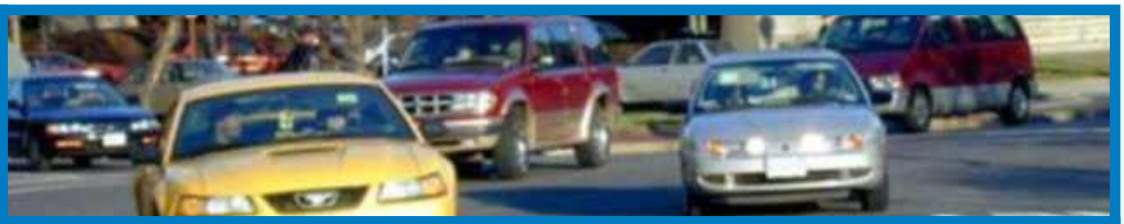
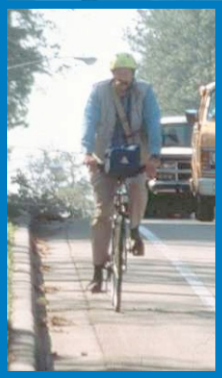


Hampton Roads 2026 Regional Transportation Plan

TECHNICAL DOCUMENT



T04-07A

HAMPTON ROADS
PLANNING DISTRICT COMMISSION

JUNE 2004

2026 REGIONAL TRANSPORTATION PLAN
TECHNICAL DOCUMENT

This report was included in the Work Program
for Fiscal Year 2003-2004, which was approved
by the Commission and the Metropolitan
Planning Organization at their
meetings of March 19, 2003**.**

PREPARED BY

HAMPTON ROADS
PLANNING DISTRICT COMMISSION

HAMPTON ROADS PLANNING DISTRICT COMMISSION
JUNE 2004

T04-07A

REPORT DOCUMENTATION

TITLE
2026 Regional Transportation Plan
Technical Document

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ABSTRACT

This document identifies the transportation projects planned to be in place in the year 2026 in Hampton Roads. It also records the process through which the Plan was developed. The purpose of the project identification lists is to serve as a reservoir from which projects are moved to implementation, and to inform persons in both the public and private sectors of planned transportation investments. The purpose of the planning process record is:

- To allow the reader to weigh the assumptions, analyses, and procedures used during the plan development and thereby to judge the validity of the Plan, and

- To serve as a guide for the next planning cycle.

ACKNOWLEDGEMENTS

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

TABLE OF CONTENTS

INTRODUCTION

PURPOSE OF THE PLAN

Better Transportation for Hampton Roads

Planning for Better Transportation

The 2026 Regional Transportation Plan (RTP) is intended to help provide a transportation system which will give Hampton Roads' citizens enhanced mobility and a robust economy. According to the federal law under which this plan was developed:

> "It is in the national interest to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and through urbanized areas…."
>
> "To accomplish the objective stated [above], metropolitan planning organizations [MPOs]…in cooperation with the State and public transit operators, shall develop transportation plans and programs…."[1]

From a large list of candidate projects, the Hampton Roads MPO chose for the Plan those projects which seemed best able to further the transportation mobility and economic growth in the region. Policies of the federal government and MPO insured that the Plan contains only high priority project work. The federal government requires that the Plan be fiscally constrained, i.e. that it contain only those expenses that can be covered by reasonably expected revenues. According to federal regulations, "Existing and proposed revenues shall cover all forecasted capital, operating, and maintenance costs."[2] If the Plan were not fiscally constrained, projects of lesser priority could be included in it.

Buying a Better Transportation System

One way that the Plan can influence the transportation system of the future is by influencing the spending of dollars during the three-year life of the Plan.[3] Federal law and regulation control the use of federal funds, thereby both promoting the implementation of projects in the Plan and limiting the implementation of projects which are not in the Plan. The local Transportation Improvement Program (TIP) is a short-range document which defines where transportation dollars will be spent in the next three years. According to the Transportation Equity Act for the 21st Century (TEA-21), "all federally funded projects carried out…shall be selected for implementation from the approved transportation improvement program [TIP]…"[4] and "each project [in the TIP]

[1] Transportation Equity Act for the 21st Century, Sec. 1203 (a).
[2] 23 CFR Part 450.322 (b) 11.
[3] The federal government requires that the region develop an RTP every three years.
[4] Transportation Equity Act for the 21st Century, Sec. 1203 (i).

shall be consistent with the long-range transportation plan…."[5] In this way, the long-range RTP influences the spending of today's transportation dollars.

To insure that, during the three-year life of the Plan, Preliminary Engineering (PE) dollars are only spent on high priority projects, the MPO chose to fully fund almost all of the projects in the Plan. The alternative—to include a significant number of PE-only line items in the Plan—would mean that a significant amount of dollars would be spent on projects which the MPO would not have considered a high enough priority to fully fund.

Better Location Decisions

Enabling better location decisions is another way the Plan proves useful. Local, State, and Federal governments can use the Plan to find locations for public facilities (e.g. schools, fire stations, and military facilities) which will be well-served by the transportation system of the future. Private enterprises can use the Plan to find good locations for retail businesses and offices.

Determination of Appropriateness of Planned Projects, Transportation Funding, and Land Use

Finally, the Plan is a tool that helps the public and elected officials determine

- The effectiveness of the projects in the Plan,
- The appropriateness of the level of transportation funding assumed for the Plan, and
- The suitability of the local comprehensive plans which determined the land use assumptions used in the development of the Plan.

A snapshot of the amount of congestion which can be expected in Hampton Roads (HR) in the future has been calculated (see "Future Level of Service" section) using the set of 2026 Plan projects, which includes only those projects which can be paid for under the existing funding formula scenario, and land use assumptions from local comprehensive plans. Those citizens and elected officials who find this amount of congestion unacceptable may wish to change the projects included in the next RTP, increase funding for transportation, or change local comprehensive plans.

PURPOSE OF THIS DOCUMENTATION

In addition to enabling the Plan to achieve the purposes discussed above (directing transportation infrastructure expenditures, informing location decisions, and determining the appropriateness of planned projects, transportation funding, and land use), this documentation of the Plan allows the reader to review the *process* of developing the Plan. By judging the validity of the planning process, the reader can gain an indication of the value of the Plan.

[5] Transportation Equity Act for the 21st Century, Sec. 1203 (h).

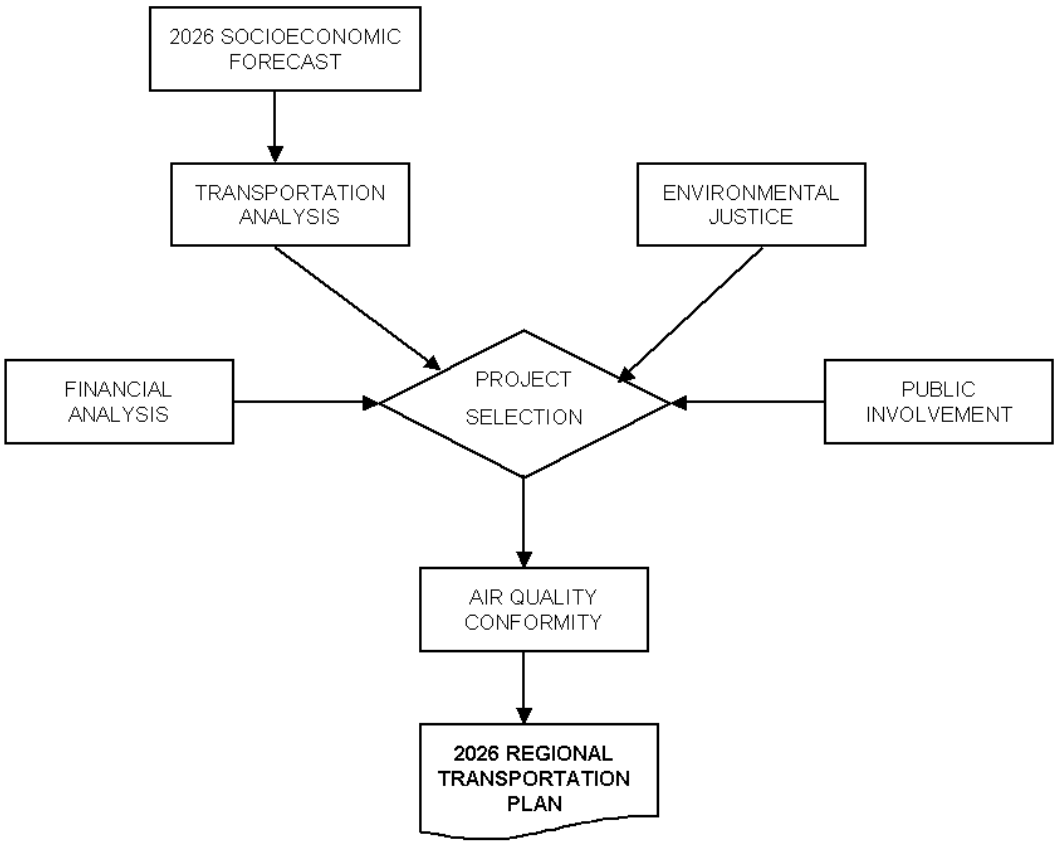
OVERVIEW OF THE PLANNING PROCESS

The three-year 2026 RTP planning process followed a logical sequence of steps in which each step builds on its predecessor:

- Forecasting 2026 socio-economic data
- Calculating locations of expected congestion given 2026 socio-economics
- Formulating candidate 2026 Plan projects
- Estimating the cost of the candidate projects
- Calculating the expected effectiveness of each candidate project
- Soliciting public input concerning needs and candidate projects
- Calculating the expected amount of funding from existing sources
- Calculating the expected transportation impact of additional revenue
- Selecting projects for draft Plan from list of candidates
- Submitting draft Plan for review
- Revising draft Plan
- Soliciting public input concerning draft plan
- Calculating expected air-quality impacts of plan projects.

These steps are discussed in the sections of the document which follow.

Schematic of the 2026 Regional Transportation Planning Process



2026 process figure.jpg

INPUTS TO THE PLANNING PROCESS

FEDERAL REQUIREMENTS

According to the US Code[6]:

"The metropolitan transportation planning process…shall provide for consideration of projects and strategies that will--

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety and security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility options available to people and for freight;
- Protect and enhance the environment, promote energy conservation, and improve quality of life;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system."

[6] TEA-21, section 1203(f) [www.fhwa.dot.gov/tea21/factsheets/metropln.htm]

SOCIOECONOMIC DATA

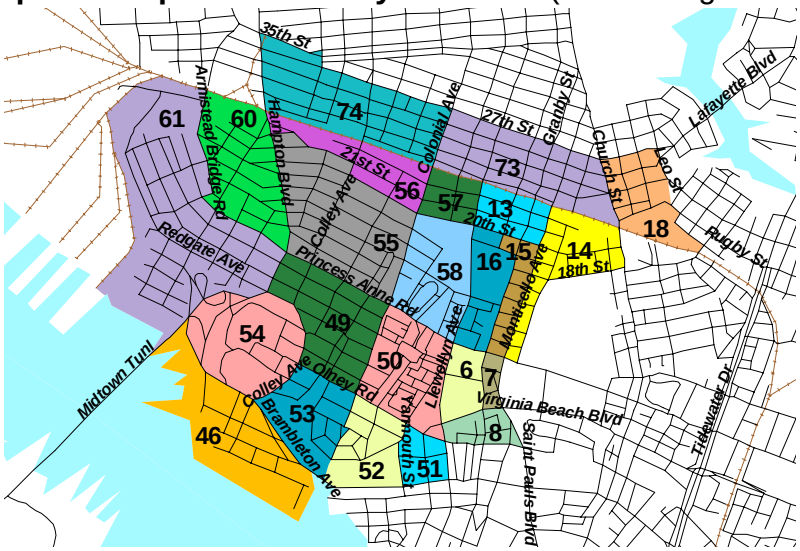
Year 2000 Socioeconomic Data Development

To ensure an accurate estimate of where growth in traffic will occur in 2026, socioeconomic data for the current year was needed. Data from the 2000 Census was the primary data source for the residential data (population, households, automobiles, and workers). Some 1990 Census data for vehicles was used as the 2000 Census data was not yet available at the time of the data development. See Appendix D for more details on the development of the 2000 and 2026 residential data. Determining the location of employment (retail and non-retail employment) required significant data processing. The location of each business in the Virginia Employment Commission's database of employers that pay into Worker's Compensation ("ES-202" data) was geocoded to the business' street address. In addition, data from the Bureau of Economic Analysis was used to account for those employees in the labor force that were not covered by the VEC data, such as farm workers, enlisted military, and self-employed.

Year 2026 Socioeconomic Forecast

Forecasting where people will live and work in the year 2026 was a critical task in the development of the region's 2026 Regional Transportation Plan. It began with HRPDC's Economics department developing totals for population, households, vehicles, and employment for each locality. The department uses the REMI model for developing these locality totals. These totals were then allocated to transportation analysis zones (TAZ's) by the staff of each locality. TAZ's are small areas within each city and county.

Sample Transportation Analysis Zones (Ghent neighborhood of Norfolk)[7]



Year 2000 TAZ map.ppt

[7] See the document "Hampton Roads 2000 Transportation Analysis Zones" (HRPDC, November 2001) for maps of the region's TAZ's. See the document "Hampton Roads 2000 and 2026 Socioeconomic Data by TAZ" (HRPDC, May 2002) for the socioeconomic data by TAZ. Both documents are available at www.hrpdc.org.

Growth By Locality

The Hampton Roads MPO (HRMPO) area is expected to increase in population by over 333,000 between 2000 and 2026, an annual rate of 0.8%. Virginia Beach will experience the largest locality increase in population, with an increase of over 100,000 people. Suffolk will have a 2.1% annual growth rate in population, the largest rate of any of the localities. The slowest growing localities are Norfolk, Portsmouth, and Hampton, each with an annual population growth rate of 0.1% or less.

The HRMPO area is expected to add an additional 229,000 employees between 2000 and 2026, an annual growth rate of 0.8%. The largest increase in employment is in Chesapeake, where an additional 62,000 employees are expected. The localities with the highest employment growth rates are Suffolk, Isle of Wight Co., Gloucester Co., and James City Co., each with approximately 2% annual growth expected. The localities with the slowest expected growth rate in employment are Norfolk, Portsmouth, Hampton, and Poquoson, each with 0.3% or less annual employment growth.

Growth By Subarea

There are other ways of viewing socioeconomic growth in the Hampton Roads region besides by locality. One sub-area is inside the interstate “beltway”, as formed by the loop of I-64 and I-664. Another is comparing the Peninsula, East Southside, and West Southside. The East and West Southside subareas are separated by the Elizabeth River and Intracoastal Waterway.

The area inside the beltway will grow at a much slower pace than the area outside the beltway between 2000 and 2026. The inside area is expected to only add an additional 18,700 people with one-fifth the growth rate of the area outside the beltway. Employment growth is a similar scenario. An additional 28,000 jobs are expected inside the beltway versus an additional 200,000 outside the beltway, or a growth rate inside the beltway of 0.3% versus a rate outside of 1.1%. However, despite its slow growth rate, the area inside the beltway is still expected to have almost one-fourth of the region’s population and 30% of the employment in 2026.

The east Southside area will continue to have almost half of the region’s population and employment in 2026, but the West Southside will grow at the fastest rate. The growth in population is expected to be fairly evenly split between the East Southside, West Southside, and Peninsula (36%, 32%, and 31%), with the West Southside growing at the fastest annual rate of 1.2%. The West Southside is expected to have the largest portion of the employment growth (40%) and a corresponding highest annual growth rate of 2.0%. The Southside (East plus West) is expected to have 68% of the population growth and 69% of the employment growth between 2000 and 2026.

2000 and 2026 Socioeconomic Data By Locality

Locality	2000 Population	2026 Population	Change	Annual Growth Rate	2000 Employment	2026 Employment	Change	Annual Growth Rate	2000 Emp / Pop Ratio	2026 Emp / Pop Ratio	2000 Vehs Per Cap.	2026 Vehs Per Cap.
Chesapeake	199,184	264,900	65,716	1.1%	104,070	166,100	62,030	1.8%	0.52	0.63	0.74	0.78
Isle of Wight Co.	29,728	42,600	12,872	1.4%	14,954	26,400	11,446	2.2%	0.50	0.62	0.88	0.92
Norfolk	234,403	236,400	1,997	0.0%	228,231	237,900	9,669	0.2%	0.97	1.01	0.61	0.67
Portsmouth	100,565	101,900	1,335	0.1%	53,154	57,800	4,646	0.3%	0.53	0.57	0.63	0.69
Suffolk	63,677	110,500	46,823	2.1%	26,566	55,100	28,534	2.8%	0.42	0.50	0.76	0.78
Virginia Beach	425,257	526,100	100,843	0.8%	241,941	282,900	40,959	0.6%	0.57	0.54	0.72	0.76
South Hampton Roads Total	1,052,814	1,282,400	229,586	0.8%	668,916	826,200	157,284	0.8%	0.64	0.64	0.70	0.75
Gloucester Co. (study area)	23,509	34,300	10,791	1.5%	10,576	18,500	7,924	2.2%	0.45	0.54	0.89	0.94
Hampton	146,437	151,300	4,863	0.1%	82,935	87,500	4,565	0.2%	0.57	0.58	0.67	0.76
James City Co.	48,102	74,500	26,398	1.7%	26,517	43,600	17,083	1.9%	0.55	0.59	0.78	0.83
Newport News	180,697	213,100	32,403	0.6%	117,365	143,500	26,135	0.8%	0.65	0.67	0.71	0.74
Poquoson	11,566	16,000	4,434	1.3%	2,477	2,700	223	0.3%	0.21	0.17	0.87	0.92
Williamsburg	11,998	14,700	2,702	0.8%	23,836	27,900	4,064	0.6%	1.99	1.90	0.83	0.86
York Co.	56,297	78,600	22,303	1.3%	23,387	35,100	11,713	1.6%	0.42	0.45	0.78	0.79
Peninsula Total	478,606	582,500	103,894	0.8%	287,093	358,800	71,707	0.9%	0.60	0.62	0.73	0.78
Hampton Roads MPO Total	1,531,420	1,864,900	333,480	0.8%	956,009	1,185,000	228,991	0.8%	0.62	0.64	0.71	0.76

"Vehicles" in vehicles per capita calculation are passenger vehicle registrations.

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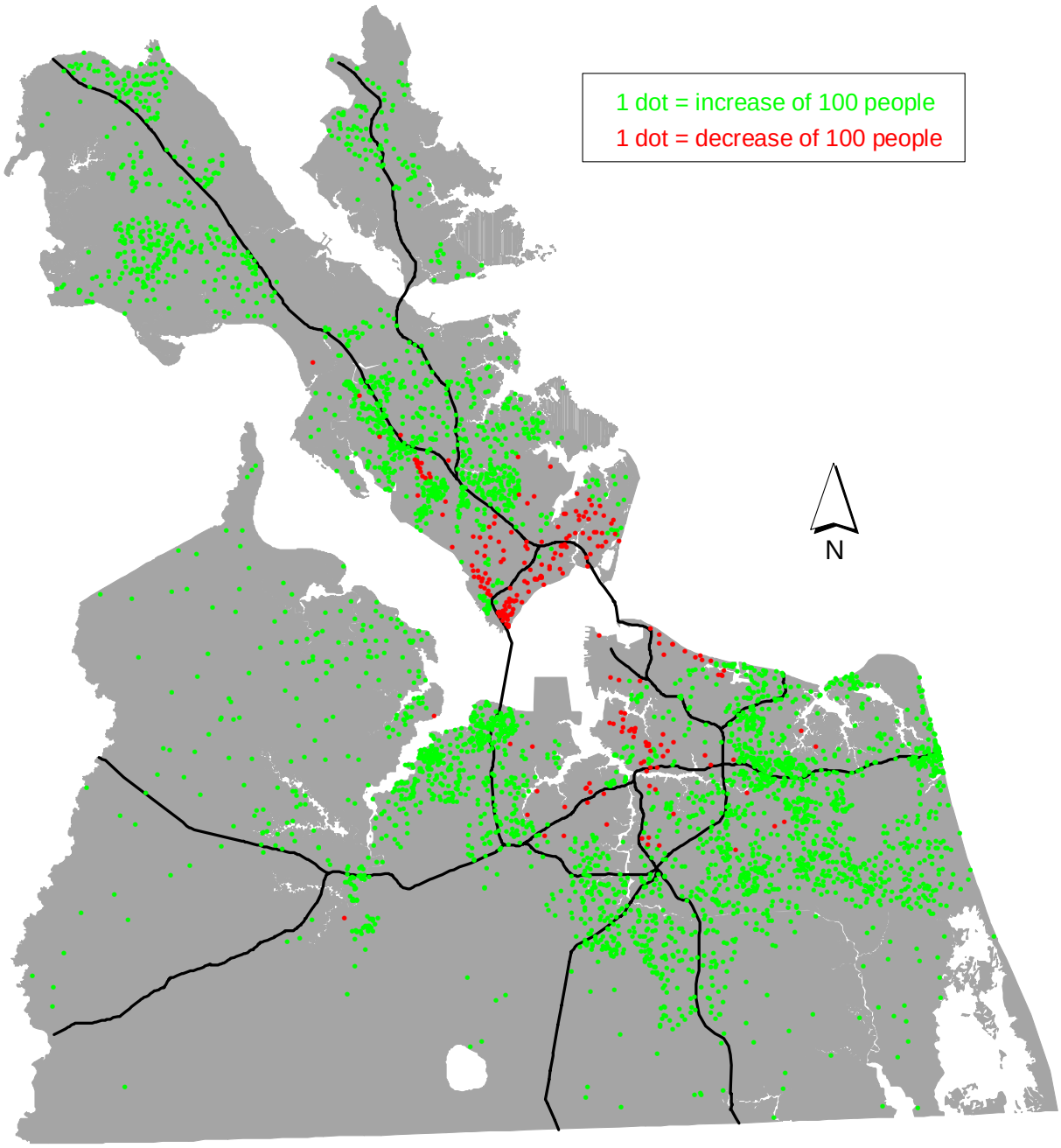
Change in Population from 2000 to 2026



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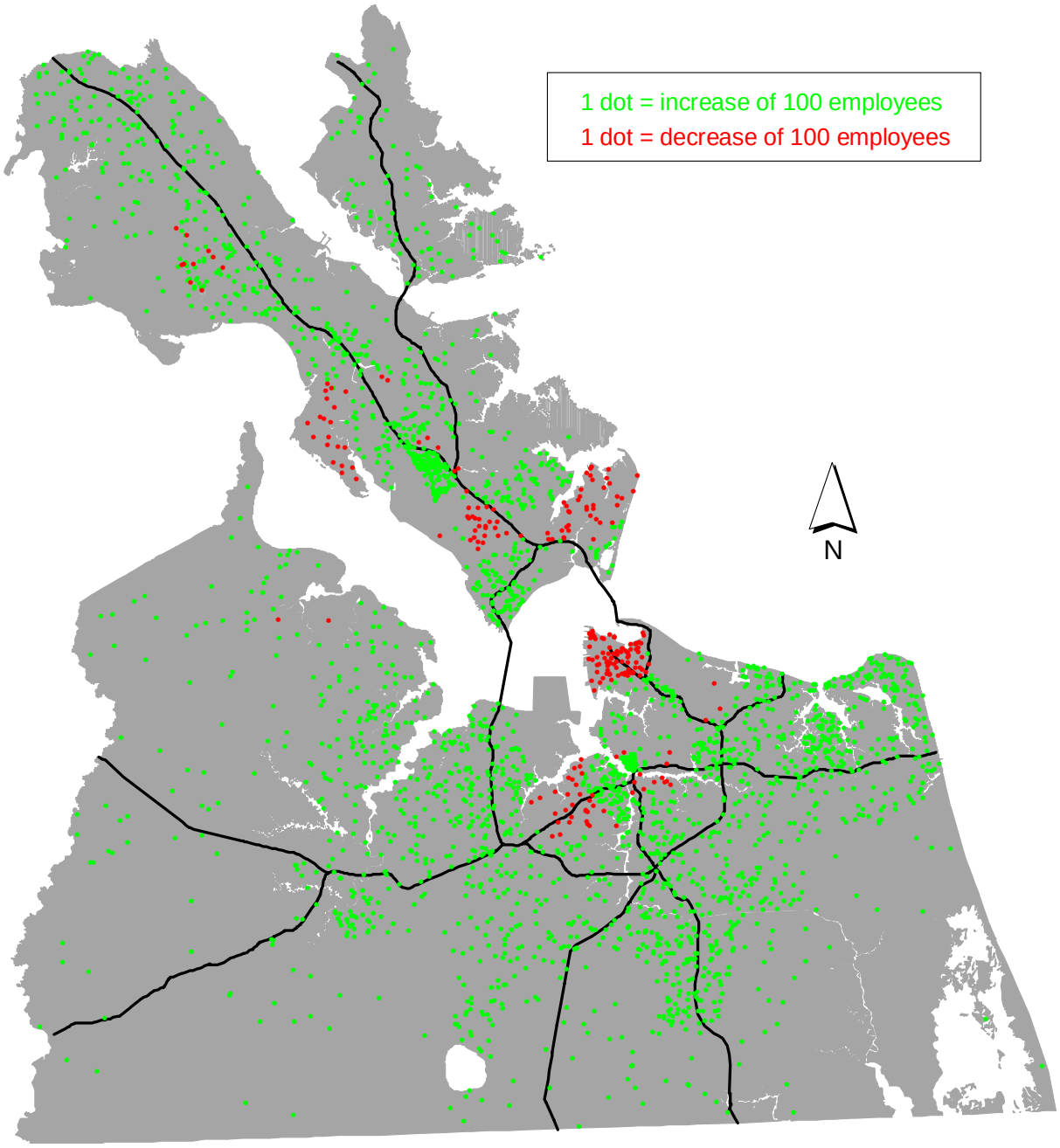
Change in Employment from 2000 to 2026



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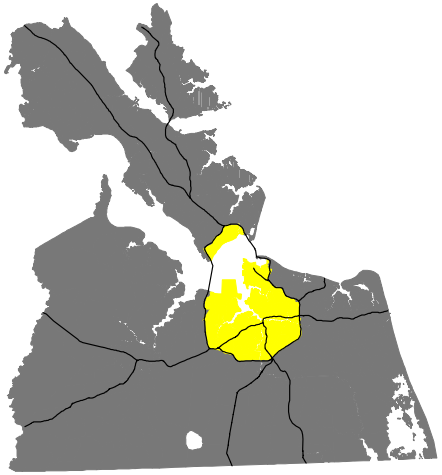
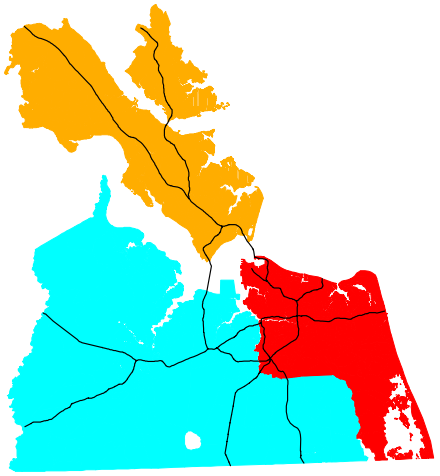
Socioeconomic Data By Subarea

Inside and Outside Beltway



Peninsula, East and West Southside



Subarea	2000 Population	%	2026 Population	%	Change	Portion of Change	Annual Growth Rate	2000 Employment	%	2026 Employment	%	Change	Portion of Change	Annual Growth Rate
Peninsula	478,059	31%	582,500	31%	104,441	31%	0.8%	287,093	30%	358,800	30%	71,707	31%	0.9%
East Southside	741,765	48%	863,600	46%	121,835	36%	0.6%	535,712	56%	602,139	51%	66,427	29%	0.5%
West Southside	311,049	20%	418,800	22%	107,751	32%	1.2%	133,204	14%	224,061	19%	90,857	40%	2.0%
Total	1,530,873	100%	1,864,900	100%	334,027	100%	0.8%	956,009	100%	1,185,000	100%	228,991	100%	0.8%
Inside beltway	415,184	27%	433,888	23%	18,704	6%	0.2%	329,105	34%	357,564	30%	28,459	12%	0.3%
Outside beltway	1,115,689	73%	1,431,012	77%	315,323	94%	1.0%	626,904	66%	827,436	70%	200,532	88%	1.1%
Total	1,530,873	100%	1,864,900	100%	334,027	100%	0.8%	956,009	100%	1,185,000	100%	228,991	100%	0.8%

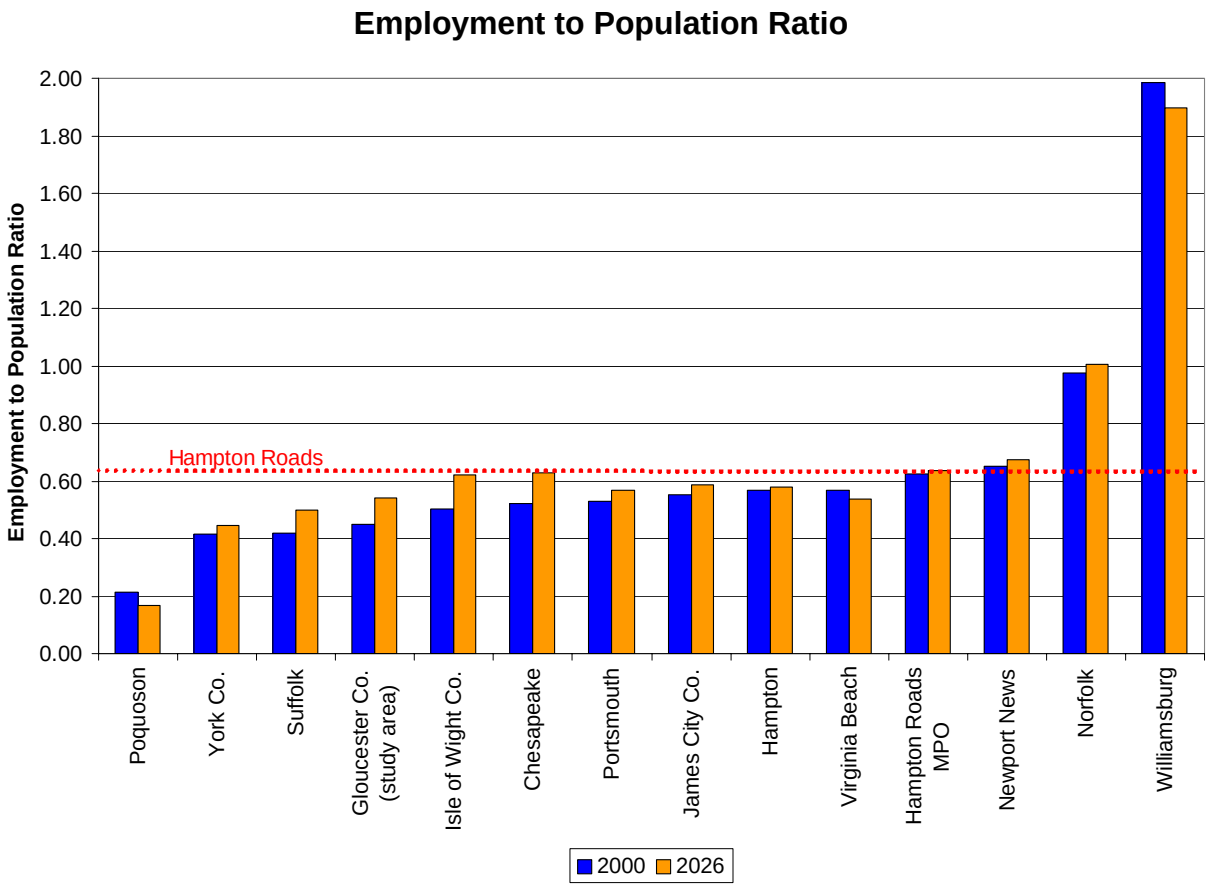
Note: In November 2003, the Census Bureau changed the 2000 Census population of Newport News from 180,150 to 180,697. This table was prepared prior to this change.

beltway.wmf, pen_e_w.wmf, ap 2026 techdoc data.xls

Mix of Employment and Population

A general sense of the character of a community can be obtained from the ratio of employment to workers by place of residence. Large ratios indicate that the locality is dominated by employment centers, while a small ratio would indicate a residential area.

The ratio for the Hampton Roads MPO was 0.62 in 2000 and increased slightly to 0.64 for 2026. At the extreme ends of the spectrum, Poquoson had five times more population than employment in 2000, while Williamsburg's employment was almost twice its population. Between 2000 and 2026, eleven of the thirteen Hampton Roads localities are expected to have their ratios increase, resulting in a more even mix of population and employment.



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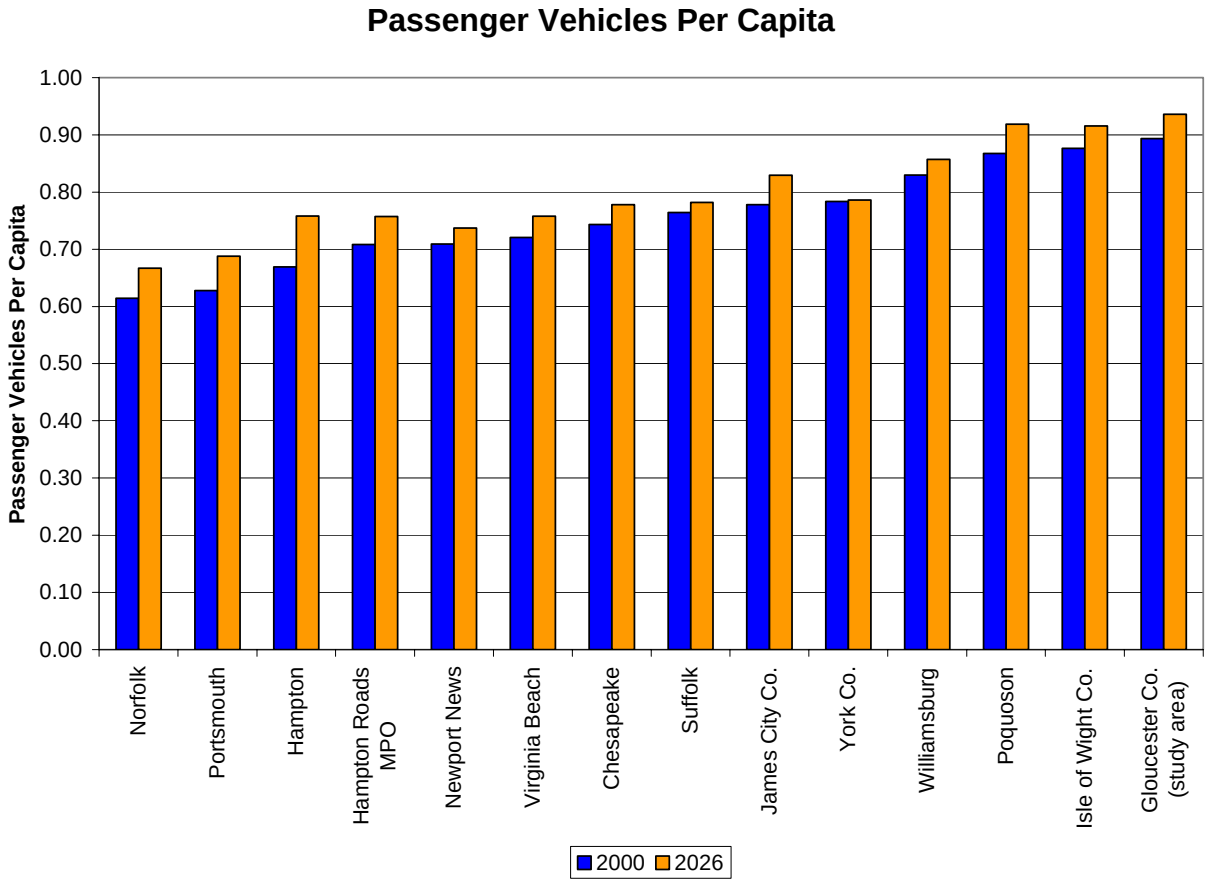
Passenger Vehicle Registrations

Passenger vehicle registrations for the Hampton Roads MPO averaged 0.71 vehicles per capita in 2000, increasing to 0.76 vehicles per capita in 2026. With a population in 2026 of over 1.86 million, the additional 0.05 vehicles per person translates into an additional 93,000 vehicle registrations.

All thirteen localities in the Hampton Roads MPO are expected to increase their vehicles per person between 2000 and 2026. The range of vehicles per person in 2026 spans from 0.67 (Norfolk) to 0.94 (Gloucester Co.).



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YEAR 2000 TRAFFIC COUNTS

Forecasts of travel in the year 2026 performed for the development of the 2026 Plan were calculated using actual counts of the existing number of vehicles on the thoroughfare roadway segments of Hampton Roads (HR). Recent traffic counts are used in the HRPDC staff's long-range travel analyses in two ways:

1) Model Development

   As described in the "Transportation Model Update" section below, future-year transportation models used in long-range analyses are built from current-year transportation models which are developed using existing traffic counts.

2) Use of Model Volumes

   When the HRPDC staff performs transportation analyses for specific segments of highways, instead of using traffic volumes directly from the future-year model as the forecast volume, forecast volumes are calculated as follows:

   Forecast Volume = Base-year Traffic Count +
   (Future-year Model Volume – Base-year Model Volume)

   When the change (or difference) in the two model volumes is applied to the existing count, all available information is used thereby creating a better forecast.

Existing traffic counts taken during the years 1999 through 2001 were gathered during 2026 Plan development because the updated regional transportation model is calibrated with year 2000 socioeconomic data. The HRPDC staff attempted to obtain a copy of a 24-hour vehicle count for the year 2000 (plus or minus one year) for each highway segment in the HR Thoroughfare Database. Although most of the counts were commissioned by VDOT, one third of the counts were commissioned by HRPDC or local governments. After over one year of gathering and processing count data from more than 20 different sources, the HRPDC staff compiled a database containing counts for 80% of the existing thoroughfare segments.

Traffic Counter

traffic counter.gif, www.city.vancouver.bc.ca

PREPARATION FOR AIR QUALITY CONFORMITY

Air Quality Research and Testing

The Air-Quality Conformity Taskforce (ACT) was formed by the TTC after the conformity difficulties which occurred in autumn of 2000 to advise the TTC on ways to prevent future conformity problems. The taskforce was comprised of VDOT, DEQ, FHWA, and HRPDC staff, and led by the latter. The findings of the taskforce follow.

Primary Problem: Near-term NOx

For the FY01 TIP and 2021 LRP conformity analysis (February 2001), the scenarios for which Hampton Roads barely passed conformity were: 2005, 2008, and 2011 for NOx. VOC was not a problem, and Hampton Roads passed 2015 and 2021 for NOx by several tons. Therefore, only solutions to near-term NOx emissions were sought.

General Understanding and Philosophy Behind Solutions

- If implemented now, air-quality-improving actions (e.g. an I&M program) would be accounted for in the next SIP budget and therefore would not aid in passing conformity determinations made subsequent to the setting of that budget.
- Air-quality solutions cannot simply be implemented "over night" when needed. Laying the groundwork for air quality solutions takes time.

Therefore, from the standpoint of passing conformity, it is wise to *research and lay the groundwork* for air-quality-improving actions (as opposed to immediately implementing them), so that they can be quickly implemented if and when they are needed.

Six different possible solutions to conformity problems are discussed below. For each solution, research uncovered by ACT members is presented and a recommendation is made. It should be noted that ACT only researched the potential impact of each solution on conformity. Other possible benefits of these programs were not addressed.

Solution #1: TDM

Potential Impact on Conformity

Because the TRAFFIX program has been in place for several years, its effect on vehicle volumes was measured in the 2000 vehicle counts being used to calibrate the regional transportation model during its current update. Therefore, without a significant increase in the scope of TRAFFIX' efforts, no additional credit for TDM can be taken.

Recommendation to TTC

None.

Solution #2: Ozone Action

Potential Impact on Conformity

Several years ago, Atlanta took a 8.5 ton credit (approx. 3%) for its Partnership for a Smog-free Georgia (PSG). All state agencies are required (by an Executive Order of the Governor) to be PSG partners; PSG solicits corporate partners and local/federal government partners. Partnership has two components:

1) TDM commute options: Partners offer benefits such as vanpools, transit passes, teleworking (cf. TRAFFIX)
2) Ozone Action on smog alert days: Partners take actions such as refueling fleet after 6pm, delaying painting projects, delaying use of construction equipment, delaying lawn maintenance, instituting flex hours, and subsidizing transit.

More recently, however, as results of the program were quantified, the credit dropped to approximately 1%. It is expected that the credit will drop again in the future.

Recommendation to TTC

Based on the Atlanta experience, ACT recommends that the TTC not pursue an Ozone Action program at this time.

Solution #3: Smart Growth

Potential Impact on Conformity

HRPDC is currently developing a hypothetical "smart growth" scenario on which an air quality test will be performed. Although land use policies may have a significant impact on the long-range air quality of our region, because the impacts of changes in land use policies would be realized slowly over time as development occurs, such changes would probably not have a significant impact on our near-term NOx problem.

Recommendation to TTC

None.

Solution #4: Mobile Source NOx Emissions Budget

Potential Impact on Conformity

Obviously, the larger the NOx budget, the greater the likelihood of passing conformity. Richmond's NOx budget (2.24 tons/MVMT) is higher than that of Hampton Roads (1.67 tons/MVMT)[8].

[8] Richmond's budget (see "Transportation Conformity Analysis, FY2000-2002 TIP", VDOT, Nov. 1999) is for 2007 (61.07 tons [p. 1-6]; 27,297,210 VMT [Appendix C]), but varies little between 2007 and 2018. Hampton Road's budget (see "Transportation Conformity Analysis, FY2001 TIP, 2021 Long Range Plan",

Recommendation to TTC

Because of its impact on passing conformity, ACT recommends that DEQ keep the TTC informed during future NOx budget development processes.

Solution #5: NOx Emissions Trading

Potential Impact on Conformity

In the U.S., open market NOx trades are going for under $1,000 per ton per day, whereas TCM's cost approximately $250,000 per ton per day. Trading would help the region to efficiently maintain the quality of its air.

Possible Recommendation

Because of its great potential and low cost, ACT recommends that VDOT Environmental staff keep the TTC informed on developments in NOx emissions trading in Virginia and in the U.S.

Solution #6: Inspection and Maintenance (I&M)

Potential Impact on Conformity

All 1996 and newer vehicles sold in the U.S. have On-Board Diagnostics, level II (OBD II). The emissions performance of OBD II vehicles can be determined by simply tapping into a vehicle's OBD unit. Before OBD II, enhanced I&M testing required placing the vehicle on a $50,000 dynamometer.

At the request of ACT, in June 2002 DEQ staff calculated the potential NOx credit (year 2005) for a mandatory OBD II testing program in Hampton Roads. Such a program would affect only 1996 and newer vehicles. DEQ found a potential credit of two tons[9] or 3.3%.

Recommendation to TTC

ACT recommends that the TTC/MPO only consider implementing an OBD II testing program if Hampton Roads, in the future, is failing conformity and other less-extreme, but effective, measures cannot be found. Unfortunately, since State legislative approval would be required for an I&M program in Hampton Roads, credit for such a program would not be available immediately.

VDOT, Feb. 2001) is for 2011 (70.06 tons [p. 4-1]; 41,952,513 [Appendix D-2]), but varies little between 2011 and 2021. Therefore, it appears that, for any given year, Richmond's NOx budget (in tons/MVMT) is higher than that of Hampton Roads.

[9] 59.56 tons/day with OBD II vs. 61.62 tons/day without OBD II (6-4-02 memo from Jim Ponticello to John Daniel).

Transportation Model Update

In 2003 VDOT hired Michael Baker Corp. to update the Hampton Roads Regional Transportation Model. Up to that point the region's transportation network had been modeled using a 4-step model run with MINUTP software and calibrated to the year 1990. The following work was done to create a new year 2000 model:

- Baker converted the MINUTP-based model to run on TP+, Windows-based software which is easier to use and maintain.
- With assistance from HRPDC staff, Baker updated the model's highway and transit network to reflect the region's year 2000 infrastructure.
- HRPDC staff allocated the region's total year 2000 employment to Transportation Analysis Zones (TAZs), using addresses and employee counts for businesses supplied by the Virginia Employment Commission (VEC) data as the basis of the effort (as discussed in the "Year 2000 Socioeconomic Data Development" section above).
- HRPDC staff gathered year 2000 traffic counts (as described in the "Year 2000 Traffic Counts" section above).
- Baker entered the year 2000 TAZ data into the TP+ model and adjusted the model to reflect the year 2000 traffic counts.

The new model accurately replicates the year 2000 traffic counts, achieving a low 0.31 Root Mean Square Error (RMSE), well below the 0.35 maximum acceptable level. Therefore, future-year models developed using the updated year 2000 model as a basis can be used with confidence to forecast travel.

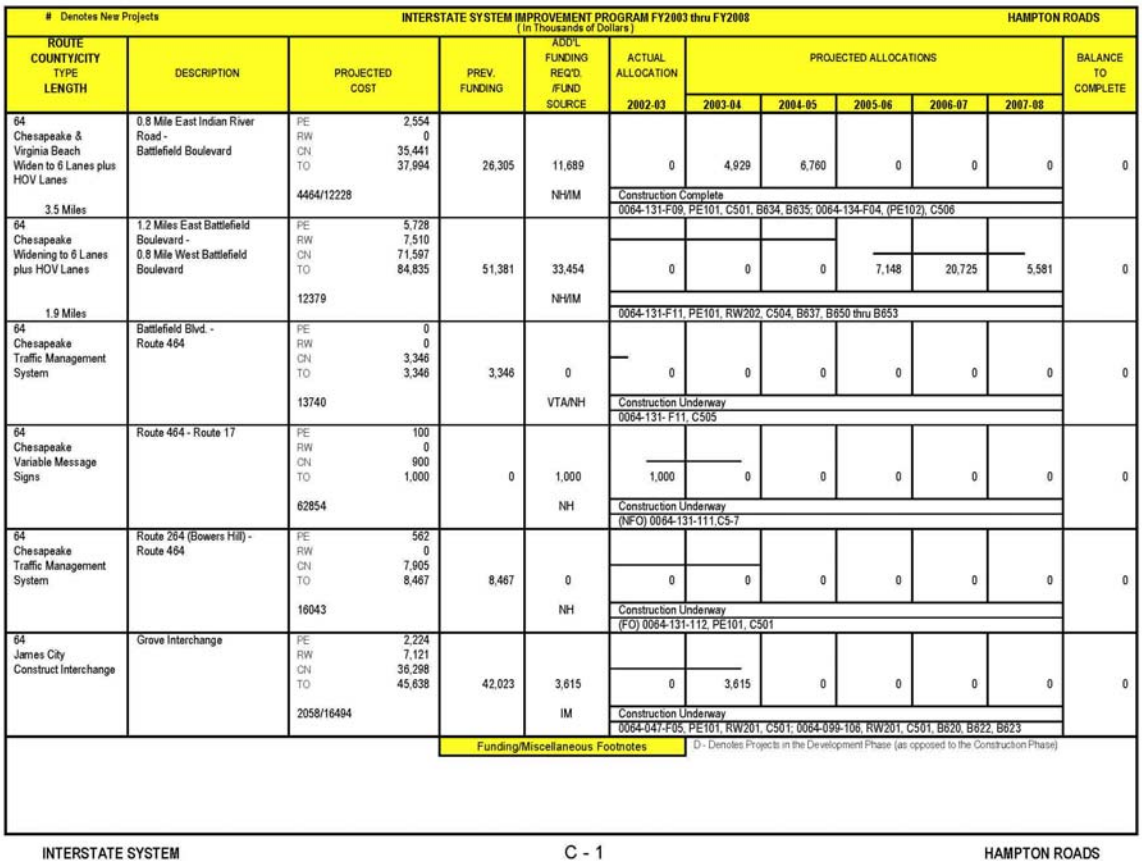
For air quality conformity analysis, models were developed for the analysis years of 2007, 2017, and 2026 as follows:

- VDOT developed highway networks for the analysis years, using the year 2000 network as a basis and using the TIP and 2026 Plan to guide the addition of highway lane-miles necessary for building each network.
- HRPDC staff developed year 2007 and 2017 TAZ data, interpolating between the year 2000 data (discussed above) and the year 2026 data (discussed in the "Socio-economic Data" section above).

PROJECTS AUTOMATICALLY INCLUDED IN PLAN

Highway projects committed for construction in the FY03 TIP were automatically included in the 2026 Plan. Because of the difficulty of securing funding in VDOT's Six-year Improvement Program (SYIP) from which the TIP is formulated, it was assumed that these projects had high priority.

An Example TIP Page



# Denotes New Projects — INTERSTATE SYSTEM IMPROVEMENT PROGRAM FY2003 thru FY2008 (In Thousands of Dollars) — HAMPTON ROADS

	ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	PROJECTED COST	PREV. FUNDING	ADD'L FUNDING REQ'D. /FUND SOURCE	ACTUAL ALLOCATION 2002-03	PROJECTED ALLOCATIONS 2003-04	2004-05	2005-06	2006-07	2007-08	BALANCE TO COMPLETE
	64 Chesapeake & Virginia Beach Widen to 6 Lanes plus HOV Lanes 3.5 Miles	0.8 Mile East Indian River Road - Battlefield Boulevard	PE 2,554 RW 0 CN 35,441 TO 37,994 4464/12228	26,305	11,689 NH/M	0 Construction Complete	4,929 0064-131-F09, PE101, C501, B634, B635; 0064-134-F04, (PE102), C506	6,760	0	0	0	0
	64 Chesapeake Widening to 6 Lanes plus HOV Lanes 1.9 Miles	1.2 Miles East Battlefield Boulevard - 0.8 Mile West Battlefield Boulevard	PE 5,728 RW 7,510 CN 71,597 TO 84,835 12379	51,381	33,454 NH/M	0 0064-131-F11, PE101, RW202, C504, B637, B650 thru B653	0	0	7,148	20,725	5,581	0
	64 Chesapeake Traffic Management System	Battlefield Blvd. - Route 464	PE 0 RW 0 CN 3,346 TO 3,346 13740	3,346	0 VTA/NH	0 Construction Underway 0064-131- F11, C505	0	0	0	0	0	0
#	64 Chesapeake Variable Message Signs	Route 464 - Route 17	PE 100 RW 0 CN 900 TO 1,000 62854	0	1,000 NH	1,000 Construction Underway (NFO) 0064-131-111,C5-7	0	0	0	0	0	0
	64 Chesapeake Traffic Management System	Route 264 (Bowers Hill) - Route 464	PE 562 RW 0 CN 7,905 TO 8,467 16043	8,467	0 NH	0 Construction Underway (FO) 0064-131-112, PE101, C501	0	0	0	0	0	0
	64 James City Construct Interchange	Grove Interchange	PE 2,224 RW 7,121 CN 36,298 TO 45,638 2058/16494	42,023	3,615 IM	0 Construction Underway 0064-047-F05, PE101, RW201, C501; 0064-099-106, RW201, C501, B620, B622, B623	3,615	0	0	0	0	0

Funding/Miscellaneous Footnotes — D - Denotes Projects in the Development Phase (as opposed to the Construction Phase)

INTERSTATE SYSTEM — C - 1 — HAMPTON ROADS

TIP page.jpg

TRANSPORTATION ANALYSES

During the 3-year 2026 RTP planning period, HRPDC staff performed several analyses for the MPO and its support committees designed to support plan-related decision making.

Highway Deficiencies Analysis

In order to assist the HR localities in drawing up lists of projects to be considered for the Plan, the HRPDC staff determined which highway segments, without any improvements over the next 20+ years, are expected to be congested (or "deficient") in the year 2026. After entering the 2026 socioeconomic data discussed above into the regional transportation computer model, the staff used model output to calculate future level of service by roadway. An example page of the report can be found below.

Highway Deficiencies

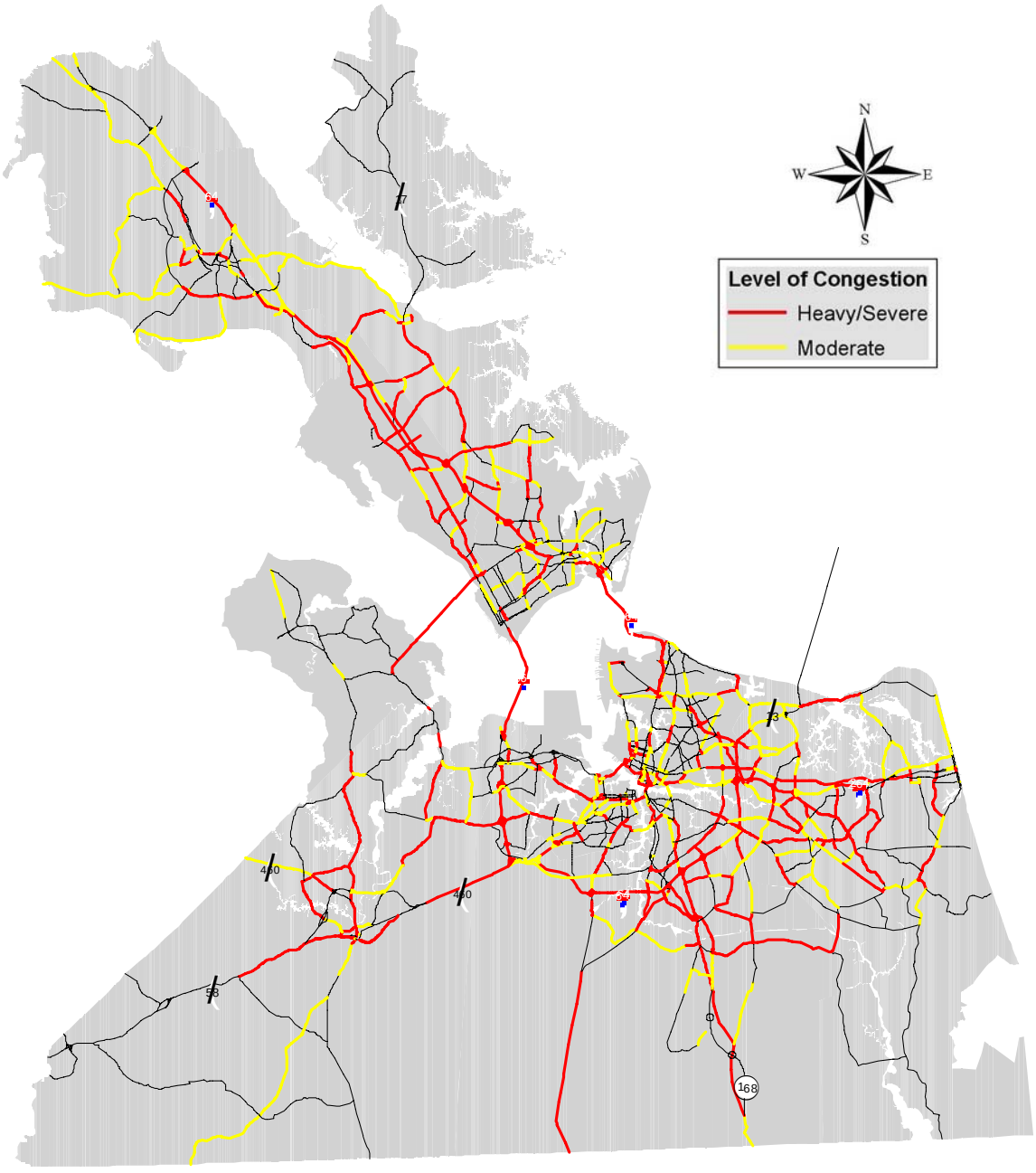
Jur	Thoroughfare	From	To	2000 Lanes	1997-2000 PM LOS (CMS)	2026 Vol. on 2000 Lanes PM LOS
Che	22ND ST	LIBERTY ST	NOR CL / BERK AVE EXT	4	A-C	A-C
Che	AIRLINE BLVD	I-664	PORTSMOUTH C.L.	4	A-C	A-C
Che	ATLANTIC AVE	CAMPOSTELLA RD	PROVIDENCE RD	4	A-C	D
Che	ATLANTIC AVE	PROVIDENCE RD	OLD ATLANTIC AVE	4	A-C	D
Che	ATLANTIC AVE	OLD ATLANTIC AVE	CAMPOSTELLA RD	4	A-C	A-C
Che	ATLANTIC AVE, OLD	ATLANTIC AVE	LIBERTY ST	4	A-C	D
Che	BAINBRIDGE BLVD	DOMINION BLVD	GREAT BR BLVD	2	A-C	E-F
Che	BAINBRIDGE BLVD	GREAT BR BLVD	MILITARY HWY	2	A-C	A-C
Che	BAINBRIDGE BLVD	MILITARY HWY	FREEMAN AVE	2	A-C	A-C
Che	BAINBRIDGE BLVD	FREEMAN AVE	SWAIN AVE	4	A-C	A-C
Che	BAINBRIDGE BLVD	SWAIN AVE	POINDEXTER ST	2	A-C	D
Che	BAINBRIDGE BLVD	POINDEXTER ST	NORFOLK C.L.	2	A-C	D
Che	BATTLEFIELD BLVD	GALLBUSH RD / TOLL RD	INDIAN CRK RD / TOLL RD	2	E-F	E-F
Che	BATTLEFIELD BLVD	INDIAN CRK RD / TOLL RD	CENTERVILLE TNPK	2	E-F	E-F
Che	BATTLEFIELD BLVD	CENTERVILLE TNPK	GREAT BR BYP	2	E-F	E-F
Che	BATTLEFIELD BLVD	GREAT BR BYP	HANBURY RD	2	E-F	E-F
Che	BATTLEFIELD BLVD	HANBURY RD	JOHNSTOWN RD	2	A-C	E-F
Che	BATTLEFIELD BLVD	JOHNSTOWN RD	CEDAR RD	4	E-F	E-F
Che	BATTLEFIELD BLVD	CEDAR RD	ALBEMARLE DR	4	E-F	E-F
Che	BATTLEFIELD BLVD	ALBEMARLE DR	WAYNE AVE	2	E-F	E-F
Che	BATTLEFIELD BLVD	WAYNE AVE	GREAT BR BLVD	4	A-C	E-F
Che	BATTLEFIELD BLVD	GREAT BR BLVD	GREAT BR BYP	6	E-F	E-F
Che	BATTLEFIELD BLVD	GREAT BR BYP	VOLVO PKWY	6	E-F	E-F
Che	BATTLEFIELD BLVD	VOLVO PKWY	I-64	6	D	E-F
Che	BATTLEFIELD BLVD	I-64	MILITARY HWY	6	A-C	D
Che	BATTLEFIELD BLVD	MILITARY HWY	ROBERT HALL DR	4	D	E-F
Che	BATTLEFIELD BLVD	ROBERT HALL DR	CAMPOSTELLA RD	4	D	E-F
Che	BENEFIT RD	JOHNSTOWN RD	SIGN PINE RD	2	n.a.	A-C
Che	BLACKWATER RD	VA BEACH CL	FENTRESS AIRFIELD RD	2	n.a.	A-C

THDBrbc.xls

The complete level of service report, which addresses each highway segment in the region's thoroughfare system, can be found in Appendix A.

The map below shows the impact of 2026 volumes on year 2000 lanes.

2026 Volumes on 2000 Lanes



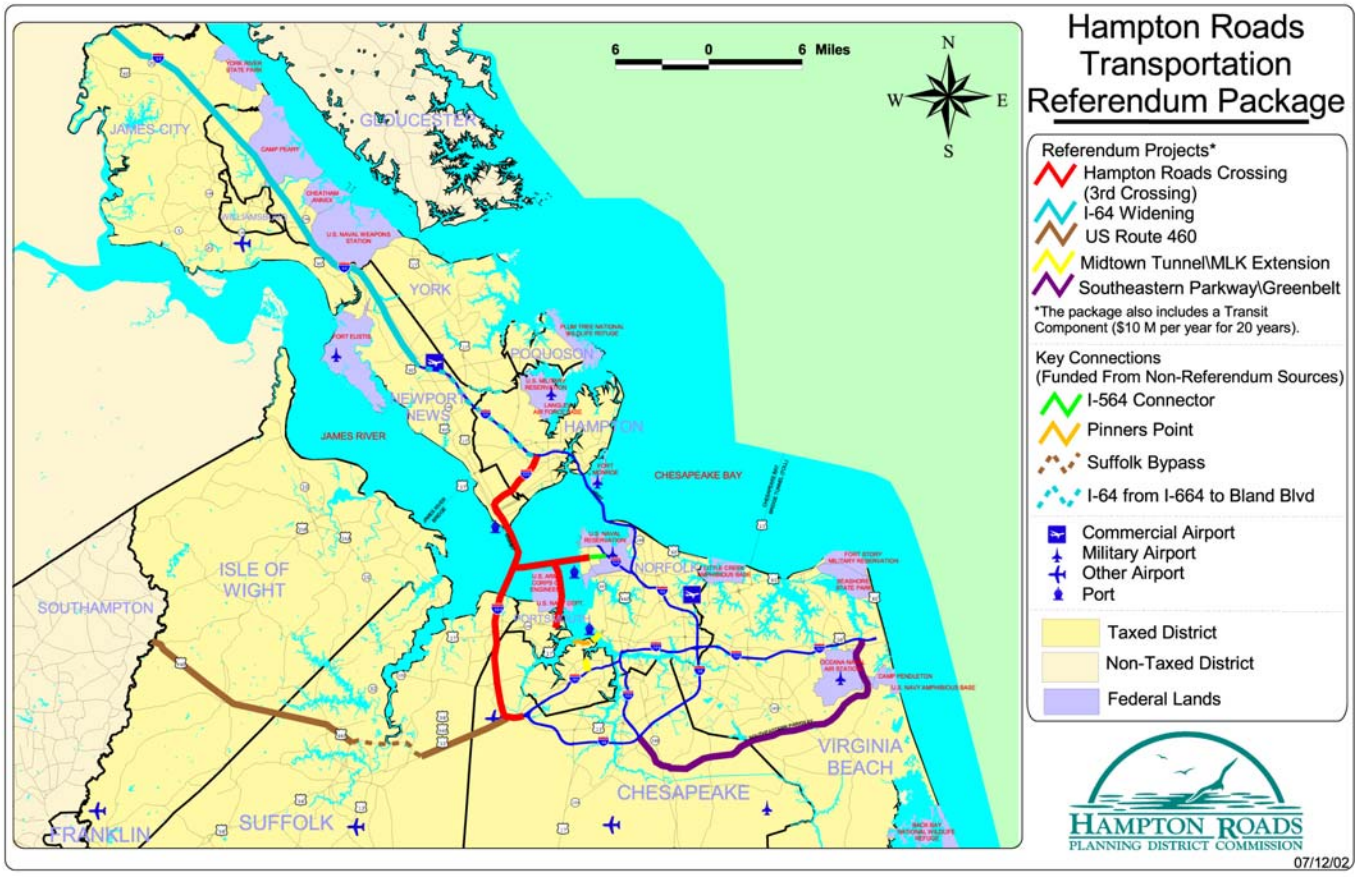
26on00_los2.wmf

Referendum Analyses

In order to provide voters with information concerning the impact of the projects proposed for funding via the November 2002 1-cent sales tax referendum, the HRPDC staff prepared several analyses.

The locations of the five referendum highway[10] projects are shown on the following map:

Referendum Highway Projects



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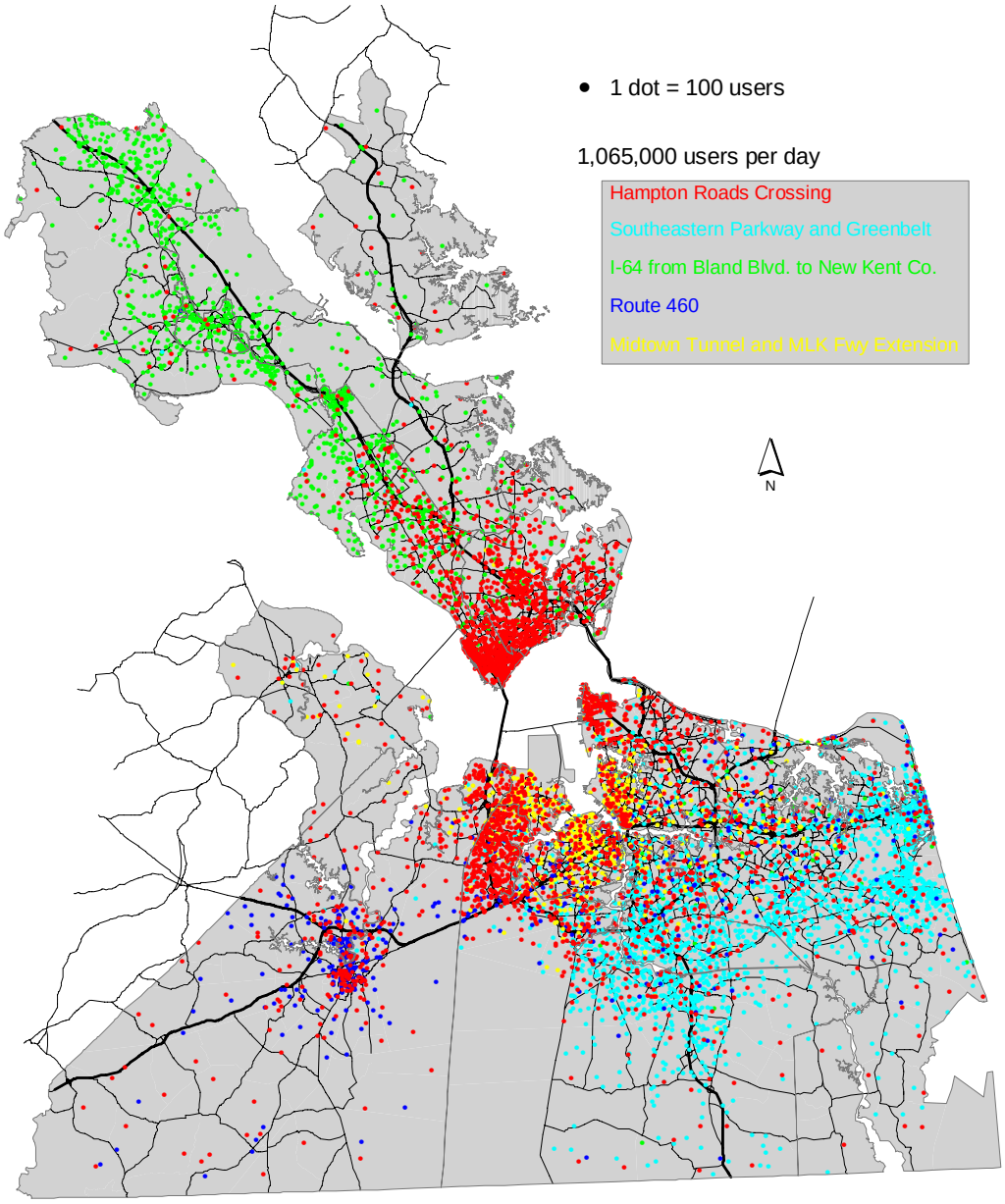
[10] Proceeds from the referendum sales tax were also to provide $200 million for transit/rail/magnetic levitation projects in the region.

The locations of users of the five proposed referendum highway projects are shown on the following map:

Transportation Referendum Highway Projects, 2021 Trips

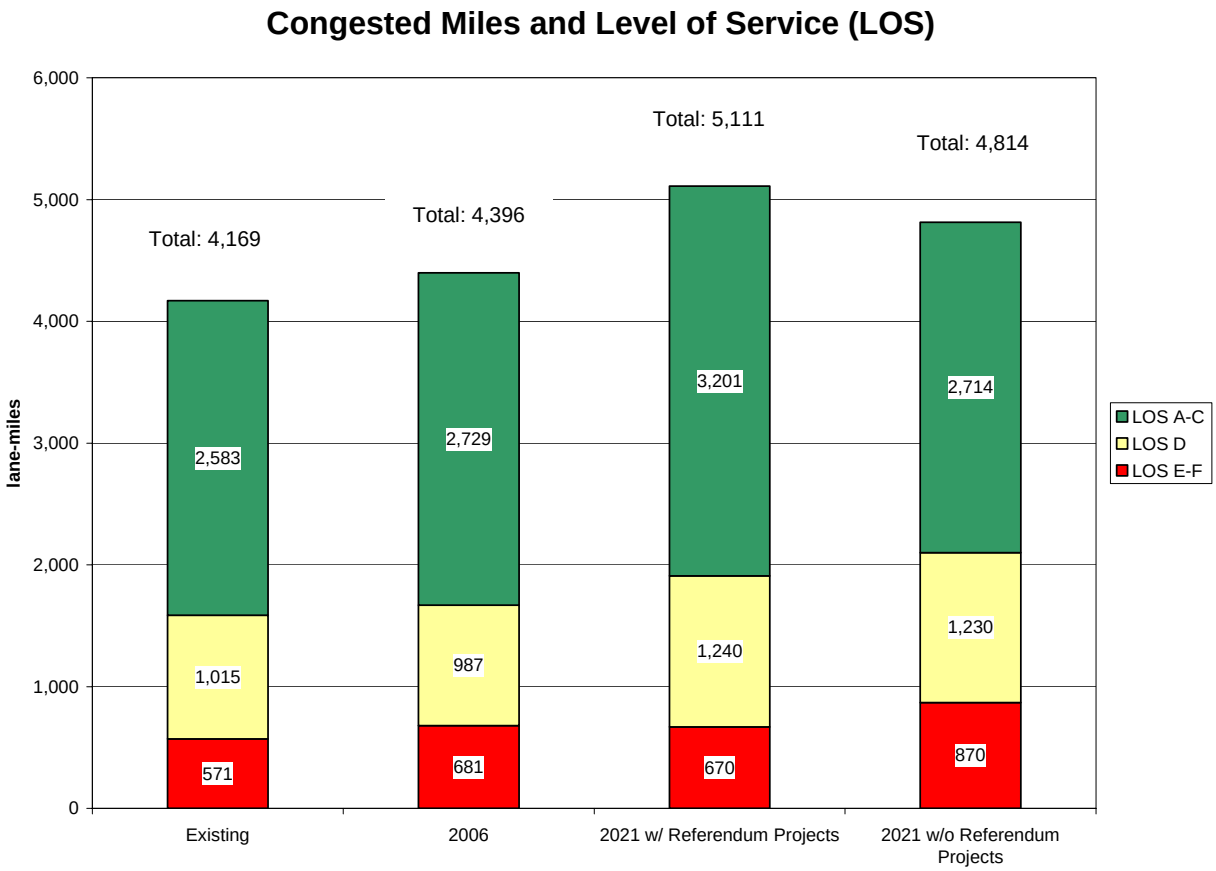


Estimates are from the 2021 Plan scenario.

8/7/02

2021refusers2.wmf

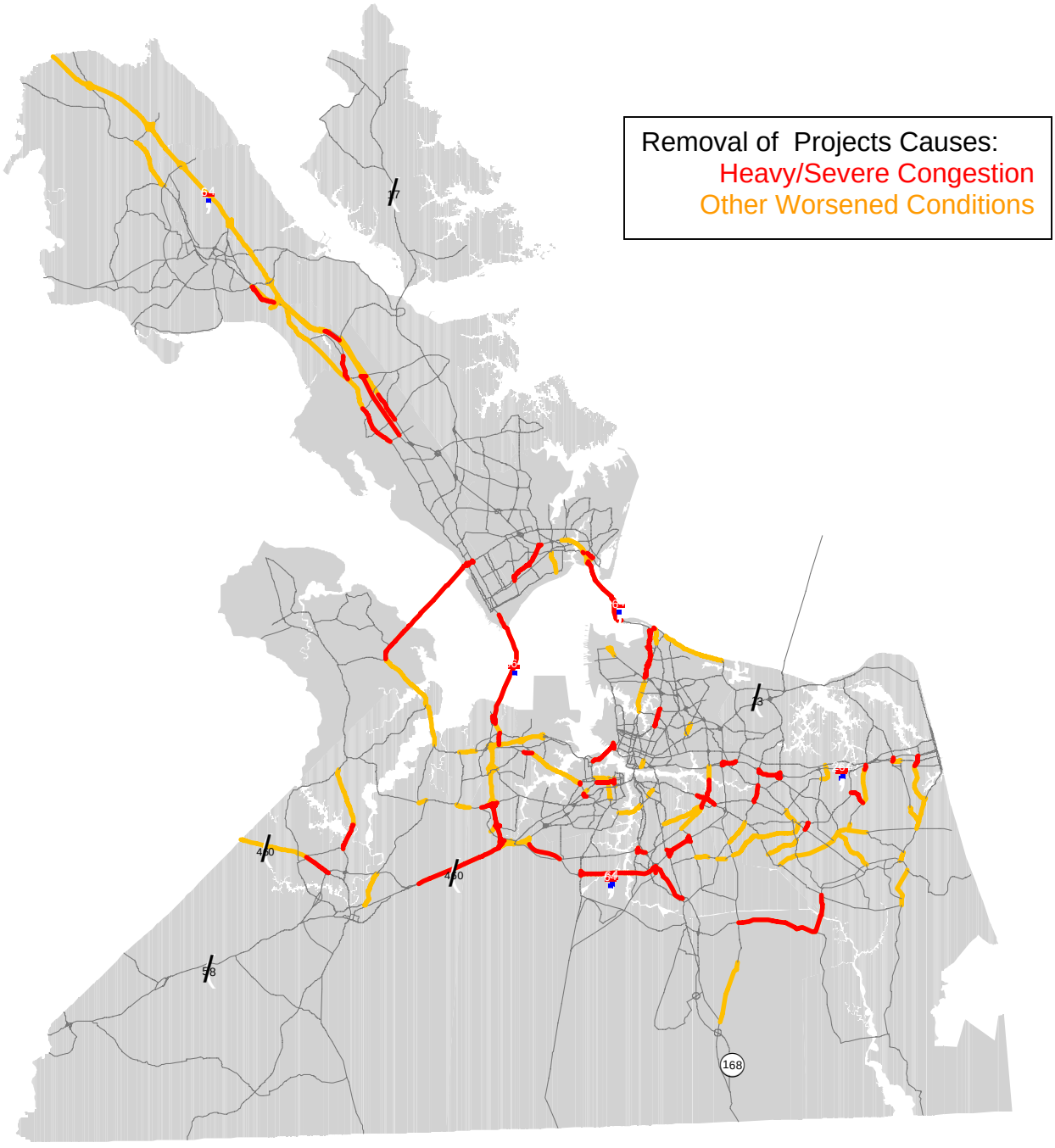
The impact of the referendum highway projects on congestion is shown on the following chart:



congested lane-miles.xls

The impact of not building the proposed projects is shown on this map:

Impact of Not Constructing Referendum Highway Projects

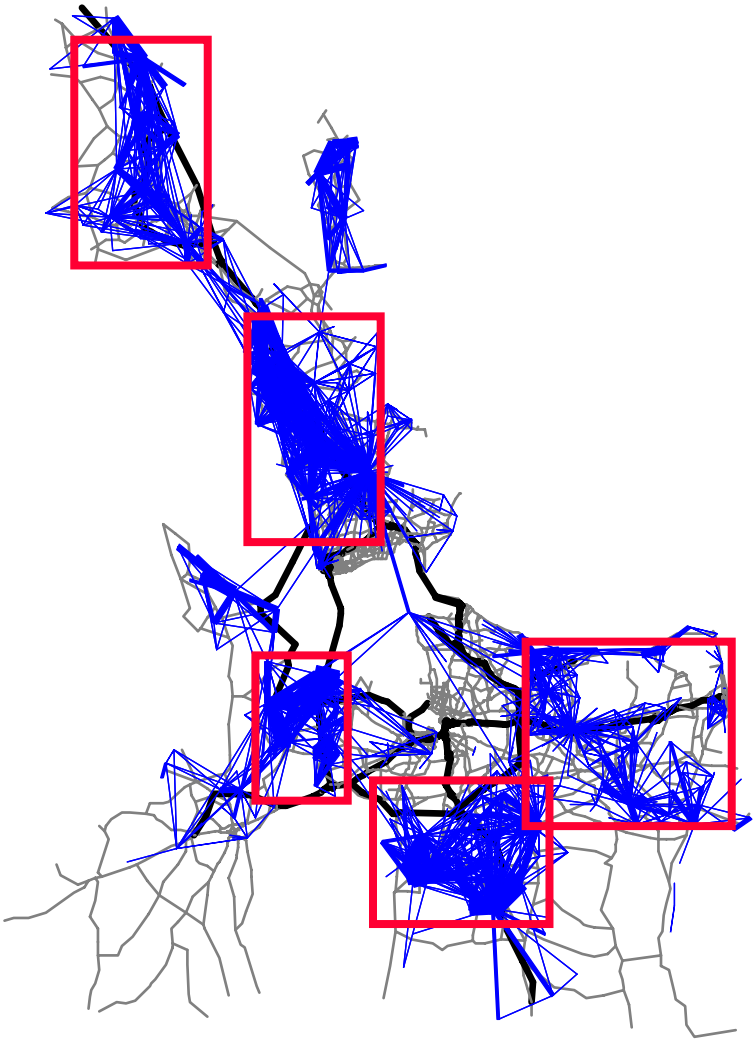


worefs_w_shields.wmf

New Highway Trips Analysis

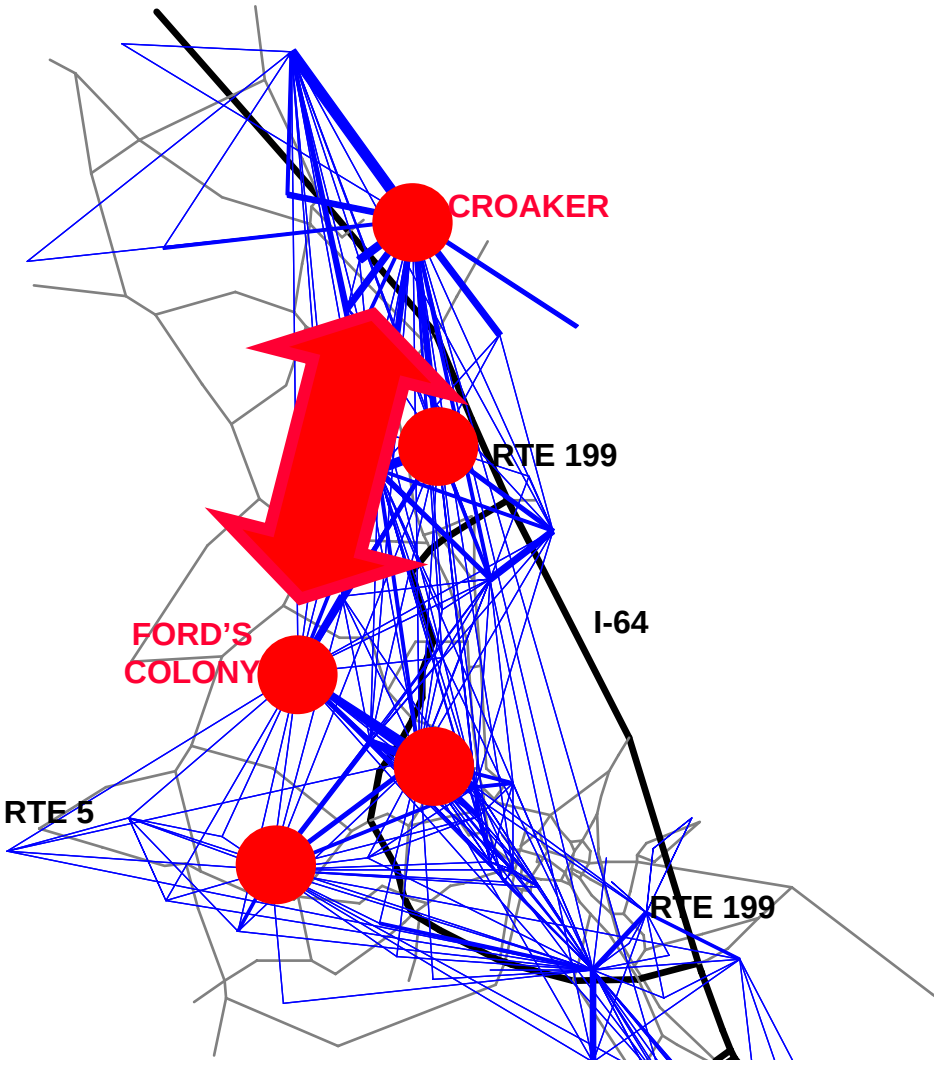
In order to assist the HR localities in drawing up lists of projects to be considered for the Plan, the HRPDC staff also calculated the expected locations of new trips which will be added to the region's highway network by the year 2026. The resultant maps of new trips can be found below.

New Trips, 2000 to 2026 No-build
Hampton Roads



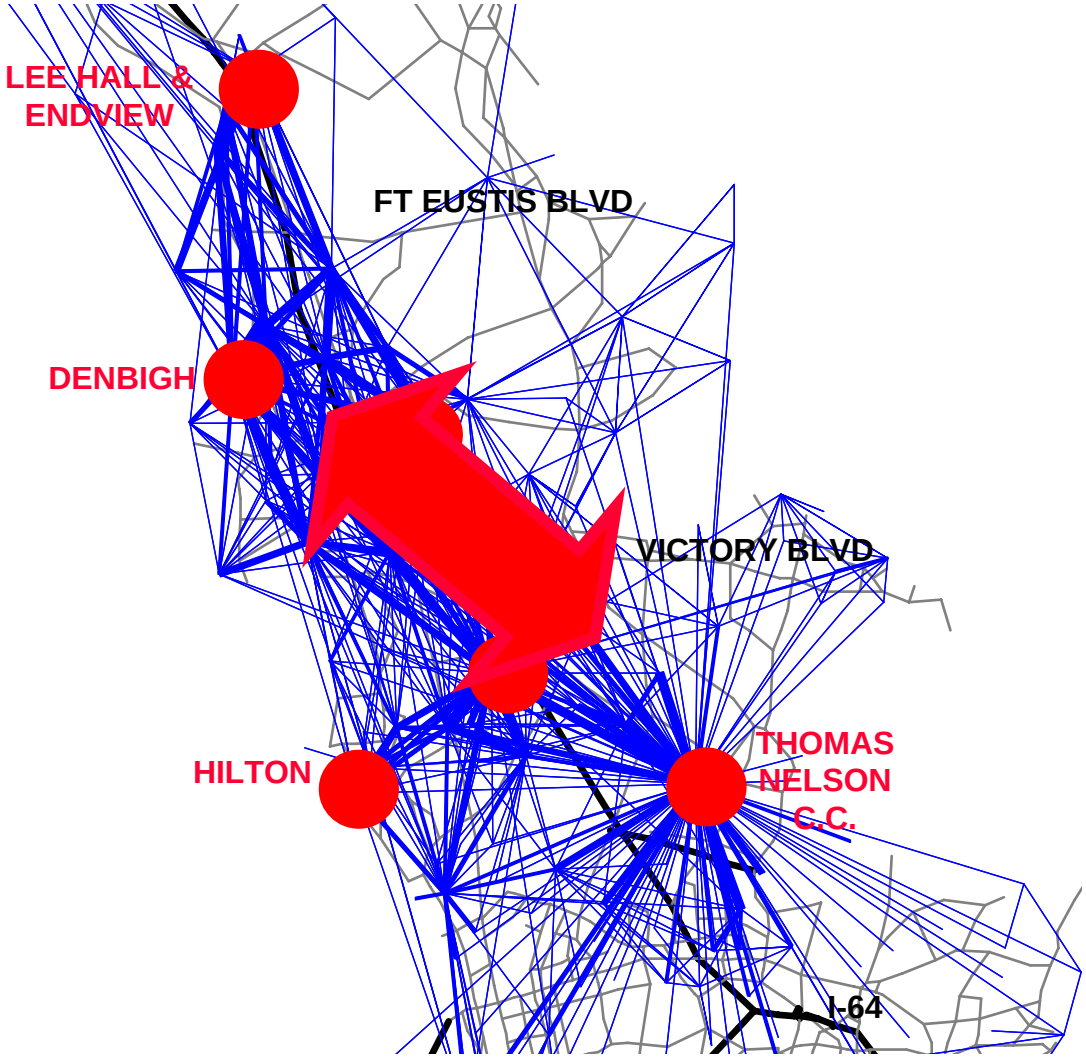
2026deficiency.ppt

New Trips, 2000 to 2026 No-build
Williamsburg Area



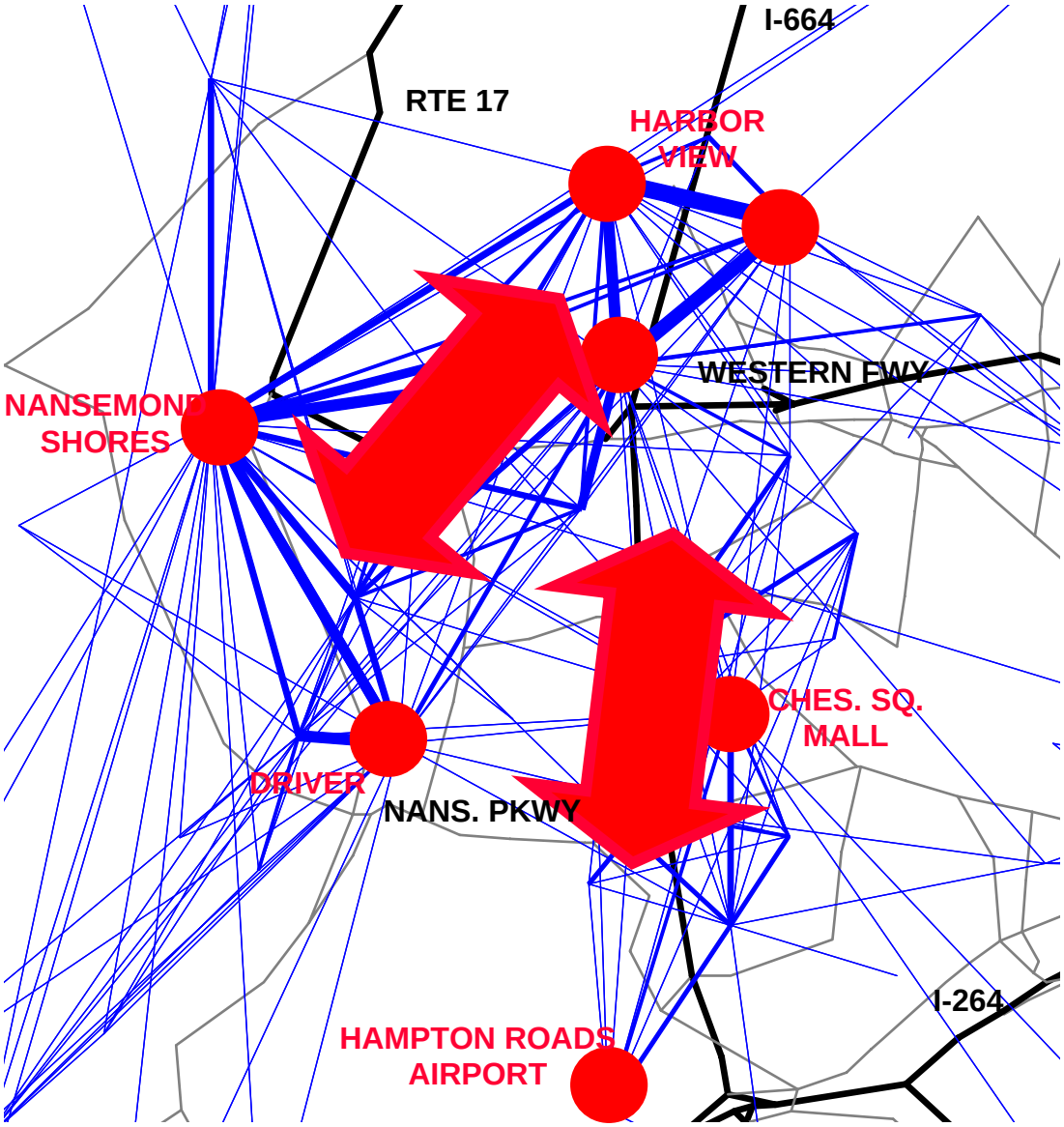
2026deficiency.ppt

New Trips, 2000 to 2026 No-build
Lower Peninsula Area



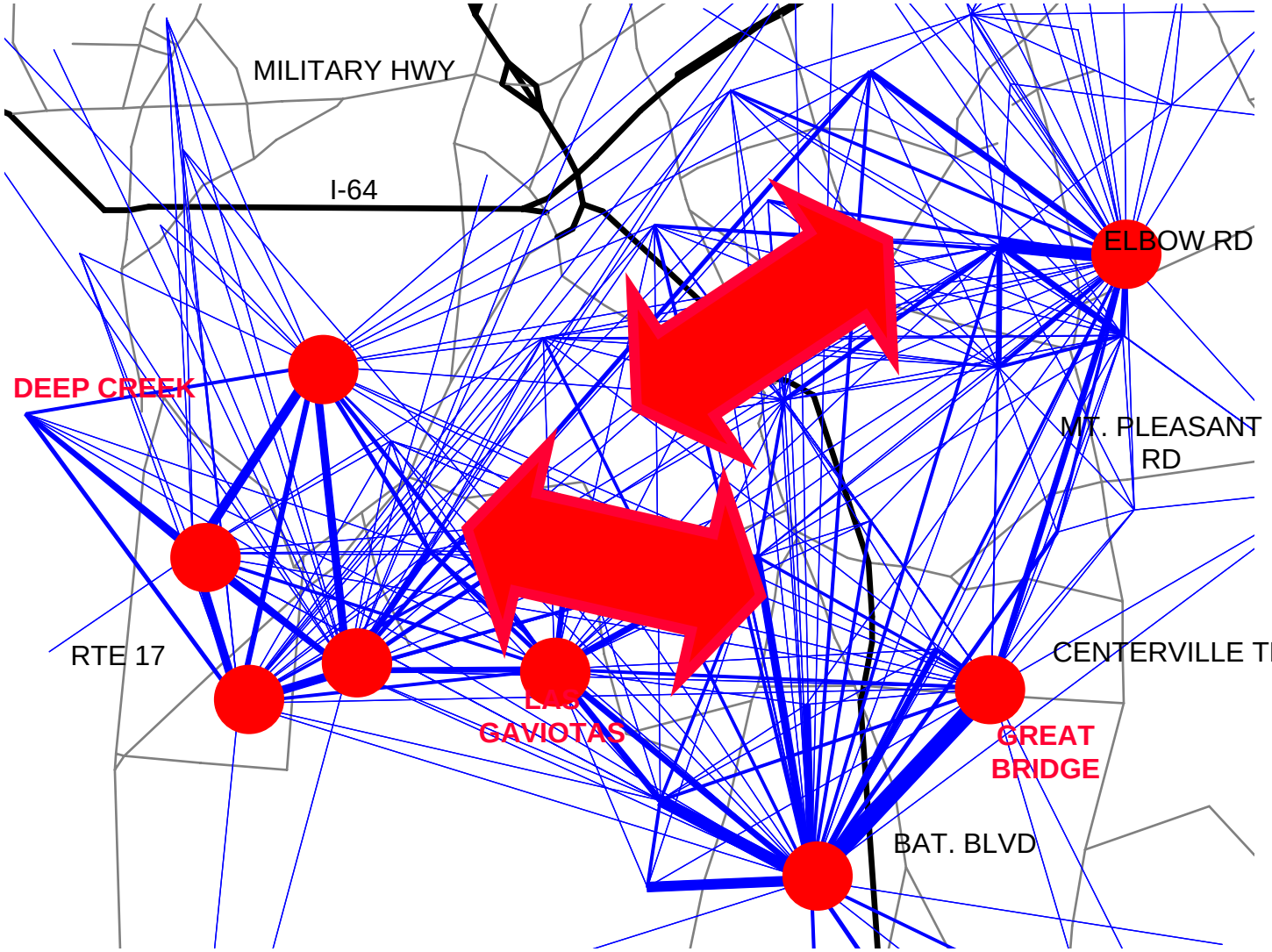
2026deficiency.ppt

New Trips, 2000 to 2026 No-build
Western Southside Area



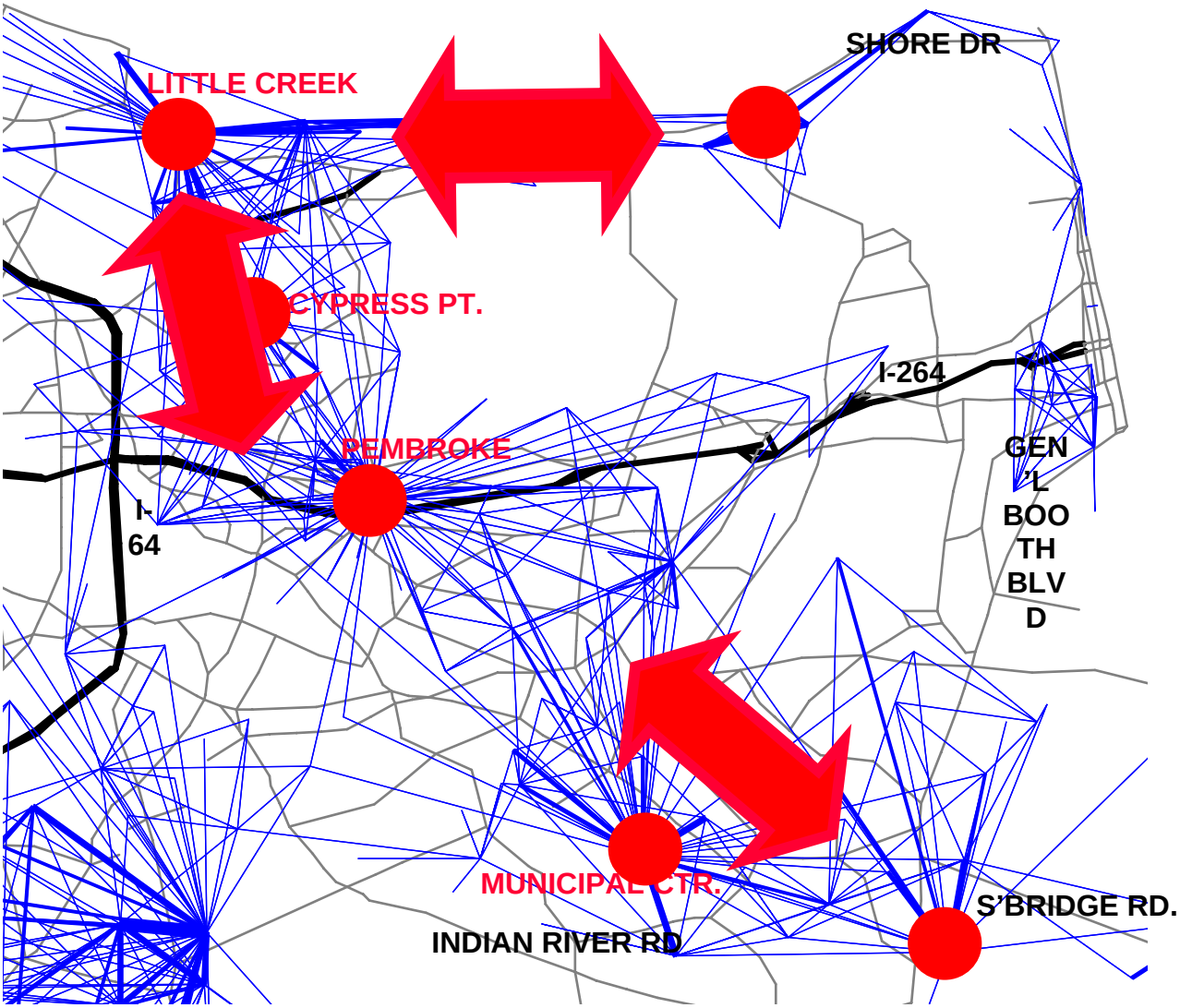
2026deficiency.ppt

New Trips, 2000 to 2026 No-build
Chesapeake



2026deficiency.ppt

New Trips, 2000 to 2026, No-build
Virginia Beach



Formulation of Candidate Highway Projects

Highway projects considered as candidates for the 2026 Plan came from several different sources. The majority of candidates were forwarded to the HRPDC staff by members of the Transportation Technical Committee (TTC), an advisory group for the MPO composed of staff from member localities, VDOT, and transit companies. As discussed above, the HRPDC staff provided the deficiency analysis and new-trips analysis to TTC members to point them to locations where congestion exists today and locations where congestion is expected in the future.

HRPDC staff added several projects to the list of candidates. First, the staff ensured that all 2021 Plan projects were on the candidate list, adding projects as necessary. Secondly, the staff examined the latest Congestion Management System (CMS) report (HRPDC, 2001) and public input from the HRPDC kiosks to determine where highway improvements are needed in Hampton Roads. The CMS report contains level-of-service information for the majority of thoroughfare highway segments in Hampton Roads. The HRPDC staff place a computer kiosk in different locations around the region (malls, government centers, etc.) at which citizens provide their ideas via a touch-screen survey. A total of six projects prompted by needs discovered from the CMS and the kiosks were added to the candidate list by the HRPDC staff.

The HRPDC Kiosk

kioskatmall.jpg

Effectiveness of Candidate Highway Projects

In order to aid the MPO (and its advisors on the TTC) in choosing highway projects for the Plan, the HRPDC staff calculated the effectiveness for each candidate project. See Appendix B for candidate highway project measures of effectiveness data. A description of the purpose and source of each type of measure follows.

Volume of Vehicles Served

In order to determine the effectiveness of each project in moving vehicles, the HRPDC staff forecasted the volume of vehicles expected on each project highway in the year 2026. The staff entered the number of project lanes into the Regional Transportation Model (a 4-step computer model maintained by VDOT and HRPDC) to derive expected volumes for the years 2000 and 2026, adding the difference between the two volumes to year 2000 traffic counts to calculate year 2026 project volumes (labeled "2026 Alt Vol" in Appendix B). For widening projects, this calculation was also performed for the existing number of lanes to forecast a 2026 base volume. The difference between these two volumes was reported to inform decision-makers of the additional vehicles moved by the project.

The HRPDC staff also provided the actual year 1990 and year 2000 traffic counts for each project, providing decision-makers with an indication of recent traffic growth, providing them with a means of judging the reasonableness of the computer-generated forecasts.

Existing and Future Level of Service (LOS)

In order to determine the need for each proposed widening project, the level of service (A, B, C, D, E, F) was provided for each subject roadway using the existing number of lanes. The existing LOS had been calculated by HRPDC staff for the 2001 CMS report based on 1997 through 2000 traffic counts. The HRPDC staff calculated the 2026 LOS using the "2026 Alt" volume discussed above.

Impact on Minority and Low-income Residents

To assist the MPO in complying with Title VI of the Civil Rights Act (1964) and Executive Order 12898 (1994), the HRPDC staff developed minority and low-income data. According to US Code:

> "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."[11]

According to Executive Order 12898:

[11] United States Code, Title 42, Chapter 21, Subchapter V, Section 2000d

> "To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands."[12]

Consequently, the HRPDC staff processed census data and project locations using Geographic Information System (GIS) software to calculate, for each project, the percentage of nearby households in poverty and the percentage of nearby households headed by persons of minority ethnic groups. Reporting this data to the decision-makers allowed them to identify those projects with could have high impact on minority or low-income persons. The GIS work resulted in a series of maps contained in "Selected Demographic Profiles and the Hampton Roads 2021 Regional Transportation Plan" (HRPDC, October 2002).

Existing Speed

In order to provide another means of determining the need for improvement in travel on candidate project roadways, in addition to the LOS data discussed above, the existing (year 2000) speed was reported for each candidate project. This speed data was gathered by the HRPDC staff by driving all thoroughfares in Hampton Roads in a vehicle equipped with a global positioning system (GPS). The complete speed data set and analysis can be found in HRPDC's year 2000 travel time study.

Impact on Future Speed of Travel

In order to determine the effectiveness of each project in improving travel on candidate project roadways, the estimated future speed, both with the subject project ("2026 Alt Speed") and without the subject project ("2026 Base Speed") was reported.

Nearby Roadways

Because there is often more than one way for the motorist to get from his origin to his destination, for each candidate project the HRPDC staff provided data on a nearby roadway, usually one which serves as an alternate route to the subject roadway.

In order to inform the reader of the congestion which will confront a driver who uses an alternate to the candidate project roadway, for each candidate project the existing speed on the nearby alternate route was reported.

[12] Federal Register, Vol. 59, No. 32, Wednesday, February 16, 1994

When an highway improvement is made, i.e. a widening or a new alignment, vehicles which would otherwise use a nearby road choose instead to use the improved road. In order to determine the size of this impact for each project, the amount of traffic removed from the nearby roadway was reported.

Cost Effectiveness

In order for decision-makers to determine the cost effectiveness of each project, the HRPDC staff calculated and reported the "cost per new mile of travel" for the lane-addition candidate projects and the "cost per vehicle entering" for the intersection and interchange candidate projects.

See Appendix B for the candidate highway project measures of effectiveness data described above.

I-64 signs.gif

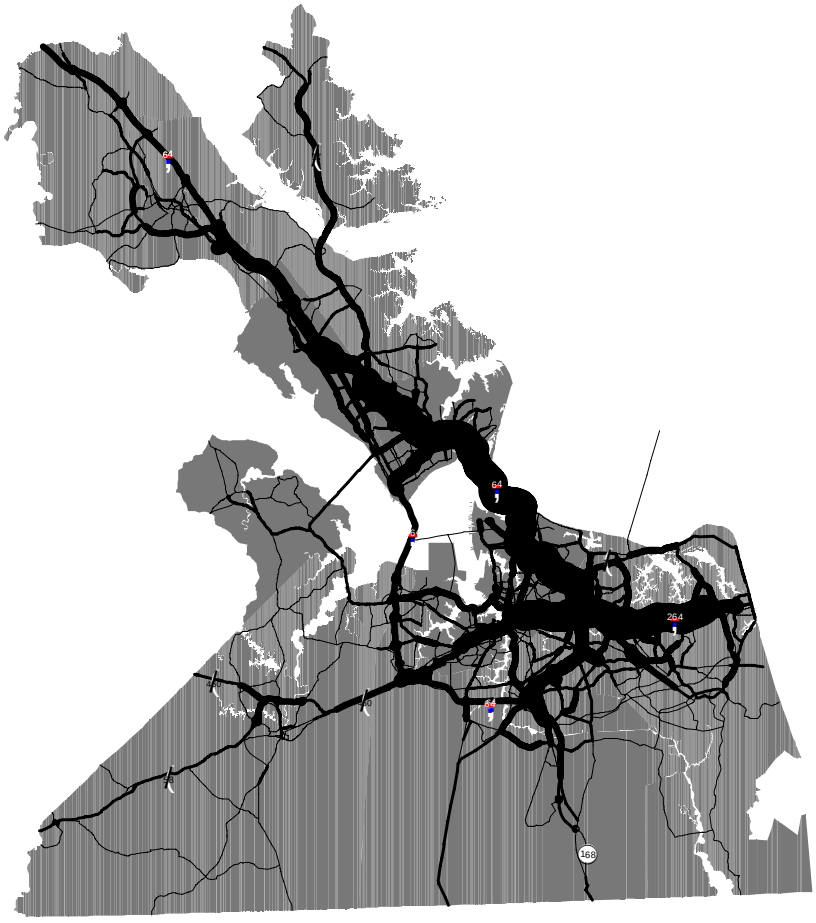
Demand Analysis

In order to assist the decision-makers on the MPO in choosing regional[13] projects for the Plan, the HRPDC staff performed a demand analysis for the region. In transportation analyses, the "demand" on a certain highway segment is the number of vehicles that would use that segment if it had unlimited capacity. It is typically expected that improvements to highways where demand significantly exceeds capacity will be used extensively by the public and will considerably decrease travel times. The demand analysis done during the 2026 planning process used 2026 socio-economic data (population and employment) and a highway network including projects committed in the FY03 TIP and Urban projects which were included in the draft selection for the 2026 Plan by TTC members.

The image below indicates that demand is greatest:

- on I-64 between Route 199 near Williamsburg and Route 168 in Chesapeake
- on I-264 between Portsmouth Blvd in Portsmouth and Birdneck Rd in Va. Beach

2026 Demand with TIP and Urban Projects



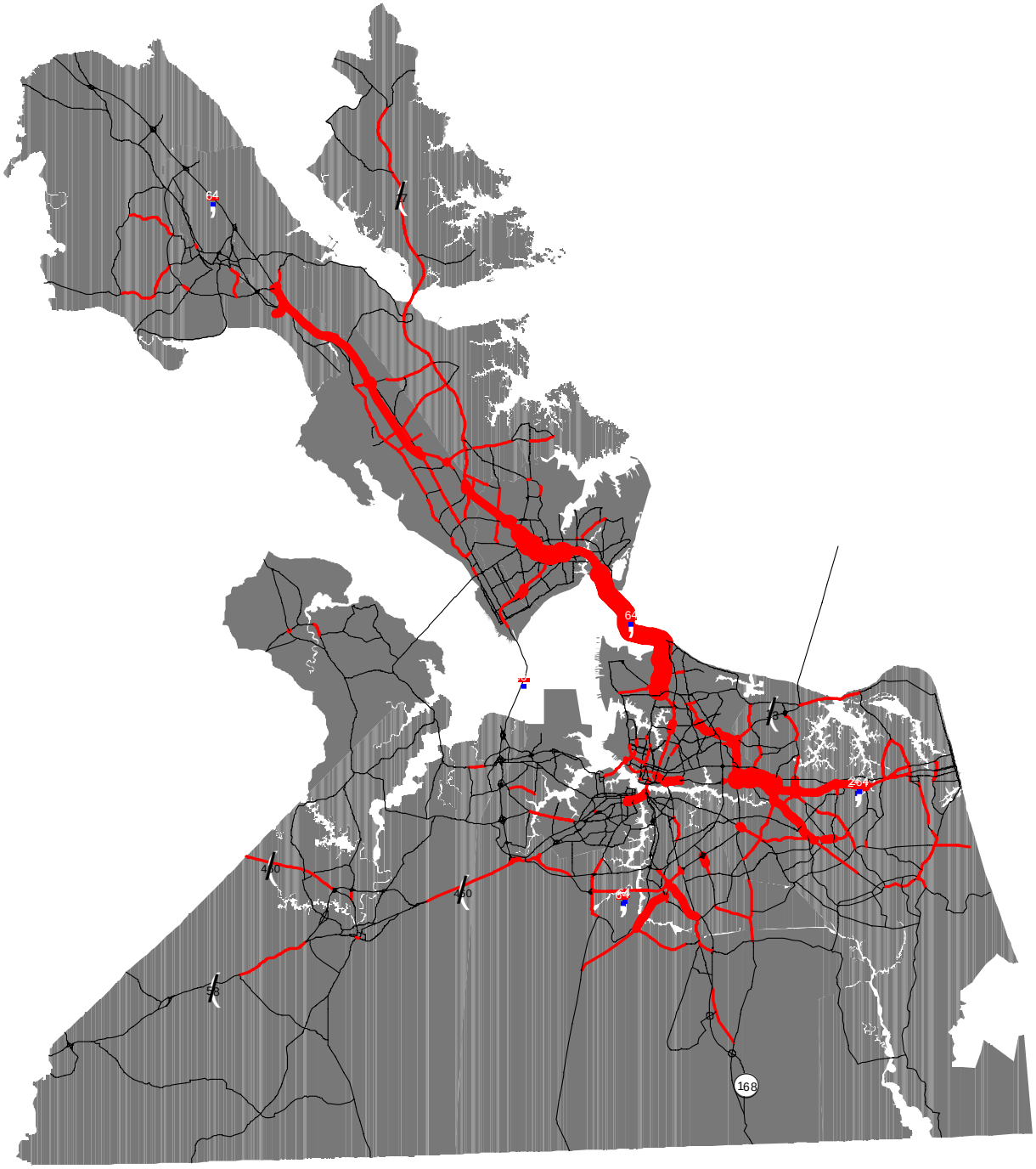
26demwurb.wmf

[13] "Regional" projects are those projects which would be built with National Highway System [NHS], Primary, or Regional Surface Transportation Program [RSTP] funds), as opposed to Urban and Secondary funds, which are allocated by locality.

Next, the capacities of the region's thoroughfares were subtracted from the above demand figures, to obtain "excess demand". The image below indicates that excess demand is greatest:

- on I-64 between Magruder Blvd in Hampton and I-564 in Norfolk
- on I-264 between I-64 in Norfolk and Witchduck Rd in Va. Beach

2026 Excess Demand with TIP and Urban Projects



26exdemwurb.wmf

There were also highways other than I-64 and I-264 with high excess demand, including:

- Route 168 Oak Grove Connector
- Princess Anne Rd in Virginia Beach
- Dominion Blvd in Chesapeake
- Lynnhaven Pkwy in Virginia Beach

The 20 corridors with the greatest excess demand follow:

20 Highest Stress Corridors in 2026 with TIP and Urban Projects

Rank	Highway	From	To	Existing LOS (2000)	2026 Demand, vpd	Base Capacity (1), vpd	**2026 Excess Demand, vpd**
1	I-264	I-64	Witchduck Rd	E-F	270,000	170,000	**100,000**
2	I-64 (including HRBT)	I-564	I-664	E-F	160,000	70,000	**90,000**
3	I-64	I-664	J Clyde Morris Blvd	D	210,000	135,000	**75,000**
4	I-264 (including Downtown Tnl)	Effingham St	I-464	E-F	140,000	70,000	**70,000**
5	Rte 168 (Oak Grove Connector)	Dominion Blvd	Battlefield Blvd	A-C	135,000	70,000	**65,000**
6	I-264	Witchduck Rd	Rosemont Rd	E-F	200,000	135,000	**65,000**
7	I-64	Jefferson Ave (exit 255)	Ft Eustis Blvd	E-F	130,000	70,000	**60,000**
8	I-64 (including High-Rise Br)	I-464	GW Hwy	E-F	125,000	70,000	**55,000**
9	Princess Anne Rd	Witchduck Rd	Ferrell Pkwy	E-F	80,000	35,000	**45,000**
10	Dominion Blvd	Rte 168 (Oak Gr Conn)	Cedar Rd	E-F	55,000	15,000	**40,000**
11	Lynnhaven Pkwy	Independence Blvd	Rosemont Rd	D	75,000	35,000	**40,000**
12	I-64	Ft Eustis Blvd	Rte 199 (exit 242)	D	110,000	70,000	**40,000**
13	I-264	Rosemont Rd	Lynnhaven Pkwy	D	175,000	135,000	**40,000**
14	I-64	I-264	Norview Ave	E-F	210,000	170,000	**40,000**
15	Greenbrier Pkwy	I-64	Eden Way	E-F	85,000	50,000	**35,000**
16	Witchduck Rd	I-264	Princesss Anne Rd	D	85,000	50,000	**35,000**
17/18	Independence Blvd	I-264	Va. Beach Blvd	E-F	105,000	70,000	**35,000**
17/18	Indian River Rd	I-64	Centerville Tnpk	E-F	105,000	70,000	**35,000**
19/20	Brambleton Ave	I-264	Tidewater Dr	E-F	65,000	35,000	**30,000**
19/20	Warwick Blvd	Oyster Point Rd	Denbigh Blvd	E-F	65,000	35,000	**30,000**

NOTE
(1) "Base Capacity" is the volume at LOS D/E for the existing + committed + draft Urban projects network.

worst corridors- post urban.xls

Impact of Light Rail on Highway Congestion

In response to a question from the MPO concerning the impact of light rail transit (LRT) on highway congestion, the HRPDC staff calculated the amount of vehicles that would be removed from highways which parallel the proposed LRT lines on the Southside and Peninsula. The results for the Norfolk minimum operable segment (MOS) and Peninsula LRT follow:

Norfolk MOS- Between Hospital and Downtown

LRT Volumes, 2021			
Ridership Forecast	8,900	boardings per day	
New Riders	4,100	boardings per day	
Factor (for converting to volume at a point)	0.50	(a medium volume location along total 8 miles)	
Mode-Shifted Auto Riders	2,050	persons per day	
Occupancy	1.1		
Autos Removed from Highways	**1,864**	vpd	
Highway Volumes, 2021			
Brambleton Ave	45,000	vpd	
Olney Rd	12,000	vpd	
	57,000	vpd	
Autos Removed from Highways	1,864	vpd	(above)
	or **3%**		

April TTC.ppt

Norfolk MOS- Between Downtown and Military Highway

LRT Volumes, 2021			
Ridership Forecast	8,900	boardings per day	
New Riders	4,100	boardings per day	
Factor (for converting to volume at a point)	0.50	(a medium volume location along total 8 miles)	
Mode-Shifted Auto Riders	2,050	persons per day	
Occupancy	1.1		
Autos Removed from Highways	**1,864**	vpd	
Highway Volumes, 2021			
I-264	108,000	vpd	
Indian River Rd	25,000	vpd	
Va. Beach Blvd	33,000	vpd	
	166,000		
Autos Removed from Highways	1,864	vpd	(above)
or	**1%**		

April TTC.ppt

Peninsula LRT- Between Ft. Eustis Blvd and Yorktown Rd

LRT Volumes, 2021			
Ridership Forecast	14,420	boardings per day	
New Riders	9,060	boardings per day	
Factor (for converting to volume at a point)	0.25	(a low volume location along total 36 miles)	
Mode-Shifted Auto Riders	2,265	persons per day	
Occupancy	1.1		
Autos Removed from Highways	**2,059**	vpd	
Highway Volumes, 2021			
I-64	90,000	vpd	
Jefferson Ave	23,000	vpd	
Rte 60 Relocated	22,000	vpd	
Warwick Blvd	9,000	vpd	
	144,000	vpd	
Autos Removed from Highways	2,059	vpd	(above)
or	**1%**		

April TTC.ppt

Peninsula LRT- Between Oyster Pt Rd and NN/Wlmbg Airport

LRT Volumes, 2021			
Ridership Forecast	14,420	boardings per day	
New Riders	9,060	boardings per day	
Factor (for converting to volume at a point)	0.33	(a high volume location along total 36 miles)	
Mode-Shifted Auto Riders	2,990	persons per day	
Occupancy	1.1		
Autos Removed from Highways	**2,718**	vpd	
Highway Volumes, 2021			
I-64	117,000	vpd	
Jefferson Ave	66,000	vpd	
Warwick Blvd	48,000	vpd	
	231,000		
Autos Removed from Highways	2,718	vpd	(above)
	or **1%**		

April TTC.ppt

Ignoring the impact of latent demand (which was not considered in the above calculations), these LRT lines are expected to remove 1%-3% of vehicular traffic from parallel roadways.

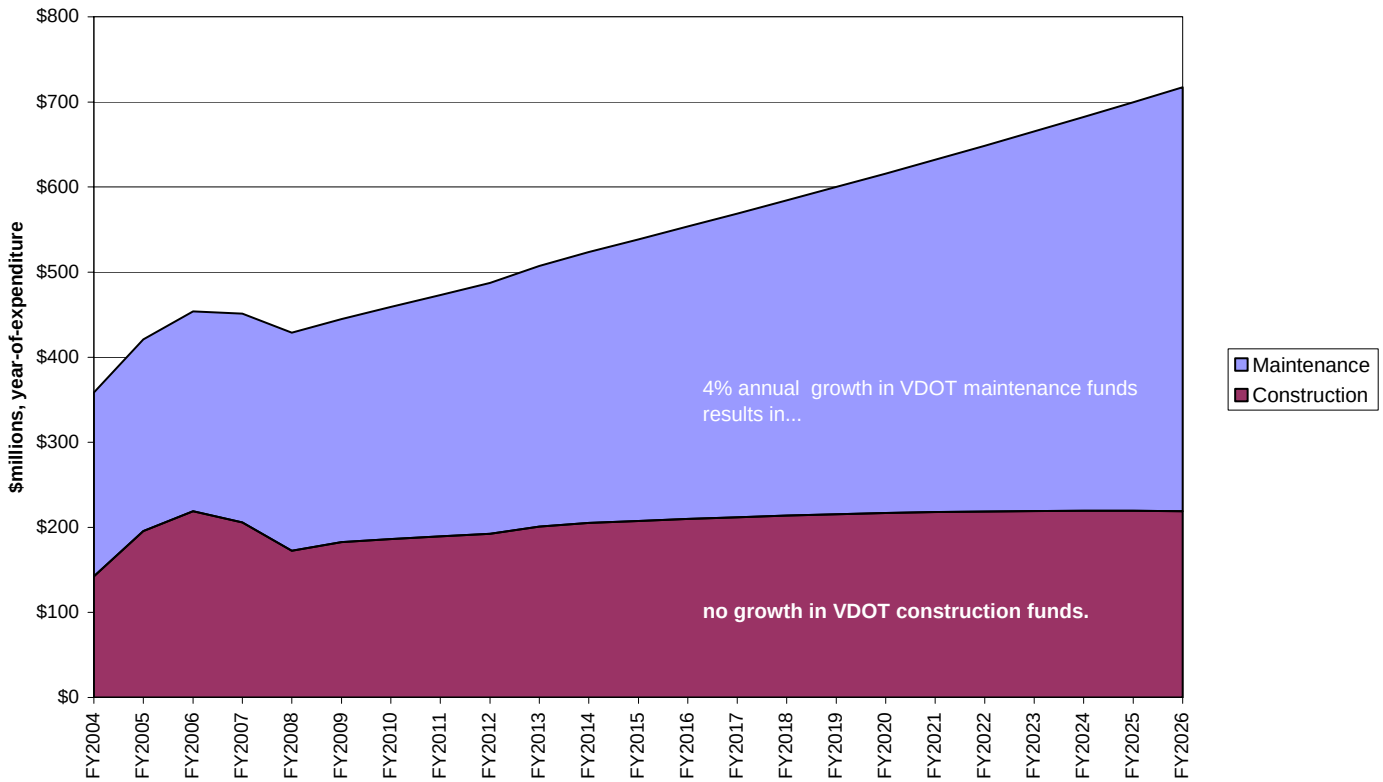
Financial Analyses

In order to assist the TTC and MPO in choosing projects for the Plan, the HRPDC staff performed various financial analyses to determine the amount of funding available from existing funding sources, the amounts of additional funding which could be raised through fees and tolls, and the amount of infrastructure which could be constructed given alternative funding scenarios.

Available Funding- Existing Funding Stream

According to the financial forecast received from VDOT, the existing funding sources will yield $4.7B over the study period (FY04-FY26), as follows:

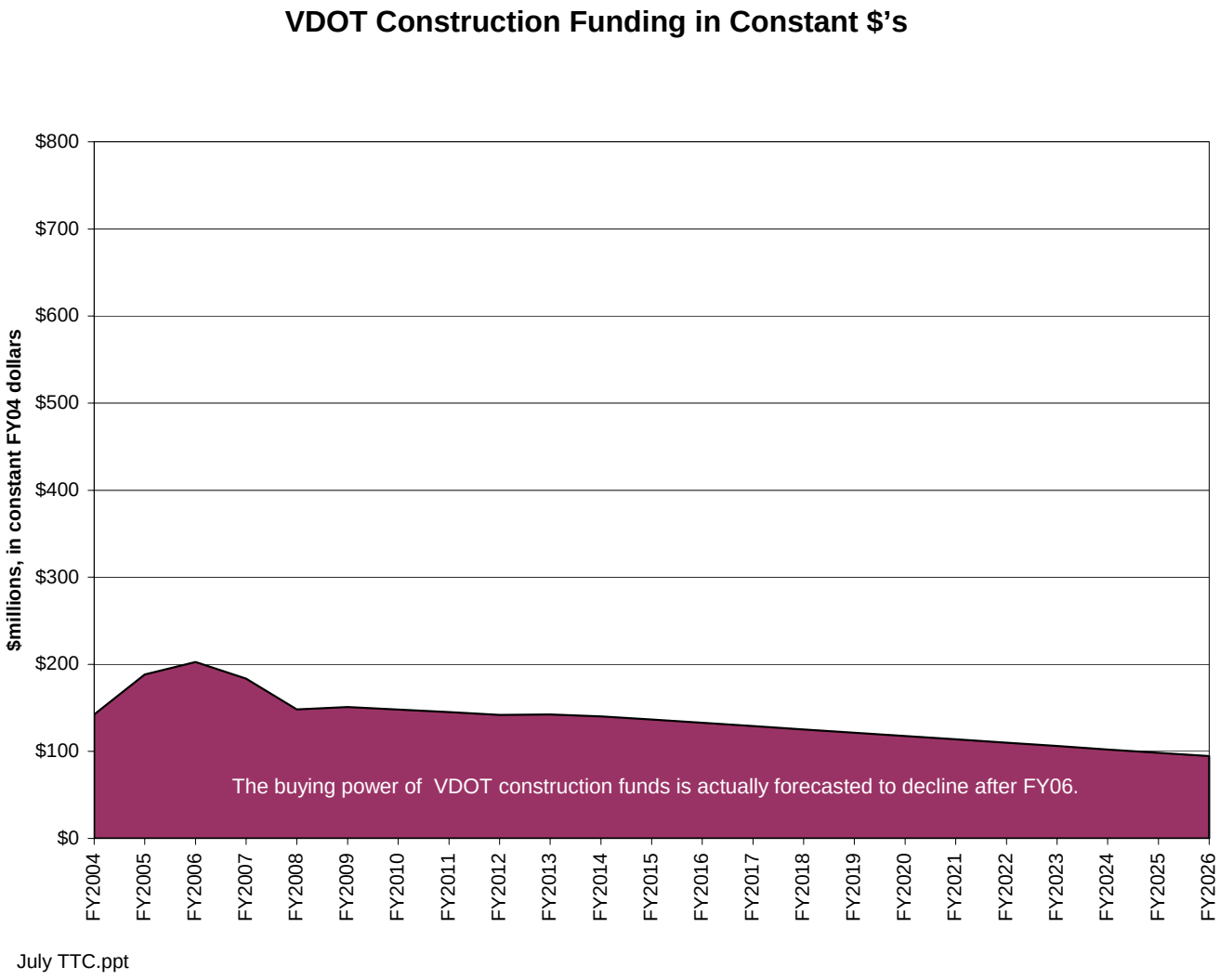
VDOT Funding for Hampton Roads, by Year



source: VDOT

July TTC.ppt

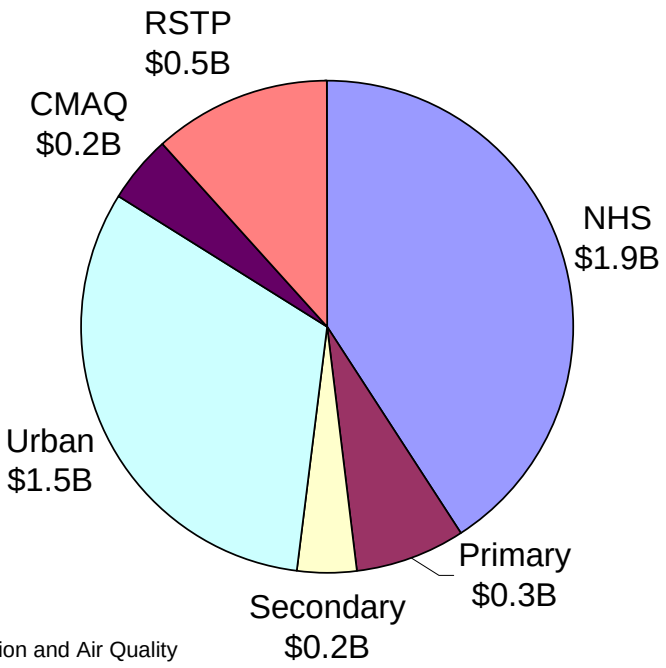
Accounting for future inflation in construction costs, the buying power of VDOT construction funds is actually forecasted to decline after FY06 as follows:



July TTC.ppt

After subtracting for maintenance needs, the remaining dollars available for construction are as follows:

VDOT Construction Funding for Hampton Roads through 2026



key
CMAQ: Congestion Mitigation and Air Quality
RSTP: Regional Surface Trans. Program
NHS: National Highway System

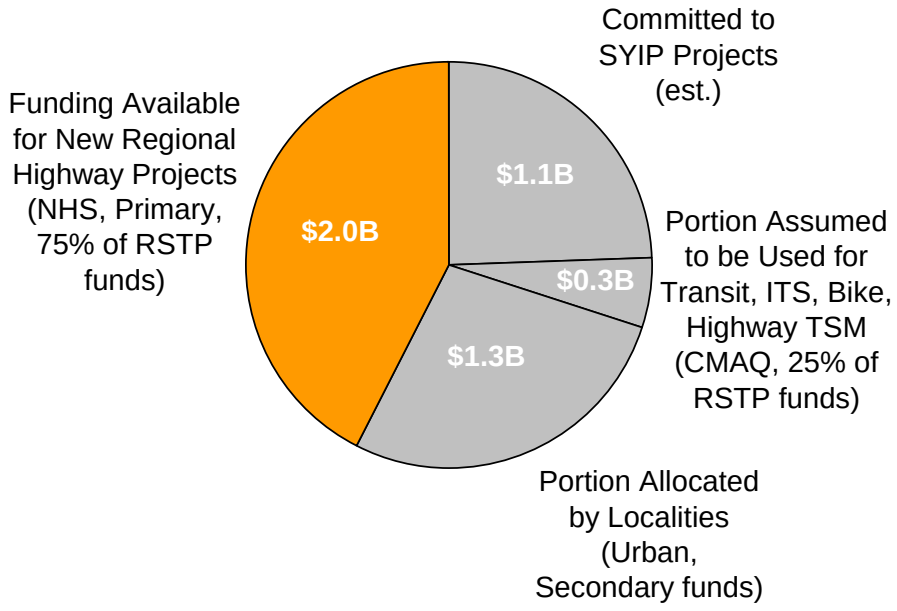
HR Summary by VDOT 2 RBC.xls

To estimate the amount of money available from the existing funding stream for new 2026 regional highway projects, the HRPDC staff:

- estimated the amount of money committed to projects in VDOT's Six-Year Improvement Program (SYIP)
- estimated the amount of money to be set aside for transit, ITS, stand-alone bike and pedestrian projects, and highway transportation system management (TSM) projects
- totaled the money to be allocated by localities (Urban and Secondary funds).

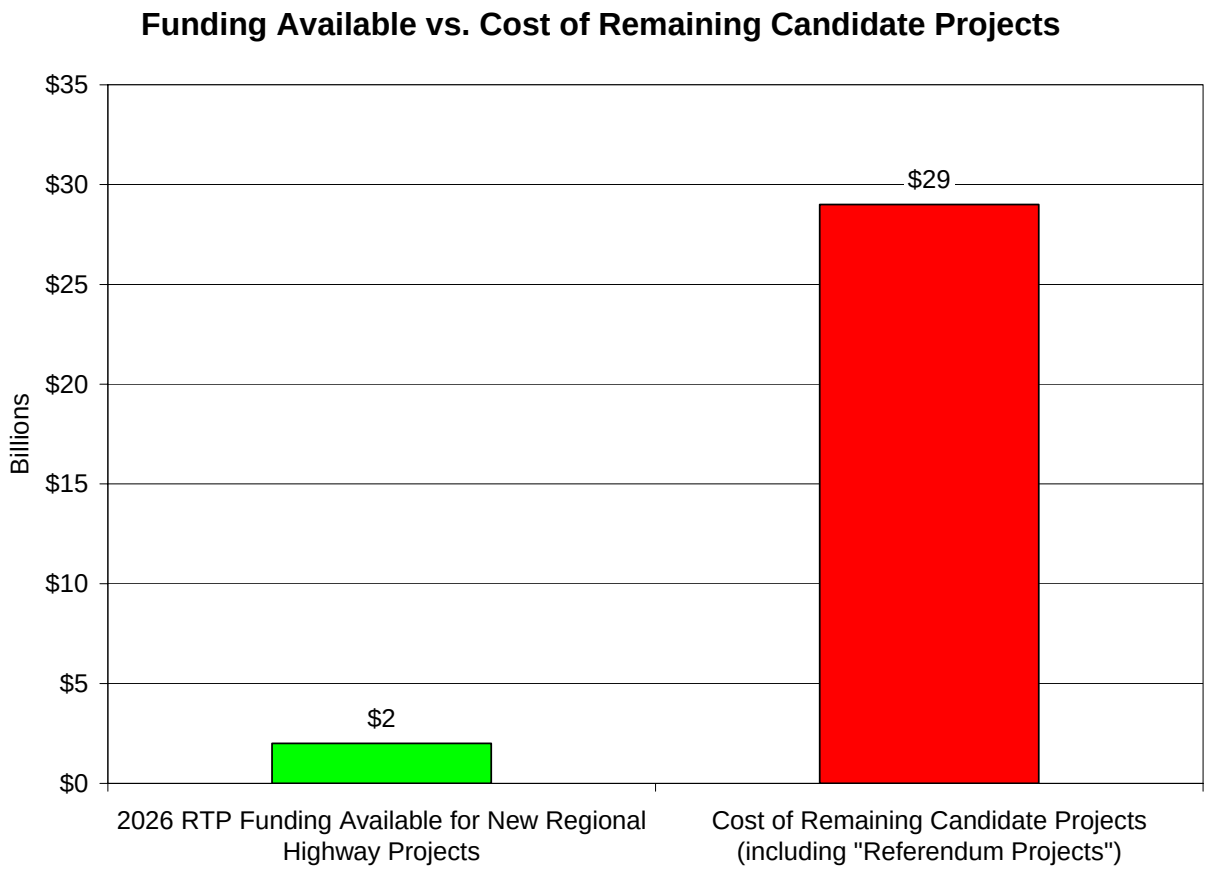
Subtracting these, as shown below, the HRPDC staff estimated that $2B would be available from the existing funding stream for new 2026 regional highway projects, as follows:

Funding Available for New Regional Highway Projects



HR Summary by VDOT 2 RBC.xls

Then the staff compared the amount of money available to the cost of the candidate highway projects which remained at that time[14] on the candidate list (i.e. those projects which had not been picked by the TTC for funding with Urban dollars), as follows:



HR Summary by VDOT 2 RBC.xls

[14] The list of candidate projects, and therefore the total cost of that list, changed slightly through the selection process.

Revenue from Alternate Sources

In light of the imbalance between the amount of funds available from current sources and the cost of candidate projects, the HRPDC staff provided the MPO with the amount of funds which could be raised through various means as shown in the charts below.

FY-05 Revenue from Alternate Sources

$5.00 Vehicle Registration	$5 M
$0.01 Regional Gas Tax	$10 M
1% Regional Sales Tax	$150 M

Mar MPO.ppt

Financing Packages for Five Large Regional Projects

In order to present the MPO with methods for financing the five large regional highway projects selected by the MPO during its 1999 Regional Priority Setting process, the HRPDC staff prepared three financing packages. Staff performed toll analyses using estimates of project users developed for the 2021 Plan via the regional transportation (computer) model. The resulting three financing packages follow:

Stand Alone Tolls

	Average Toll	Longest Trip Toll	Users, 2021
Third Crossing	$3.00	$9.00	402,000
I-64 Peninsula	$1.50	$4.00	175,000
US 460 (cars)	n.a.	$2.80	n.a.
US 460 (trucks)	n.a.	$5.52	n.a.
Southeastern Parkway	$1.50	$5.00	227,000
Midtown Tunnel / MLK Ext	$3.00	$5.00	86,000

(assumes no gas tax and no sales tax)

Mar MPO.ppt

$8 Billion Financing Package- 50% Tolls, 50% Gas Tax

Regional Gas Tax	$0.10	
	Average Toll	Longest Trip Toll
Third Crossing	$1.50	$4.50
I-64 Peninsula	$0.75	$2.00
US 460 (cars)	n.a.	$1.40
US 460 (trucks)	n.a.	$2.76
Southeastern Parkway	$0.75	$2.50
Midtown Tunnel / MLK Ext	$1.50	$2.50

Mar MPO.ppt

$8 Billion Financing Package- 50% Tolls, 25% Gas Tax, 25% Sales Tax

Regional Gas Tax	$0.05	
Regional Sales Tax	0.25%	
	Average Toll	Longest Trip Toll
Third Crossing	$1.50	$4.50
I-64 Peninsula	$0.75	$2.00
US 460 (cars)	n.a.	$1.40
US 460 (trucks)	n.a.	$2.76
Southeastern Parkway	$0.75	$2.50
Midtown Tunnel / MLK Ext	$1.50	$2.50

Mar MPO.ppt

Typical Project Costs

For the public Listening Sessions held in December of 2002, the HRPDC staff prepared the following table of typical project costs:

Sample of Typical Transportation Project Costs

Improvement Type	**Cost**
Interchange (grade-separated)	$ 15,000,000 to $ 100,000,000 per interchange
Light rail	$ 25,000,000 to $ 50,000,000 per mile
4 lane expressway	$ 20,000,000 to $ 30,000,000 per mile
4 lane arterial road	$ 10,000,000 per mile
Off-road walking and biking path	$ 350,000 per mile
Bus	$ 300,000 per bus
Traffic signals	$ 200,000 per intersection
Left-turn lane on arterial road	$ 150,000 per left-turn lane

Note: Table shows capital costs. Operation and maintenance costs are not included.

Costs.doc

Candidate Funding Scenarios

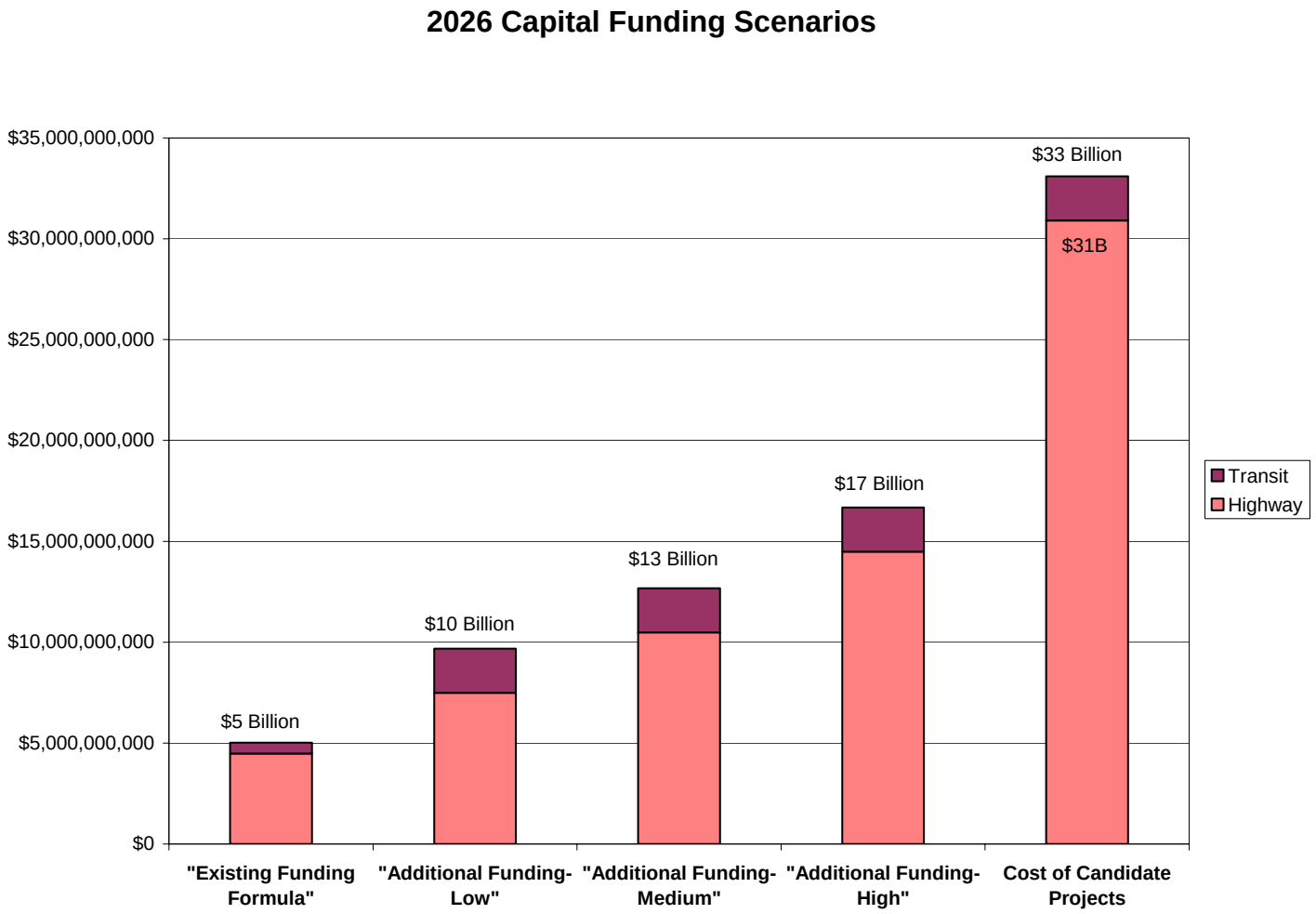
In order to assist the MPO in determining how much, if any, additional revenue will be necessary to fund the transportation system over the next 20+ years, the HRPDC staff developed four funding scenarios, performed an example selection of projects for each, and calculated the congestion impact of each scenario.

Funding Scenarios

- "**Existing Funding Formula**"- based on current stream of funds
- "**Additional Funding- Medium**" – raising enough money to pay for:
  - the 5 Large Regional Highway Projects
  - LRT and BRT
    - Norfolk MOS Light Rail
    - Peninsula MOS Light Rail
    - Naval Base Extension Light Rail
    - Bus Rapid Transit (BRT)
- "**Additional Funding- Low**"
  - "Additional Funding- Medium" less $3Billion
- "**Additional Funding- High**"
  - "Additional Funding- Medium" plus $4Billion

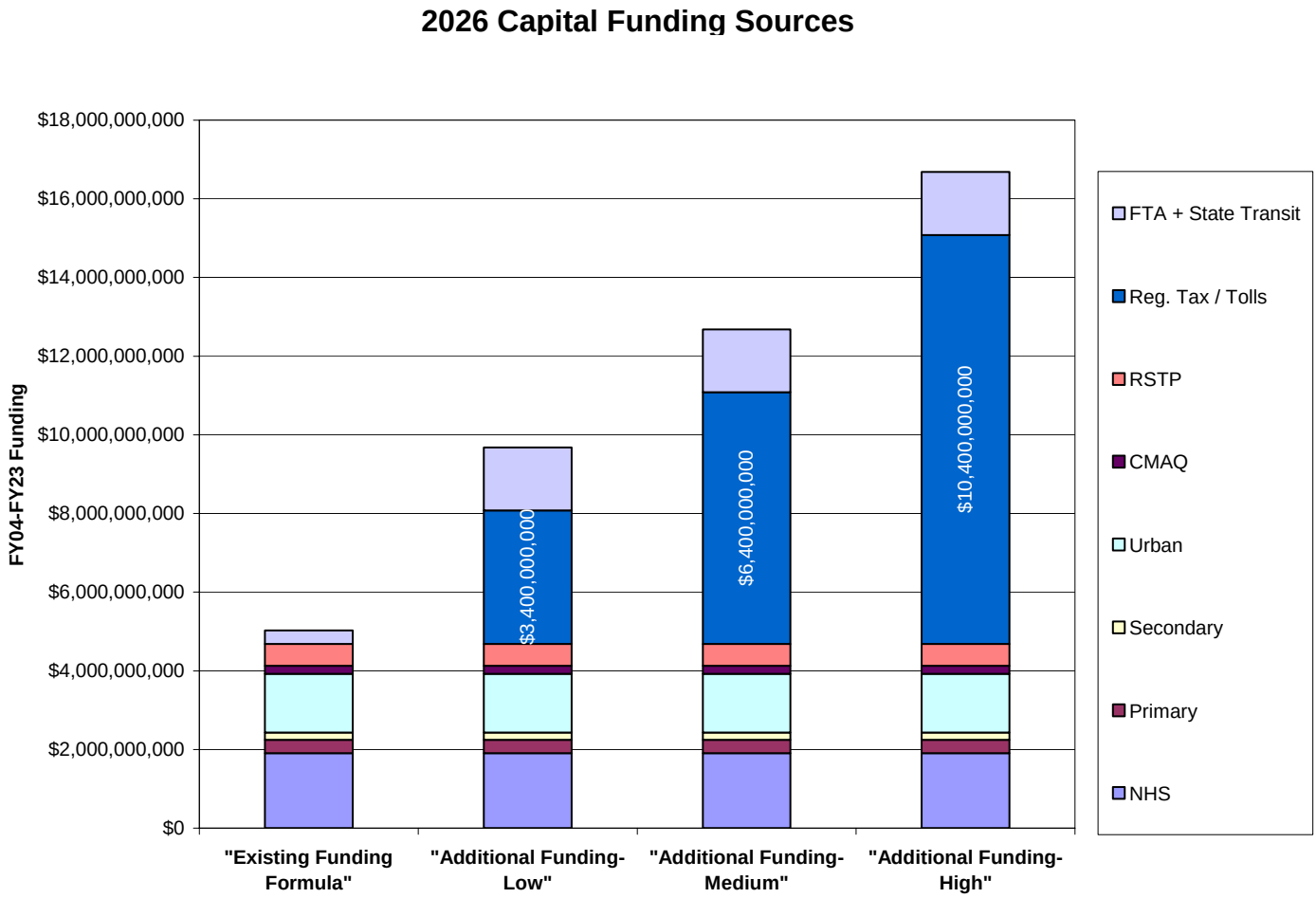
April MPO.ppt

The amount of transportation investment contained in each scenario is shown on the following chart:



April MPO.ppt

The source of funds for each scenario is shown below:



April MPO.ppt

Gas Tax Summary

	Additional Gas Tax Required, per gallon
"Existing Funding Formula"	$0.00
"Additional Funding- Low", No Tolls	$0.08
"Additional Funding- Low", with Tolls (1)	$0.06
"Additional Funding- Medium", No Tolls	$0.16
"Additional Funding- Medium", with Tolls (2)	$0.07
"Additional Funding- High", No Tolls	$0.26
"Additional Funding- High", with Tolls (2)	$0.17

Notes

(1) Tolls covering 50% of the cost of US 460 and Southeastern Parkway & Greenbelt (SEPG).

(2) Tolls covering 50% of the cost of US 460, SEPG, Hampton Roads Crossing, and Midtown Tunnel / MLK Extention.

Gas tax summary.xls

The amount of project expenses that can be funded with The assumed use of funds by scenario is shown below:

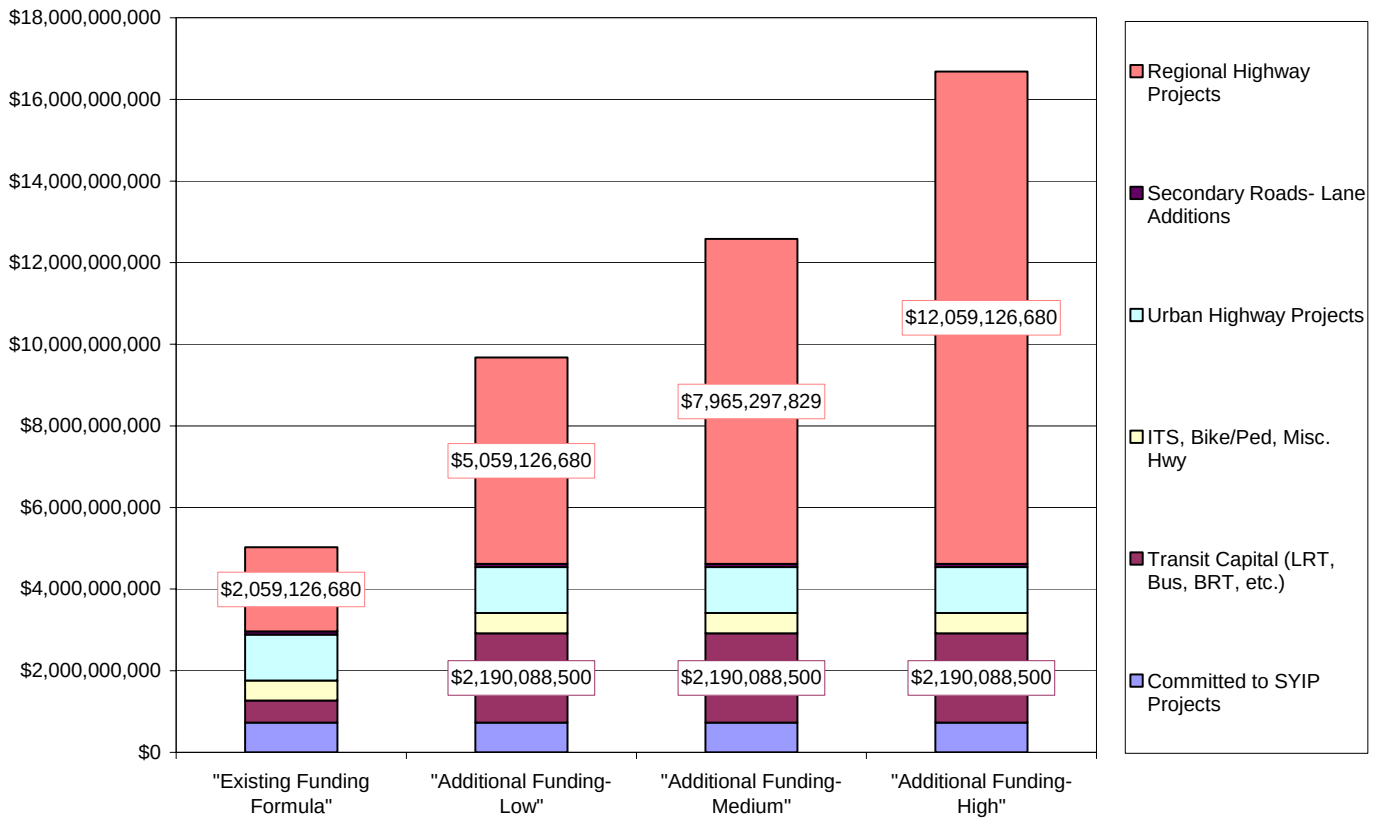
Funding from Regional Gas Tax

Regional Gas Tax, per gallon	Funding
1 cent	$400M
5 cents	$2B
10 cents	$4B
20 cents	$8B

May MPO.ppt

The application of scenario funds to project types is shown below:

Assumed Use of Funds, by Scenario



May MPO.ppt

Example project selections were performed by calculating “cost per new mile of travel” for each project, and then selecting the most cost-effective projects for each scenario.

The contents of the “Existing Funding Formula” scenario follow:

- Committed Projects (from FY03 TIP)
- Draft Urban Selection Projects
- Existing Transit System (no Light Rail)
- $2B Example Selection of Regional Highway Projects

The example selection of highway projects for this scenario follow:

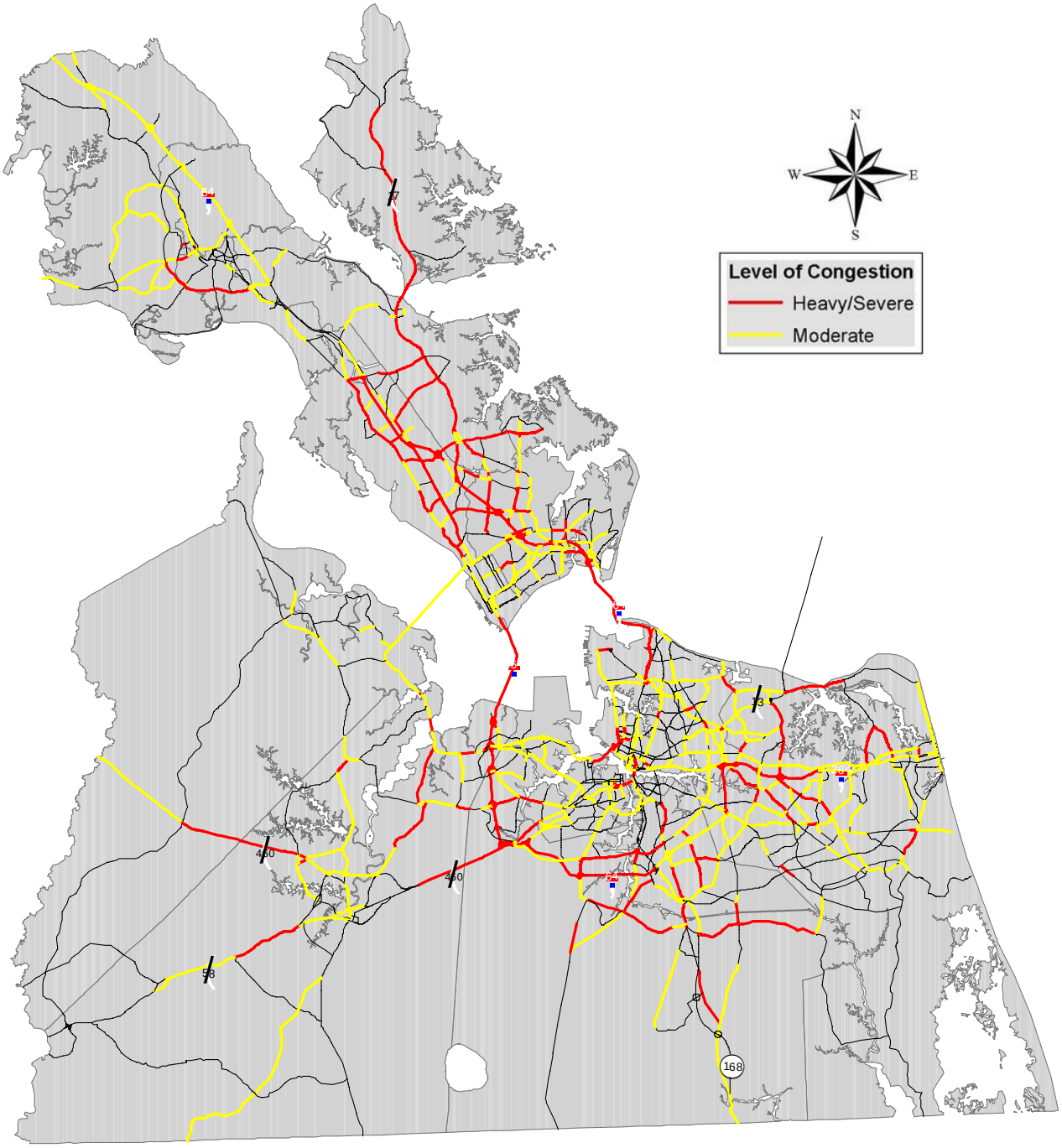
Example Selection of Regional Highway Projects
“Existing Funding Formula” Scenario

Highway	From	To	RTP Cost, year- of-expenditure, FY04-26, $M	Increase in Vehicles Served, vpd	Cost per New Mile of Travel
Rte 60 relocation - east section	Wal Mart Distribution center	Ft Eustis Blvd	$33	21,000	**$0.10**
Buckner Blvd / Shipps Corner Rd	Rosemont Rd	Holland Rd	$17	17,000	**$0.20**
***Southeastern Pkwy (w/ Oak Gr Conn)**	I-264	I-64	$1,041	42,000	**$0.24**
Lucas Creek Rd extension	Denbigh Blvd	Hughes Dr	$11	21,000	**$0.26**
Holland Rd, New	Damascus Tr	PA Rd (near TPC)	$11	12,000	**$0.27**
Robin Hood Rd Extd	Cromwell Dr	Chesapeake Blvd	$2	6,000	**$0.29**
Buckner Blvd	Independence Blvd	Rosemont Rd	$21	15,000	**$0.29**
London Bridge Rd Ext	Dam Neck Rd	Holland Rd	$16	14,000	**$0.30**
***I-64 Peninsula (eastern segment)**	Bland Blvd	Rte 199 (e. end)	$556	26,000	**$0.34**
Newtown Rd	Diamond Springs Rd	VB Blvd	$24	14,000	**$0.39**
Butts Station Rd	Kempsville Rd	Centerville Tnpk	$34	8,000	**$0.41**
West Neck Pkwy	Dam Neck Rd @ GTE	Ind Riv Rd (near Morris Ln)	$59	8,000	**$0.43**
Rosemont Rd	Lynnhaven Pkwy	Dam Neck Rd	$33	10,000	**$0.43**
Deep Creek / High Rise Bridge Byp.	Dominion Blvd @ Cedar Rd	I-64 @ Southway St	$171	28,000	**$0.45**
			$2,029		

Bang.xls

The congestion for this scenario follows:

2026 Congestion- "Existing Funding Formula" Scenario



April MPO.ppt

The contents of the “Additional Funding- Low” scenario follow:

- Committed Projects (from FY03 TIP)
- Draft Urban Selection Projects
- $2.2B LRT, Bus, Bus Rapid Transit (BRT) Projects
- $5B Example Selection of Regional Highway Projects
    - o includes some of the five large highway projects

The example selection of highway projects for this scenario follow:

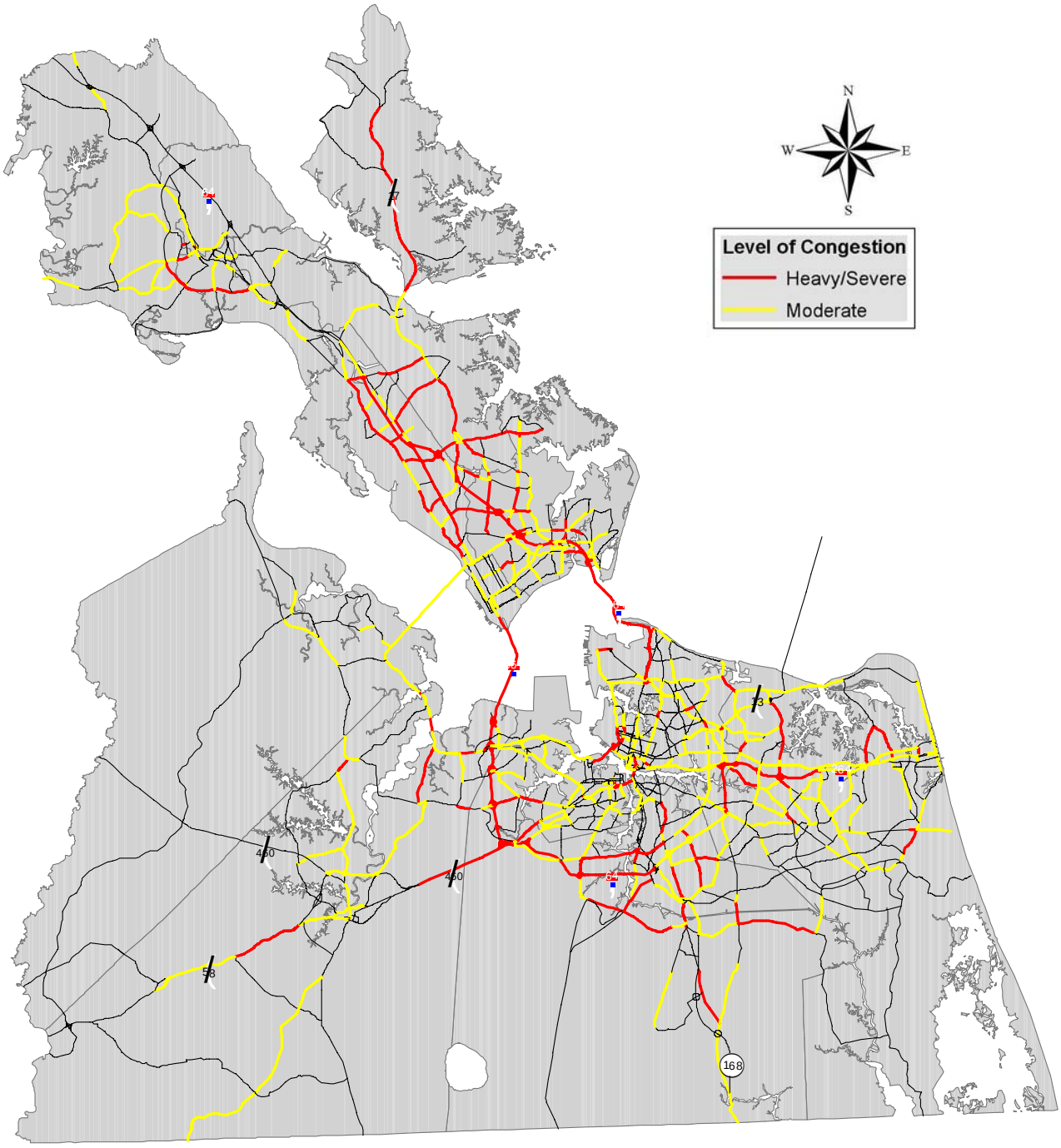
Example Selection of Regional Highway Projects
“Additional Funding- Low” Scenario

Highway	From	To	RTP Cost, year- of-expend-iture, FY04-26, $M	Increase in Vehicles Served, vpd	Cost per New Mile of Travel
Rte 60 relocation - east section	Wal Mart Distribution center	Ft Eustis Blvd	$33	21,000	**$0.10**
Buckner Blvd / Shipps Corner Rd	Rosemont Rd	Holland Rd	$17	17,000	**$0.20**
***Southeastern Pkwy (w/ Oak Gr Conn)**	I-264	I-64	$1,041	42,000	**$0.24**
Lucas Creek Rd extension	Denbigh Blvd	Hughes Dr	$11	21,000	**$0.26**
Holland Rd, New	Damascus Tr	PA Rd (near TPC)	$11	12,000	**$0.27**
Robin Hood Rd Extd	Cromwell Dr	Chesapeake Blvd	$2	6,000	**$0.29**
Buckner Blvd	Independence Blvd	Rosemont Rd	$21	15,000	**$0.29**
London Bridge Rd Ext	Dam Neck Rd	Holland Rd	$16	14,000	**$0.30**
***I-64 Peninsula (eastern segment)**	Bland Blvd	Rte 199 (e. end)	$556	26,000	**$0.34**
Newtown Rd	Diamond Springs Rd	VB Blvd	$24	14,000	**$0.39**
Butts Station Rd	Kempsville Rd	Centerville Tnpk	$34	8,000	**$0.41**
West Neck Pkwy	Dam Neck Rd @ GTE	Ind Riv Rd (near Morris Ln)	$59	8,000	**$0.43**
Rosemont Rd	Lynnhaven Pkwy	Dam Neck Rd	$33	10,000	**$0.43**
Deep Creek / High Rise Bridge Byp.	Dominion Blvd @ Cedar Rd	I-64 @ Southway St	$171	28,000	**$0.45**
***I-64 Peninsula (western segment)**	Rte 199 (e. end)	New Kent / James City CL	$557	12,000	**$0.49**
Nimmo Pkwy	Upton Dr	Sandbridge Rd, E. of HP Cr	$43	7,000	**$0.50**
Ferrell Pkwy	Indian River Rd	Princess Anne Rd	$58	8,000	**$0.53**
Indian River Rd	Elbow Rd	North Landing Rd	$46	6,000	**$0.54**
Lynnhaven Pkwy	PA Rd	Holland Rd	$60	10,000	**$0.56**
Holland Rd	Dam Neck Rd	Independence Blvd	$87	8,000	**$0.56**
Dominion Blvd (arterial)	GW Hwy	Cedar Rd	$72	6,000	**$0.60**
Warwick Blvd	Denbigh Blvd	Oyster Pt Rd	$77	11,000	**$0.61**
Warwick Blvd	Atkinson Blvd	Denbigh Blvd	$58	11,000	**$0.62**
Kempsville Rd	Centerville Tnpk	PA Rd	$107	9,000	**$0.62**
Warwick Blvd	Oyster Pt Rd	Nettles Dr	$55	11,000	**$0.62**
Park Place Connector	Hampton Blvd	Maltby Ave.	$36	5,000	**$0.63**
Dozier Weave Bypass	Cedar Rd @ Dominion Blvd	I-64 @ Bainbridge Blvd	$315	43,000	**$0.63**
Etheridge Manor Blvd	Hillwell Rd	Centerville Tnpk	$33	5,000	**$0.64**
***US 460**	Isle of Wight / Southampton CL	I-664	$642	9,000	**$0.66**
Constitution Dr ext'd	Columbus St	Bonney Rd	$7	5,000	**$0.68**
Princess Anne Rd	Baxter Rd	Providence Rd	$54	8,000	**$0.69**
Shore Dr	Northampton Blvd	Lynnhaven Promenade	$53	8,000	**$0.70**
US 17 (JC Morris Blvd - GW Hwy)	Wolf Trap Rd	Coleman Bridge	$174	8,000	**$0.70**
			$4,563		
Intersection and Interchange Projects					
Indian River Rd / Providence Rd Inters'n	n.a.	n.a.	$2	67	**$0.01**
GW Hwy / Goosley Rd Intersection	n.a.	n.a.	$2	53	**$0.01**
I-64 / Norview Ave Interchange	n.a.	n.a.	$63	169	**$0.07**
I-264 / Witchduck Rd Interchange	n.a.	n.a.	$150	216	**$0.14**
I-264 / Rosemont Rd Interchange	n.a.	n.a.	$132	177	**$0.15**
I-264 / Independence Blvd Interchange	n.a.	n.a.	$180	237	**$0.15**
			$529		
			$5,092		

Bang.xls

The congestion for this scenario follows:

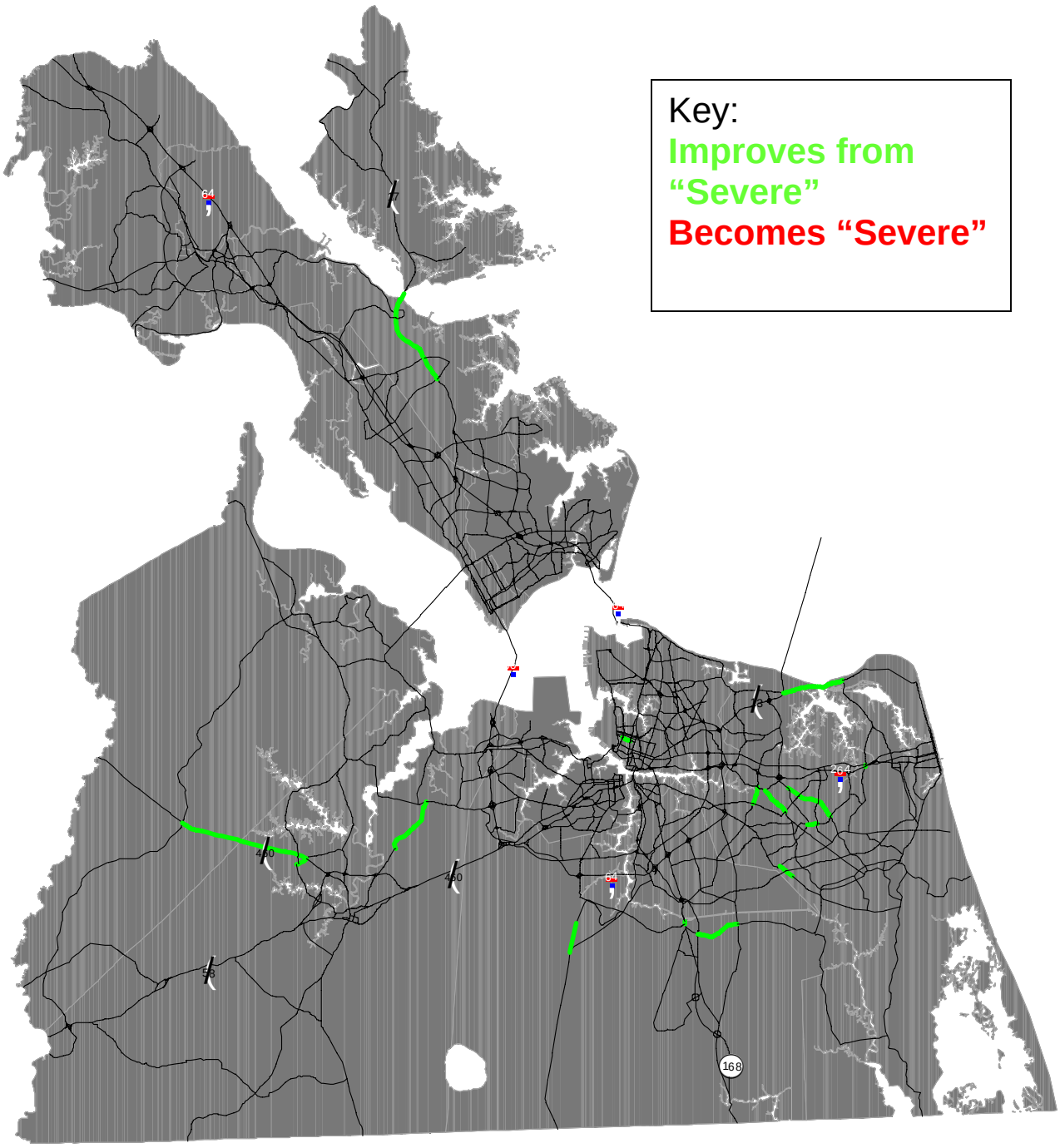
2026 Congestion- "Additional Funding- Low" Scenario



April MPO.ppt

The change in congestion due to the additional projects in this scenario (vs. the congestion level of the "Existing Funding Formula" scenario) is as follows:

2026 Congestion
"Additional Funding- Low" vs. "Existing Funding Formula"



April MPO.ppt

The contents of the “Additional Funding- Medium” scenario follow:

- Committed Projects (from FY03 TIP)
- Draft Urban Selection Projects
- $2.2B LRT, Bus, Bus Rapid Transit (BRT) Projects
- The Set of 5 Large Highway Projects
    - Hampton Roads Third Crossing
    - Southeastern Parkway and Greenbelt
    - Route 460
    - I-64 Peninsula
    - Midtown Tunnel / MLK Freeway Extension

The example selection of highway projects for this scenario follow:

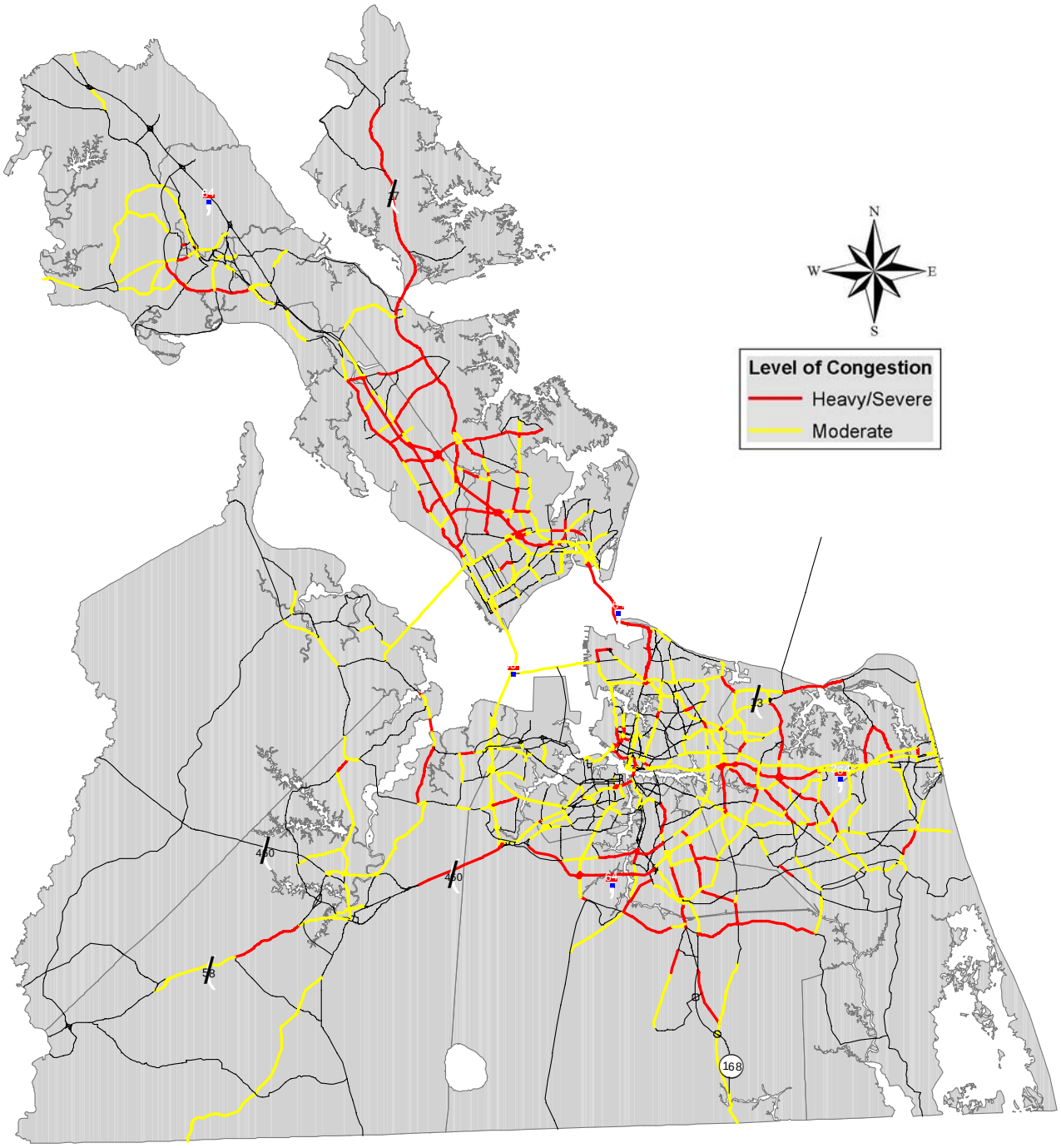
Example Selection of Regional Highway Projects
“Additional Funding- Medium” Scenario

Highway	From	To	RTP Cost, year- of-expend-iture, FY04-26, $M	Increase in Vehicles Served, vpd	Cost per New Mile of Travel
***Hampton Roads Third Crossing**	Southside	Peninsula	$4,484	23,100	**$1.29**
***Southeastern Pkwy (w/ Oak Gr Conn)**	I-264	I-64	$1,041	42,000	**$0.24**
***US 460**	Isle of Wight / Southampton CL	I-664	$642	9,000	**$0.66**
***I-64 Peninsula (eastern segment)**	Bland Blvd	Rte 199 (e. end)	$556	26,000	**$0.34**
***I-64 Peninsula (western segment)**	Rte 199 (e. end)	New Kent / James City CL	$557	12,000	**$0.49**
***Midtown Tunnel (w/ MLK Fwy Ext)**	Brambleton Ave	I-264	$686	35,000	**$2.19**
			$7,966		

Bang.xls

The congestion for this scenario follows:

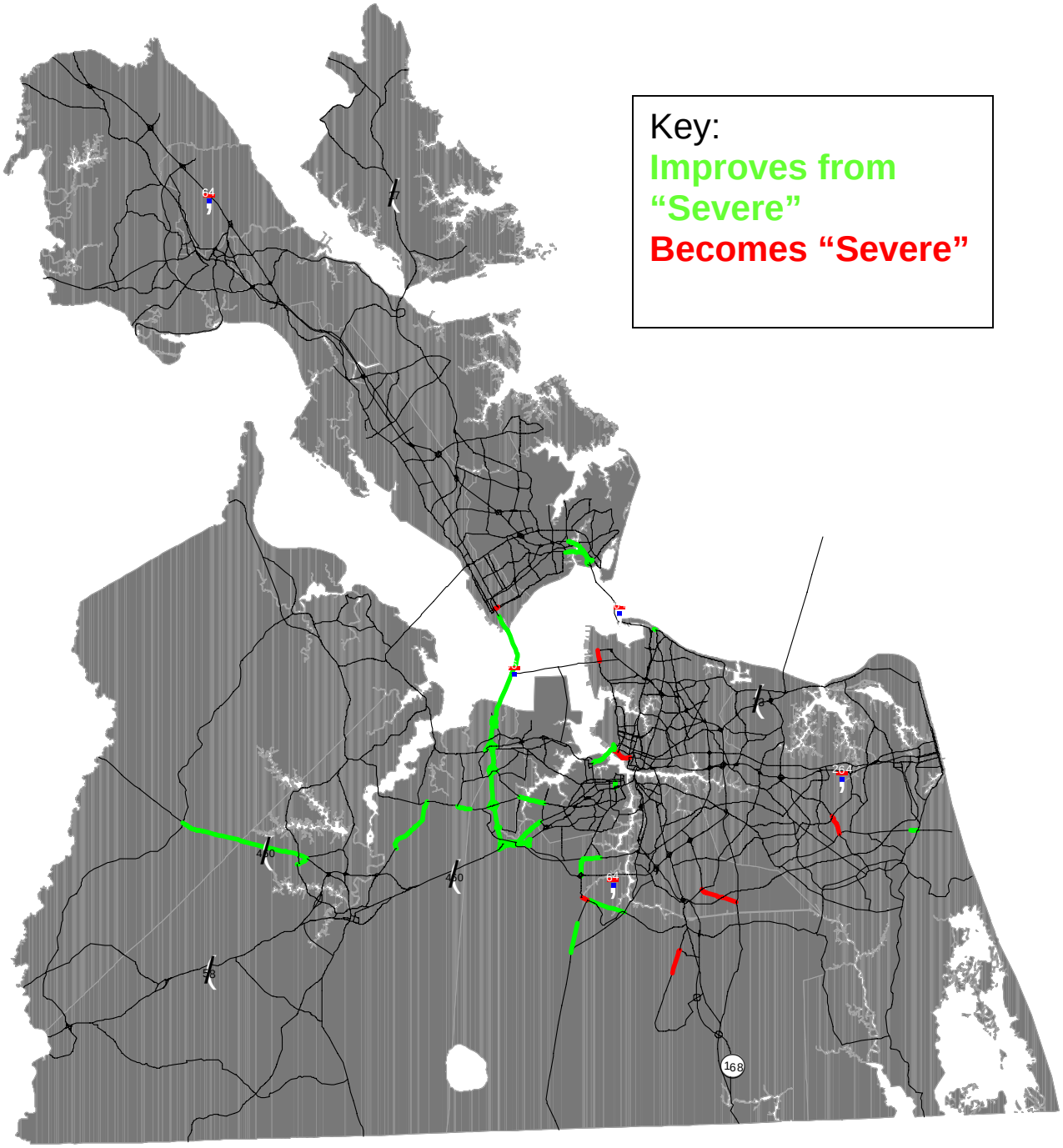
2026 Congestion- "Additional Funding- Medium" Scenario



April MPO.ppt

The change in congestion due to the additional projects in this scenario (vs. the congestion level of the first scenario) is as follows:

2026 Congestion
"Additional Funding- Medium" vs. "Existing Funding Formula"



April MPO.ppt

The contents of the “Additional Funding- High” scenario follow:

- Committed Projects (from FY03 TIP)
- Draft Urban Selection Projects
- $2.2B LRT, Bus, Bus Rapid Transit (BRT) Projects
- The Set of 5 Large Highway Projects
- $4B Example Selection of Regional Highway Projects

The example selection of highway projects for this scenario can be found on the following page.

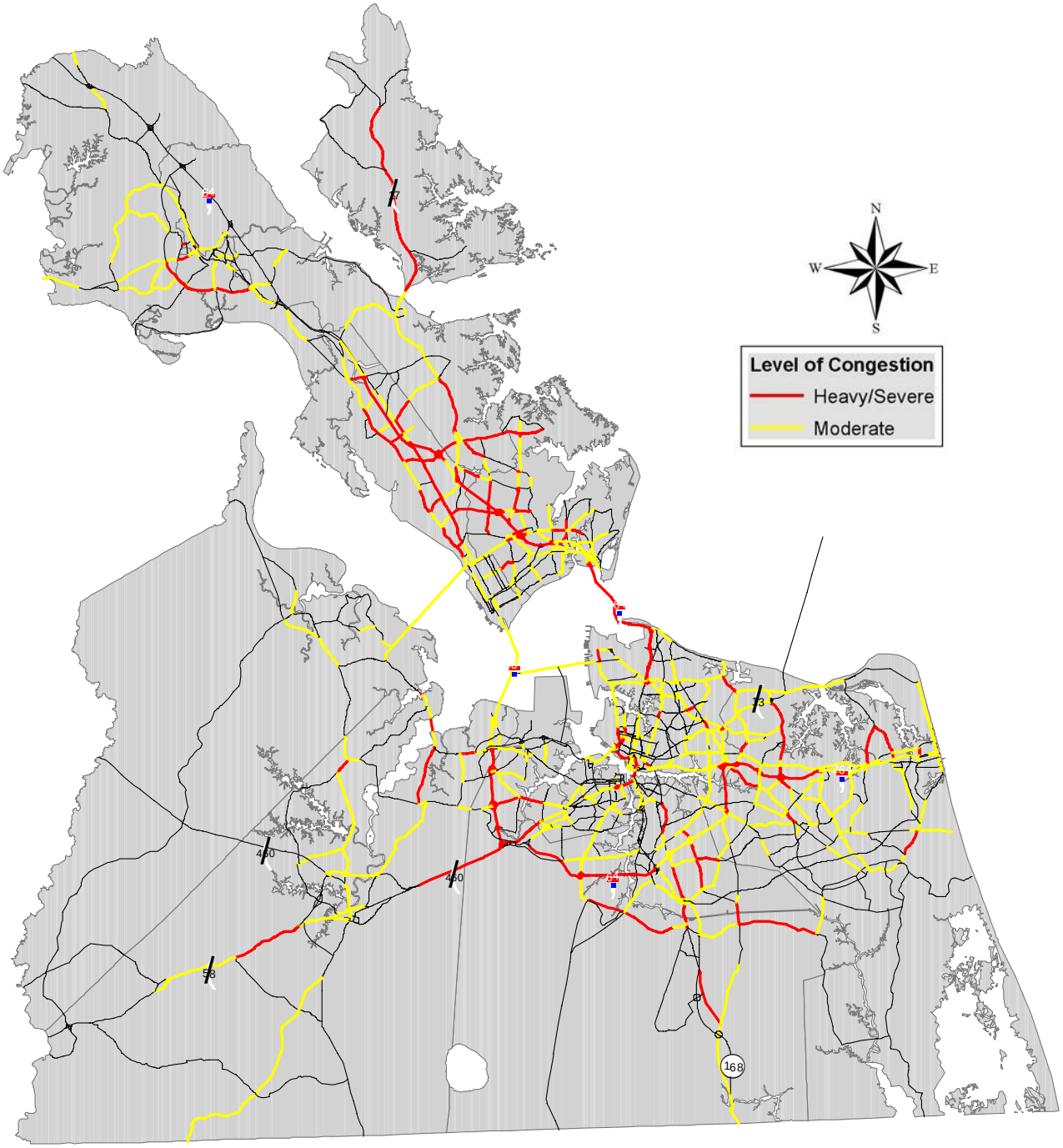
Example Selection of Regional Highway Projects
"Additional Funding- High" Scenario

Highway	From	To	RTP Cost, year- of-expenditure, FY04-26, $M	Increase in Vehicles Served, vpd	Cost per New Mile of Travel
The Set of 5 Large Highway Projects					
*Hampton Roads Third Crossing	Southside	Peninsula	$4,484	23,100	$1.29
*Southeastern Pkwy (w/ Oak Gr Conn)	I-264	I-64	$1,041	42,000	$0.24
*US 460	Isle of Wight / Southampton CL	I-664	$642	9,000	$0.66
*I-64 Peninsula (eastern segment)	Bland Blvd	Rte 199 (e. end)	$556	26,000	$0.34
*I-64 Peninsula (western segment)	Rte 199 (e. end)	New Kent / James City CL	$557	12,000	$0.49
*Midtown Tunnel (w/ MLK Fwy Ext)	Brambleton Ave	I-264	$686	35,000	$2.19
			$7,966		
Other Regional Highway Projects Selected for Scenario					
Rte 60 relocation - east section	Wal Mart Distribution center	Ft Eustis Blvd	$33	21,000	$0.10
Buckner Blvd / Shipps Corner Rd	Rosemont Rd	Holland Rd	$17	17,000	$0.20
Lucas Creek Rd extension	Denbigh Blvd	Hughes Dr	$11	21,000	$0.26
Holland Rd, New	Damascus Tr	PA Rd (near TPC)	$11	12,000	$0.27
Robin Hood Rd Extd	Cromwell Dr	Chesapeake Blvd	$2	6,000	$0.29
Buckner Blvd	Independence Blvd	Rosemont Rd	$21	15,000	$0.29
London Bridge Rd Ext	Dam Neck Rd	Holland Rd	$16	14,000	$0.30
Newtown Rd	Diamond Springs Rd	VB Blvd	$24	14,000	$0.39
Butts Station Rd	Kempsville Rd	Centerville Tnpk	$34	8,000	$0.41
West Neck Pkwy	Dam Neck Rd @ GTE	Ind Riv Rd (near Morris Ln)	$59	8,000	$0.43
Rosemont Rd	Lynnhaven Pkwy	Dam Neck Rd	$33	10,000	$0.43
Deep Creek / High Rise Bridge Byp.	Dominion Blvd @ Cedar Rd	I-64 @ Southway St	$171	28,000	$0.45
Nimmo Pkwy	Upton Dr	Sandbridge Rd, E. of HP Cr	$43	7,000	$0.50
Ferrell Pkwy	Indian River Rd	Princess Anne Rd	$58	8,000	$0.53
Indian River Rd	Elbow Rd	North Landing Rd	$46	6,000	$0.54
Lynnhaven Pkwy	PA Rd	Holland Rd	$60	10,000	$0.56
Holland Rd	Dam Neck Rd	Independence Blvd	$87	8,000	$0.56
Dominion Blvd (arterial)	GW Hwy	Cedar Rd	$72	6,000	$0.60
Warwick Blvd	Denbigh Blvd	Oyster Pt Rd	$77	11,000	$0.61
Warwick Blvd	Atkinson Blvd	Denbigh Blvd	$58	11,000	$0.62
Kempsville Rd	Centerville Tnpk	PA Rd	$107	9,000	$0.62
Warwick Blvd	Oyster Pt Rd	Nettles Dr	$55	11,000	$0.62
Park Place Connector	Hampton Blvd	Maltby Ave.	$36	5,000	$0.63
Dozier Weave Bypass	Cedar Rd @ Dominion Blvd	I-64 @ Bainbridge Blvd	$315	43,000	$0.63
Etheridge Manor Blvd	Hillwell Rd	Centerville Tnpk	$33	5,000	$0.64
Constitution Dr ext'd	Columbus St	Bonney Rd	$7	5,000	$0.68
Princess Anne Rd	Baxter Rd	Providence Rd	$54	8,000	$0.69
Shore Dr	Northampton Blvd	Lynnhaven Promenade	$53	8,000	$0.70
US 17 (JC Morris Blvd - GW Hwy)	Wolf Trap Rd	Coleman Bridge	$174	8,000	$0.70
Dominion Blvd (freeway, 4on6, w/ Bain. Intch.)	Cedar Rd	I-464 / Oak Grove Conn	$331	33,000	$0.70
Big Bethel Rd	York CL	Semple Farm Rd	$3	5,000	$0.70
HRC Parkway Ext	Armistead Ave	LaSalle Ave	$130	33,000	$0.71
Ches Blvd Ext'd / Maltby Ave	Lafayette Blvd	PA Rd	$58	10,000	$0.72
Centerville Tnpk	SE Pkwy	Kempsville Rd	$34	4,500	$0.72
Warwick Blvd	Fort Eustis Blvd	Atkinson Blvd	$76	11,000	$0.72
Laskin Rd	Great Neck Rd	First Colonial Rd	$54	9,000	$0.73
Quarterpath Rd	Rte 199	York St	$16	3,000	$0.74
Armistead Ave	Cmdr Shepard Blvd	HRC Pkwy	$40	7,000	$0.76
Military Hwy (excl'g Gilmerton Br.)	Canal Dr	Battlefield Blvd	$99	7,000	$0.80
Indian River Rd	North Landing Rd	PA Rd	$77	4,000	$0.80
Cleveland St	Witchduck Rd	Newtown Rd	$22	4,000	$0.83
Ft Eustis Blvd	Jefferson Ave	Rte 17	$55	3,500	$0.86
US 17	I-64	Hampton Hwy	$74	6,500	$0.86
			$2,836		
Selected Intersection and Interchange Projects					
Indian River Rd / Providence Rd Intersection	n.a.	n.a.	$2	67	$0.01
GW Hwy / Goosley Rd Intersection	n.a.	n.a.	$2	53	$0.01
I-64 / Norview Ave Interchange	n.a.	n.a.	$63	169	$0.07
I-264 / Witchduck Rd Interchange	n.a.	n.a.	$150	216	$0.14
I-264 / Rosemont Rd Interchange	n.a.	n.a.	$132	177	$0.15
I-264 / Independence Blvd Interchange	n.a.	n.a.	$180	237	$0.15
I-264 / Newtown Rd Interchange	n.a.	n.a.	$180	232	$0.15
I-264 / Lynnhaven Pkwy & Great Nk Rd	n.a.	n.a.	$166	195	$0.17
Dominion Blvd / Cedar Rd Interchange	n.a.	n.a.	$90	68	$0.27
Newtown Rd / VB Blvd Interchange	n.a.	n.a.	$126	94	$0.27
Indian River Rd / Kempsville Rd Interchange	n.a.	n.a.	$144	92	$0.31
			$1,235		
			$12,037		

Bang.xls

The congestion for this scenario follows:

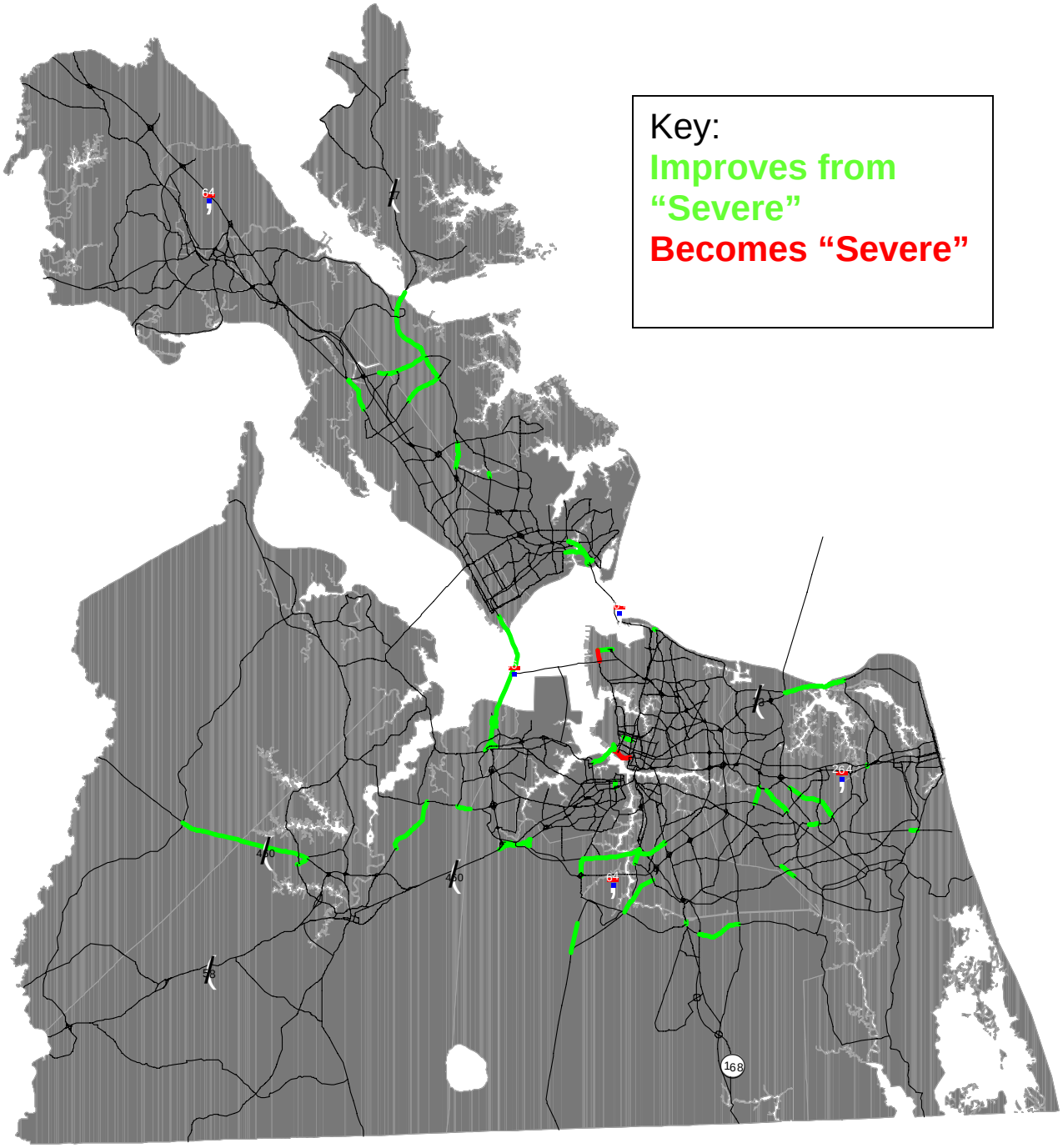
2026 Congestion- “Additional Funding- High” Scenario



April MPO.ppt

The change in congestion due to the additional projects in this scenario (vs. the congestion level of the first scenario) is as follows:

2026 Congestion
"Additional Funding- High" vs. "Existing Funding Formula"



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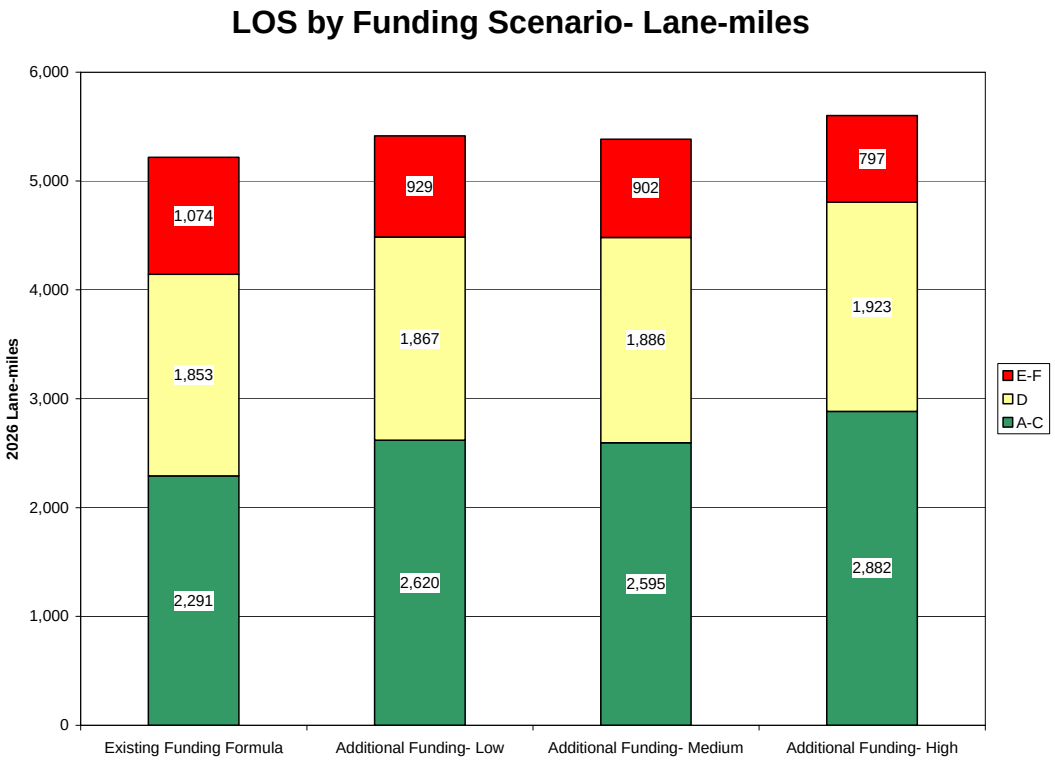
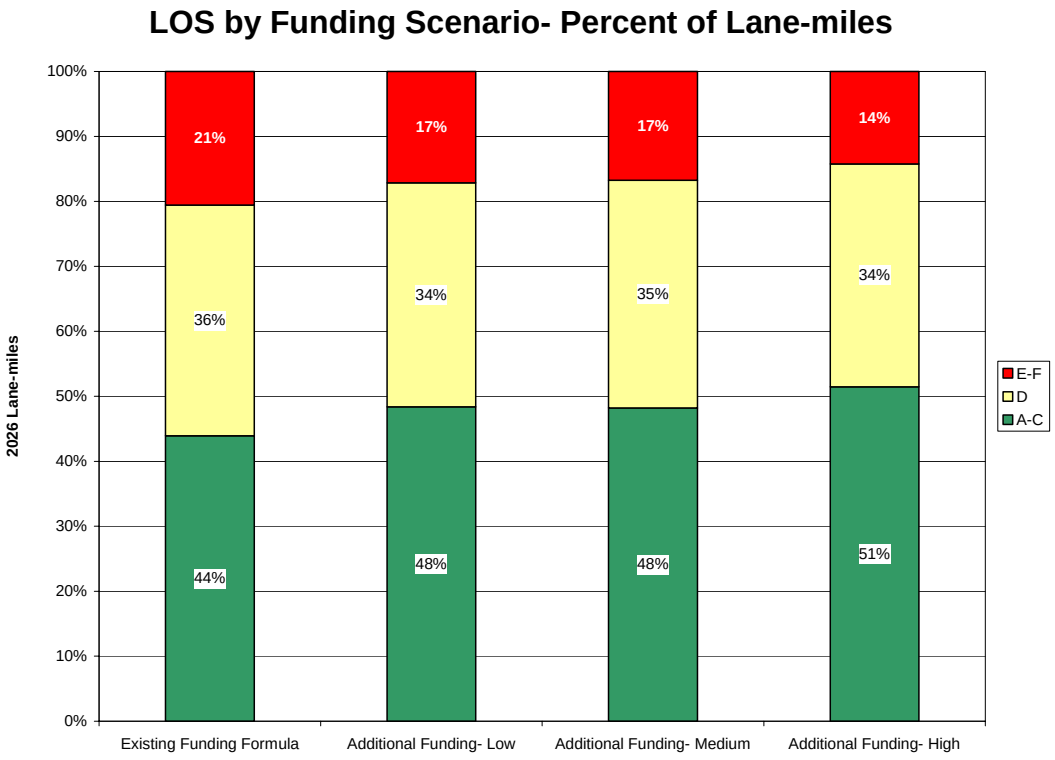
The impact of these funding scenarios on level of service (LOS) is summarized below:





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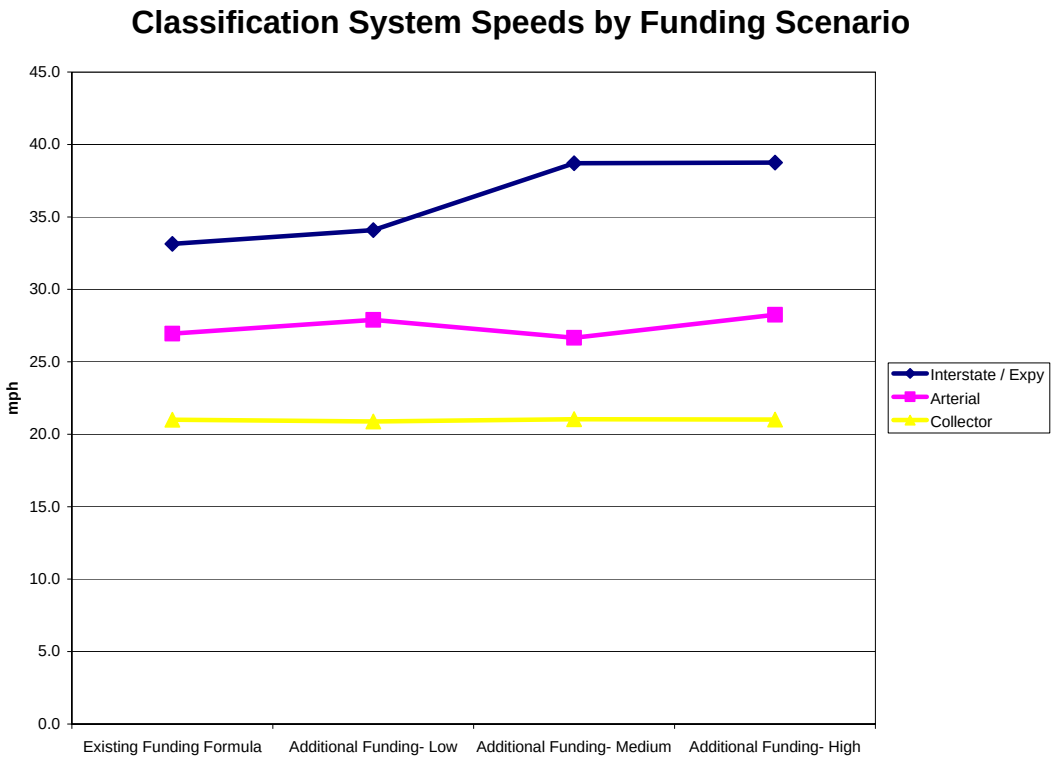
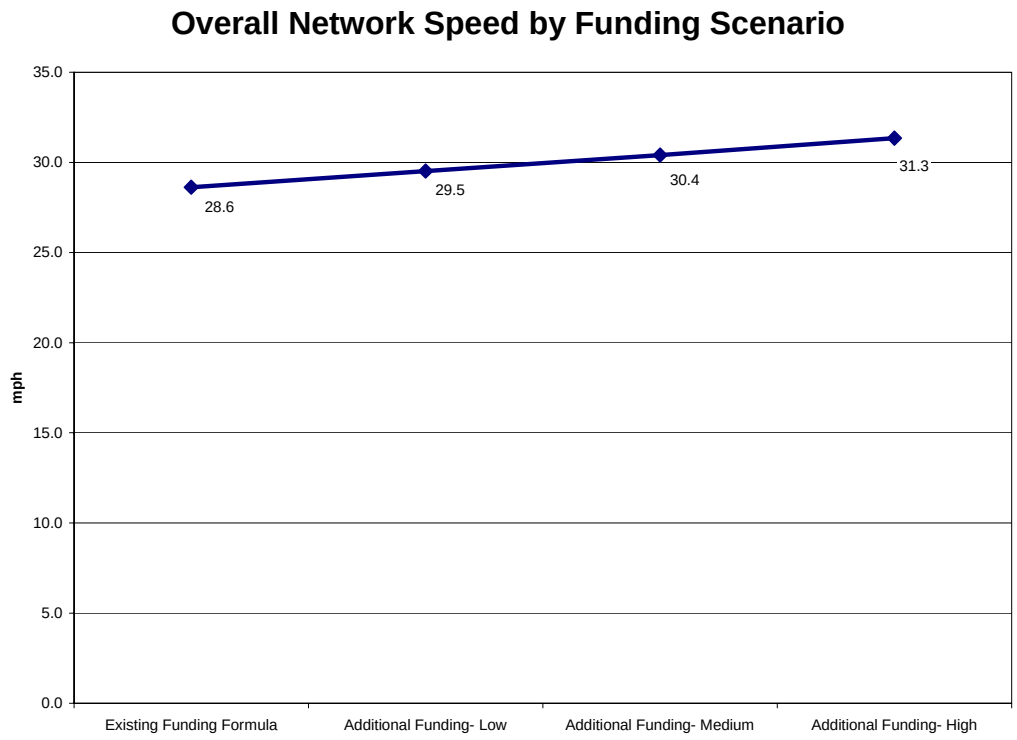
The impact of these scenarios on average vehicle speeds is shown below:





speeds by AP.xls

PUBLIC INVOLVEMENT

The Hampton Roads 2026 Regional Transportation Plan was not the work of just one person or one organization. Many groups were involved and each provided a means of engaging the public in a variety of ways.

December 11 and 16, 2002 Listening Sessions

Despite the defeat of the sales tax referendum in November 2002, transportation remained a very hot topic in Hampton Roads. HRPDC decided to take advantage of the attention that transportation had received and hold "listening sessions". The sessions were from 3 p.m. to 5 p.m. and 7 p.m. to 9 p.m. on December 11 in Hampton and December 16 in Chesapeake. The purpose of these meetings was to provide a forum for the public to provide their comments on the transportation system of Hampton Roads. In light of the referendum, transportation financing was of particular interest.

There were 147 attendees for the two sessions. There was a wide-range of staff available to answer their questions or listen to their ideas. In addition to HRPDC staff, there were representatives from local government, transit (VDRPT, HRT, WAT), VDOT, FHWA, Virginia Port Authority, and the Virginia Department of Aviation.

The dominant comment regarding funding suggestions was the use of a combination of both taxes and tolls to pay for transportation projects. This was followed by the use of just a gas tax and just tolls as the most frequent suggestions on transportation financing.

Kiosk

HRPDC has developed a portable kiosk with a touch-screen interface. This kiosk has been placed in grocery stores, malls, DMV offices, and community centers to receive responses to questions regarding transportation in Hampton Roads. There were about 600 responses to the kiosk survey for the six months between May 2003 and October 2003. HRPDC staff incorporated kiosk comments in the development of candidate projects for the 2026 Plan. See the "Formulation of Candidate Highway Projects" section of this report for more information on the project development.

Newsletter

HRPDC sends out a newsletter to 2,500 individuals, community organizations, and civic groups every three months. The newsletter provides an update on what the PDC has been working on and includes a calendar of upcoming PDC meetings.

Internet

The world wide web is a maturing technology and the HRPDC web site (www.hrpdc.org) is a user-friendly means of retrieving reports produced by the HRPDC, or contacting staff for additional information. Staff regularly answers questions sent in via e-mail from concerned citizens. Between February 2002 and October 2003, PDC staff answered 82 transportation-related email inquiries.

The Transportation Kiosk

Individual Project Meetings

VDOT, locality, and HRT staff hold numerous public meetings on individual projects throughout the year. These meetings are held as the project progresses from concept toward construction.

Newspaper and Television

The local newspapers in Hampton Roads produce numerous articles related to transportation in the region every week. Whether it's a recurring article such as the Road Warrior in the Virginian-Pilot or current events such as the referendum or Midtown Tunnel closing following Hurricane Isabel, transportation frequently appears in the media.

September 2003 Public Meetings

Five public meetings were held in September 2003. The primary purpose of these meetings was to interact with the public on the draft version of the 2026 Regional Transportation Plan. The forum was similar to the December 2002 Listening Sessions,

with staff from federal, state, and local agencies available to explain their role in transportation planning and answer questions from attendees.

The meetings were held in Virginia Beach on September 4, Newport News on the eighth, Suffolk on the tenth, James City County on the eleventh, and Norfolk on the fifteenth. All meetings were held from 3 p.m. until 7 p.m. There were sixty total attendees for the five meetings.

Advertisements for December 2002 and September 2003 Public Meetings

HAMPTON ROADS

TRANSPORTATION

ALTERNATIVES & SOLUTIONS:
A LISTENING SESSION

The citizens of Hampton Roads are invited to help guide the future of transportation in Hampton Roads at two Listening Sessions sponsored by the Hampton Roads Planning District Commission and Metropolitan Planning Organization.

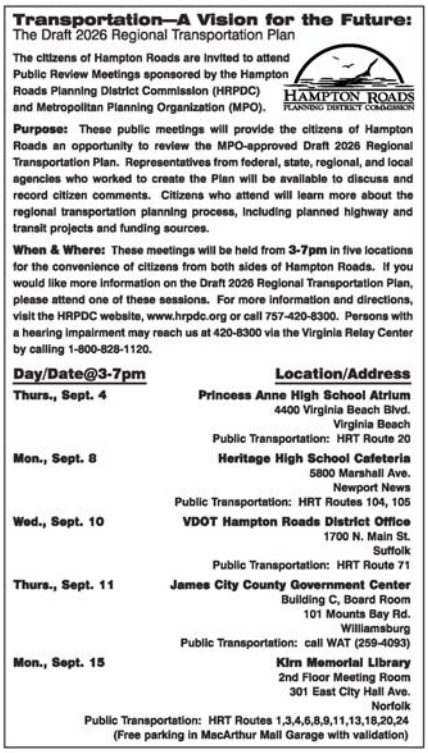
Purpose: These Listening Sessions are an opportunity for citizens to discuss their concerns about proposed transportation improvements and funding issues facing the region, and offer solutions or alternatives. Federal, state and local representatives will be available to receive your comments and further discuss issues surrounding transportation improvements. Citizens who attend will also learn more about the status and schedule of projects contained in the six year capital improvement program, and the 2026 Regional Transportation Plan update.

If you have comments or concerns about transportation improvements in our region and the funding of those improvements, please plan to attend one of these sessions.

When & Where: The Listening Sessions will be held at the following places and times for the convenience of citizens from both sides of Hampton Roads.

Peninsula
Wednesday, Dec. 11, 2002
3 to 5 p.m. & 7 to 9 p.m.
Ruppert L. Sargent City Administration Building
One Franklin Street
Hampton, Virginia 23669

Southside
Monday, December 16, 2002
3 to 5 p.m. & 7 to 9 p.m.
HRPDC Board Room
The Regional Building
723 Woodlake Drive
Chesapeake, Virginia 23320



Transportation—A Vision for the Future:
The Draft 2026 Regional Transportation Plan

The citizens of Hampton Roads are invited to attend Public Review Meetings sponsored by the Hampton Roads Planning District Commission (HRPDC) and Metropolitan Planning Organization (MPO).

HAMPTON ROADS PLANNING DISTRICT COMMISSION

Purpose: These public meetings will provide the citizens of Hampton Roads an opportunity to review the MPO-approved Draft 2026 Regional Transportation Plan. Representatives from federal, state, regional, and local agencies who worked to create the Plan will be available to discuss and record citizen comments. Citizens who attend will learn more about the regional transportation planning process, including planned highway and transit projects and funding sources.

When & Where: These meetings will be held from **3-7pm** in five locations for the convenience of citizens from both sides of Hampton Roads. If you would like more information on the Draft 2026 Regional Transportation Plan, please attend one of these sessions. For more information and directions, visit the HRPDC website, www.hrpdc.org or call 757-420-8300. Persons with a hearing impairment may reach us at 420-8300 via the Virginia Relay Center by calling 1-800-828-1120.

Day/Date@3-7pm	Location/Address
Thurs., Sept. 4	Princess Anne High School Atrium 4400 Virginia Beach Blvd. Virginia Beach Public Transportation: HRT Route 20
Mon., Sept. 8	Heritage High School Cafeteria 5800 Marshall Ave. Newport News Public Transportation: HRT Routes 104, 105
Wed., Sept. 10	VDOT Hampton Roads District Office 1700 N. Main St. Suffolk Public Transportation: HRT Route 71
Thurs., Sept. 11	James City County Government Center Building C, Board Room 101 Mounts Bay Rd. Williamsburg Public Transportation: call WAT (259-4093)
Mon., Sept. 15	Kirn Memorial Library 2nd Floor Meeting Room 301 East City Hall Ave. Norfolk Public Transportation: HRT Routes 1,3,4,6,8,9,11,13,18,20,24 (Free parking in MacArthur Mall Garage with validation)

City Council Meetings

The council of each city or county in Hampton Roads makes important decisions regarding their locality's transportation system. These decisions can have both direct and indirect impacts on the transportation system through investment in transportation facilities or approval of a rezoning or new development. These decisions all impact how and where residents travel. The public can get involved in these decisions. The public is given an opportunity to speak at most city council meetings. Many localities also now make it easy to email the entire city council. Also, many localities replay city council proceedings on their local access television stations.

PROJECT SELECTION PROCESS

Goals

Prior to selecting projects for the Plan, the MPO adopted a framework for project selection as follows:

Regional Vision

- One inter-connected region
- Maximize ports as a key component
- Mass transit important
- Southside connection to Richmond is important
- User fees as basis of improvements
- Smart growth principles should guide growth
- Maintain existing system

June TTC.ppt

Strategic Criteria
For Evaluating Projects

- Multi-jurisdictional
- Cost-effectiveness chart
- Regional economic development
- Be fundable and buildable
- Consistent with comprehensive plans

June TTC.ppt

Selection of the Set of Highway Projects in the FY03 TIP

The first set of projects included in the draft Plan were the highway projects having construction dollars allocated in VDOT's Six-Year Program (Fiscal Years 2002-2003 thru 2007-2008), the basis of the Hampton Roads FY03 TIP. The receipt of construction dollars indicates that these projects from the 2021 Plan have merit and feasibility.

These projects are shown on the blue "Highway Projects Committed in FY03 TIP and Planned Local Highway Projects" list in the "Projects" section which follows. The projects from the FY03 TIP have "03TIP" listed in the "Source of Project" column.

Selection of Planned Local Highway Projects

The second set of projects included in the draft Plan were planned local highway projects. After receiving the HRPDC staff's analysis of the effectiveness of each candidate project, each locality selected local projects (typically financed with Urban, Secondary and local dollars) for the draft Plan. This set of projects was limited by the amount of funding forecasted for Urban, Secondary, and local dollars.

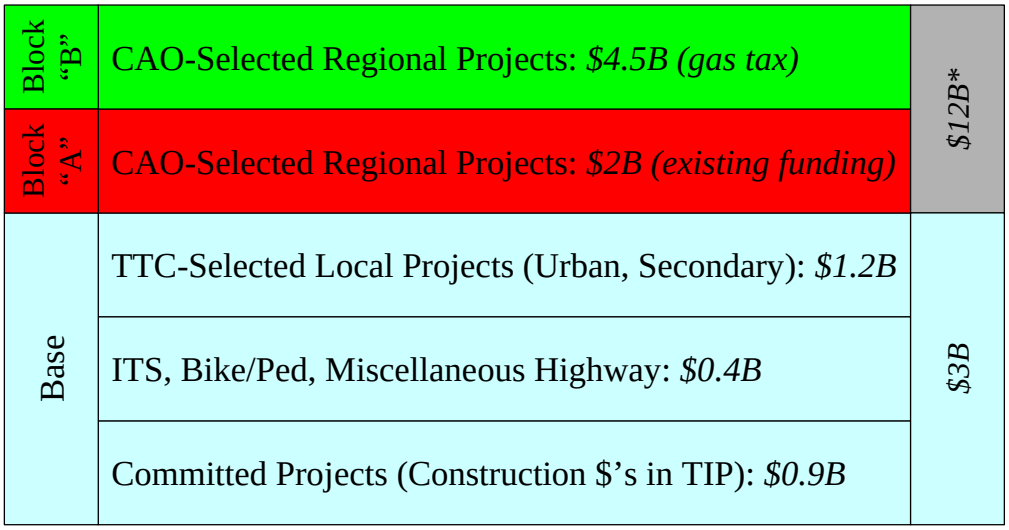
These projects are shown on the blue "Highway Projects Committed in FY03 TIP and Planned Local Highway Projects" list in the "Projects" section which follows. The planned local highway projects have "Local" listed in the "Source of Project" column.

Selection of Regional Transit and Highway Projects

Initial Selection

On June 18, 2003, the MPO adopted a draft 2026 Plan to be forwarded to VDOT for air quality conformity analysis. The $15B Plan was comprised of the following building blocks:

First Draft 2026 Plan, Building Blocks



Total, *$15B**

*including $3.4B tolls, $2B fed&state transit

Blocks.wmf

An additional 11 cent gas tax would be required to raise the $4.5B for Block B regional projects.

Except for the local projects in Virginia Beach (which were subsequently revised), the local projects; ITS, Bicycle/Pedestrian, and Miscellaneous Highway projects; and the committed (highway) projects from the FY03 TIP selected in June 2003 were the same as those that were included in the final Plan (see "Contents of the Plan").

The regional projects included in the first draft 2026 Plan were as follows:

Regional Transit and Highway Projects, First Draft 2026 Plan

Regional Transit and Highway Projects												
Approved by MPO on June 18, 2003, for Draft 2026 Regional Transportation Plan				Funding*								
Projects	From	To	Cost*	Tolls	Federal & State Transit	Urban	NHS	Primary	RSTP	Addi-tional Gas Tax	Total	Building Block (3)
Regional Transit (1)												
Norfolk MOS LRT (7)	EVMS	Kempsville Rd	$222	$0	$167	$55	$0	$0	$0	$0	$222	A
Peninsula MOS LRT (7)	(unspecified location)	(unspecified location)	$501	$0	$376	$0	$65	$0	$60	$0	$501	A
Remainder of Peninsula LPA (6) LRT (2)- PE (4)	(unspecified location)	(unspecified location)	$10	$0	$0	$0	$10	$0	$0	$0	$10	A
Naval Base Extension LRT- PE	(unspecified location)	Naval Base	$10	$0	$0	$0	$10	$0	$0	$0	$10	A
Bus Purchases, HRT	n.a.	n.a.	$318	$0	$120	$0	$198	$0	$0	$0	$318	A
Bus Purchases, WAT (2)	n.a.	n.a.	$5	$0	$5	$0	$0	$0	$0	$0	$5	A
Capital Improvement Program	n.a.	n.a.	$215	$0	$194	$0	$21	$0	$0	$0	$215	A
BRT/Ferry	n.a.	n.a.	$113	$0	$83	$0	$0	$0	$30	$0	$113	A
Major Facility Investments	n.a.	n.a.	$68	$0	$66	$0	$0	$0	$2	$0	$68	A
CAD/AVL	n.a.	n.a.	$16	$0	$12	$0	$0	$0	$4	$0	$16	A
		Subtotal, Regional Transit, Block A	**$1,478**	$0	$1,023	$55	$304	$0	$96	$0	$1,478	
Remainder of Peninsula LPA (6) LRT (2)- Constr. (5)	(unspecified location)	(unspecified location)	$615	$0	$469	$0	$0	$0	$0	$146	$615	B
Naval Base Extension LRT- Constr. (5)	(unspecified location)	Naval Base	$540	$0	$413	$0	$0	$0	$0	$127	$540	B
Fixed Guideway Rehab	n.a.	n.a.	$193	$0	$173	$0	$0	$0	$0	$20	$193	B
		Subtotal, Regional Transit, Block B	**$1,348**	$0	$1,055	$0	$0	$0	$0	$293	$1,348	
		Subtotal, Regional Transit	**$2,826**	$0	$2,078	$55	$304	$0	$96	$293	$2,826	
Regional Highway												
I-64 Peninsula (eastern segment)	Bland Blvd	Rte 199 east of Williamsburg	$556	$0	$0	$0	$556	$0	$0	$0	$556	A
U.S. 460	Bowers Hill	Southampton Co. CL (8)	$642	$321	$0	$0	$73	$248	$0	$0	$642	A
Southeastern Parkway	I-264	I-64 @ Chesapeake Interchange	$1,041	$521	$0	$0	$260	$0	$260	$0	$1,041	A
Rte 60 relo. - east section- JCC	Wal Mart Distribution center	Newport News CL (8)	$15	$0	$0	$0	$15	$0	$0	$0	$15	A
Rte 60 relo. - east section- NN	James City CL (8)	Ft Eustis Blvd	$18	$0	$0	$0	$18	$0	$0	$0	$18	A
I-264EB ramp from 64WB (s.a. below)	n.a.	n.a.	com'd	(funded by committed VTA/NHS funds)							$0	A
I-264 / Newtown Rd Interchange	n.a.	n.a.	$180	$0	$0	$0	$90	$0	$90	$0	$180	A
I-264 / Witchduck Rd Interchange	n.a.	n.a.	$150	$0	$0	$0	$75	$0	$75	$0	$150	A
		Subtotal, Regional Highway, Block A	**$2,602**	$842	$0	$0	$1,087	$248	$425	$0	$2,602	
Third Crossing	Bowers Hill, Rte 164, Rte 337	I-64 @ Hampton Coliseum	$4,484	$2,242	$0	$0	$0	$0	$0	$2,242	$4,484	B
I-64 Peninsula (western segment)	Rte 199 east of Williamsburg	New Kent CL (8)	$557	$0	$0	$0	$0	$0	$0	$557	$557	B
Midtown Tunnel / MLK Ext'n	Brambleton Blvd	I-264	$686	$343	$0	$0	$0	$0	$0	$343	$686	B
I-64 (including High-Rise Bridge)	I-264 @ Bowers Hill	I-464 (Chesapeake Interchange)	$1,080	$0	$0	$0	$0	$0	$0	$1,080	$1,080	B
		Subtotal, Highway, Block B	**$6,807**	$2,585	$0	$0	$0	$0	$0	$4,222	$6,807	
		Subtotal, Regional Highway	**$9,409**	$3,427	$0	$0	$1,087	$248	$425	$4,222	$9,409	
		Total, Regional Transit and Highway Projects	**$12,235**	$3,427	$2,078	$55	$1,391	$248	$521	$4,515	$12,235	
Recap and Financial Constraint		Subtotal, Regional Highway & Transit, Block A	**$4,080**	$842	$1,023	$55	$1,391	$248	$521	$0	$4,080	
		Subtotal, Regional Highway & Transit, Block B	**$8,155**	$2,585	$1,055	$0	$0	$0	$0	$4,515	$8,155	
		Total, Regional Transit and Highway Projects	$12,235	$3,427	$2,078	$55	$1,391	$248	$521	$4,515	$12,235	
	Funding Available, FY04-FY26						$1,420	$250	$521			
		Balance					$29	$2	$0			
Notes												
*All dollar figures are millions; costs and funding are FY04-FY26, year-of-expenditure.			(5) "Constr.": construction.									
(1) HRT, unless otherwise specified.			(6) "LPA": Locally Preferred Alternative.									
(2) Plus a small extension of Norfolk MOS.			(7) "MOS": Minimum Operable Segment; "LRT": Light Rail Transit.									
(3) Building Block B contains those projects to be paid for, in part, by additional gas tax.			(8) "CL": Corporate Limit.									
(4) "PE": Preliminary Engineering.			(9) NHS, RSTP, and Primary funds.									

Aug MPO.ppt

In addition, the MPO adopted the following statement:

> "The MPO agrees to study the Hampton Roads Bridge Tunnel (HRBT) congestion in next year's Unified Planning Work Program (UPWP). This study will include a comprehensive analysis of the tolling recommendations in the approved long-range plan update."

Revision of Draft Plan

After reviewing the first draft of the Plan, VDOT concluded, in its letter of July 16, 2003, that the first draft Plan did not "meet the requirements for fiscal constraint." Specifically, the Department found "that the reliance on a regional gas tax is not a reasonably foreseeable source of revenue for the current plan update."

Consequently, the MPO removed those projects which relied on additional gas tax monies (the Block "B" projects) from the Plan. The MPO then added to the Plan:

- Segment I of the Hampton Roads Crossing[15]
  - Funded entirely with toll revenues.
- Dominion Boulevard Bridge and Approaches[16]
  - Combined with the Southeastern Parkway & Greenbelt (SP&G): the bridge is funded with $100M in RSTP funds; SP&G is funded with $621M in toll funds, $260M in NHS funds, and $160M in RSTP funds.
- Kings Highway Bridge
  - Funded with special VDOT bridge funds.

Kings Highway Bridge

kings highway Virginia sierraclub org.gif, Virginia.sierraclub.org

[15] The entire Hampton Roads Crossing was included in the first draft Plan as part of the Block "B" projects.

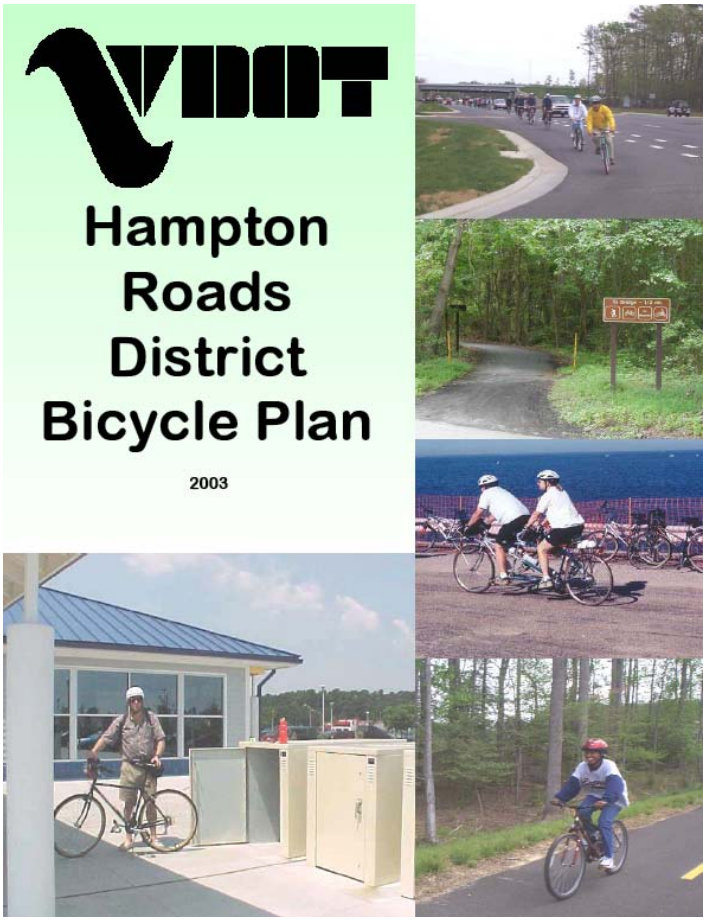
[16] In 2004, the MPO defined this project as running from Cedar Rd to 1.8 mi. north of Cedar Rd, plus PE work for remaining 0.8 mi. to Great Bridge Blvd.

Selection of Bicycle and Pedestrian Projects

Offering a variety of transportation options is necessary to serve the diverse needs of those traveling in Hampton Roads. Bicycling and walking are unique modes in that many people enjoy biking and walking not just as a means of travel but also as forms of fitness and recreation.

An extensive inventory of both existing and planned bicycle and pedestrian facilities was initiated with the 2021 Regional Transportation Plan in February 2001. This was the most thorough regional inventory of bicycle and pedestrian facilities ever undertaken in Hampton Roads at the time. This database was then expanded by VDOT for the "VDOT Hampton Roads District Bicycle Plan" (VDOT, August 2003), which serves as the basis for bicycle and pedestrian information for the region's 2026 Regional Transportation Plan.

Cover of the VDOT Hampton Roads District Bicycle Plan



Selection of ITS Projects

In Hampton Roads, ITS planning is led by the Hampton Roads ITS Committee, a formal committee of the MPO consisting primarily of traffic engineers and traffic operations staff from all sixteen local jurisdictions, the local transit agencies, the Virginia Department of Transportation (VDOT), the Virginia State Police, the Virginia Port Authority, the Department of Navy, the Federal Highway Administration, and the Hampton Roads Planning District Commission (HRPDC).

During 2003, the Hampton Roads ITS Committee developed the "Hampton Roads ITS Strategic Plan" (PB Farradyne Inc, 2004, available at the HRPDC and www.hrpdc.org). In coordination with the preparation of that Plan, the committee chose candidate ITS projects for the 2026 Plan.

Selection of Miscellaneous Highway Projects

In the 2026 Plan, Miscellaneous Highway projects are highway projects, other than interchange projects, which add no through lanes. They include:

- Signals
- Turn lanes
- Reconstruction
- Bridge Rehabilitation
- TDM

A total of $352M was set aside for Miscellaneous Highway projects from the NHS, Primary, Secondary, CMAQ, and RSTP funds. Because these projects tend to be small and numerous, and because these projects are typically designed to meet current needs as they arise, individual Miscellaneous Highway projects were not identified for the RTP. [17]

[17] The 2026 conformity analysis included the impact of current CMAQ projects (including signal and turn lane projects).

AIR QUALITY ANALYSIS

VDOT tested the draft 2026 Plan for conformity with pertinent air quality budgets and found that the Plan conforms. The results are summarized as follows:

Emissions Comparison Summary

Emissions Tests	VOC (tons per day)		NOx (tons per day)	
2007 Build / 2000 Budget	38.62/50.85	PASS	60.87/70.06	PASS
2008 Build (interpolated) / 2008 Budget	35.07/51.86	PASS	59.83/70.06	PASS
2015 Build (interpolated) / 2015 Budget	23.03/53.73	PASS	46.34/80.67	PASS
2017 Build / 2015 Budget	21.18/53.73	PASS	43.29/80.67	PASS
2026 Build / 2015 Emissions Budget	22.05/53.73	PASS	45.77/80.67	PASS

"Transportation Conformity Analysis, 2026 Long Range Plan, Draft Report", VDOT, Nov. 24, 2003

For a complete discussion of the process and results, see "Hampton Roads, Virginia, Ozone Maintenance Area, Transportation Conformity Analysis, 2026 Long Range Plan" (VDOT, 2003).

CONTENTS OF THE PLAN

HIGHWAY MAINTENANCE

Of the $12.5B of VDOT funds expected over the 2026 Plan study period (FY04-FY26), almost two-thirds of this, or $7.8B, has been set aside for maintenance of highways. (The remaining $4.7B in funds [NHS, RSTP, etc.] are discussed in the "Available Funding- Existing Funding Stream" section above.)

The highway maintenance funds are split between:

1) Funds to be sent to Hampton Roads cities for local road maintenance ($4.0B), and

2) Funds to be spent by VDOT to maintain its roadway system ($3.8B).

Highway Paving

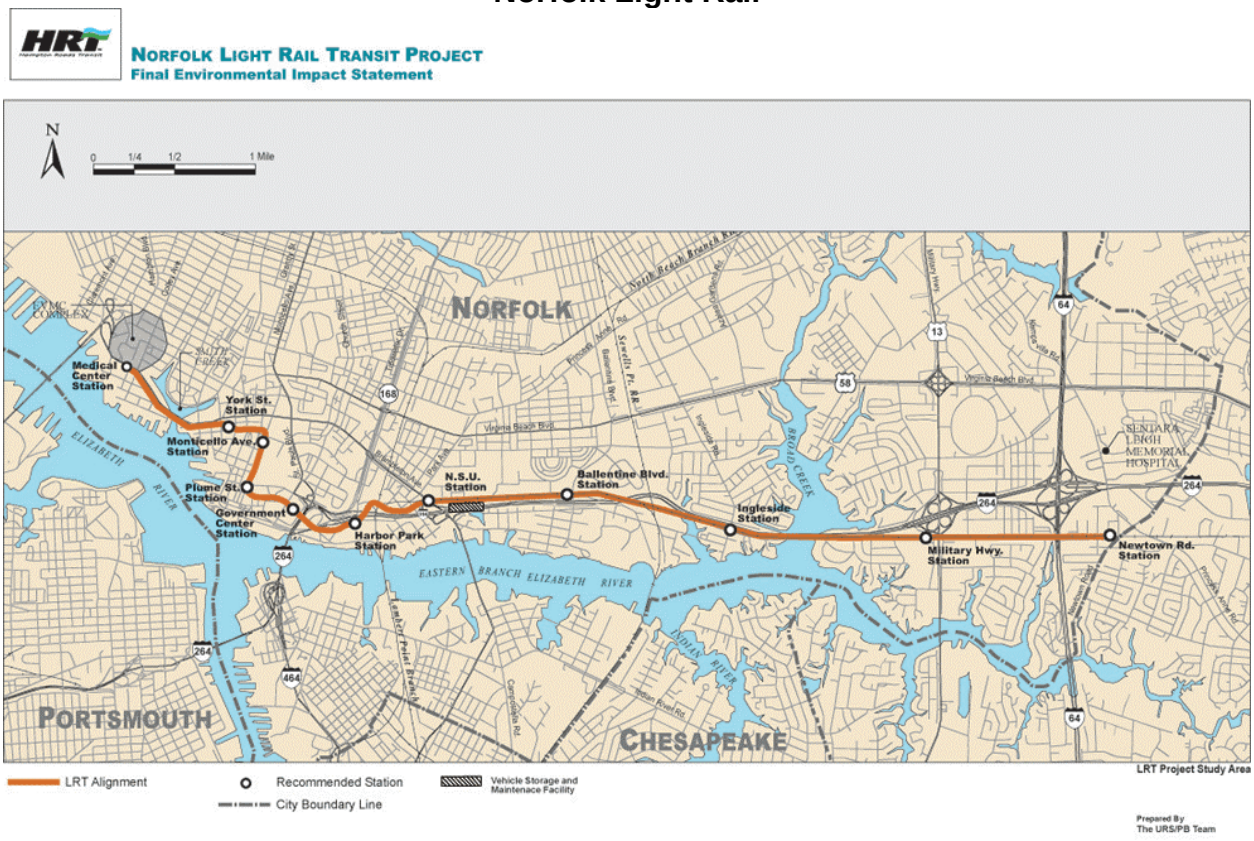
pavement_tfhrc_gov.jpg, www.tfhrc.gov

PROJECTS

Regional Projects in the 2026 Plan

The regional projects on the next page are included in the Plan.

Norfolk Light Rail



Norfolk LRT Map.gif

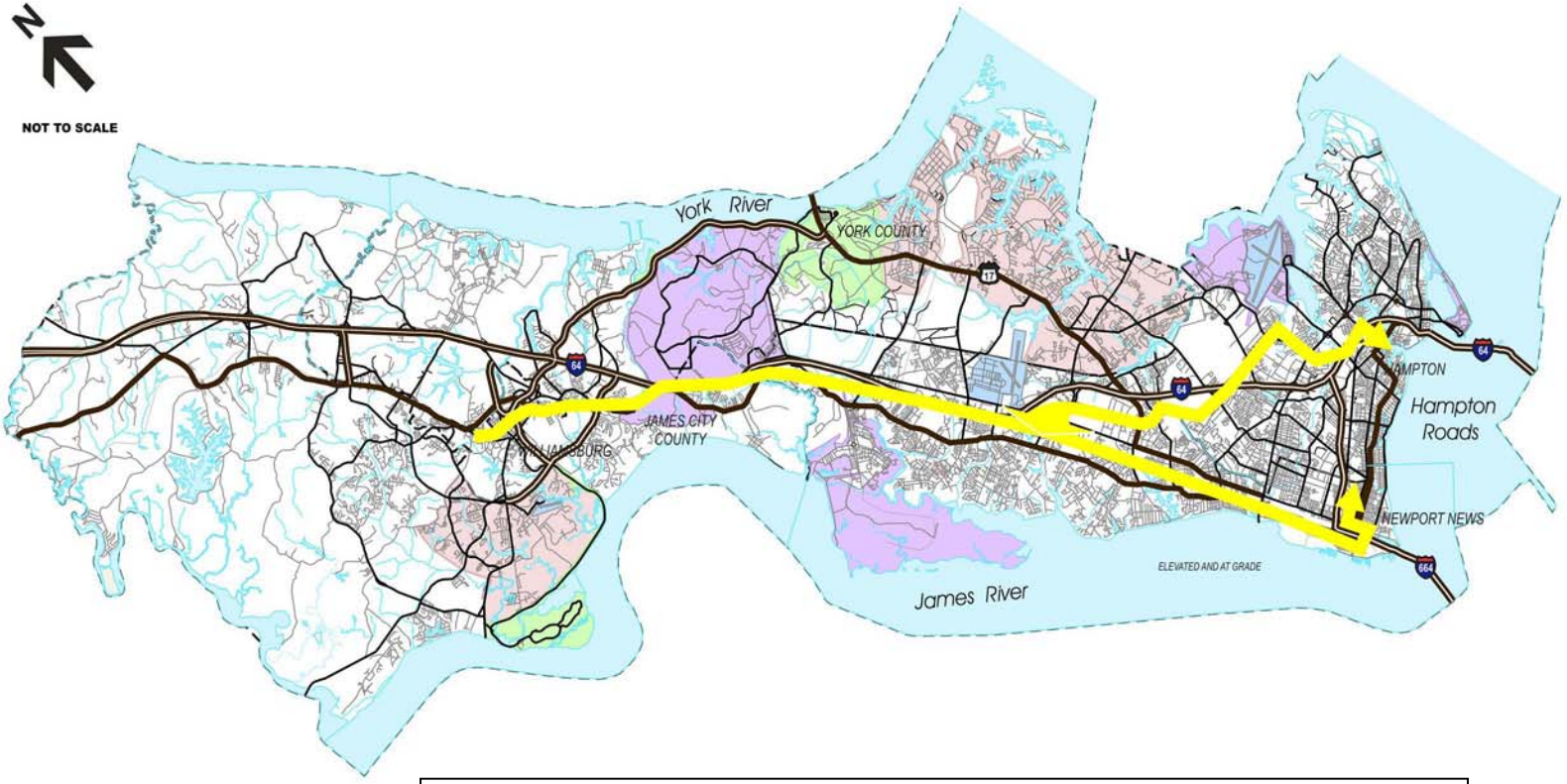
Regional Projects

Projects	Hwy I.D.	From	To	Cost*	Funding* Tolls	Federal & State Transit	Urban	NHS	Primary	RSTP	Bridge	Total	Building Block (3)
Regional Transit (1)													
Norfolk MOS LRT (7)		EVMS	Kempsville Rd	$222	$0	$167	$55	$0	$0	$0	$0	$222	A
Peninsula MOS LRT (7)		(unspecified location)	(unspecified location)	$501	$0	$376	$0	$65	$0	$60	$0	$501	A
Remainder of Pen. LPA (6) LRT- PE (4)		(unspecified location)	(unspecified location)	$10	$0	$0	$0	$10	$0	$0	$0	$10	A
Naval Base Extension LRT- PE (4)		(unspecified location)	Naval Base	$10	$0	$0	$0	$10	$0	$0	$0	$10	A
Bus Purchases, HRT		n.a.	n.a.	$318	$0	$120	$0	$198	$0	$0	$0	$318	A
Bus Purchases, WAT (2)		n.a.	n.a.	$5	$0	$5	$0	$0	$0	$0	$0	$5	A
Capital Improvement Program		n.a.	n.a.	$215	$0	$194	$0	$21	$0	$0	$0	$215	A
BRT/Ferry		n.a.	n.a.	$113	$0	$83	$0	$0	$0	$30	$0	$113	A
Major Facility Investments		n.a.	n.a.	$68	$0	$66	$0	$0	$0	$2	$0	$68	A
CAD/AVL		n.a.	n.a.	$16	$0	$12	$0	$0	$0	$4	$0	$16	A
			Subtotal, Regional Transit	$1,478	$0	$1,023	$55	$304	$0	$96	$0	$1,478	
Regional Highway													
Project	Hwy I.D.												
I-64 Peninsula (eastern segment) (10)	26-16c1	Bland Blvd	Rte 199 east of Wmsbg.	$556	$0	$0	$0	$556	$0	$0	$0	$556	A
U.S. 460 (11)	26-42a1,2	Bowers Hill	S'hamp Co CL (8) at Zuni	$642	$321	$0	$0	$73	$248	$0	$0	$642	A
SP&G / Dominion Blvd Br & Appr's (9) (12)	26-34z	Va. Beach	Chesapeake	$1,141	$621	$0	$0	$260	$0	$260	$0	$1,141	A
Rte 60 relo. - east section- JCC (11)	26-29	Rte 60 (14)	Newport News CL (8)	$15	$0	$0	$0	$15	$0	$0	$0	$15	A
Rte 60 relo. - east section- NN (11)	26-30	James City CL (8)	Ft Eustis Blvd	$18	$0	$0	$0	$18	$0	$0	$0	$18	A
I-264EB ramp from 64WB (s.a. below)	26-16b1	n.a.	n.a.	com'd (5)	(funded by committed VTA/NHS funds) (5)							$0	TIP (5)
I-264 / Newtown Rd Interchange	26-16b2	n.a.	n.a.	$180	$0	$0	$0	$90	$0	$90	$0	$180	A
I-264 / Witchduck Rd Interchange	26-16b3	n.a.	n.a.	$150	$0	$0	$0	$75	$0	$75	$0	$150	A
Kings Highway Bridge	26-209	n.a.	n.a.	$50	$0	$0	$0	$0	$0	$0	$50	$50	A
HR Crossing- Seg. I (construct. & PE) (4) (13)	26-16x1	I-664	I-564	$1,795	$1,795	$0	$0	$0	$0	$0	$0	$1,795	A
			Subtotal, Regional Highway	$4,547	$2,737	$0	$0	$1,087	$248	$425	$50	$4,547	
			Total, Regional Transit and Highway Projects	**$6,025**	$2,737	$1,023	$55	$1,391	$248	$521	$50	$6,025	

Notes *All dollar figures are millions; costs and funding are FY04-FY26, year-of-expenditure.

(1) HRT, unless otherwise specified.
(2) "WAT": Williamsburg Area Transport
(3) Building Block "A" contains regional projects, typically funded with NHS, Primary, and RSTP funds.
(4) "PE": Preliminary Engineering.
(5) See "Highway Projects Committed in FY03 TIP and Planned Local Highway Projects" list.
(6) "Pen. LPA": Peninsula Locally Preferred Alternative.
(7) "MOS": Minimum Operable Segment; "LRT": Light Rail Transit.
(8) "CL": Corporate Limit.
(9) "SP&G": Southeastern Parkway and Greenbelt; includes construction of Dom. Blvd from Cedar Rd to 1.8mi N of Cedar, and PE work for remaining 0.8mi to Grt Br Blvd; Dominion Blvd work is funded via $100M of RSTP funds.
(10) Widen to 6 conventional lanes plus 2 HOV lanes.
(11) 4 lanes on new alignment.
(12) I-264 to Rte 168: 4+2HOV ln's; Oak Grove Conn: 6+2HOV ln's; Dom. Blvd Br. & Appr's: 4 ln's.
(13) Includes Intermodal Connector; 4 conventional lanes plus 2 multi-modal lanes.
(14) Rte 60 near Wal Mart Distr. Center.

Peninsula Transit: Light Rail (LRT)

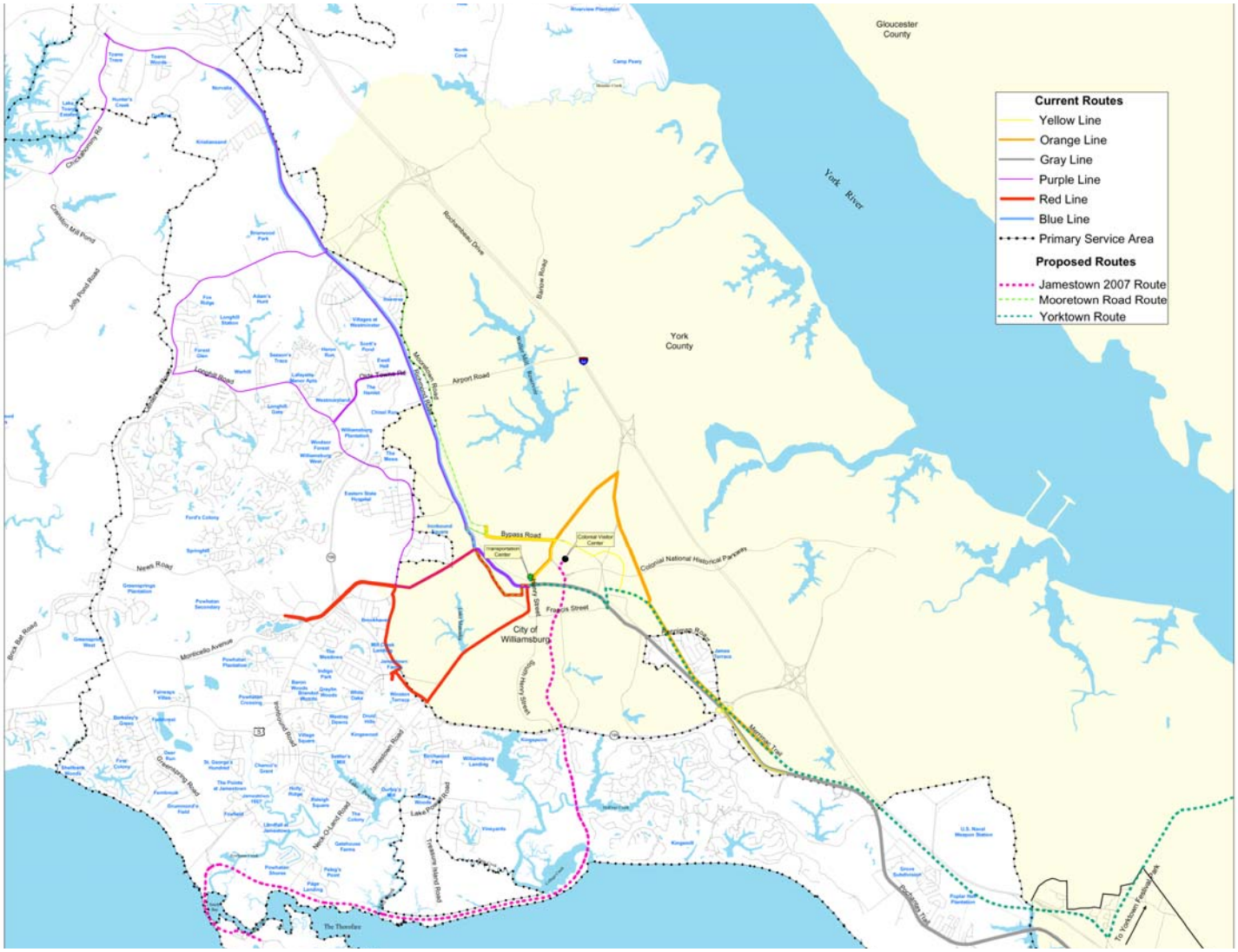


An unspecified Minimum Operable Segment (MOS) of the system shown is included in the 2026 Plan for construction.

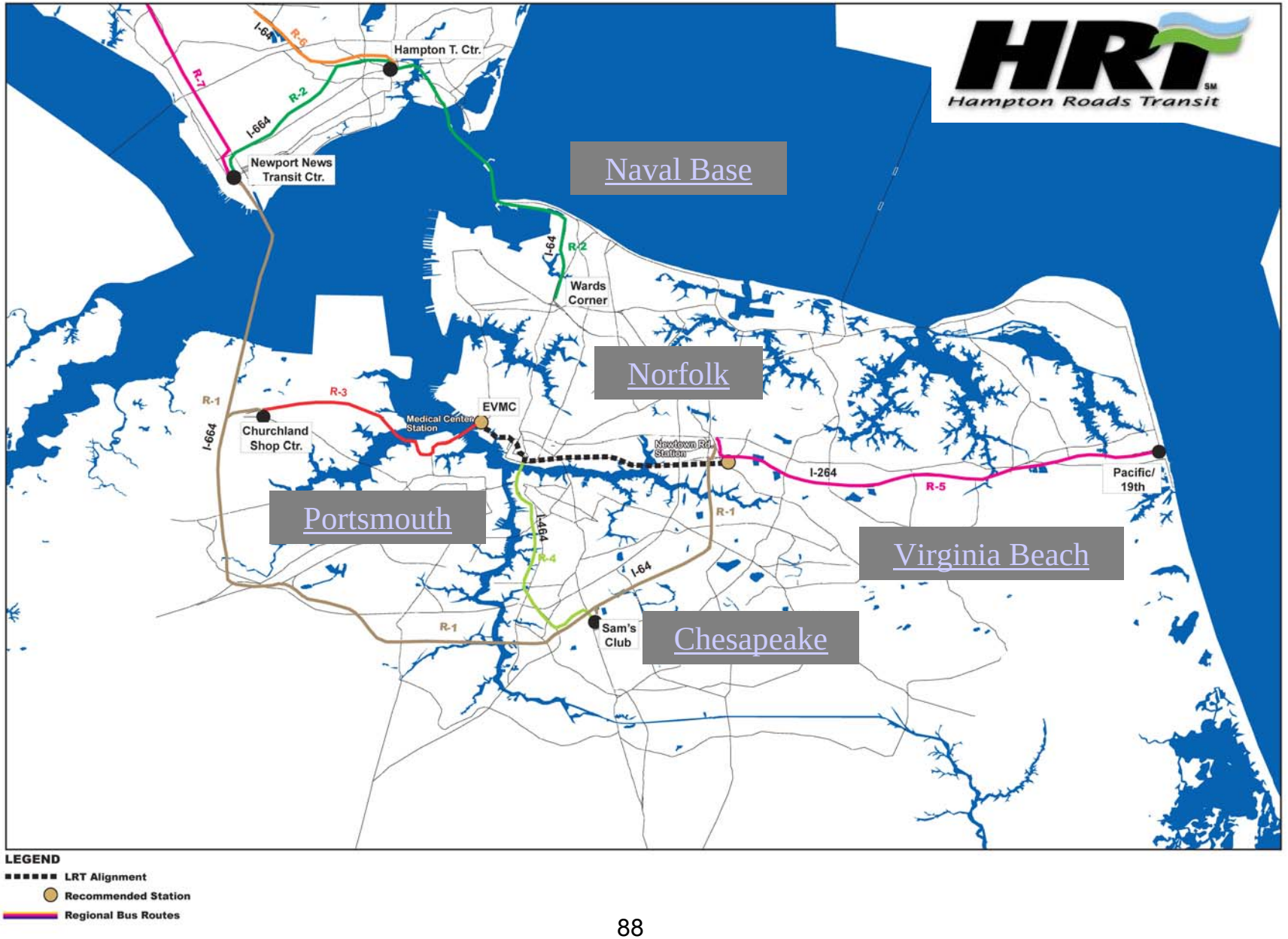
The entire system shown, however, is included in the 2026 Plan for Preliminary Engineering (PE).

Peninsula Transit: Planned HRT Bus Routes

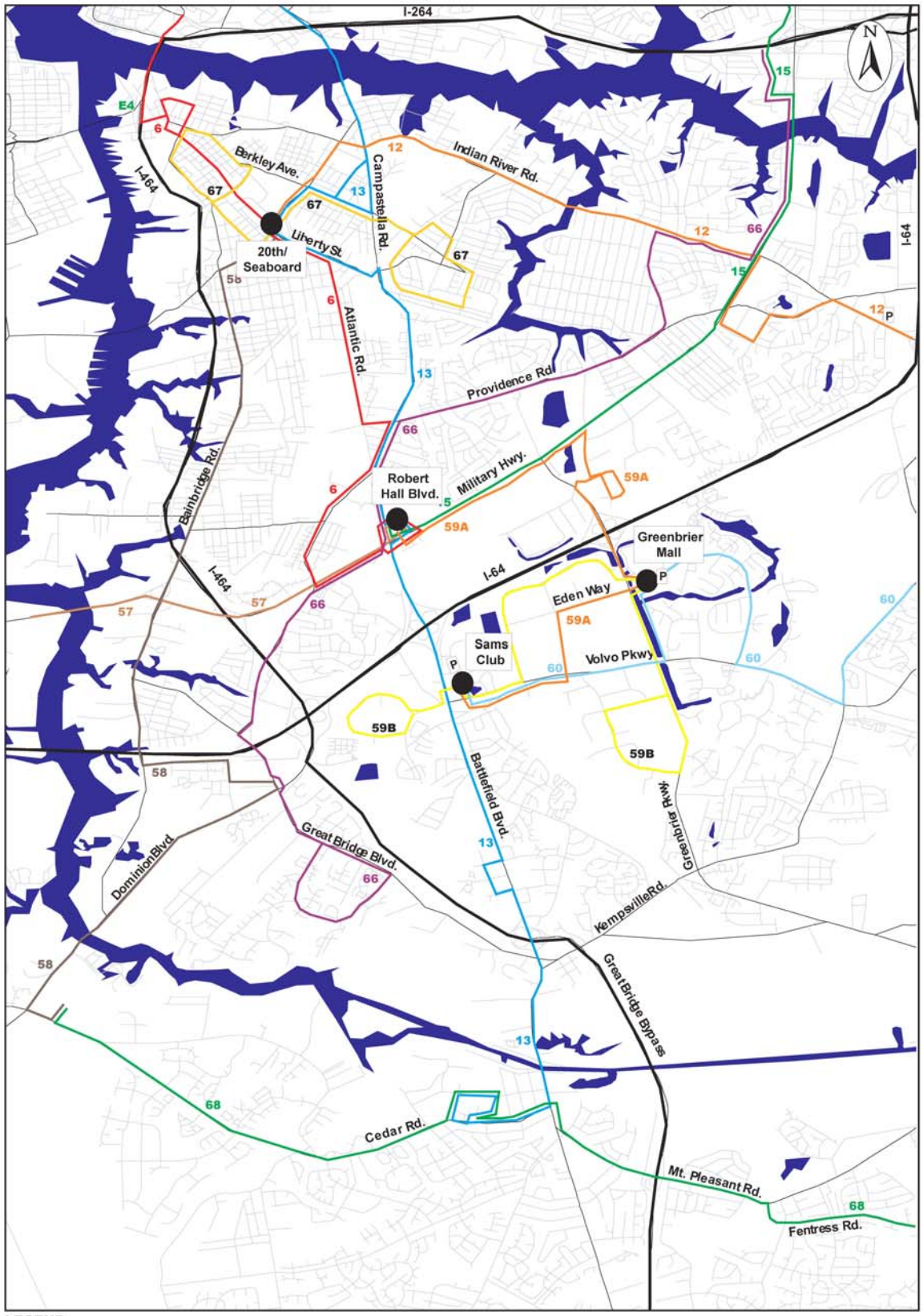
Peninsula Transit: Planned WAT Bus Routes



Southside Transit: Regional Bus Routes and LRT Route



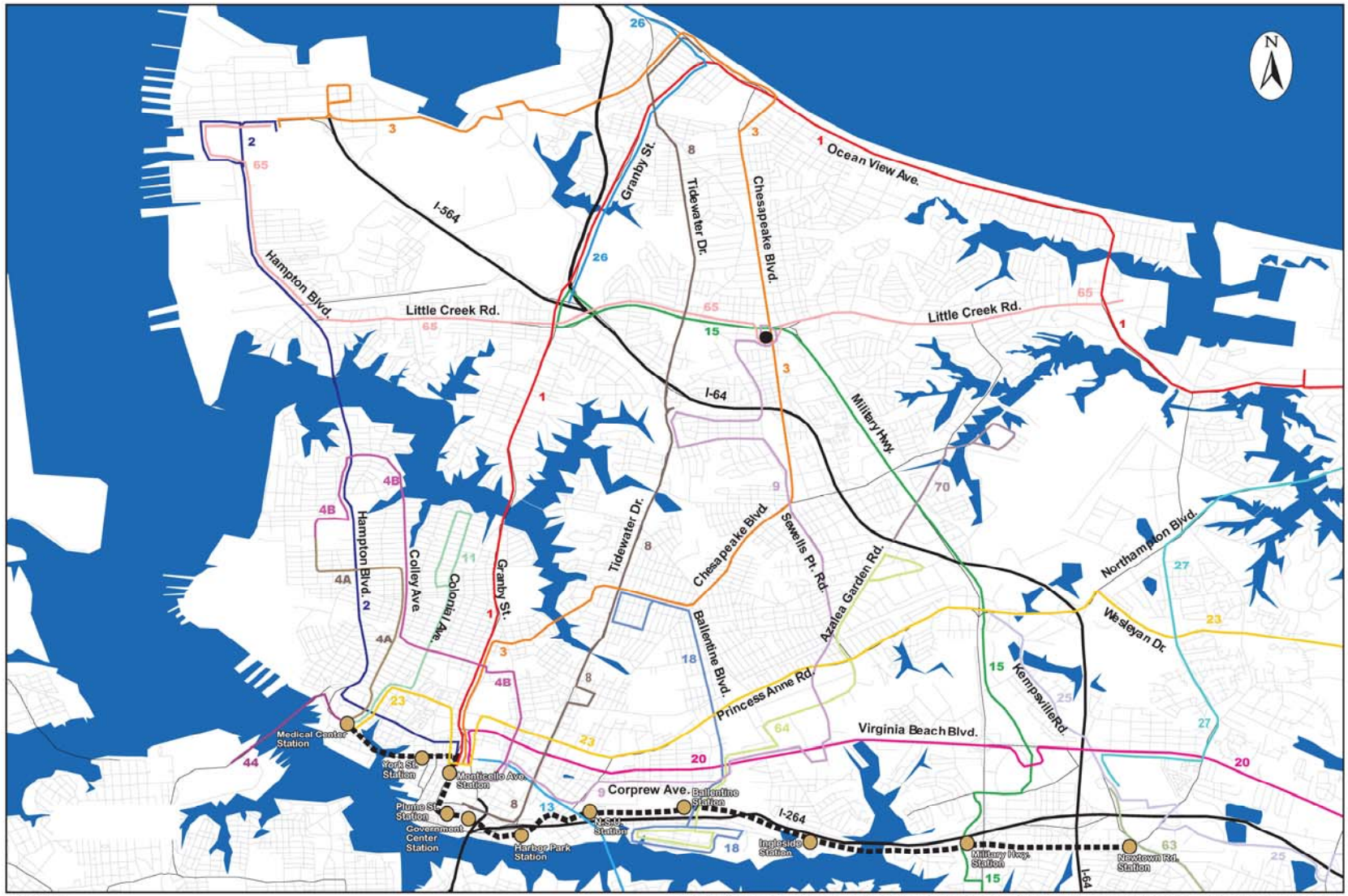
2026 Regional Transit Plan (Chesapeake)



LEGEND

Bus Routes

2026 Regional Transit Plan* (Norfolk Area)

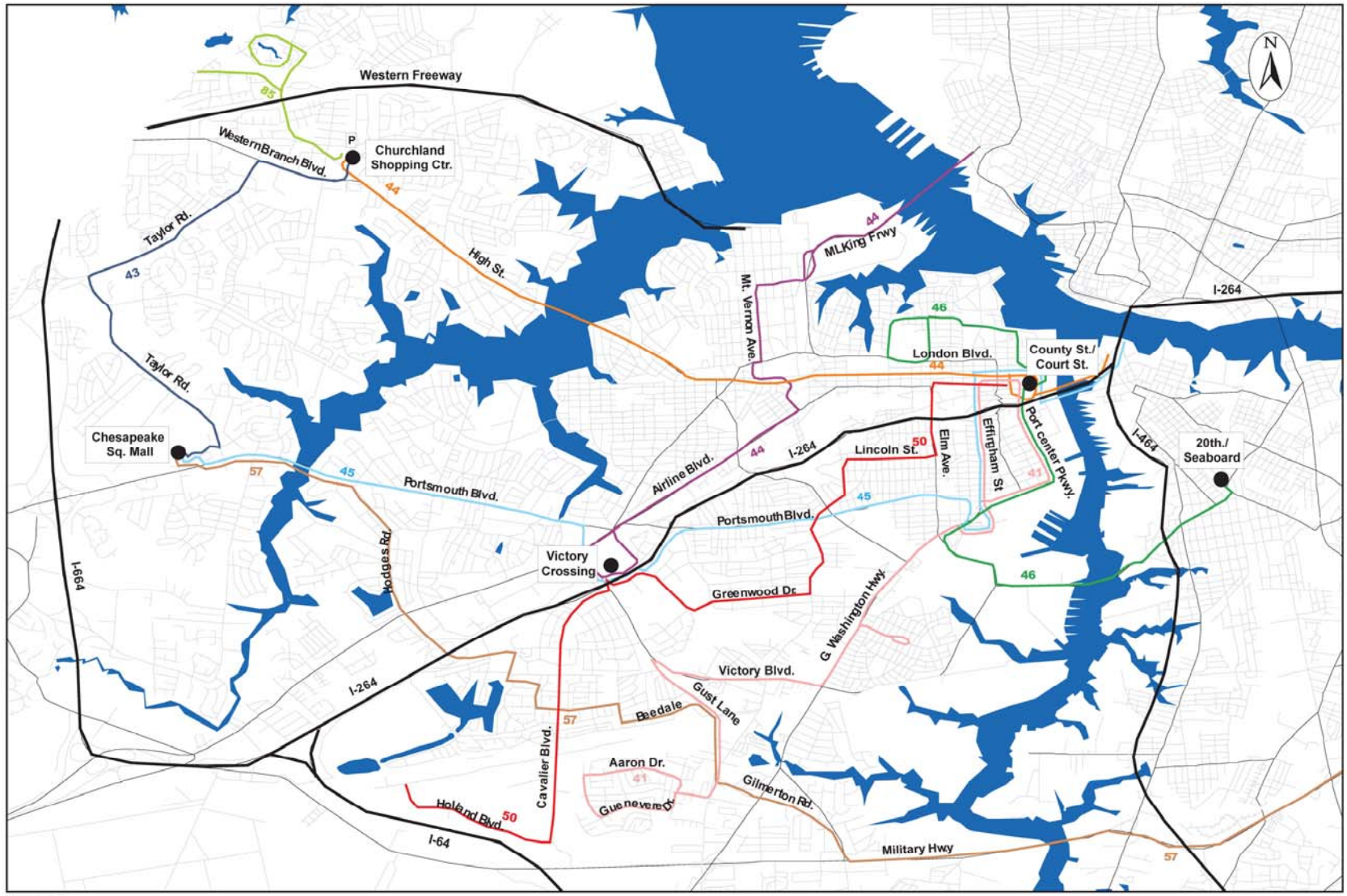


LEGEND

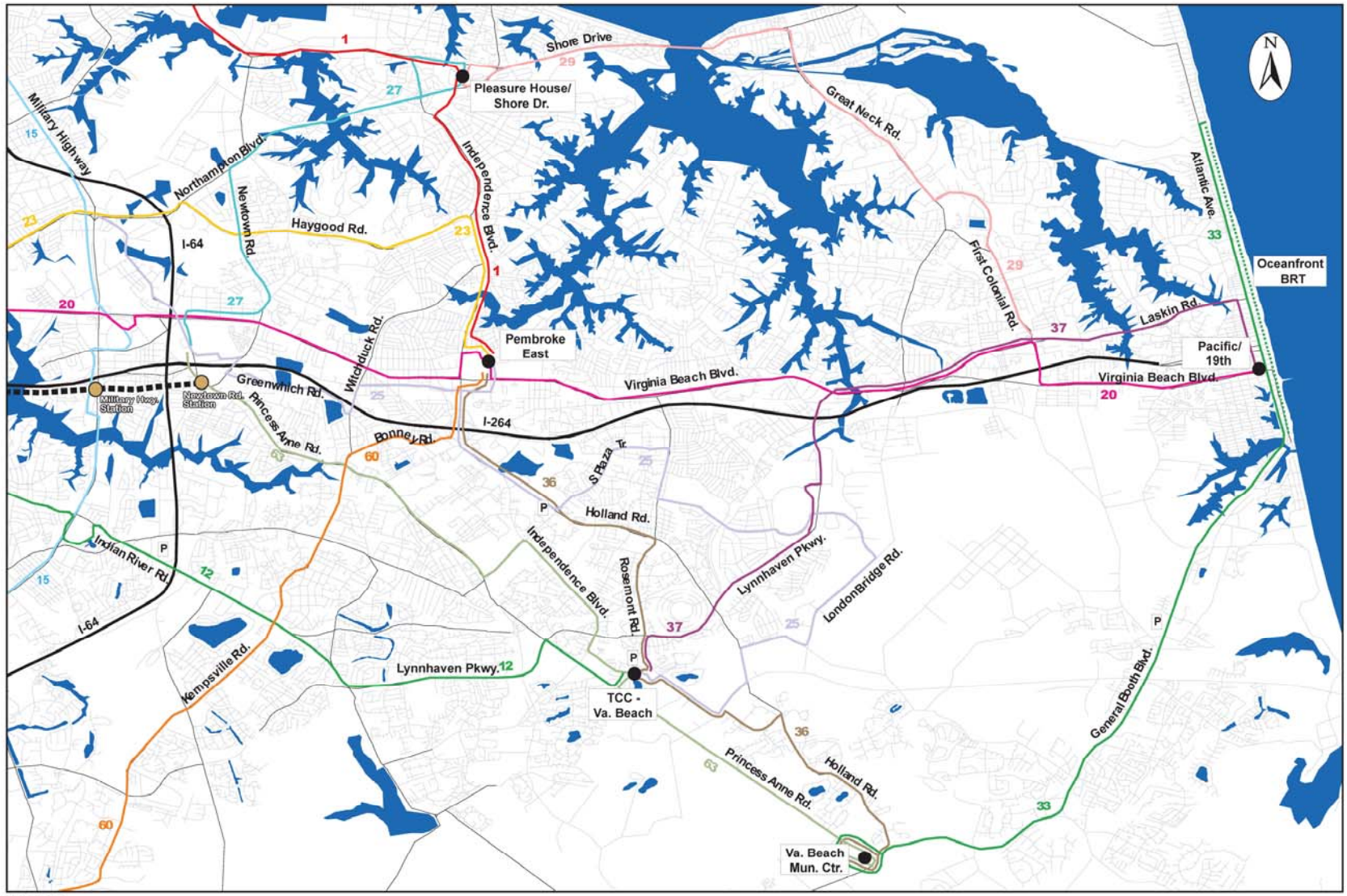
- LRT Alignment
- Recommended Station
- Bus Routes

* Funding for Preliminary Engineering for a Light Rail Extension to Naval Station Norfolk is included in the 2026 plan.

2026 Regional Transit Plan (Portsmouth)



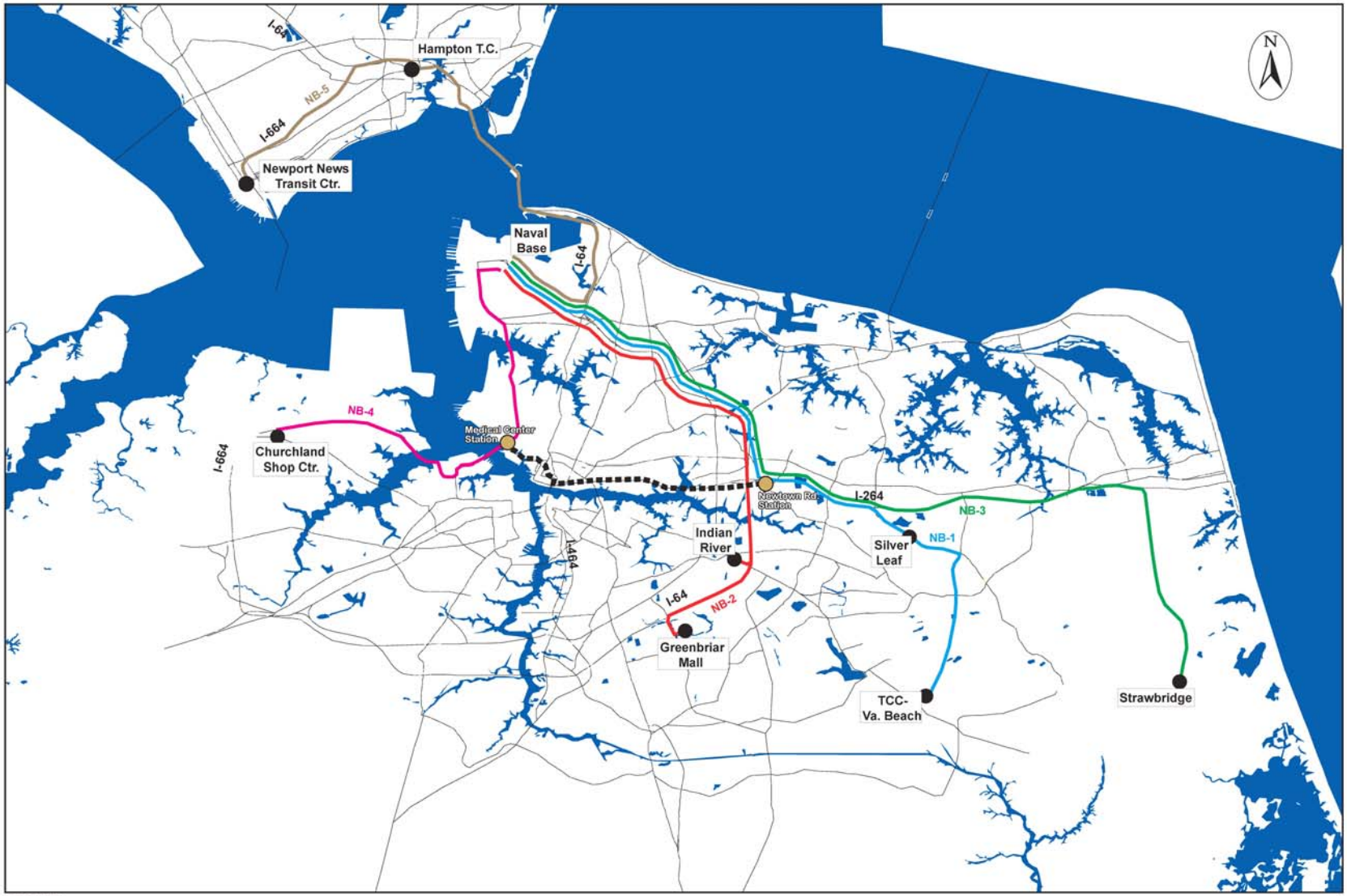
2026 Regional Transit Plan (Virginia Beach)



LEGEND

- LRT Alignment
- Recommended Station
- Bus Routes

2026 Regional Transit Plan (Naval Base Routes)



The regional highway projects listed in the "Regional Projects" table can be found on the maps in the "Highway Project Maps" section below. More information concerning the regional transit projects can be found in HRT's "Proposed 20 Year Transit Plan" (HRT, Nov. 2003) and in WAT's "2026 Plan" (see Appendix I).

ITS Projects in the 2026 Plan

The 2026 Plan includes $116M[18] for ITS projects. It is assumed that these projects will be selected from the 2026 ITS project matrix (shown on following pages) containing $156M of ITS projects.

This matrix was prepared by the Hampton Roads ITS Committee, a formal committee of the MPO consisting primarily of traffic engineers and traffic operations staff from all sixteen local jurisdictions, the local transit agencies, the Virginia Department of Transportation (VDOT), the Virginia State Police, the Virginia Port Authority, the Department of Navy, the Federal Highway Administration, and the Hampton Roads Planning District Commission (HRPDC).

For a complete discussion of ITS in Hampton Roads, see "Hampton Roads ITS Strategic Plan", PB Farradyne Inc, 2004 (available at the HRPDC and www.hrpdc.org).

Legend for Matrix on Following Pages

- SI: *Systems Integration* – Upgrading the communication of data and voice systems, both automated and real time, to maximize management and responsiveness.

- IM/EM: *Incident and Emergency Management* – Improving detection, management, and information dissemination for traffic incidents and other emergencies.

- TM: *Transportation Management* – Improving the control and operation of freeways, arterials, and bridge/tunnels on an integrated, inter-jurisdictional, and traffic-responsive basis.

- SM: *Systems Management* – Installing components to monitor and detect the status of traffic, physical roadway systems, and vehicle operational systems.

- TI: *Traveler Information* – Deploying systems to provide timely and decision-critical travel information to travelers planning trips and en-route.

- PD&M: *Program Development and Management* – Developing support for effectively reaching consensus on ITS policy, deploying cost-effective and standardized systems, monitoring and maintaining system performance, and institutionalizing good practices.

[18] See "Financial Constraint" section below.

2026 ITS Strategic Milestones Project Matrix (Page 1)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
SI	Near-Term	Establish RMMS	▪ Implements RMMS physical and communications infrastructure ▪ RMMS functions: data capture, data processing and storage, data-exchange, and data-dissemination ▪ Integrates RMMS with existing roadway and transit systems ▪ Implements RMMS data stream to and from jurisdictions	▪ Hardware platforms ▪ RMMS software ▪ Communications system ▪ Interface protocols ▪ Analysis tools and report-generators	▪ Examine the RIS experience for lessons learned ▪ Conduct detailed functional requirements assessment ▪ Analyze interface requirements ▪ Detail the architecture for the RMMS and define a concept of operations ▪ Spec hardware, software, and communications ▪ Design systems by module ▪ Develop and test modules ▪ Test links to existing infrastructure — VDOT, jurisdictions, agencies (e.g., HRT, VSP, Virginia Department of Emergency Management (VDEM), Virginia Port Authority (VPA)), etc. ▪ Integrate new specialized applications (e.g., 511) with RMMS ▪ Deploy RMMS I	$2,250,000

2026 ITS Strategic Milestones Project Matrix (Page 2)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
SI	Mid-Term	Implement Advanced RMMS Integration	▪ Enhances RMMS physical and communications infrastructure, as warranted ▪ Expands data streams to and from jurisdictions and agencies ▪ Expands integration with specialized applications to include incident management, advanced traveler information, etc. ▪ Optimizes the timeliness and reliability of RMMS data ▪ Improves the dissemination of RMMS data	▪ Hardware platforms ▪ RMMS software ▪ Communications system ▪ Interface protocols ▪ Analysis tools and report-generators	▪ Expand system capacity ▪ Examine availability of data and commonality of requirements across jurisdictions ▪ Implement new modules/expand existing modules to address growing Regional data requirements ▪ Design/develop links between the RMMS and key Regional applications — e.g., CAD/TMC, ATIS, etc. ▪ Optimize system ▪ Define new, innovative uses for available data — both for operational purposes and public consumption; disseminate data ▪ Develop data interface and analysis tools ▪ Deploy RMMS II	$4,500,000

2026 ITS Strategic Milestones Project Matrix (Page 3)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
SI	Long-Term	Implement Analytic and Predictive RMMS Modeling	▪ Enhances RMMS physical and communications infrastructure, as warranted ▪ Expands RMMS integration ▪ Introduces data-fusion technology and techniques into RMMS ▪ Expands analytic capabilities of RMMS ▪ Improves the dissemination of RMMS data	▪ Hardware platforms ▪ RMMS software ▪ Communications system ▪ Interface protocols ▪ Data-fusion algorithms ▪ Advanced analysis tools and report-generators	▪ Expand system capacity ▪ Identify, study, and assess data-fusion techniques and other candidate technologies for incorporation into RMMS ▪ Design/develop algorithms and models using the most promising technologies ▪ Implement algorithms and models, test, and optimize performance ▪ Implement new analytic and report-generation capabilities ▪ Deploy RMMS III	$4,000,000

2026 ITS Strategic Milestones Project Matrix (Page 4)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
IM/EM	Near-Term	Define Incident Management & Emergency Management Procedures and Concept of Operations	▪ Defines roles and responsibilities for Regional IM/EM ▪ Identifies the interrelationships among IM/EM stakeholders ▪ Establishes performance-based measurement goals	▪ None	▪ Define the operational roles of VSP and municipal police agencies, emergency managers, transit, VDOT, VDEM, U.S. Department of Homeland Security, military bases, ports, etc. ▪ Upgrade on-scene incident management procedures, including quick clearance, hazmat procedures, and data-gathering technologies ▪ Identify critical corridors/intersections for incident diversions and evacuations ▪ Identify requirements and entities responsible for specific IM/EM activities ▪ Determine responsibilities for freeway/arterial traffic diversions and coordination requirements ▪ Determine responsibilities and procedures for monitoring and mitigating conditions during route diversions and evacuations ▪ Identify procedures used to disseminate emergency information to the public ▪ Identify the critical transportation assets in the Region and determine what roles ITS/operations could play in enhancing security of those assets ▪ Prepare a “strawman” CONOPS and validate with Regional stakeholders	$750,000

2026 ITS Strategic Milestones Project Matrix (Page 5)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
IM/EM	Near-Term	Implement CAD Integration I: State CAD/State STC Integration	▪ Integrates VSP CAD and VDOT STC for more rapid detection of incidents ▪ Limited data are available to the Region via the RMMS	▪ Hardware enhancements: VSP, VDOT ▪ Software enhancements: VSP, VDOT ▪ Interface & communications system ▪ RMMS enhancements	▪ Conduct detailed functional requirements analysis ▪ Spec hardware, software, & communications ▪ Engineer systems design ▪ Develop & test functions ▪ Integrate data feeds ▪ Deploy CAD/STC Integration	$3,000,000
IM/EM	Mid-Term	Implement CAD Integration II: Local CAD/Local STC Integration	▪ Integrates municipal police CAD with local STC's ▪ Limited data are available to the Region via the RMMS	▪ Hardware enhancements: Local police, highway, and transit agencies ▪ Software enhancements: Local police, transportation, and transit agencies ▪ Interface and communications system ▪ RMMS enhancements	▪ Conduct detailed functional requirements analysis ▪ Spec hardware, software, & communications ▪ Engineer systems design ▪ Develop and test functions ▪ Integrate data feeds — integration plans will vary by locality ▪ Deploy CAD/Local STC Integration	$2,500,000
IM/EM	Mid-Term	Real-Time Messaging Service for Responders	▪ Enables real-time data messaging between responders during incidents and emergencies ▪ Allows the real-time creation of message groups, comprised of responders involved in common incident or emergency cases	▪ Desktop/in-vehicle devices and personal digital assistants (PDA's) ▪ Data access server ▪ Message gateway ▪ Message switch	▪ Prepare architecture & concept of operations ▪ Develop institutional agreements ▪ Establish message "center" ▪ Plan and perform integration	$1,500,000

2026 ITS Strategic Milestones Project Matrix (Page 6)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
IM/EM	Long-Term	Implement CAD Integration III: Full RMMS Integration	▪ Completes integration of CAD/State STC-Local STC data with RMMS ▪ Stakeholders now have unencumbered access to real-time, integrated incident and emergency data for the entire Region ▪ RMMS data are fused with other systems, such as ATIS	▪ Hardware & Software enhancements: VSP, STC, local police, local STC, RMMS ▪ Interface development ▪ Enhanced communications ▪ Analysis tools and report-generators	▪ Execute Regional CAD integration ▪ Establish links to other RMMS components ▪ Implement new analytic and report-generation capabilities ▪ Deploy full IM/EM integration with RMMS	$4,850,000
TM	Near-Term (Ongoing)	Centralize Traffic Control—Complete VDOT STC Implementation Phases 2 & 3	▪ Enables freeway detection and monitoring ▪ Establishes communications “backbone” for Region ▪ Disseminates traffic information ▪ This ongoing project is underway	▪ Point-detection hardware (348 acoustic sensors and 908 embedded loop detectors) ▪ Point-detection/weigh-in-motion hardware (18 piezoelectric sensors) ▪ Monitors (170 CCTV cameras) ▪ Roadside traveler information (93 changeable message signs) ▪ Communications infrastructure (304 roadway miles of fiber optic cable to be installed; 63 roadway miles of cable laid to date)	▪ Complete incremental builds per implementation plans ▪ Connect local STC’s to communications infrastructure	$28,900,000
TM	Near-Term (Ongoing)	Centralize Traffic Control—Complete VDOT STC Integration & Software Development	▪ Enhances incident detection ▪ Integrates VDOT STC and enhances information processing ▪ This ongoing project is underway	▪ STC hardware ▪ STC software enhancements ▪ Communications system ▪ Interface protocols	▪ Complete incremental builds per implementation plans	$4,800,000

2026 ITS Strategic Milestones Project Matrix (Page 7)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
TM	Near Term (Ongoing)	Centralize Traffic Control—Operationalize Local STC's	▪ Develops and deploys centralized operations in key jurisdictions ▪ Operations include traffic signal control, traffic signal preemption/priority, and arterial monitoring ▪ Ongoing development activities are underway in Chesapeake, Hampton, Newport News, Portsmouth, Suffolk, and Virginia Beach ▪ Development in Norfolk is substantially completed and the system is operational ▪ Ongoing development is also underway in the VDOT Hampton Roads District	▪ Traffic signal controllers ▪ Traffic signal preemption/priority equipment at intersections ▪ System detectors & permanent count stations ▪ Detection equipment (intersection stop line point-detectors & flood) ▪ Monitors (CCTV video cameras) ▪ TMS hardware ▪ TMS software ▪ Communications system	▪ Complete one-time builds per jurisdiction ▪ Connect to VDOT "backbone" for video- and data-sharing ▪ Extend roadway monitoring to arterials	$34,581,300

2026 ITS Strategic Milestones Project Matrix (Page 8)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
TM	Near-Term	Enhance Traffic Detection	▪ Completes, improves, and expands traffic management capabilities ▪ Synthesizes data inputs from VDOT and municipalities ▪ Integrates data inputs from HRT ▪ Implements capability to monitor vehicle movements in order to gauge corridor speeds and travel times ▪ Links synthesized data to RMMS	▪ Point-detection equipment (e.g., loop detectors, acoustic detection, radar detection, video detection) ▪ Probes and detectors for assessing corridor conditions (e.g., AVL data, toll-tag transponder data, and AirSage data) ▪ HRT's Advanced Communications System for radio and CAD/AVL system ▪ RMMS software enhancement — algorithm to calculate speeds and travel times from probe and detector data ▪ Communications link between VDOT and HRT	▪ Analyze roadway data to define algorithms ▪ Design speed and travel time algorithms ▪ Test and implement algorithms ▪ Integrate data ▪ Exchange information and disseminate data	$5,000,000
TM	Mid-Term	Implement Prediction/ Responsive Capabilities	▪ Continues build-out of centrally-controlled traffic signal systems ▪ Develops and implements predictive algorithm tools to predict conditions and outcomes under various freeway scenarios ▪ Extends predictive algorithm capabilities to major arterials under municipal jurisdictions ▪ Develops and implements centrally-controlled condition/responsive action plans that are automatically executed once "approved" by designated staff overseeing freeway management	▪ Enhanced field detection equipment ▪ RMMS software enhancements — predictive/responsive algorithms ▪ Municipal TMS software enhancements ▪ Interface protocols	▪ Examine state-of-art traffic prediction and condition/responsive algorithms ▪ Design predictive/responsive algorithms ▪ Test and implement algorithms ▪ Integrate data ▪ Exchange information and disseminate data	$6,000,000

2026 ITS Strategic Milestones Project Matrix (Page 9)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
TM	Long-Term	Implement Adaptive Capabilities	▪ Adds adaptive systems, which enable automatic, real-time response to traffic conditions, to VDOT's Freeway Management System ▪ Adds adaptive systems to the cities' traffic signal systems on major arterials	▪ Enhanced field detection equipment ▪ RMMS software enhancement — adaptive algorithms ▪ Local STC software enhancements ▪ Interface protocols	▪ Complete build-out of detection and prediction capabilities ▪ Examine state-of-art adaptive algorithms ▪ Examine data stored in RMMS ▪ Design adaptive algorithms based on detection data ▪ Test and implement algorithms	$11,000,000
SM	Near-Term	Asset Assessment	▪ Inventories Region-wide transportation assets (roadway & transit) ▪ For "mission-critical" assets, defines security plans, back-up facilities plans, electrical and communications back-up plans, etc. ▪ Automates inventory	▪ Database ▪ RMMS module	▪ Identify transportation assets across Region, including infrastructure, facilities, & equipment ▪ Perform analyses to determine which assets are "mission critical" ▪ Assess vulnerabilities of "mission critical" assets ▪ Develop countermeasures to ensure those assets are usable or accessible under severe emergency conditions ▪ Implement asset database within RMMS	$600,000

2026 ITS Strategic Milestones Project Matrix (Page 10)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
SM	Near-Term	Fleet Management Capabilities	▪ Installs AVL systems on HRT buses, Freeway Incident Response Team (FIRT) vehicles, and VDOT maintenance vehicles ▪ Implements fleet management capabilities	▪ AVL in-vehicle equipment ▪ AVL communications and support infrastructure ▪ HRT CAD/AVL management software ▪ VDOT fleet management system ▪ RMMS module	▪ Research and select suitable AVL technology for Region ▪ Ensure compatibility of HRT and VDOT AVL systems; coordinate activities with VSP, other state agencies, and municipalities involved with AVL ▪ Research and define range of fleet management functions desired ▪ Install and implement AVL ▪ Develop and implement fleet management modules in the RMMS	$10,000,000
SM	Near-Term	Automated Detection and Warning Systems	▪ Automatically detects over-sized commercial vehicles at additional strategic tunnel and roadway locations ▪ Advises drivers of their over-size status and alternative routing for bypassing the problem location ▪ Determines whether other types of detection-and-warning systems are needed across the Region	▪ Detection-and-warning systems ▪ Dynamic message signs ▪ Systems management software	▪ Determine optimal locations for installing detection-and-warning systems — i.e., locations that will minimize traffic disruptions while vehicles are measured, but also allow easy re-routing of vehicles ▪ Deploy systems	$2,000,000
SM	Mid-Term	Expanded Fleet Management with Integrated Capabilities	▪ Extends AVL coverage to additional fleets, e.g., municipal maintenance vehicles ▪ Integrates AVL with other management systems, e.g., transit scheduling system, passenger counters, etc. at HRT ▪ Adds vehicle diagnostic capabilities, e.g., engine maintenance sensors	▪ AVL systems ▪ Vehicle diagnostics systems ▪ Fleet management systems ▪ Integration software ▪ RMMS module	▪ Implement AVL on additional fleets ▪ Integrate AVL with other management systems ▪ Identify additional fleet management functions desired ▪ Develop and implement additional fleet management modules in the RMMS	$5,000,000

2026 ITS Strategic Milestones Project Matrix (Page 11)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
SM	Mid-Term	Manage Automated Enforcement Programs	▪ Deploys enforcement technologies likely to have a positive impact on safety and mobility ▪ Candidate technologies include detection of red-light running, speed-limit violations, and improper use of HOV lanes ▪ Deploys and manages automated enforcement programs	▪ Sensor and detection systems ▪ Communications systems ▪ Databases and tracking systems ▪ Management software	▪ Research candidate technologies, including their respective impacts on Regional safety and mobility, legal issues, operational resources and requirements, etc. ▪ Determine whether to administer programs in-house or out-source ▪ Plan and deploy enforcement programs	$10,000,000

2026 ITS Strategic Milestones Project Matrix (Page 12)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
SM	Long-Term	Asset Monitoring & Real-Time Management	▪ Links together the asset and fleet management functions ▪ Enables real-time "visibility" of all major assets, e.g., bridges and vehicles ▪ Makes available instant status of assets through the RMMS ▪ Supports informed management decision-making based on up-to-the-minute data	▪ Asset management system ▪ Fleet management system ▪ Integration software ▪ RMMS module	▪ Integrate asset and fleet management systems with the RMMS	$4,000,000
TI	Near-Term	Launch 511 & Revitalize ATIS	▪ Implements basic 511 service that enables dissemination of transportation information via (1) phone service (dial "511"), and (2) Regional web site ▪ Revitalizes Regional ATIS (Advanced Traveler Information System) to include expanded video-sharing and enhanced highway advisory radio (HAR)	▪ RMMS data pump ▪ Regional web site/transportation map ▪ Interface ▪ Video hardware ▪ ATIS field hardware (e.g., HAR, CMS's, Portable CMS's) ▪ Communications infrastructure	▪ Examine current and pre-existing traveler information dissemination efforts, especially those conducted via media outlets, for lessons learned, etc. ▪ Plan and implement basic 511 service accessible through wireline & wireless phones and on a public web site ▪ Implement a dynamic transportation map on the public web site ▪ Expand video-sharing between VDOT, HRT, municipalities, emergency responders, media outlets, etc. ▪ Upgrade and expand HAR	$3,000,000

2026 ITS Strategic Milestones Project Matrix (Page 13)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
TI	Mid-Term	RMMS "Info-Feed" to 511/ATIS	▪ Expands the type and sophistication of data available via 511 and ATIS services ▪ Expands the type, availability, and currency of HRT passenger information ▪ Expands the media by which 511/ATIS data are available to include new state-of-the-practice technologies	▪ RMMS data pump ▪ RMMS software enhancements ▪ 511/ATIS enhancements ▪ Interface ▪ Video hardware/enhanced imaging capabilities ▪ ATIS field hardware ▪ Communications infrastructure	▪ Identify additional data to be made available via 511/ATIS services, including additional HRT data ▪ Examine new candidate technologies to "push" information to travelers ▪ Develop and implement enhancements ▪ Deploy enhanced HRT passenger information systems	$2,000,000
TI	Long-Term	Traveler Information from Data Fusion	▪ Completes the data-fusion capability in RMMS and pumps the fused data to 511/ATIS outlets ▪ Accommodates transfer of next-generation ATIS over the Internet using wireless communications ▪ Improves and expands dissemination technologies and techniques, including interfaces with in-vehicle systems	▪ RMMS data pump ▪ RMMS software enhancements ▪ 511/ATIS enhancements ▪ Interface ▪ Other technologies, as needed	▪ Complete RMMS III efforts to fuse data for enhanced traveler information ▪ Improve and expand dissemination technologies & techniques, including interfaces with in-vehicle systems	$3,000,000
PD&M	Near-Term	Cultivate Champions, Educate the Public, & Train Staff	▪ Communicates an awareness of the operational benefits gained through ITS ▪ Trains staff in ITS planning, operations, and maintenance ▪ Establishes a Regional ITS & Operational Standards Group to define data-exchange standards, etc.	▪ None	▪ Develop performance goals and measures for all program areas ▪ Review/enhance Regional ITS marketing materials ▪ Expand ITS O&M education and training ▪ Explore, outreach, and cultivate Champions ▪ Expand public knowledge of — and experience with — traveler information systems ▪ Conduct professional capacity-building training for ITS professionals ▪ Develop Regional ITS and Operations data-exchange standards	$500,000

2026 ITS Strategic Milestones Project Matrix (Page 14)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
PD&M	Near-Term	Regional Configuration Management & Standards	▪ Prepares a comprehensive inventory of Regional ITS hardware, firmware, software, applications, etc. ▪ Uses inventory to establish baseline against which system changes may be documented to establish and maintain interoperability ▪ Establishes a Regional ITS Technology Standards Group to define pertinent operational and technology standards	▪ None	▪ Examine state-of-the-practice approaches to configuration management and implement the optimal approach ▪ Develop and implement mechanisms for capturing and maintaining configuration management inventory ▪ Develop Regional ITS and Operations technology standards	$500,000
PD&M	Mid-Term	Regional Maintenance Staff for ITS	▪ Defines a comprehensive approach to Regional maintenance of ITS hardware, software, and field devices; the approach should include structure, oversight, parts inventory, prioritization scenarios, funding, etc. ▪ Documents the range of ITS maintenance needs and the specific skills required to address those needs ▪ Establishes a Regional maintenance team	▪ None	▪ Appoint a task force to promulgate maintenance requirements and standards ▪ Develop agreements between VDOT, municipalities, and other agencies on use of the maintenance team, maintenance charges, etc. ▪ Set up a maintenance team consistent with the adopted requirements and standards	$600,000

2026 ITS Strategic Milestones Project Matrix (Page 15)

Program Area	Schedule	Project Name	Operational Description	Key Systemic Components	Development Approach	Estimated Implementation Costs ($)
PD&M	Long-Term	Structured Systems Migration	▪ Defines a migration plan and path for those Regional systems that support ITS and operations ▪ Identifies plans, procedures, and protocols for upgrading early/existing systems as they reach the end of their productive lives ▪ Identifies plans, procedures, and protocols for replacing broken or defective ITS components ▪ Implements systems migration procedures and monitor activities	▪ RMMS configuration management module	▪ Benchmark useful life of ITS components by type ▪ Establish general timetables for major system upgrades ▪ Execute the migration plan ▪ Track replacement/upgrade activities and status	$1,000,000

Bicycle and Pedestrian in the 2026 Plan

There are currently over 400 miles of bicycle facilities of varying types in the region. These types range from paths that are for the exclusive use of cyclists and walkers, to highways that are signed as being safe for cyclists to share the road with vehicles. Thirty-nine percent of the existing bicycle facility miles in the Hampton Roads MPO study area are signed shared roadways, 39% are shared-use paths, 15% are shoulder facilities, and 8% are bicycle lanes.

The map of future bicycle facilities reflects the plans of each of the localities in Hampton Roads. This information came from their comprehensive plans or from stand-alone bicycle plans. Although the map indicates plans for over 1,400 additional miles of bicycle facilities, all of these will probably not be built by the year 2026. Appendix G includes individual maps of planned bicycle facilities for each locality.

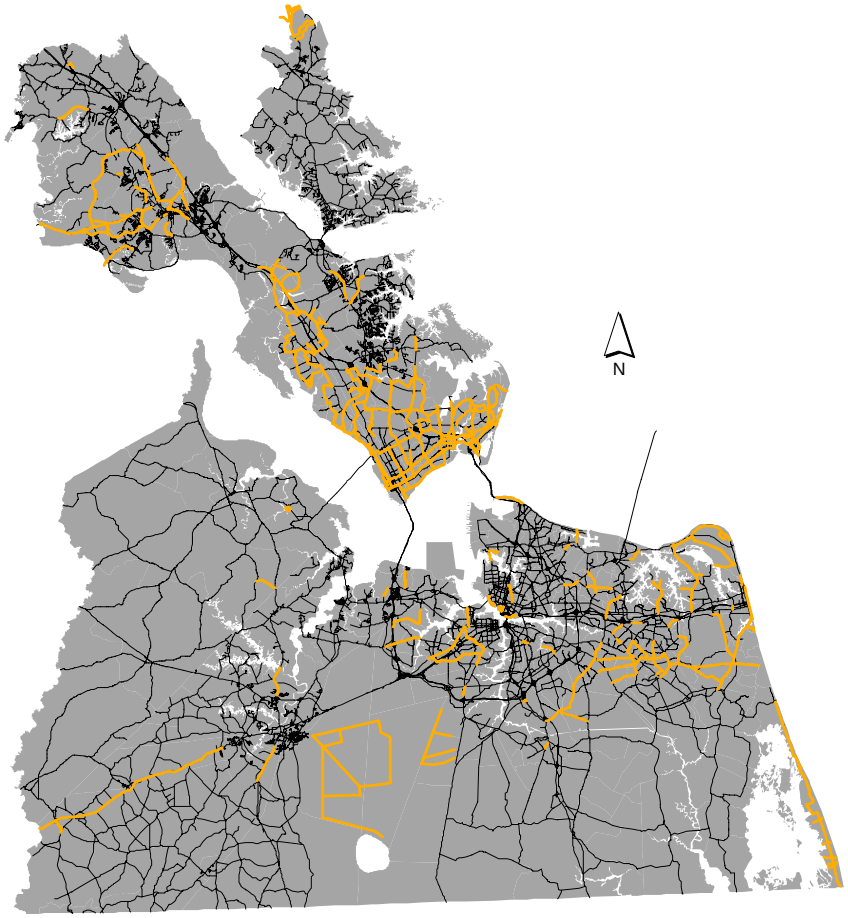
There are essentially two means of constructing bicycle and pedestrian facilities. One way would be as a part of a highway project. As of the writing of this report, VDOT is involved in a review of policies and procedures to ensure that motorized and non-motorized modes of transportation receive the same consideration in the planning, funding, design, construction, operation, and maintenance of Virginia's transportation network. In addition, the Virginia office of FHWA and VDOT have policies of including bicycle and pedestrian facilities with new and reconstructed highway facilities (see Appendices E and F). In light of these policies, it is assumed that many of the highway projects in the 2026 Regional Transportation Plan (2026 RTP) will include bicycle and/or pedestrian facilities (except for current interstate facilities and Segment 1 of the Hampton Roads Crossing). These non-interstate projects account for 84% of the 2026 RTP highway improvement centerline miles, or 150 miles of possible bicycle or pedestrian improvements along highways in the region.

The other means of expanding the region’s network of bicycle and pedestrian facilities would be through individual bicycle or pedestrian projects. The 2026 Regional Transportation Plan has $28 million in CMAQ funds dedicated for these projects. These funds could build approximately 80 miles of shared-use paths in the region.

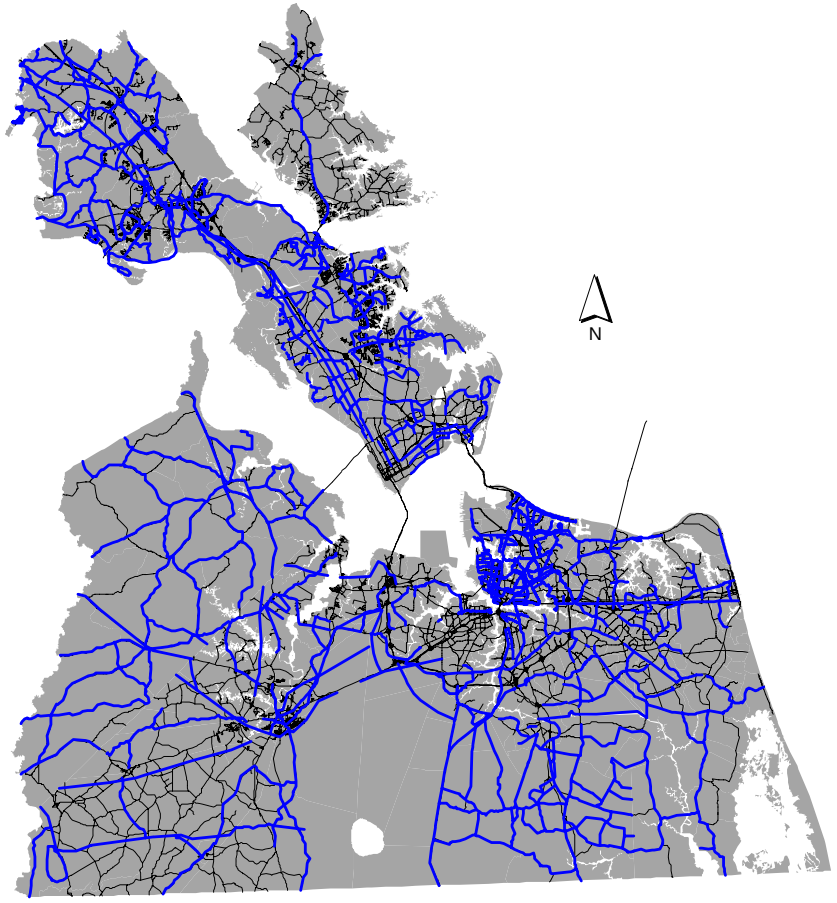
With the above policies and funding levels, there could be 230 miles of new bicycle or pedestrian facilities in the region in 2026. This is 16% of the 1,401 miles of bicycle facilities contained in the comprehensive plans of the region.

Existing and Future Bicycle Facilities

Existing Bicycle Facilities
443 centerline miles



Planned Bicycle Facilities in the Region
1,401 centerline miles



Source of map information: VDOT Hampton Roads District Bicycle Plan, August 2003
Note that with current policies and estimated funding levels, it is estimated that 230 miles of new bike or ped projects would be built by 2026.

bike_exist.wmf and bike_future.wmf

Highway Projects Committed in FY03 TIP and Planned Local Highway Projects in the 2026 Plan

These 2026 highway projects can be found on the following pages.

US 17 Groundbreaking

US17 Groundbreaking- large.jpg

Highway Projects Committed in FY03 TIP and Planned Local Highway Projects

i.d.	Project	From	To	Work	2003 Lanes	2026 Lanes	UPC (8)	Source of Project (9)	Cost, FY04-FY26*	Funding Source
CHESAPEAKE										
26-56	**Battlefield Blvd (incl'g GB bridge)**	Albemarle Dr	Wayne Ave	Widening	2	4	18592	03TIP	$0	None (10)
26-60	**Cedar Rd**	Albemarle Dr	Battlefield Blvd	Widening	3	4	n.a.	Local	$15	Urban
26-61	**Cedar Rd (incl'g Deep Crk br) (7)**	Mill Creek Pkwy	Shipyard Rd	Widening	2	4	n.a.	Local	$0	(7)
26-62	**Cedar Rd realigned**	Shipyard Rd	Dominion Blvd	New Alignment	0	4	local	03TIP	$11	Local
26-71	**Greenbrier Pkwy**	Volvo Pkwy	Eden Way	Widening	5	6	72796	Ches.	$9	Urban
26-72	**GW Hwy**	NC line	Dominion Blvd	Widening	2	4	54868	03TIP	$0	None (10)
26-75	**GW Hwy realigned**	Sawyers Arch	Cedar Rd	New Alignment	0	4	n.a.	Local	$9	Urban
26-76	**Hanbury Rd**	Johnstown Rd	Battlefield Blvd	Widening	2	4	n.a.	Local	$18	Urban
26-78	**I-64**	I-464	Greenbrier Pkwy	Widening	6	6+2	12379	03TIP	$33	NHS
26-17	**Lynnhaven Pkwy - Volvo Pkwy**	Kempsville Rd	VB CL	New Alignment	0	4	13485	03TIP	$1	Urban
26-80	**Military Hwy**	Allison Dr	VB CL	Widening	4	6	17636	Local	$61	Urban
26-81	**Military Hwy (Gilmerton Bridge)**	n.a.	n.a.	Replacement	4	4	1904	03TIP	$54	Urban
26-82	**Mt Pleasant Rd (incl'g Byp intx impr'ts)**	Great Bridge Bypass	Centerville Tnpk	Widening	2	4	n.a.	Local	$30	Urban
26-23	**Nansemond Pkwy - Portsmouth Blvd**	Suff CL	Joliff Rd	Widening	2	4	18591	Local	$11	Urban
26-86	**Woodlake Dr Extd**	Woodlake Cir	Battlefield Blvd	New Alignment	0	2	n.a.	Local	$9	Urban
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$76	Various
				Subtotal					$337	
GLOUCESTER CO.										
26-87a	**New connector road**	Margaret Dr	Hayes Rd	New Alignment	0	2	n.a.	Local	$2	Sec.
26-87b	**New connector road**	Bellehaven Dr	Tyndall Dr	New Alignment	0	2	n.a.	Local	$4	Sec.
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$5	Sec.
	Secondary set-asides (2)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	Local	$9	Sec.
				Subtotal					$20	
HAMPTON										
26-89	**Armistead Ave (cost includes 26-114)**	Wythe Creek Rd	NASA Main Gate	Widening	2	4	13428	03TIP	$1	Urban
26-91	**Armistead Ave / I-664 Conn**	Mercury Blvd	Crossroads Pkwy	New Alignment	0	4	2067	03TIP	$5	Urban
26-93	**Armistead Ave bridge (Newmkt Crk)**	n.a.	n.a.	Replacement	n.a.	n.a.	52074	03TIP	$0	None (10)
26-96	**Cmdr Shepard Blvd Ext**	Magruder Blvd	Big Bethel Rd	New Alignment	0	4	19028	03TIP	$7	Urban
26-97	**Coliseum Dr**	Mercury Blvd	HRC Parkway	Widening	4	6	n.a.	Local	$39	Urban
26-98	**Crossroads Pkwy**	Pine Chapel Rd	Armistead Ave Link Rd	New Alignment	0	4	n.a.	03TIP	$2	Local
26-102	**I-64**	0.6km E of HRC Pkwy	I-664	Widening	6	6+2	17368	03TIP	$16	NHS
26-103b	**I-64 @ Armistead Ave & Lasalle Ave**	n.a.	n.a.	Modify Interchange	n.a.	n.a.	n.a.	Local	$11	Urban
26-108	**Little Back River Rd**	King St	Wilderness Rd	Widening	2	4	n.a.	Local	$20	Urban
26-109	**Magruder Blvd**	Semple Farm Rd	HRC Parkway	Widening	4	6	n.a.	Local	$54	Urban

Highway Projects Committed in FY03 TIP and Planned Local Highway Projects

i.d.	Project	From	To	Work	2003 Lanes	2026 Lanes	UPC (8)	Source of Project (9)	Cost, FY04-FY26*	Funding Source
26-112a	**Queen St**	Pine Chapel Rd	Briarfield Rd	Reconstruct	4	4	n.a.	Local	$6	Urban
26-34	**Saunders Rd**	NN CL	Big Bethel Rd	Widening	2	4	57047	Local	$14	Urban
26-114	**Semple Farm Rd (cost incl'd in 26-89)**	Magruder Blvd	Wythe Creek Rd	Widening	3	4	13428	03TIP	$0	(11)
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$1	Urban
				Subtotal					$176	
ISLE OF WIGHT CO.										
26-120	**Rte 704 (Rescue Rd) Jones Crk bridge**	n.a.	n.a.	Replacement	2	2	8322	03TIP	$2	Sec.
26-121	**Smithfield Connector**	Nike Park Rd	Smith's Neck Rd	New Alignment	0	4	n.a.	Local	$12	Sec.
	Secondary set-asides (2)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	Local	$15	Sec.
				Subtotal					$30	
JAMES CITY CO.										
26-123b	**Ironbound Rd**	Longhill Conn Rd	Monticello Ave	Widening	2	4	50057	03TIP	$3	Sec.
26-123a	**Longhill Connector Rd**	Longhill Rd	Ironbound Rd	Widening	2	4	13718	03TIP	$3	Sec.
26-127	**Rte 199**	Brookwood Dr	Pocahontas Tr	Widening	2	4	65273	03TIP	$9	Primary
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$34	Various
	Secondary set-asides (2)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	Local	$16	Sec.
				Subtotal					$65	
NEWPORT NEWS										
26-147a	**Atkinson Blvd**	Warwick Blvd	Jefferson Ave	New Alignment	0	4	4483	Local	$44	Urban
26-134	**Harpersville Rd**	Jefferson Ave	Warwick Blvd	Widening	2	4	19024	Local	$25	Urban
26-136	**I-64 (Bland Blvd interchange)**	n.a.	n.a.	Interchange(s), New	n.a.	n.a.	50125	03TIP	$53	NHS
26-140	**Jefferson Ave**	Buchanan Dr	Green Grove Ln	Widening	4	6	13429	03TIP	$0	None (10)
26-141	**Jefferson Ave**	Green Grove Ln	Ft Eustis Blvd	Widening	4	6	n.a.	Local	$54	Urban
26-144	**Middleground Blvd**	Jefferson Ave	Warwick Blvd	New Alignment	0	4	11816	03TIP	$18	Urban
26-151	**Warwick Blvd**	Nettles Dr	J Clyde Morris Blvd	Widening	4	6	10797	03TIP	$22	Urban
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$50	Various
				Subtotal					$266	

Highway Projects Committed in FY03 TIP and Planned Local Highway Projects

i.d.	Project	From	To	Work	2003 Lanes	2026 Lanes	UPC (8)	Source of Project (9)	Cost, FY04-FY26*	Funding Source
NORFOLK										
26-155	**Boush St**	City Hall Ave	Brambleton Ave	Reconstruct	4	4	18708	03TIP	$2	Urban
26-156b	**Brambleton Ave / I-264 Interchange**	n.a.	n.a.	Modify Interchange	n.a.	n.a.	n.a.	Local	$15	Urban
26-156c	**Brambleton Ave intersections (3)**	n.a.	n.a.	Turn Lane(s)	n.a.	n.a.	n.a.	Local	$36	Urban
26-162	**Church St / Wood St**	Brambleton Blvd	St Paul's Blvd	Widening	2	4	n.a.	Local	$14	Urban
26-164	**Granby St @ 35th St**	n.a.	n.a.	Turn Lane(s)	n.a.	n.a.	n.a.	Local	$4	Urban
26-164a	**Hamp. Blvd / RR Underp. @ Grnbr Ave**	n.a.	n.a.	Reconstruct	n.a.	n.a.	14672	(13)	$0	(13)
26-16b1	**I-264EB ramp from 64WB (5)**	n.a.	n.a.	Modify Interchange	n.a.	n.a.	57048	03TIP	$15	NHS
26-153a	***Light Rail (Urban Funds)***	*EVMS*	*Kempsville Rd*	*Light Rail*	n.a.	n.a.	n.a.	*Local*	*$55*	Urban
26-173a	**Little Creek Rd (Phase I)**	Tidewater Dr	Wedgewood Plaza	Widening	4	6	n.a.	Local	$37	Urban
26-175	**Military Hwy**	Lowery Rd	Northampton Blvd	Widening	4	8	9783	Local	$25	Urban
26-176	**Military Hwy**	Northampton Blvd	Robin Hood Rd	Widening	4	6	1765	Local	$15	Urban
26-178	**Military Hwy NB to EB I-64**	n.a.	n.a.	Modify Interchange	n.a.	n.a.	n.a.	Local	$5	Urban
26-178a	**Navy Recreational Facilities**	n.a.	n.a.	Environ. Related	n.a.	n.a.	61322	(13)	$0	(13)
26-185	**VB Blvd**	Jett St	Briar Hill Rd	Widening	4	6	17546	03TIP	$13	Urban
26-186	**VB Blvd**	Military Circle entr.	Newtown Rd	Widening	6	8	8600	Local	$27	Urban
26-46	**Wesleyan Dr**	Northampton Blvd	VB CL	Widening	2	4	52147	03TIP	$3	Local
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$37	Various
				Subtotal					$301	
PORTSMOUTH										
26-194	**Clifford St bridge**	n.a.	n.a.	Replacement	n.a.	n.a.	17545	03TIP	$0	None (10)
26-200a	**Maersk Interchange (Western Frwy.)**	n.a.	n.a.	Interchange(s), New	n.a.	n.a.	n.a.	VDOT	$25	(14)
26-200	**Pinners Point Conn**	W Norfolk bridge	Midtown Tunnel	New Alignment	0	4, 6	11750	03TIP	$95	Various
26-201	**Turnpike Rd**	Portsmouth Blvd	Constitution Ave	Widening	2	4	3950	Local	$54	Urban
26-202	**Twin Pines Rd**	Swannanoa Dr	Sunset Pt	Reconstruct	2	2	13481	Local	$2	Urban
26-36	**Tyre Neck Rd**	Ches CL	Churchland Blvd	Widening	2	4	14841	Local	$4	Urban
26-204	**Victory Blvd**	Greenwood Dr	I-264	Reconstruct	4	4	51863	03TIP	$4	Urban
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$0	None (10)
				Subtotal					$184	
SMITHFIELD										
26-204a	**Battery Park Rd**	S. Church St	Nike Park Rd	Widening	2	4	n.a.	Local	$9	Urban
				Subtotal					$9	

Highway Projects Committed in FY03 TIP and Planned Local Highway Projects

i.d.	Project	From	To	Work	2003 Lanes	2026 Lanes	UPC (8)	Source of Project (9)	Cost, FY04-FY26*	Funding Source
SUFFOLK										
26-210	**Main St, N**	Nansemond River br.	Wal Mart entrance	Turn Lane(s)	4	4	13486	03TIP	$1	Urban
26-212	**SW Suffolk Bypass (6)**	Carolina Rd	US 58	New Alignment	0	4	4577	03TIP	$2	Various
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$6	Sec.
	Secondary set-asides (2)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	Local	$22	Sec.
				Subtotal					$31	
VIRGINIA BEACH										
26-14a	**Baker Rd Ext'd**	Summit Arch	w. of Witchduck Rd	New Alignment	0	2	n.a.	Local	$4	Local
26-216	**Birdneck Rd**	Gen Booth Blvd	Southern Blvd	Widening	2	4	11754	03TIP	$6	Urban
26-218	**Buckner Blvd / Shipps Corner Rd**	Rosemont Rd	Holland Rd	New Alignment	0	4	n.a.	Local	$2	Local
26-6	**Centerville Tnpk**	Ches CL	Kempsville Rd	Widening	2	4	n.a.	Local	$18	Urban
26-7	**Centerville Tnpk**	Kempsville Rd	Indian River Rd	Widening	2	6	n.a.	Local	$30	Urban
26-222a	**Concert Dr Ext'd**	Recreation Dr	Dam Neck Rd	New Alignment	0	4	n.a.	Local	$3	Local
26-223	**Constitution Dr ext'd**	Columbus St	Bonney Rd	New Alignment	0	4	n.a.	Local	$7	Local
26-228	**Elbow Rd / Dam Neck Rd**	New Castle School	GTE VB Amphitheater	New Alignment	0	2	local	03TIP	$1	Local
26-229	**Elbow Rd / Dam Neck Rd**	Indian River Rd	GTE VB Amphitheater	Widening	2	4	15828	Local	$33	Various
26-231	**First Colonial Rd**	Great Neck Rd	Republic Rd	Widening	4	6	n.a.	Local	$40	Local
26-232	**First Colonial Rd / VB Blvd Intersection**	n.a.	n.a.	Turn Lane(s)	n.a.	n.a.	local	03TIP	$5	Local
26-240	**Holland Rd**	Nimmo Pkwy	Dam Neck Rd	Widening	2	4	15827	03TIP	$10	Urban
26-241	**Holland Rd**	Dam Neck Rd	Rosemont Rd	Widening	4	6	n.a.	Local	$36	Local
26-253	**Indian River Rd**	Centerville Tnpk	Ferrell Pkwy	Widening	6	8	local	Local	$33	Various
26-254	**Indian River Rd**	Lynnhaven Pkwy	Elbow Rd	Widening	2	4	15829	Local	$27	Urban
26-255a,b	**Indian River Rd**	Elbow Rd	North Landing Rd	Widening	2	4	n.a.	Local	$26	Local
26-257b	**Indian River Rd**	North Landing Rd	West Neck Rd	Reconstruction	2	2	n.a.	Local	$11	Local
26-258a	**Jeanne St**	Constitution Dr	Independence Blvd	Widening	4	6	n.a.	Local	$7	Local
26-260	**Kempsville Rd / PA Rd Intersection**	n.a.	n.a.	New Alignment	n.a.	n.a.	51866	03TIP	$36	Urban
26-262	**Laskin Rd**	First Colonial Rd	Oriole Rd	Widening	4	6	12546	03TIP	$34	Various
26-263	**Laskin Rd**	Oriole Rd	w of Holly Rd	Widening	4	6	14601	03TIP	$5	Urban
26-263a	**Laskin Rd**	w. of Holly St.	Atlantic Ave	Widening	4	6	n.a.	Local	$1	Local
26-265	**London Bridge Rd, Great Neck Rd**	International Pkwy	VB Blvd	Widening	2	4	16414	03TIP	$4	Urban
26-270	**Lynnhaven Pkwy**	Holland Rd	Lishelle Pl	Widening	4	6	12549	03TIP	$14	Urban
26-18	**Lynnhaven Pkwy - Volvo Pkwy**	Ches CL	Centerville Tnpk	New Alignment	0	4	13487	03TIP	$3	Various
26-19	**Lynnhaven Pkwy - Volvo Pkwy**	Centerville Tnpk	Indian River Rd	New Alignment	0	4	14603	03TIP	$4	Local
26-274	**Nimmo Pkwy**	Ind Rvr / N Landing Rds	West Neck Rd ext'd	New Alignment	0	4	n.a.	Local	$48	Various
26-277	**Nimmo Pkwy**	Holland Rd	Gen Booth Blvd	New Alignment	0	4	52058	03TIP	$26	Urban
26-279a,b	**Nimmo Pkwy**	Upton Dr	Sandfiddler Rd	New Alignment	0	2	n.a.	Local	$35	Urban

Highway Projects Committed in FY03 TIP and Planned Local Highway Projects

i.d.	Project	From	To	Work	2003 Lanes	2026 Lanes	UPC (8)	Source of Project (9)	Cost, FY04-FY26*	Funding Source
26-276	**Nimmo Pkwy (cost includes 26-283)**	Princess Anne Rd	Holland Rd	New Alignment	0	4	13482	03TIP	$21	Various
26-283	**Princess Anne Rd (cost incl'd in 26-276)**	Dam Neck Rd	Nimmo Pkwy	Widening	2	4	13482	03TIP	$0	(11)
26-285a	**Princess Anne Rd**	Indian River Rd	Upton Dr	Reconstruction	2	2	n.a.	Local	$8	Local
26-285b	**Princess Anne Rd**	Upton Dr	General Booth Blvd	Widening	2	4	n.a.	Local	$5	Local
26-286	**Providence Rd**	Kempsville Rd	PA Rd	Widening	2	4	n.a.	Local	$29	Various
26-288	**Rosemont Rd**	VB Blvd	Holland Rd	Widening	4	6	n.a.	Local	$54	Urban
26-289c	**Salem Rd**	North Landing Rd	Elbow Rd	Widening	2	4	n.a.	Local	$21	Local
26-289	**Salem Rd**	Elbow Rd	Independence Blvd	Widening	2	4	n.a.	Local	$11	Local
26-289d	**Sandbridge Rd**	Princess Anne Rd	Atwoodtown Rd	Widening	2	4	n.a.	Local	$29	Urban
26-290	**Seaboard Rd**	Nimmo Pkwy	Princess Anne Rd (12)	Widening	2	4	local	03TIP	$3	Local
26-290a	**Seaboard Rd**	Princess Anne Rd	Princess Anne Rd	Reconstruction	2	2	n.a.	Local	$8	Local
26-292a	**Shore Dr / Lesner Bridge (4)**	west approaches	east approaches	Reconstruction	4	4	n.a.	Local	$60	Local
26-47	**Wesleyan Dr**	Norf CL	Baker Rd	Widening	2	4	52148	03TIP	$11	Local
26-299a	**West Neck Pkwy ext'd**	Elbow Rd	North Landing Rd	New Alignment	0	4	n.a.	Local	$9	Local
26-299b	**West Neck Pkwy ext'd**	North Landing Rd	Indian River Rd	New Alignment	0	4	n.a.	Local	$5	Local
26-301	**West Neck Rd**	North Landing Rd	Indian River Rd	Widening	2	4	n.a.	Local	$9	Local
26-303	**Witchduck Rd**	I-264	VB Blvd	Widening	4	6	55202	Local	$13	Urban
26-302	**Witchduck Rd**	Princess Anne Rd	I-264	Widening	4	6	55200	Local	$19	Urban
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$11	Various
				Subtotal					$835	
WILLIAMSBURG										
26-306	**Richmond Rd**	Brooks St	Monticello Ave	Reconstruction	2	2	14750	03TIP	$1	Urban
26-307	**Richmond Rd**	Monticello Ave	New Hope Rd	Widening	3	4	14750	03TIP	$1	Urban
26-308	**Rte 199 / Jamestown Rd Intersection**	n.a.	n.a.	Turn Lane(s)	n.a.	n.a.	18975	03TIP	$2	Primary
26-309	**Treyburn Dr Ext**	Monticello Ave	Ironbound Rd	New Alignment	0	2	16054	03TIP	$9	Urban
				Subtotal					$13	
YORK COUNTY										
26-312a	**Ft Eustis Blvd Ext (Rte 1050)**	Rte 17	Old York-Hampton Hwy	New Alignment	0	4	14627	03TIP	$0	None (10)
26-41	**US 17 (JC Morris Blvd - GW Hwy)**	Hampton Hwy	Wolf Trap Rd	Widening	4	6	60843	03TIP	$15	NHS
	misc. TIP projects (1)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	03TIP	$3	Various
	Secondary set-asides (2)	n.a.	n.a.	misc.	n.a.	n.a.	n.a.	Local	$18	Sec.
				Subtotal					$36	

Highway Projects Committed in FY03 TIP and Planned Local Highway Projects

i.d.	Project	From	To	Work	2003 Lanes	2026 Lanes	UPC (8)	Source of Project (9)	Cost, FY04-FY26*	Funding Source
MULTI-JURISDICTIONAL										
	misc. TIP projects (1)			misc.	n.a.	n.a.	n.a.	03TIP	$93	Various
				Subtotal					$93	
				Total, this sheet					**$2,398**	
		Less: Secondary Set-asides (2)							$81	
		Less: Norfolk's $55M Urban funds for LRT							$55	
				Total, adjusted					**$2,262**	

Notes

*All dollar figures are millions; totals may not add up exactly due to rounding; costs are FY04-FY26 costs.

(1) e.g. bikeways, turn lanes, signals, etc.

(2) for reconstruction, turn lanes, etc.

(3) at Colley Ave, Duke St, Boush St, Granby St, and Monticello Ave.

(4) 6 lanes of pavement at Lesner Bridge.

(5) Combine with projects 26-16b2,b3 (regional projects).

(6) Openned to traffic in March 2003.

(7) No cost shown because the Corps of Engineers will fund this improvement.

(8) "UPC": VDOT's Universal Project Code (some projects may have more than the one UPC shown here).

(9) Projects in the 2003 TIP were automatically included in the 2026 Plan; additional projects added to the Plan by each locality are labelled "Local".

(10) Necessary funds allocated before FY04.

(11) Cost included in another project (as noted under project name).

(12) near Princess Anne Elementary School.

(13) Although funding for this project is included in the "Miscellaneous Highway" set-aside, on 9-30-03 VDOT requested that this project be listed separately.

(14) State Priority Transportation Funds

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2026 Highway Project Maps

The highway projects, both regional and otherwise, included in the 2026 Plan, are shown on the maps on the following pages.

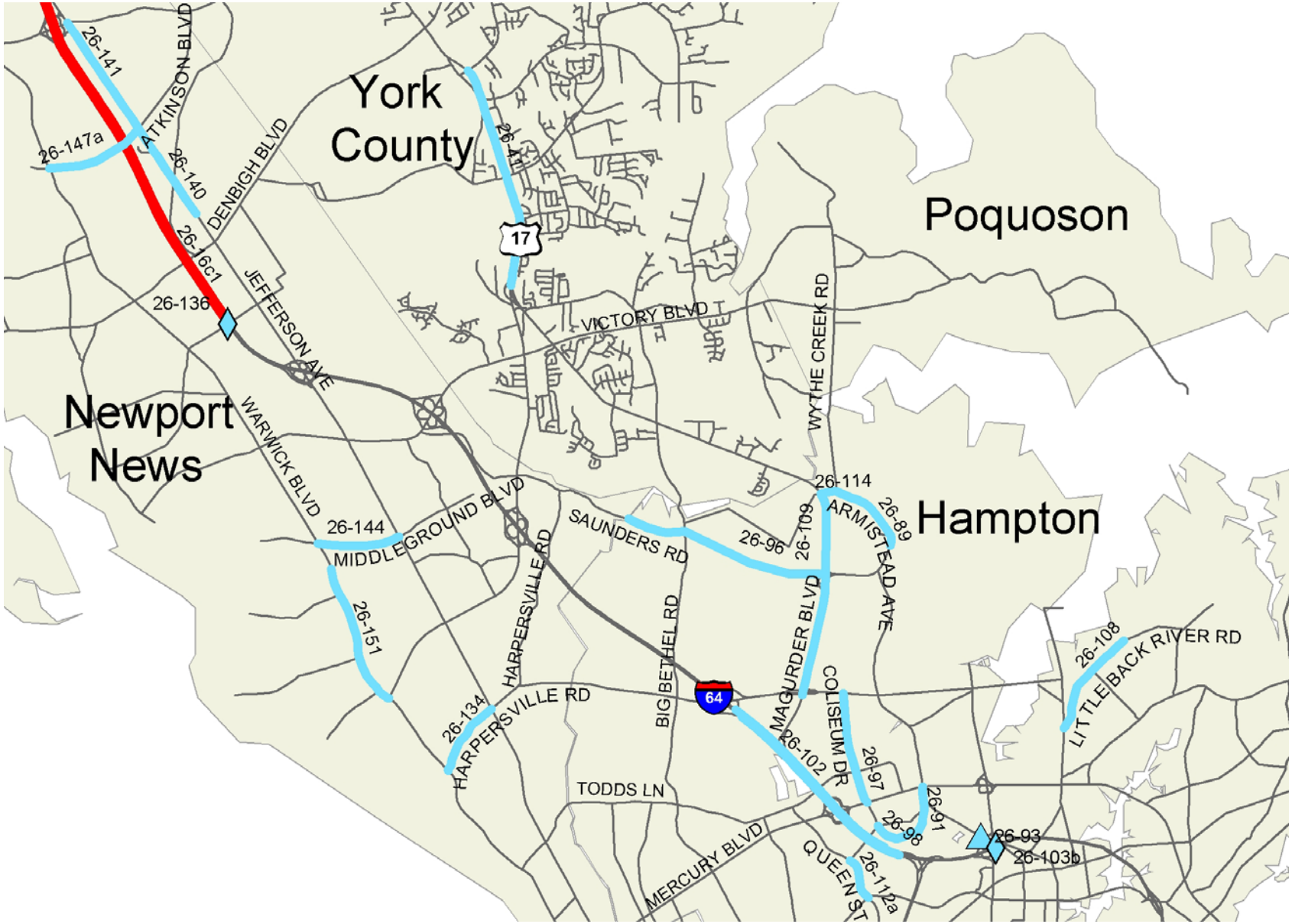
The legend for all of the maps is shown below.

Highway Map Legend

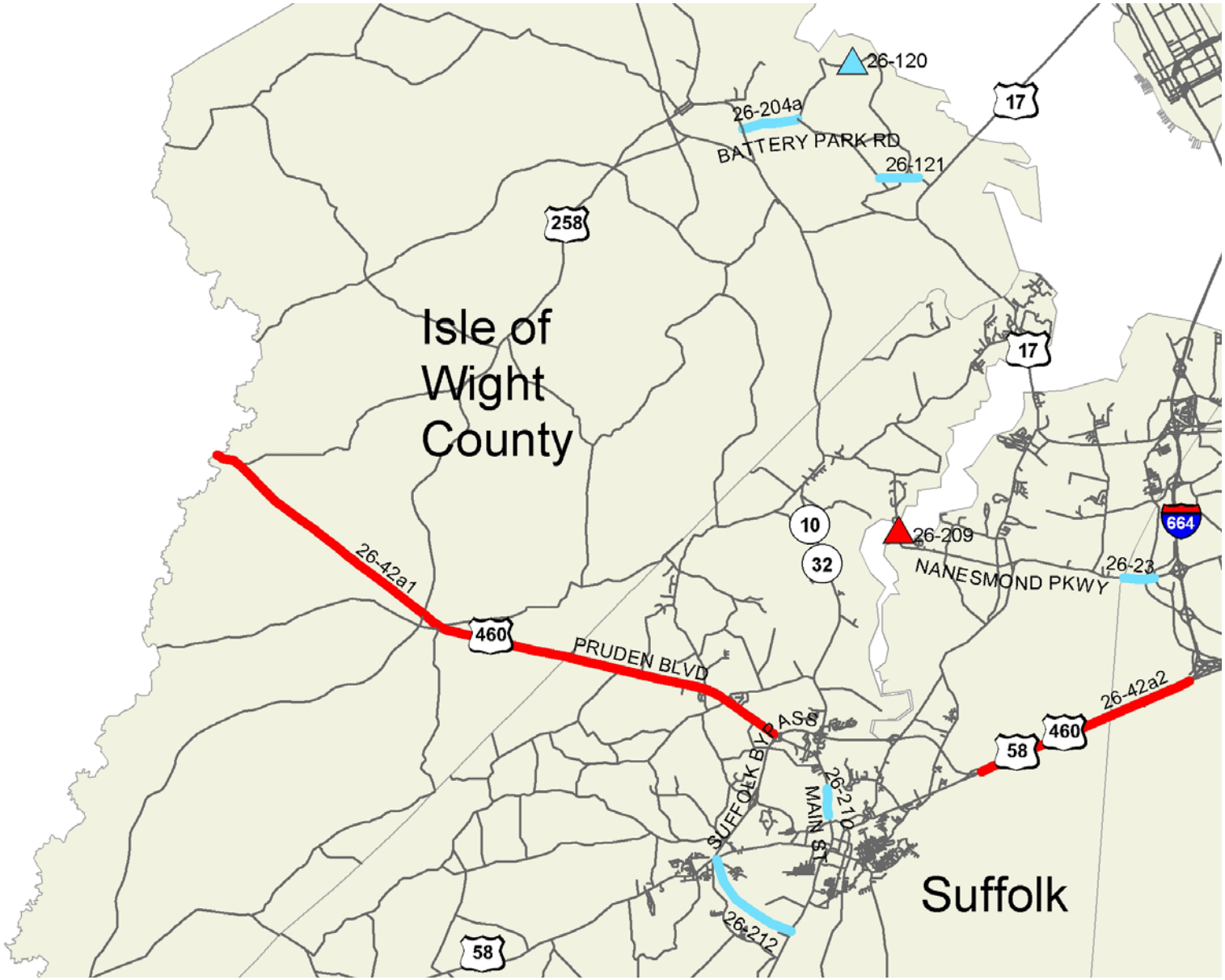
Legend.jpg

2026 Highway Projects- Northern Hampton Roads

2026 Highway Projects- Central Peninsula



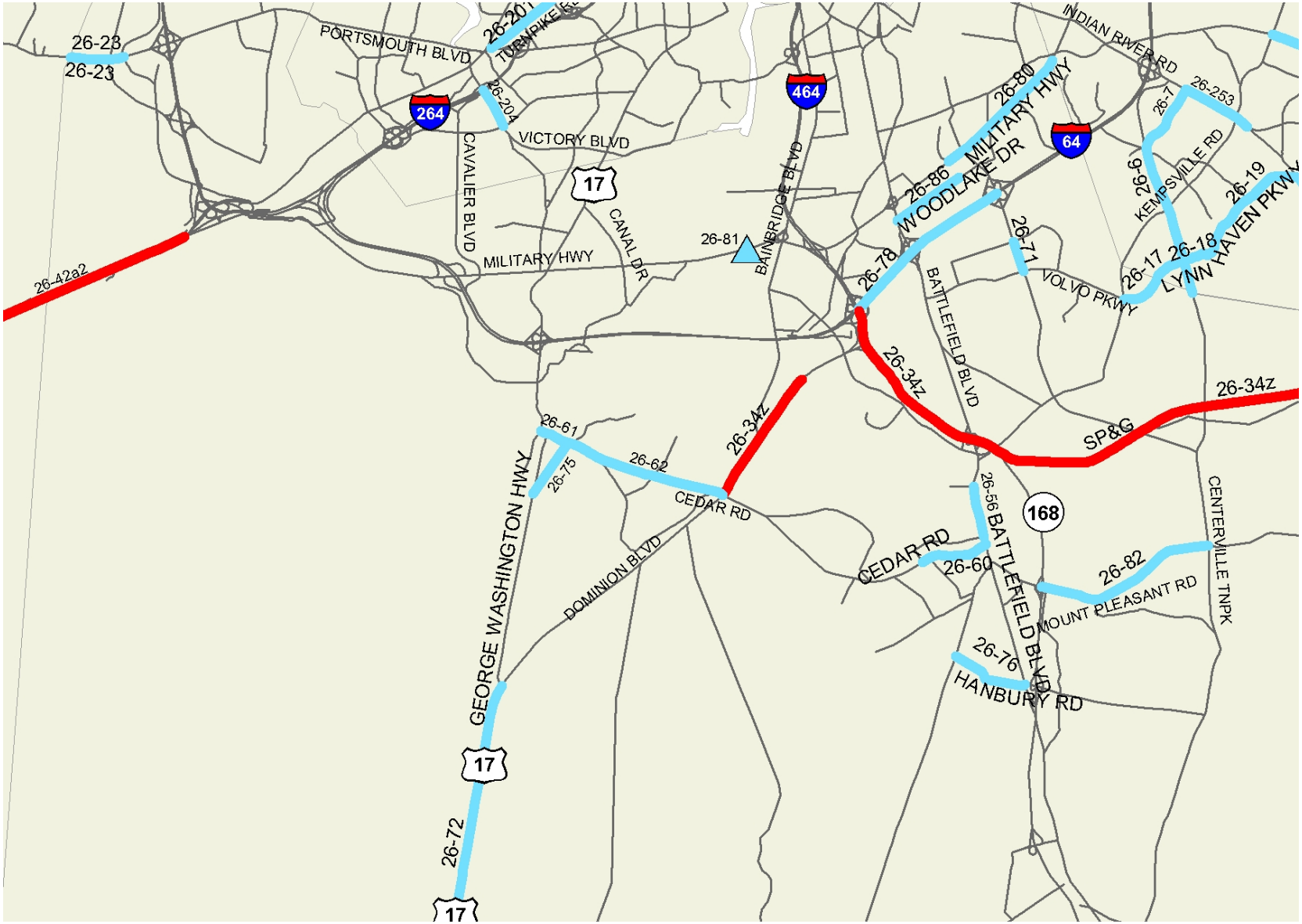
2026 Highway Projects- Western Hampton Roads



2026 Highway Projects- Central Hampton Roads

2026 Plan.ppt

2026 Highway Projects- Southern Central Hampton Roads

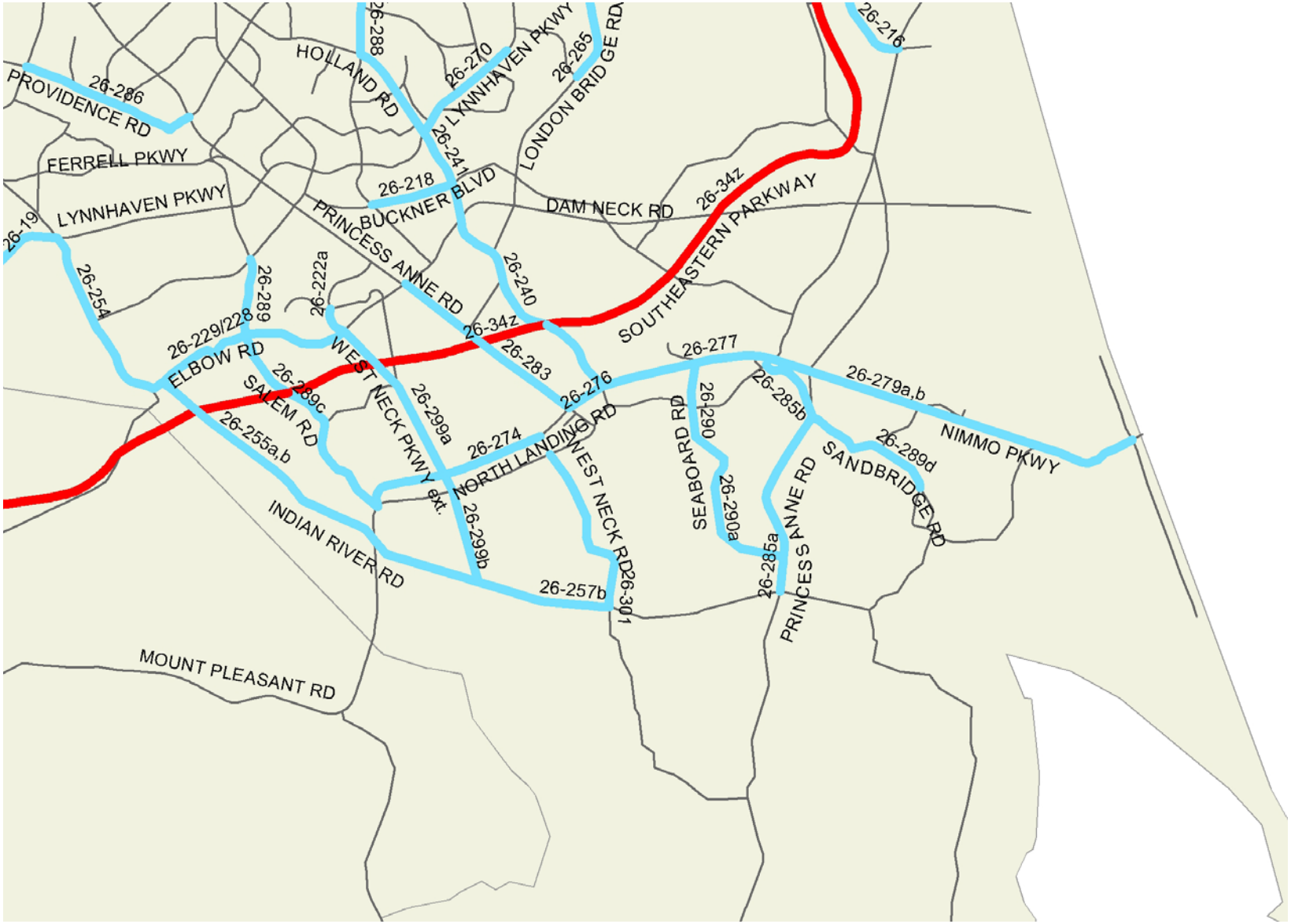


2026 Plan.ppt

2026 Highway Projects- Northern Virginia Beach

2026 Plan.ppt

2026 Highway Map- Southern Virginia Beach



2026 Plan.ppt

Miscellaneous Highway Projects

In the 2026 Plan, Miscellaneous Highway projects are highway projects, other than interchange projects, which add no through lanes. They include:

- Signals
- Turn lanes
- Reconstruction
- Bridge Rehabilitation
- Transportation Demand Management (TDM)

A total of $352M was set aside for Miscellaneous Highway projects from the NHS, Primary, Secondary, CMAQ, and RSTP funds. Because these projects tend to be small and numerous, and because these projects are typically designed to meet current needs as they arise, individual Miscellaneous Highway projects were not identified for the RTP.[19]

Services Promoted by TRAF*FIX*, a Local TDM Program

traffix.wmf

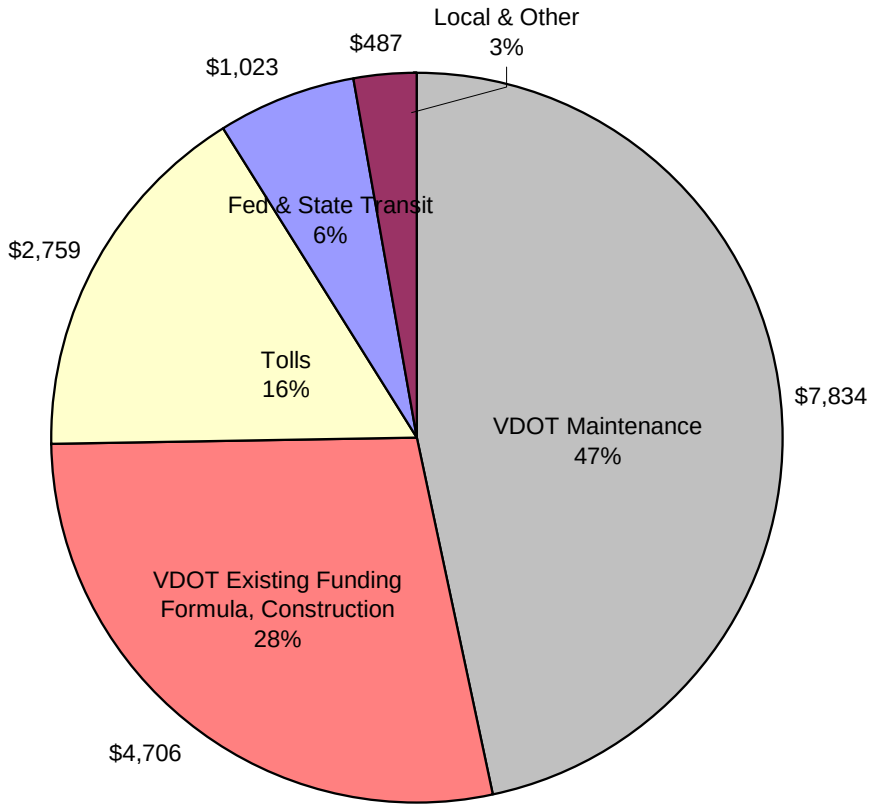
[19] The 2026 conformity analysis included the impact of current CMAQ projects (including signal and turn lane projects).

FINANCIAL CONSTRAINT

Revenues

It is expected that $17B of funding will be available for implementation of the 2026 Plan over the next 23 years. VDOT's portion of the funds are discussed in the "Available Funding- Existing Funding Stream" section above. The sources of all 2026 Plan funds are shown in the figure below.

Funding, 2026 Plan, FY04-FY26, $17B



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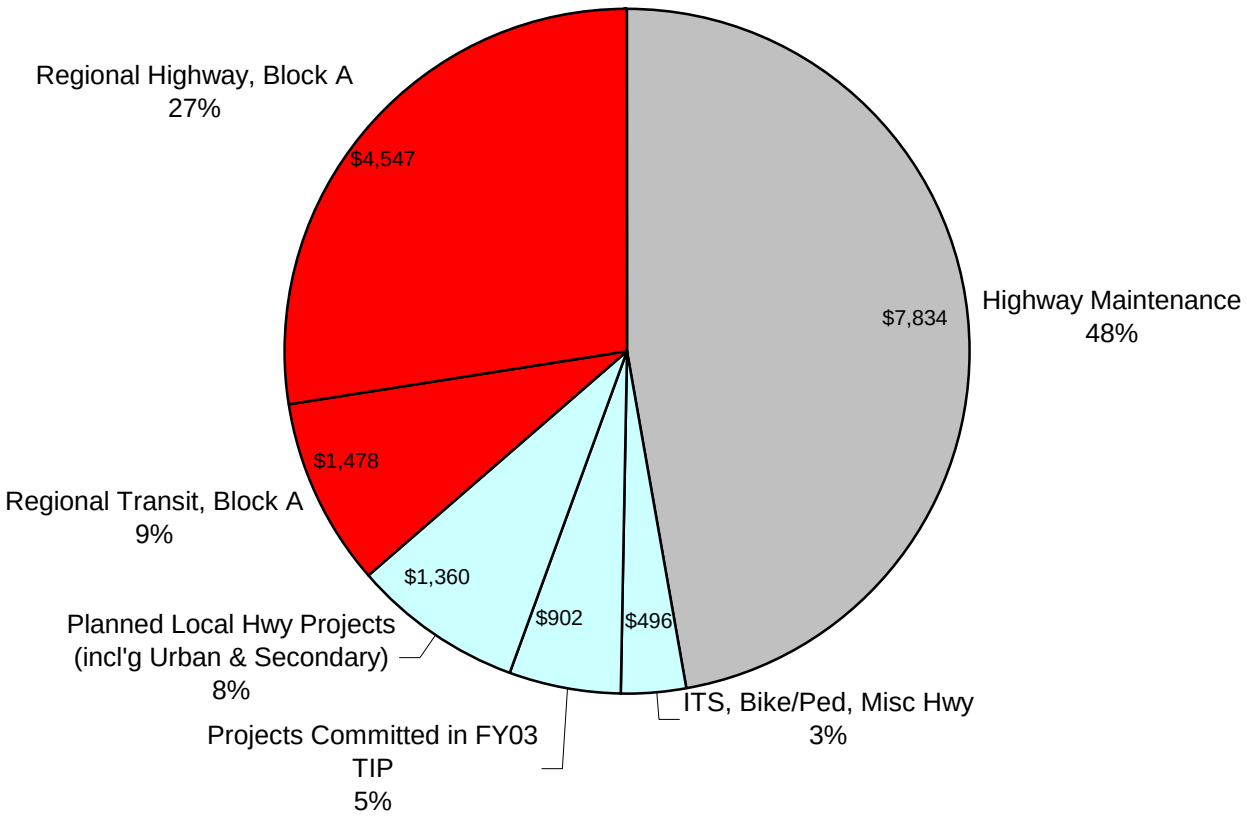
Expenses

The 2026 Plan is estimated to cost approximately $17B, using almost all of the available funding, as summarized below:

Expenses, 2026 Plan, FY04-FY26, $17B



HR Summary by VDOT 2 RBC.xls

The table on the following page shows a summary of the sources and uses of funds. It also shows that the Plan is fiscally constrained.

Fiscal Constraint, 2026 Plan, FY04-FY26

	City Road Maint-enance	State Maint-enance	NHS	Primary	Secondary	Urban	CMAQ	RSTP	Local	Tolls	Fed & State Transit	Other	Total
Revenues	$4,051	$3,783	$1,909	$339	$183	$1,493	$209	$548	$369	$2,759	$1,023	$118	**$16,784**
Expenses													
A. Hwy. Maintenance (6)	$4,051	$3,783											**$7,834**
B. Projects													
Committed FY03 TIP Projects (4)			$330	$44	$22	$354	$24	$0	$62	$22	$0	$43	**$902**
Funding Available for New Work (1)			$1,578	$294	$161	$1,138	$186	$548					
Urban, Secondary, and Local Projects (4)			$0	$0	$18	$1,010	$0	$0	$306	$0	$0	$25	**$1,360**
Subtotal; Highway Projects Committed in FY03 TIP and Planned Local Highway Projects													$2,262
ITS, Bike/Ped, Miscellaneous Highway													
ITS			5%	0%	0%	0%	20%	0%					
Bike/Ped (stand-alone projects (7))			0%	0%	0%	0%	15%	0%					
Miscellaneous Highway (2) (3)			5%	15%	50%	0%	65%	5%					
			10%	15%	50%	0%	100%	5%					
ITS			$79	$0	$0	$0	$37	$0					$116
Bike/Ped (stand-alone projects (7))			$0	$0	$0	$0	$28	$0					$28
Miscellaneous Highway (2) (3)			$79	$44	$81	$0	$121	$27					$352
Subtotal; ITS, Bike/Ped, Misc. Highway			$158	$44	$81	$0	$186	$27					**$496**
Regional Highway & Transit Projects (5)			$1,391	$248	$0	$55	$0	$521	$0	$2,737	$1,023	$50	**$6,025**
Total, Projects			$1,879	$336	$120	$1,420	$209	$548	$369	$2,759	$1,023	$118	**$8,783**
Total, Expenses	$4,051	$3,783	$1,879	$336	$120	$1,420	$209	$548	$369	$2,759	$1,023	$118	**$16,617**
Financial Constraint													
Revenues (see above)	$4,051	$3,783	$1,909	$339	$183	$1,493	$209	$548	$369	$2,759	$1,023	$118	**$16,784**
Expenses (see above)	$4,051	$3,783	$1,879	$336	$120	$1,420	$209	$548	$369	$2,759	$1,023	$118	**$16,617**
Balance	$0	$0	$29	$2	$63	$73	$0	$0	$0	$0	$0	$0	$167

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Fiscal Constraint, Notes

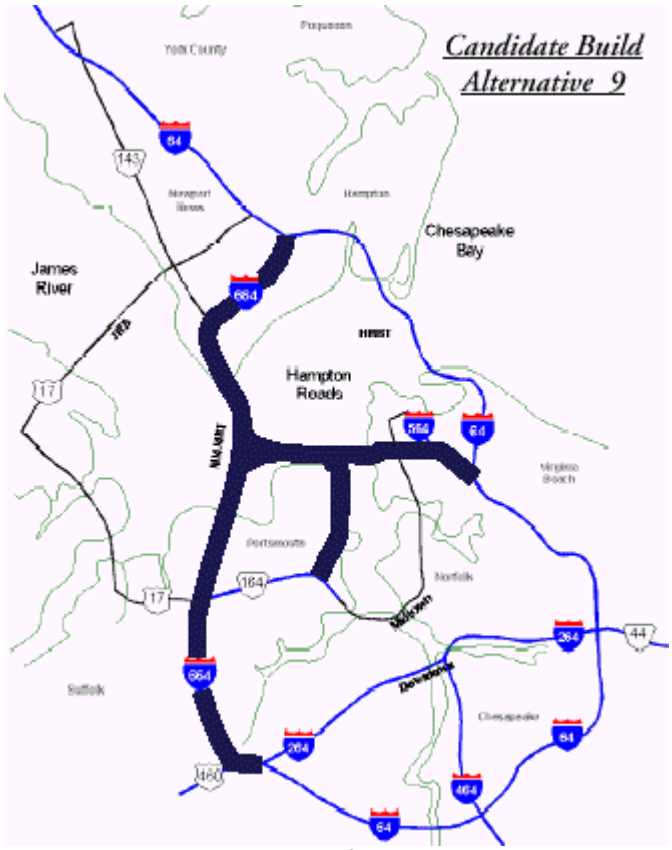
NOTES
(1) Funding available minus cost of committed SYIP projects.
(2) Projects, other than interchange projects, which add no thru lanes
(signals, turn lanes, reconstruction, bridge rehab., transportation demand management (TDM), etc.).
(3) Secondary set-asides have been included as line items in "Highway Projects Committed in FY03 TIP and Planned Local Highway Projects".
(4) These projects are included in "Highway Projects Committed in FY03 TIP and Planned Local Highway Projects" list.
(5) These projects can be found on "Regional Projects".
(6) VDOT is required to calculate the amount of maintenance money needed and set it aside for that purpose.
Therefore, the maintenance revenues equal the maintenance expenses.
(7) Bike and/or pedestrian improvements are often included in all types of highway projects; the costs of these bike/ped improvements are, therefore, included in the costs shown under the various highway project sections of this plan.

HR Summary by VDOT 2 RBC.xls

PROJECTS NOT INCLUDED IN THE PLAN

Highway and transit projects which were candidates for the 2026 Plan but which did not make it into the final Plan are listed on the following pages.

Hampton Roads Crossing



HRCS.bmp

Note: Although the whole Hampton Roads Crossing is not included in the 2026 Plan, Segment I (the segment running from I-564 to I-664) is included in the Plan.

Candidate Highway & Transit Projects NOT Included in 2026 Plan

key

VDOT's non-acceptance of a gas tax increase precluded the inclusion of the highway projects shown in green.

Candidate transit projects not included in the 2026 Plan are shown in this color; the remainder of projects are highways.

	Locality	2026 Seg. ID	Project	From	To	Proj. Dist.	Work	RTP Cost, year of expend-iture, FY04-26, $m
*	a Regional proj.	26-16x	HR Third Crossing	I-64 (@ Hamp. Coliseum)	I-64 (@ Bowers Hill)	30	Widening & New Al.	$4,484
	a Regional proj.	26-77	I-64 (including High-Rise Bridge)	I-264 (Bowers Hill)	I-464	8.22	Widening	$1,080
	a Regional proj.	26-16c2	I-64 Peninsula (western segment)	Rte 199 (e. end)	New Kent / James City CL	18.90	Widening	$557
	a Regional proj.	26-19a1	Midtown Tunnel (s.a. below)	Norfolk	Portsmouth	1.02	Widening	$466
	a Regional proj.	26-19a2	MLK Fwy Ext (s.a. above)	London Blvd	I-264	0.76	New Alignment	$220
*	a Regional proj.	n.a.	Peninsula LRT	Williamsburg	Hampton	35	LRT	$1,126
	a Regional proj.	n.a.	Naval Base Extension LRT	Norfolk MOS LRT	Naval Base	20	LRT	$550
	a Regional proj.	n.a.	Fixed Guideway Rehab	n.a.	n.a.	n.a.	Rehabilitation	$193
*	Chesapeake	26-67	Dominion Blvd (freeway, 4on6, w/ Bain. Intch.)	Cedar Rd	I-464 / Oak Grove Conn	2.85	Widening	$331
	Chesapeake	26-66	Dominion Blvd (arterial)	GW Hwy	Cedar Rd	4.00	Widening	$72
	Chesapeake	26-70	Great Bridge Byp	Mt. Pleasant Rd	SE Expy	2.00	Widening	$86
	Chesapeake	26-4	Centerville Tnpk	Mt Pleasant Rd	SE Pkwy	2.17	Widening	$165
	Chesapeake	26-73	Geo Washington Hwy	Old Mill Rd (near Deep Crk b	I-64	1.28	Widening	$162
	Chesapeake	26-57	Battlefield Blvd / Volvo Pkwy Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$135
	Chesapeake	26-58	Battlefield Blvd / Walmart Way Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$135
	Chesapeake	26-80a	Military Hwy (excl'g Gilmerton Br.)	Canal Dr	Battlefield Blvd	3.50	Widening	$99
	Chesapeake	26-66a	Dominion Blvd / Cedar Rd Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$90
	Chesapeake	26-55	Battlefield Blvd	Hillcrest Pkwy	Benefit Rd	2.10	Widening	$34
	Chesapeake	26-59	Butts Station Rd	Kempsville Rd	Centerville Tnpk	2.08	Widening	$34
	Chesapeake	26-3	Centerville Tnpk	Etheridge Manor Pkwy	Mt Pleasant Rd	2.15	Widening	$34
	Chesapeake	26-69	Etheridge Manor Blvd	Hillwell Rd	Centerville Tnpk	2.05	Widening	$33
	Chesapeake	26-79	Johnstown Rd	Stonegate Pkwy	Parker Rd	1.99	Widening	$32
	Chesapeake	26-53	Battlefield Blvd	Johnstown Rd	Hanbury Rd	1.61	Widening	$26
	Chesapeake	26-74	Geo Washington Hwy	Military Hwy	Canal Dr	0.98	Widening	$22
	Chesapeake	26-65	Dock Landing Rd Extd	Jolliff Rd	Portsmouth Blvd	1.00	New Alignment	$17
	Chesapeake	26-5	Centerville Tnpk	SE Pkwy	VB CL	0.95	Widening	$16
	Chesapeake	26-54	Battlefield Blvd	Hanbury Rd	Ches Expy (near Hillwell Rd)	0.47	Widening	$8
	Chesapeake	26-35	Tyre Neck Rd	Silverwood Blvd	Ports CL	0.15	Widening	$8
	Chesapeake	26-68	Dozier Weave Bypass	Cedar Rd @ Dominion Blvd	I-64 @ Bainbridge Blvd	2.30	New Alignment	$315
	Chesapeake	26-64	Deep Creek / High Rise Bridge Byp.	Dominion Blvd @ Cedar Rd	I-64 @ Southway St	2.70	New Alignment	$171
	Gloucester	26-87	US 17	Coleman Bridge	Rte 614 (Hickory Fork Rd)	7.60	Widening	$160
	Gloucester	26-88	US 17	Rte 614 (Hickory Fork Rd)	Rte 17 Bus. (@ Wal Mart)	4.00	Widening	$88

Candidate Highway & Transit Projects NOT Included in 2026 Plan

Locality	2026 Seg. ID	Project	From	To	Proj. Dist.	Work	RTP Cost, year of expend-iture, FY04-26, $m
Hampton	26-12x	Hampton Roads Br Tunnel / I-64	I-564	I-664	12.40	Widening	$2,700
Hampton	26-103a	I-64	I-664	Mallory St	3.68	Widening	$480
Hampton	26-101	HRC Parkway Ext	Armistead Ave	King St	2.12	New Alignment	$315
Hampton	26-92	Armistead Ave / I-664 Conn	Crossroads Pkwy	I-64	0.50	New Alignment	$153
Hampton	26-100	HRC Parkway Ext	Armistead Ave	LaSalle Ave	1.10	New Alignment	$130
Hampton	26-105a	King St (incl'g I-64 interch.)	Pembroke Ave	I-64	0.29	Widening	$126
Hampton	26-107	King St (incl'g Back River br)	Little Back River Rd	Langley AFB	0.88	Widening	$58
Hampton	26-111	Mercury Blvd	Fox Hill Rd	Andrews Blvd	0.70	Widening	$43
Hampton	26-90a	Armistead Ave	Cmdr Shepard Blvd	HRC Pkwy	1.50	Widening	$40
Hampton	26-95	Big Bethel Rd	Semple Farm Rd	HRC Pkwy	1.40	Widening	$40
Hampton	26-90b	Armistead Ave	HRC Pkwy	Mercury Blvd	1.30	Widening	$39
Hampton	26-49	Wythe Creek Rd	Poq CL	Armistead Ave	1.00	Widening	$33
Hampton	26-110	Mercury Blvd	I-64	Coliseum Dr	0.35	Widening	$28
Hampton	26-16	Hampton Roads Center Pkwy	Big Bethel Rd	I-64	0.57	Widening	$13
Hampton	26-94	Big Bethel Rd	York CL	Semple Farm Rd	0.17	Widening	$3
Isle of Wight	26-120a	US 258	US 58 Bus.	Rte 10 Bypass	27.00	Widening	$181
Isle of Wight	26-116	Benn's Church Connector	IW Courthouse	Rte 10 / 32	7.50	New Alignment	$101
Isle of Wight	26-117	Nike Park Rd (incl'g Jones Cr br)	Battery Park Rd	Smithfield Connector	2.60	Widening	$81
Isle of Wight	26-119	Rte 10 Bypass	Main St	Rte 10 Bus. (W of town)	3.74	Widening	$61
Isle of Wight	26-118	Rte 10 Bypass	Rte 10 Bus. (E of town)	Main St	2.30	Widening	$50
Isle of Wight	26-37	US 17 (Chuckatuck Crk bridge)	n.a.	n.a.	0.50	Widening	$36
* James City	26-31	Rte 60 relocation (east & west sections)	Rte 60 (near Howard Dr)	NN CL	4.07	New Alignment	$35
Newport News	26-138	J Clyde Morris Blvd	Warwick Blvd	Jefferson Ave	1.12	Widening	$45
Newport News	26-130	Briarfield Rd	Jefferson Ave	Hampton CL	1.17	Widening	$20
Newport News	26-33	Saunders Rd	Harpersville Rd	Hampton CL	0.84	Widening	$15
Newport News	26-131	Chestnut Ave	48th St	Briarfield Rd	0.75	Widening	$13
Newport News	26-135	Harpersville Rd	J. Clyde Morris Blvd	Saunders Blvd	0.54	Widening	$13
Newport News	26-143	Lucas Creek Rd extension	Denbigh Blvd	Hughes Dr	0.40	New Alignment	$11
Newport News	26-150a	Warwick Blvd	Fort Eustis Blvd	Atkinson Blvd	1.90	Widening	$76
Newport News	26-150b	Warwick Blvd	Atkinson Blvd	Denbigh Blvd	1.70	Widening	$58
Newport News	26-150c	Warwick Blvd	Denbigh Blvd	Oyster Pt Rd	2.30	Widening	$77
Newport News	26-150d	Warwick Blvd	Oyster Pt Rd	Nettles Dr	1.60	Widening	$55
Newport News	26-153	Yorktown Rd	I-64	Crafford Rd	0.76	Widening	$10
Newport News	26-147b	Atkinson Blvd / I-64 Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$225

Candidate Highway & Transit Projects NOT Included in 2026 Plan

Locality	2026 Seg. ID	Project	From	To	Proj. Dist.	Work	RTP Cost, year of expend-iture, FY04-26, $m
Newport News	26-145	Oyster Point Rd	Warwick Blvd	Jefferson Ave	1.04	Widening	$38
Newport News	26-142	Jefferson Ave	0.8km S. Yorktown Rd	Yorktown Rd	0.80	Widening	$29
Newport News	26-152	Yorktown Rd	Warwick Blvd	I-64	0.98	Widening	$29
Newport News	26-148	Atkinson Blvd	Jefferson Ave	Ft Eustis Blvd	1.30	New Alignment	$25
Newport News	26-39	US 17 (JC Morris Blvd - GW Hwy)	I-64	York CL	0.79	Widening	$22
Newport News	26-11	Ft Eustis Blvd	Jefferson Ave	York CL	1.28	Widening	$20
Norfolk	26-28	Newtown Rd / VB Blvd Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$126
Norfolk	26-170	I-64 (Norfolk)	I-564	VB CL	8.39	Widening	$2,700
Norfolk	26-168	I-564	Intermodal Connector	I-64	2.27	Widening	$900
Norfolk	26-167	I-264 (HOV)	Military Hwy	Newtown Rd	1.52	Widening	$359
Norfolk	26-166	Hampton Blvd / Int. Terminal Blvd Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$168
Norfolk	26-169	I-564 / Chambers Field Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$162
* Norfolk	26-173	Little Creek Rd	Tidewater Dr	Shore Dr	3.50	Widening	$85
Norfolk	26-171	I-64 / Norview Ave Interchange	n.a.	n.a.	n.a.	Modify Interchange	$63
Norfolk	26-161	Ches Blvd Ext'd / Maltby Ave	Lafayette Blvd	PA Rd	1.61	New Alignment	$58
Norfolk	26-182	Princess Anne Rd	Ingleside Rd	Military Hwy	2.09	Widening	$44
Norfolk	26-181	Park Place Connector	Hampton Blvd	Maltby Ave.	2.27	New Alignment	$36
Norfolk	26-180	Norview Ave	I-64	Azalea Garden Rd	0.97	Widening	$29
Norfolk	26-177	Military Hwy	Robin Hood Rd	Norview Ave	0.95	Widening	$27
Norfolk	26-184	Tidewater Dr	I-64	Little Creek Rd	0.68	Widening	$19
Norfolk	26-154	Boush St	Brambleton Ave	VB Blvd	0.21	Widening	$7
Norfolk	26-183	Robin Hood Rd Extd	Cromwell Dr	Chesapeake Blvd	0.23	New Alignment	$2
Norfolk	26-25	Newtown Rd	VB CL	VB Blvd	0.15	Widening	$4
Norfolk	26-26	Newtown Rd	VB Blvd	I-264	0.66	Widening	$19
Norfolk	26-27	Newtown Rd	I-264	Kempsville Rd	0.38	Widening	$11
Norfolk	26-8x	Downtown Tunnel / Berkley Br Bypass	I-264, w. of Effingham St	I-264, e. of Tidewater Dr	2.70	New Alignment	$3,600
Poquoson	26-48	Wythe Creek Rd	Alphus St	Hampton CL	0.96	Widening	$30
Poquoson	26-45	Victory Blvd	York CL	Wythe Creek Rd	0.79	Widening	$17
Portsmouth	26-196	Elm Ave	GW Hwy	Jordan Bridge	1.20	Widening	$26
Portsmouth	26-193	Airline Blvd	Greenwood Dr	City Park Ave	0.71	Widening	$15

Candidate Highway & Transit Projects NOT Included in 2026 Plan

Locality	2026 Seg. ID	Project	From	To	Proj. Dist.	Work	RTP Cost, year of expend-iture, FY04-26, $m
Suffolk	26-207	Godwin Blvd	Nanse. River, W Branch	Everets Rd	3.46	Widening	$56
Suffolk	26-208	Godwin Blvd	Everets Rd	IW CL	2.18	Widening	$35
Suffolk	26-213	US 17 (Nansemond Riv bridge)	n.a.	n.a.	1.00	Widening	$45
Suffolk	26-38	US 17 (Chuckatuck Crk bridge)	n.a.	n.a.	0.50	Widening	$36
Suffolk	26-214	Wilroy Rd	Suffolk Bypass	Nansemond Pkwy	1.89	Widening	$31
Suffolk	26-206	Finney Ave Connector	Washington St	Finney Ave	0.34	New Alignment	$25
Suffolk	26-20	Nansemond Pkwy - Portsmouth Blvd	Wilroy Rd	Kings Hwy	3.05	Widening	$50
Suffolk	26-21	Nansemond Pkwy - Portsmouth Blvd	Kings Hwy	Shoulders Hill Rd	1.77	Widening	$29
Suffolk	26-22	Nansemond Pkwy - Portsmouth Blvd	Shoulders Hill Rd	Ches CL	0.75	Widening	$11
Va Beach	26-16b6	I-264 / Lynnhaven Pkwy & Great Nk Rd	n.a.	n.a.	n.a.	Modify Interchange	$166
Va Beach	26-16b4	I-264 / Independence Blvd Interchange	n.a.	n.a.	n.a.	Modify Interchange	$180
Va Beach	26-16b5	I-264 / Rosemont Rd Interchange	n.a.	n.a.	n.a.	Modify Interchange	$132
Va Beach	26-221	Centerville Tnpk realignment (incl'g interch.)	Jake Sears Rd	I-64	1.00	New Alignment	$144
Va Beach	26-257	Indian River Rd / Kempsville Rd Interchange	n.a.	n.a.	n.a.	Interchange(s), New	$144
Va Beach	26-259	Kempsville Rd	Centerville Tnpk	Princess Anne Rd	3.81	Widening	$107
Va Beach	26-284	Princess Anne Rd	Dam Neck Rd	Nimmo Pkwy	2.18	Widening	$75
Va Beach	26-224	Dam Neck Rd	Upton Dr	London Bridge Rd	3.37	Widening	$71
Va Beach	26-285	Princess Anne Rd	Indian River Rd	Gen Booth Blvd	2.99	Widening	$65
Va Beach	26-227	Diamond Springs Rd	Newtown Rd	Shore Dr	2.95	Widening	$64
Va Beach	26-269	Lynnhaven Pkwy	Princess Anne Rd	Holland Rd	2.15	Widening	$60
Va Beach	26-299	West Neck Pkwy	Dam Neck Rd @ GTE	Ind Riv Rd (near Morris Ln)	3.40	New Alignment	$59
Va Beach	26-230	Ferrell Pkwy	Indian River Rd	Princess Anne Rd	2.74	Widening	$58
Va Beach	26-279	Nimmo Pkwy (6 lanes)	Holland Rd	Gen Booth Blvd	2.02	New Alignment	$57
Va Beach	26-261	Laskin Rd	Great Neck Rd	First Colonial Rd	1.63	Widening	$54
Va Beach	26-282	Princess Anne Rd	Baxter Rd	Providence Rd	1.96	Widening	$54
Va Beach	26-225	Dam Neck Rd	London Bridge Rd	Princess Anne Rd	2.57	Widening	$54
Va Beach	26-241a	Holland Rd	Dam Neck Rd	Independence Blvd	3.87	Widening	$87
Va Beach	26-249	Independence Blvd	Haygood Rd	Northampton Blvd	1.77	Widening	$50
Va Beach	26-235	General Booth Blvd	Dam Neck Rd	Princess Anne Rd	2.19	Widening	$49
Va Beach	26-239	Harpers Rd	Oceana Blvd	London Bridge Rd	2.84	Widening	$46
Va Beach	26-237	Great Neck Rd	VB Blvd	Old Donation Pkwy	1.60	Widening	$45
Va Beach	26-257a	Indian River Rd	West Neck Rd	North Landing Rd	2.80	Widening	$45
Va Beach	26-233	General Booth Blvd	Birdneck Rd	Oceana Blvd	1.48	Widening	$33
Va Beach	26-287	Rosemont Rd	Lynnhaven Pkwy	Dam Neck Rd	1.51	Widening	$33

Candidate Highway & Transit Projects NOT Included in 2026 Plan

Locality	2026 Seg. ID	Project	From	To	Proj. Dist.	Work	RTP Cost, year of expenditure, FY04-26, $m
Va Beach	26-215	Birdneck Rd	VB Blvd	Laskin Rd	0.91	Widening	$26
Va Beach	26-222	Cleveland St	Witchduck Rd	Newtown Rd	1.33	New Alignment	$22
Va Beach	26-217	Buckner Blvd	Independence Blvd	Rosemont Rd	0.95	Widening	$21
Va Beach	26-251	Independence Blvd, S.	South Plaza Trl	Holland Rd	0.76	Widening	$21
Va Beach	26-24	Newtown Rd	Diamond Springs Rd	Norf CL	0.72	Widening	$20
Va Beach	26-250	Independence Blvd, S.	Princess Anne Rd	Lynnhaven Pkwy	0.55	Widening	$16
Va Beach	26-267	London Bridge Rd Ext	Dam Neck Rd	Holland Rd	0.76	New Alignment	$16
Va Beach	26-278	Nimmo Pkwy (6 lanes)	Princess Anne Rd	Holland Rd	0.57	New Alignment	$16
Va Beach	26-266	London Bridge Rd, Great Neck Rd (6 lanes)	Potters Rd	VB Blvd	0.36	Widening	$13
Va Beach	26-272	Lynnhaven Pkwy	I-264	VB Blvd	0.42	Widening	$12
Va Beach	26-294	Upton Dr	Dam Neck Rd	Gen Booth Blvd	0.66	New Alignment	$12
Va Beach	26-242	Holland Rd, New	Damascus Tr	PA Rd (near TPC)	0.68	New Alignment	$11
Va Beach	26-281	Pacific Ave	17th St	22nd St	0.34	Widening	$10
Va Beach	26-234	General Booth Blvd	Oceana Blvd	Dam Neck Rd	0.32	Widening	$9
Va Beach	26-238	Great Neck Rd	Old Donation Pkwy	Shore Dr	4.02	Widening	$136
Va Beach	26-256	Indian River Rd	North Landing Rd	Princess Anne Rd	4.76	Widening	$77
Va Beach	26-296	VB Blvd	Oceana Blvd	Atlantic Ave	2.21	Widening	$62
Va Beach	26-271	Lynnhaven Pkwy	Lishelle Pl	I-264	1.70	Widening	$58
Va Beach	26-291	Shore Dr	Northampton Blvd	Lynnhaven Promenade	1.89	Widening	$53
Va Beach	26-295	VB Blvd	Great Neck Rd	Oceana Blvd	1.63	Widening	$46
Va Beach	26-258	International Pkwy	Lynnhaven Pkwy	London Bridge Rd	1.02	Widening	$29
Va Beach	26-293	Upton Dr	Nimmo Pkwy	Culver Ln	0.95	Widening	$24
Va Beach	26-292	Shore Dr (incl'g Lesner Br)	Lynnhaven Promenade	Great Neck Rd	1.52	Widening	$148
Williamsburg	26-304a	Ironbound Rd	Longhill Conn Rd	Treyburn Dr	0.30	Widening	$6
Williamsburg	26-304b	Ironbound Rd	Treyburn Dr	Richmond Rd	0.30	Widening	$7
York	26-40	US 17 (JC Morris Blvd - GW Hwy)	NN CL	Hampton Hwy	1.84	Widening	$52
York	26-42	US 17 (JC Morris Blvd - GW Hwy)	Wolf Trap Rd	Coleman Bridge	6.20	Widening	$174
York	26-315	Mooretown Rd	Old Mooretown Rd	Waller Mill Rd	3.50	Widening	$61
York	26-44	Victory Blvd	Hampton Hwy	Poq CL	2.50	Widening	$54
York	26-310	Denbigh Blvd	NN CL	Rte 17	2.18	Widening	$35
York	26-12	Ft Eustis Blvd	NN CL	Rte 17	2.36	Widening	$35
York	26-43	Victory Blvd	Rte 17	Hampton Hwy	0.35	Widening	$10

*A part, but not the whole, of this project is included in the 2026 Plan. $28,525

(note: This dollar total includes the costs of some projects, indicated by "*" above, which are partially but not wholly included in the 2026 RTP.)

NOT selected projs.xls

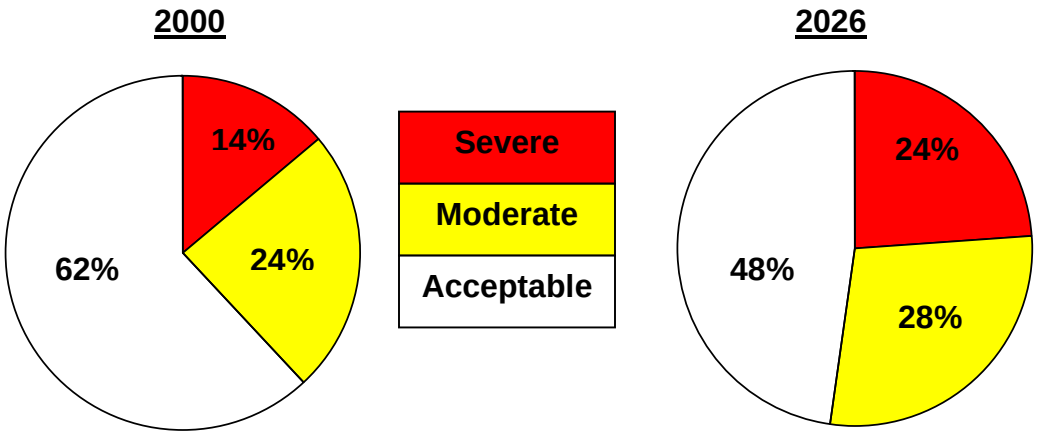
IMPACT OF THE PLAN PROJECTS

FUTURE LEVEL OF SERVICE

In the year 2026, traffic congestion in Hampton Roads is expected to be noticeably worse than it is today. The portion of severely congested lane-miles (LOS E-F) is expected to rise 10%, while moderately congested lane-miles (LOS D) will rise by 4%. This results in almost one in every four lane-miles being severely congested in 2026, and 52% being severely or moderately congested. Conversely, the likelihood of meeting acceptable traffic conditions (LOS A-C) is expected to decrease, to the point where there will be more lane-miles with unacceptable than acceptable conditions during the peak hours in 2026.

Over 90% of the region's interstate lane-miles will have severe or moderate congestion during their peak hour in 2026, with 52% being severely congested. The region's largest contributor to congested lane-miles in 2026 will be minor arterials, with over 900 lane-miles falling in the moderate or severe congestion categories. Appendix C includes 2026 average weekday volumes and levels of service for all major roads in the region.

Congestion By Lane-Mile, 2000[20] and 2026



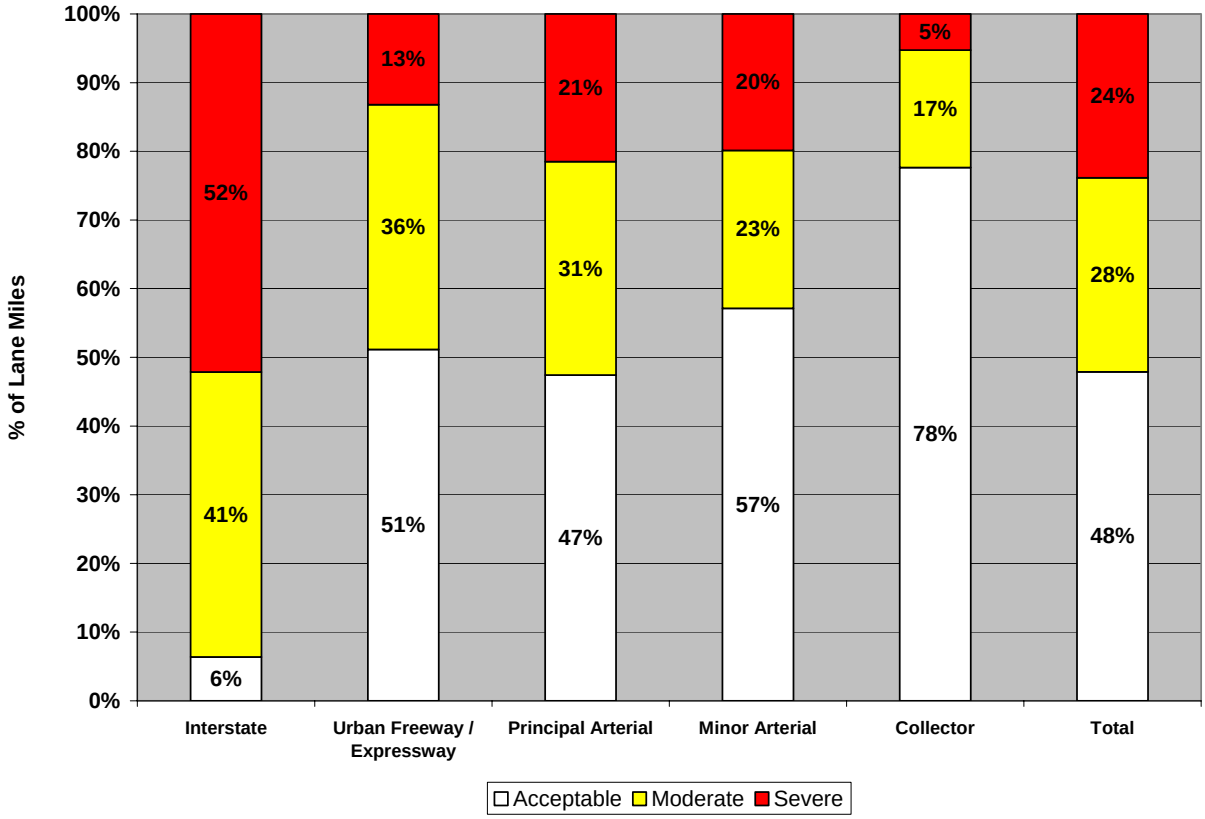
[20] 2000 congestion data is from the "Congestion Management System for Hampton Roads, Virginia 2001", p. 62. HRPDC, June 2001.

2026 Congested Lane-Miles By Facility Type and Locality

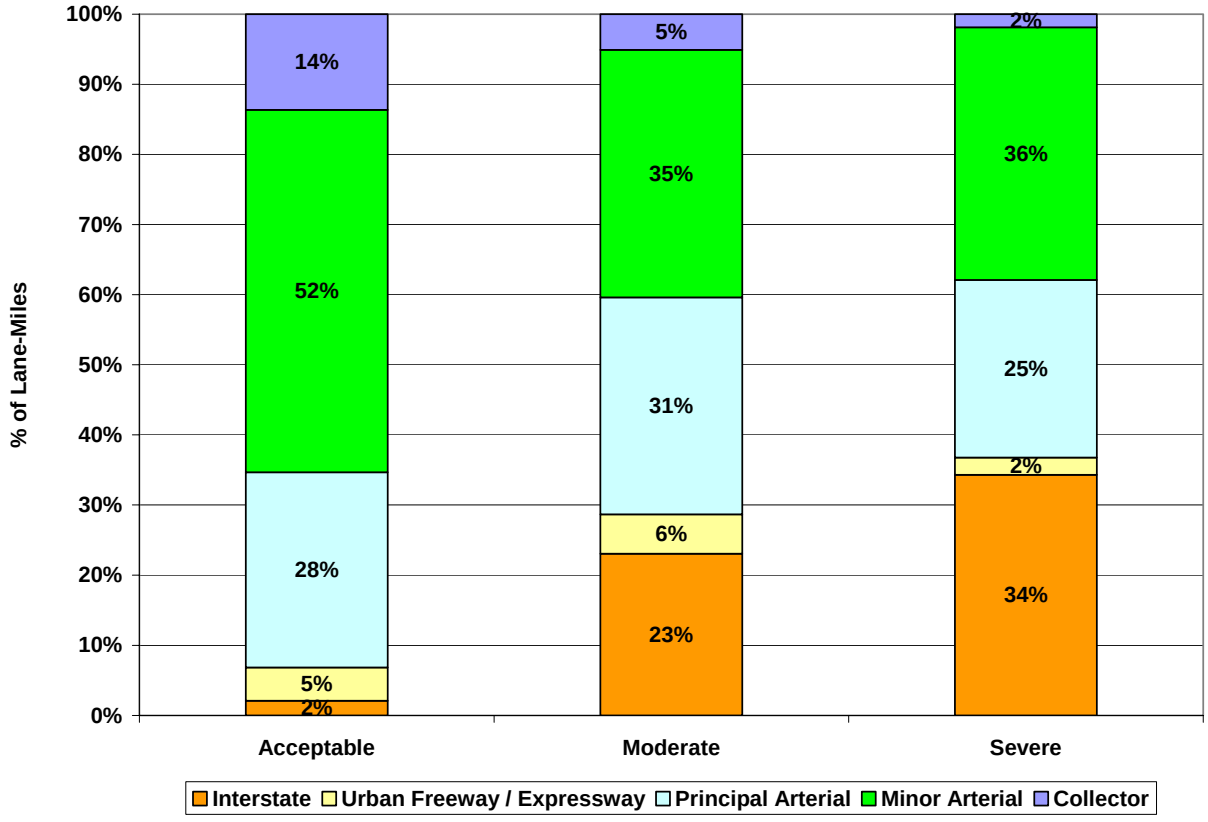
Facility Type	Congestion Type	Che	Glo	Hamp	IW	JCC	NN	Nor	Poq	Por	Suf	VaB	Wb	York	TOTAL Lane Miles	TOTAL % of Fac Type	TOTAL % of Cong Type	TOTAL % of Total
Interstate	Severe	54	0	75	0	7	72	73	0	1	3	77	0	37	400	52%	34%	8%
	Moderate	64	0	19	0	47	52	44	0	17	22	38	0	16	318	41%	23%	7%
	Acceptable	11	0	0	0	0	6	16	0	10	0	6	0	0	49	6%	2%	1%
	Total	129	0	94	0	54	129	133	0	28	25	121	0	53	767	100%	na	16%
Freeway / Expressway	Severe	9	0	0	0	0	0	0	0	19	0	0	1	0	29	13%	2%	1%
	Moderate	16	0	7	0	5	3	0	0	4	42	0	0	0	77	36%	6%	2%
	Acceptable	37	0	7	0	20	0	0	0	5	29	4	0	10	111	51%	5%	2%
	Total	63	0	14	0	25	3	0	0	28	71	4	1	10	217	100%	na	4%
Urban Principal Arterial	Severe	23	29	10	12	16	37	19	0	4	8	46	2	52	259	21%	22%	5%
	Moderate	38	0	23	22	6	56	105	0	17	24	69	7	24	392	32%	28%	8%
	Acceptable	106	0	25	25	25	36	128	0	32	44	99	14	47	581	47%	25%	12%
	Total	167	29	58	59	47	129	251	0	54	75	215	23	123	1,232	100%	na	25%
Rural Principal Arterial	Severe	0	19	0	0	0	0	0	0	0	17	0	0	0	36	26%	3%	1%
	Moderate	0	0	0	14	0	0	0	0	0	21	0	0	0	35	25%	3%	1%
	Acceptable	0	16	0	0	0	0	0	0	0	53	0	0	0	70	49%	3%	1%
	Total	0	35	0	14	0	0	0	0	0	92	0	0	0	141	100%	na	3%
Urban Minor Arterial	Severe	70	0	17	3	5	86	13	6	4	24	170	4	12	414	21%	35%	8%
	Moderate	90	0	55	15	43	8	53	0	11	21	167	7	13	482	25%	35%	10%
	Acceptable	131	0	150	5	47	57	151	3	118	71	283	14	24	1,053	54%	45%	22%
	Total	292	0	222	22	94	151	217	9	133	116	620	25	48	1,949	100%	na	40%
Rural Minor Arterial	Severe	0	0	0	7	0	0	0	0	0	0	0	0	0	7	4%	1%	0%
	Moderate	0	5	0	0	0	0	0	0	0	0	0	0	0	5	3%	0%	0%
	Acceptable	0	7	0	74	43	0	0	0	0	27	0	0	6	156	93%	7%	3%
	Total	0	12	0	80	43	0	0	0	0	27	0	0	6	167	100%	na	3%
Urban Collector	Severe	3	0	0	0	0	12	0	0	0	0	5	0	2	22	7%	2%	0%
	Moderate	13	0	16	1	12	4	0	3	4	2	14	0	1	69	23%	5%	1%
	Acceptable	39	7	13	23	2	13	0	3	3	12	83	4	3	204	69%	9%	4%
	Total	54	7	29	24	14	28	0	6	7	15	102	4	5	295	100%	na	6%
Rural Collector	Severe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%	0%	0%
	Moderate	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1%	0%	0%
	Acceptable	0	18	0	0	13	0	0	0	0	74	0	0	11	115	99%	5%	2%
	Total	0	18	0	0	13	0	0	0	0	74	0	0	12	116	100%	na	2%
Total	Severe	159	48	103	21	28	208	105	6	28	51	298	7	103	1,166	24%	100%	24%
	Moderate	221	5	120	52	113	122	202	3	54	133	288	14	54	1,380	28%	100%	28%
	Acceptable	325	48	195	126	149	111	295	6	168	310	476	32	99	2,339	48%	100%	48%
	Total	705	101	417	200	290	440	602	15	250	494	1,062	53	257	4,885	100%	na	100%

Note: There are an additional 274 lane-miles for which no congestion estimates were made; see individual project studies for forecasts.

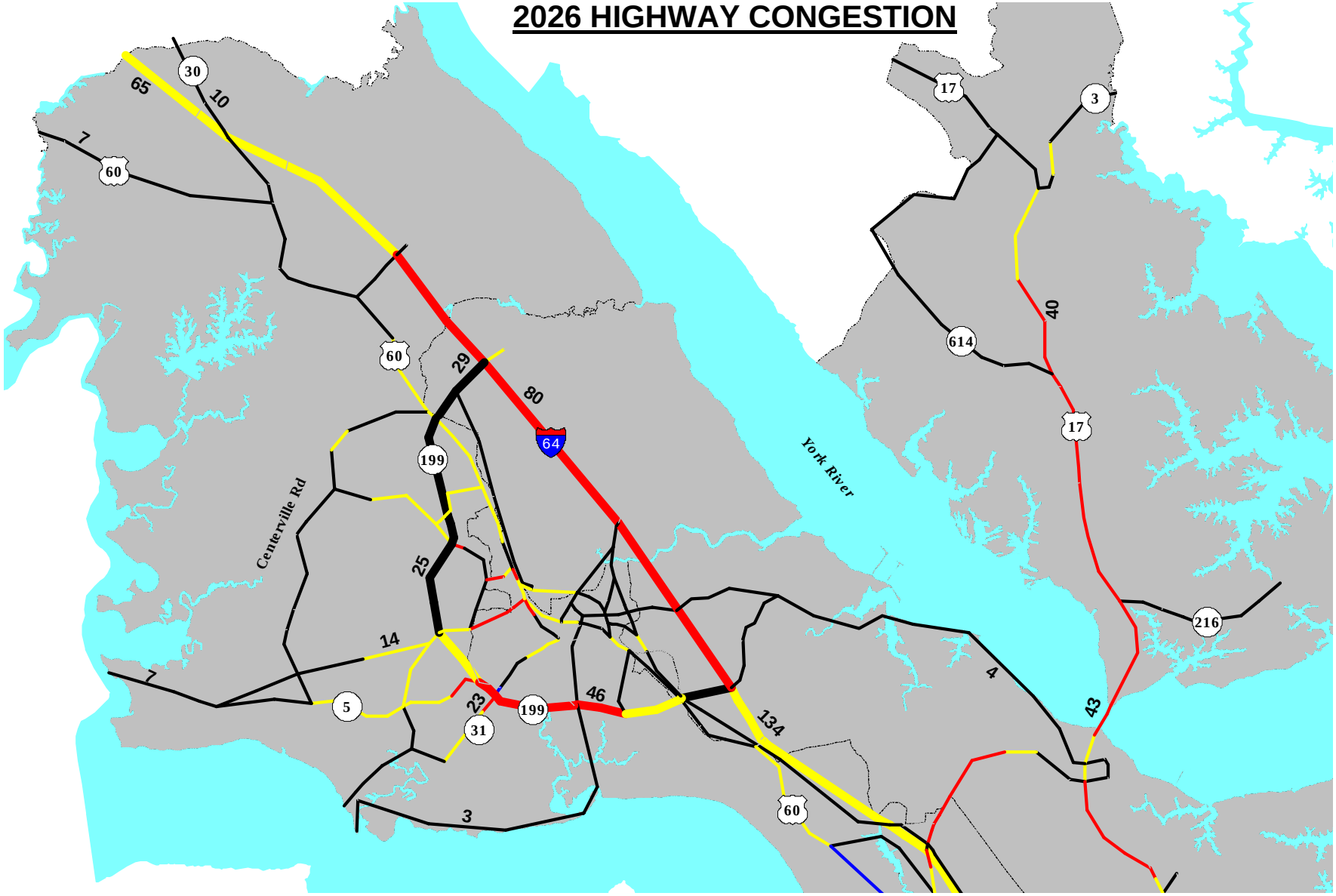
2026 Congestion As Percent of Facility Type



2026 Facility Type As Percent of Congestion Category



2026 HIGHWAY CONGESTION



Legend

- Severe congestion
- Moderate congestion
- Refer to individual project study

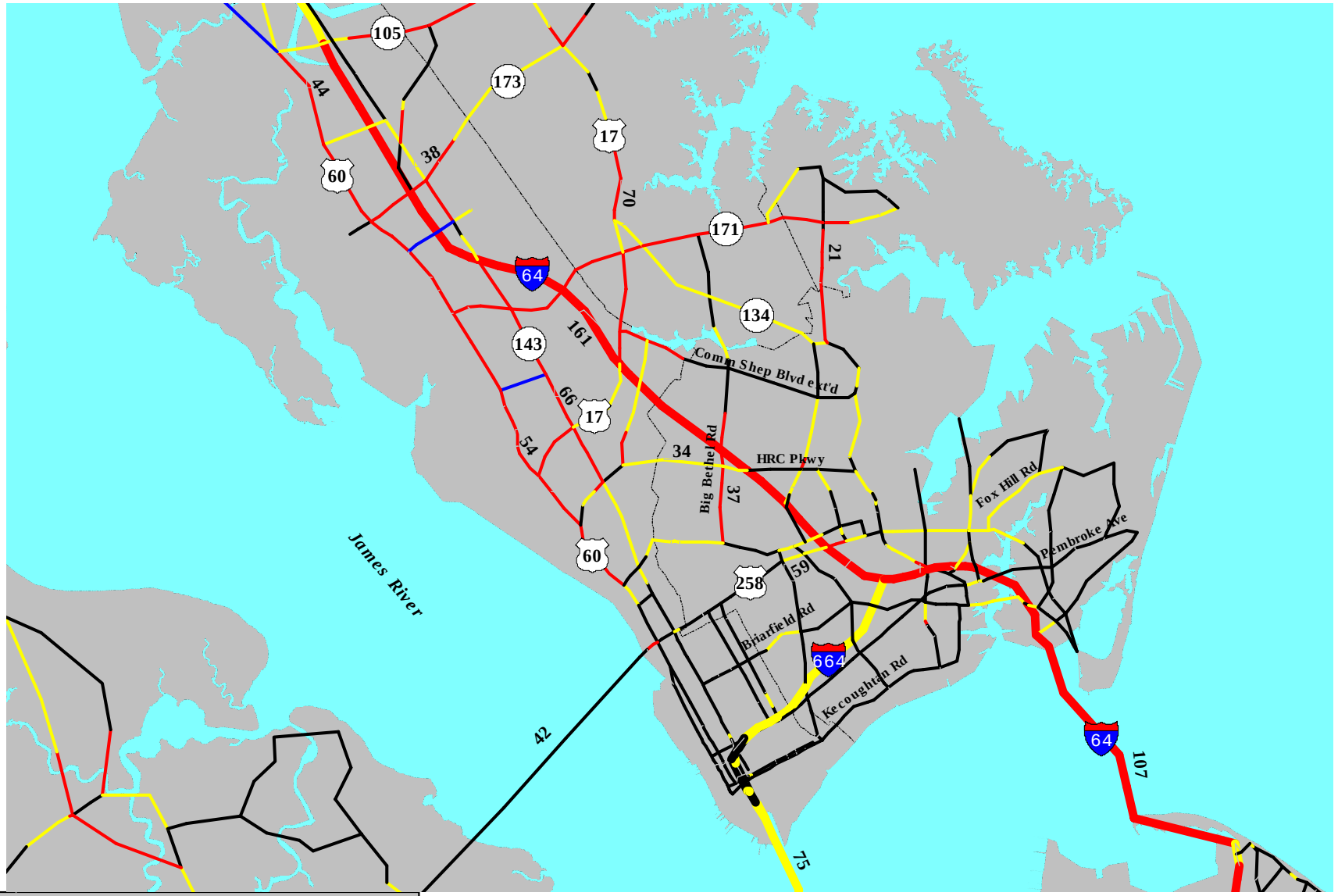
XXX Average weekday volume (thousands)

Congestion is for an average weekday in 2026.

HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004

2026 HIGHWAY CONGESTION



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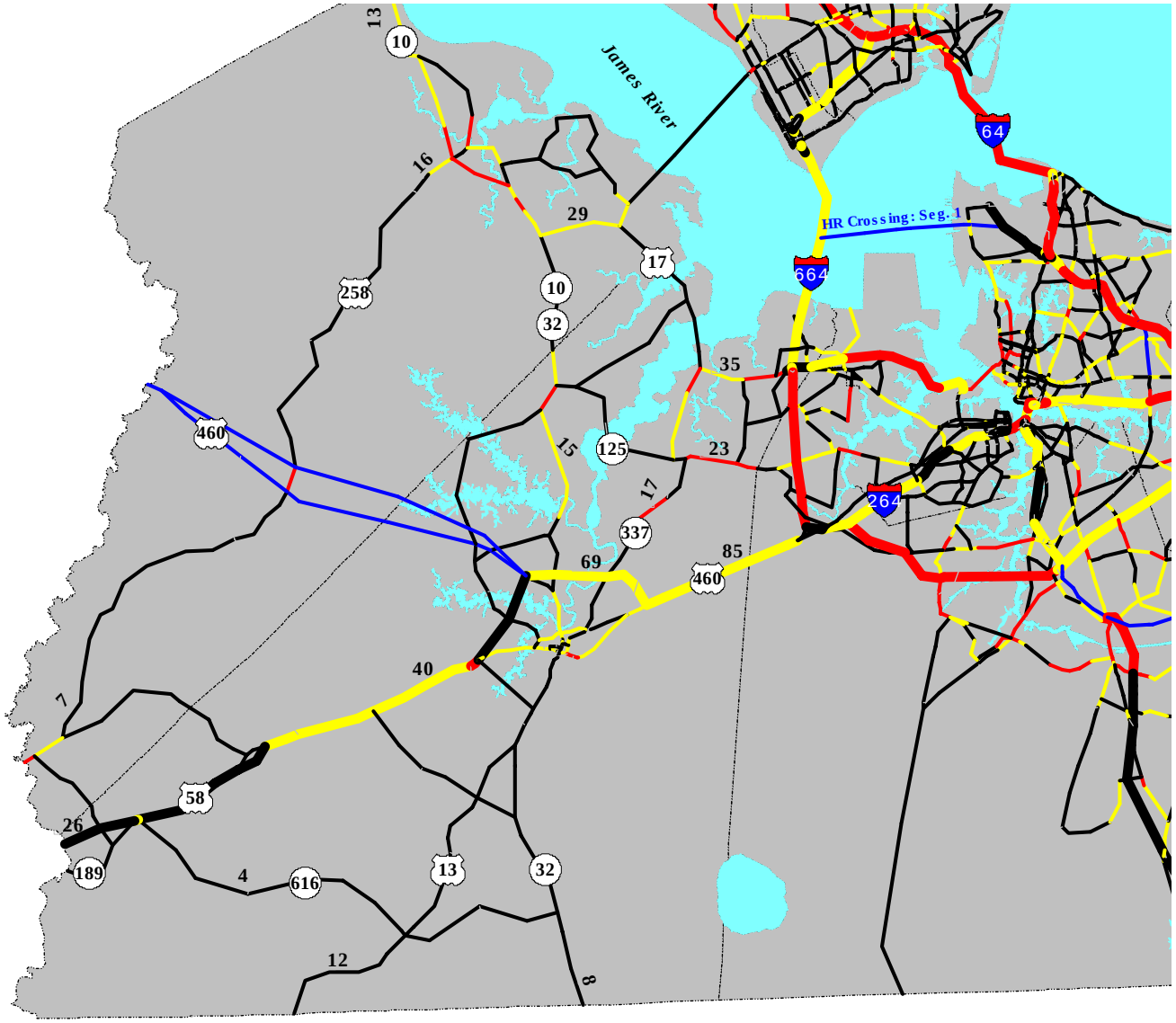
Congestion is for an average weekday in 2026.

HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004

2026 HIGHWAY CONGESTION



Legend

- Severe congestion
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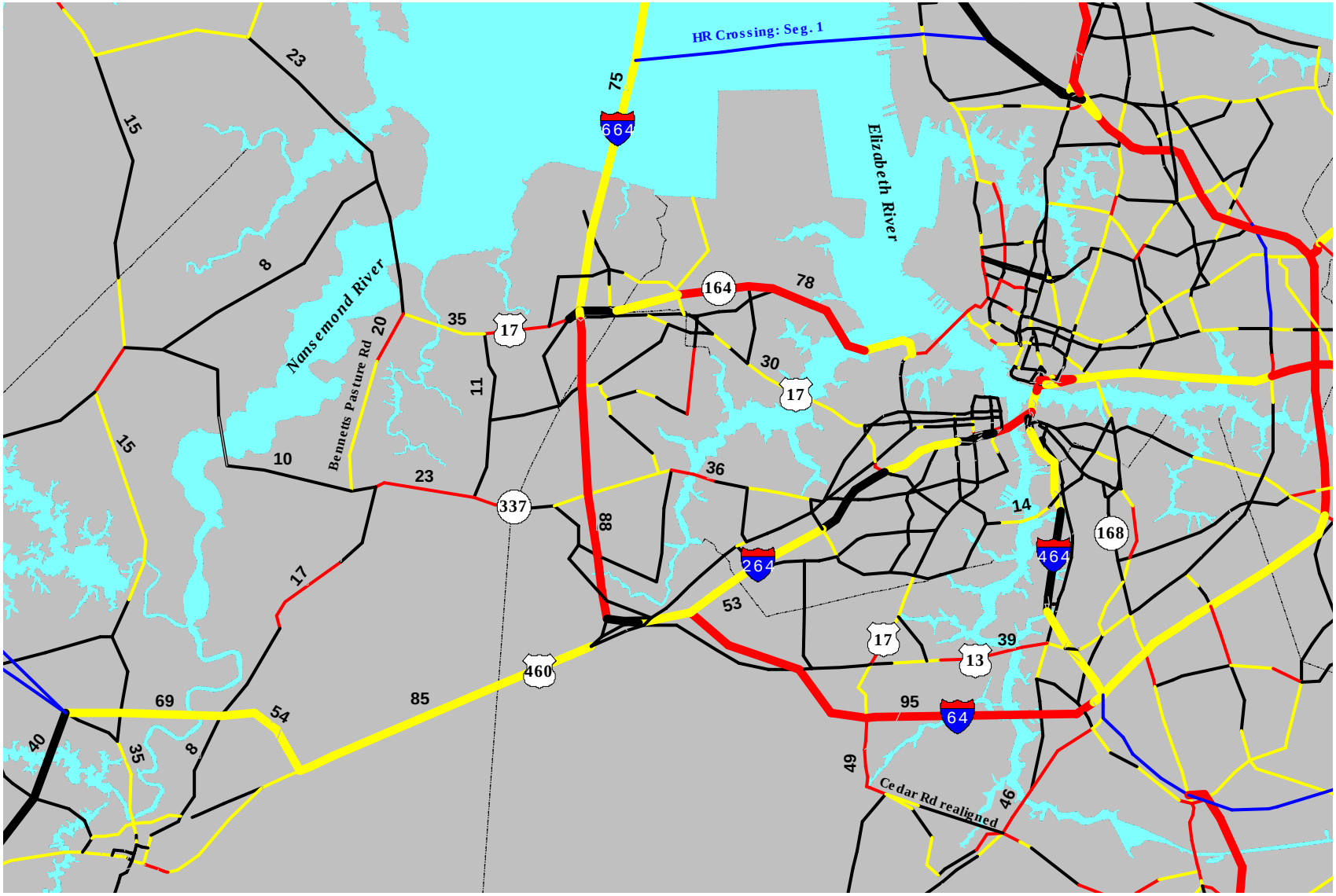
Congestion is for an average weekday in 2026.

HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004

2026 HIGHWAY CONGESTION



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HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004

2026 HIGHWAY CONGESTION

Legend

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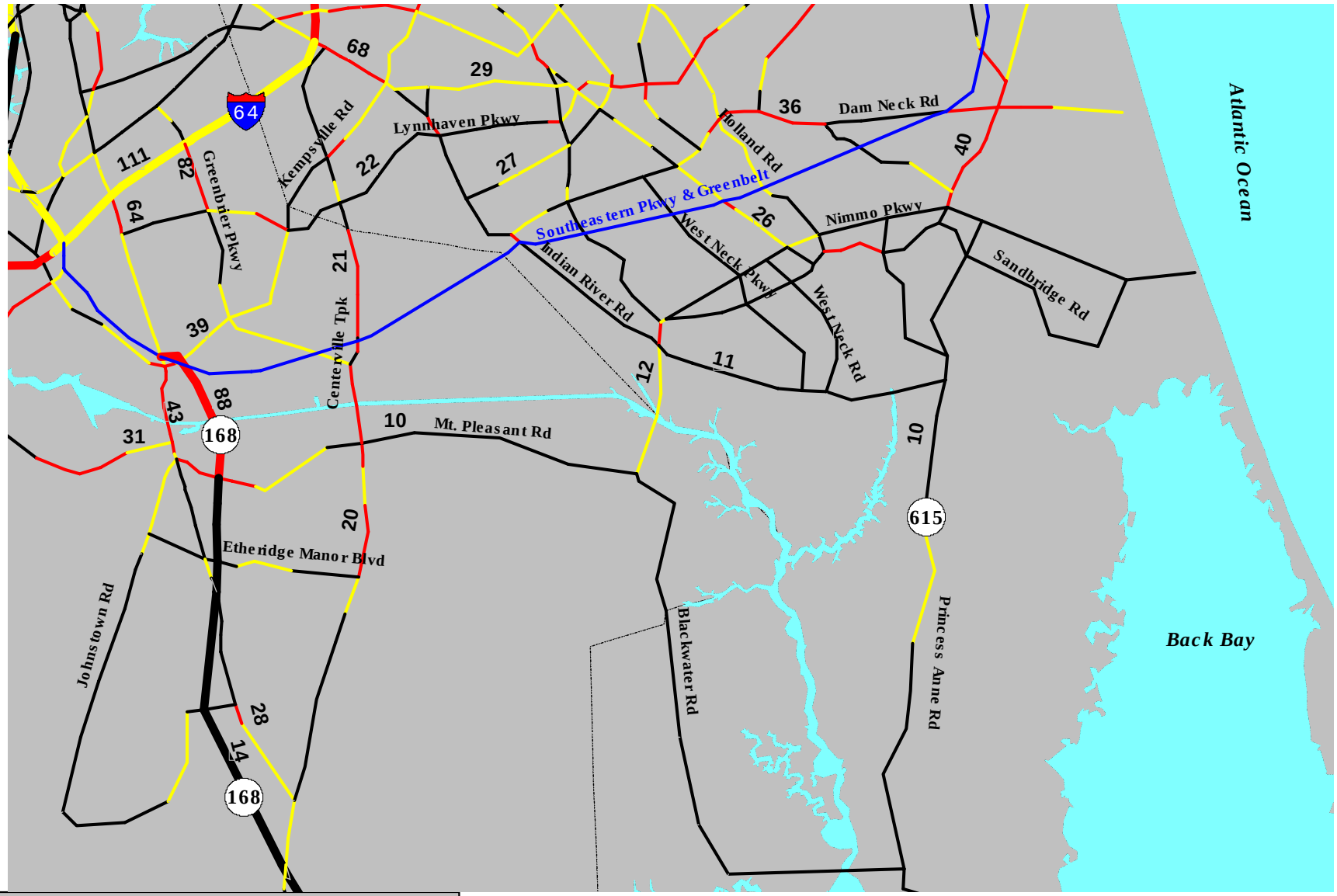
HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004

2026 HIGHWAY CONGESTION



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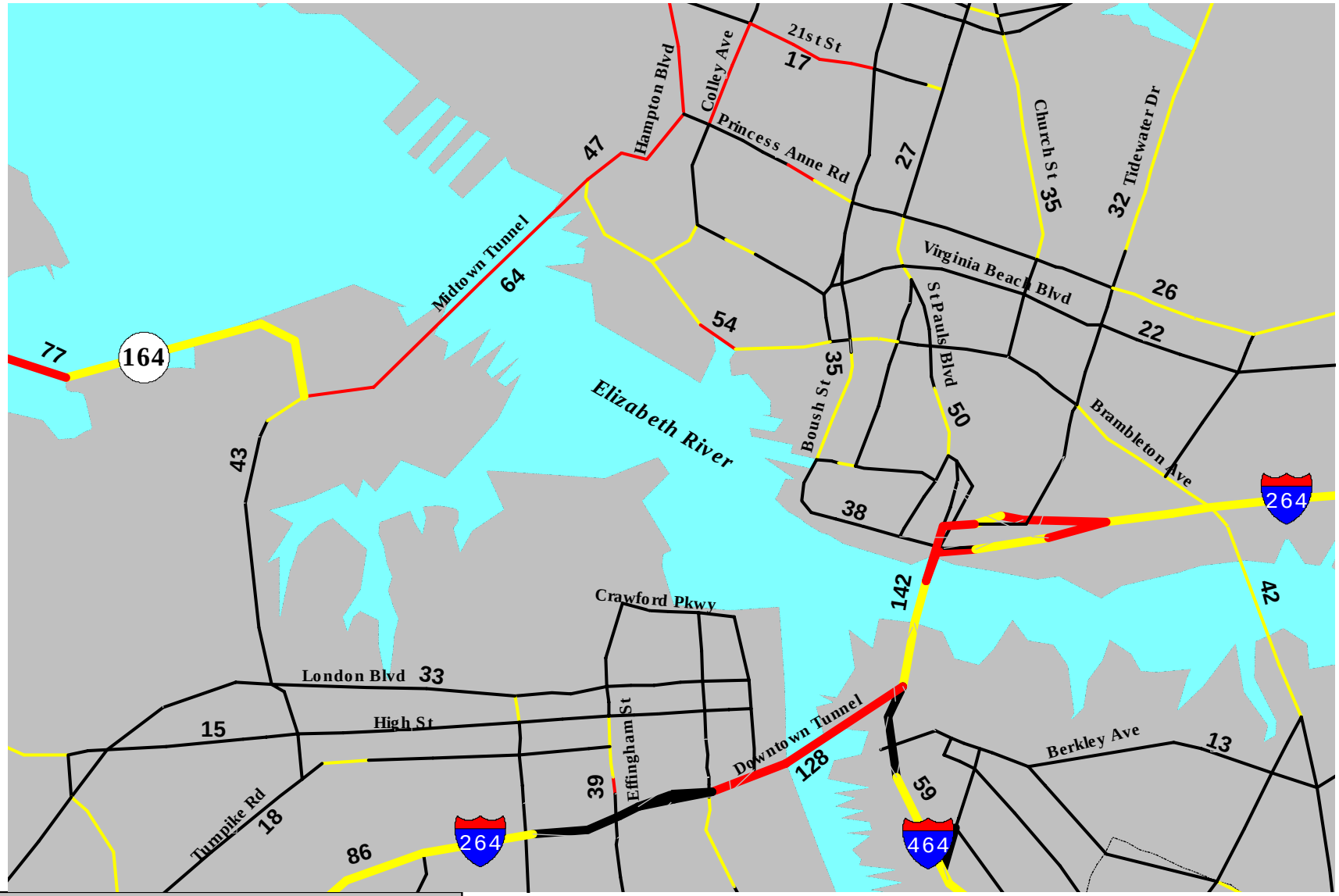
HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004

2026 HIGHWAY CONGESTION



Legend

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- Moderate congestion
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- XXX Average weekday volume (thousands)

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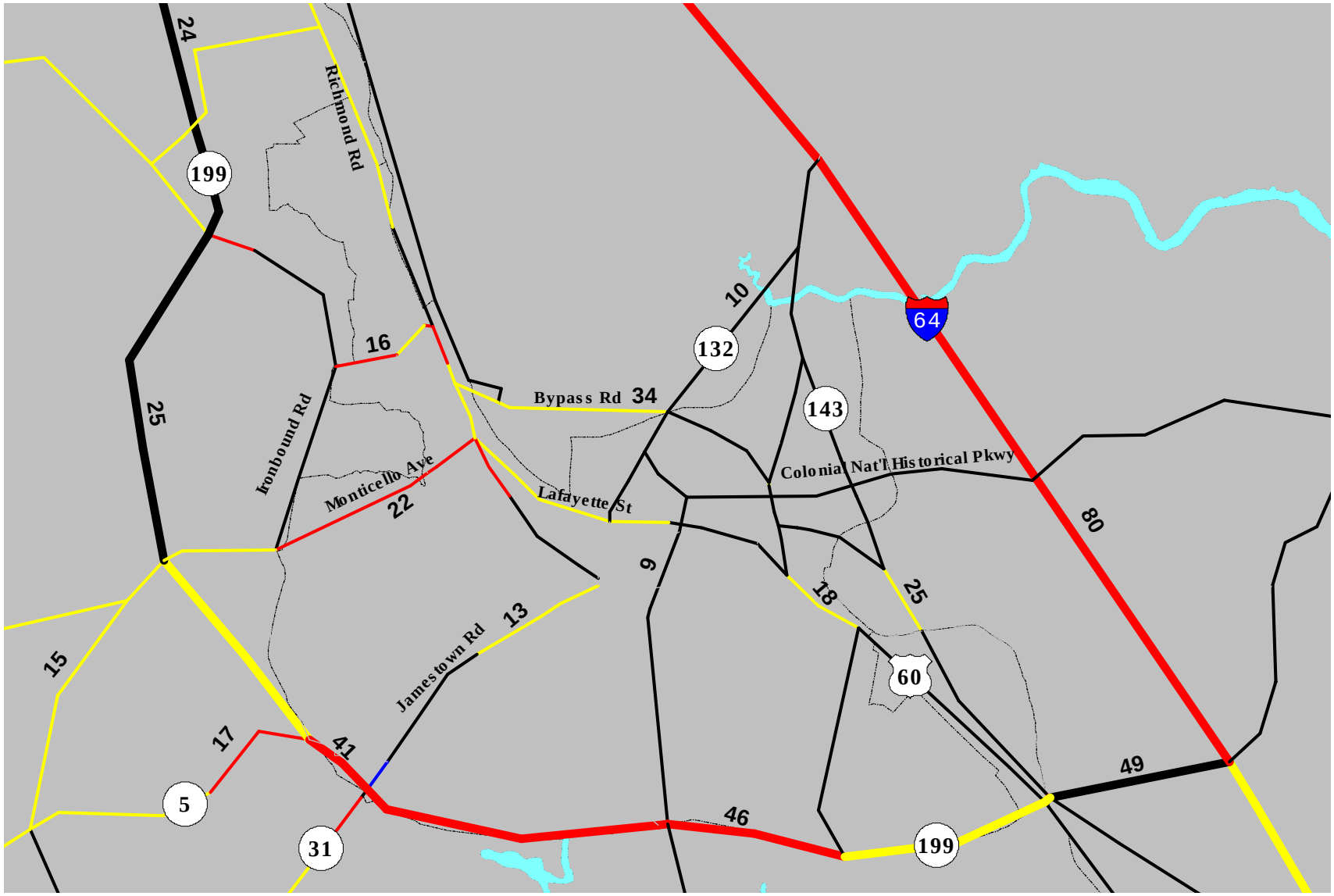
HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004

2026 HIGHWAY CONGESTION



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HAMPTON ROADS PLANNING DISTRICT COMMISSION

May 2004