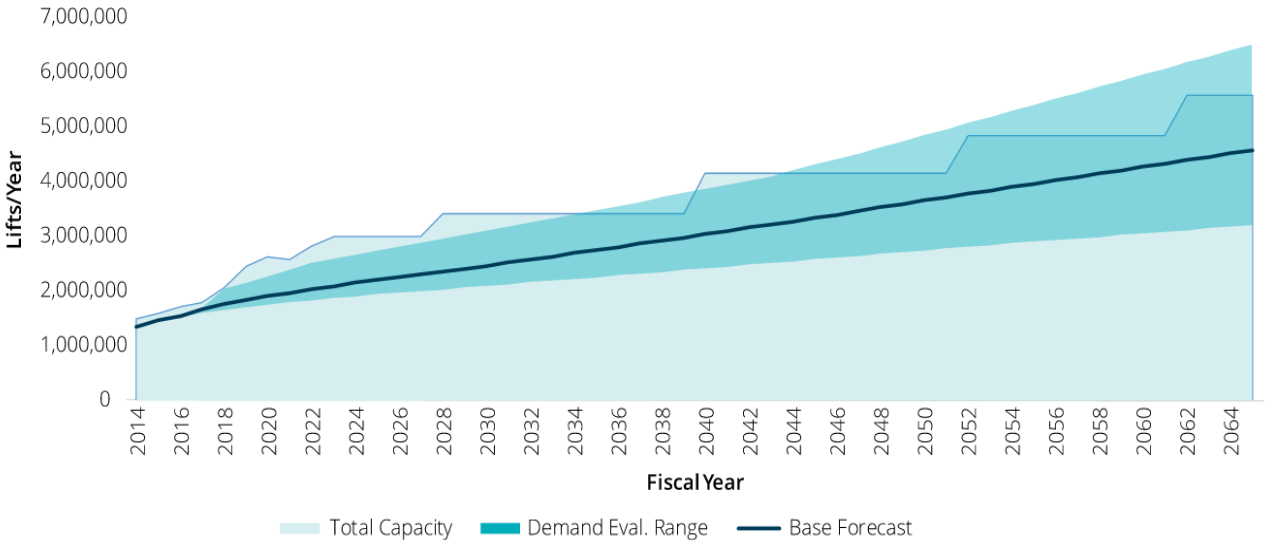
- $0 - $40B
- $40B - $80B
- $80B - $120B
- $120B - $160B
- $160B - $200B

Data source: HRTPO analysis of IHS Transearch Data. Includes all freight in Virginia – Inbound, Outbound, Through, and Within.

Port of Virginia Master Plan

In anticipation of future freight growth, the Port of Virginia (POV) has developed a 2065 Master Plan. This plan integrates these growth opportunities into updated demand forecasts and aligns the port's capital improvement project schedules to enable the port to handle it.

Figure 53 shows the number of lifts at the Port of Virginia facilities forecasted through 2065. Demand at port facilities could outpace capacity if demand is at the higher end of the projected range. To address the growing need for additional capacity, the light blue line shows significant capacity improvements occurring in 2028, 2040, 2052, and 2062— based on the anticipated construction of Craney Island Marine Terminal Phases 1-4. As volumes increase at the Port of Virginia, higher growth in truck volumes can be expected along the US Route 460 corridor in Isle of Wight County and Windsor, especially to and from distribution centers.



*A lift is a paid movement of a container onto or off a vessel.

FIGURE 53 – PROJECTED LIFTS* PER YEAR AT THE PORT OF VIRGINIA FACILITIES BY FISCAL YEAR

Source: Port of Virginia 2065 Master Plan.

Future Conditions - Air Travel

For air travel, the primary commercial passenger service airports for Isle of Wight residents are still expected to remain the same over the next couple of decades. Newport News-Williamsburg International Airport (PHF) and Norfolk International Airport (ORF) are the two closest options with Richmond International Airport (RIC) providing a third option. Passenger air travel growth has remained relatively flat over the last 10-15 years and is expected to gradually increase with population growth in the region.

This section primarily highlights recent infrastructure projects for airports within the study area that have received grants through Federal Aviation Administration's (FAA) Airport Improvement Program (AIP), including those for general aviation airports such as the Franklin Municipal-John Beverly Rose Airport.

Airport Improvement Program (AIP) Grants

AIP grants are awarded annually from the Federal Aviation Administration (FAA) to fund airport infrastructure projects such as runways, taxiways, airport signage, airport lighting, and airport markings. According to FAA, airports are entitled to a certain amount of AIP funding each year, based on passenger volume.

AIP grants (Fiscal Years 2015-2017) for commercial passenger service airports and local general aviation airports within 25 miles of Isle of Wight County are as follows:

FY 2015

- Suffolk Executive Airport – Remove obstructions ($517,500).
- Suffolk Executive Airport – Construct taxiway ($1,677,675).

FY 2016

- Franklin Municipal-John Beverly Rose - Construct/extend taxiway parallel to existing runway ($112,500).

- Hampton Roads Executive Airport – Conduct environmental study ($103,500).
- Richmond International Airport – Rehabilitate taxiway ($4,002,106).
- Newport News-Williamsburg International Airport – Improve terminal building ($1,100,000).
- Norfolk International Airport – Conduct miscellaneous study, Rehabilitate terminal building ($2,255,380).
- Suffolk Executive Airport – Rehabilitate runway, Rehabilitate runway lighting ($351,000).
- Suffolk Executive Airport – Conduct environmental study ($163,000).

FY 2017

- Franklin Municipal-John Beverly Rose - Construct/extend taxiway parallel to existing runway ($1,632,600).
- Hampton Roads Executive Airport – Acquire easement for approaches ($234,653).
- Norfolk International Airport – Acquire snow removal equipment ($1,510,306).
- Norfolk International Airport – Update airport master plan study ($1,600,389).
- Norfolk International Airport – Construct terminal building, Rehabilitate runway, Rehabilitate terminal building ($1,837,620).

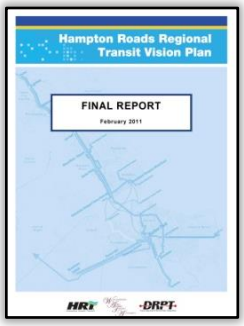
Future Conditions – Public Transportation

Isle of Wight County is one of the counties within the Commonwealth that were identified in Virginia Department of Rail and Pubic Transportation's Statewide Public Transportation and Transportation Demand Management Plan (January 2014) for expanded rural transit service by the year 2040. As population increases and ages, providing travel options will require new transit services in areas of the Commonwealth that are currently without service as well as expanding and diversifying the services of existing transit systems. Smaller public transportation operators are expected to see demand grow, especially for demand response and human services transportation. Providing public transportation services for special populations, such as the elderly, will be critical to the County going forward. For some areas of the County, these services are an economic lifeline, providing the only means to get to jobs, receive medical care, and remain vital members of the community.

As discussed in the earlier public transportation section of this report for current conditions, Isle of Wight currently has two public transportation services available — scheduled bus service through Hampton Roads Transit (Bus Route 64) and I-Ride Transit (Smithfield and Franklin routes) through Senior Services of Southeastern Virginia. In order for the county to continue to serve the public transportation needs of its residents into the future, these services and routes should be maintained and potentially expanded as growth continues.

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* from 2008 to 2011. The Hampton Roads Transportation Planning Organization, its member localities, and the Hampton Roads Partnership also participated in this effort. The purpose of the 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 (**Figure 54** on page 107). 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 were developed by corridors for various time frames—short-term (by 2025), long-term (by 2035), and extended-term (beyond 2035).

Within the Hampton Roads Regional Transit Vision Plan's extended-term (beyond 2035) recommendations, the closest corridor to Isle of Wight County is Corridor O: Harbor Park to Downtown Suffolk (Commuter Rail). Portions of this rail corridor have been evaluated by the Commonwealth as part of its higher-speed rail planning. With Isle of Wight County's population expected to grow by 44% from 2015 to 2045, future updates to the Hampton Roads Transit Vision Plan should include an analysis of possible transit corridors and alternatives into the county.

- **Corridor A:** Downtown Newport News to Williamsburg and Extension from Williamsburg to Toano (commuter rail)
- **Corridor B:** Downtown Newport News to Christopher Newport University (CNU) and Oyster Point (LRT)
- **Corridor C:** CNU to Huntington Pointe (LRT)
- **Corridor D:** Phoebus Waterfront to Coliseum Central (LRT)
- **Corridor E:** Downtown Newport News to downtown Hampton (LRT)
- **Corridors F 1-6:** Ferries from Harbor Park to Naval Station North and downtown Newport News, Hampton, and Portsmouth.
  Ferries from Harbor Park and Harbour View to downtown Newport News and Hampton
- **Corridor G:** Naval Station to downtown Newport News (LRT-only)
- **Corridor H:** Harbor Park to Harbour View (BRT, LRT if warranted)
- **Corridor I:** Downtown Norfolk to Naval Station (LRT)
- **Corridor J:** Military Highway Station to Naval Station (LRT)
- **Corridor K:** Harbor Park to downtown Portsmouth loop (streetcar)
- **Corridor M:** Tide extension to Virginia Beach (rapid transit, Currently in FTA New Starts Planning Process)
- **Corridor N:** Greenbrier to Military Highway Station (LRT)
- **Corridor O:** Harbor Park to downtown Suffolk (commuter rail)
- **Corridor P:** Harbor Park to Fentress (commuter rail)

FIGURE 54 – REGIONAL TRANSIT VISION PLAN – RECOMMENDATIONS
Source: Hampton Roads Regional Transit Vision Plan.

Summary of Candidate Projects

A number of potential projects are described throughout this report. These candidate projects are related to improving roadway congestion, improving safety, constructing active transportation facilities, and reducing the impact of sea level rise/storm surge. These projects are summarized in **Figure 55** on page 109 and **Map 41** on page 110.

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 June 28, 2019 through July 16, 2019. No public comments were received.

Roadway Projects

Facility	Candidate Project	Projected Planning Level Cost ($2018 millions)
Battery Park Rd from S Church Street to Nike Park Road	Widen from 2 to 3 lanes	$13.4 - $22.0
	Widen from 2 to 4 lanes	$23.6 - $39.1
Benns Church Blvd from Brewers Neck Blvd to Turner Drive	Widen from 4 to 6 lanes	$23.0 - $37.2
Benns Church Blvd from Turner Drive to South Church Street	Widen from 4 to 6 lanes	$22.1 - $35.8
Carrollton Blvd (Route 17) at the Chuckatuck Bridge	Widen bridge from 2 to 4 lanes	$27.2 - $39.9
Carrollton Blvd (Route 17) from Route 258 to the James River Bridge	Widen from 4 to 6 lanes	$52.9 - $85.7
	Improve to Superstreet standards	$26.2 - $28.7
Nike Park Road from Battery Park Road to Titus Creek Drive	Widen from 2 to 3 lanes	$15.6 - $25.7
	Widen from 2 to 4 lanes	$27.5 - $45.5
Nike Park Road Extension from Reynolds Drive to Route 17	Widen from 2 to 4 lanes	$12.6 - $21.6
Route 10 Bypass from South Church Street to Main Street	Widen from 2 to 4 lanes	$29.0 - $49.7
Route 258 from River Run Trail to Route 460	Widen from 2 to 3 lanes	$52.8 - $70.1
	Widen from 2 to 4 lanes	$75.2 - $99.4
Route 258 from Scotts Factory Road to WCL Smithfield	Widen from 2 to 3 lanes	$9.2 - $12.2
	Widen from 2 to 4 lanes	$13.0 - $17.2

Safety Projects

Facility	Candidate Project	Projected Planning Level Cost ($2018 millions)
Route 460/Bank Street/Court Street/Church Street Intersection	Intersection Congestion Improvements	$1.8
Reynolds Drive/Smiths Neck Road Intersection	Add northbound left-turn bay	$2.3 - $3.7
	Additional Reynolds Drive signage	$0.002
	Install roundabout	$3.1 - $6.1
Berry Hill Road/Route 10 Bypass Intersection	Improve intersection lighting	$0.20 - $0.24
Route 258 from Scotts Factory Road to WCL Smithfield	Widen from 2 to 3 lanes	$9.2 - $12.2
Route 460 from Route 258 to Bank Street/Court Street/Church Street	Widen from 4 to 5 lanes	$10.0 - $19.4
	Intersection Congestion Improvements	See above

Bike/Pedestrian Projects

(Includes Short-Term projects in the Pedestrian and Bicycle Facilities Master Plan that have not been completed or funded.)

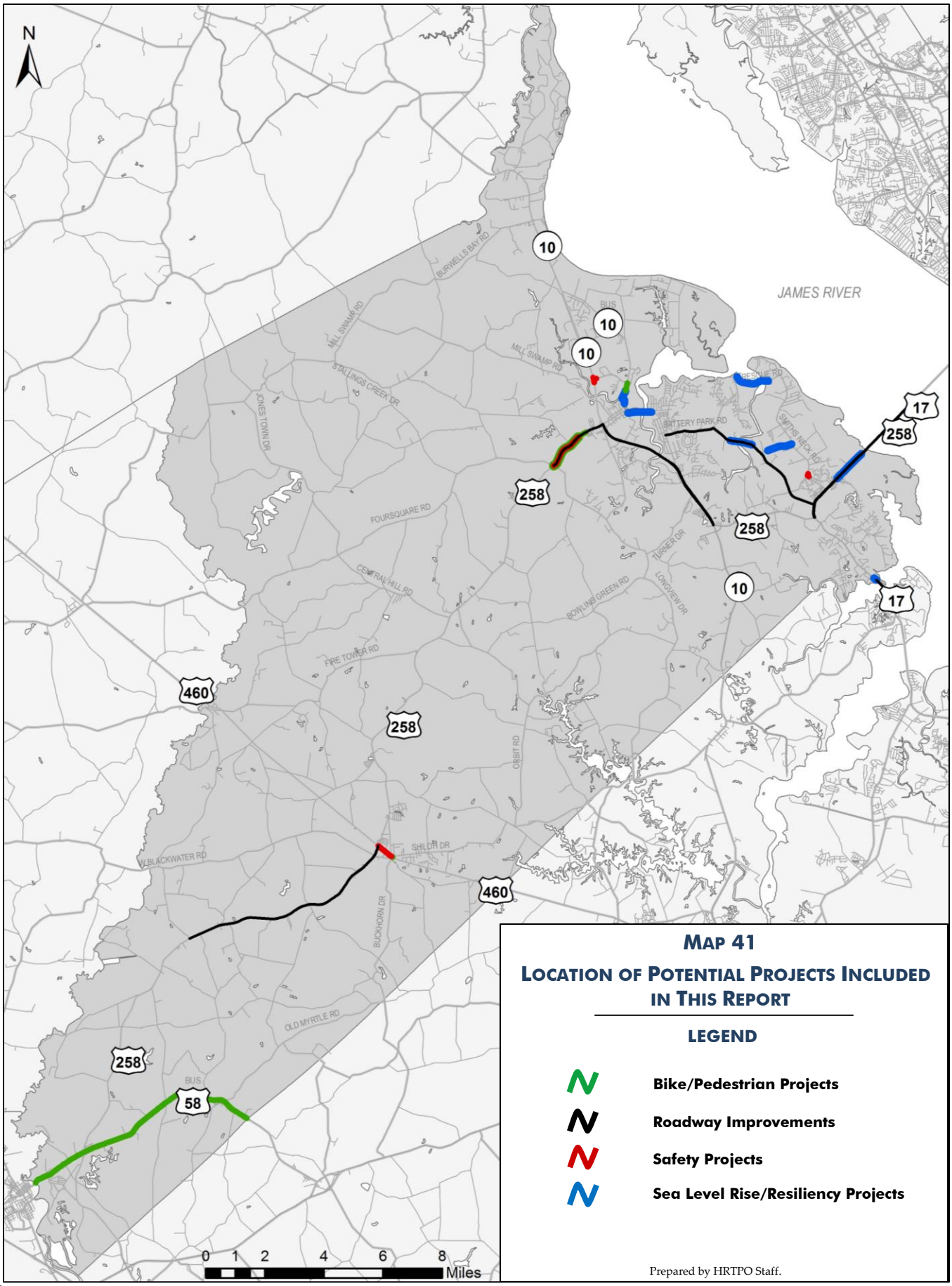
Candidate Project	Projected Planning Level Cost ($2009)
US 460 & VA 603 & VA 610 Intersection Pedestrian Crossing Improvements	$156,000
Crosswalk Improvements at the packing plants associated with Smithfield Foods Corporation (VA 10 Business)	$28,000
US 258/West Smithfield Pedestrian and Bicycle Facilities	$607,000
Lake Gaston Pipeline Trail (Phase 1)	$762,000
Signed Bicycle Routes	$38,000
Share the Road Signage	$8,000
Sidewalks in New Developments:	$312,000 per mile
Bicycle Parking at Commuter Parking Lots	$63,000
Mountain Bike Trails and Hiking Trails	$45,000 per mile

Resiliency Projects

Candidate Project	Projected Planning Level Cost ($2018 millions)
Raise Roadway - Route 17 west of James River Bridge	$4.8 - $6.2
Raise Roadway - Route 17 near Chuckatuck Creek	$0.3 - $0.4
Raise Roadway - Titus Creek Drive near Jones Creek	$0.3 - $0.4
Raise Roadway - Rescue Road	$1.1 - $1.4
Raise Roadway - Nike Park Road near Jones Creek	$0.4 - $0.5
Raise Roadway - Church Street/Commerce Street near the Pagan River	$1.9 - $2.4

Figure 55 – Summary of Potential Projects Included in This Report

Planning Level Cost Estimate Sources: VDOT TMPD Statewide Planning Level Cost Estimates spreadsheet, VTRC Systemic Low-Cost Countermeasures for an Unsignalized Intersection Safety Improvement Plan for Virginia, Isle of Wight Pedestrian and Bicycle Facilities Master Plan, Fairfax County Parkway & Franconia-Springfield Parkway Corridor Study, and Boston Public Works Department Climate Resilient Design Standards & Guidelines.



Map 41

Location of Potential Projects Included in This Report

LEGEND

- Bike/Pedestrian Projects
- Roadway Improvements
- Safety Projects
- Sea Level Rise/Resiliency Projects

Prepared by HRTPO Staff.