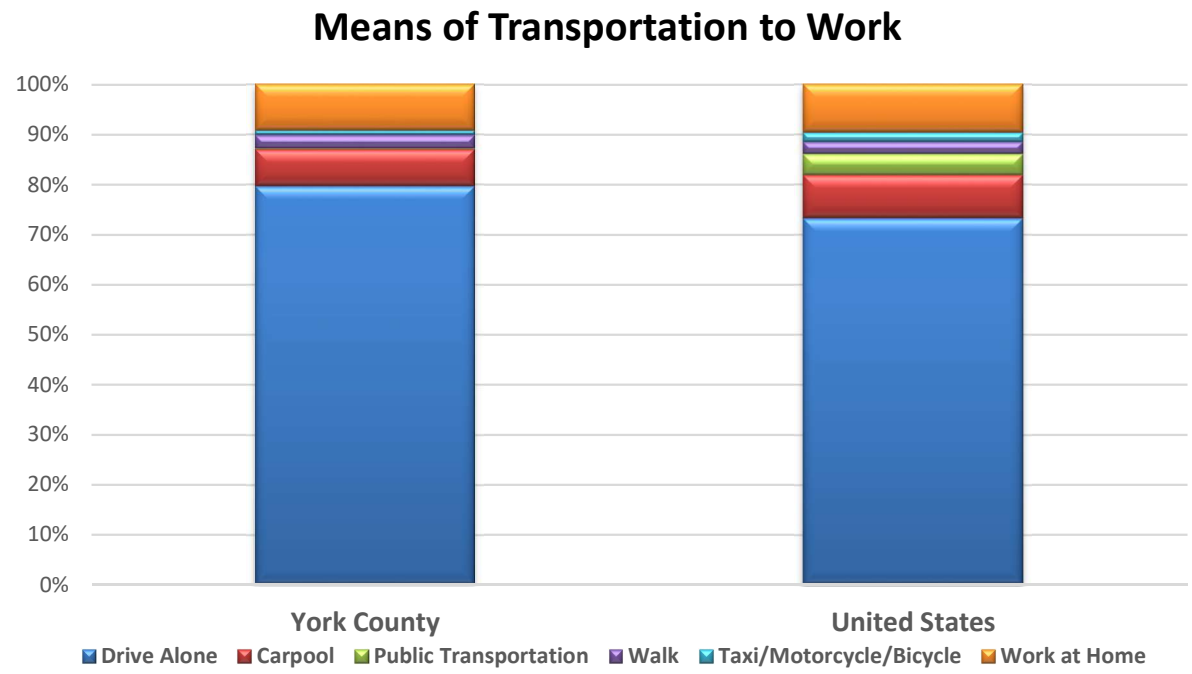
TRANSPORTATION

INTRODUCTION

Transportation is part of our daily lives and a critical component of a community's well-being. A safe and efficient system for moving people and goods is important for the quality of life of the residents and visitors and for the local and regional economies. The importance of transportation planning is reflected in Section 15.2-2223.B.1 of the Code of Virginia, which requires every locality to develop, as part of its comprehensive plan, a transportation plan that designates a system of transportation infrastructure needs and recommendations that include the designation of new and expanded transportation facilities and that support the planned development of the territory covered by the plan. To assist James City County, Williamsburg, and York County with their respective Comprehensive Plan updates, the Hampton Roads Transportation Planning Organization (HRTPO) – the regional transportation planning agency for Hampton Roads – prepared a join transportation study for the three localities in 2019-2020. This *Historic Triangle Comprehensive Transportation Study*, completed in July 2020, is an update of a similar HRTPO study completed in March 2012. Much of the information presented here is drawn from that study.

The automobile is the principal mode of travel in the United States, and even more so in York County as shown in **Figure 1**. According to the Census Bureau's American Community Survey for 2017-21, 79.6% of the County's employed residents drive to work alone, while 7.4% carpool and another 2.6% walk to work. Very small proportions – 0.2% and 0.8% respectively – commute either by public transportation or by other means (taxicab, motorcycle, bicycle, etc.) – while 9.3% work at home. While roadways make up the bulk of the County's transportation network, transportation planning must consider all modes of travel, including transit, bicycle and pedestrian accommodations, railways, airports, and waterways. It should be noted that since the COVID-19 pandemic, the proportion of people working from home in the County increased significantly from 5.4% to 9.2%.



Source: U.S. Census Bureau American Survey, 2017-2021

Figure 1

EXISTING CONDITIONS

Roadways

Most of the roadways in York County, as in most Virginia counties, are owned and maintained by the Virginia Department of Transportation (VDOT). Largely because of a topography typified by a large number of peninsulas and inlets in the lower County and pronounced ridgelines that fall off into steep ravines in the upper County, combined with a generally linear alignment along the banks of the York River, the roadway network has developed with a large number of collector roads feeding relatively few arterial roads. In the functional hierarchy of streets, higher order streets – such as freeways, expressways, arterials, and major collectors – are intended more to move traffic than to provide land access (i.e., driveways connecting to them). Major and minor collectors serve both functions, and local streets, such as subdivision streets, are intended to provide land access. Generally speaking, local streets feed into the collector roads, which move traffic to the arterial and freeway system, with increasing speeds and diminishing land access as one moves from lower order to higher order streets.[1] The functional hierarchy of York County's roadway network is depicted on the **VDOT Functional Classification Map**, while mileage by functional classification for public (VDOT) roads is shown in **Table 1**.

MILES OF ROADWAY BY VDOT FUNCTIONAL CLASSIFICATION, 2017		
Roadway Functional Classification	**Centerline Miles**	**Lane Miles**
Interstate	11.2	44.9
Freeway & Expressway	4.1	16.4
Other Principal Arterial	26.2	106.6
Minor Arterial	21.5	44.3
Major Collector	45.8	90.7
Minor Collector	6.1	10.5
Local	254.1	527.6
Total Centerline Miles	369.5	841.0
Note: A lane-mile is defined as the length of a roadway segment multiplied by the number of lanes. A one-mile long, four-lane wide roadway segment would comprise four lane-miles and one centerline mile.		
Source: HRTPO Study (Data source: VDOT)		

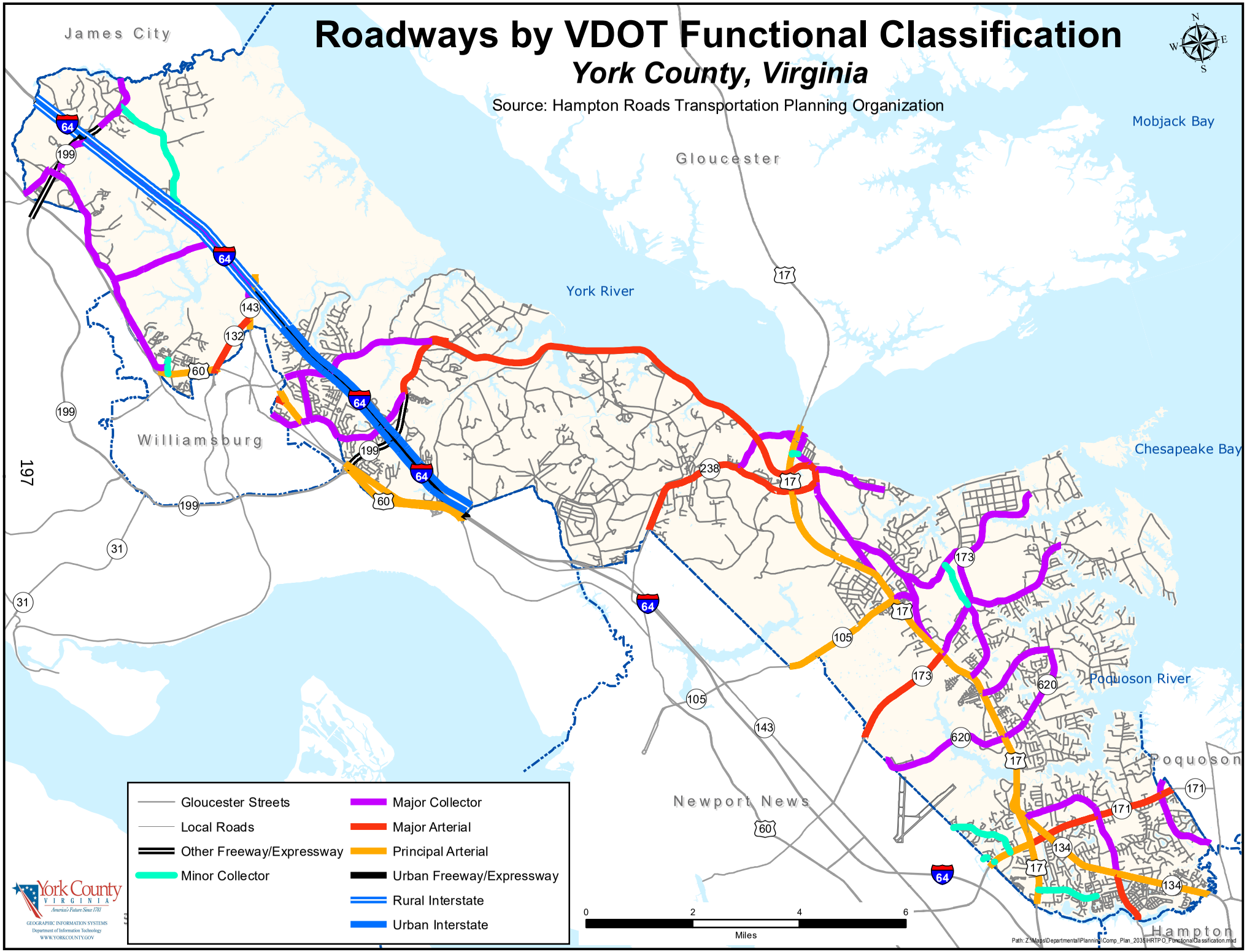
Table 1

Not surprisingly, residential and commercial growth in the County and the region, combined with the continued prevalence of the single-occupant vehicle, has led to increased traffic on the County's roadways. According to traffic data collected by VDOT, the number of daily vehicle-miles of travel in York County increased from 2.1 million in 2009 to 2.19 million in 2019. This growth has caused traffic on some roads in the County to exceed their functional capacity. Roadway capacity is derived from a mathematical relationship between roadway geometric features (lane width, horizontal and vertical curvature, shoulder type and width, etc.) surface treatment, access type and spacing, intersection location and type of control (stop sign, yield sign, traffic signal, etc.), and the general characteristics of travel (peak hours, number of heavy vehicles in the traffic stream, the number and percentage of left turns at intersections, etc.).

Capacity analysis involves the estimation of the traffic-carrying ability of a roadway over a range of operational conditions, which are defined in terms of Level of Service (LOS).[2] "The concept of *levels of service* uses qualitative measures that characterize operational conditions within a traffic stream and their

[1] Vergil G. Stover and Frank J. Koepke, *Transportation and Land Development* (Institute of Transportation Engineers: Washington D.C.) 2002, pp 4-3 through 4-11

[2] Transportation Research Board, *Highway Capacity Manual, Special Report 209, Third Edition* (1998), p. 1-3


Roadways by VDOT Functional Classification
York County, Virginia
Source: Hampton Roads Transportation Planning Organization
James City
Gloucester
Mobjack Bay
York River
Williamsburg
Chesapeake Bay
Poquoson River
Poquoson
Newport News
Hampton
Gloucester Streets
Local Roads
Other Freeway/Expressway
Minor Collector
Major Collector
Major Arterial
Principal Arterial
Urban Freeway/Expressway
Rural Interstate
Urban Interstate
0 2 4 6
Miles
York County VIRGINIA
America's Future Since 1781
GEOGRAPHIC INFORMATION SYSTEMS
Department of Information Technology
WWW.YORKCOUNTY.GOV
Path: Z:\Maps\Departmental\Planning\Comp_Plan_2035\HRTPO_FunctionalClassification.mxd

perception by motorists and passengers. The descriptions of individual levels of service characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience."[3] There are six levels of service with letter designations of A through F; LOS A represents the best operating conditions (free-flow) and LOS F represents the worst (gridlock). Traffic delays increase air pollution, waste energy, and cause driver frustration, which often manifests itself in attempts to find short cuts, usually along roads not designed for through traffic. LOS A through D are considered to be acceptable operating conditions, although LOS D can be thought of as the "warning" level where favorable conditions are on the verge of becoming unacceptable. LOS E and F are considered unacceptable.

The HRTPO conducts capacity analysis of the regional roadway network on a regular basis as part of the Congestion Management Process (CMP) for the region. Federal regulations require CMPs for all urban areas with populations over 200,000. As stated in the 2020 CMP update, "The Hampton Roads CMP is an on-going systematic process for managing congestion that provides information and analysis on multimodal transportation system performance and on strategies to alleviate congestion and enhance the mobility of persons and goods regionwide."[4] The CMP Roadway Network includes all roadways in Hampton Roads that are classified as interstates, freeways or other expressways, principal and minor arterials, as well as some selected collectors.[5]

As part of the HRTPO's *Historic Triangle Comprehensive Transportation Study*, a roadway congestion analysis was performed using a procedure similar to that used in the CMP. Current congestion levels for York County resulting from this analysis are graphically illustrated in the **Existing Congestion** map and listed in **Table 3**. In these exhibits, congestion levels are classified either as low (LOS A through C), medium (LOS D), or high (LOS E or F).

According to this analysis, 9% of the lane miles in York County's CMP Roadway Network are currently experiencing severe congestion in the AM and/or PM peak hour. The major problem areas are Route 17 between Goosley Road and Denbigh Boulevard/Goodwin Neck Road and between Route 134 and the Newport News city line, where congestion is currently severe in both the AM and PM peak hours. The segment in the middle – between Denbigh Boulevard/Goodwin Neck Road and Route 134 – is classified as low, which can be attributed to the widening of most of that segment from four to six lanes that was completed in 2016. Other severely congested roadways in the PM peak hour, according to this analysis, include Victory Boulevard eastbound between Newport News and Big Bethel Road and Hampton Highway northbound between Big Bethel Road and Route 17.

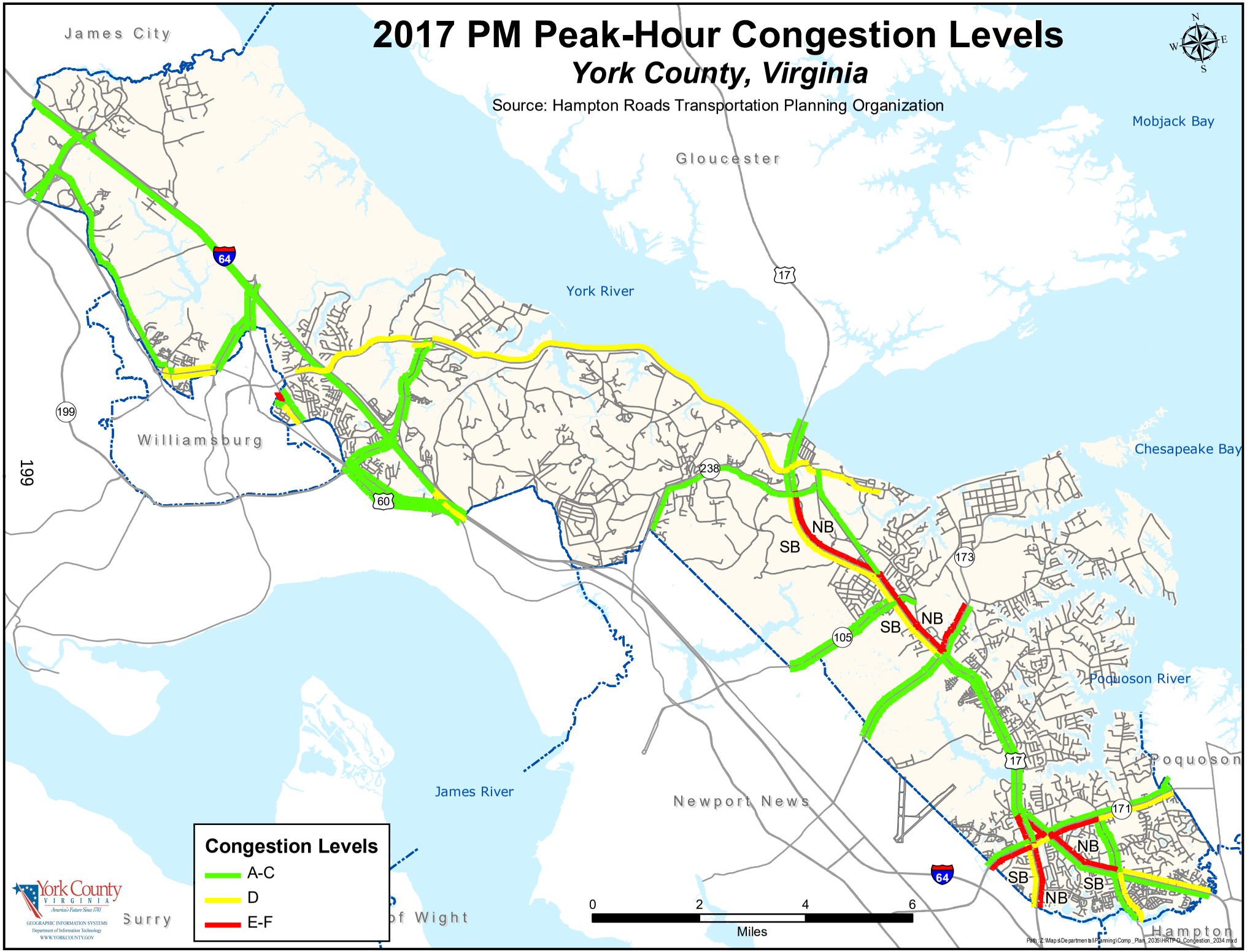
Traffic congestion can contribute to safety problems as driver frustration leads to speeding, red light running, tailgating, improper lane changes, failure to yield, and other dangerous maneuvers. As shown in **Figure 2**, the number of crashes and traffic injuries on York County's roads tends to fluctuate from year to year. To determine which roads are the most hazardous, the HRTPO analyzed VDOT crash data over the period from 2013 through 2017 and calculated the EPDO Rate for all roads that are classified as minor collectors and above. The EPDO (Equivalent Property Damage Only) Rate takes into account not just the rate of crashes per million vehicle-miles of travel but the severity of crashes as well. Crashes are weighted based on whether or not there were injuries or fatalities. Based on this analysis using EPDO rates, the most hazardous roadway segments in the County (among higher order streets) are:

- Waller Mill Road – Bypass Road to Mooretown Road (19.1)
- Old York-Hampton Highway – Fort Eustis Boulevard to Hornsbyville Road (16.9)
- Merrimac Trail – Penniman Road to Second Street (12.2)
- Barlow Road – Skimino Road to East Rochambeau Drive (12.2)

[3] Highway Capacity Manual, p.1-4

[4] Hampton Roads Transportation Planning Organization, *Hampton Roads Congestion Management Process 2020 Update: Part I – Introduction and System Monitoring* (March 2020), p. 1

[5] HRTPO, Page 24


2017 PM Peak-Hour Congestion Levels
York County, Virginia
Source: Hampton Roads Transportation Planning Organization
James City
Gloucester
Mobjack Bay
York River
Williamsburg
Chesapeake Bay
Poquoson River
James River
Newport News
Poquoson
Hampton
Surry
Isle of Wight
64
17
199
60
238
105
173
171
NB
SB
Congestion Levels
A-C
D
E-F
0
2
4
6
Miles
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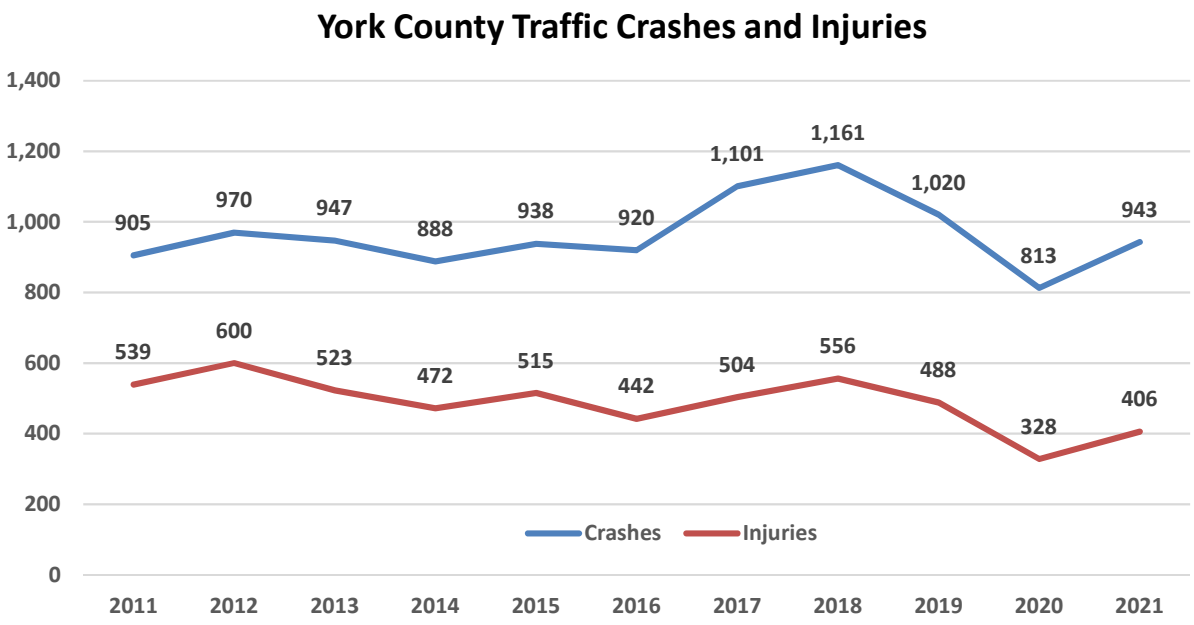
- Mooretown Road – Route 199 to Lightfoot Road (10.3)
- Goosley Road – Route 17 to Cook Road (8.2)
- Fort Eustis Boulevard Extension – Route 17 to Old York-Hampton Highway (8.1)



Source: Virginia Department of Motor Vehicles, Virginia Crash Facts (published annually)

Figure 2

Another statistic used for determining the most hazardous locations is the Potential for Safety Improvement (PSI), which is the difference between the number of crashes that occurred at a location and the number of crashes that *would be predicted* to occur based on that location's traffic volumes, area type, segment length, intersection control type, etc. According to VDOT, the intersections and roadway segments in York County with the highest PSI are:

<u>Intersections</u>
- Route 17 at Rich Road
- Route 17 at Theatre Road
- Route 17 at Burts Road/Grafton Station Lane
- Hampton Highway at Yorktown Road
- Richmond Road at Lightfoot Road
- I-64 eastbound off-ramp at Route 143 (Camp Peary interchange)
- East Rochambeau Drive at Airport Road

<u>Roadway Segments</u>
- Bypass Road from Commons Way to Chelsea Road
- Victory Boulevard from Kiln Creek Parkway/Village Avenue to Walmart entrance
- Pocahontas Trail from Route 199 to Busch Way
- Victory Boulevard from Walmart entrance to Route 17
- Pocahontas Trail from Busch Gardens interchange to Busch Way
- Route 17 from Ella Taylor Road to Sports Way
- I-64 eastbound at the Route 199 south (Water Country USA/Marquis) interchange

Bikeways

Although often thought of as a recreational activity, bicycling is also a mode of transportation. Benefits of bicycle use include energy conservation, reduced noise and air pollution, traffic reduction, and health and fitness improvement. In addition, according to research conducted by the HRTPO, bicycle paths can have a positive economic impact in a community through increased property values for nearby homes and increased sales at nearby shops, restaurants, breweries, etc. York County's mild weather, relatively flat terrain, and tourist attractions offer ideal opportunities for bicycling.

In 1993 York County joined with Williamsburg and James City County in developing and adopting a *Regional Bicycle Facilities Plan* (or *Regional Bikeway Plan*) for the three localities. A multi-jurisdictional approach was taken in recognition of the fact that bikeways, like roadways, should not abruptly end at jurisdictional boundary lines. The three governing bodies also formed the Historic Triangle Bicycle Advisory Committee (HTBAC) comprised of citizen appointees and staff from each locality as well as the National Park Service, the Colonial Williamsburg Foundation, and the College of William & Mary. The HTBAC is responsible for recommending projects and priorities for implementation under the adopted Regional Bikeways Plan and periodically recommending amendments to the Plan. In conjunction with the three localities' comprehensive plan updates, the HTBAC conducted a thorough review and update of the plan. The updated bikeway plan, incorporated into this Comprehensive Plan by reference, is depicted on the Regional Bikeways map.

There are three basic types of bikeways in York County:

- ***Bike Lane:*** A portion of the roadway designated by striping, signing, and/or pavement markings for preferential or exclusive use of bicycles.

- ***Shared-Use Path (also Multi-Use Path):*** A facility that is physically separated from the roadway and intended for bicycle and pedestrian use. These are also referred to as Multi-Use Paths.

- ***Shared Lane (also Shared Roadway):*** Shared auto/bicycle use of a "standard" width (12') travel lane.

In addition to these facilities, there are other bicycle accommodations that, while not technically considered "bikeways", serve essentially the same purpose. For example, when Ft. Eustis Boulevard (Route 105) was widened from two to four lanes between Route 17 and the Newport News city line in the early 2010's, eight-foot shoulders were incorporated into the project. Though not marked as bike lanes, these wide paved shoulders are much wider than typical bike lanes and provide a refuge for cyclists who choose to ride on this road. Sometimes bicycles can be accommodated by merely adding striping to the existing roadway where the pavement is wide enough to accommodate shoulders, as was done recently along the wide section of Penniman Road between Fillmore Drive and the Williamsburg city line west of Merrimac Trail. Similarly, when VDOT repaved Hubbard Lane, the travel lanes were reduced from twelve to eleven feet at the County's request to accommodate wider parking lanes on both sides of the road. These parking lanes are not considered bike facilities, but they are heavily used by cyclists and pedestrians alike.

Since the adoption of the Regional Bikeway Plan in 1993, bike lanes and shoulders have been installed along all or portions of Amory Lane, Ballard Street, Capitol Landing Road, Cook Road, East Rochambeau Drive, Goodwin Neck Road, Mooretown Road, and Old York-Hampton Highway. In addition, the Waller Mill Trail was constructed as a shared-use path running through the City of Williamsburg's Waller Mill Park from Mooretown Road to East Rochambeau Drive generally parallel to Airport Road. Various local, state, and federal funding sources were utilized to implement these projects.

Walkways

Walking is the most basic and yet often the most overlooked of all modes of transportation. Well-designed walkways increase pedestrian safety and, in so doing, invite pedestrian use. In tourist and commercial areas, good sidewalks can provide economic advantages by encouraging consumers to patronize nearby establishments rather than driving farther and perhaps to a business not located in the County.

Most of the major roads in York County were built at a time when sidewalks were viewed largely as an urban amenity not appropriate in a rural county. To address the lack of sidewalks in the County, the Board of Supervisors adopted a Sidewalk Plan in November 1995. This plan was based on two premises: 1) that people should be able to walk safely to nearby schools, shops, parks, places of worship, and libraries, and 2) that they should be encouraged to do so. Accordingly, the 1995 Sidewalk Plan focused on areas where people live within a reasonable walking distance of such facilities. Following one of the recommendations of the Sidewalk Plan, the Board of Supervisors during the 1990s began setting aside funding each year in the six-year Capital Improvements Program (CIP) for walkway development. These relatively small yearly increments of $20,000 or so accrued over time into a sidewalk construction fund large enough to accomplish, with state matching funds, the County's first major sidewalk project, which added sidewalks along Merrimac Trail, Second Street, and Richmond Road.

In 2010, in response to the nationwide economic recession, the CIP was dramatically scaled back to include only those projects that were critical to County operations. No new funding was programmed for sidewalk development, and most of the previously programmed funds had been spent. Nevertheless, around this time the County did undertake some significant sidewalk projects – on Commons Way, Hubbard Lane, and Hampton Highway – thanks to federal "economic stimulus" funds that the County received through the American Recovery and Reinvestment Act of 2009 (ARRA).

In recent years, as the economy has improved, the County has expanded its sidewalk construction efforts, leveraging County funds with state and federal dollars that are available through transportation funding programs such as the Revenue Sharing Program, which requires a 50% local match, and the Transportation Alternatives (TA) Set-Aside, which requires a 20% local match. County sidewalk projects, both completed and planned, are listed in **Table 2** and depicted on the **Existing and Proposed Walkways** map.

York County Sidewalk Projects, 2006-2023

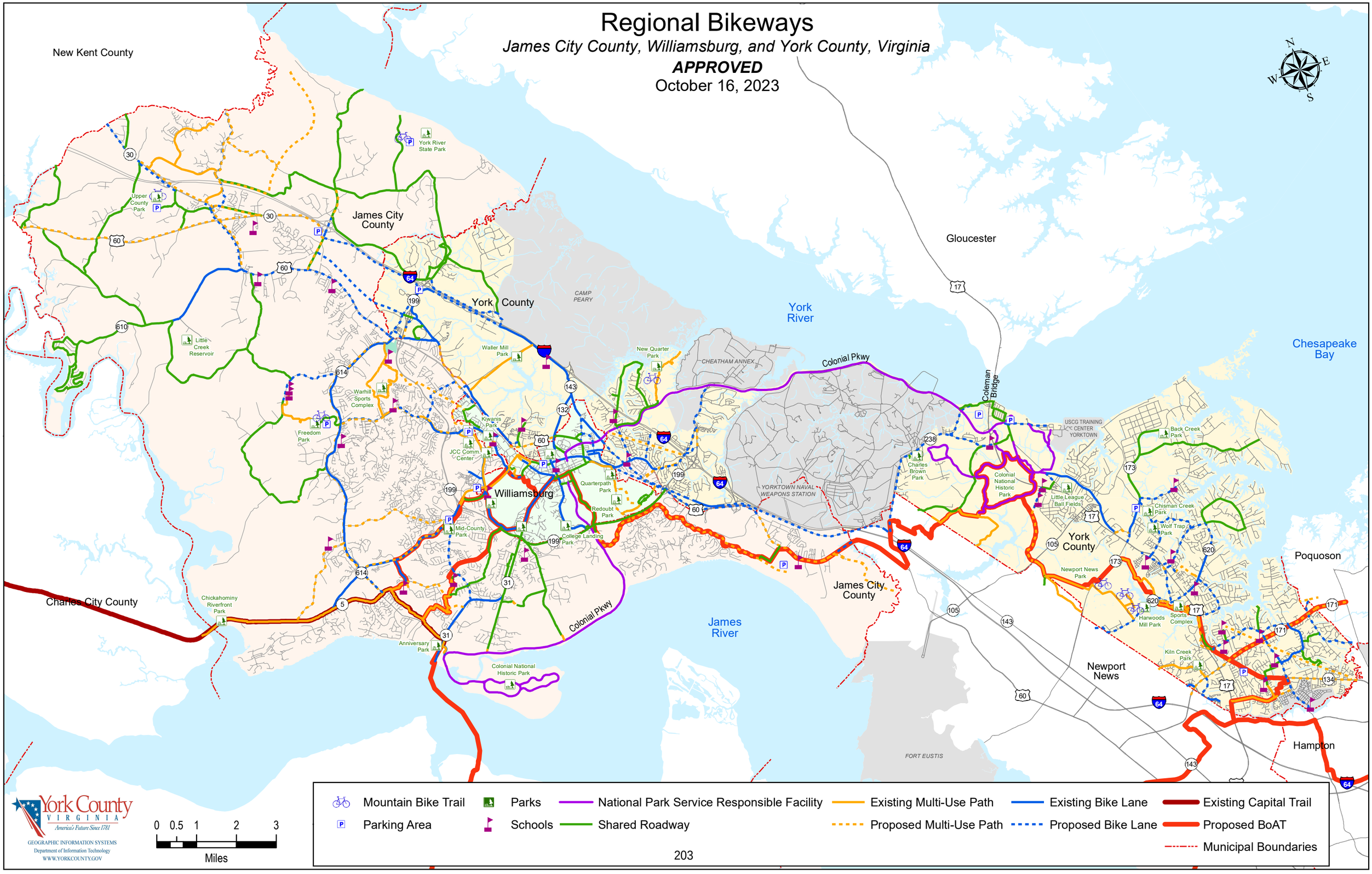
Facility	From	To
Completed		
Merrimac Trail	Williamsburg City Line	James York Plaza
Second Street	Williamsburg City Line	George Washington Inn
Richmond Road	Williamsburg City Line	Williamsburg City Line
Victory Boulevard	Kiln Creek Pkwy (east)	Kiln Creek Pkwy (west)
Commons Way	Bypass Rd	End
Hubbard Lane	Penniman Rd	Colonial Ave
Hampton Highway	St. Clair Circle	Indian Summer Dr.
Yorktown Road	Mt. Vernon Dr.	Villa Way
Unnamed Street	Villa Way	Mt. Vernon Elementary School
Seaford Road	Seaford Baptist Church	Seaford Elementary School
Ballard Street	Bacon Street	Yorktown Village Apartments
Comte de Grasse Street	Main Street	Water Street
Bypass Road	Bypass Road Bridge	Route 132
Route 17	Ft. Eustis Blvd	Yorktown Library
Hampton Highway	Autumn Way	Lake Dale Way
Old Williamsburg Road	Lackey Clinic	Woods at Yorktown Apartments
Big Bethel Road	Running Man Trail	Tabb Elementary School
Programmed or Under Construction		
Merrimac Trail	Penniman Road	James York Plaza

Regional Bikeways

James City County, Williamsburg, and York County, Virginia

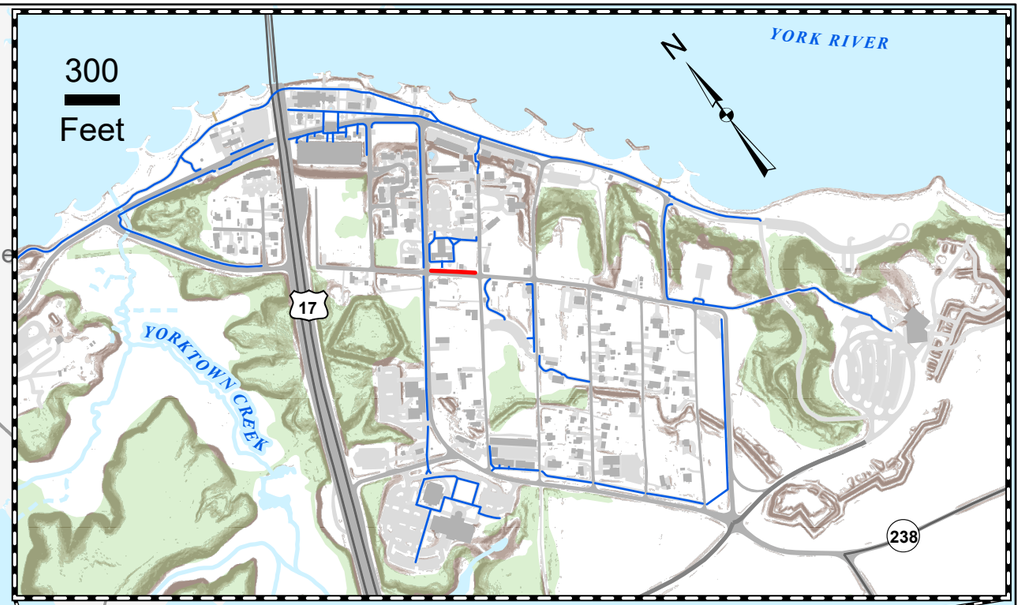
APPROVED

October 16, 2023



Existing and Future Walkways

York County, Virginia



CAMP PEARY

CHEATHAM ANNEX

YORKTOWN NAVAL WEAPONS STATION

USCG

FORT EUSTIS

York River

James River

Glouce

James City

Williamsburg

Surry

Newport News

Poquoson

Hampton

199 64 132 143 60 5 105 173 17 171 134 238 205

Existing
Planned
Recommended

N E S W

Miles
0 1 2 3

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York County Sidewalk Projects, 2006-2023		
Facility	**From**	**To**
Penniman Road	Merrimac Trail	Hubbard Lane
West Queens Drive	Royal Grant Drive	Queens Lake Middle School
Villa Way	Yorktown Road	Mt. Vernon Elementary School
Yorktown Road	Bethel Baptist Church	Tabb High School
Lakeside Drive	Carraway Terrace	Bailey Road
Siege Lane	Runaway Lane	York-Warwick Drive
Grafton Drive	Existing sidewalk	Timberline Loop
Yorktown Road	Bethel Baptist Church	Tabb High School
Lakeside Drive	Heritage Square Shopping Center	Beechwood Drive
Sports Way	Existing sidewalk	Heritage Square Shopping Center
Zweybrucken Road	Ballard Street	Victory Monument parking lot
Bulifants Boulevard	Mooretown Road	Aura at Arbordale apartments
Grafton High/Middle School walkway	Grafton Drive	School parking lot
Old Mooretown Road	Existing sidewalk	Kelton Station development
Mooretown Road	Existing sidewalk	Reserve Way
Long Green Boulevard	Hampton Highway	Victory Family YMCA

Table 2

Not all sidewalks are the result of County construction projects. Sidewalks can be incorporated into road construction and improvement projects, as in the case of the extension of Fort Eustis Boulevard from Route 17 to Old York-Hampton Highway, which included sidewalks on both sides of the road. More recently, the County received state funding for improvements to Victory Boulevard, which include a shared-use path on the north side of the road between North Bowman Terrace and Big Bethel Road. VDOT policy requires that all highway construction projects be initiated with the presumption that the projects will accommodate pedestrians and bicyclists.

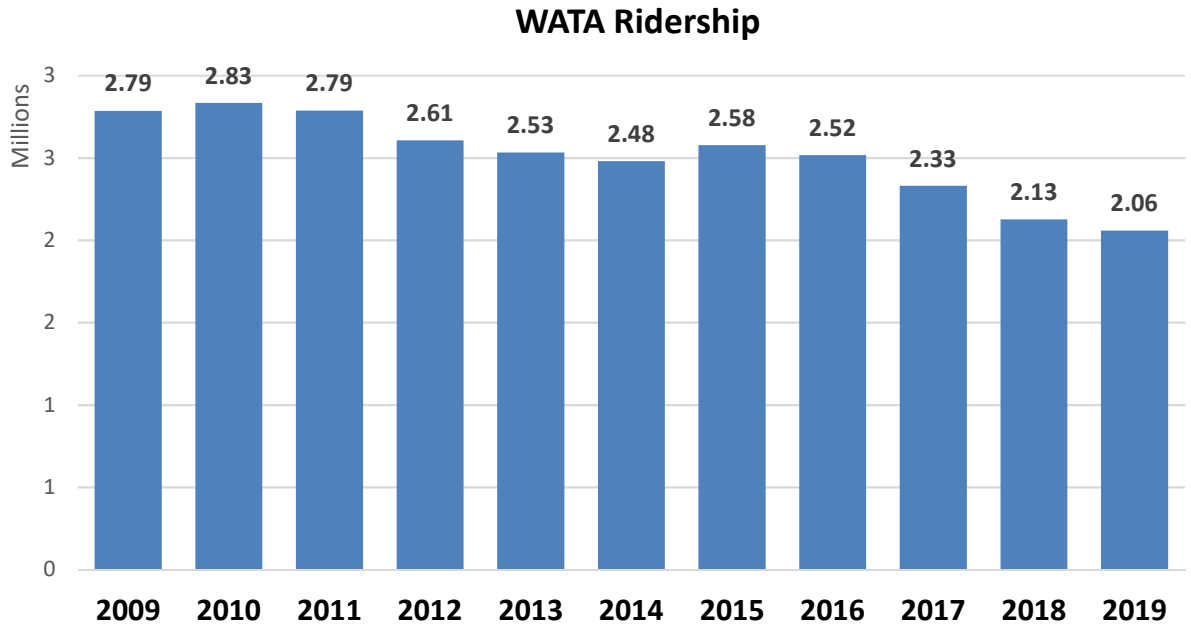
Walkways can also be required in conjunction with new development along a designated sidewalk corridor or within walking distance of residential, commercial, or public uses. Examples of this approach include the Wawa convenience store at the intersection of Merrimac Trail and Penniman Road and the adjacent Animal Clinic of Williamsburg on Penniman Road, the James York Plaza shopping center on Merrimac Trail, the Wawa store at the intersection of Route 17 and Joseph's Drive, and walkway connections linking the Greenlands subdivision with the adjacent Tabb Library and Coventry Elementary School.

Pedestrian accommodations usually take the form of concrete sidewalks along the road but can also include asphalt paths. In some cases, roadside shoulders can be a reasonable accommodation. For example, the shoulder bicycle lanes along Old York-Hampton Highway are frequently used not just by bicyclists but by pedestrians and joggers as well; the pavement width, speed limit, and traffic volumes are conducive to relatively safe pedestrian travel along this road.

Transit

Public transit service is available in the upper County through the Williamsburg Area Transit Authority (WATA), which operates a multi-jurisdictional bus system throughout the greater Williamsburg area. York County is a member of WATA, along with James City County, the City of Williamsburg, and the Colonial Williamsburg Foundation; The College of William & Mary and the Virginia Department of Rail and Public Transportation also serve as non-voting members on the WATA Board of Directors. With bus routes stretching from Stonehouse in northern James City County to Water Country USA to Lee Hall in Newport News, the WATA system serves residents, visitors, and businesses throughout the greater Williamsburg area. York County routes provide service along Penniman Road, Merrimac Trail, Pocahontas Trail, Bypass Road, Richmond Road, Mooretown Road, East Rochambeau Drive, Lightfoot Road, and Route 199.

The overall trend in WATA ridership has been downward over the past ten years. Total ridership in 2019 was 2.1 million – a 26% decline since 2009. The Route 3/Merrimac Trail route, which serves much of upper York County, including The Marquis shopping center, Busch Industrial Park, and the Merrimac Trail and Penniman Road corridors, is one of the system's top three routes in terms of ridership.



Source: HRTPO (Data Sources: WATA, American Public Transportation Association

Figure 3

Although WATA service in York County is limited mainly to the Williamsburg area, a route (Route 11) was added in 2017 that extended service to the Lackey area. This route connects the Riverside Hospital in Williamsburg to Lee Hall, the Lackey Clinic on Old Williamsburg Road, the Virginia Peninsula Regional Jail, and the Yorktown Naval Weapons Station. Otherwise, public transit service in the lower County is limited to the free Yorktown Trolley bus service, which operates during the spring and summer months to shuttle visitors throughout the historic village.

Another form of transit is carpooling and ride sharing. To encourage this activity, VDOT maintains almost three hundred Park and Ride lots across the Commonwealth, including 28 in Hampton Roads and one in York County: a gravel Park and Ride lot on East Rochambeau Drive that has space for fifty vehicles. The County plans to construct a second Park and Ride lot along Victory Boulevard behind the Tabb Fire Station in conjunction with the planned widening of Victory Boulevard between Route 17 and Hampton Highway. At the regional level, Hampton Roads is served by TRAFFIX, which is a public service program designed to promote and implement commuting options. TRAFFIX's mission is to assist in efforts to decrease traffic congestion and greenhouse emissions in southeastern Virginia by reducing the number of single occupancy vehicles commuting to work through ridesharing and to encourage the use of alternatives to driving such as public transportation, carpooling, and vanpooling, biking, walking, and teleworking and the establishment of employer transportation programs and incentives. TRAFFIX operates a variety of computerized ride-matching, vanpool, guaranteed ride, and other transportation programs and works with employers to develop ride-sharing and other commuting programs for their employees

The Department of Defense has established a Mass Transportation Benefit Program (MTBP) that provides active duty military members and employees mass transportation benefits to offset commuting costs in order to reduce pollution and traffic congestion, and expand transportation alternatives. Mass

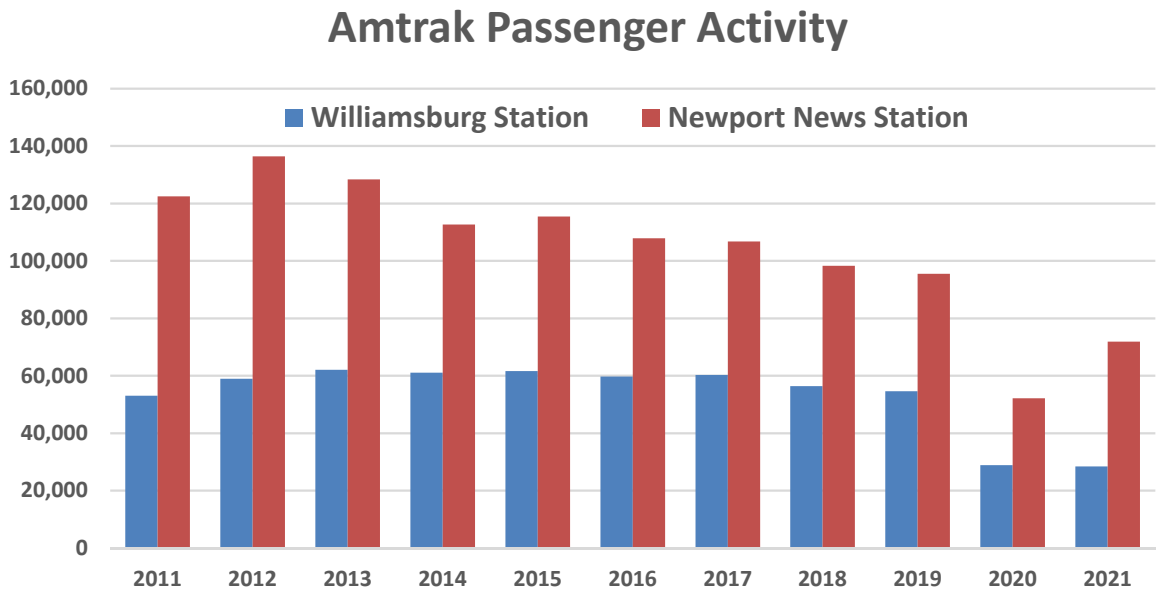
transportation systems that qualify for this benefit are commuter bus, commuter train, subway, light rail, ferries, and, most applicable in York County, van pools. The Navy implements this policy through its Transportation Incentive Program.

Lastly, high occupancy vehicle (HOV) lanes that are limited in the morning and afternoon peak hours to vehicles occupied by two or more people offer another means to encourage ride-sharing. Although they are increasingly prevalent on the interstate system in Hampton Roads, there are no HOV lanes on I-64 in York County, and none are currently planned.

Rail

A main line of the CSX Railroad runs between Richmond and the Port of Virginia's Newport News marine terminal generally along the spine of the Peninsula and consists primarily of single- and double-track sections, with spurs and sidings to industrial areas, including a spur line to the Yorktown Power Station and the Plains Marketing Crude Oil Terminal in the Goodwin Neck area. The CSX main line, portions of which – in Lightfoot, along Richmond Road, and along Merrimac Trail and Pocahontas Trail – run through the upper County, provides passenger and freight service. Because there is only one track throughout much of the rail corridor, the shared use of the CSX rail line for passenger and freight service creates potential for conflict.

Amtrak offers daily passenger service to the Peninsula via the CSX line, with stations in Williamsburg and Newport News. Two Amtrak trains run daily in each direction between Newport News and Washington, New York, and Boston, with a third southbound train on Fridays. The number of passengers getting on and off the train (known as boardings and alightings) at the Williamsburg Amtrak Station has been decline since 2015 and has dropped sharply since the COVID-19 pandemic. The Newport News station has followed a similar pattern, declining fairly steadily since 2012, with a sharp drop in 2020 but a slight rebound in 2021.



Source: U.S. Bureau of Transportation Statistics (Based on federal fiscal year, which runs from October 1 through September 30)

Figure 4

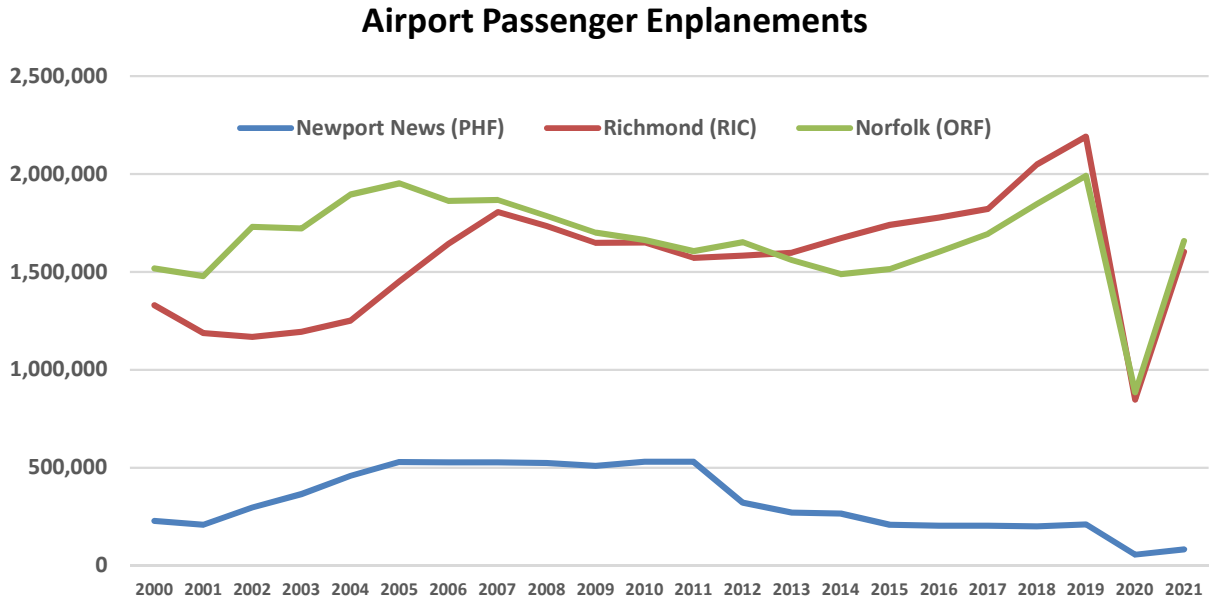
The movement of freight along the CSX line is important to both the economy and the transportation network of the region. These tracks connect the Port of Virginia in Hampton Roads with cities and ports throughout the eastern United States. Recent upgrades to bridges and tunnels on CSX's network have

allowed double-stacking of trains between Mid-Atlantic ports and the Midwest, greatly improving freight rail service from the Peninsula. In 2021, the Port of Virginia handled more than 3.5 million TEUs "20-foot container equivalent units" or TEUs – a 67% increase since 2012.[6]

Airports

Newport News/Williamsburg Airport (code PHF) straddles the County boundary with Newport News. The airport terminal is located in Newport News, but both runways extend into York County. The airport is operated by the Peninsula Airport Commission (PAC), which represents the cities of Newport News and Hampton. Also within about an hour's drive of much of the County are Norfolk International (code ORF) and Richmond International (code RIC), both of which are served by more commercial airlines offering direct flights to more cities but are less convenient for County residents because of driving distance. Other airport facilities that are located in or affect York County include Joint Base Langley-Eustis in Hampton, airfields at Camp Peary and the Yorktown Naval Weapons Station, and the Williamsburg-Jamestown Airport in James City County, which serves some of the general aviation needs of the Williamsburg area.

As shown in **Figure 5**, passenger activity at Newport News/Williamsburg Airport experienced significant growth from 2001 through 2005 with the introduction of new and more frequent service by AirTran Airways, when the number of enplanements more than doubled from 209,520 to 528,678. Activity leveled off afterwards, however, largely as a result of higher air fares, airline service cutbacks, and the nationwide economic downturn. In March 2012 enplanements began to decline significantly with the discontinuation of AirTran service at the airport as part of its merger with Southwest Airlines. This decline was compounded by the departure of Frontier Airlines from the airport. Norfolk International and Richmond International, in contrast, have experienced significant increases since the economic downturn of 2008-2010. Activity declined sharply at all three airports in 2020 as a result of the COVID-19 pandemic; RIC and ORF experienced significant rebounds in 2021, while PHF's recovery was much more modest.



Data Source: Federal Aviation Administration

Figure 5

[6] Hampton Roads Transportation Planning Organization, *State of Transportation in Hampton Roads 2022* (February 2023), p. 12.

The *Newport News/Williamsburg International Airport Master Plan Update* was adopted by the PAC in 2014 and is due to be updated in the near future. The current plan includes an Airport Layout Plan (ALP) that lays out the PAC's vision for the ultimate runway configuration, which includes three significant projects in York County:

- **Runway 2/20 Threshold Relocation**. This $12 million project would shift the shorter of the two existing runways – Runway 2/20 – 1,113 feet to the north by adding pavement at the north end while at the south end in Newport News existing pavement would be removed and the taxiways reconfigured for safer and more efficient aircraft movement. The master plan also recommends that an approximately 1.3-mile segment of Oriana Road be realigned, at a cost of $6.6 million, to accommodate the project.

- **Extension of Runway 7/25**. The master plan recommends extending the airport's primary runway – Runway 7/25 – by 1,997 feet to the northeast (toward Harwoods Mill Reservoir) in order to achieve the PAC's "strategic vision" of supporting non-stop passenger and cargo service to extended US and European destinations. The master plan states that "planning and development of any increase in runway length will be triggered by the intent of a specific user to regularly serve the Airport and the documented need for additional length in order to economically operate the route."[7] The Master Plan also acknowledges that such a project would face several constraints, including wetlands in the path of the extension and high-power electrical transmission lines on the east bank of the reservoir.

- **Parallel Runway 7L/25R**. While the Master Plan acknowledges that activity forecasts through the year 2032 planning horizon of the plan do not justify an additional runway, it recommends that the possibility of a future 7,000'-runway parallel to existing Runway 7/25 be retained as a "long-term recommendation."

PLANNING ISSUES FOR THE FUTURE

General

The future of transportation will be greatly influenced by advances in automated vehicle (AV) technology. As described in a 2018 report published by the American Planning Association's Planning Advisory Service, the term "automated vehicle technology" encompasses "a wide variety of features and technologies that enable vehicles to take control of some or all of the major driving functions normally completed by the driver. [It] includes fully autonomous vehicles that no longer require a human driver to operate them, as well as a range of advance driver assistance systems (ADAS) that enhance driver safety by taking temporary control of one or more driving functions (speed, lane position, braking, etc.)."[8]

Autonomous vehicles have the potential to significantly improve traffic safety and efficiency. More than 90% of crashes are caused by human error, so to the extent that advanced technology takes the place of human judgment in the roadway environment, the likelihood of crashes can be expected to decline, perhaps significantly. Through rapidly developing connected vehicle technology, vehicles will be able to communicate with one another and with the roadway infrastructure so that they can automatically adapt to such maneuvers as unexpected braking, turns, or lane changes that frequently result in crashes. Systems that allow vehicles to also communicate with pedestrians and bicyclists are also being developed, although this is more challenging.

With regard to traffic efficiency, AV technology offers many possible benefits. Most obviously, fewer crashes mean fewer traffic backups as lanes are blocked and vehicles wait for emergency responders and

[7] Newport News/Williamsburg International Airport Master Plan Update, Final Report, 2014, p.3-8.

[8] Jeremy Crute, William Riggs, AICP, Timothy S. Chapin, and Lindsay Stevens, AICP, *Planning for Autonomous Mobility (PAS Report 592)*, American Planning Association (September 2018), p. 16.

wreckers to clear an incident. Much of the road congestion on the major freeways and arterial roads of Hampton Roads, particularly on the interstate system, is caused by traffic incidents. A single crash in the vicinity of the Hampton Roads Bridge Tunnel can bring traffic to a virtual standstill across the region. In addition to reducing congestion by reducing crashes, AV technology is expected to improve traffic efficiency by allowing vehicles to travel closer together and in harmony with one another through connected vehicle technology.[9] In addition, analysts predict that car-sharing and ride-sharing will increase as autonomous vehicles become more prevalent, resulting in reduced congestion. This prediction is based on the convergence of rapid technological innovation with the growth of the sharing economy as reflected in younger adults' increasing reliance on car- and ride-sharing services (e.g., Uber, Lyft, Zipcar, etc.) and reduced rates of car ownership.

The full impacts of AV technology will not be felt until far into the future when fully autonomous vehicles have completely replaced human-driven vehicles. Although the technology is advancing rapidly and fully autonomous vehicles are expected to be on the market within the next five to ten years, the transition to autonomous vehicles will be a gradual process that will depend not just on technology but on vehicle cost and consumer acceptance. Experts predict that autonomous vehicles could capture as much as half of the automobile market by 2040. Looking at it another way, this means that human-driven vehicles will likely continue to dominate our roadway network for *at least* another two decades and will likely be on the road for several more decades beyond that.

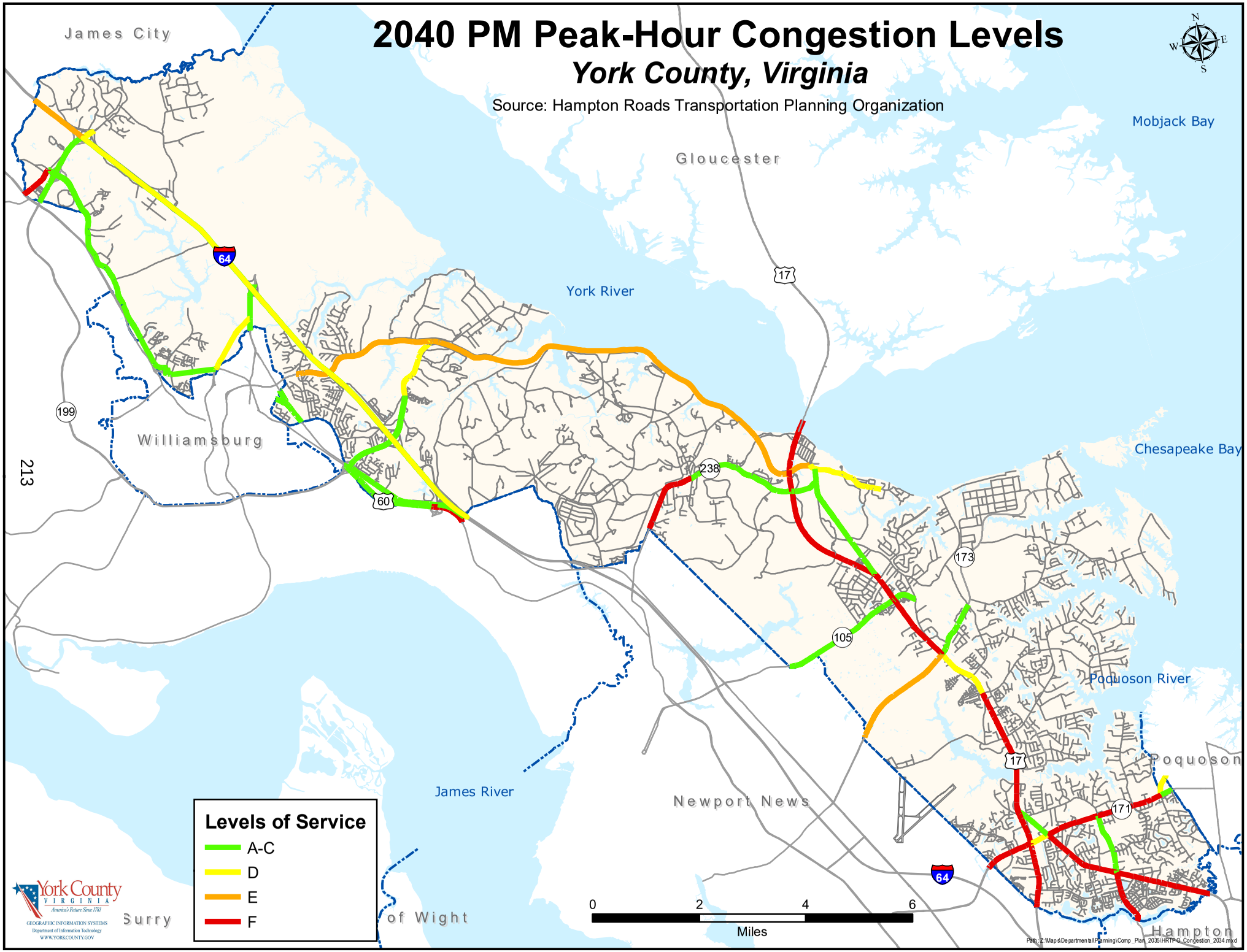
Technology will affect the County's transportation network in other ways as well. E-commerce and telecommuting, which are discussed in greater detail in the Economic Development element, have the potential to greatly reduce the need for personal mobility and thereby ease the burden on our transportation infrastructure. People are working and shopping from home in greater and greater numbers – a growth trend that accelerated in 2020 because of the COVID-19 pandemic. Even if this "COVID spike" proves to be a short-term phenomenon, it appears certain that the ease and practicality of teleworking, online shopping, telemedicine, and other online services will only grow in the years ahead with the continually increasing speed, capabilities, and reliability of computers, cell phones, and internet service. The long-term impacts on Americans' travel patterns are yet to be seen.

Roadways

While technology may ultimately provide the solution – or at least a partial solution – to the County's roadway congestion and safety problems, that solution is a long way off, even under the most optimistic forecasts. In the meantime, traffic volumes will continue to increase and roadway capacity deficiencies will grow. Traffic was identified in the Comprehensive Plan survey as one of the top concerns on the minds of the citizens, and improved roads and traffic mitigation were ranked first on the list of changes they would like to see in the next twenty years.

In York County, the HRTPO analysis discussed previously indicates that the proportion of severely congested CMP lane miles will increase from 9% to 40% by 2040. Major problem areas include most or all of Route 17, Victory Boulevard, Hampton Highway, Denbigh Boulevard, and the Colonial Parkway. Other road segments projected to experience severe congestion are Lightfoot Road between Richmond Road and Mooretown Road, Old Williamsburg Road between Newport News and Baptist Road, and Big Bethel Road between Hampton Highway and the Hampton city line. The complete list is provided in **Table 3** below and graphically illustrated in the Future Roadway Congestion map.

[9] Crute et al, pp. 29-30


2040 PM Peak-Hour Congestion Levels
York County, Virginia
Source: Hampton Roads Transportation Planning Organization
James City
Gloucester
Mobjack Bay
York River
Williamsburg
Chesapeake Bay
Poquoson River
James River
Newport News
Poquoson
Hampton
Surry
of Wight
64
17
199
60
238
173
105
171
213
Levels of Service
A-C
D
E
F
0
2
4
6
Miles
York County
VIRGINIA
America's Future Since 1781
GEOGRAPHIC INFORMATION SYSTEMS
Department of Information Technology
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Current and Projected Weekday Traffic Volumes and PM Peak-Hour Levels of Service							
Route Name	Route No.	Segment From	Segment To	Weekday Volume		PM Peak-Hour Congestion Level	
				Existing	2040	Existing	2040
Ballard St	1020	Colonial Pkwy	Cook Rd	6,866	7,000	Moderate	Moderate
Ballard St	238	Cook Rd	Coast Guard Training Center	2,776	3,000	Moderate	Moderate
Big Bethel Rd	600	Hampton CL	Hampton Hwy	9,210	15,000	Mod/Low	Severe
Big Bethel Rd	600	Hampton Hwy	Victory Blvd	4,817	5,000	Low	Low
Bypass Rd	60	Williamsburg CL	Waller Mill Rd	26,368	29,000	Moderate	Severe
Bypass Rd	60	Waller Mill Rd	Route 132/Williamsburg CL	26,368	28,000	Moderate	Low
Capitol Landing Rd	143	Route 132	I-64	19,146	30,000	Low	Low
Capitol Landing Rd	143	Williamsburg CL	Route 132	9,226	15,000	Low	Low
Colonial Pkwy	-	Williamsburg CL	Ballard St	6,218	12,000	Moderate	Severe
Cook Rd	704	Route 17	Goosley Rd	7,287	8,000	Low	Low
Cook Rd	238	Goosley Rd	Ballard St	8,102	9,000	Low	Low
Denbigh Blvd	173	Newport News CL	Route 17	16,861	24,000	Low	Severe
East Yorktown Rd	782	Victory Blvd	Poquoson CL	5,705	7,000	Low	Moderate
Fort Eustis Blvd	105	Newport News CL	Route 17	18,504	26,000	Low	Low
Fort Eustis Blvd Ext.	1050	Route 17	Old York-Hampton Hwy	3,462	20,000	Low	Low
Geo Wash Mem Hwy	17	Newport News CL	Victory Blvd	34,018	51,000	Sev./Mod.	Severe
Geo Wash Mem Hwy	17	Victory Blvd	Hampton Hwy	36,740	63,000	Low/Severe	Severe
Geo Wash Mem Hwy	17	Hampton Hwy	Dare Rd	48,876	86,000	Low	Severe
Geo Wash Mem Hwy	17	Dare Rd	Denbigh Blvd	37,878	69,000	Low	Moderate
Geo Wash Mem Hwy	17	Denbigh Blvd	Fort Eustis Blvd	36,487	48,000	Sev/Mod.	Severe
Geo Wash Mem Hwy	17	Fort Eustis Blvd	Cook Rd	36,373	52,000	Sev./Mod.	Severe
Geo Wash Mem Hwy	17	Cook Rd	Goosley Rd (Rte 238)	27,147	51,000	Sev./Mod.	Severe
Geo Wash Mem Hwy	17	Goosley Rd	Gloucester CL	34,210	50,000	Low	Severe
Goodwin Neck Rd	173	Route 17	Wolf Trap Rd	9,970	10,000	Low/Severe	Low
Goosley Rd	238	Old Williamsburg Rd	Crawford Rd	6,501	7,000	Low	Low
Goosley Rd	238	Crawford Rd	Route 17	6,501	7,000	Low	Low
Goosley Rd	238	Route 17	Cook Rd	1,558	4,000	Low	Low
Hampton Hwy	134	Route 17	Victory Blvd	16,657	35,000	Low/Severe	Low
Hampton Hwy	134	Victory Blvd	Big Bethel Rd	24,453	48,000	Severe/Low	Severe
Hampton Hwy	134	Big Bethel Rd	Hampton CL	23,632	43,000	Mod./Low	Severe
I-64	-	James City CL	Route 199/646	64,620	103,000	Low	Severe
I-64	-	Route 199/646	Route 143	60,262	108,000	Low	Low
I-64	-	Route 143	Route 199	65,418	107,000	Low	Low
I-64	-	Route 199	Busch Gardens Interchange	81,291	112,000	Low	Low
I-64 EB	-	Busch Gardens Int.	James City CL	84,322	123,000	Moderate	Low
Lightfoot Rd	646	Richmond Rd	Mooretown Rd	9,878	16,000	Low	Severe
Merrimac Trail	143	James City CL	Busch Gardens Interchange	17,754	17,000	Low	Low
Merrimac Trail	143	Busch Gardens Int.	Route 199/James City CL	17,754	21,000	Low	Low
Merrimac Trail	143	Penniman Rd	Second St	8,618	26,000	Low/Mod	Low
Merrimac Trail	143	Second St	Williamsburg CL	7,575	10,000	Low/Severe	Low
Merrimac Trail	143	Williamsburg CL	Route 132	9,523	10,000	Low	Low
Mooretown Rd	603	Waller Mill Rd	Airport Rd	6,232	9,000	Low	Low
Mooretown Rd	603	Airport Rd	Old Mooretown Rd	9,091	11,000	Low	Low
Mooretown Rd	603	Old Mooretown Rd	Route 199	20,000	23,000	Low	Low
Newman Rd	646	I-64	Fenton Mill Rd	2,880	6,000	Low	Moderate
Old Williamsburg Rd	238	Newport News CL	Baptist Rd	9,533	14,000	Low	Severe
Old Williamsburg Rd	238	Baptist Rd	Goosley Rd	9,381	11,000	Low	Low
Penniman Rd	641	Route 199	Colonial Pkwy	6,395	8,000	Low	Moderate
Pocahontas Trail	60	James City CL	Kingsmill Rd	12,840	23,000	Low	Low
Pocahontas Trail	60	Kingsmill Rd	Busch Gardens Interchange	12,840	24,000	Low	Low
Pocahontas Trail	60	Busch Gardens Int.	James City CL	12,840	18,000	Low	Severe
Route 132	-	Bypass Road	Capitol Landing Rd	10,521	14,000	Low	Moderate
Route 199	-	I-64	Mooretown Road	25,666	44,000	Low	Low
Route 199	-	Mooretown Rd	Richmond Rd/JCC CL	24,658	37,000	Low	Low
Route 199	-	Merrimac Trl/JCC CL	I-64	30,857	37,000	Low	Low
Route 199	-	I-64	Marquis Pkwy	18,833	33,000	Low	Low
Route 199	-	Marquis Pkwy	Penniman Rd	9,572	12,000	Low	Low
Second St	162	Williamsburg CL	Merrimac Trail	14,652	23,000	Low	Low
Victory Blvd	171	Newport News CL	Route 17	40,051	70,000	Severe/Low	Severe
Victory Blvd	171	Route 17	Hampton Hwy	31,361	48,000	Mod/Sever	Moderate
Victory Blvd	171	Hampton Hwy	Big Bethel Rd	19,397	21,000	Severe/Low	Severe
Victory Blvd	171	Big Bethel Rd	Cary's Chapel Rd	20,038	22,000	Mod/Low	Severe
Victory Blvd	171	Cary's Chapel Rd	Poquoson CL	13,235	14,000	Mod/Low	Low
Waller Mill Rd	713	Bypass Rd	Mooretown Rd	4,679	7,000	Low	Low

Current and Projected Weekday Traffic Volumes and PM Peak-Hour Levels of Service							
Route Name	Route No.	Segment From	Segment To	Weekday Volume		PM Peak-Hour Congestion Level	
				Existing	2040	Existing	2040
Source: Hampton Roads Transportation Planning Organization, James City County/Williamsburg/York County Comprehensive Transportation Study, July 2020							

Table 3

There are several programmed road improvement projects that will help to address some of the problem areas listed above. York County projects that are included in the current VDOT Six-Year Improvement Program (SYIP) are described in **Table 4**. The SYIP is a document that outlines planned spending for transportation projects proposed for construction development or study for the next six years. Updated annually, the SYIP is the means by which the Commonwealth Transportation Board (CTB) allocates funding to interstate, primary, secondary, and urban highway systems, public transit, ports and airports and other programs for the immediate fiscal year. The CTB allocates funds for the first fiscal year of the SYIP, but the remaining five years are estimates of future allocations.

ADOPTED SIX-YEAR IMPROVEMENT PROGRAM, FY2024-2029 – YORK COUNTY PROJECTS				
UPC	Route No.	Route Name	Description	Estimated Cost
16314	641	Penniman Road	Realign intersection with Government Road	$7,134,000
110806	NA	Multiple	Bus expansion and 3 expansion bus shelters	$334,000
111357	60	Bypass Road	Sidewalk rehabilitation	$1,048,000
111787	17	Geo Wash Mem Hwy	Widen from 4 to 6 lanes between Wolf Trap Road and Route 173	$25,308,000
111791	171	Victory Boulevard	Widen from 5 to 6 lanes between Routes 17 and 134	$4,724,000
113276	NA	Multiple	Sidewalks on Merrimac Trail, Penniman Road, Old Williamsburg Road, and Big Bethel Road	$1,322,000
113277	NA	Unnamed road	Route 171 frontage road	$598,000
113278	NA	Multiple	Sidewalks on Route 1 and Route 134	$1,493,000
113279	704	Cook Road	Wormley Creek Edgehill outfall system culvert	$3,286,000
113633	171	Victory Boulevard	Right turn lane extension at Kiln Creek Parkway	$455,000
115509	171	Victory Boulevard	Capacity enhancements between Route 134 and Heavens Way	$3,630,000
115938	134	Hampton Highway	Pedestrian crossings	$614,000
117124	620	Lakeside Drive	Sidewalk between Carraway Terrace and Bailey Rd	$463,000
117125	716	West Queens Drive	Sidewalk between Royal Grant Drive and Queens Lake Middle School	$224,000
117126	17	Geo Wash Mem Hwy	Sidewalk between 0.14 mile west of Cook Road and 0.04 mile east of Harrod Lane	$352,000
117127	706	Yorktown Road	Sidewalk between Bethel Baptist Church and Tabb High School	$258,000
117128	1545	Villa Way	Sidewalk between Yorktown Road and 0.06 mile north of McDonald Circle	$450,000
117195	1249	Siege Lane	Sidewalk between York-Warwick Drive and Runaway Lane	$357,000
119279	NA	NA	Roadway needs assessment	$600,000
119281	171	Victory Boulevard	Shared-use path between Big Bethel Road and East Yorktown Road	$661,000
120902	NA	Sports Way-Lakeside Drive	Pedestrian enhancements	$642,000
120904	713	Waller Mill Road	Road diet with bike lanes	$1,106,000
120906	173	Goodwin Neck Road	Bike lanes between Wolf Trap Road and Back Creek Park	$6,761,000
121087	622	Seaford Road	Elevate road between Sadelia Drive and 0.05 mile east of Rebecca Drive	$1,941,000

ADOPTED SIX-YEAR IMPROVEMENT PROGRAM, FY2024-2029 – YORK COUNTY PROJECTS				
UPC	**Route No.**	**Route Name**	**Description**	**Estimated Cost**
121106	621	Grafton Drive	Sidewalk between Timberline Loop and 0.09 mile east of Amory Lane	$528,000
123055	134	Hampton Highway	Birthplace of America Trail – Hampton Hwy segment between Rte 17/Darby Rd intersection and Tabb Lakes Drive	$5,554,000
123164	17	Geo Wash Mem Hwy	Access management at Rich Road intersection	$558,000

Table 4

The statewide process used by VDOT and the CTB to guide the allocation of most state transportation funds is called SMART SCALE. This is a data-driven process in which applications for funding are ranked against one another on the basis of numerical scores derived from quantifiable measures of effectiveness and efficiency related to safety, congestion mitigation, accessibility, environmental quality, economic development, and – in larger regions such as Hampton Roads – land use. Conducted on a biennial cycle, this is a highly competitive application process whereby localities and transit agencies submit transportation projects to be ranked and scored by VDOT. In the past few application cycles, York County has been successful in getting funding approved for three of the projects listed in the table above: the widening of Route 17 between Wolf Trap Road and Denbigh Boulevard/Goodwin Neck Road; the widening of Victory Boulevard between Route 17 and Hampton Highway; and Victory Boulevard capacity enhancements between Hampton Highway and Heavens Way (just east of Big Bethel Road). Most recently, the County received preliminary approval of two additional projects: a safety improvement at the intersection of Route 17 and Rich Road and a segment of the Birthplace of America Trail extending along Route 17 and Hampton Highway between Darby Road and Tabb Lakes Drive.

In addition to SMART SCALE, another source of VDOT funding for transportation projects is the Revenue Sharing program, by which the state provides a 50% funding match for qualified projects that must first be approved by VDOT. York County has participated in this program since 1991. This program is generally intended for smaller scale, affordable projects; in recent years, the County has utilized this program mostly for sidewalk and drainage improvement projects.

The County also receives an annual secondary road fund allocation from VDOT to be spent on improvements to the state secondary system (i.e., state roads with route numbers 600 and above). Unfortunately, the funding allocations have been cut significantly over the years and now amount to slightly more than $200,000 a year. The Penniman Road/Government Road project listed in **Table 4** is being funded mostly with secondary road funds. With the steadily declining availability of secondary road funds, use of these funds in the future will likely be limited to small, inexpensive projects such as sidewalks and spot improvements.

Other transportation funding programs include the federal RSTP (Regional Surface Transportation Program) and CMAQ (Congestion Mitigation and Air Quality) programs, which involve competitive application processes administered by the HRTPO. Funding is 80% federal, with the state paying the required 20% local match. The extension of Fort Eustis Boulevard between Route 17 and Old York-Hampton Highway was paid for with RSTP funds, as was a portion of the Route 17 widening. The most recent County CMAQ project added shoulder bike lanes along Capitol Landing Road (Route 143) between the Williamsburg city limits and East Rochambeau Drive (Route F-137). VDOT also administers the TA Set-Aside program (formerly the Transportation Alternatives Program or TAP), which is intended to increase opportunities for non-motorized transportation. This program also involves an 80/20 funding formula, with the locality paying a minimum 20% funding match. In recent years, the County has been successful in obtaining funds through the TA Set-Aside to build sidewalks along Bypass Road, West Queens Drive, and Grafton Drive.

Given the extremely limited funding available for transportation projects, the stiff competition for those funds, and the growing emphasis on objective criteria for evaluating projects, it is important that the County focus its efforts on the most critical needs and develop projects that will yield the greatest benefit per dollar spent. It should be emphasized that traffic forecasting is not an exact science and that no forecasting model is perfect. Furthermore, the HRTPO's future traffic forecasts are based on various assumptions about long-range population and employment growth patterns that are, by necessity, somewhat speculative. Nevertheless, the HRTPO's traffic modeling is a useful tool for helping to identify problem areas where the County should concentrate its efforts. The importance of the HRTPO data is magnified by the fact that in order to qualify for SMART SCALE funding, transportation projects in Hampton Roads must be consistent with the region's Long-Range Transportation Plan, and projects are included in that plan only after being thoroughly vetted and scored by the HRTPO using a data-driven project prioritization process very similar to that used for SMART SCALE.

Another tool for identifying and prioritizing roadway needs is Virginia's long-range transportation plan, known as VTrans. As Virginia's multimodal transportation plan developed by the Commonwealth Transportation Board (CTB) every four years, VTrans lays out the overarching Vision and Goals for transportation in the Commonwealth, identifies transportation investment priorities, and provides direction on implementation strategies and programs to the CTB and to transportation agencies such as VDOT and the Virginia Department of Rail and Public Transportation (DRPT), as well as regional Metropolitan Planning Organizations (MPOs).

Listed below are recommended improvements to the County's roadway network that have been identified based on the HRTPO modeling and the VTrans needs assessments, as well as VDOT and community input. These projects, which are depicted on the 2040 Roadway Map, include new "vision-type" projects for which funding has not been secured as well as existing projects that have been programmed and identified for funding.

- **George Washington Memorial Highway (Route 17)**

  Most of Route 17 is experiencing severe or moderate peak-hour congestion, with the exception of the segment between Hampton Highway and Wolf Trap that was recently widened from four to six lanes. The HRTPO modeling indicates that by 2040, the entire corridor will be severely congested in both directions in the PM peak hour except for the segment between Wolf Trap Road and Denbigh Boulevard/Goodwin Neck Road (Route 173), for which the County received SMART SCALE funding for a $25,308,000 widening project from four to six lanes. Route 17 is designated as a Corridor of Statewide Significance (the Coastal Corridor) in VTrans, which notes that the heaviest traffic volumes along this corridor occur in York County north of Victory Boulevard. VTrans also highlights specific congestion problem areas on Route 17 between Wolf Trap Road and Harpersville Road (in Newport News), and between Route 173 and Cook Road. Widening Route 17 in York County to six lanes along the entire corridor should continue to be a priority.

- **Interstate 64**

  As the primary gateway into Hampton Roads from both the north and the south, Interstate 64 is the region's most critical and most heavily traveled transportation facility. VTrans identifies I-64 as a Corridor of Statewide Significance (East-West Corridor) with a variety of needs in terms of congestion and reliability. A major widening from four to six lanes between Denbigh Boulevard and the Route 199/Lightfoot interchange, funded mostly through the Hampton Roads regional fuel and sales taxes, has been underway since 2015. Segments I and II were completed in 2017 and 2019 respectively, and Segment III, located entirely in York County between the southern Route 199 (Water Country USA/Marquis) interchange to the Route 199/Lightfoot interchange was completed in December 2021. Between the Lightfoot interchange and the Bottoms Bridge interchange in the Richmond metropolitan area is a 29-mile "gap" where I-64 narrows from six to four lanes in both directions. VDOT is pursuing the I-64 "gap widening project" in three phases,

beginning with Segment A between Richmond and New Kent County and ending with Segment C between New Kent and Lightfoot. Completing this widening project, which has a total estimated cost of approximately $750 million, should continue to be a priority of both the Hampton Roads and Richmond regions and the Commonwealth.

- **Victory Boulevard (Route 171)**

  Existing congestion on Victory Boulevard is expected to worsen dramatically by 2040, with severe congestion along almost the entire corridor. The County has obtained SMART SCALE funding for a $4,724,000 project to widen the segment between Route 17 and Hampton Highway (Route 134) from five to six lanes by adding a third eastbound lane. In addition, the County has obtained SMART SCALE funding for a $3,630,000 project to enhance capacity with a series of turn lane and other spot improvements – including intersection improvements at North and South Bowman Terrace and at Big Bethel Road – along Victory Boulevard between Hampton Highway and Heavens Way just west of Big Bethel Road (Route 600). Attempts to obtain SMART SCALE funding to widen Victory Boulevard from two to four lanes between Hampton Highway and Wythe Creek Road in the City of Poquoson have so far proved unsuccessful, but traffic forecasts indicate that widening this segment should remain in the County's long-range plans.

  The western segment of Victory Boulevard between Route 17 and the York County/Newport News border is also experiencing eastbound congestion in the PM peak hour and is expected to be severely congested in both directions by 2040. In 2018, with VDOT's assistance, the County submitted a SMART SCALE application to alleviate congestion and improve safety on this segment and at the Victory Boulevard/Route 17 intersection by widening the Route 17 approaches and the eastbound approach at an estimated cost of $16.9 million. The application was not approved; however, VDOT has since added a $455,000 project to the Six-Year Improvement Program to extend the westbound right-turn lane from southbound Route 17 to the intersection of Victory Boulevard and Kiln Creek Parkway, which should improve traffic flow and safety. Additional improvements to this intersection should continue to be a priority.

- **Denbigh Boulevard**

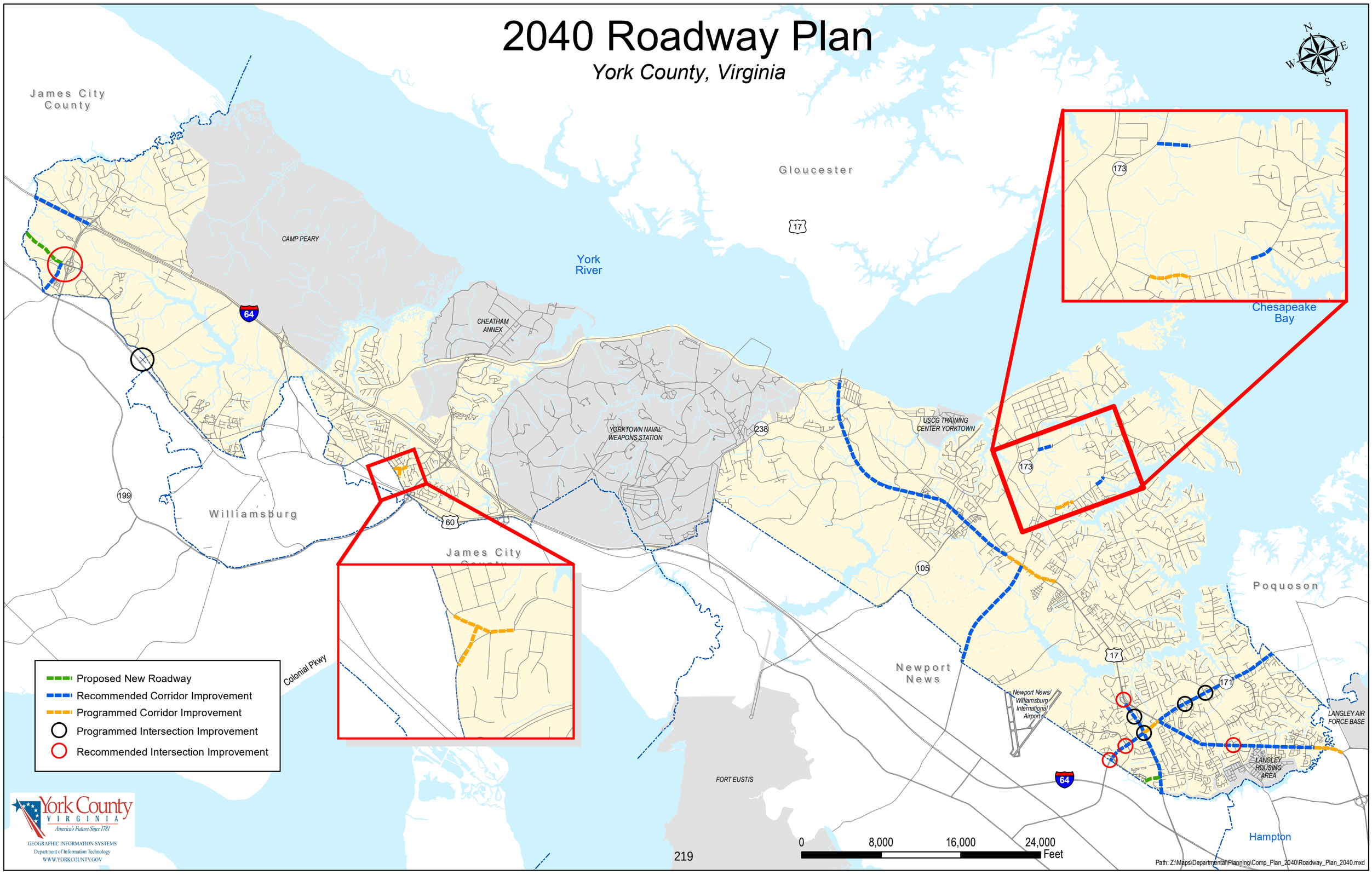
  Denbigh Boulevard narrows from four to two lanes as it crosses from Newport News into York County. Traffic modeling indicates low to moderate congestion on this road but significant congestion by 2040, probably as a consequence of the Huntington development on Denbigh Boulevard and the planned I-64 interchange at Denbigh Boulevard, both in Newport News. Construction of Independence Boulevard as part of that development will likely take pressure off Denbigh Boulevard by providing a connection between it and Richneck Road and Ft. Eustis Boulevard to the north, which has significant capacity; however, traffic forecasts suggest that widening Denbigh Boulevard to four lanes will need to be considered in the next twenty years.

- **Mooretown Road/Airport Road Intersection**

  This signalized four-way intersection has developed into one of the major "choke points" in the Williamsburg area, resulting in significant congestion, particularly in the PM peak hour along the northern leg of the intersection (southbound Mooretown Road). Contributing factors include heavy traffic volumes and capacity constraints caused by the proximity of a grade-level railroad crossing and, just beyond, the signalized intersection of Airport Road and Richmond Road and James City County, which also experiences significant congestion. To address these problems, James City County successfully applied for SMART SCALE funding on behalf of the two counties to improve this corridor by rebuilding the Mooretown Road/Airport Road intersection as a roundabout and reconfiguring the Airport Road/Richmond Road intersection. The estimated cost of these improvements is $12,569,000.

2040 Roadway Plan

York County, Virginia



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- **Route 199/Mooretown Road Interchange**

  As noted earlier, Mooretown Road between Route 199 and Lightfoot Road has been identified as one of the most hazardous roadway segments in the County. In 2018, York County submitted a SMART SCALE application for a $12.9 million project to relocate the intersection of Mooretown Road and Lightfoot Road approximately 550 feet to the north in order to address inadequate vehicle queuing and capacity deficiencies at the intersection. The project, which was not approved, would have added dedicated turn lanes and an additional through lane on Lightfoot Road at the relocated intersection. As traffic increases on Route 199 and Lightfoot Road in the years ahead, so too will the need for some kind of interchange redesign/relocation and potentially for improvements to Lightfoot Road between Mooretown Road and Richmond Road. This segment of Lightfoot Road, on which the HRTPO modeling predicts severe congestion by 2040, is similar to the previously mentioned segment of Airport Road between Mooretown Road and Richmond Road in that its capacity is physically constrained by the existence of an at-grade railroad crossing in proximity to a very busy Richmond Road intersection.

- **Mooretown Road Extension**

  York County participated with James City County in the regionally-funded *Mooretown Road Extension Corridor Study*, completed in February 2016. The study's purpose was to evaluate various alternative alignments of an extended Mooretown Road beyond its present terminus at Lightfoot Road all the way to Croaker Road in James City County. Such an extension would improve access to a large area of contiguous undeveloped commercial acreage would provide an alternate route between the Lightfoot and Croaker areas and potentially divert traffic off of Richmond Road. According to the study, it would also improve traffic flow on Lightfoot Road between Richmond Road and Mooretown Road, which the TPO modeling indicates will be severely congestion by 2040, but it would not alleviate congestion at the Route 199/Mooretown Road interchange. This project, with an estimated cost of $66.9 million or more is not a high priority for York County from the standpoint of congestion relief. However, the development opportunities in this area make it important to identify and ensure the availability of a corridor should such extension be desired in the future.

- **Penniman Road/Government Road Intersection**

  This $7,134,000 secondary road project will widen and add curb and gutter and shoulder bike lanes on Penniman Road between Fillmore Drive and Alexander Lee Parkway as well as convert the existing "Y" intersection into a 90-degree "T" intersection by realigning a 400-foot section of Government Road. Construction of this project, funded mostly with VDOT secondary road funds, is currently underway, is expected to begin in FY 2024.

- **Hampton Highway**

  According to the HRTPO analysis, Hampton Highway (Route 134) experiences severe PM peak-hour congestion between Big Bethel Road and Route 17 and moderate congestion between Big Bethel Road and the Hampton city line, with severe congestion projected along almost the entire corridor by 2040. In VTrans, however, it is not identified as a road with a need for congestion mitigation, at least in the mid-term, defined as seven to ten years. The statewide process of identifying long-term transportation needs (twenty years or more) has not yet begun. While additional analysis will be required, the modeling suggests that this corridor will likely require some capacity enhancement within the next twenty years – not a full-scale widening with additional through lanes but perhaps a series of intersection and turn lane improvements along the corridor, similar to the approved SMART SCALE project for Victory Boulevard between North and South Bowman Terrace and Heavens Way.

- **Seaford Road/Back Creek Road Elevation**

  This project would elevate the road surface of two segments of Seaford Road – between Sadelia Drive and Rebecca Drive and between Robanna Drive and Cheadle Loop – and one segment of Back Creek Road between Goodwin Neck Road and the HRSD wastewater treatment plant. These areas are prone to flooding and isolate large areas of Seaford during a hurricane or other major storm event. Revenue Sharing funding has been approved for the Sadelia Drive-Rebecca Drive project, which has an estimated cost of $1,941,000.

- **Commonwealth Drive Extension**

  For many years the County has advocated the extension of Commonwealth Drive from its current terminus in Commonwealth Green near the Newport News border to Route 17 at its signalized intersection with Coventry Boulevard, which would greatly improve access to this area of the County as well as enhancing its viability for commercial development. The cost of such a project, according to the 2045 Hampton Roads Long-Range Transportation Plan, is estimated at $5.7 million.

- **Route 17/Rich Road Intersection**

  In 2023, a SMART SCALE application submitted by the County for a $558,000 intersection improvement to improve safety at Route 17 and Rich Road was approved by the Commonwealth Transportation Board.

In addition to the needs discussed above, there are a number of older secondary roads in the County, most of which are not in the CMP network and not part of the HRTPO analysis, that do not meet current VDOT width standards and often lack paved shoulders. When development is proposed along such substandard roads, the County requires the developer to dedicate half of the right-of-way deficiency for future road widening, but, given the state's failure to provide adequate funding for VDOT street maintenance, it is extremely unlikely that there will be enough secondary road funds to widen all or even a significant number of these roads in the next twenty years. These roads would benefit greatly from minor shoulder widening and/or spot improvements that could be done as part of a rehabilitation and repaving project (ditches, paved shoulders, right-turn wedges/tapers). The roadway segments listed in **Table 5** below are good candidates for this type of maintenance project**.**

Proposed Secondary Road Rehabilitation/Repaving Projects			
Route No.	**Route Name**	**From**	**To**
655	Allens Mill Road	Dare Road	Wolf Trap Road
718/626	Back Creek Road/Shirley Road	Seaford Road	Dead End
718	Back Creek Road	Seaford Road	Goodwin Neck Road
660	Baptist Road	Route 238	Spring Road
604	Barlow Road	Newman Road	East Rochambeau Drive
718	Battle Road	Route 17	Old York-Hampton Hwy
600	Big Bethel Road	Route 134	Route 171
709	Burts Road	Oriana Road	Grafton Drive connector
606	Calthrop Neck Road	Route 171	Dead End
782	Cary's Chapel Road	Route 171	Poquoson city line
615	Charles Road	Yorkville Road	Dead End
629	Dandy Loop Road	Goodwin Neck Road	Goodwin Neck Road
613	Darby Road	Route 17	Dead End
620	Dare Road	Dare Elementary School	Link Road

Proposed Secondary Road Rehabilitation/Repaving Projects			
Route No.	**Route Name**	**From**	**To**
659	Dogwood Road	Route 238	Dead End
602	Fenton Mill Road	Newman Road	James City County line
238	Goosley Road	Crawford Road	Route 17
718	Hornsbyville Road	Old York-Hampton Hwy	Goodwin Neck Rd
716	Hubbard Lane/West Queens Drive	Sheppard Drive	Queens Lake Mid. School
1314	Lakeshead Drive	Hubbard Lane	New Quarter Park
646	Lightfoot Road	Route 60	Rochambeau Drive
679	Lindsay Landing Lane	Showalter	Dead End
620	Link Road	Dare Road	Railway Road
675	Mansion Road	Cary's Chapel Road	Dead End
603	Mooretown Road	Airport Road	Old Mooretown Road
646	Newman Road	Fenton Mill Road	James City County line
792/1514	Old Lakeside Dr/Whispering Pine Dr	Lakeside Drive	Fielding Lewis Drive
603	Old Mooretown Road	Mooretown Road	Route 60 overpass
632	Old Wormley Creek Road	Hornsbyville	Dead End
641	Penniman Road	Interstate 64	Route 199
641	Penniman Road	Alexander Lee Pkwy	Alexander Lee Pkwy
642	Queens Creek Road	Penniman Road	Springfield Drive
617	Railway Road	Link Road	Dare Marina
620	Railway Road	Dare Road	Link Road
622	Seaford Road	Ellerson Court	Goodwin Neck Road
622	Seaford Road	Sommerville Way	York Point Road
619	Ship Point Road	Link Road	Anchor Drive
614	Showalter Road	Route 17	Lakeside Drive
797	Skimino Road	Barlow Road	Dead End
630	Wolf Trap Road	Willow Lakes	Goodwin Neck Road
706	Yorktown Road	Route 134	Calthrop Neck Road
658	Yorkville Road	Lakeside Drive	Fairfield Drive

Table 5

Another issue that will need to be considered in future roadway planning is sea level rise, which is discussed in detail in the Environment element but has relevance for transportation planning as well. In 2016, the HRTPO and the Hampton Roads Planning District Commission (HRPDC) conducted a vulnerability analysis of the potential impact of sea level rise and storm surge on roadways in the region. As stated in the study, "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."[10] The study considered three scenarios:

- Scenario 1: 2.0-foot relative sea level rise
- Scenario 2: 2.0-foot relative sea level rise plus 25-year storm surge
- Scenario 3: 2.0-foot relative sea level rise plus 50-year storm surge

Based on this analysis, the following roadways in the County are projected to be affected by flooding by 2045:

- Bay Tree Beach Road (Scenario 1)

[10] HRTPO, *Sea Level Rise and Storm Surge Impacts to Roadways in Hampton Roads* (May 2016), p. 7.

- Stillwater Lane and a portion of Dandy Loop Road (Scenario 1)
- East Yorktown Road (Scenarios 2 and 3)
- Route 17 near Harwoods Mill Reservoir (Scenarios 2 and 3)
- Hampton Highway near the Hampton city line (Scenarios 2 and 3)
- Victory Boulevard near the Poquoson city line (Scenarios 2 and 3)

Bikeways and Walkways

Recent years have brought an increased recognition, on the part of both citizens and County leaders, of the need for more sidewalks and bike lanes in the County. In fact, in the Comprehensive Plan survey, citizens identified sidewalks and bike paths as the fifth most desired change they would like to see in the next twenty years. Significantly, the survey was conducted *before* the COVID-19 pandemic, which brought a surge in bicycling activity as people across the country looked to their bikes as a means of recreation and escape from the confinement of their homes.

There are several state and federal funding programs that allow bike lane and sidewalk projects to be undertaken with a relatively small investment on the part of the County. The TA (Transportation Alternatives) Set-Aside, for example, is part of a federal block grant program and is specifically intended to provide funding for transportation projects that expand non-motorized travel choices, with a particular focus on pedestrian and bicycle facilities. Under this program, the County is required to provide only 20% of the total project funding. Other funding sources are the VDOT Revenue Sharing Program, which matches state and local funds on a 50/50 basis, and federal CMAQ (Congestion Mitigation and Air Quality) funds, which are allocated to the region on an annual basis and require no local match. Most of the County's current sidewalk projects are being funded through either Revenue Sharing or the TA Set-Aside. Pedestrian and bicycle improvements are also eligible for SMART SCALE funding.

The planned future bikeway network of the Historic Triangle is depicted on the Regional Bikeways map for James City County, Williamsburg, and York County. This map shows both existing and proposed future bike facilities in the three jurisdictions. A noteworthy addition to this plan since the 2013 Comprehensive Plan update is the "Birthplace of America" Trail. This is an ambitious proposal, spearheaded by the HRTPO, to connect the Virginia Capital Trail to Fort Monroe and the South Hampton Roads Trail via two off-road shared-use paths designed for non-motorized traffic. The Virginia Capital Trail, completed in 2015, is a separated shared-use path that is generally ten feet (10') wide, parallels historic Route 5 for approximately 52 miles and connects Richmond with Virginia's former capitals of Jamestown and Williamsburg. The proposed Birthplace of America Trail recommends connecting the southern end of the Virginia Capital Trail near Williamsburg to Historic Fort Monroe on the Peninsula and to the western end of the South Hampton Roads Trail system in Suffolk (which follows former rail right-of-way to the Virginia Beach oceanfront). The Peninsula route would run through lower York County, crossing through National Park Service and Newport News Waterworks land, tying into Oriana Road, running through the McReynolds Athletic Complex to Route 17, down Route 17 and Hampton Highway to Big Bethel Road and then down to the City of Hampton. Though thought of primarily as a bicycle trail because of its length, the trail would be designed for all types of non-motorized travel – not just cyclists but pedestrians, joggers, skaters, wheelchairs, and other mobility-assisted devices.

> ***"The vision of the Birthplace of America Trail study is to connect the Virginia Capital Trail to Fort Monroe and the South Hampton Roads Trail via two off-road shared-use paths, designed for active transportation. Once this vision is built, users can bike/walk from Richmond to the Atlantic Ocean in Virginia Beach by over 140 miles of off-road shared use paths. In addition to connecting the region through active transportation, the Birthplace of America Trail seeks to link and showcase the region's unique cultural and historic heritage."***
>
> ***Birthplace of America Trail Brochure (HRTPO and VDOT)***

The Birthplace of America Trail is a major regional initiative that will require considerable regional cooperation and coordination in terms of planning, design, and funding. To make the vision a reality, the Birthplace of America Trail Study, completed by the HRTPO and VDOT in 2017, recommends the formation of a foundation that would "serve as a nonpartisan advocacy partner who provides trail expertise, helps raise public awareness of the trail, and seeks funding for trail development and construction."[11] The study also recommends that local governments apply for state and federal funding through the programs previously mentioned to complete segments of the trail within their respective jurisdictions as well as explore other federal funding programs. The study specifically notes that the Federal Lands Transportation Program (FLTP) could potentially be utilized to obtain funding for segments of the trail that provide access to the Yorktown Battlefield.[12]

Existing, planned, and recommended future walkways are depicted on the Walkways Map. Future walkways are identified either as "planned" – walkways for which funding has been approved and that are either in the construction or the engineering and design phase – or as "recommended" – walkways, which are also listed below, that are high-priority projects that should be considered for future funding based on a series of criteria including proximity to activity centers (schools, parks, hospitals, shops, etc.), linkages to existing or planned facilities, community input, and feasibility. While most of these are sidewalks, some shared-use paths and off-road recreational trails are also included.

Facility	From	To
Battle Rd	Route 17	Old York-Hampton Highway
Bulifants Boulevard	Arbordale	Mooretown Road
Cheatham Rail Spur	Penniman Road	JCC Boundary
Dare Road	Route 17	Lakeside Drive
Dominion Power Easement	Yorktown Road	Victory Boulevard
Goosley Road	Old Williamsburg Road	Route 17
Lakeside Drive	Bailey Road	Dare Road
Merrimac Trail	George Washington Inn	Long John Silver's
Mooretown Road	Bulifants Boulevard	Sentara Circle
Mooretown Road	Reserve Way	Kingsgate Parkway
Old Mooretown Road	Shipwright Loop	Sentara Circle
Old Williamsburg Road	Woods of Yorktown	Goosley Road
Victory Boulevard	Big Bethel Road	East Yorktown Road
Waller Mill Road	Mooretown Road	Waller Mill Elementary School
Wolf Trap Road	Route 17	Goodwin Neck Road

Transit

The aging of the population over the next two decades is going to significantly increase the number of transit-dependent residents. Research performed by the HRTPO found that the elderly are more likely than others to be non-drivers and that, not surprisingly, non-drivers travel half as much as drivers. As the number of seniors increases, so too will the need for efficient and reliable transit service with conveniently located bus stops and safe, accessible shelters that encourage transit use.

Serving the growing senior population is just one of many issues that will need to be addressed by WATA in the next few years as part of the update of its Transit Development Plan, which commenced in 2022. Under legislation adopted by the General Assembly in 2018, the updated plan will need to be a Transit Strategic Plan (TSP). The purpose of this plan is "to create a strategic blueprint outlining desired changes that will improved the provision of transit services throughout each agency's service area within existing

[11] HRTPO, *Birthplace of America Trail Study: A Study to Connect the Virginia Capital Trail to the Hampton Roads Region* (2017), p. 58
[12] Page 59

funding structures. [It] is an opportunity for each agency to look at their system as a blank slate, re-examine the priorities of stakeholders and riders, and make difficult choices concerning where and how to provide services in an efficient and cost-effective manner."[13] The TSP has a planning horizon of ten years, and a major update is required every five years. As a WATA partner and stakeholder, York County will be deeply involved in this effort.

In the more immediate future, WATA is planning to establish two new demonstration routes that will serve portions of York County. The York County-Southeast demonstration route, scheduled to begin in the next few years, will run between the Yorktown village and the Tabb Walmart via Cook Road, Route 17, Hampton Highway, Theatre Road, and Joseph's Drive. WATA plans to provide a connection between this route and the existing Lackey route (Route 11), which currently extends to Lee Hall in Newport News, and up Merrimac Trail to Tam-O-Shanter Boulevard. This will greatly improve bus access between the upper County and the lower County and expand transit options for Lackey residents. The other route – the Upper York County/New Kent Connector route – will extend from the Lightfoot commercial area (Lowes, Walmart, etc.) up Mooretown Road through James City County and into New Kent County, ending at Providence Forge. These are both three-year demonstration projects that will be funded with regional CMAQ funds.

Other types of transit – light rail, commuter rail, enhanced and express bus service, bus rapid transit, and high-speed ferry service – are addressed in the *Hampton Roads Regional Transit Vision Plan*. This plan, which was completed In February 2011 by the Virginia Department of Rail and Public Transportation (VDRPT) developed by VDRPT in partnership with the regional transit providers and all the localities of Hampton Roads, maps out a series of short- and long-term recommendations for improved transit service in the region. In evaluating the potential for transit enhancements along major corridors, the plan considered a number of factors including land use, zoning, existing and future population density, major employment centers, and cost factors. Based on this analysis, two recommendations specifically affecting York County were included in the plan. One of these is the establishment of express bus service along Route 17 between Gloucester and Oyster Point in Newport News. This is identified as a long-term recommendation to be implemented by 2035. The second recommendation, identified as an "Extended Term" recommendation (beyond 2035), is for enhanced bus service (i.e., higher-frequency service with improved operations such as priority at traffic signals, real-time arrival information, and additional station stop amenities) along Victory Boulevard and Route 17 between the City of Poquoson and Oyster Point.

Railroads

Rail transportation is an important component of the region's overall transportation network that York County has very little ability to influence, although the County participates as a member of the HRTPO's Rail and Public Transportation Task Force. High-speed rail has long been a priority of the HRTPO, which in 2009 adopted a resolution in support of high-speed and enhanced inter-city passenger rail in the region. The HRTPO, in coordination with the Virginia Department of Rail and Public Transportation and VDOT, commissioned a study to evaluate the potential for high-speed (130-220 MPH) and higher speed (110-130 MPH) rail service between Hampton Roads and Richmond. The resulting *Hampton Roads High Speed Passenger Rail Vision Plan*, completed in 2014, identifies a Peninsula higher speed rail route following the existing CSX main line – where a track would be added on new roadbed – for 35 miles from Newport News through Toano in James City County, then using new tracks along an electric utility right-of-way and ultimately connecting with the envisioned high-speed rail line running between Norfolk and Richmond.

The CSX corridor was also identified as a potential commuter rail corridor in the previously mentioned *Transit Vision Plan* for Hampton Roads. Recommendations include the establishment of commuter rail service between downtown Newport News and Williamsburg by 2035, with further extension to Lightfoot

[13] Virginia Department of Rail and Public Transportation, *Transit Strategic Plan (TSP) Guidelines*, August 2018 DRAFT, p. 1

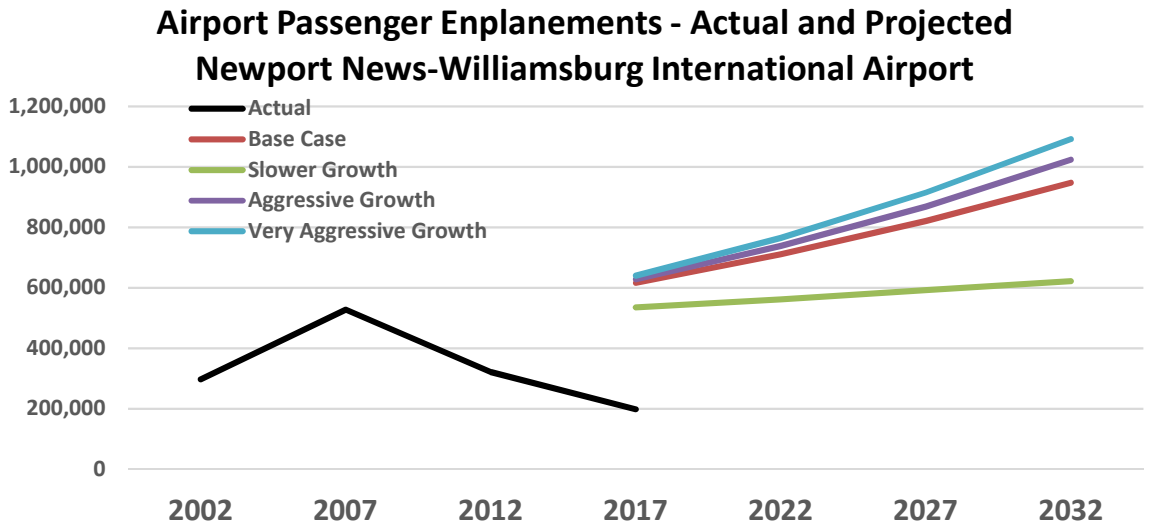
and Toano beyond 2035. As noted previously, a major impediment to the enhancement of rail service on the Peninsula is the sharing of tracks by passenger and freight rail service.

Airports

York County and its neighboring localities have a clear stake in the future of Newport News/Williamsburg International Airport (PHF). Improved commercial service with more direct flights to more cities would benefit Peninsula residents who would much rather fly out of their local airport than face the inconvenience of driving to either Norfolk or Richmond. Moreover, airports benefit the regions in which they are located by generating economic activity and attracting economic development. According to an economic impact study of Virginia's airports prepared by the Virginia Department of Aviation, Newport News/Williamsburg International had a total economic impact of $411 million in 2016.[14]

Expansion of the Hampton Roads Bridge-Tunnel is underway, and funding has been secured to widen the four-lane segment of I-64 between the Hampton Roads and the Richmond regions. These projects will greatly reduce the inconvenience experienced by Peninsula residents driving to Norfolk International and Richmond International, lessening the competitive advantage of Newport News/Williamsburg Airport and calling into question its future long-term viability for providing commercial air service. The next iteration of the Airport Master Plan will be an opportunity to reconsider the airport's future role.

The PHF Airport Master Plan includes four alternative sets of passenger forecasts, which are depicted in **Figure 6**. These include the FAA's Terminal Area Forecast (TAF), which serves as the "base case" scenario, and three additional sets of forecasts based on varying growth scenarios – low growth, aggressive growth, and very aggressive. At the time these forecasts were produced, passenger enplanements had leveled off at approximately 500,000 for several years. With the departure of two of its four airlines from the airport in 2012 and 2015, passenger activity is currently well below even the most pessimistic projections, as shown in **Figure 6**. The number of enplanements in 2017 was a little more than a third of the low-growth forecast for that year. Not reflected in this chart is the sharp decline in the airline passengers nationwide caused by the COVID-19 pandemic in 2020.



Source: Newport News/Williamsburg International Airport Master Plan Update, Final Report, 2014

Figure 6

[14] Department of Aviation of Virginia, *Virginia Airport System Economic Impact Study: Technical Report* (May 2018), p. 40

Newport News/Williamsburg International Airport Runway Configuration
Existing and Planned/Proposed

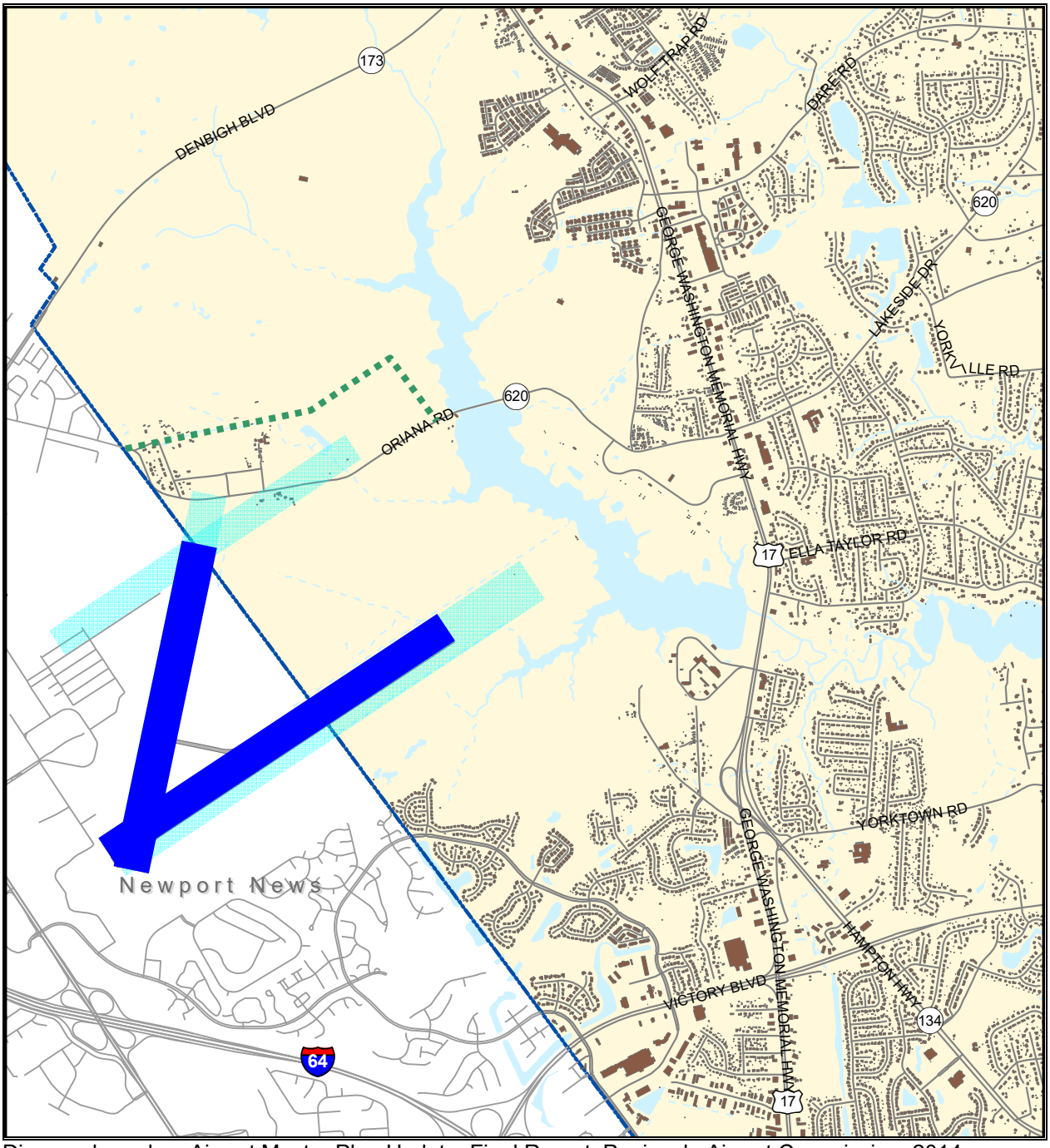


Diagram based on Airport Master Plan Update, Final Report, Peninsula Airport Commission, 2014

LEGEND

- Existing Runway Footprint
- Planned/Proposed Runway Footprint
- Planned/Proposed Oriana Road Realignment

Given the recent trends, even the "base case" TAF forecast would appear optimistic, making it unlikely that additional runway capacity – including the third parallel runway – will be needed in the foreseeable future. The FAA recommends that airports begin planning for additional runway capacity when they reach 60% of their Annual Service Volume (ASV), which is a measure of total airport operations that can be accommodated before unacceptable delays occur. This approach ensures that the need for improvements to an airport is dictated by demand. Based on the FAA's forecast of approximately 139,000 aircraft operations (takeoffs and landings) over the twenty-year planning horizon of the Airport Master Plan, Newport News/Williamsburg Airport would be operating at approximately 52% of its ASV by 2032. Of course, this can change if new or enhanced airline service at the airport is introduced, in which case the airport will have a plan in place to better accommodate that growth and potentially attract additional air carriers

As stated previously, the proposed runway modifications depicted on the ALP for Newport News/Williamsburg International Airport would require the realignment of Oriana Road west of the Harwoods Mill Reservoir and the displacement of eleven household in the residential areas along Oriana Road would have to be acquired by the Peninsula Airport Commission. Otherwise, the major impact on the County would be to bring aircraft operations – and the noise that comes with them – closer to populated areas that are in the flight path of an existing or future runway. Based on FAA and Department of Housing and Urban Development (HUD) standards, aircraft noise begins to interfere with a person's quality of life at a DNL (Day-Night Level) of 65dB(A). As stated in a 2010 report published by the American Planning Association, "A DNL is a measurement of sound (in weighted decibels [dB(A)]) over a 24-hour period, taking into account quiet periods as well as times of aircraft overflight."[15] Although aircraft noise is a frequent nuisance for many Grafton area residents, the noise modeling done as part of the Airport Master Plan update indicates that the areas subject to a DNL of 65dB(A) are limited mostly to undeveloped Newport News Waterworks property. Noise impacts of the ultimate three-runway layout envisioned by the PAC have not been analyzed.

GOAL, OBJECTIVES, AND IMPLEMENTATION STRATEGIES

Goal: Provide for the safe and efficient movement of people and goods throughout York County and the Hampton Roads region.

Objective 1: Reduce traffic congestion on York County's roadways.

1. Identify and pursue federal, state, regional, and local funding sources for roadway improvements, with a particular focus on those depicted on the 2040 Roadway Plan Map.

   Realistically, most of the recommended roadway improvements shown on the 2040 Roadway Plan map will require state funding through the SMART SCALE process. For smaller scale improvement projects, other funding programs, including the RSTP (Regional Surface Transportation Program), CMAQ (Congestion Mitigation and Air Quality), and Revenue Sharing programs, can be utilized. Competition for these funds is intense, and the ability to accomplish these projects will depend on the County's ability to prepare superior project applications.

2. Conduct a comprehensive County roadway study to analyze present and future roadway needs.

   The HRTPO is a vital resource for analyzing congestion on roads in the County and throughout the region. However, this analysis is limited to higher order streets that are part of the CMP network. York County has many high-volume collector roads that are not included in the TPO modeling. A

[15] Susan M. Schalk, and Stephanie A. D. Ward, *Planners and Planes: Airports and Land-Use Compatibility*, American Planning Association, Planning Advisory Service Report Number 562 (2010) 41

comprehensive roadway study for York County, prepared by a qualified traffic engineering consultant, would build on the work of the HRTPO and VTrans and enhance the County's ability to identify deficiencies in the roadway network and develop strategies to address them.

3. Promote transportation alternatives that reduce citizens' reliance on single-occupant vehicles.

   For most Americans, driving is the preferred way of getting from one place to another. There are cases, however, where people drive their cars because they have no feasible alternative. Perhaps they would ride the bus but the nearest stop is too far away or doesn't have a shelter. Perhaps they don't feel safe walking to a nearby store because there is no sidewalk, or maybe they would bike to work if there were a bike lane. Public transit, rail, bikeways, and walkways are all important parts of a multi-modal transportation network. Specific objectives and strategies related to these transportation modes are discussed later in more detail.

Objective 2: Reduce the number and severity – as measured by the number of fatalities and serious injuries – of crashes on the County's transportation network.

1. Work with VDOT, the HRTPO, and the Sheriff's Office to identify dangerous roadway segments and intersections and to develop countermeasures to enhance safety.

   There are a variety of crash data resources available, including the interactive High Crash Location Map on the DMV website, various crash data maps on the VDOT website, the HRTPO's Hampton Roads Regional Safety Study, and VTrans. However, a high number of crashes in a given location can often be attributable to high traffic volumes. Combining crash data with traffic volume data to calculate crash rates for both intersections and roadway segments provides for a truer measure of the relative safety of a particular location. A number of problem areas in the County have been identified by the HRTPO using these measures and are included in this Transportation element. Potential countermeasures can range from relatively minor and affordable measures such as vegetation removal, signage improvements, pavement markers, and reflectors to more extensive and expensive improvements such as shoulders, street lighting, turn lanes, and even lane widening and traffic signals.

2. Provide facilities – sidewalks, bike lanes, shared-use paths, shoulders, etc. – that separate pedestrian and bicycle traffic from automobile traffic.

   There are many narrow roads in York County that were built years ago and do not meet current VDOT standards for pavement width and/or shoulders. Some of these roads are so narrow that they can barely accommodate two-way vehicular traffic, much less bicyclists and pedestrians. There are also a number of relatively high-speed roads where it is not unusual to see people walking on the shoulder or along the roadside adjacent to traffic moving at 55 MPH or more. In addition to enhancing personal mobility, sidewalks and bicycle accommodations provide a refuge for these users of the transportation network, improving safety not just for pedestrians and cyclists but for drivers as well.

3. Utilize the "Additional $200 Speeding Fine Program" as a traffic calming measure in residential neighborhoods with documented speeding problems.

   This program provides for a county or town to request VDOT to install signs on certain state-maintained residential streets indicating that an additional $200 speeding fine applies. VDOT policy stipulates that such signs can be installed on streets within a residential development, neighborhood, or community where the posted speed limit is 35 mph or less and there is a documented speeding problem. In addition, the street must have the residential units facing the street and provide driveway connections or curbside parking for a majority of the residential units. These signs, which have been posted on numerous streets in the County, have proven to be an effective deterrent to speeding, which is involved in 20.5% of the crashes in the County, 21.1% of traffic injuries, and 35.5% of traffic

fatalities. In extreme circumstances, physical traffic calming measures – such as speed tables, raised crosswalks, and chokers – may be appropriate.

4. Invest in emergency communications and response capability enhancements.

   This strategy will not help to reduce the *frequency* of motor vehicle crashes on our roadways, but it can help to reduce their *severity* in terms of injuries and fatalities. The speed and efficiency of response to crashes can mean the difference between life and death. The Board of Supervisors has identified "Exemplary Public Safety" as one of its strategic priorities, and this is reflected in the funding commitments it has made over the years – in fire and rescue and law enforcement apparatus and equipment and emergency communications – to protect the safety of the County's residents, visitors, and businesses.

5. Encourage state legislators to increase VDOT funding for local street maintenance to appropriately address roadway repaving drainage, and litter.

   VDOT is significantly under-funded to the point that routine road repaving is a rapidly growing problem and proactive transportation improvements are almost impossible unless fully funded by the County. Action is needed at the state level to address the lack of adequate funds for street maintenance.

Objective 3: Protect the County's roadway network from sea level rise and recurrent flooding.

1. Design and implement infrastructure improvements to mitigate the impacts of sea level rise and storm surge on the roadway network.

   This is one of the recommendations included in the HRTPO's 2016 study titled *Sea Level Rise and Storm Surge Impacts to Roadways in Hampton Roads*, which recommends that local governments and VDOT consider and implement adaptation strategies discussed in the study when planning, designing, constructing, or retrofitting transportation infrastructure. Specific examples of such strategies include elevating specific elements of critical infrastructure so that they would be above the projected flood elevations, installing protective features to protect roadway assets (e.g., flood barrier, riprap, willow mattress pad, timber bulkhead), and relocating roadway infrastructure that is susceptible to flooding.

2. Develop detour plans for roadways that are projected to be submerged by sea level rise and storm surge.

   This is another recommendation of the HRTPO study, which recommends that local engineers and planners work with VDOT to develop detour plans for all roadways that are projected to be submerged for the three scenarios analyzed in the study. The Department of Fire and Life Safety and the Sheriff's Office.

Objective 4: Encourage safe and efficient bicycle and pedestrian travel.

1. Provide more walkways and bikeways.

   The development of walkway and bikeway networks often begins with small projects in strategic locations – between a school or park and an adjacent neighborhood, for example, or between an office complex and nearby shops and restaurants, or between adjacent shopping centers. Such projects serve an important public purpose, and by leveraging state and federal dollars, can be accomplished at a relatively low cost to the County. Well-designed walkways and bikeways with crosswalks and, as necessary, lighting and pedestrian signals, enhance pedestrian and bike safety and, in so doing, invite pedestrian and bike use. In addition to including appropriate safety features in new

projects, the County should also investigate the need to incorporate safety features into existing facilities.

2. Amend development ordinances to require developer-provided sidewalks in more instances.

   The Zoning Ordinance requires sidewalks "providing for safe and convenient pedestrian access between parking areas, buildings and public areas as well as access to abutting public property or shopping centers" for all development except individual single-family detached homes. The ordinance further states that "developers are *encouraged* [emphasis added] to extend sidewalks onto the adjacent shopping center or public site to connect with sidewalks located on those sites." There is no requirement for sidewalks linking commercial development either with adjacent businesses that are not shopping centers or with adjacent apartment complexes or other residential developments so that nearby residents can access them by foot.

3. Incorporate bicycle and pedestrian facilities into road and other infrastructure improvement projects as appropriate.

   The sidewalks along the Ft. Eustis Boulevard have previously been cited as an example of this strategy in action, but it need not be limited to roadway projects. County-administered capital projects (building construction, drainage improvements, etc.) represent investments in the built environment and, in many cases, an opportunity to enhance pedestrian and/or bicycle accessibility.

Objective 5: Provide efficient, reliable, and convenient transit service that connects residential areas and major employment and activity centers with one another.

1. Work with WATA and its partners to enhance bus service in the County, particularly for transit-dependent populations.

   It is not just the riders who benefit from transit service. To the extent that bus service reduces the number single-occupancy vehicles on the road, all users of the road network benefit. While some citizens choose to use public transportation for reasons of cost or convenience, there are citizens who rely on bus service to get to work, shop, go to the doctor, etc. because they have no other option. The demand for bus service is likely to grow over the next twenty years as the proportion of seniors grows. Bus routes and bus stop locations will need to be continually reevaluated, particularly as development occurs and land uses change, to ensure that customer and community transit needs are being met. Service to the increasing number of age-restricted housing developments in the County should be a priority.

2. Improve transit service for visitors to the County and the region.

   From 2004 through 2013, the Historic Triangle Shuttle provided a bus connection between Williamsburg, Jamestown, and Yorktown via the Colonial Parkway. Initiated in 2004 and funded through a demonstration grant, this fare-free route operated on a seasonal basis from mid-March to mid-November each year. Funding for the service lasted through the 2011 tourist season, after which the Colonial Williamsburg Foundation operated the service for two seasons after the demonstration grant expired. While WATA has not included the restoration of this route in its six-year plan, it is included as a vision project.

3. Increase the number of bus shelters in York County.

   One of the goals set forth in WATA's most recently updated Transit Development Plan is to "Provide quality passenger amenities to enhance the customer's transit experience," and the TDP includes specific references to the need for more bus shelters and benches. Safe, clean, accessible shelters

with benches enhance bus riders' experience and encourage ridership by allowing people to wait for the bus with some degree of comfort and not exposed to the elements.

Objective 6: Improve commercial air service for Peninsula residents and businesses.

1. Support the efforts of the Peninsula Airport Commission to attract additional commercial air carriers to Newport News/Williamsburg Airport and increase the number of direct flights and cities served.

   Without representation on the Peninsula Airport Commission (PAC), York County is extremely limited in its ability to influence the management and future direction of the airport. The County did participate, along with the other Peninsula localities, as a member of the now-defunct and ultimately unsuccessful Regional Air Service Enhancement Committee (RAISE), the purpose of which was to help attract and expand air service opportunities at the airport. Reorganizing the Airport Commission into a truly regional body that includes the entire Peninsula would increase stakeholder involvement in and support for enhancing the viability of this regional asset as both a transportation facility and an engine of economic growth. It should be recognized, however, that the airport's ability to meet the Peninsula's commercial air travel needs is already severely limited and will be even further reduced with the expansion of the Hampton Roads Bridge-Tunnel and the widening of Interstate 64 between Hampton Roads and the Richmond metro area. These two projects will greatly improve the accessibility of Norfolk International and Richmond International for Peninsula residents and may necessitate a reexamination of the airport's future role. With both runways located partially in York County, the County is a major stakeholder in the airport's future and would need to be involved in any such reexamination, whether or not it is a member of the PAC.

2. Utilize zoning and land use policies to preserve the feasibility of expanding Newport News/Williamsburg Airport.

   Most of the land in the County immediately surrounding the airport is zoned Limited Industrial, which means airports are a permitted use upon approval of a Special Use Permit by the Board of Supervisors. The Special Use Permit process enables the Board to evaluate a proposed development and determine whether or not it is appropriate in a given location and, if necessary, impose reasonable conditions to mitigate any adverse impacts. In addition, some rezoning could be required. Thirteen parcels in the Kentucky Heights area of the County are identified in the Airport Master Plan for acquisition by the Peninsula Airport Commission in order to accommodate the proposed northward shift of Runway 2-20. Eleven of these parcels are zoned Rural Residential (RR) and would need to be rezoned to accommodate the runway shift. In addition, the County has the option, set forth in Section 15.2-2295 of the Code of Virginia, of adopting an aircraft noise overlay zone in which noise attenuation features would have to be incorporated in any new construction in areas affected by above-average noise levels from aircraft because of their proximity to flight operations at nearby airports.

Objective 7: Enhance the speed, reliability, and frequency of passenger rail service between Hampton Roads and the northeast corridor.

Support the development of enhanced inter-city passenger rail on the Peninsula.

Engineering, financial, and marketing analyses indicate that with significant upgrades to the rail network, two-hour service between Newport News and Washington DC is an achievable goal. Realizing this goal will require a coordinated regional effort and significant cooperation from the state and federal governments as well as the private railroad companies, and the County should support those efforts.