the heartbeat of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

Hampton Roads 2045 Long-Range Transportation Plan: Plan Performance

T21-09

June 2021

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Hampton Roads 2045 Long-Range Transportation Plan:
Plan Performance

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ABSTRACT
This document – part of the compendium of reports that comprise the 2045 Hampton Roads Long-Range Transportation Plan (LRTP) – summarizes the forecasted performance of the 2045 LRTP and includes the 2045 forecasted volumes and congestion data developed using the Hampton Roads Regional Travel Demand Model.

ACKNOWLEDGMENT & DISCLAIMERS
Prepared in cooperation with the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), and Virginia Department of Transportation (VDOT). The contents of this report reflect the views of the Hampton Roads Transportation Planning Organization (HRTPO). The HRTPO is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the FHWA, VDOT, or Hampton Roads Planning District Commission. This report does not constitute a standard, specification, or regulation. FHWA or VDOT acceptance of this report as evidence of the 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.

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The HRTPO assures that no person shall, on the ground of race, color, national origin, handicap, sex, age, or income status as provided by Title VI of the Civil Rights Act of 1964 and subsequent authorities, be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any program or activity. The HRTPO Title VI Plan provides this assurance, information about HRTPO responsibilities, and a Discrimination Complaint Form.

HAMPTON ROADS 2045 LONG-RANGE TRANSPORTATION PLAN: PLAN PERFORMANCE

REPORT DATE: JUNE 2021
REPORT NUMBY: T21-09

the *heartbeat* of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

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THE 2045 LONG-RANGE TRANSPORTATION PLAN WILL USE INNOVATIVE PLANNING TECHNIQUES TO ADVANCE AN ADAPTIVE TRANSPORTATION SYSTEM THAT SEAMLESSLY INTEGRATES TRANSPORTATION MODES FOR ALL USERS WHILE IMPROVING QUALITY OF LIFE AND PRESERVING THE UNIQUE CHARACTER OF HAMPTON ROADS.

OVERVIEW

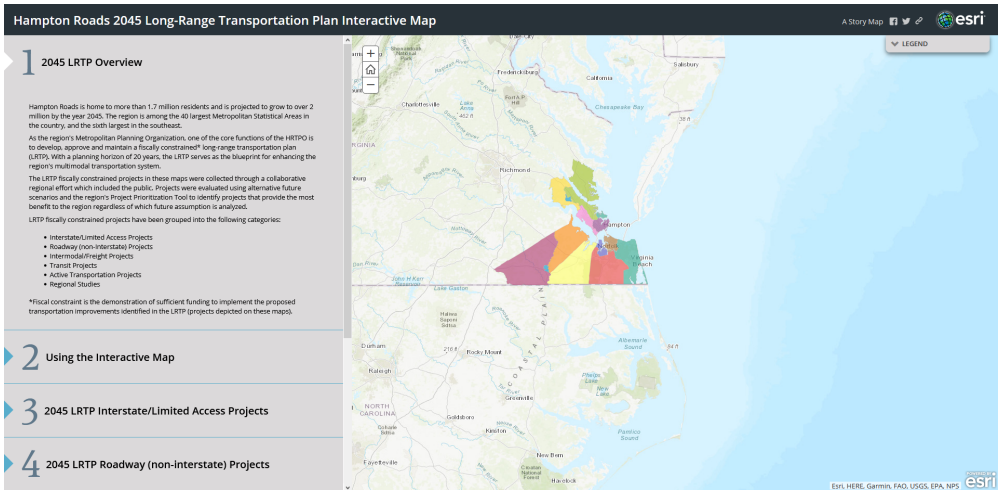
The Hampton Roads Transportation Planning Organization (HRTPO) develops a long-range regional blueprint, or Long-Range Transportation Plan (LRTP), to help guide multimodal transportation investments that promote system efficiency while maximizing the use of scarce transportation funds. LRTPs have a planning horizon of at least twenty years and are updated regularly to reflect changing conditions and priorities. Changes in growth can impact travel demand on the regional transportation system just as changes in the environment and technology can impact how people will travel in the future; therefore, transportation plans must consider alternatives to effectively address these conditions. Once alternatives are determined and prioritized, funds are identified to pay for the projects. This entire process takes approximately five years to complete and requires regional cooperation and public participation.

As part of the long-range planning process, approximately 260 candidate projects were evaluated with the ***Regional Scenario Planning Framework*** and the updated ***HRTPO Project Prioritization Tool***. In March 2021, the HRTPO Board approved the Funding Plan and Fiscally Constrained List of Projects for the 2045 LRTP. This report, the eighth in a series of reports outlining the development of the 2045 LRTP, summarizes the forecasted performance of the Plan and details how the 2045 LRTP will help the regional transportation goals, objectives, and performance targets.

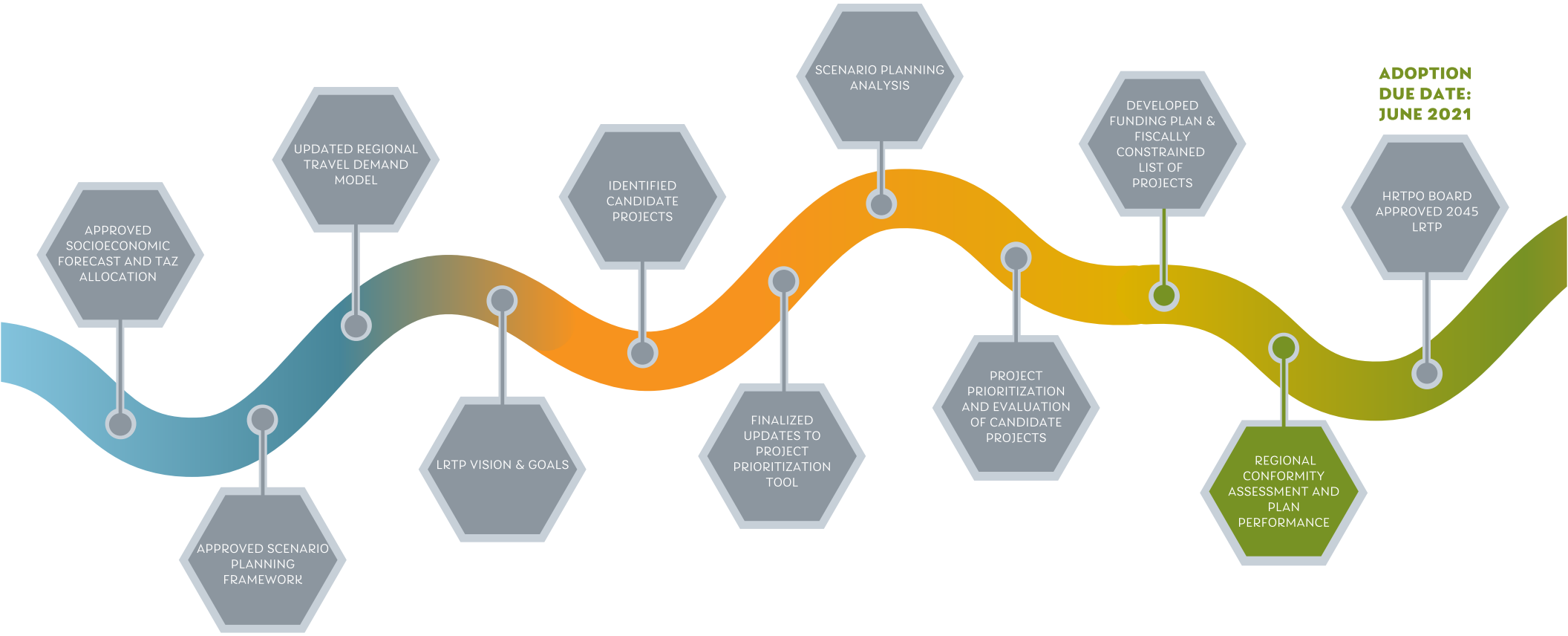
Previous 2045 LRTP reports focus on:

- Development of the ***2045 Socioeconomic Forecast*** describing projected population and employment growth for the region
- ***Regional Needs*** which established the framework for the vision and goals as well as the collection of candidate transportation projects
- ***Environmental Justice and Title VI Evaluation*** of candidate projects
- ***Summary of Transportation Challenges*** the region may face over the next 20 years and strategies to help meet these challenges
- ***Evaluation and Prioritization*** of candidate projects
- The documentation of the ***Funding Plan*** and development of the fiscally constrained list of projects for the Plan
- A ***Project Information Guide*** that provides detailed project information for each project fiscally constrained in the Plan

In addition to the LRTP reports, an ***interactive online map of the 2045 LRTP*** projects is available on the ***2045 LRTP*** webpage.



2045 LRTP DEVELOPMENT MILESTONES



2045 LRTP REPORTS TO DATE

The development of the ***2045 LRTP*** is being documented in a series of reports. Listed below are the reports that have been produced to date. Please click on the report images below for more information.

1

2

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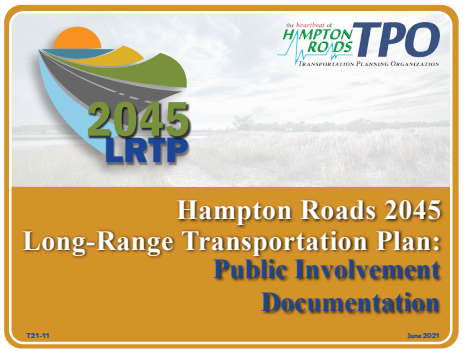


2045 LRTP GOALS AND OBJECTIVES

ECONOMIC VITALITY

- Support regional growth and productivity
- Support efficient freight movement
- Support accessibility for tourism

SAFETY AND SECURITY

- Increase safety with an adaptive transportation system for all users, including minimizing conflicts between motorized and non-motorized modes
- Ensure the security of the region's transportation infrastructure and its users

CONNECTIVITY AND ACCESSIBILITY

- Increase accessibility, connectivity and mobility of people and goods
- Provide a variety of transportation options that accommodates all users
- Increase the coordination of the transportation system, across and between modes, for people and goods
- Reduce delay and improve travel efficiency
- Improve connectivity and reliability between the Peninsula and Southside

SUSTAINABILITY - THE ENVIRONMENT, COMMUNITY, AND EQUITY

- Protect and enhance the environment, promote energy conservation, and improve the quality of life
- Promote compatibility between transportation improvements and planned land use and economic development patterns
- Minimize the environmental impact of future growth and transportation
- Improve the sustainability of communities through increased housing choice and reduced auto-dependency
- Ensure that mobility benefits positively affect low income residents
- Engage a diverse public in the development of the region's transportation system

EFFICIENCY, RESILIENCY, & INNOVATION

- Promote an efficient, reliable, and resilient regional transportation system
- Consider the impacts of technology on system demand and performance
- Make investments that improve flood resiliency
- Preserve and maintain the existing transportation system

PLAN PERFORMANCE

The goals developed for the 2045 LRTP serve as a foundation for transportation investment strategies and in the project selection process. The goals aim to maximize regional benefits from transportation dollars using guidance from federal, state, and regional strategies.

Regional approaches and efforts have been established to help the region meet the goals and objectives identified in the 2045 LRTP. These include ongoing efforts conducted as part of the MPO planning process such as the congestion management process, regional performance management, and studies examining safety, freight, multimodal connectivity, etc. These regional approaches and efforts are summarized in Table 1.

The ***HRTPO Project Prioritization Tool (PPT)*** is used to identify projects that best position the region in achieving the goals and objectives in the 2045 LRTP. The HRTPO PPT is a data-driven and objective tool that evaluates projects based on technical merits and regional benefits (see figure below). Specific measures that address the 2045 LRTP goals and objectives are summarized in Table 1.

PROJECT UTILITY:
ABILITY TO SOLVE A PROBLEM

- Congestion
- Travel Time Reliability
- System Continuity and Connectivity/ Regional Significance
- Safety and Security
- Modal Enhancements

ECONOMIC VITALITY:
POTENTIAL FOR ECONOMIC GAIN

- Travel Time and Delay Impacts
- Labor Market Access
- Address Needs of Basic Sector Industries
- Increased Opportunity
- Impact on Truck Movement
- Economic Distress Factors

PROJECT VIABILITY:
PROJECT READINESS

- Project Readiness
- Land Use/Future Development Compatibility
- Environmental Considerations
- Cost Effectiveness

In addition to the project prioritization process, the 2045 LRTP employed scenario planning to provide a framework for analyzing future uncertainty. This scenario planning effort was developed in partnership with another regional effort, the ***Regional Connectors Study***. For the 2045 LRTP, potential impacts were investigated across multiple plausible futures which produced quantitative inputs that enabled a more robust project prioritization process as well as plan performance evaluation. Visit the ***2045 LRTP Scenario Planning*** webpage for more information on the Scenario Planning process.

To help assess how the package of fiscally constrained projects in the 2045 LRTP is helping the region meet goals and objectives, outputs from the ***Regional Travel Demand Model*** and other spatial analyses were analyzed across the planning scenarios. Table 1 provides a summary of these outputs.

2045 GREATER GROWTH WATER

- Growth in water-oriented activity
- Port of Virginia becomes even more competitive
- More dispersed housing locations
- Moderate assumptions for CAV adoption and network adaptation

2045 GREATER GROWTH URBAN

- Significant economic diversification
- Low space requirements per job
- Large role for "digital port"
- New professionals prefer to live/work in urban settings
- High level of CV adoption and low auto ownership/high TNC mode

2045 GREATER GROWTH SUBURBAN

- Growth is suburban/ exurban, but growth includes walkable mixed-use centers
- Port of Virginia becomes even more competitive
- "Digital port" brings additional jobs
- Housing is more suburban
- High level of AV adoption and network adaptation

WHAT THESE WILL HELP US TEST

Test greater cross-harbor travel in particular

Test more urban and multimodal travel patterns

Test more overall regional travel

TABLE 1: 2045 LRTP GOALS AND REGIONAL PLAN PERFORMANCE

2045 Long-Range Transportation Plan						
Goals	**Objectives**	**Regional Approaches/Efforts**	**HRTPO Project Prioritization Tool (PPT) Measures**	**Regional Travel Demand Model/Spatial Analysis Outputs**		
Economic Vitality	Support regional growth and productivity	• Various Regional Studies	• Economic Vitality component of HRTPO PPT	• Accessibility to high density employment TAZs	Map 14	Page 68
				• Accessibility to high density population TAZs	Map 15	Page 69
				• Access to UDAs/GOZs	Map 16	Page 70
	Support efficient freight movement	• Regional Freight Studies • Freight Transportation Advisory Committee • Port is a Voting Member of the HRTPO Board and Advisory/Subcommittees	• Intermodal/Freight measures in HRTPO PPT • Truck Travel Time Reliability	• Proximity/Access to Truck Zones	Map 17	Page 71
				• Performance on the freight network	Figures 61 and 62	Page 65
				• Forecasted Truck Trips by Scenario	Figures 57 and 58	Page 62
	Support accessibility for tourism	• N/A	• Increased access to Tourist Destinations	• Proximity/Access to Major Tourist Areas	Map 18	Page 72
Safety and Security	Increase safety with an adaptive transportation system for all users, including minimizing conflicts between motorized and non-motorized modes	• Regional Safety Study (Crash Trends and Locations, Crash Countermeasures) • Participation in Virginia Strategic Highway Safety Plan Steering Committee and Traffic Records Coordinating Committee • Participation in Road Safety Audits • Performance Management Planning Efforts	• Fatal and Serious Injuries Avoided per Year • Diversion Impact Due to Bridge/Tunnel Failure • Transit Safety Measures • Bicycle/Pedestrian Crash History • Bicycle/Pedestrian and Roadway Separation/Network Quality • Project association with Safe Routes to School	• N/A		
	Ensure the security of the region's transportation infrastructure and its users	• Regional Evacuation Planning Efforts • Urban Area Security Initiative	• Improvements to Incident Management or Evacuation Routes • Transit Security Measures	• N/A		
Connectivity and Accessibility	Increase accessibility, connectivity and mobility of people and goods	• Multimodal Transportation Planning Efforts • Congestion Management Process • Coordinated Regional Transit Planning • Regional Freight Studies • Regional Military Studies	• Person Throughput • Improved Access to Major Employment or Population Centers • Address a Gap • Connects to Existing Bicycle/Pedestrian Facilities • Elimination of Barriers to Major Destinations • Enhances First Mile - Last Mile Connections • Transit - Accessibility (including ADA) and/or Customer Experience • Provides New Network Access • Transit - Increases Frequency of Service	• Vehicle Miles Traveled	Figures 23-28	Pages 45-48
				• Regional Travel Time Savings/Vehicle Hours Traveled	Figures 29-34	Pages 49-52
				• Accessibility to high density employment TAZs	Map 14	Page 68
				• Accessibility to high density population TAZs	Map 15	Page 69
				• Proximity/Access to Major Tourist Areas	Map 18	Page 72
				• Proximity/Access to Truck Zones	Map 17	Page 71
	Provide a variety of transportation options that accommodates all users	• Multimodal Transportation Planning Efforts • Coordinated Regional Transit Planning • TRAFFIX • Active Transportation Subcommittee • Percent of Investment in Alternate Modes	• Enhances Other Modes • Access to Multimodal Choices • Percent of Trips Removed from Roadways	• Title VI/EJ Accessibility	Maps 21-30, Figure 65	Pages 78-88
				• Transit and Bike Facility Accessibility	Maps 32 and 34	Pages 90 and 92
				• Change in mode share/transit boardings	Figures 41-56	Pages 56-61
				• Existing Transit and Bikeable Facilities	Maps 31 and 33	Pages 89 and 91

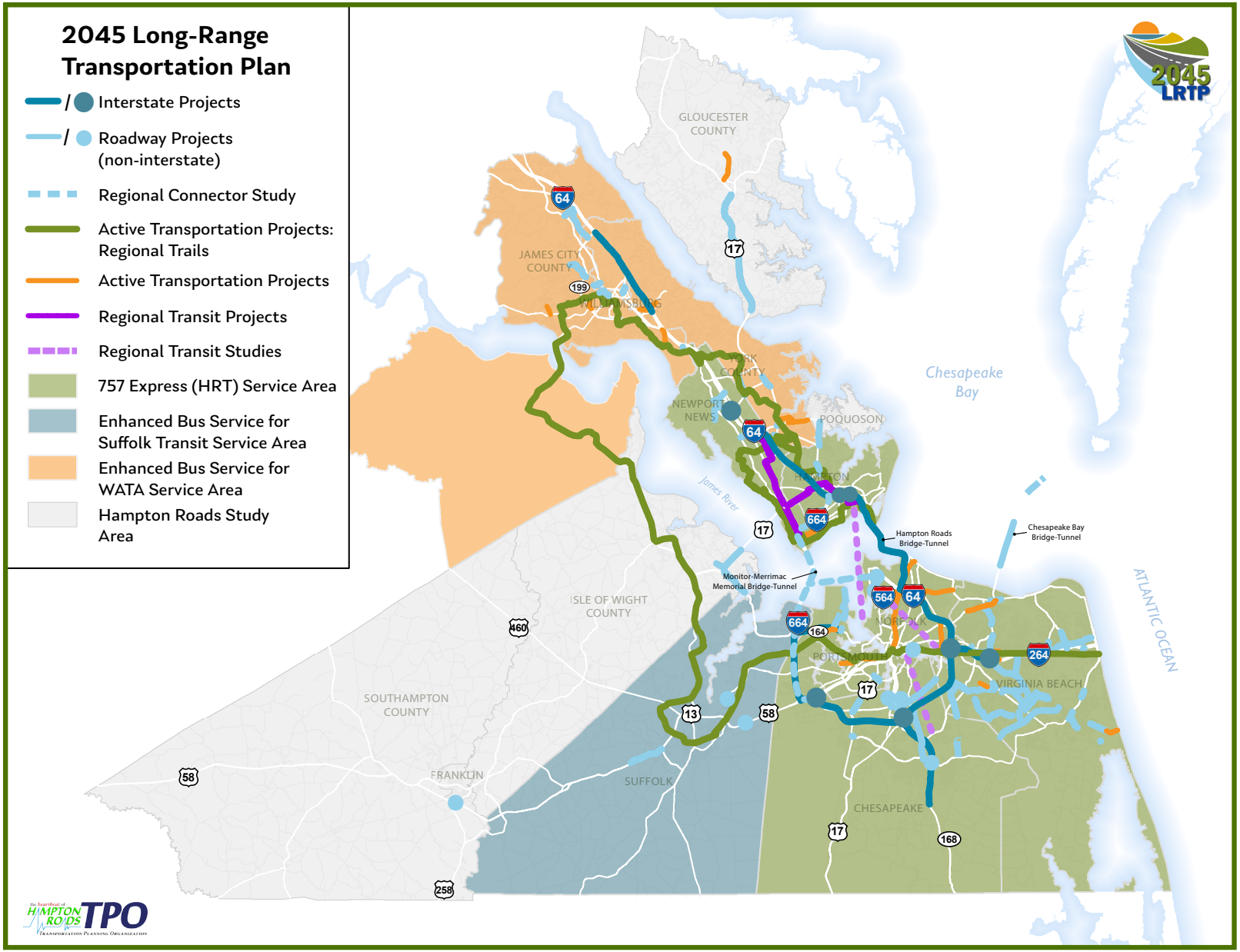
TABLE 1 CONTINUED: 2045 LRTP GOALS AND PLAN PERFORMANCE

2045 Long-Range Transportation Plan						
Goals	**Objectives**	**Regional Approaches/Efforts**	**HRTPO Project Prioritization Tool (PPT) Measures**	**Regional Travel Demand Model/Spatial Analysis Outputs**		
Connectivity and Accessibility (continued)	Increase the coordination of the transportation system, across and between modes, for people and goods	• Multimodal Transportation Planning Efforts • Coordinated Regional Transit Planning • Regional Freight Studies • Regional Military Studies	• Intermodal/Freight Measures • Provides Continuous Maritime Crossing • Increases access for Port Facilities, Truck Zones (freight/distribution zones) • Improves Flow of Rail/Access to Air	• Proximity/Access to Truck Zones	Map 17	Page 71
				• Transit and Bike Facility Accessibility	Maps 32 and 34	Pages 90 and 92
				• Change in mode share/transit boardings	Figures 41-56	Pages 56-61
				• Existing Transit and Bikeable Facilities	Maps 31 and 33	Pages 89 and 91
	Reduce delay and improve travel efficiency	• Performance Management Planning Efforts • Congestion Management Process • Intelligent Transportation Systems/Operations • Traffic Incident Management • Coordination of Hampton Roads Transportation Operations (HRTO) Subcommittee	• Percent Reduction in Existing and Future Volume/Capacity Ratios • Existing Peak Period Congestion/Level of Service • Person Hours of Delay • Impact to Nearby Roadways • Travel Time Reliability • Total Reduction in Regional Travel Time and Regional Delay • Transit - Annual Travel Time Savings	• Congested Speeds	Figures 39-40	Page 55
				• Regional Level of Service	Maps 2-11	Pages 12-21
				• Average travel time by trip purpose	Figures 35-38	Pages 53-54
				• Performance of the transit-serving roadway network	Figures 59-60	Page 63
				• Performance of the Hampton Roads Express Lanes Network	Figures 19-22	Pages 41-44
	Improve connectivity and reliability between the Peninsula and Southside	• Regional Scenario Planning Framework • Regional Priority Projects (coordination with HRTAC) • Regional Connectors Study	• Regional Significance • Regional Connectors Study will examine scenarios and alternatives using the HRTPO PPT	• Harbor Crossing Travel Time Savings	Figures 2-6	Pages 23-27
				• Elizabeth River Crossing Travel Time Savings	Figures 7-11	Pages 28-32
				• Harbor Crossing Volume/Capacity Ratios	Figures 13-14	Pages 34-35
				• Elizabeth River Crossing Volume/Capacity Ratios	Figures 15-16	Pages 36-37
Sustainability - the Environment, Community, and Equity	Protect and enhance the environment, promote energy conservation, and improve the quality of life	• Reduction in Travel Time/Vehicle Miles Traveled • Congestion Mitigation and Air Quality Prioritization/Funding • Transportation/Air Quality Conformity (Hampton Roads is in attainment) • Environmental Mitigation Coordination with Regional Environmental Agencies • Climate Change/Sea Level Rise Planning Efforts • Coordination with Hampton Roads Planning District Commission Planning Efforts • Regional Conformity Assessment (Air Quality Conformity)	• Environmental Measures of Effectiveness • Analyze potential impact to Natural and Cultural Resources • Reduced Congestion/Delay • Improved Reliability • Improved Connectivity • Provides Access to Institutions of Higher Education	• Regional Level of Service	Maps 2-11	Pages 12-21
				• Regional Travel Time Savings/Vehicle Hours Traveled	Figures 29-34	Pages 49-52
				• Performance of the Hampton Roads Express Lanes Network	Figures 19-22	Pages 41-44
				• Title VI/EJ Accessibility	Maps 21-30, Figure 65	Pages 78-88
				• Transit and Bike Facility Accessibility	Maps 32 and 34	Pages 90 and 92
	Promote compatibility between transportation improvements and planned land use and economic development patterns	• Regional Land Use Map • Regional Scenario Planning Framework	• Land Use/Future Development Compatibility • Supports Plans for Future Growth • Improved Access to Urban Development Areas/Governor's Opportunity Zones	• Accessibility to high density employment TAZs	Map 14	Page 68
				• Accessibility to high density population TAZs	Map 15	Page 69
				• Access to UDAs/GOZs	Map 16	Page 70

TABLE 1 CONTINUED: 2045 LRTP GOALS AND PLAN PERFORMANCE

2045 Long-Range Transportation Plan						
Goals	**Objectives**	**Regional Approaches/Efforts**	**HRTPO Project Prioritization Tool (PPT) Measures**	**Regional Travel Demand Model/Spatial Analysis Outputs**		
Sustainability - the Environment, Community, and Equity (continued)	Minimize the environmental impact of future growth and transportation	• Regional Land Use Map • Regional Scenario Planning Framework • Reduction in Travel Time/Vehicle Miles Traveled • Transportation/Air Quality Conformity (Hampton Roads is in attainment) • Environmental Mitigation Coordination with Regional Environmental Agencies	• Land Use/Future Development Compatibility • Supported by Plans for Increased Density and Economic Activity • Environmental Measures of Effectiveness • Analyze potential impact to Natural and Cultural Resources	• Accessibility to high density employment TAZs	Map 14	Page 68
				• Accessibility to high density population TAZs	Map 15	Page 69
				• Access to UDAs/GOZs	Map 16	Page 70
	Improve the sustainability of communities through increased housing choice and reduced auto-dependency	• Regional Land Use Map • Regional Scenario Planning Framework	• Transit and Active Transportation Measures • Enhances Other Modes • Access to Multimodal Choices • Percent of Trips Removed from Roadways	• Title VI/EJ Accessibility	Maps 21-30, Figure 65	Pages 78-88
				• Change in mode share/transit boardings	Figures 41-56	Pages 56-61
				• Transit and Bike Facility Accessibility	Maps 32 and 34	Pages 90 and 92
				• Existing Transit and Bikeable Facilities	Maps 31 and 33	Pages 89 and 91
	Ensure that mobility benefits positively affect low income residents	• HRTPO Environmental Justice/Title VI Methodology	• Provides Access to Low Income Areas • Provides Access to Areas with High Unemployment	• Title VI/EJ Accessibility	Maps 21-30, Figure 65	Pages 78-88
				• Access to Low Income Areas	Map 19	Page 73
				• Access to Areas of High Unemployment	Map 20	Page 74
	Engage a diverse public in the development of the region's transportation system	• Public Participation Plan/Implementation • Community Advisory Committee • Environmental Justice Roundtable	• Public engagement opportunities provided throughout development of LRTP, including review of PPT measures, PPT results, and plan performance results	• N/A		
Efficiency, Resiliency, and Innovation	Promote an efficient, reliable, and resilient regional transportation system	• Performance Management Planning Efforts • Congestion Management Process • Traffic Incident Management • Climate Change/Sea Level Rise Planning Efforts • Pilot project with USDOT Volpe - Resilience and Disaster Recovery Metamodel • Regional Scenario Planning Framework	• Resiliency Measures • Infrastructure Condition • Transit - Operating Efficiency	• Performance on the freight network	Figures 61 and 62	Page 65
				• Performance of the military network	Figures 63-64	Page 67
				• Performance on the transit-serving roadway network	Figures 59-60	Page 63
				• Volpe RDR Tool Analysis	Figure 66	Page 94
	Consider the impacts of technology on system demand and performance	• C/AV Planning Efforts • Coordination of Hampton Roads Transportation Operations (HRTO) Subcommittee • Regional Scenario Planning Framework	• Considered as part of scenario planning effort (connected/autonomous vehicle assumptions investigated with the regional travel demand model, based on scenario narrative)	• N/A		
	Make investments that improve flood resiliency	• Climate Change/Sea Level Rise Planning Efforts • Pilot project with USDOT Volpe - Resilience and Disaster Recovery Metamodel • Regional Scenario Planning Framework	• Resiliency Measures	• Volpe RDR Tool Analysis	Figure 66	Page 94
	Preserve and maintain the existing transportation system	• Performance Management Planning Efforts • Regional Bridge Study • Funding set-aside for forecasted maintenance/operations/administration	• Infrastructure Condition • Transit - Operating Efficiency	• N/A		

MAP 1: 2045 LRTP FISCALLY CONSTRAINED PROJECTS



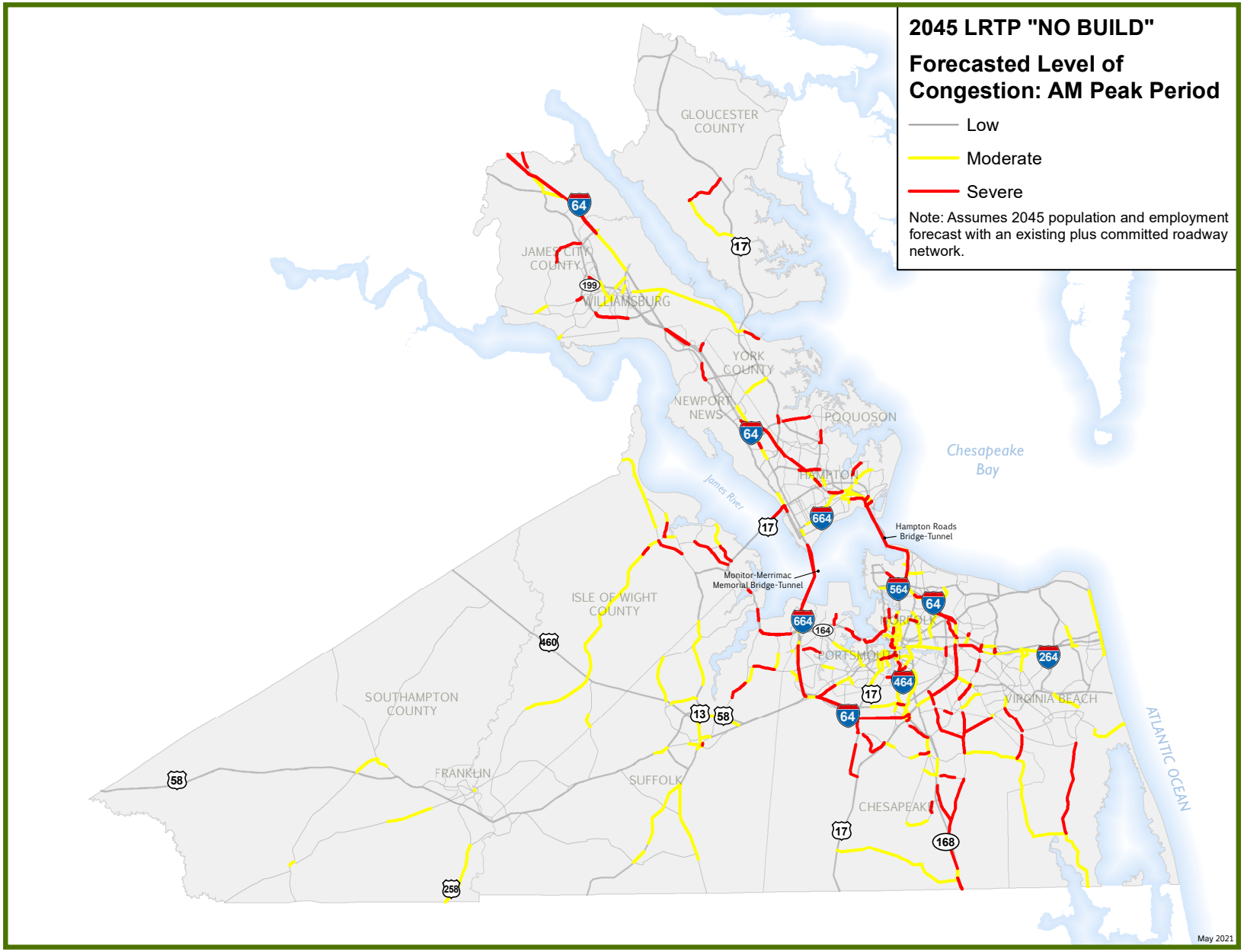
The maps and graphics on the following pages summarize potential impacts of the 2045 LRTP. Data outputs from the HRTPO Regional Travel Demand model were used for the following metrics:

- Forecasted Volume
- Forecasted Congestion/Level of Service
- Forecasted Travel Time
- Forecasted Volume/Capacity Ratios
- Forecasted Express Lane Network Performance
- Forecasted Vehicle Miles Traveled and Vehicle Hours of Travel
- Forecasted Travel Time by Trip Purpose
- Forecasted Congested Speeds
- Forecasted Mode Share
- Forecasted Transit Boardings
- Forecasted Truck Trips
- Forecasted network performance for roadways that serve Transit, Freight, and the Military
- Forecasted impacts to Title VI/Environmental Justice Communities

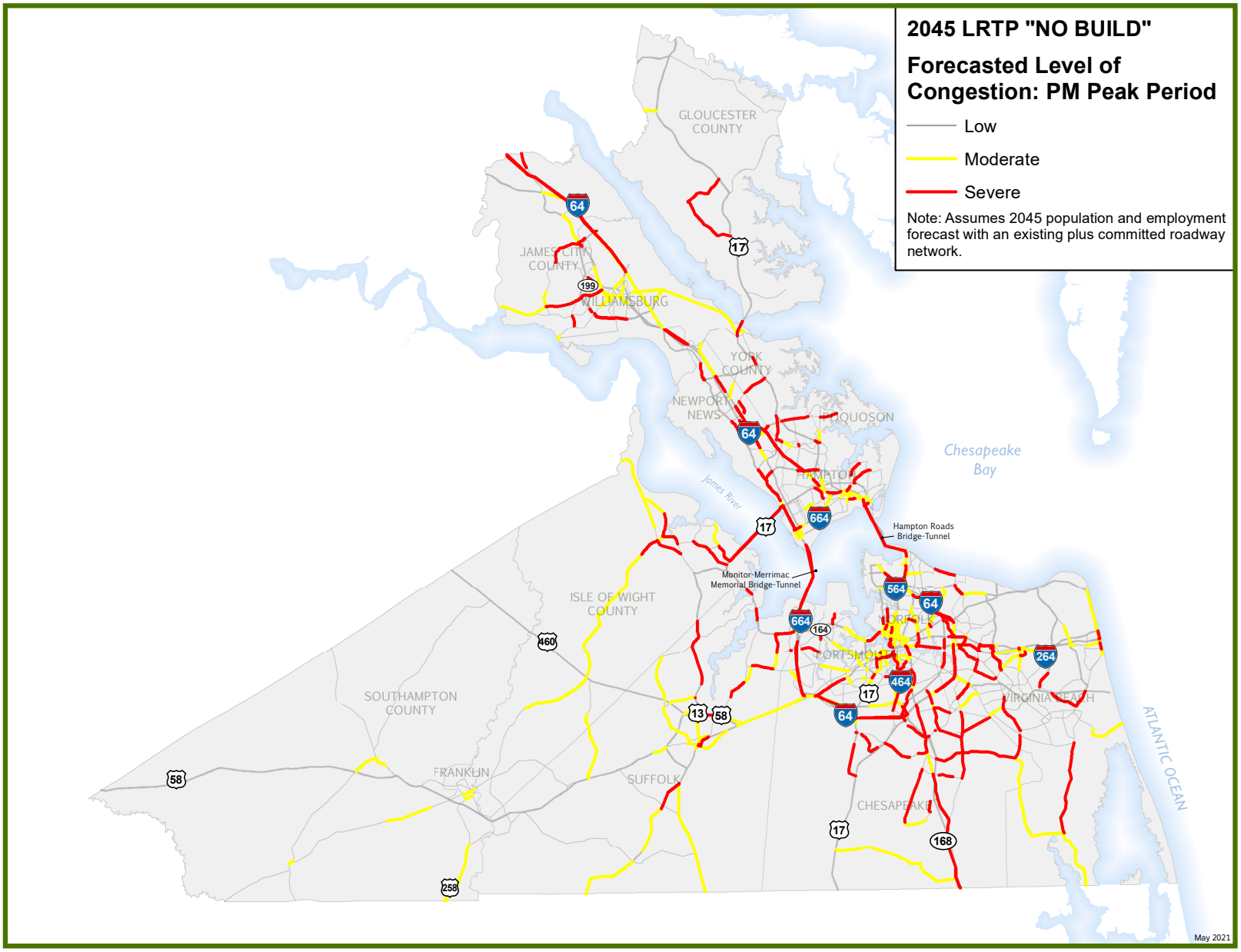
Terms To Know

Term	Definition
Congested Speed	Reduced vehicle speed as a result of congestion
E + C	Existing plus Committed includes existing roads plus projects under construction or fully-funded for construction in VDOT's Six-Year Improvement Program
GP Lanes	General Purpose Lanes are toll-free to all users at all times
HBO	Home Based Other - Vehicle trip where one trip end is home (e.g. home to post office)
HBS	Home Based Shopping - Vehicle trip where one trip end is home and the other is shopping (e.g. home to mall)
HBW	Home Based Work - Vehicle trip where the trip ends are either home or work (i.e. home to work or work to home)
HOV	High Occupant Vehicle. In Hampton Roads, this is 2+ occupants in vehicle
HOT	High Occupancy Toll, where no toll is charged in the Express Lanes for 2+ occupants in a vehicle
LOS	Level-of-Service describes the operating conditions of a roadway based on factors such as speed, travel time, and delay
Mode Share	The mode or choice of travel (e.g. drive alone in car, share a ride, take transit, etc.)
NHB	Non Home Based - Vehicle trip where neither trip end is home (e.g. workplace to restaurant)
Off Peak Period	Time of day when the region experiences lower traffic volumes (i.e. 9 am - 3 pm and 7 pm - 5 am)
Peak Period	Time of day when the region experiences higher traffic volumes (i.e. 5 am - 9 am and 3 pm - 7 pm)
Shared Ride 2+	Two or more travelers in a vehicle (e.g. carpool)
Transit Boarding	A passenger trip made on one transit vehicle. If a passenger boards two buses to get from origin to destination that is considered to be two transit boardings.
Travel Time	The time required to complete a trip
V/C	Volume to capacity ratio is a measure that reflects mobility on a roadway
VHT	Vehicle Hours Traveled - The total amount of time (in hours) every vehicle in the region travels over a period of time
VMT	Vehicle Miles Traveled - The total number of miles every vehicle in the region travels over a period of time

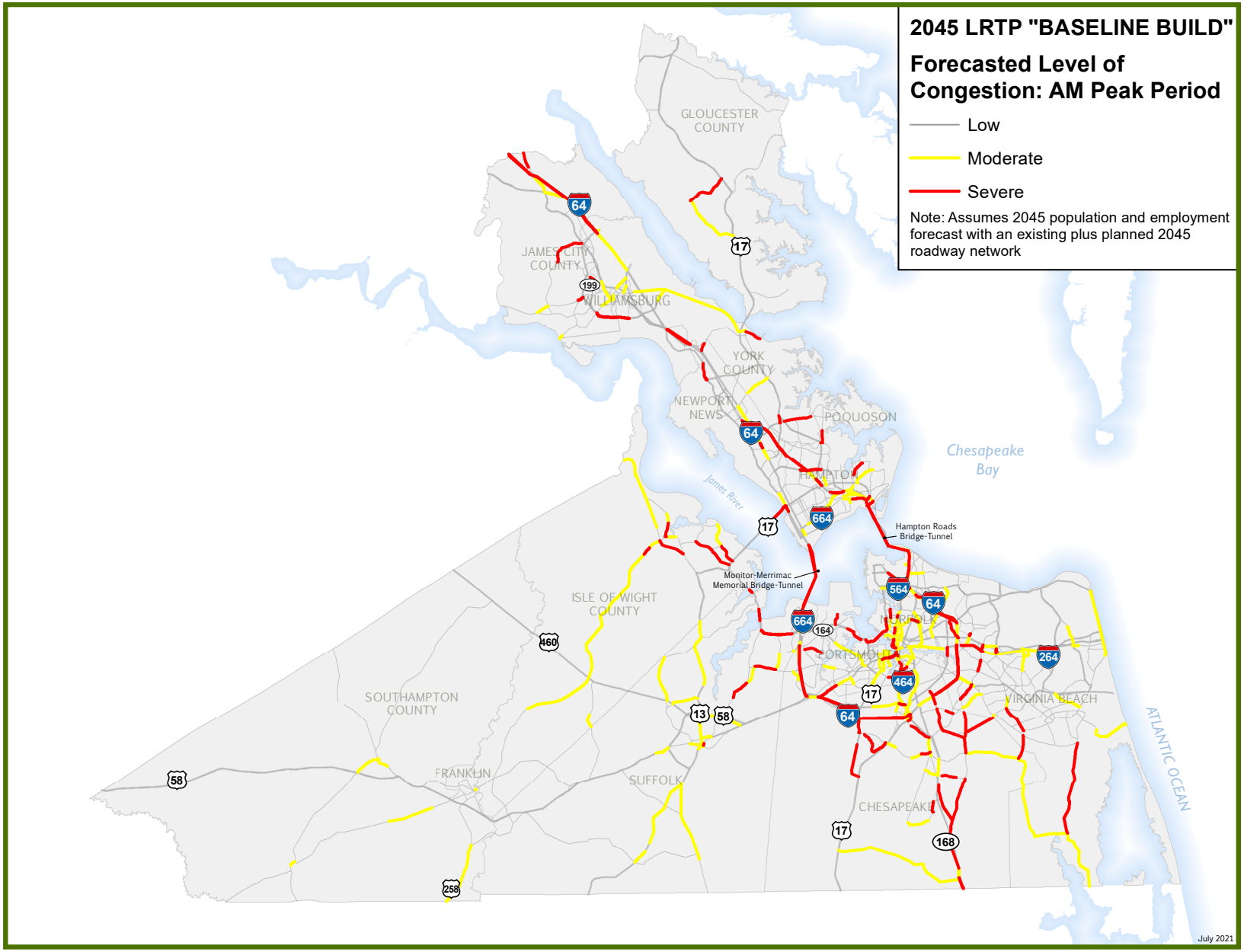
MAP 2: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – EXISTING + COMMITTED AM PEAK PERIOD



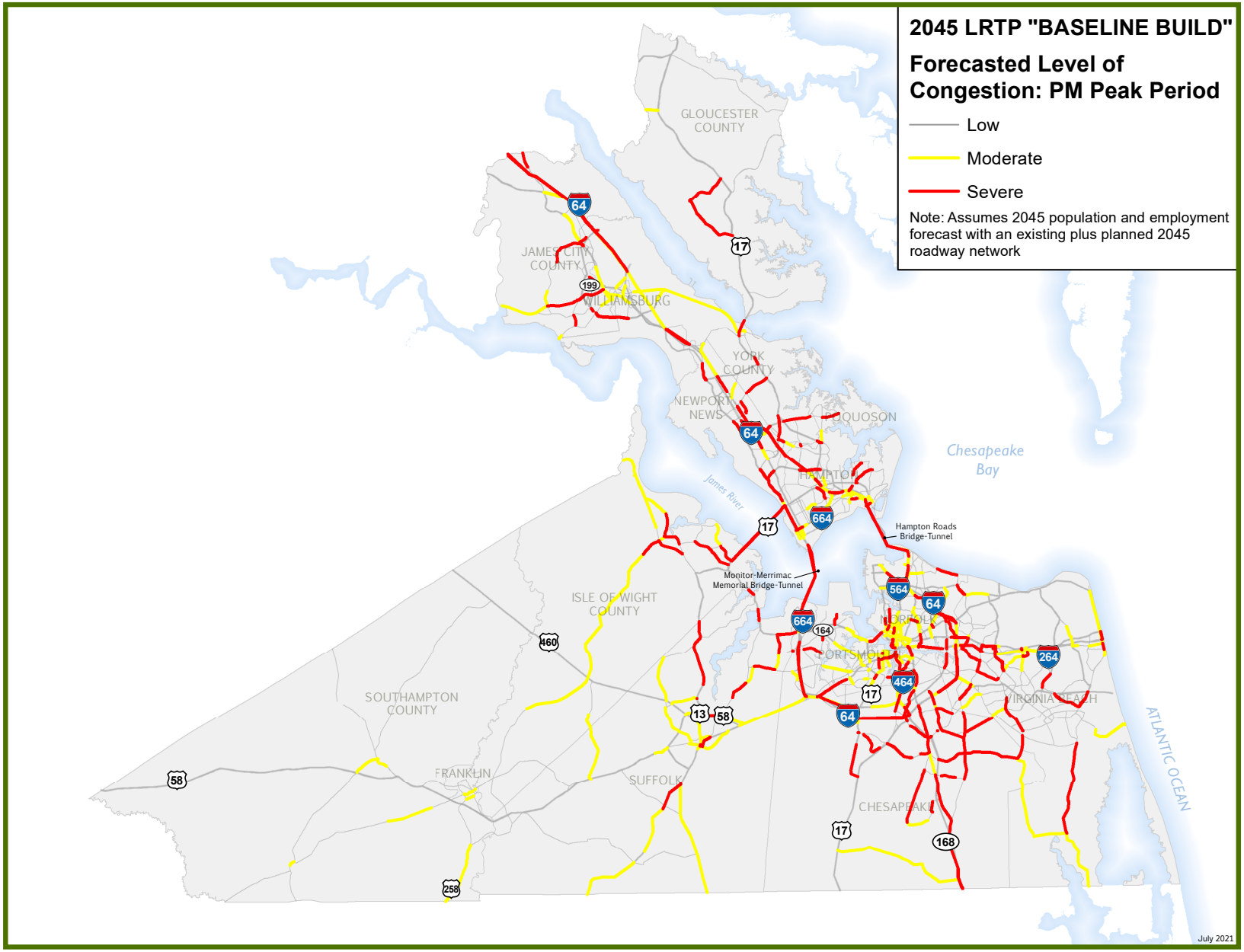
MAP 3: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – EXISTING + COMMITTED PM PEAK PERIOD



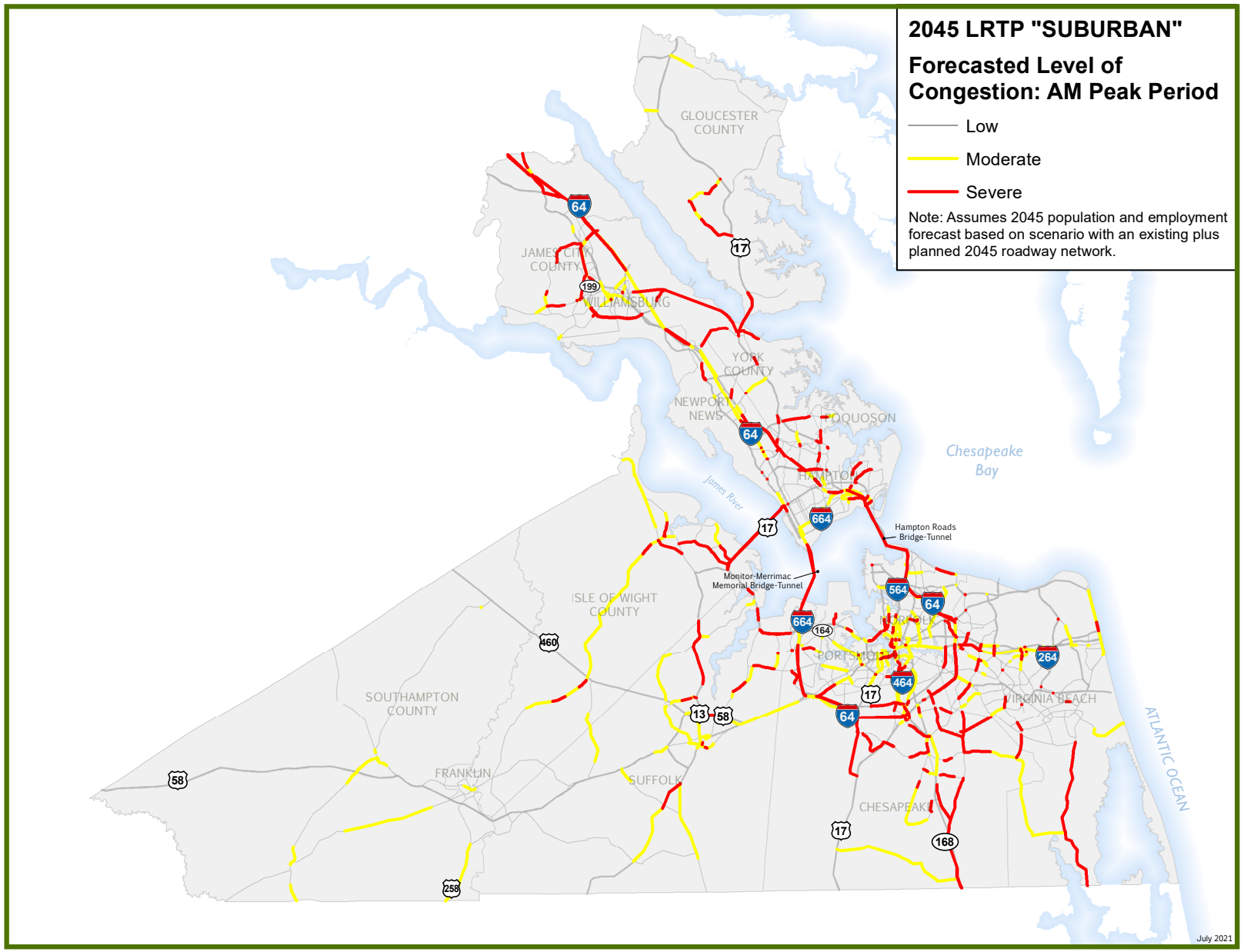
MAP 4: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – BASELINE SCENARIO AM PEAK PERIOD



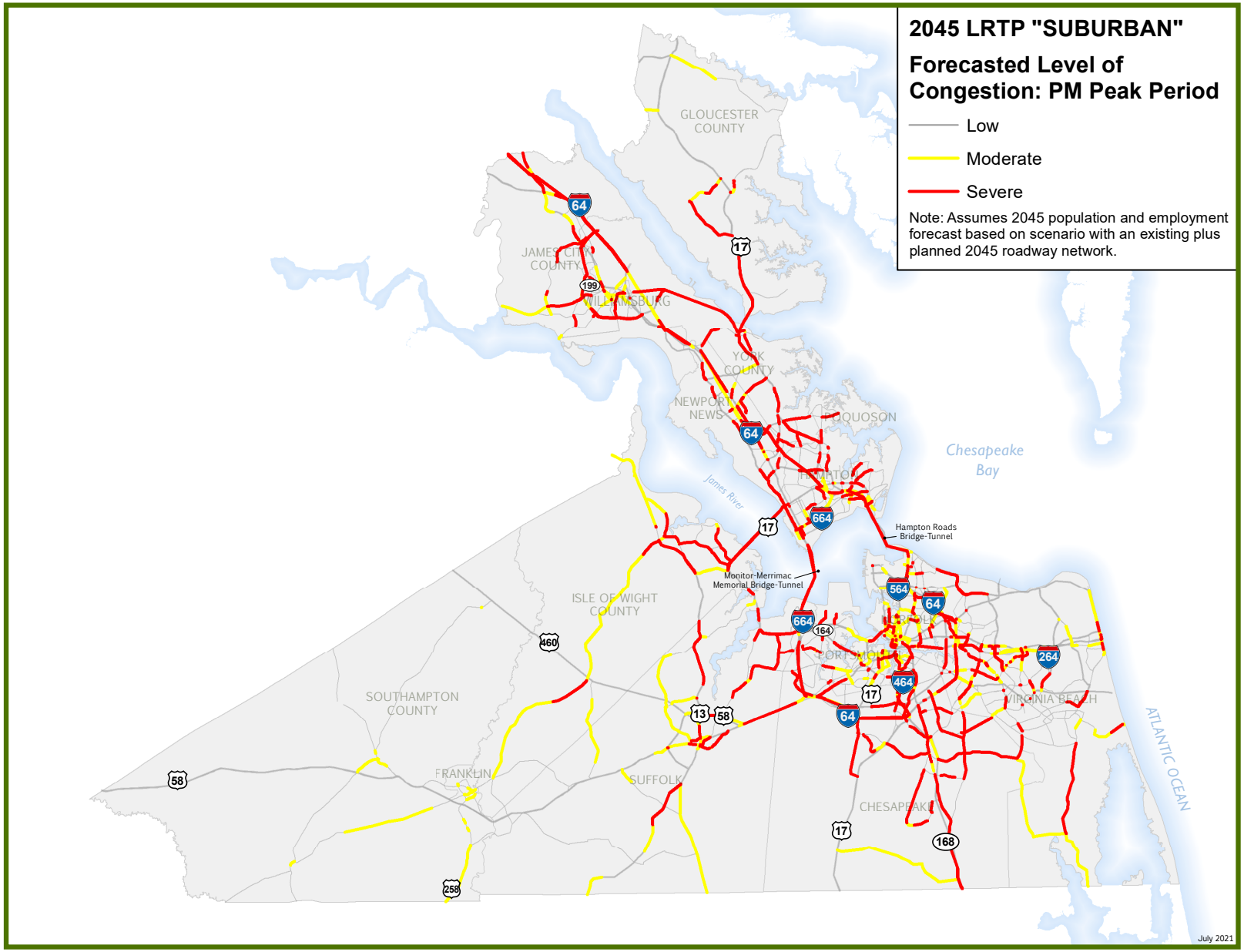
MAP 5: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – BASELINE SCENARIO PM PEAK PERIOD



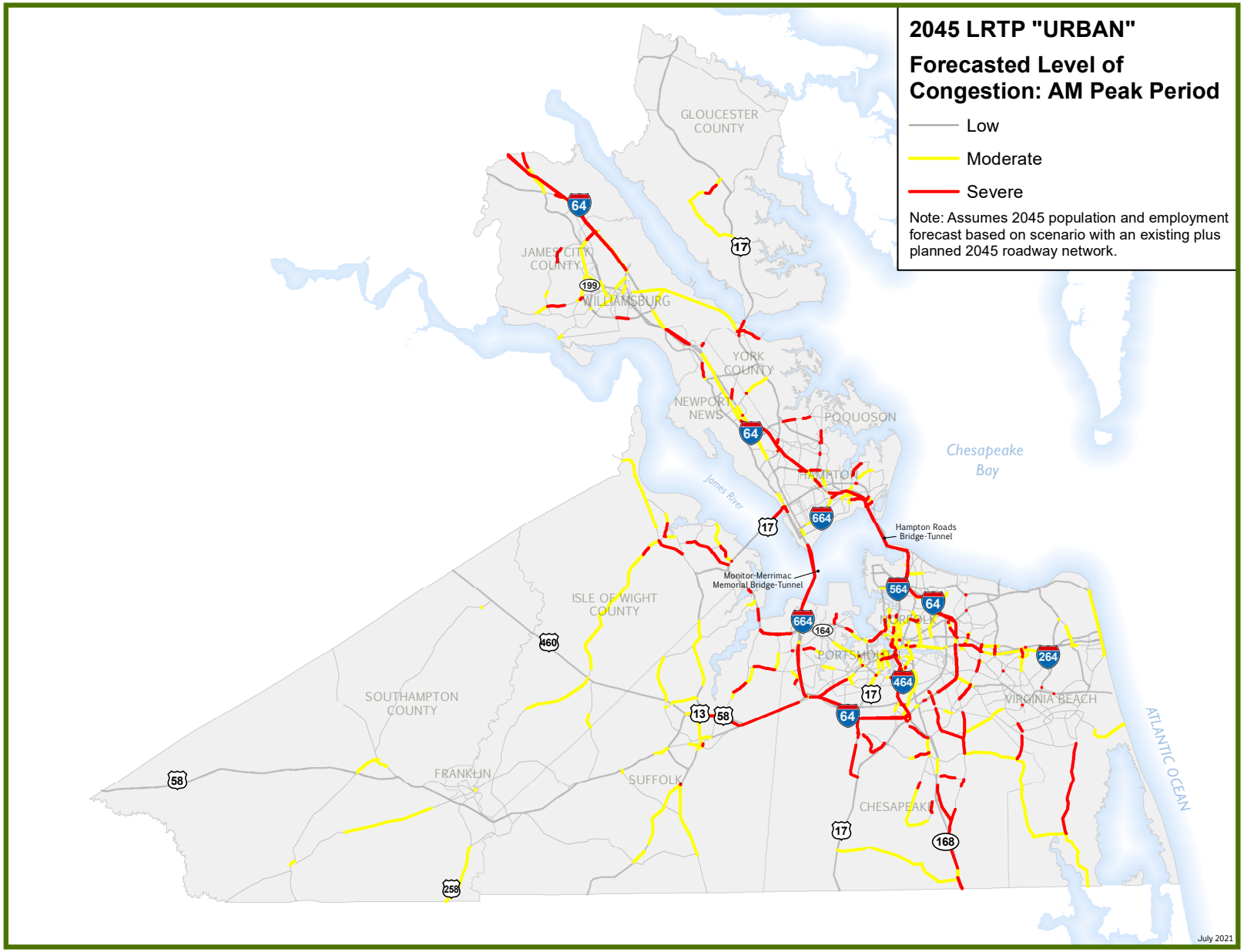
MAP 6: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – SUBURBAN SCENARIO AM PEAK PERIOD



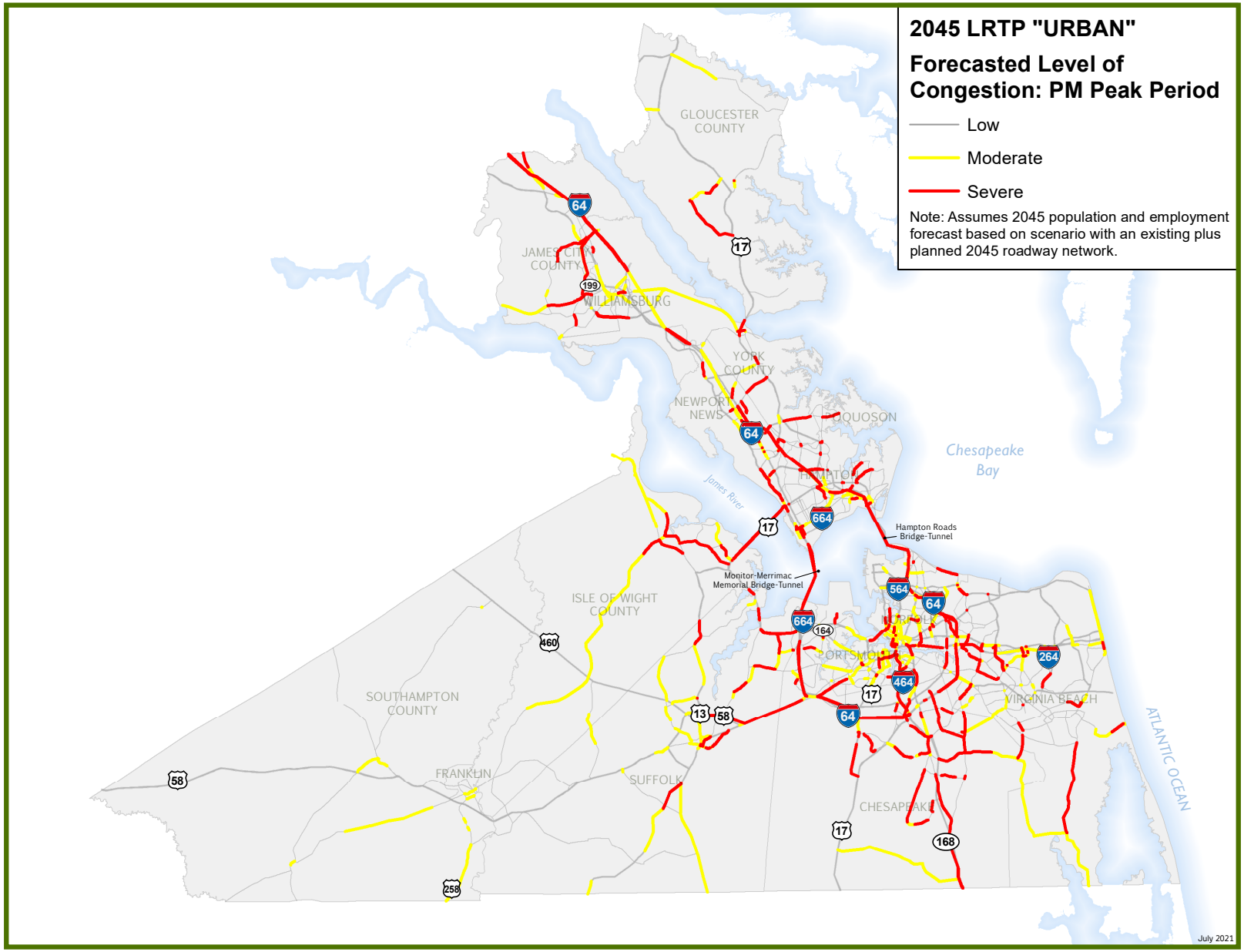
MAP 7: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – SUBURBAN SCENARIO PM PEAK PERIOD



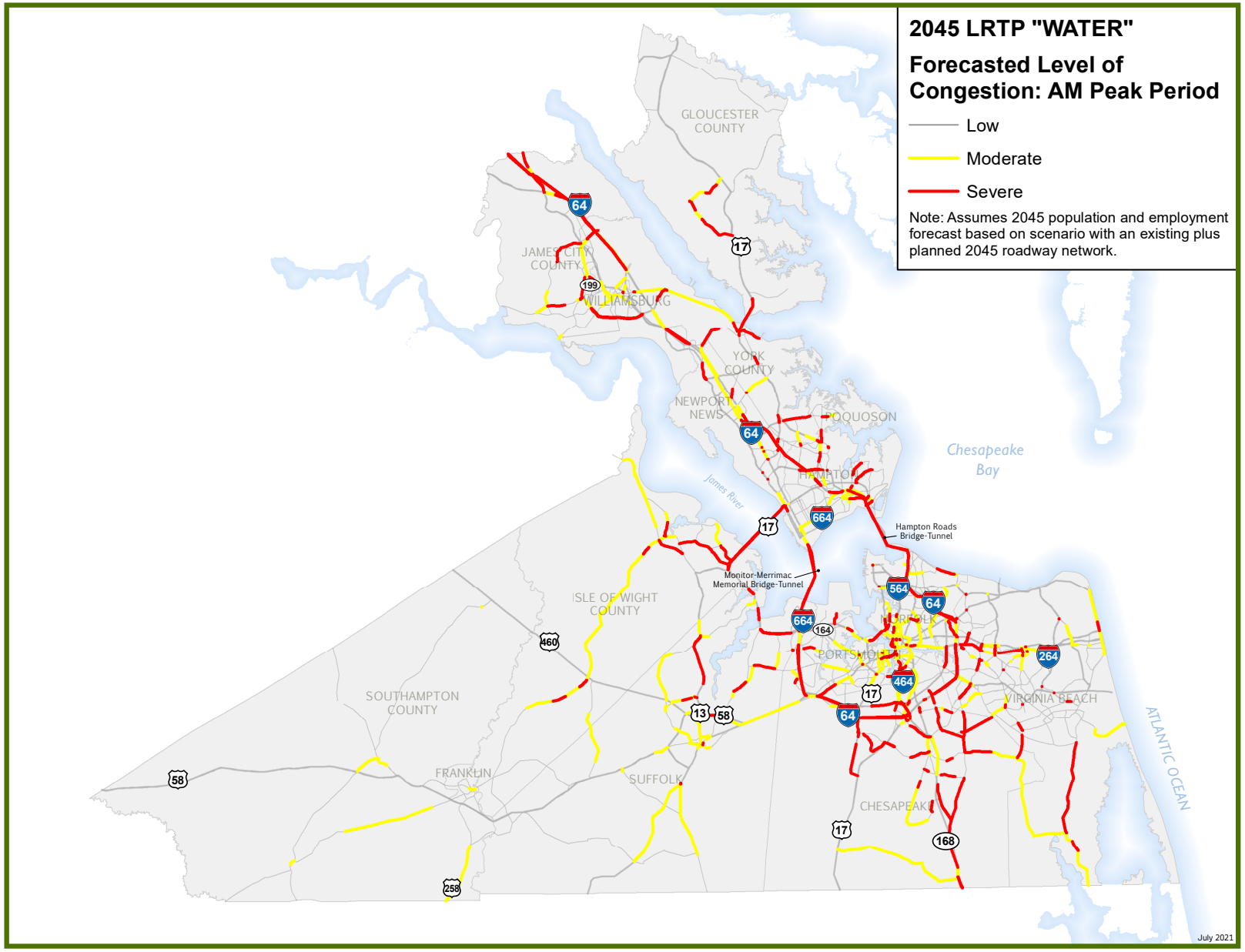
MAP 8: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – URBAN SCENARIO AM PEAK PERIOD



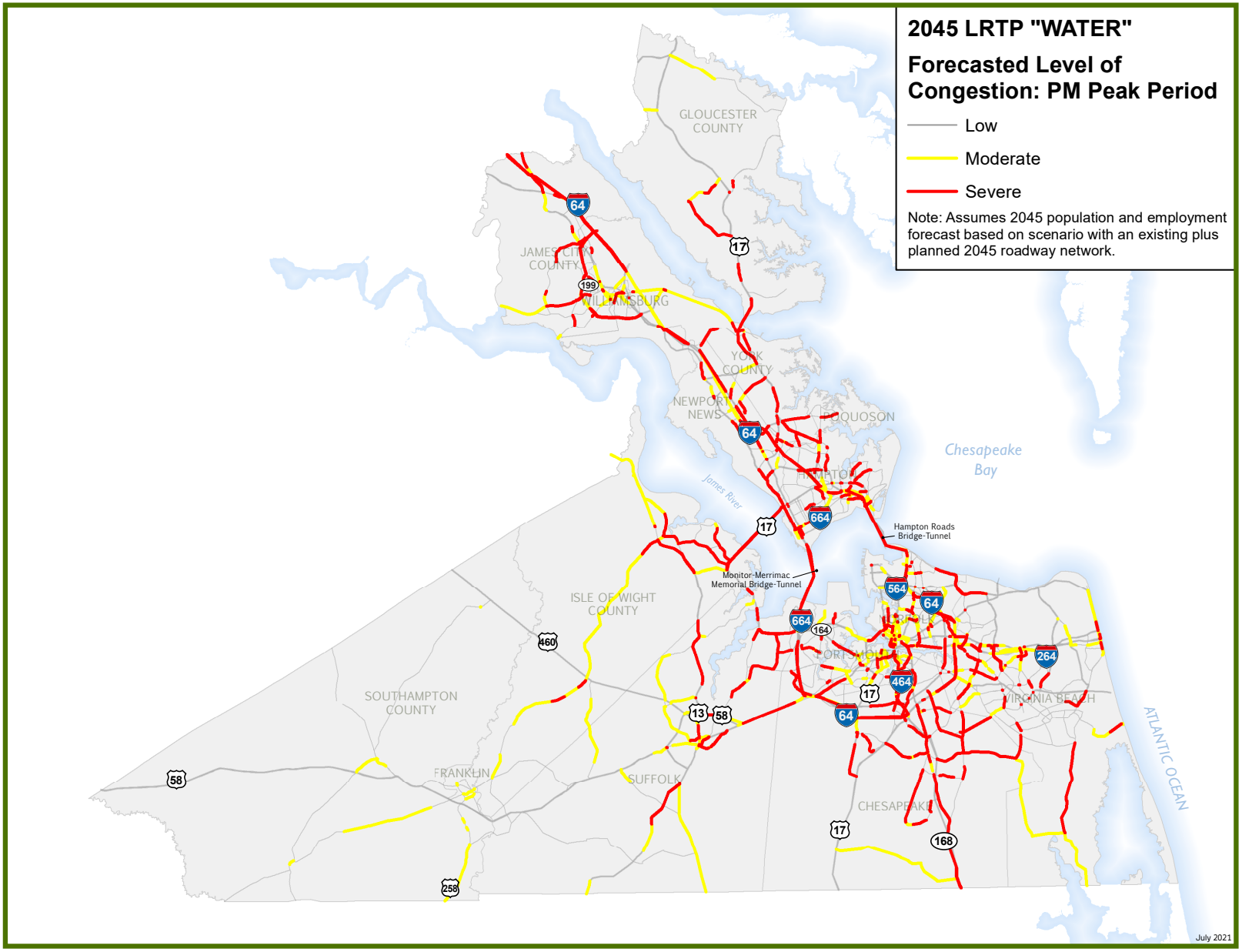
MAP 9: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – URBAN SCENARIO PM PEAK PERIOD



MAP 10: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – WATER SCENARIO AM PEAK PERIOD

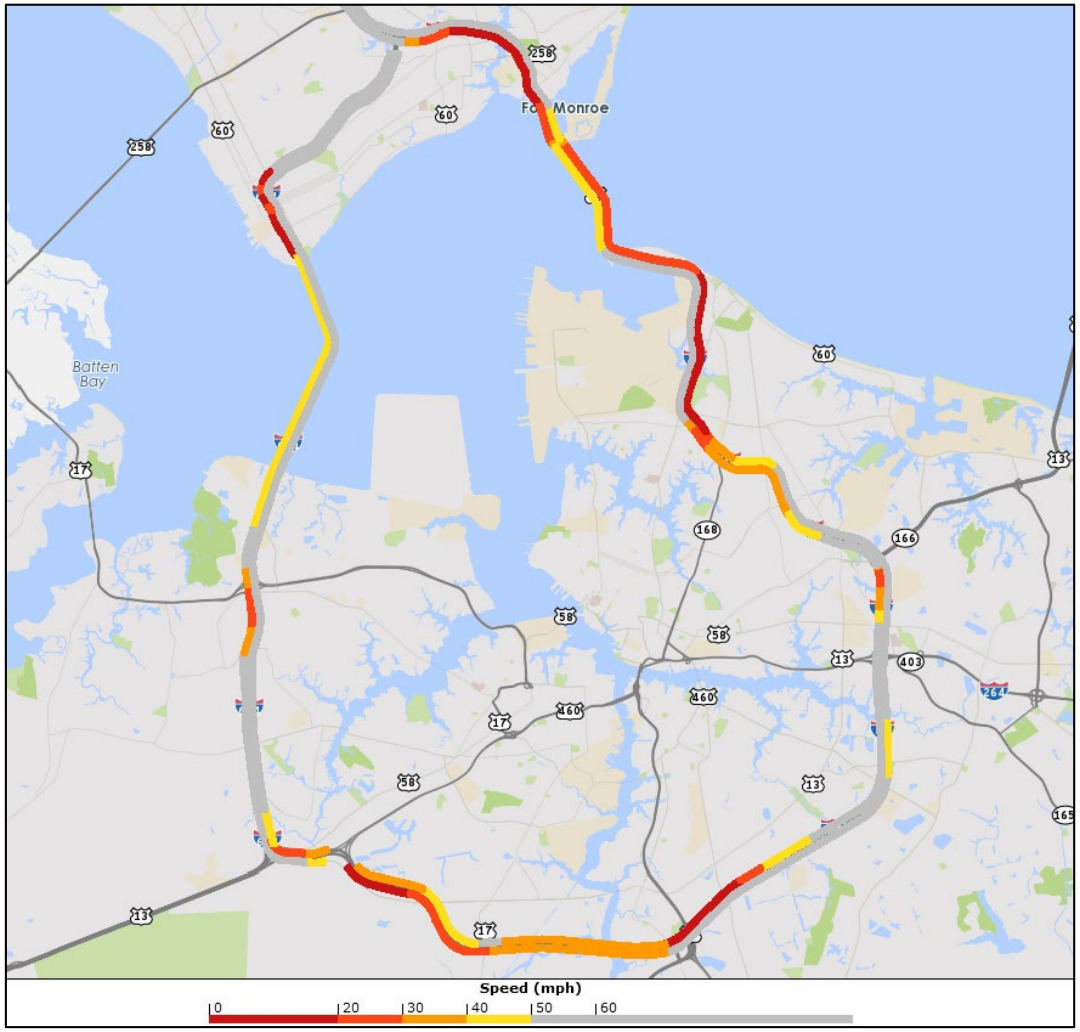


MAP 11: FORECASTED 2045 TRAFFIC CONGESTION LEVEL – WATER SCENARIO PM PEAK PERIOD



Figures 1-16 and Tables 2-3 on the following pages summarize forecasted travel time and volume to capacity ratios for the major regional water crossings (Hampton Roads Harbor and Elizabeth River crossings) for the PM period (afternoon congestion is generally more severe).

FIGURE 1 - HAMPTON ROADS BELTWAY – PM PEAK HOUR CONGESTION



Source: RITIS using INRIX data. 2019, PM Peak Period

FIGURE 2 - HAMPTON ROADS HARBOR TRAVEL TIME CORRIDORS

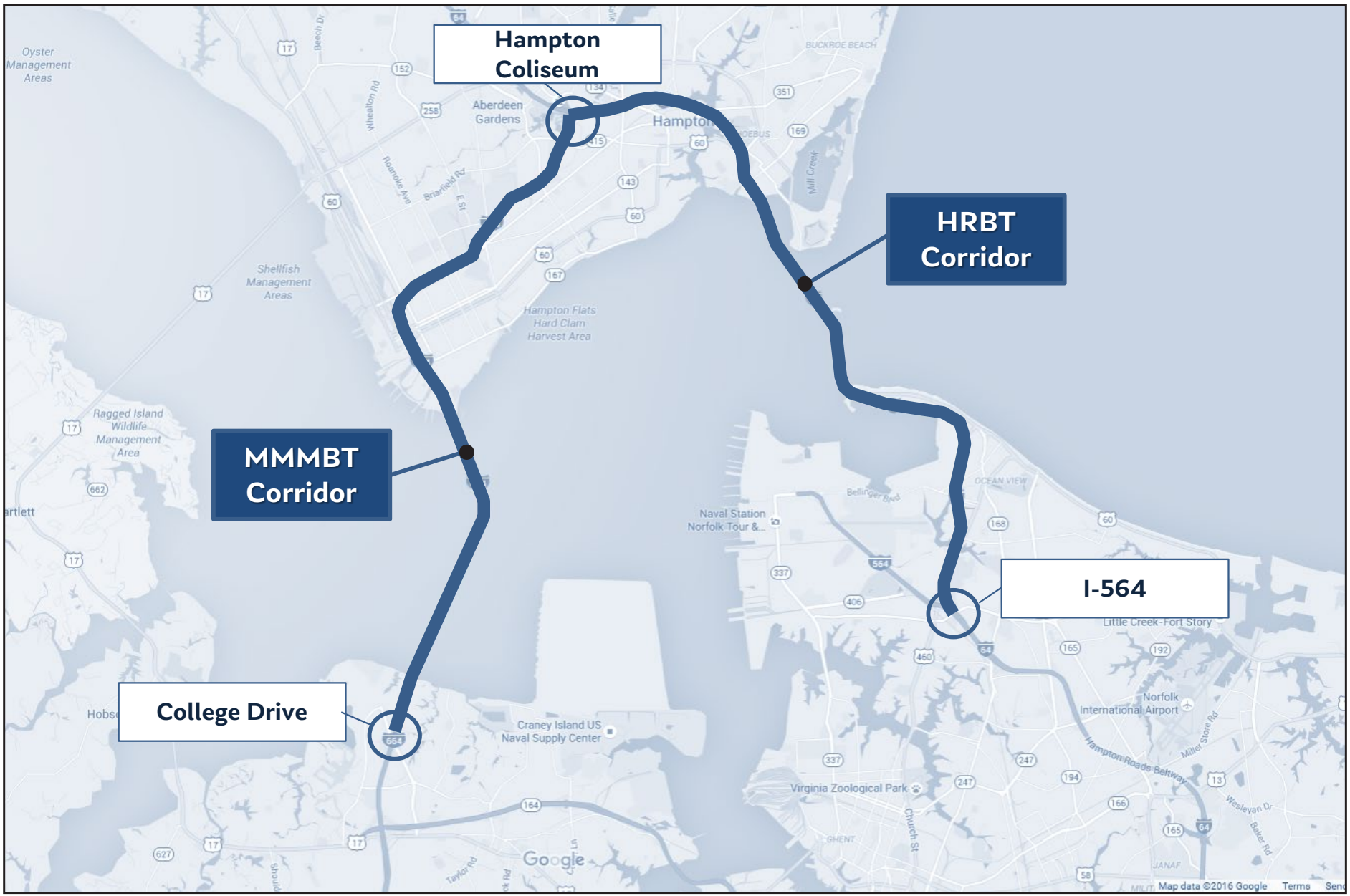
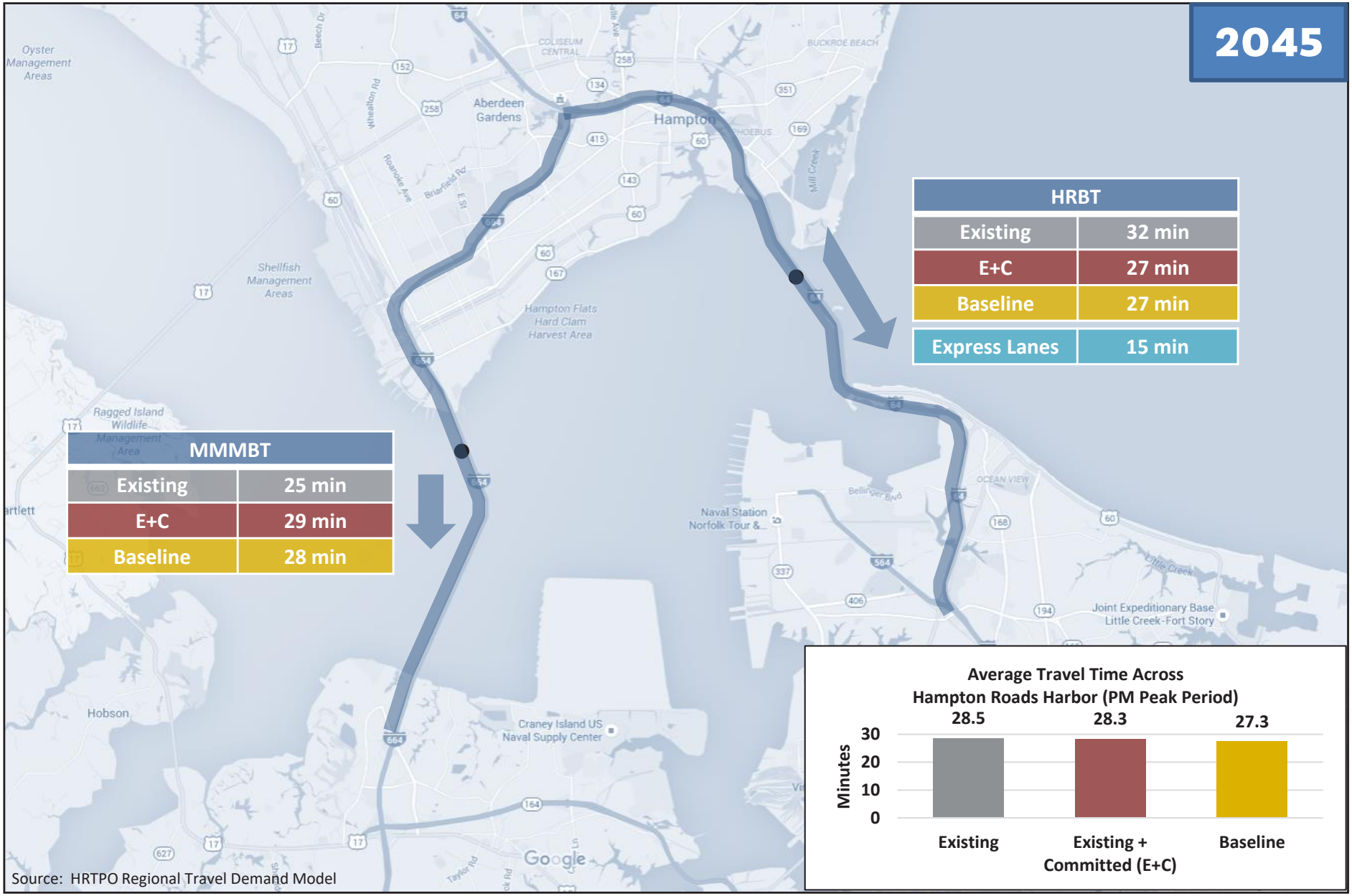
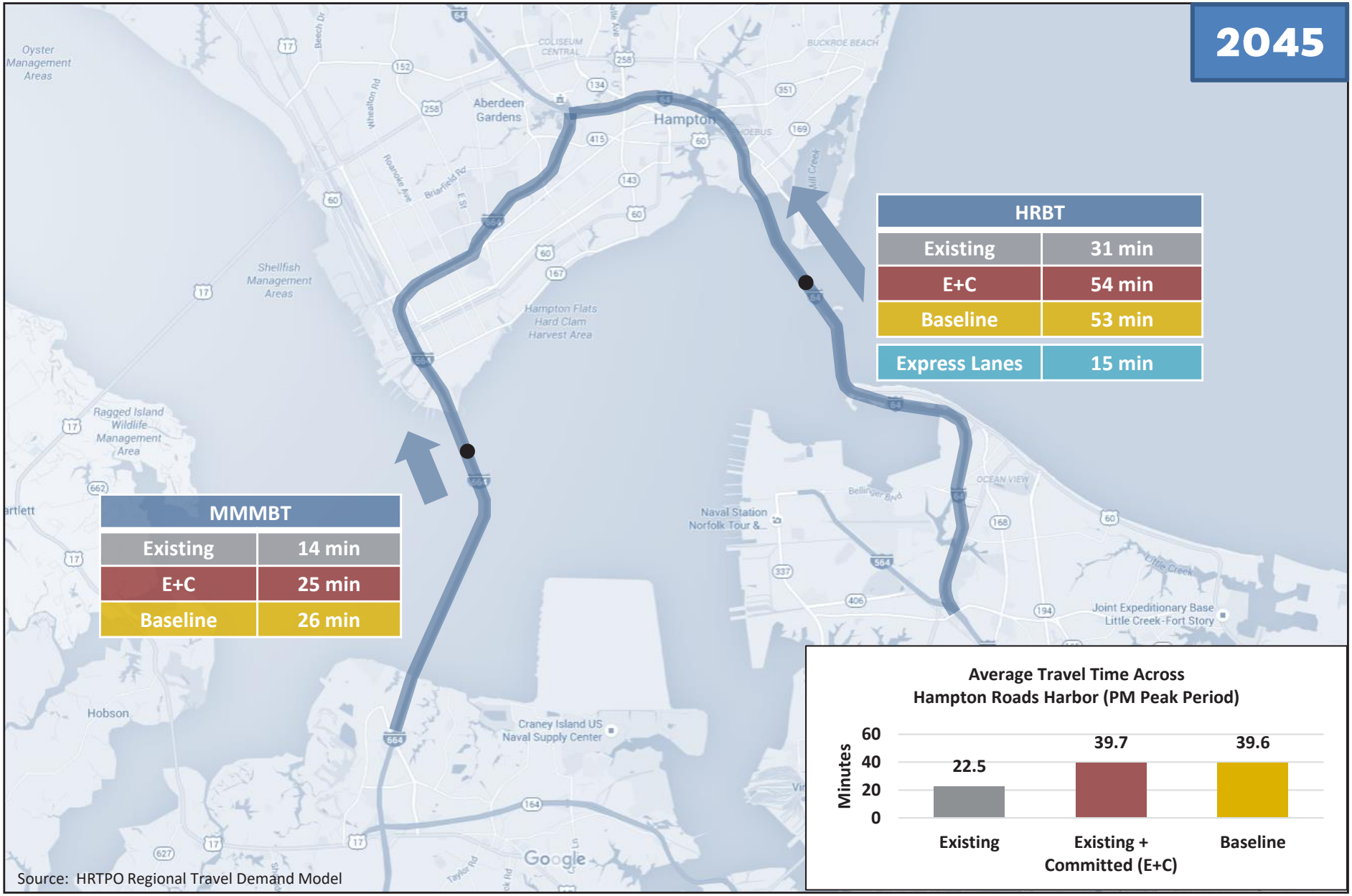


FIGURE 3 - PENINSULA TO SOUTHSIDE: PM TRAVEL TIME



Source: HRTPO Regional Travel Demand Model

FIGURE 4 - SOUTHSIDE TO PENINSULA: PM TRAVEL TIME



Source: HRTPO Regional Travel Demand Model

FIGURE 5 - PENINSULA TO SOUTHSIDE: PM TRAVEL TIME

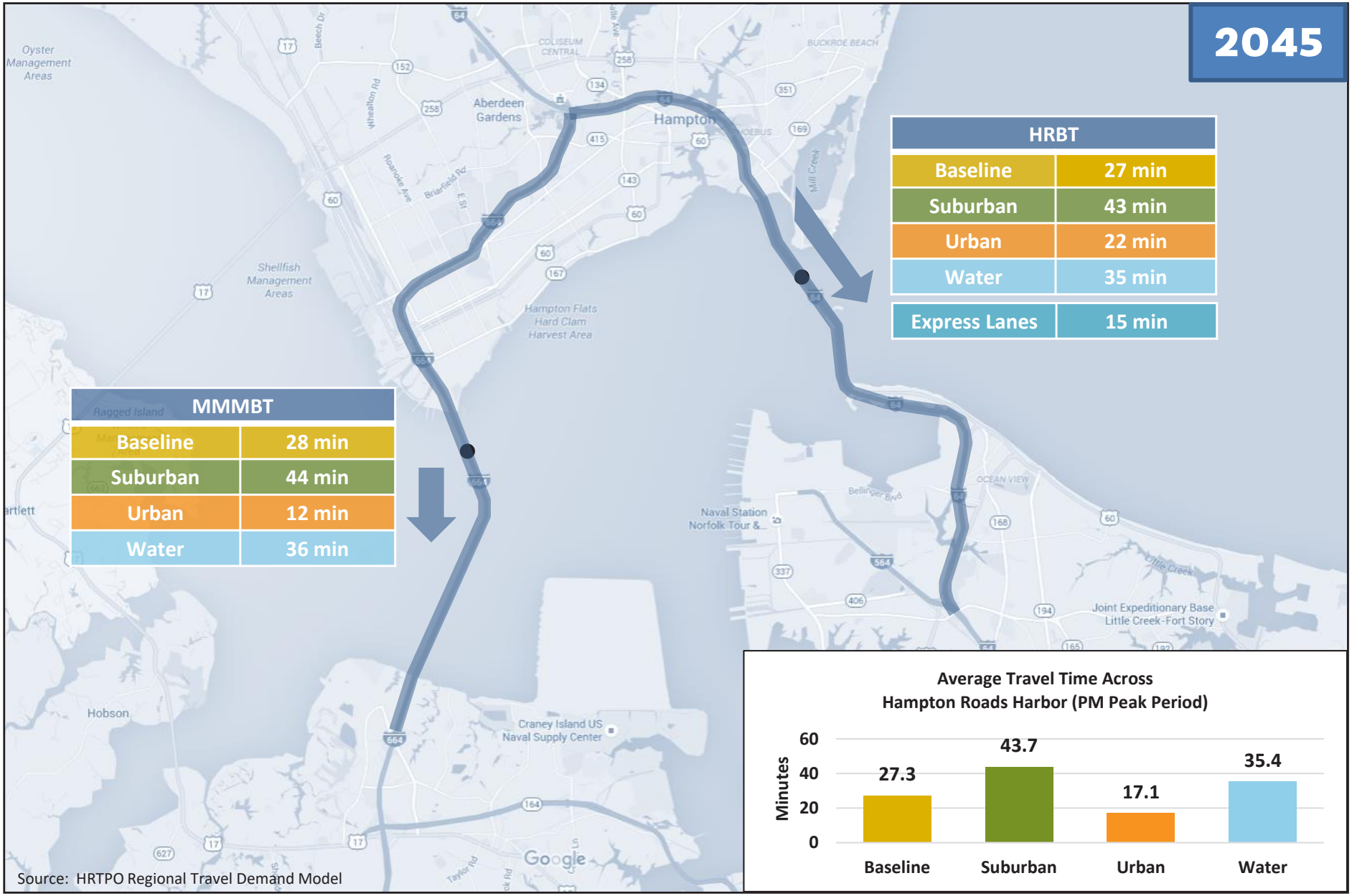
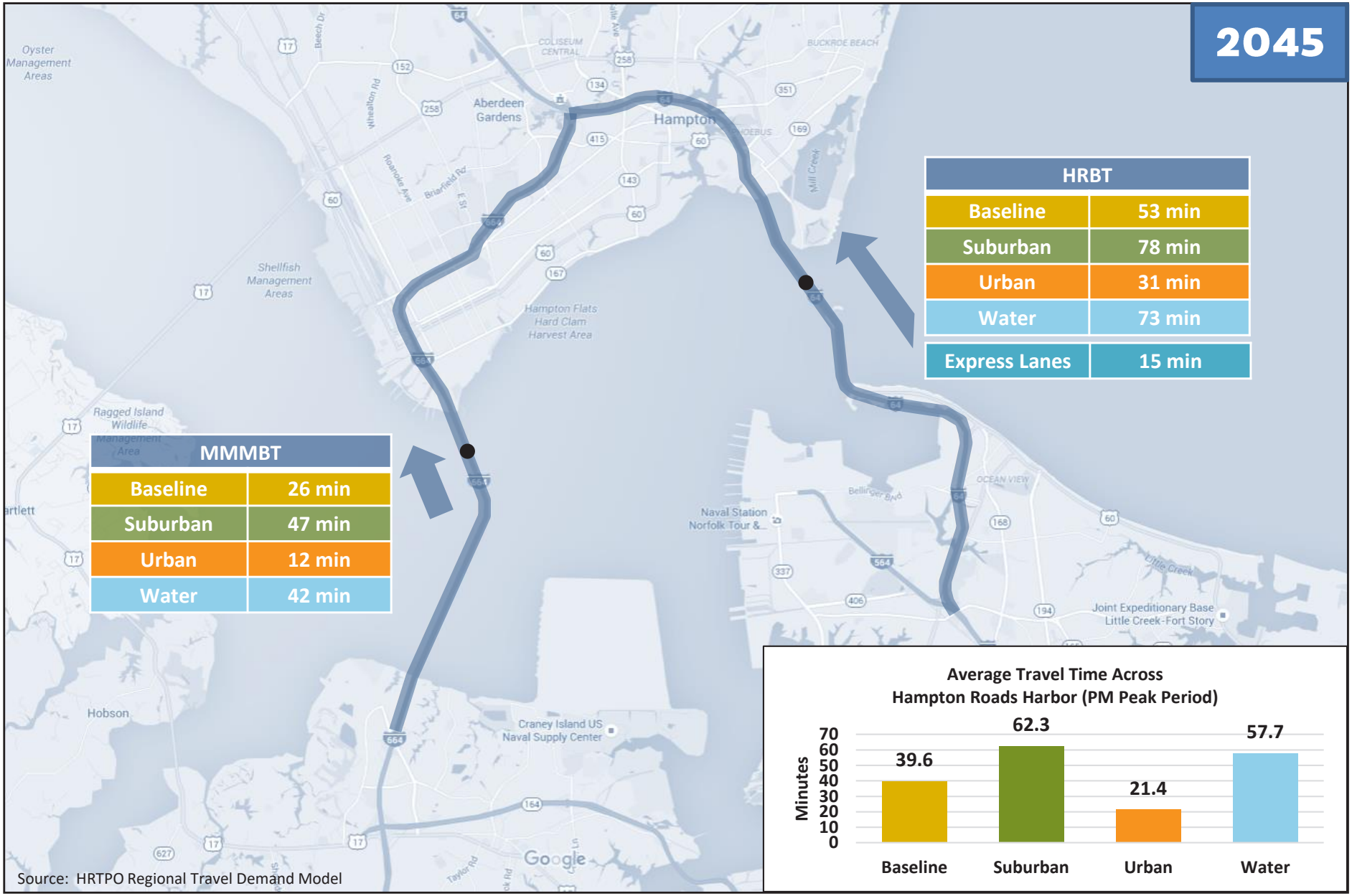


FIGURE 6 - SOUTHSIDE TO PENINSULA: PM TRAVEL TIME



Source: HRTPO Regional Travel Demand Model

FIGURE 7 - ELIZABETH RIVER CROSSINGS: TRAVEL TIME CORRIDORS

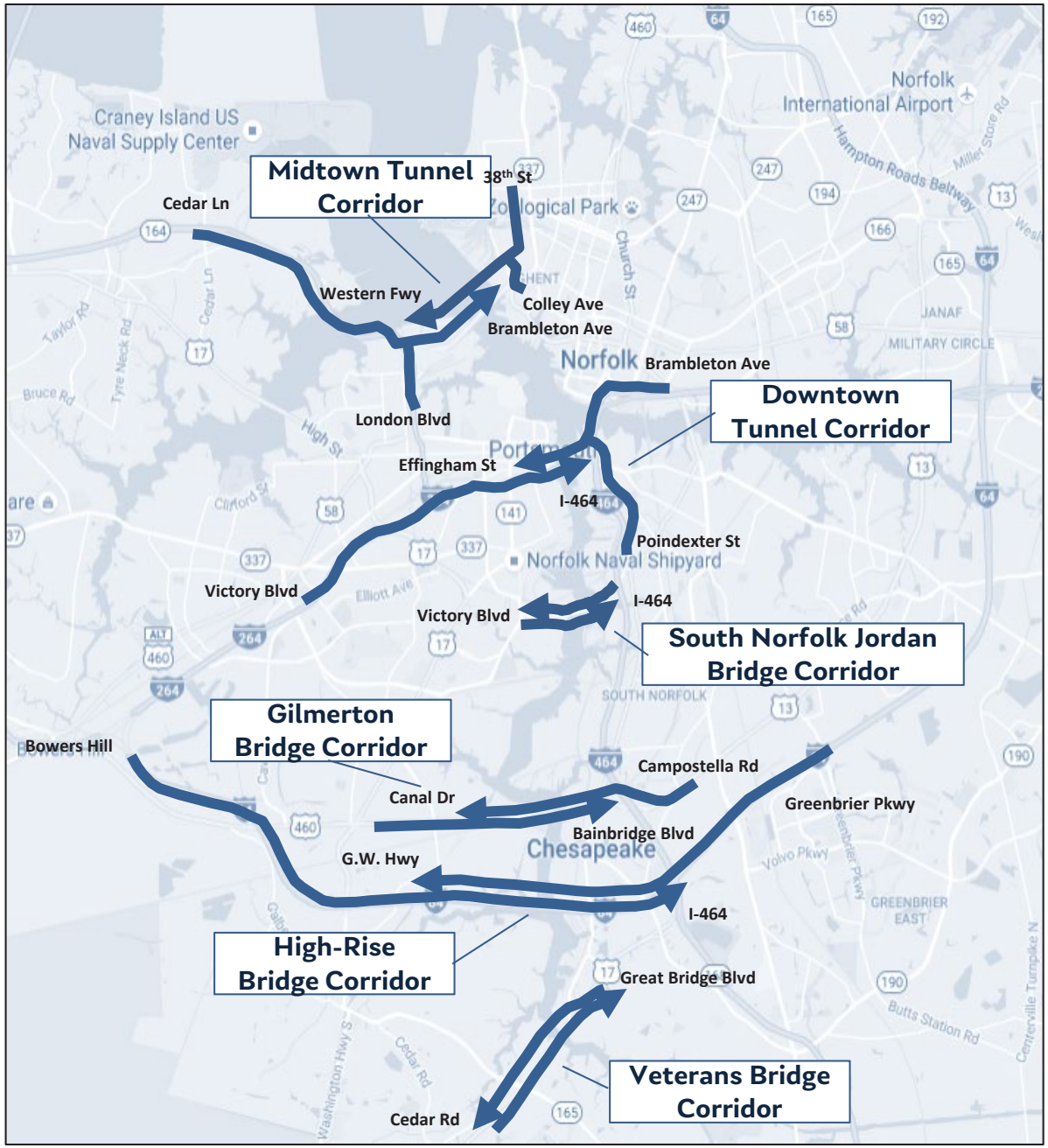
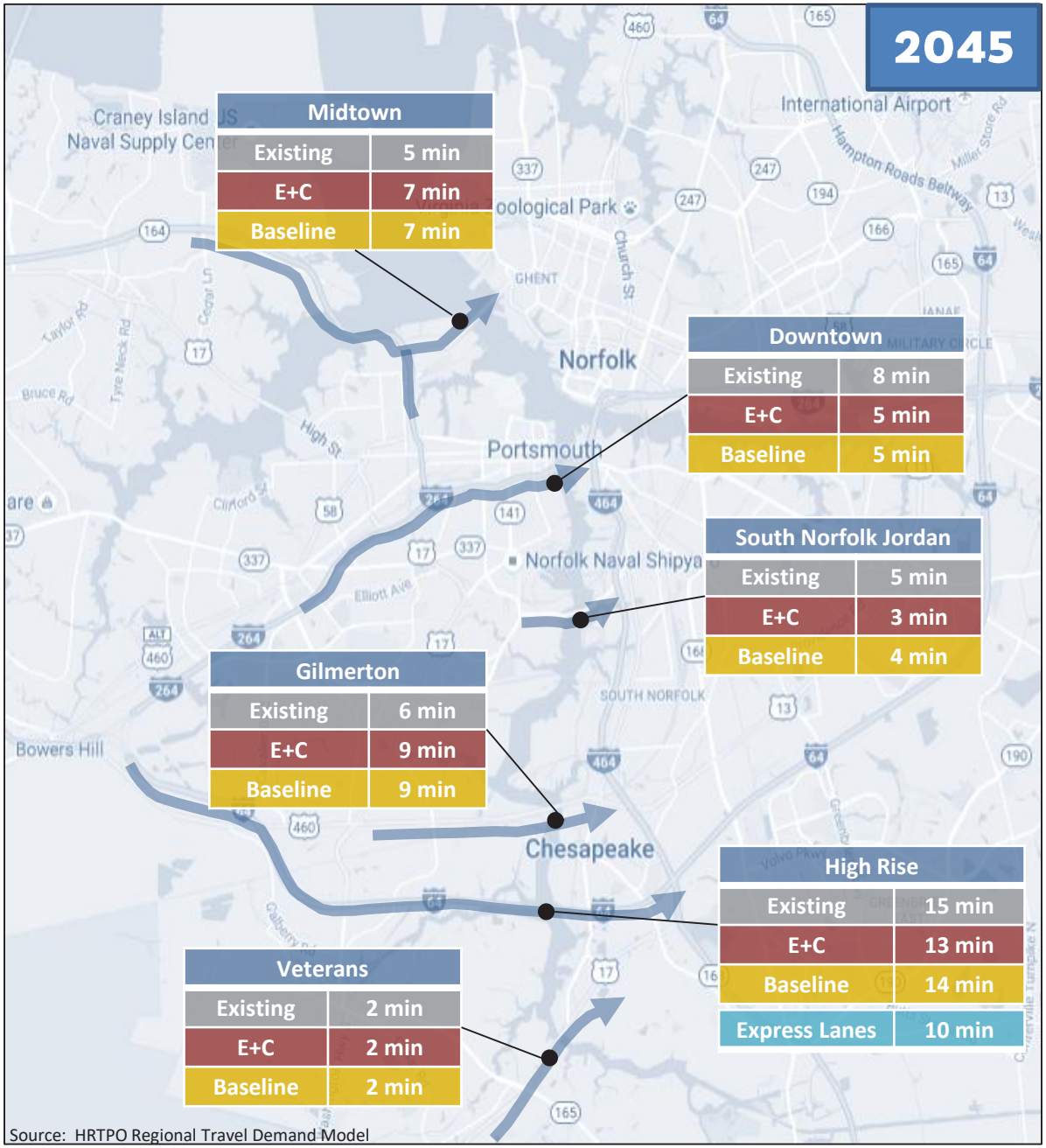


FIGURE 8 - ELIZABETH RIVER CROSSINGS: PM TRAVEL TIME



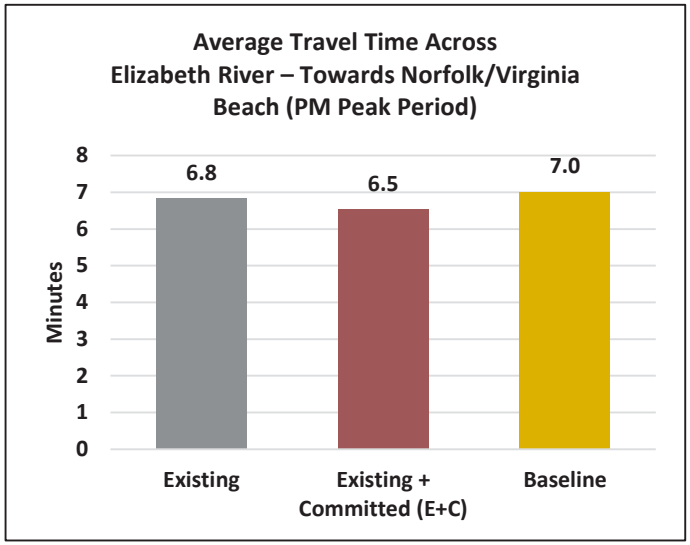
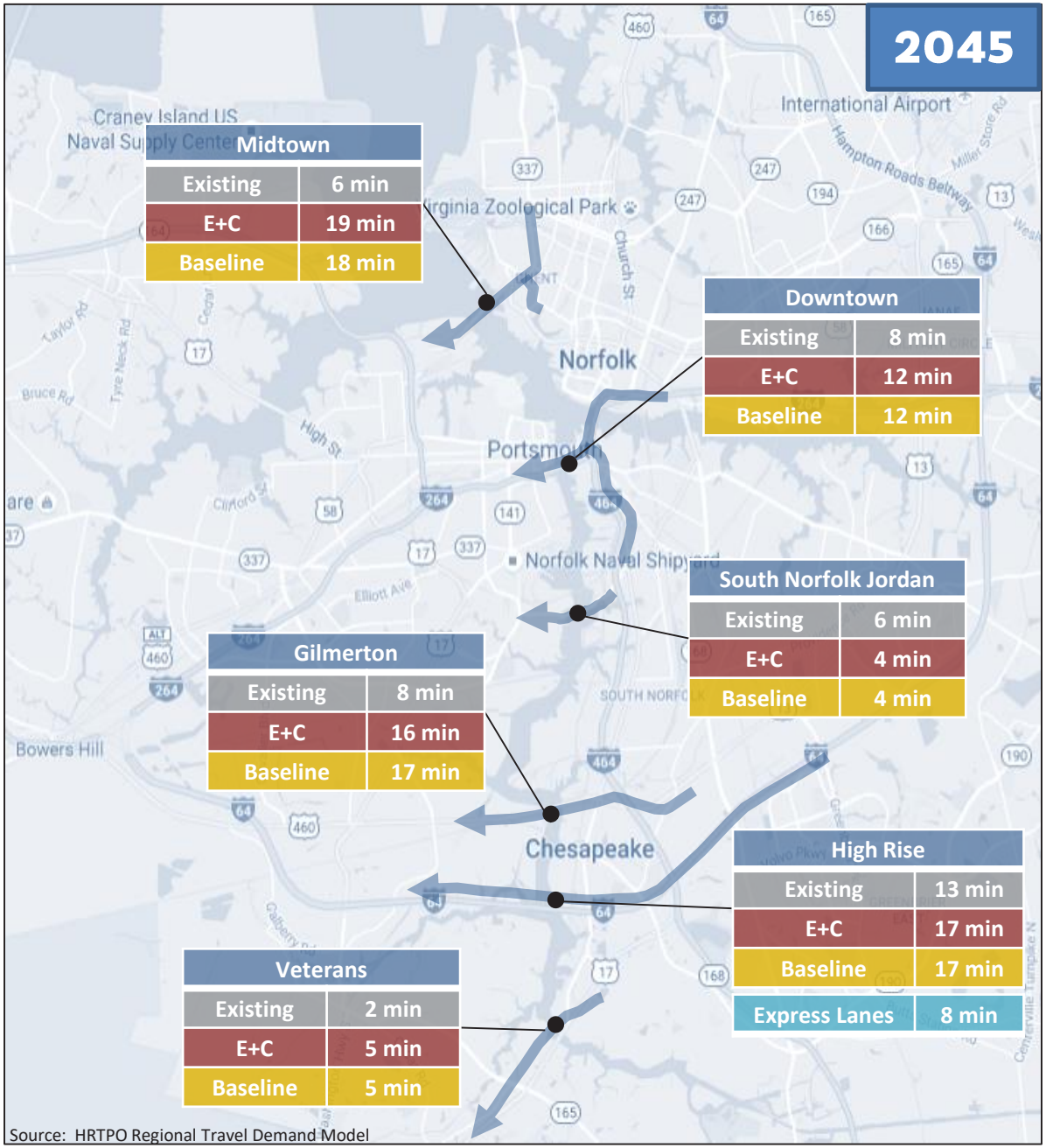


FIGURE 9 - ELIZABETH RIVER CROSSINGS: PM TRAVEL TIME



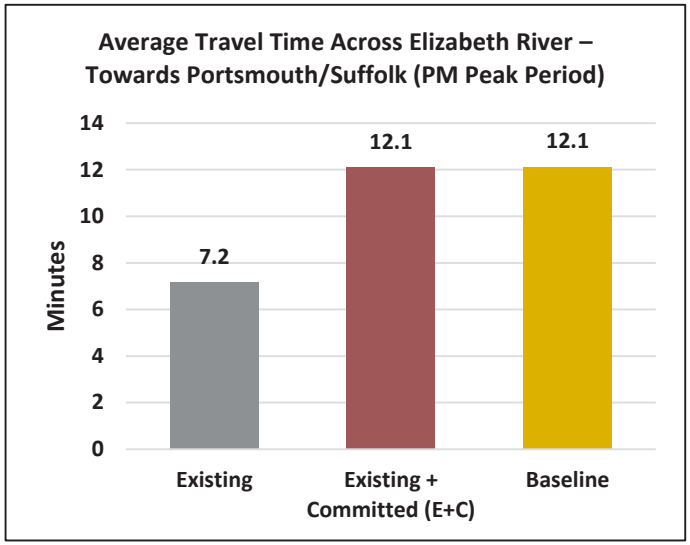
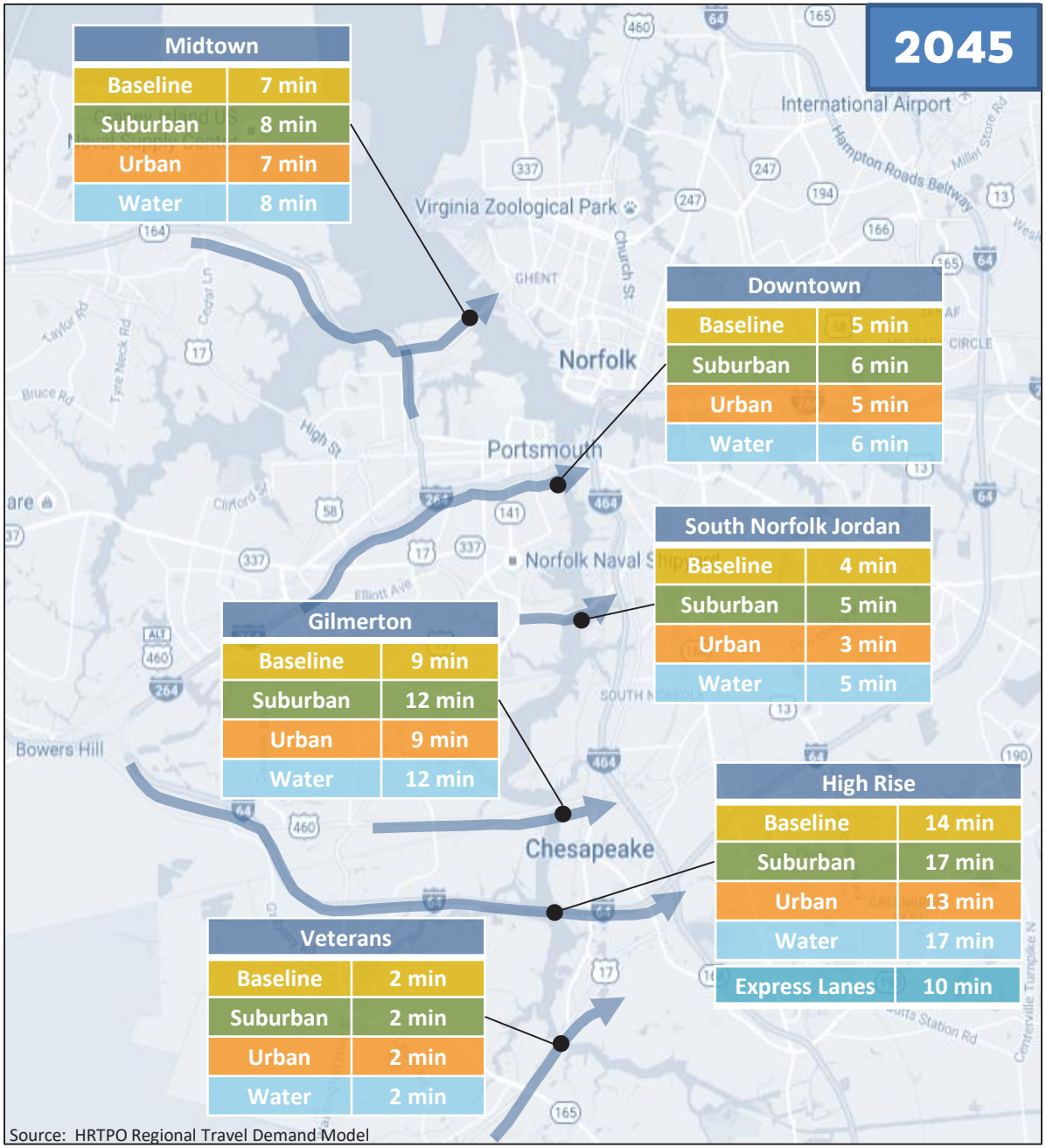


FIGURE 10 - ELIZABETH RIVER CROSSINGS: PM TRAVEL TIME



Source: HRTPO Regional Travel Demand Model

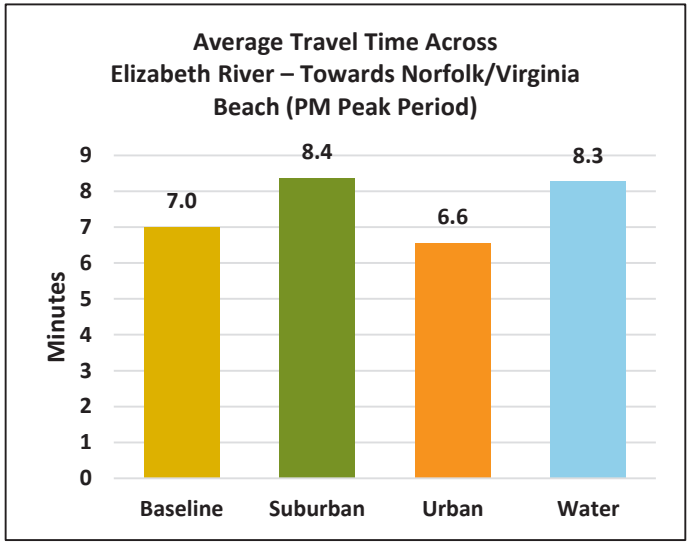
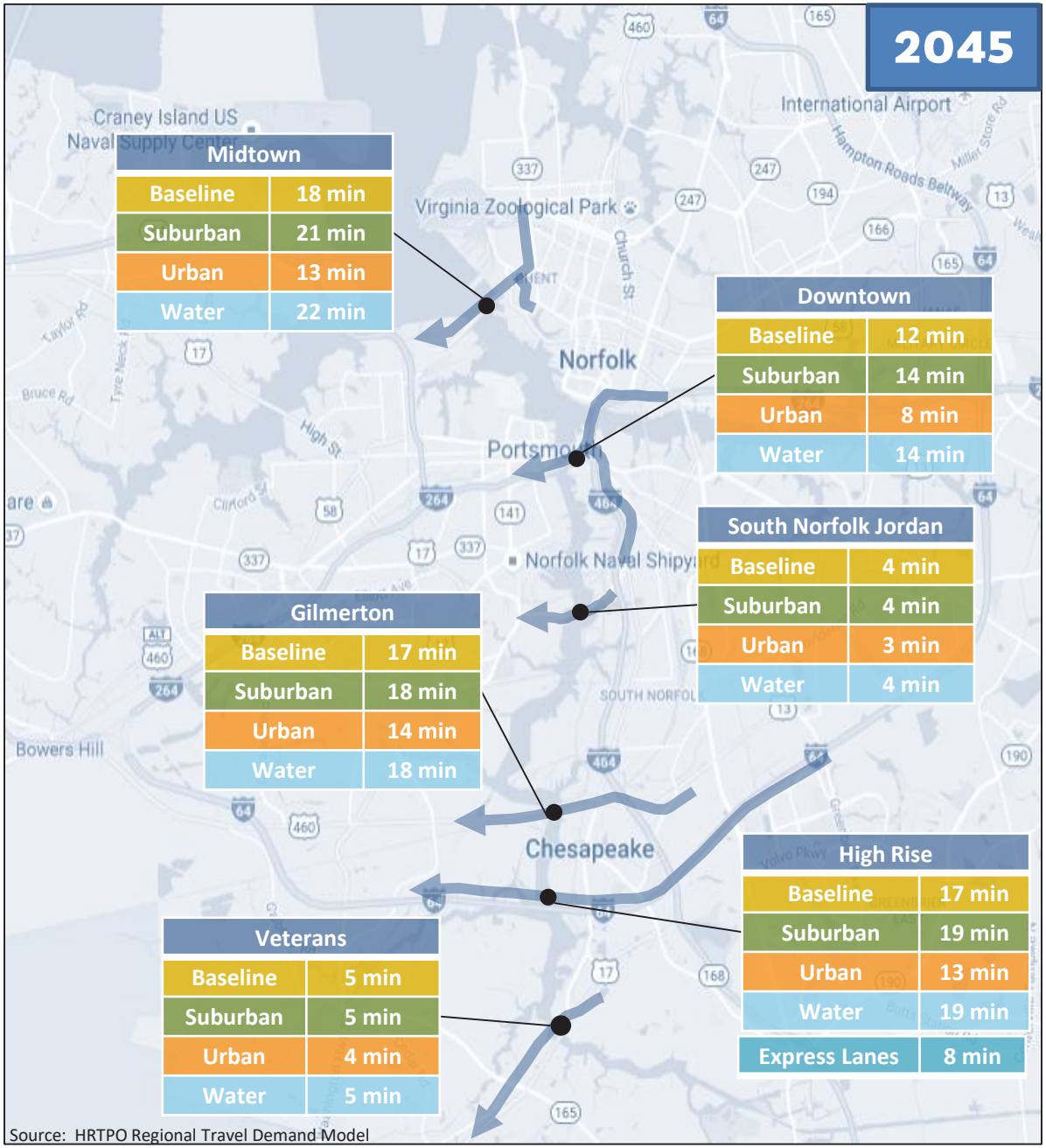
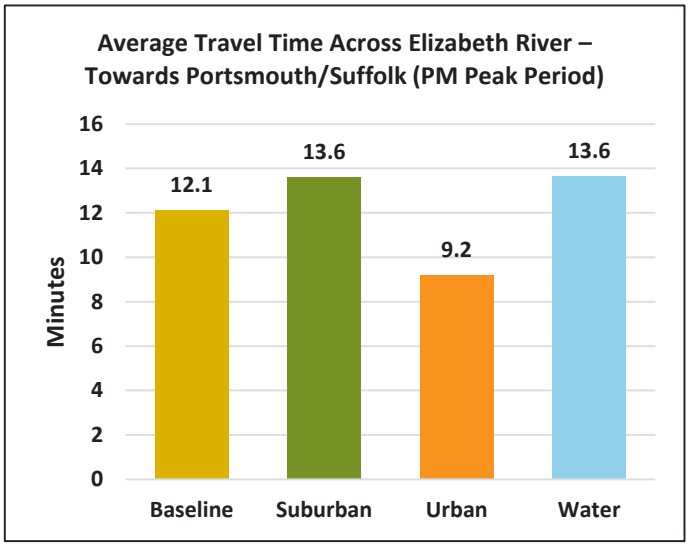


FIGURE 11 - ELIZABETH RIVER CROSSINGS: PM TRAVEL TIME



Source: HRTPO Regional Travel Demand Model



- Volume/Capacity (v/c) is a measure that reflects mobility on a roadway
- Compares roadway demand (vehicle volumes) with roadway supply (carrying capacity)
- A v/c > 1.0 indicates that the roadway experiences congestion

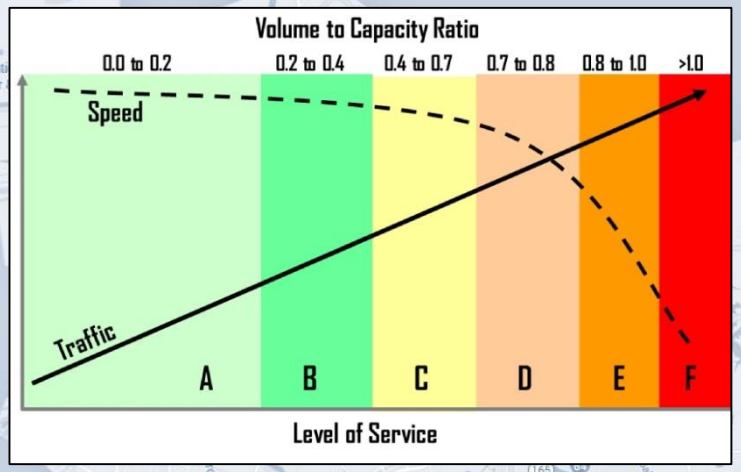
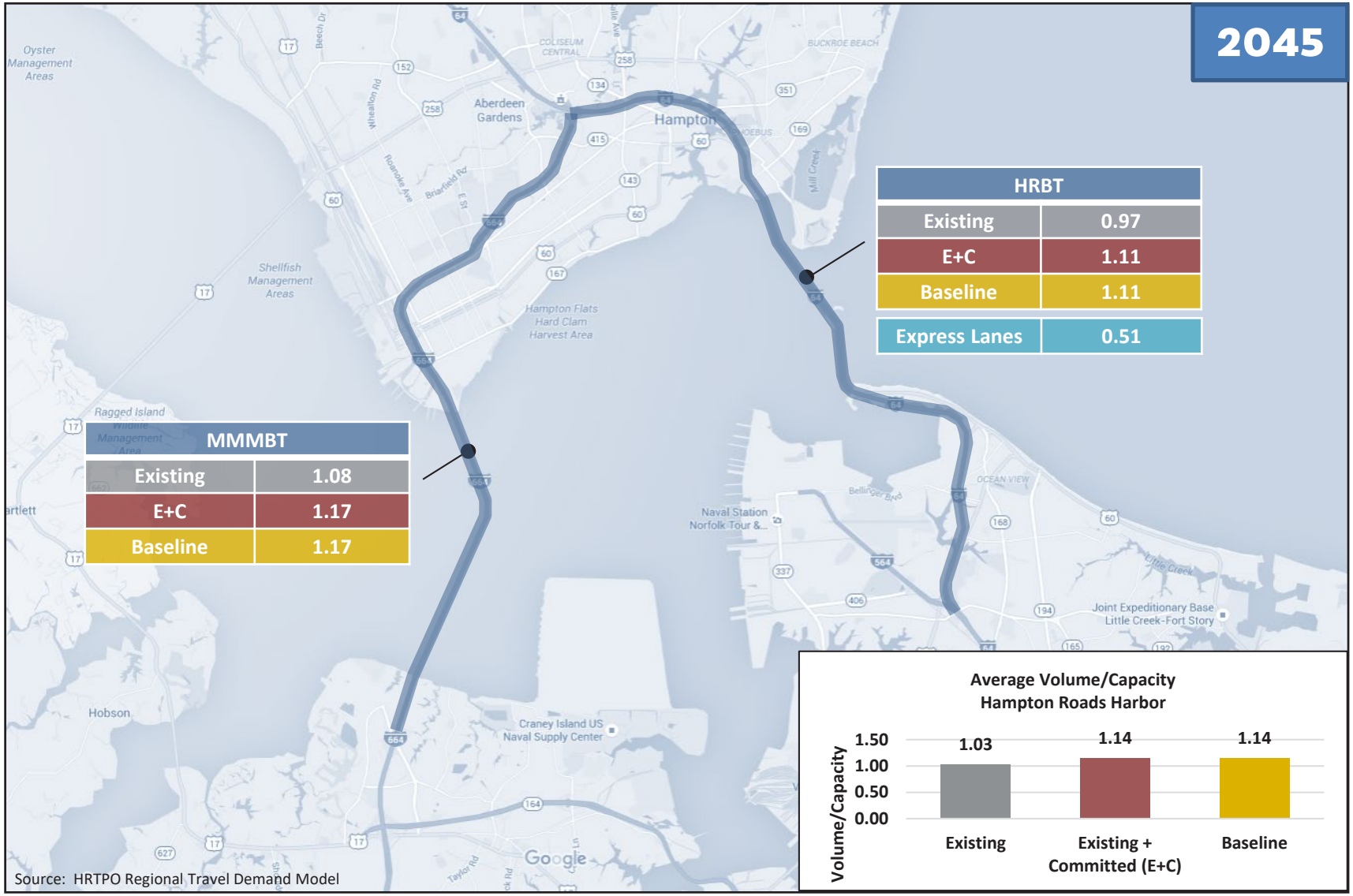


FIGURE 13 - HAMPTON ROADS HARBOR: HOURLY VOLUME/CAPACITY



Source: HRTPO Regional Travel Demand Model

FIGURE 14 - HAMPTON ROADS HARBOR: HOURLY VOLUME/CAPACITY

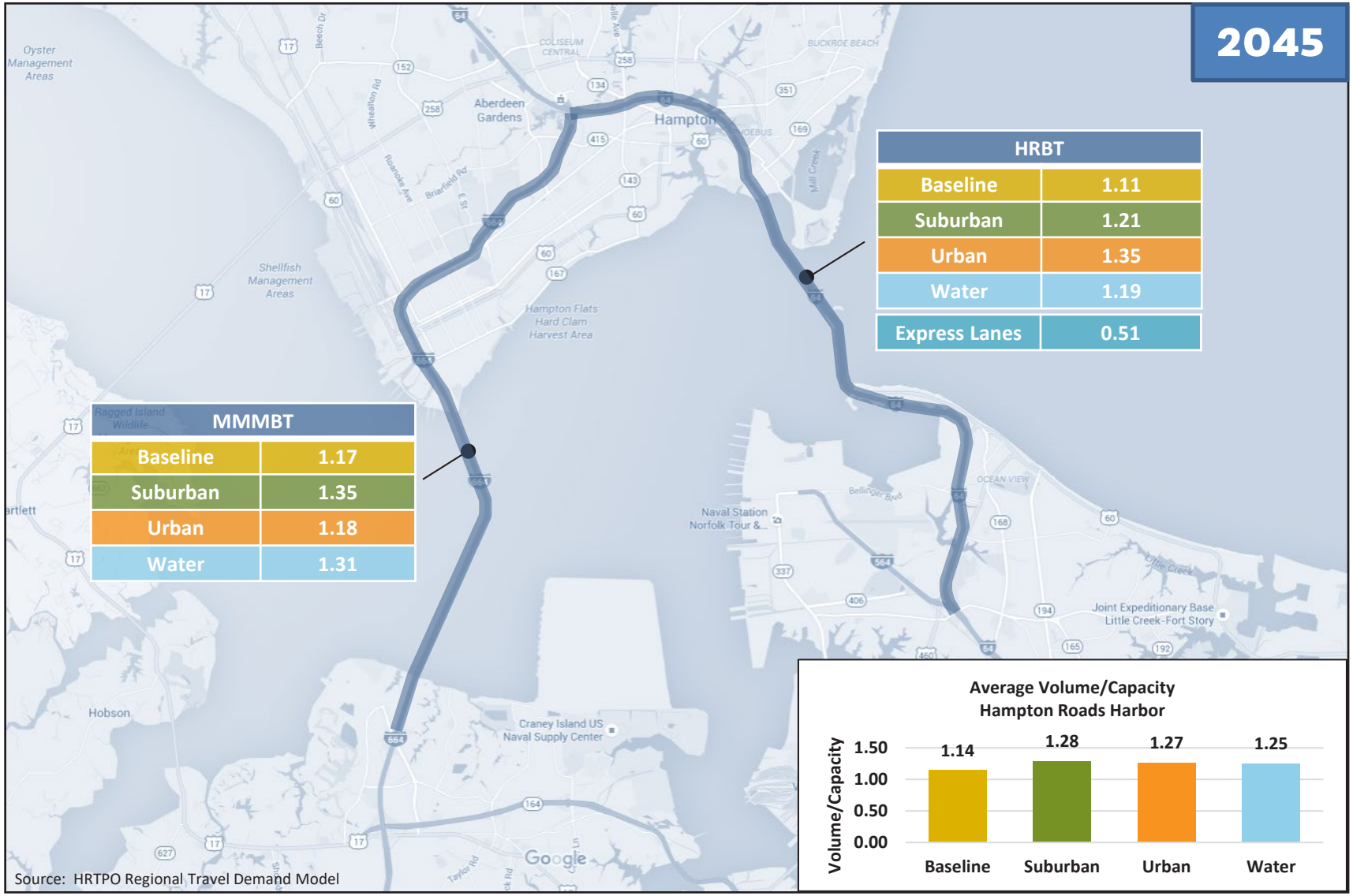
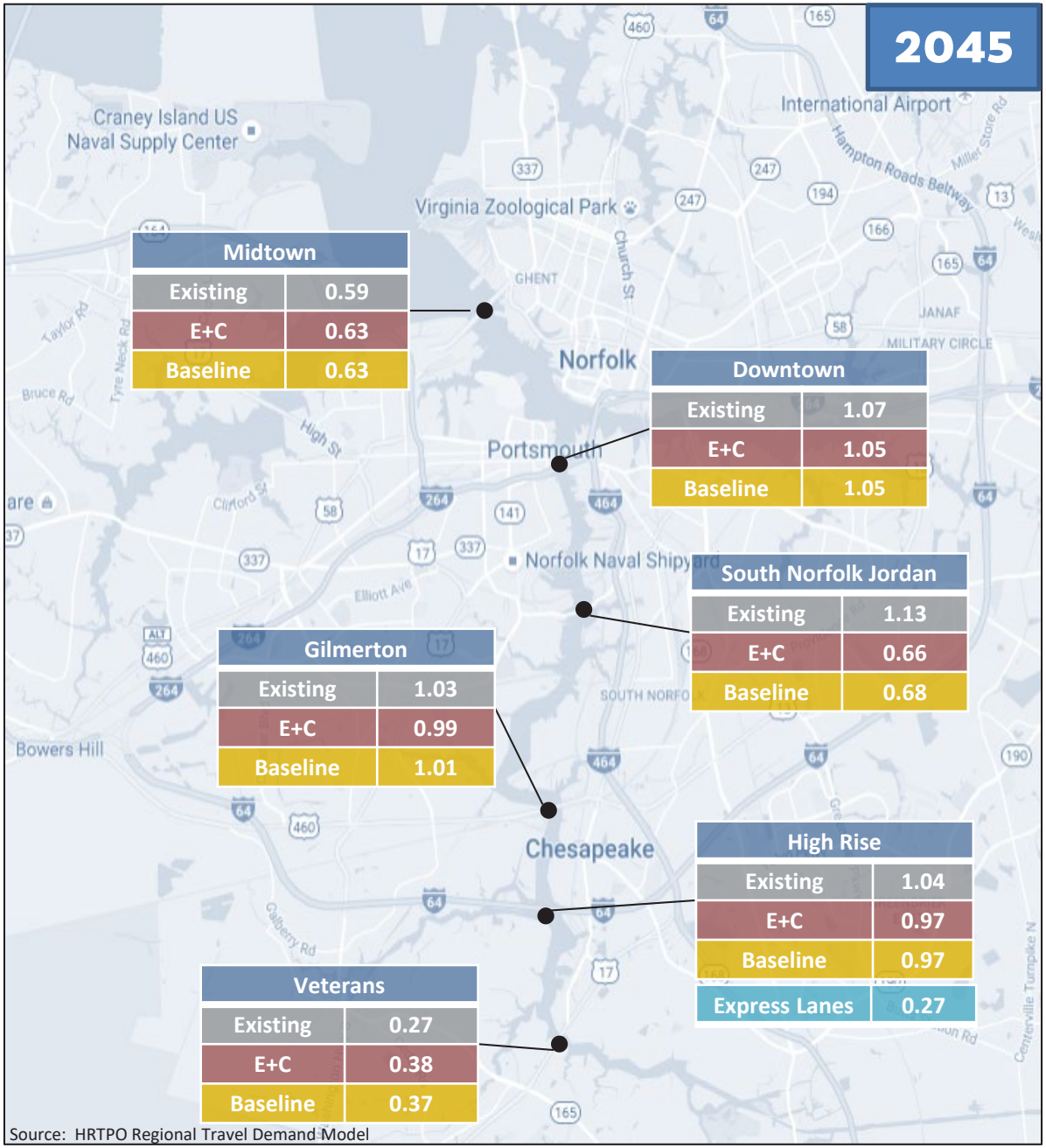


FIGURE 15 - ELIZABETH RIVER CROSSINGS: HOURLY VOLUME/CAPACITY



Source: HRTPO Regional Travel Demand Model

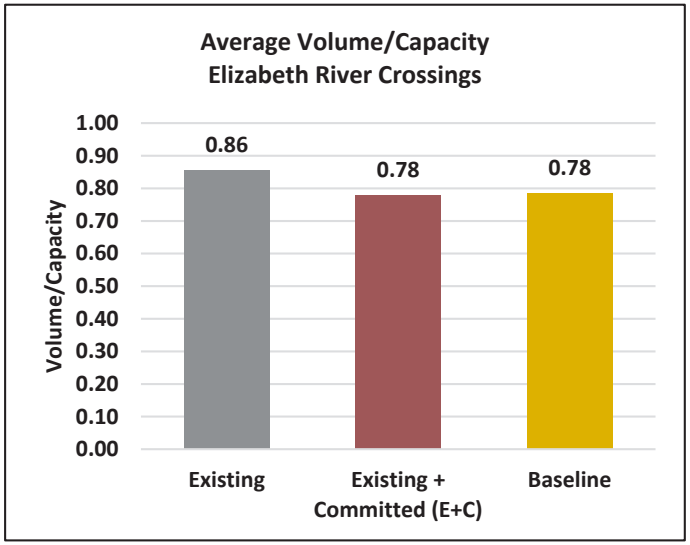
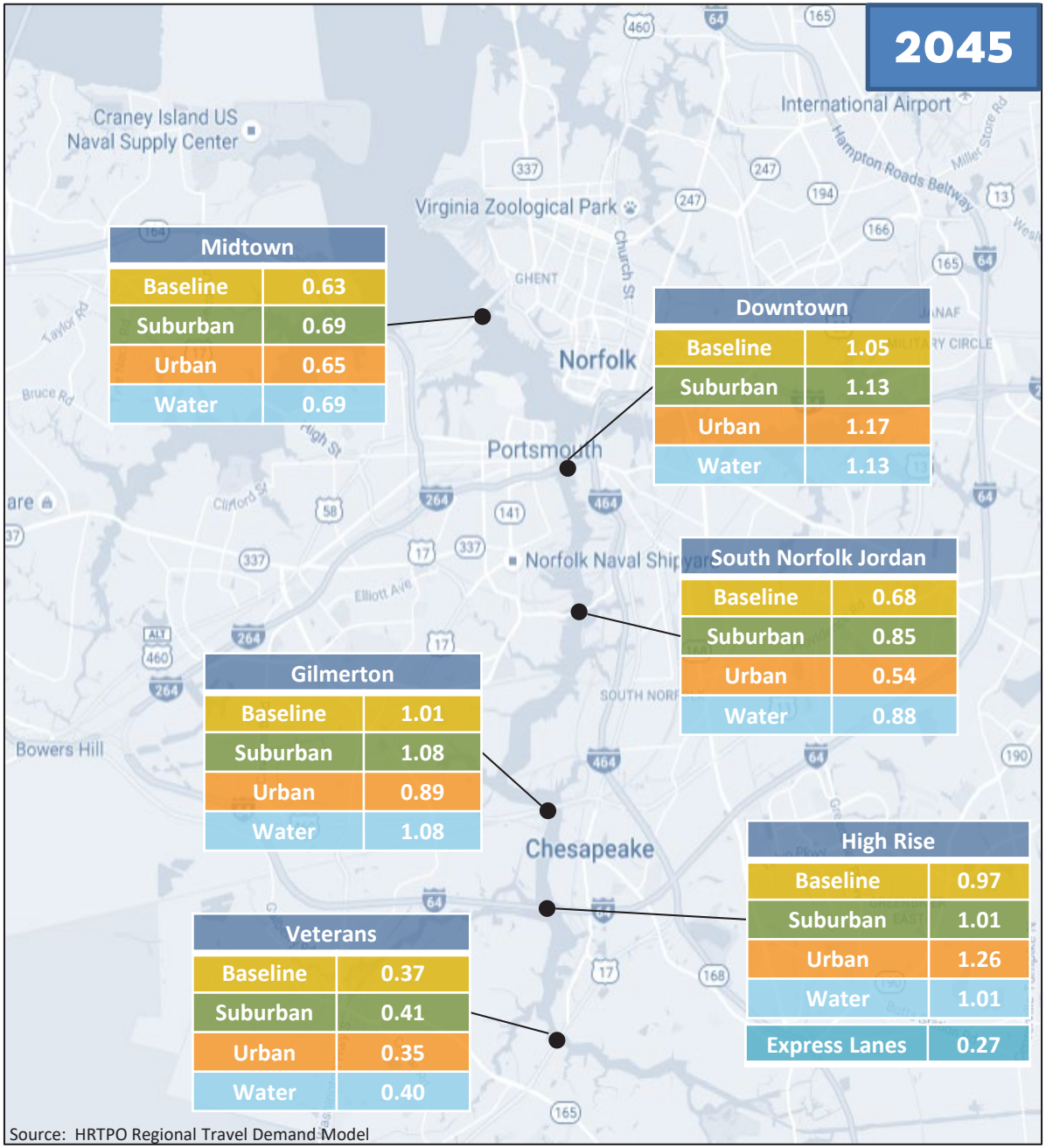


FIGURE 16 - ELIZABETH RIVER CROSSINGS: HOURLY VOLUME/CAPACITY



Source: HRTPO Regional Travel Demand Model

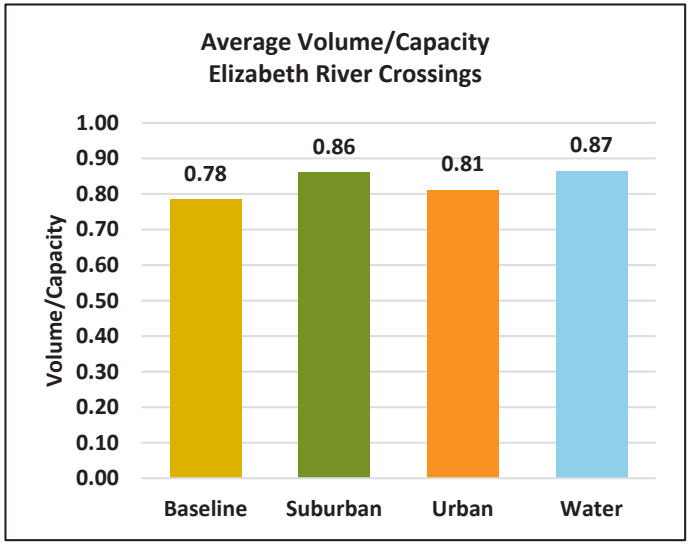


TABLE 2 - AM PEAK PERIOD SUMMARY

PERFORMANCE MEASURE		Existing	2045 Existing + Committed (E+C)	Baseline	Suburban	Urban	Water
Average AM Travel Time: Hampton Roads Harbor (towards Peninsula)		15.3 min	21.3 min	19.7 min	30.2 min	12.6 min	25.4 min
Average AM Travel Time: Hampton Roads Harbor (towards Southside)		18.9 min	39.0 min	38.7 min	57.0 min	21.6 min	55.3 min
Average AM Travel Time: Elizabeth River (towards Norfolk/VB)		9.0 min	11.1 min	10.7 min	11.4 min	7.7 min	11.6 min
Average AM Travel Time: Elizabeth River (towards Portsmouth/Suffolk)		5.1 min	5.0 min	5.2 min	6.0 min	5.0 min	6.0 min
Average Volume to Capacity: Hampton Roads Harbor		1.05	1.15	1.14	1.28	1.27	1.25
Average Volume to Capacity: Elizabeth River		0.81	0.78	0.78	0.85	0.85	0.85
Level of Service* Hampton Roads Harbor	General Purpose	F	F	F	F	F	F
	Express Lanes	-	A-C	A-C	A-C	A-C	A-C
Level of Service** Elizabeth River	General Purpose	F	F	F	F	F	F
	Express Lanes	-	A-C	A-C	A-C	A-C	A-C

*LOS for HRBT

** LOS for High Rise Bridge

TABLE 3 - PM PEAK PERIOD SUMMARY

PERFORMANCE MEASURE		Existing	2045 Existing + Committed (E+C)	2045 Baseline	2045 Suburban	2045 Urban	2045 Water
Average PM Travel Time: Hampton Roads Harbor (towards Peninsula)		22.4 min	39.7 min	39.6 min	62.3 min	21.4 min	57.7 min
Average PM Travel Time: Hampton Roads Harbor (towards Southside)		28.5 min	28.3 min	27.3 min	43.7 min	17.1 min	35.4 min
Average PM Travel Time: Elizabeth River (towards Norfolk/VB)		6.8 min	6.5 min	7.0 min	8.4 min	6.6 min	8.3 min
Average PM Travel Time: Elizabeth River (towards Portsmouth/Suffolk)		7.6 min	12.1 min	12.1 min	13.6 min	9.2 min	13.6 min
Average Volume to Capacity: Hampton Roads Harbor		1.04	1.14	1.13	1.28	1.25	1.25
Average Volume to Capacity: Elizabeth River		0.86	0.77	0.77	0.84	0.83	0.84
Level of Service* Hampton Roads Harbor	General Purpose	E	F	F	F	F	F
	Express Lanes	-	A-C	A-C	A-C	A-C	A-C
Level of Service** Elizabeth River	General Purpose	F	F	F	F	F	F
	Express Lanes	-	A-C	A-C	A-C	A-C	A-C

*LOS for HRBT

** LOS for High Rise Bridge

In 2019, the HRTPO Board endorsed the concept for a consistent Hampton Roads Express Lanes (HREL) Network that would begin on I-64 at Jefferson Avenue in Newport News, proceed along I-64 through Bowers Hill in Chesapeake, and continue along I-664 to I-64 in the vicinity of the Hampton Coliseum. Sections of this HREL Network are being constructed as part of other regional projects, such as the improvements at the Hampton Roads Bridge Tunnel, the High-Rise Bridge, and as part of HOV to HOT lane conversions around the region. As part of the 2045 LRTP, the Hampton Roads Transportation Accountability Commission has identified committed funding for the HREL Network from I-64 at Jefferson Avenue to Bowers Hill. Planned project 2045-308 (I-664 Widneing including the Bowers Hill Interchange) assumes the extension of the HREL Network from Bowers Hill to Colege Drive.

Figures 19-22 summarize the forecasted network performance of the Hampton Roads Express Lane Network.

FIGURE 17 - HAMPTON ROADS EXPRESS LANES NETWORK (MANAGED LANES)

- ***HOT-2 lanes on I-64 from Jefferson Ave to Bowers Hill***
- ***Includes HOT-2 Shoulder Lane adjacent to Reversible HOT Lanes (allows for 2-way HOT operation)***

Legend
- HOT Lanes
- HOT Shoulder

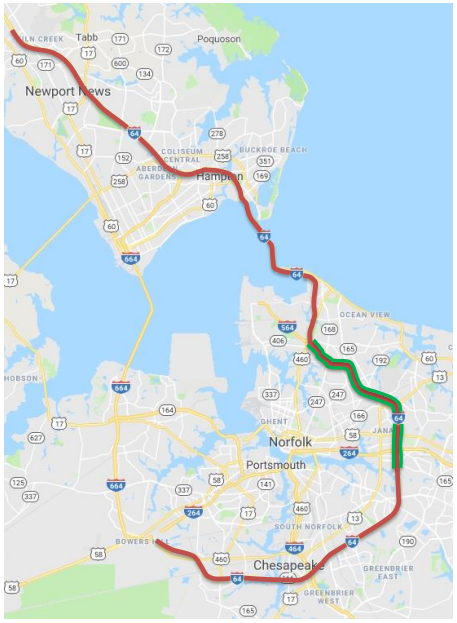
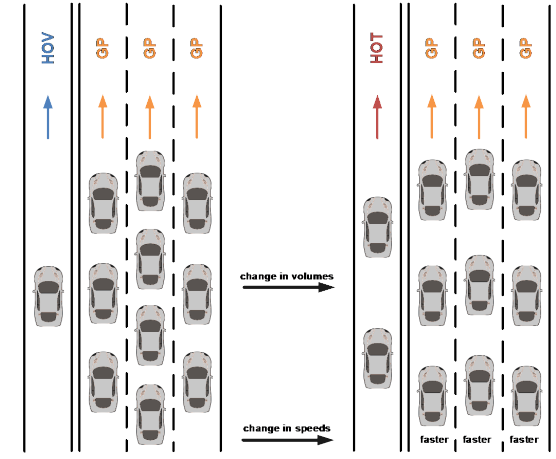


FIGURE 18 - EXPRESS (MANAGED) LANES: HOV-2 VS HOT-2



HOV-2
- 2+ Occupants in Vehicle (Free)

HOT-2
- 2+ Occupants in Vehicle (Free)
- Single Occupancy (Toll)

FIGURE 19 - 2045 EXPRESS LANES FORECASTED CONGESTION – EASTBOUND

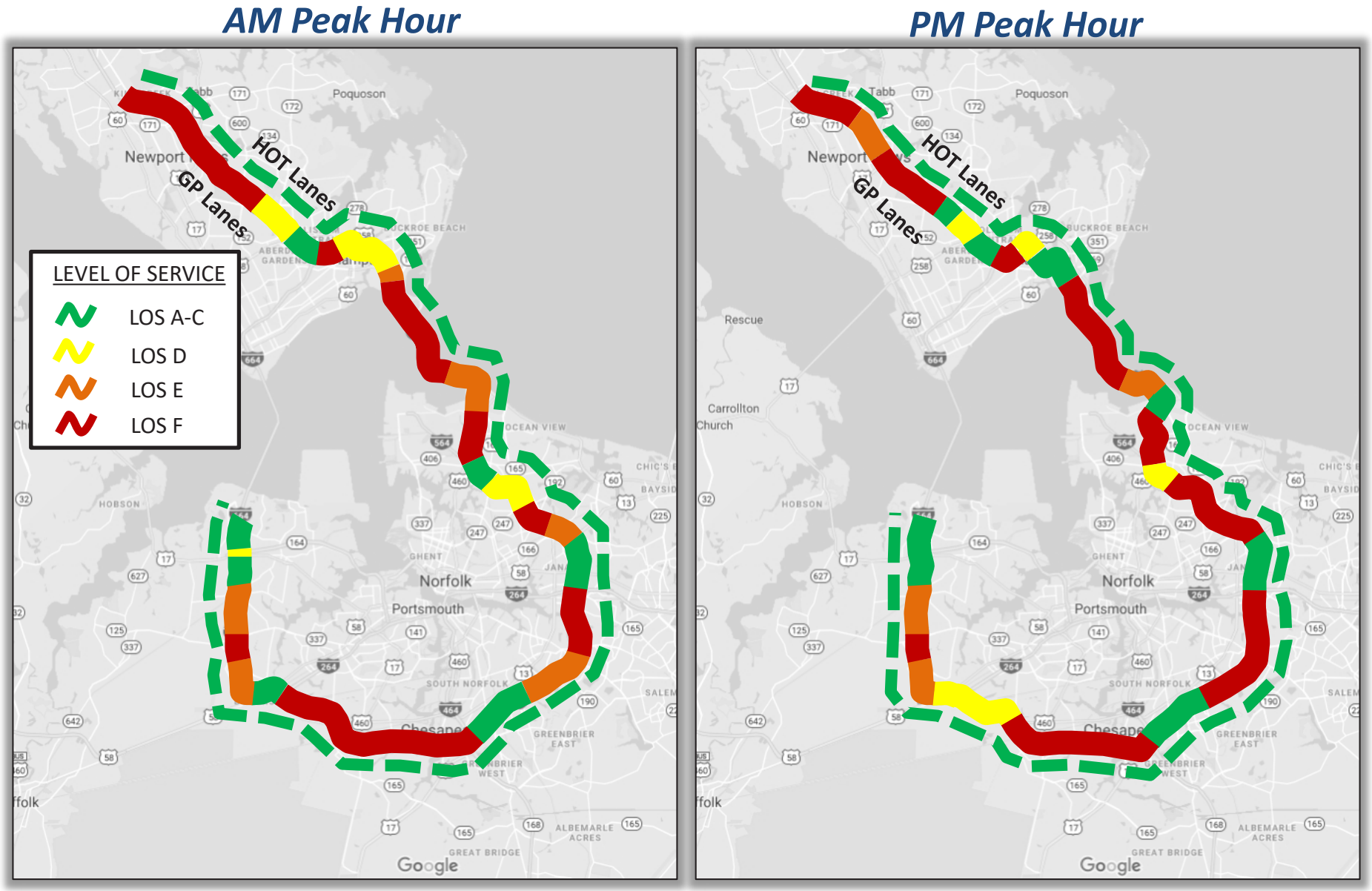
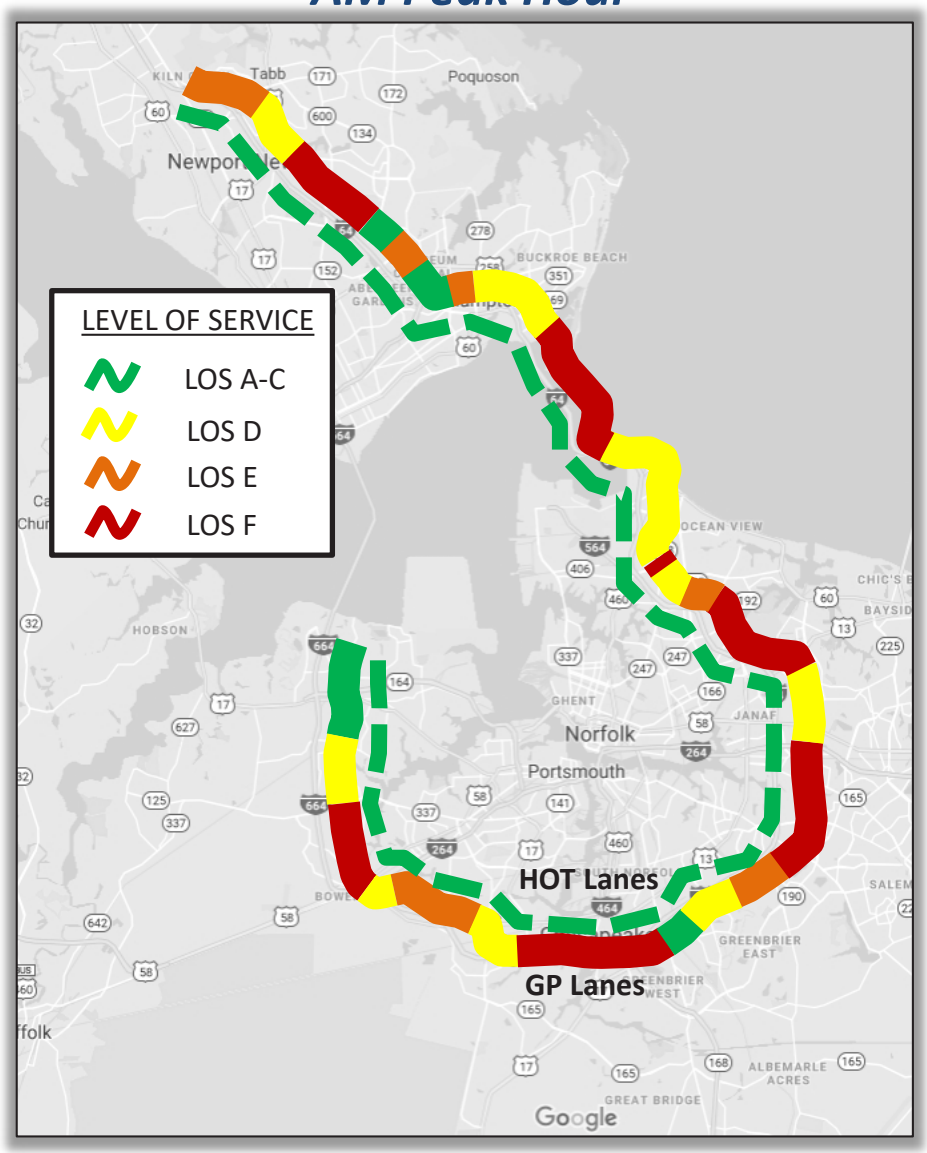
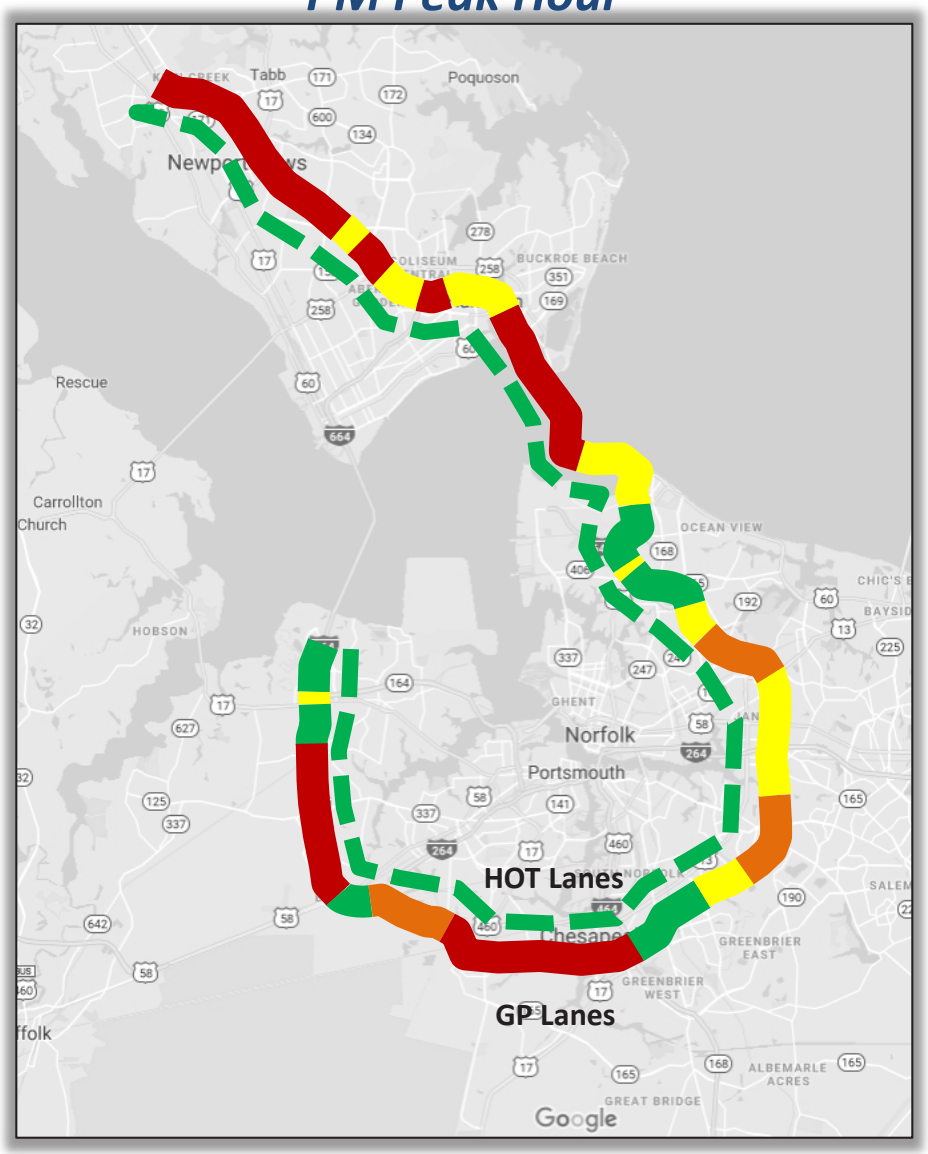


FIGURE 20 - 2045 EXPRESS LANES FORECASTED CONGESTION – WESTBOUND

AM Peak Hour

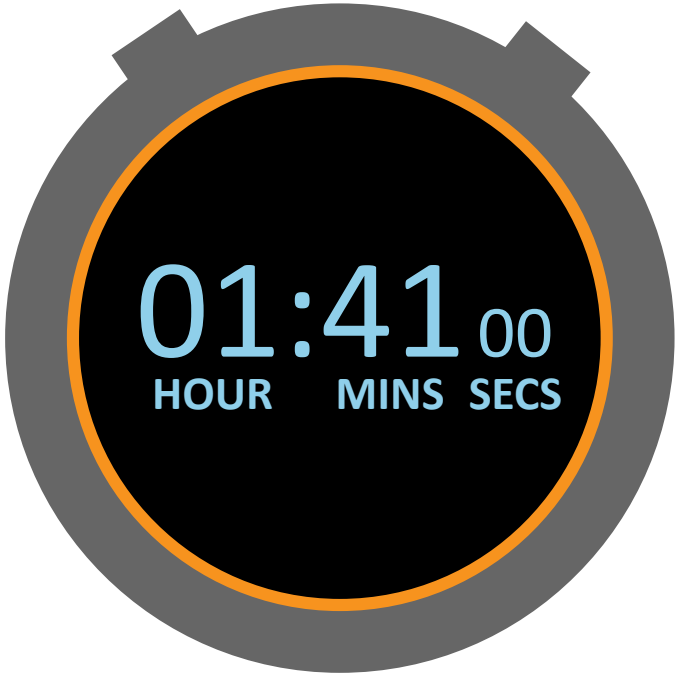


PM Peak Hour



Eastbound – Jefferson Ave to College Dr (53 miles)*

General Purpose Lanes



At least 1 hour 41 minutes (31 mph)

Express Lanes

No more than 1 hour 11 minutes (45 mph)

**For the 2045 LRTP, assume HREL Network termini will be College Drive to Jefferson Avenue*

Westbound – College Dr to Jefferson Ave (53 miles)*

General Purpose Lanes

At least 1 hour and 51 minutes (29 mph)

Express Lanes

No more than 1 hour 11 minutes (45 mph)

** For the 2045 LRTP, assume HREL Network termini will be College Drive to Jefferson Avenue*

The following figures on Pages 45-62 summarize forecasted network performance comparing outputs from the Regional Travel Demand Model for Existing, Existing plus Committed (committed roadway projects are defined as projects under construction or fully funded for construction), and the 2045 LRTP Build-Baseline scenario (future transportation network containing the investments identified in the Plan). Additionally, the 2045 LRTP Build-Baseline scenario is compared to outputs from the three Greater Growth scenarios.

FIGURE 23 – FORECASTED VEHICLE MILES TRAVELED

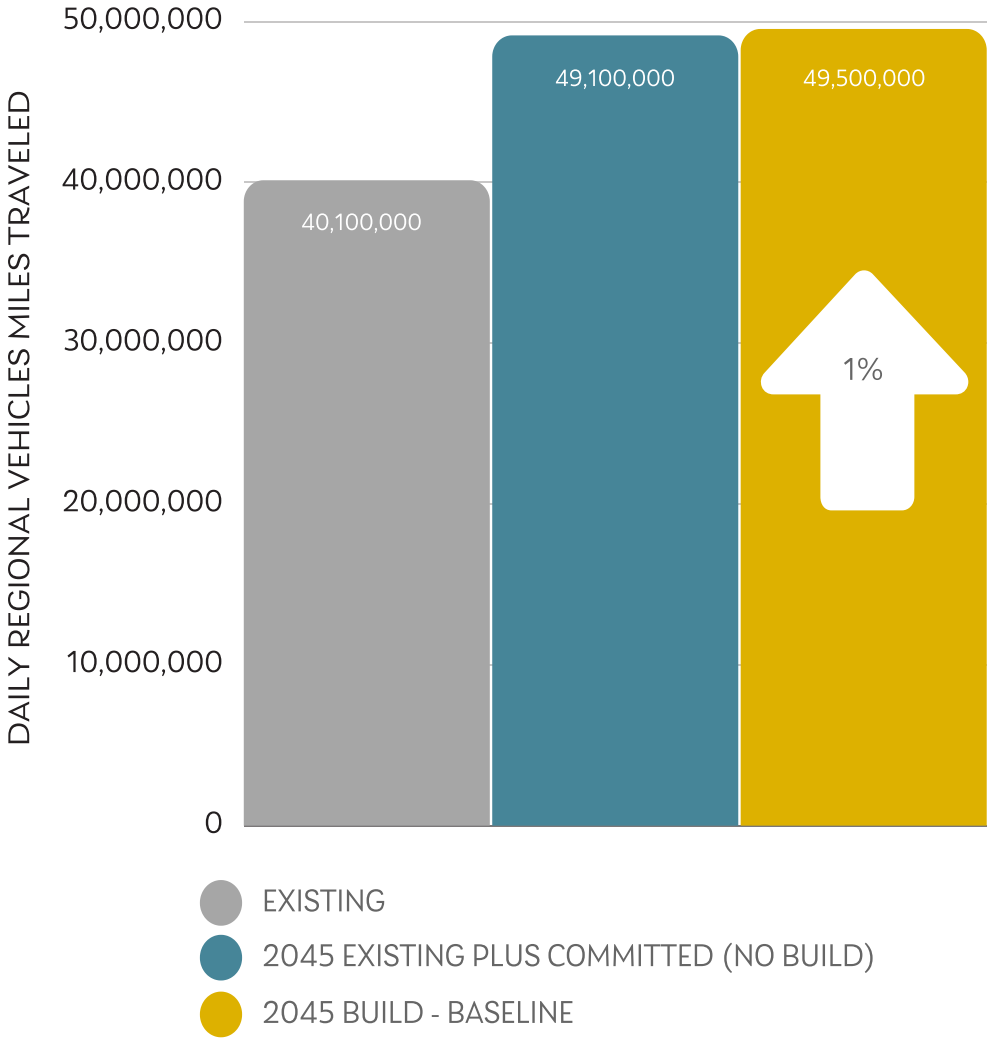
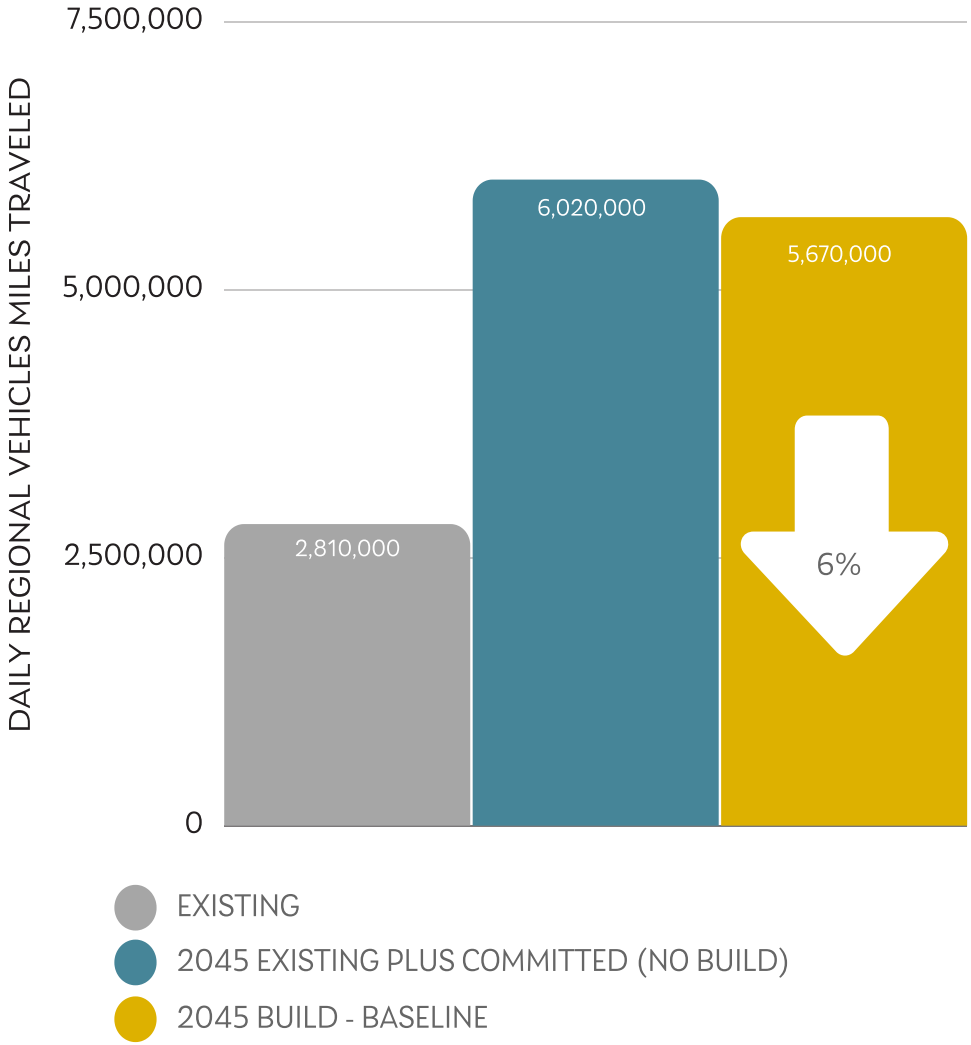


FIGURE 24 – FORECASTED VEHICLE MILES TRAVELED IN SEVERE CONGESTION



Note: The arrow graphic in the charts represents the percent difference between the Existing plus Committed (No Build) and the 2045 Build – Baseline scenarios.

FIGURE 25 – FORECASTED TOTAL VEHICLE MILES TRAVELED VS. SEVERE VEHICLE MILES TRAVELED

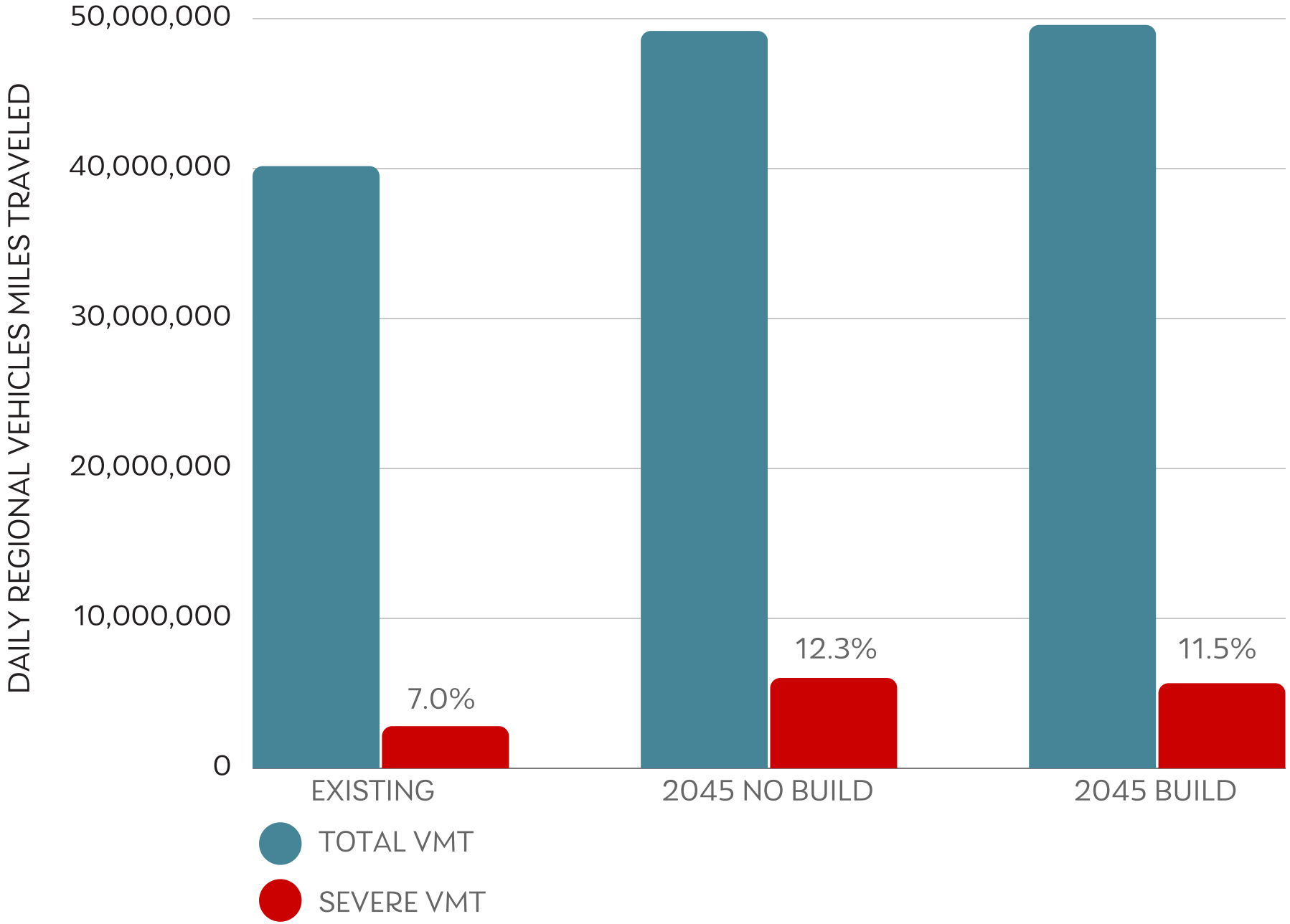


FIGURE 26 – FORECASTED SCENARIO VEHICLE MILES TRAVELED

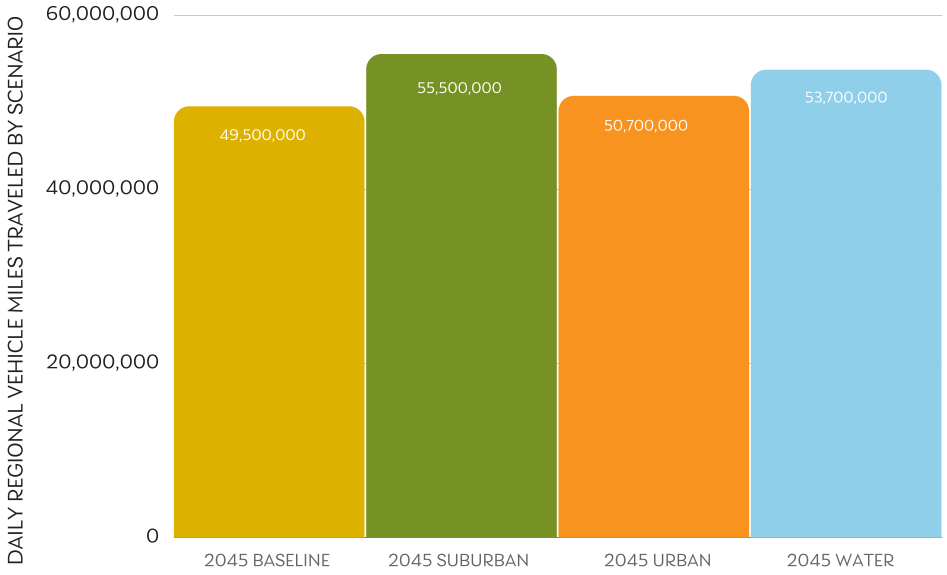


FIGURE 27 – FORECASTED SCENARIO VEHICLE MILES TRAVELED IN SEVERE CONGESTION

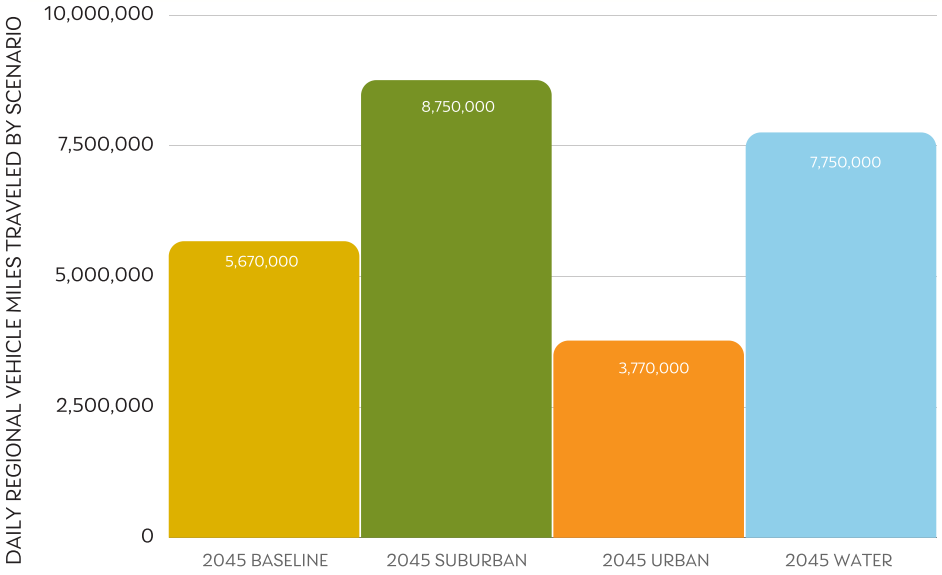


FIGURE 28 – FORECASTED SCENARIO TOTAL VMT VS. SEVERE VMT

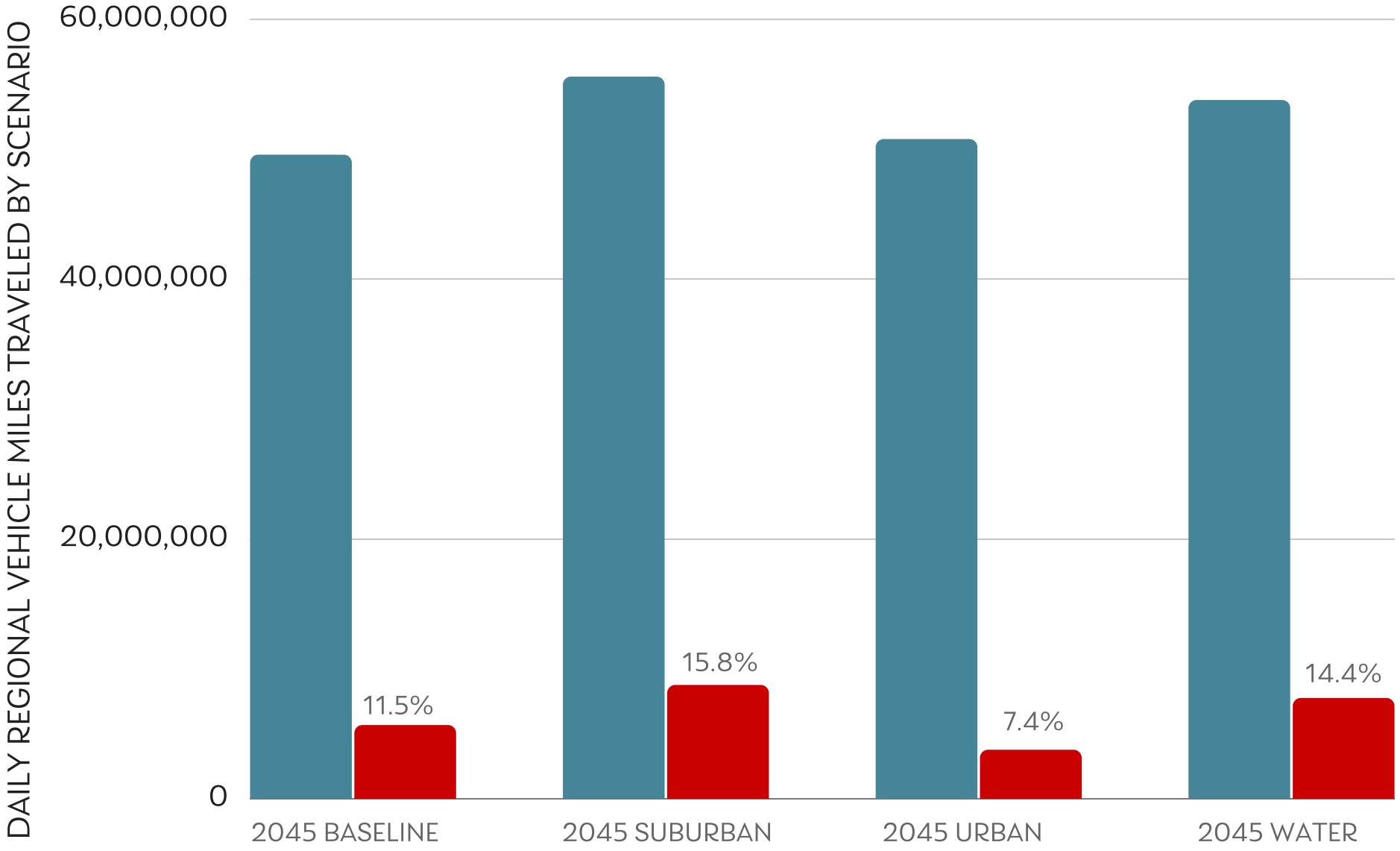


FIGURE 29 – FORECASTED REDUCTION IN TOTAL VEHICLE HOURS TRAVELED

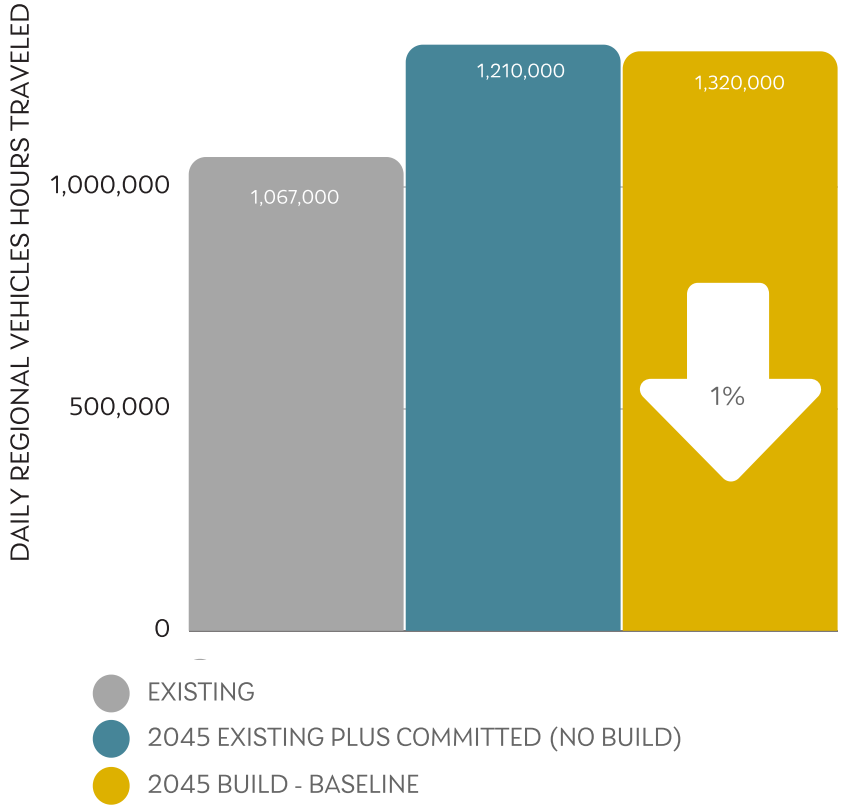
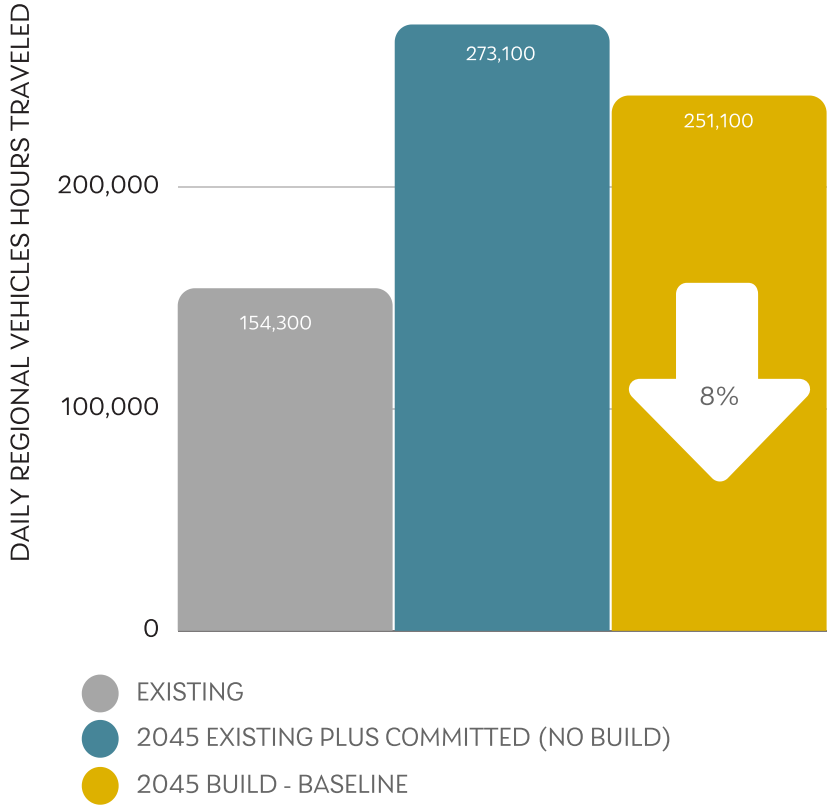


FIGURE 30 – FORECASTED REDUCTION IN SEVERELY CONGESTED TRAVEL (REGIONAL TRAVEL TIME SAVINGS)



Note: The arrow graphic in the charts represents the percent difference between the Existing plus Committed (No Build) and the 2045 Build – Baseline scenarios.

FIGURE 31 – FORECASTED TOTAL VEHICLE HOURS TRAVELED VS. SEVERE VEHICLE HOURS TRAVELED

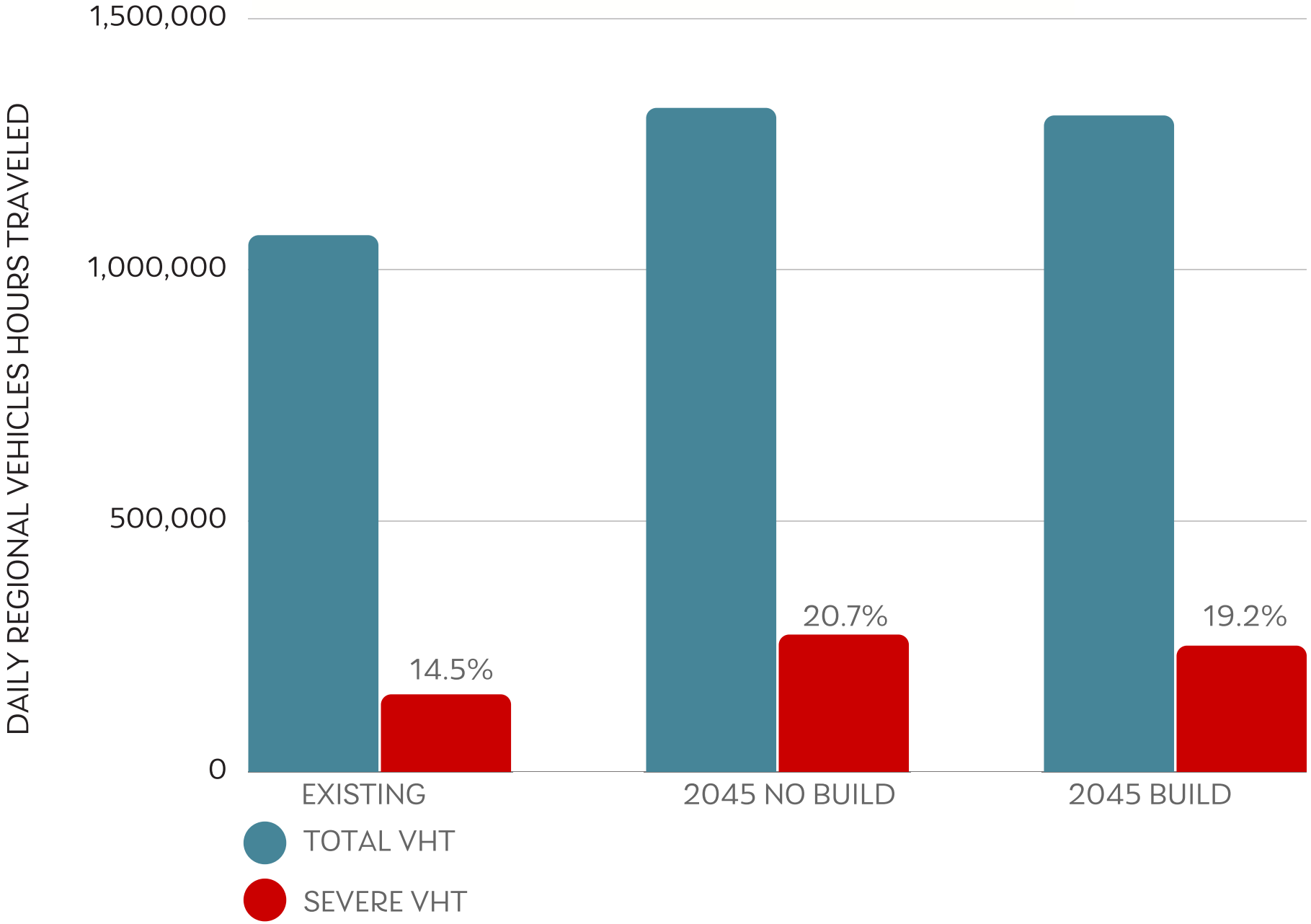


FIGURE 32 – FORECASTED SCENARIO TOTAL CONGESTED TRAVEL

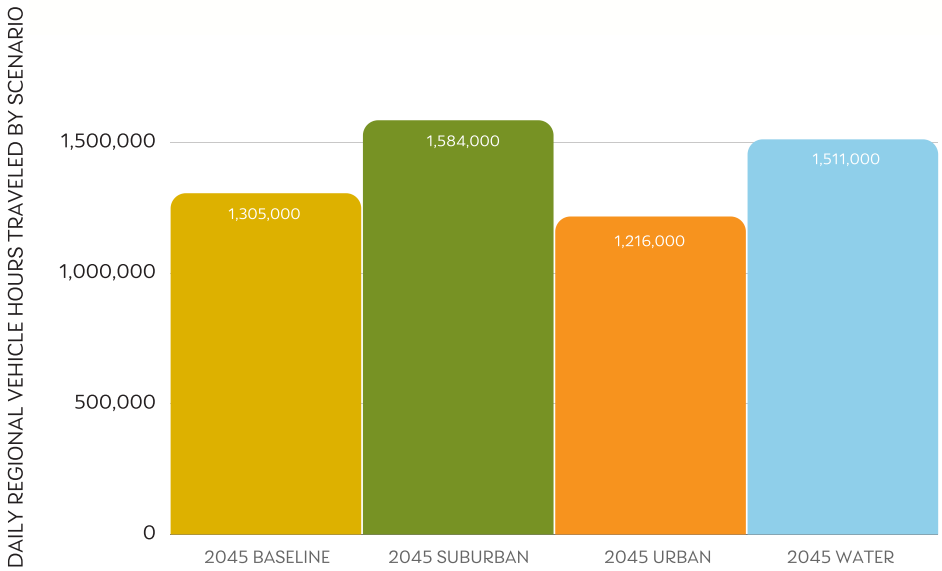


FIGURE 33 – FORECASTED SCENARIO SEVERELY CONGESTED TRAVEL

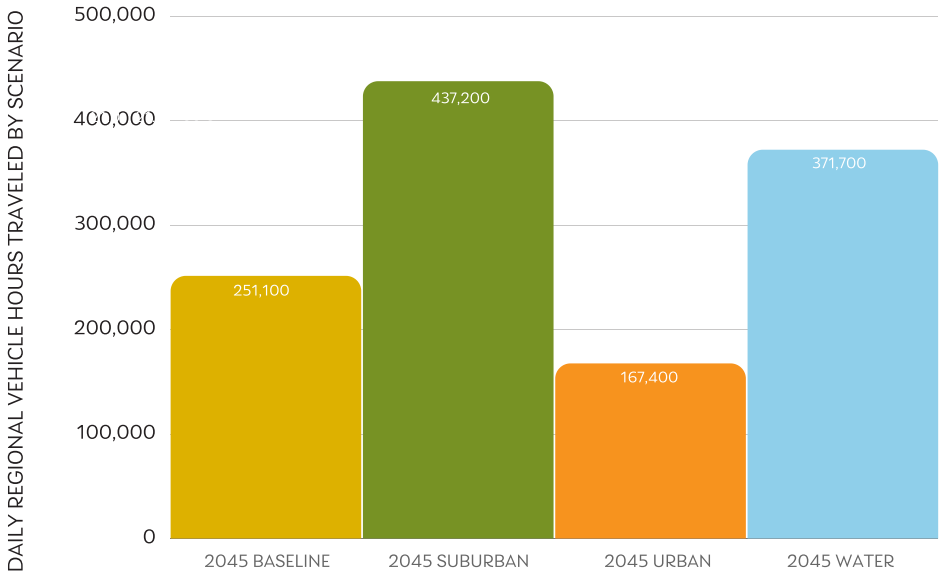


FIGURE 34 – FORECASTED SCENARIO TOTAL VHT VS. SEVERE VHT

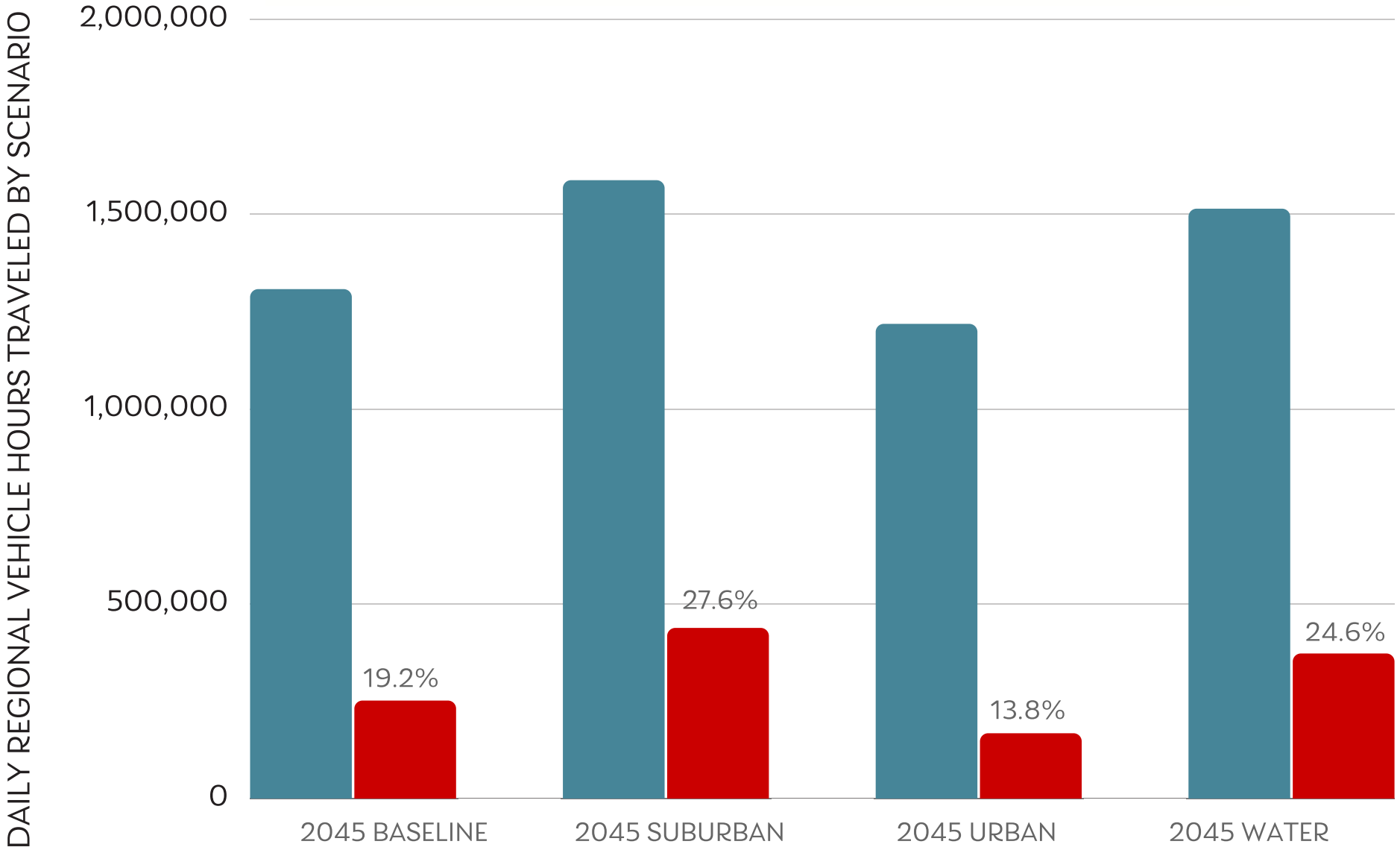


FIGURE 35 – FORECASTED AVERAGE TRAVEL TIME BY TRIP PURPOSE (PEAK PERIOD)

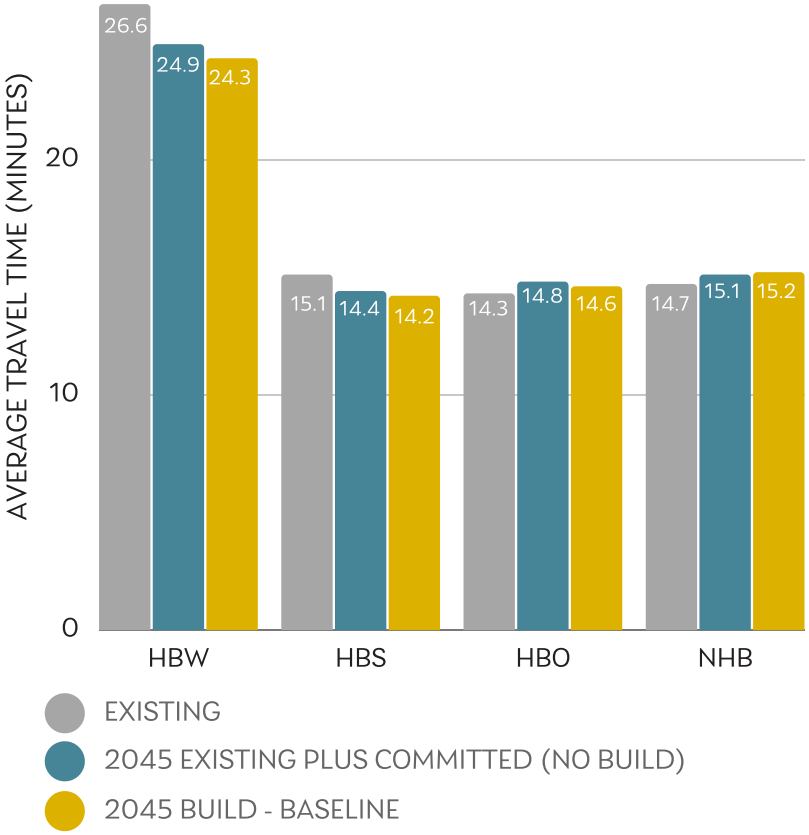


FIGURE 36 – FORECASTED AVERAGE TRAVEL TIME BY TRIP PURPOSE (OFF PEAK PERIOD)

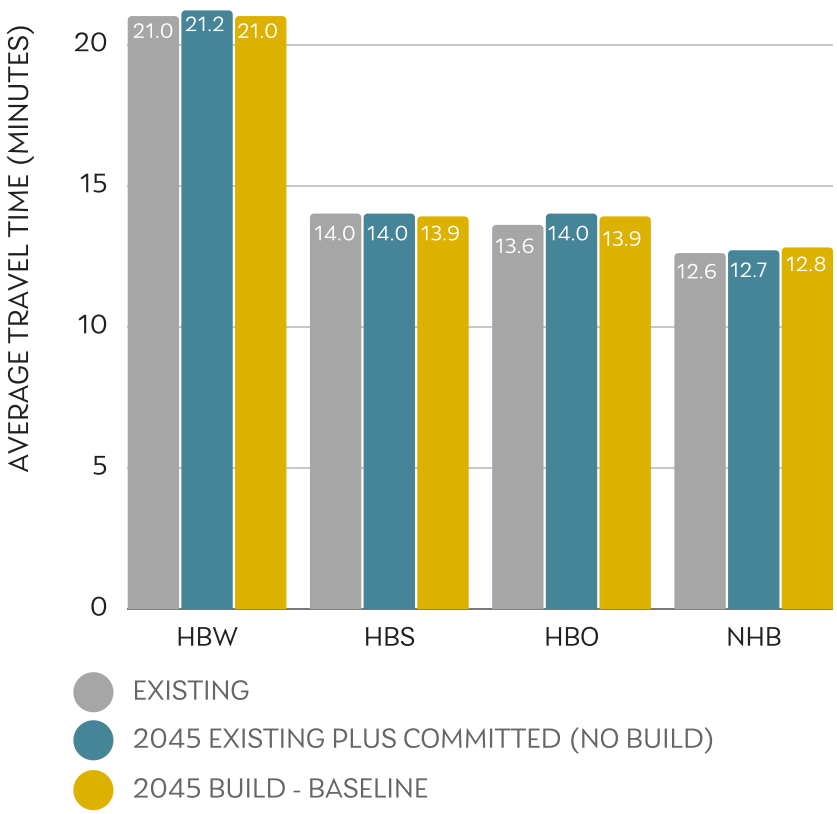


FIGURE 37 – FORECASTED SCENARIO AVERAGE TRAVEL TIME BY TRIP PURPOSE (PEAK PERIOD)

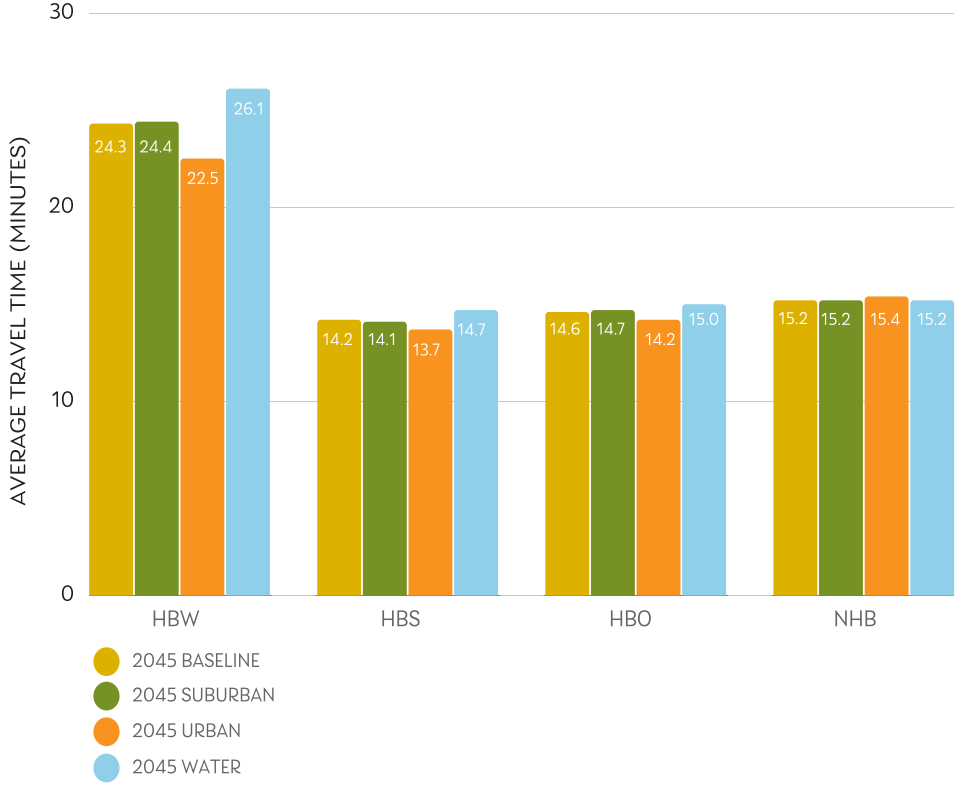


FIGURE 38 – FORECASTED SCENARIO AVERAGE TRAVEL TIME BY TRIP PURPOSE (OFF PEAK PERIOD)

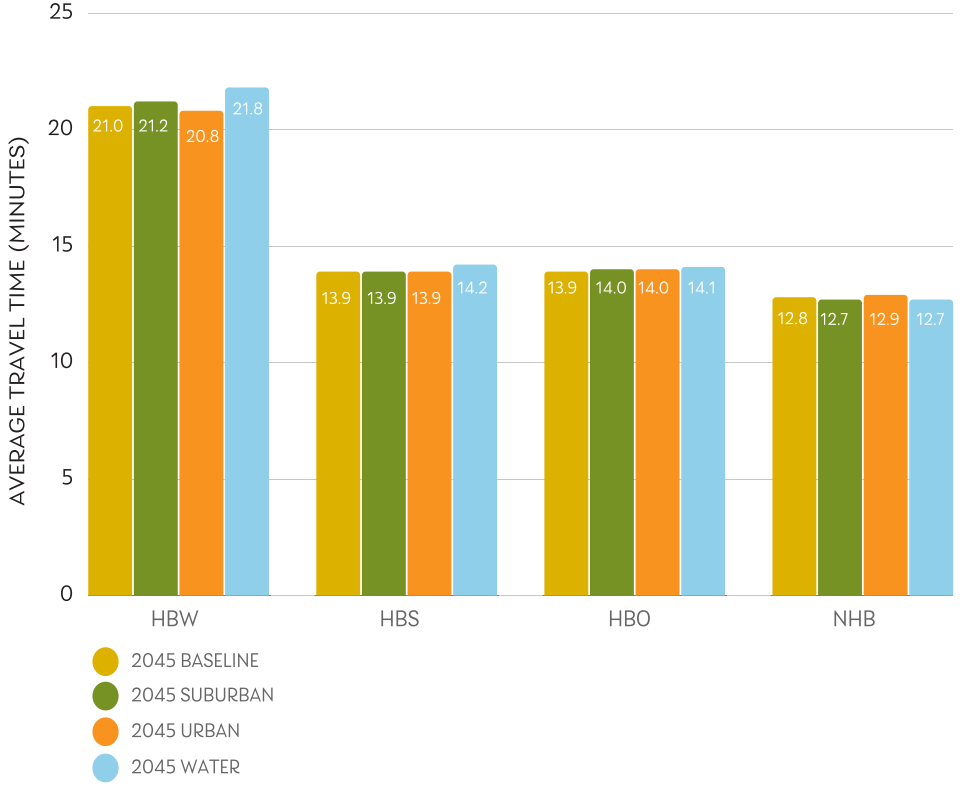


FIGURE 39 – FORECASTED AVERAGE CONGESTED SPEEDS

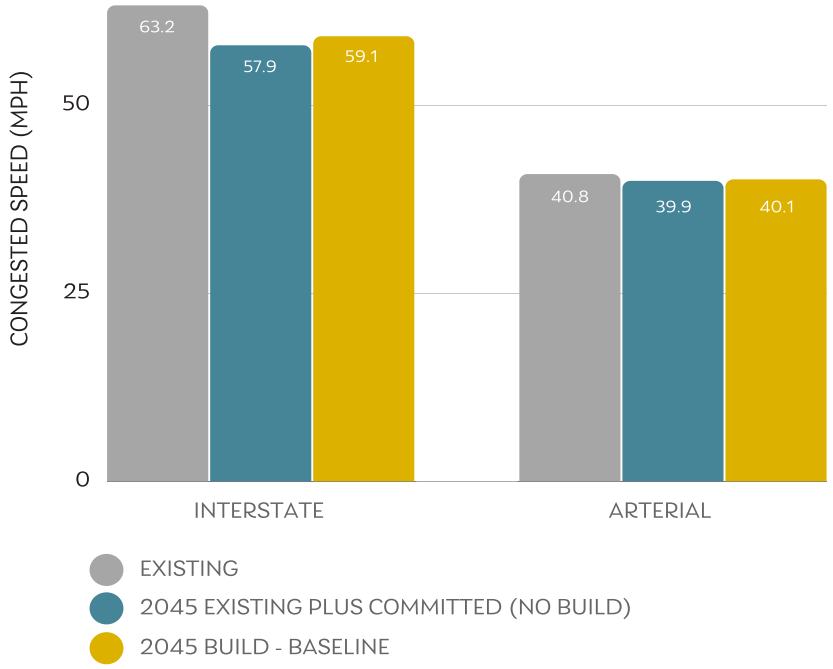


FIGURE 40 – FORECASTED SCENARIO AVERAGE CONGESTED SPEEDS

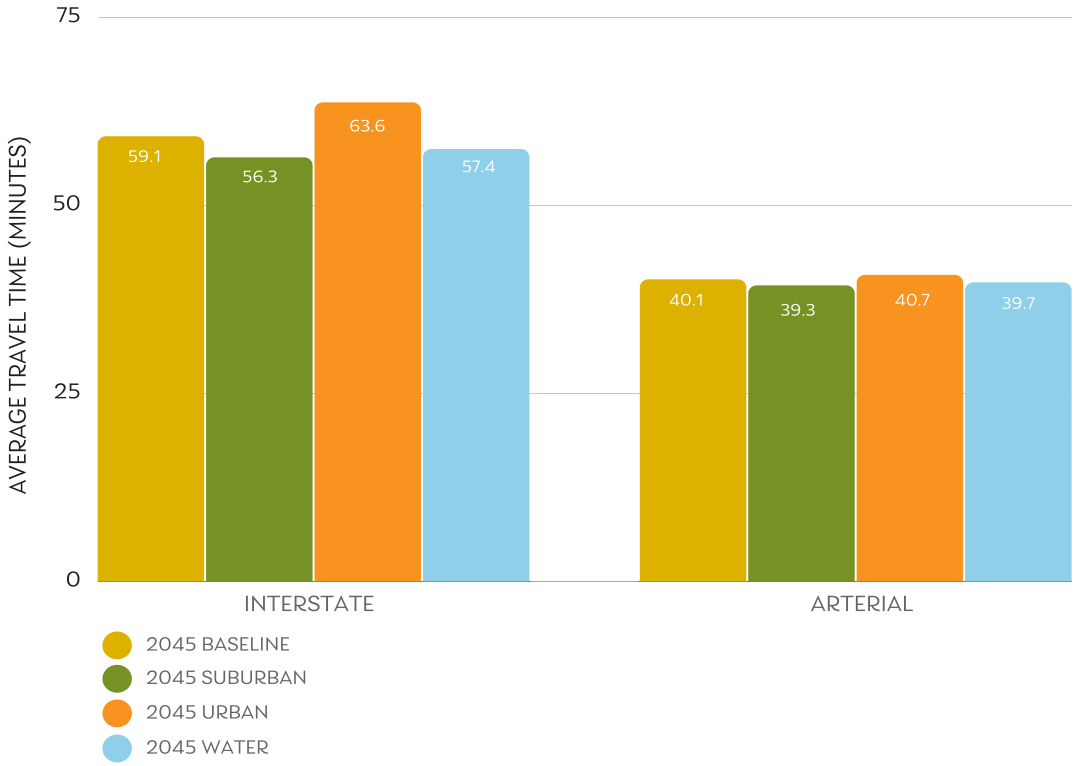


FIGURE 41 – FORECASTED HBW MODE SPLIT – PEAK PERIOD

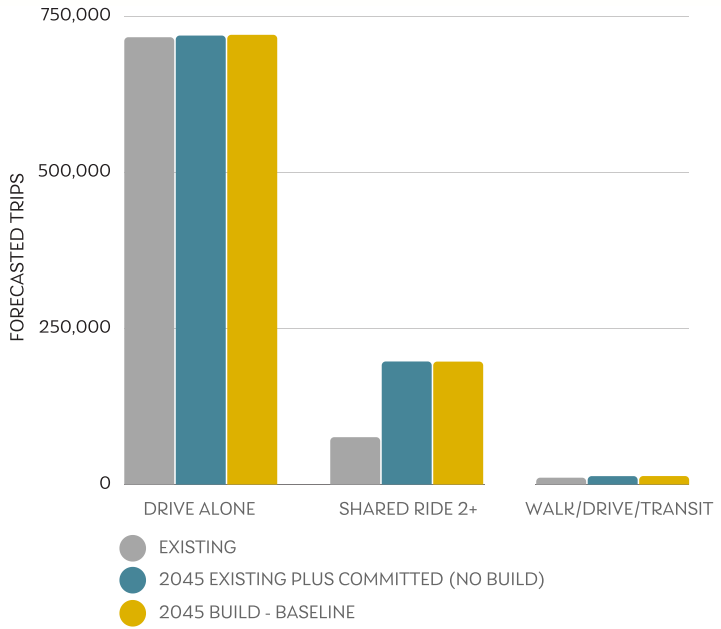


FIGURE 42 – FORECASTED HBO MODE SPLIT – PEAK PERIOD

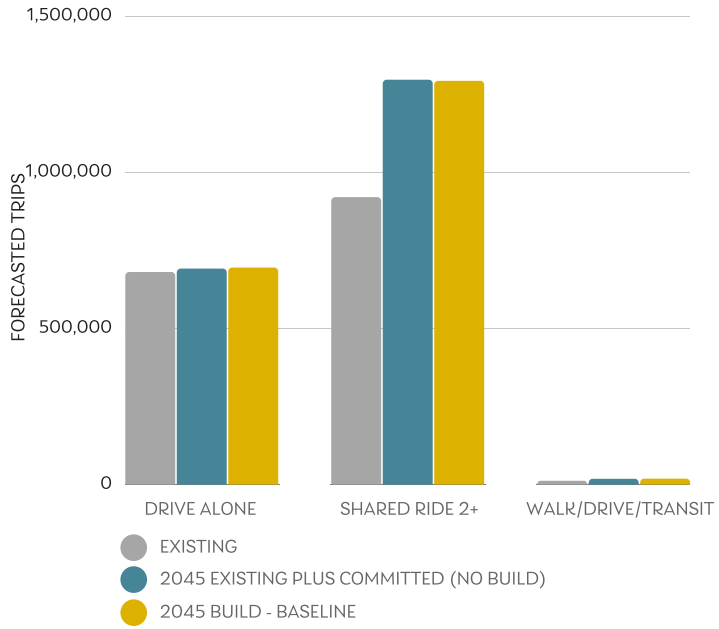


FIGURE 43 – FORECASTED NHB MODE SPLIT – PEAK PERIOD

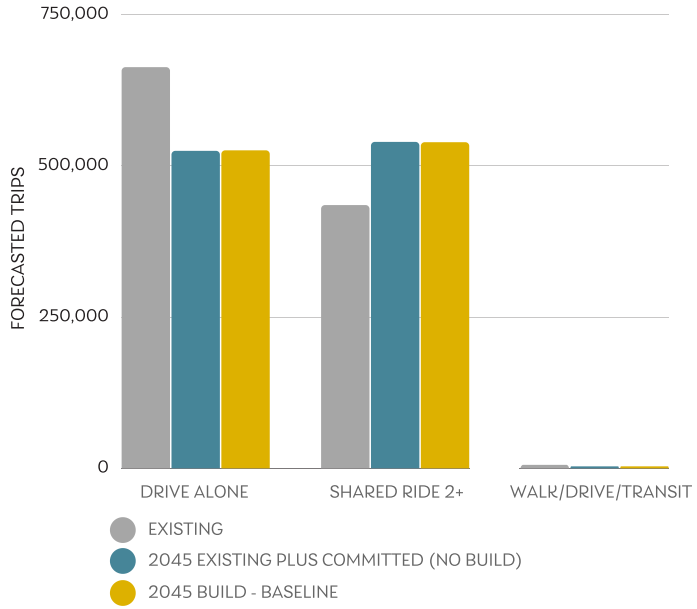


FIGURE 44 – FORECASTED HBW MODE SPLIT – OFF PEAK PERIOD

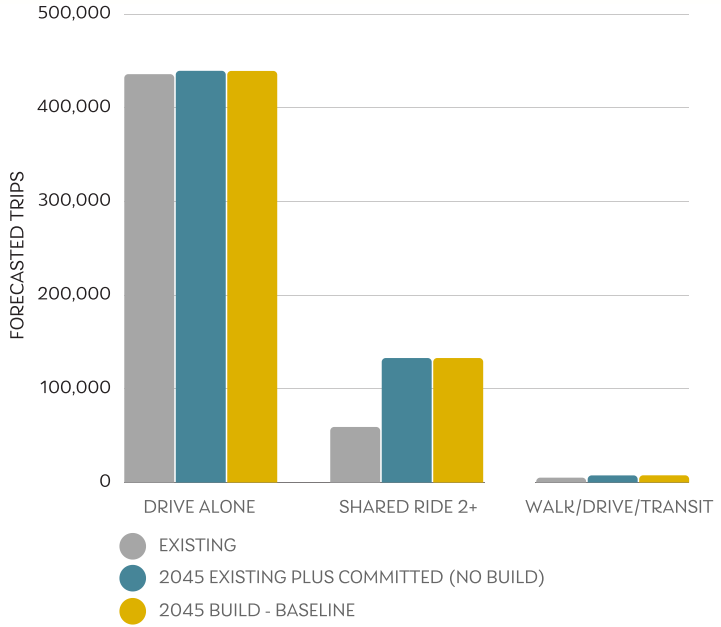


FIGURE 45 – FORECASTED HBO MODE SPLIT – OFF PEAK PERIOD

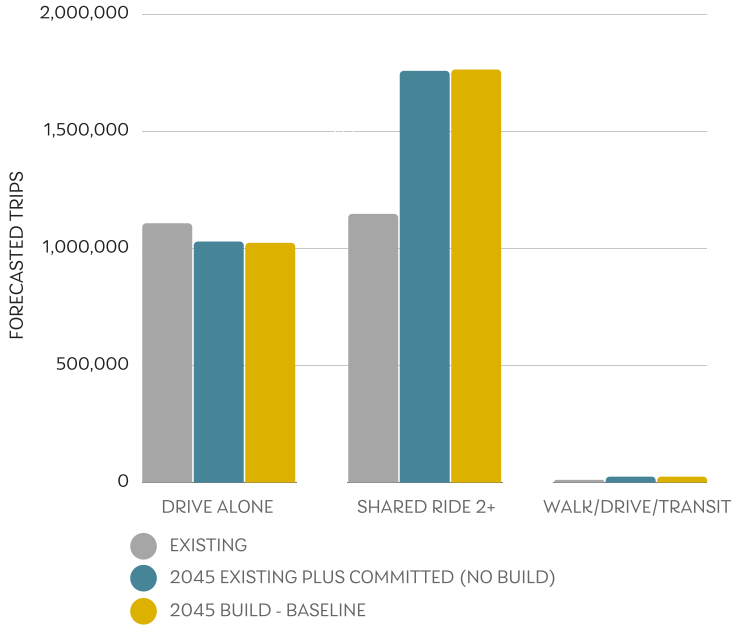


FIGURE 46 – FORECASTED NHB MODE SPLIT – OFF PEAK PERIOD

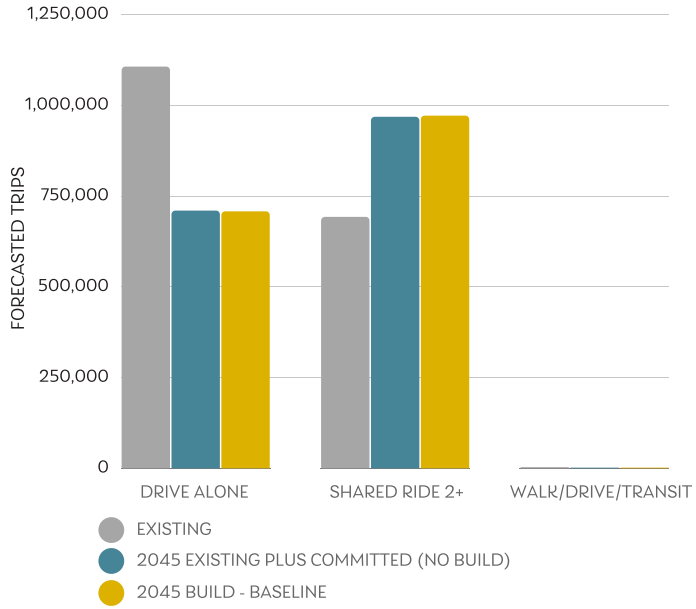


FIGURE 47 – FORECASTED SCENARIO HBW MODE SPLIT – PEAK PERIOD

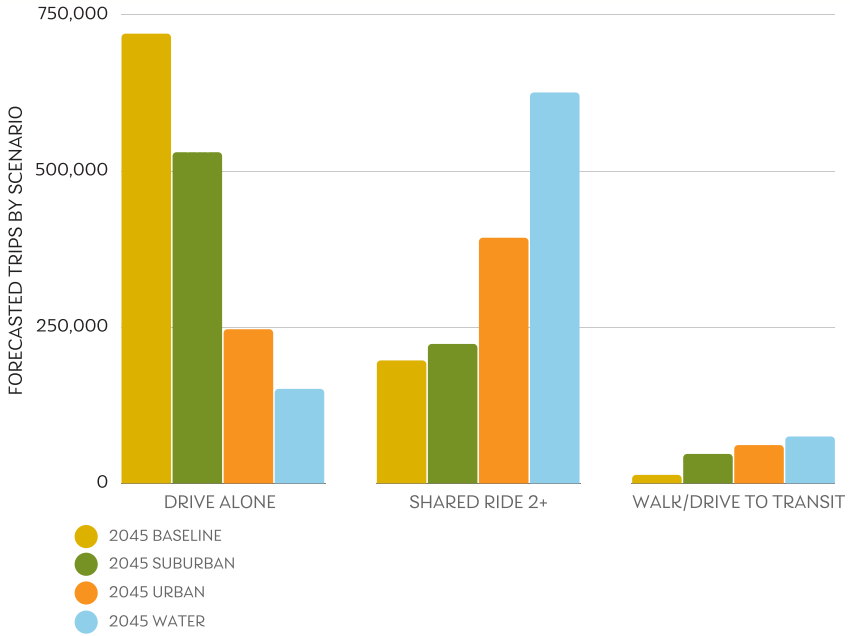


FIGURE 48 – FORECASTED SCENARIO HBO MODE SPLIT – PEAK PERIOD

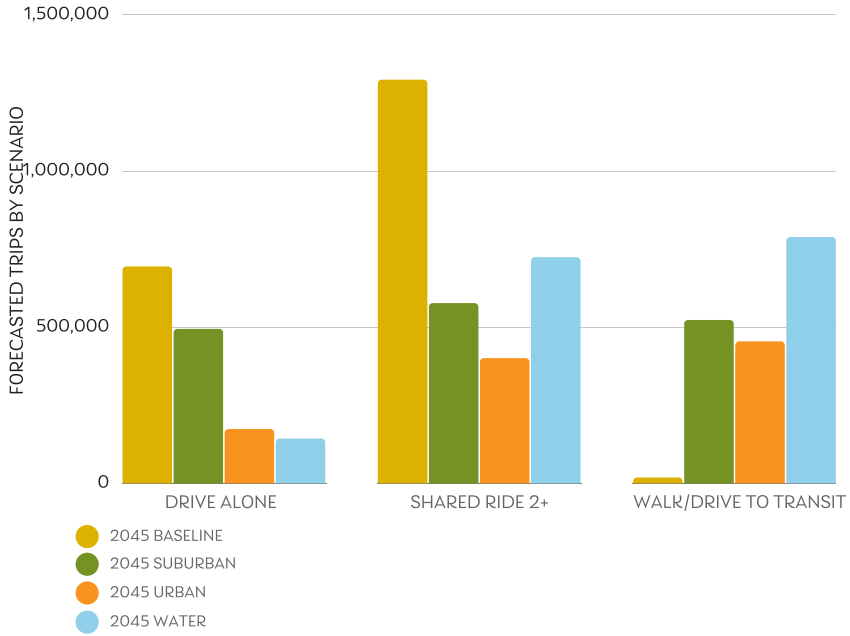


FIGURE 49 – FORECASTED SCENARIO NHB MODE SPLIT – PEAK PERIOD

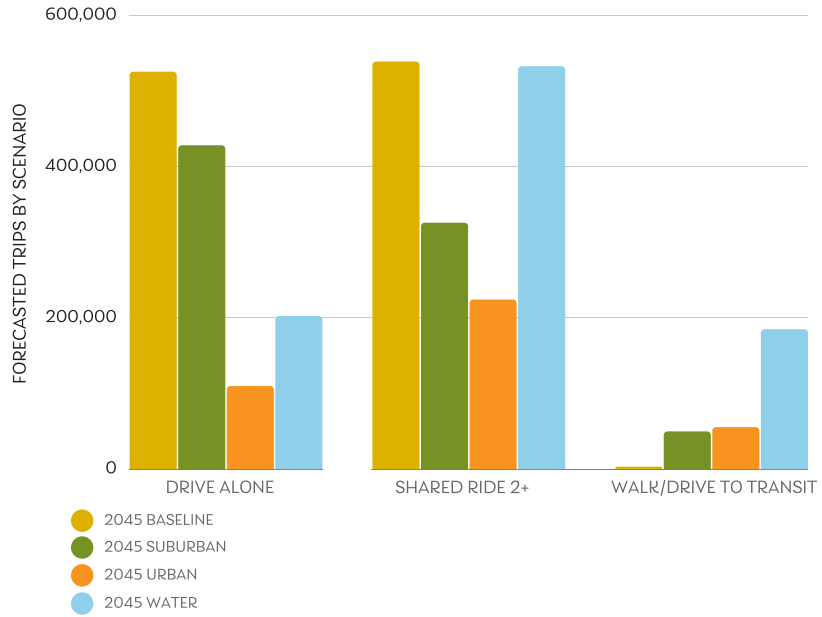


FIGURE 50 – FORECASTED SCENARIO HBW MODE SPLIT – OFF PEAK PERIOD

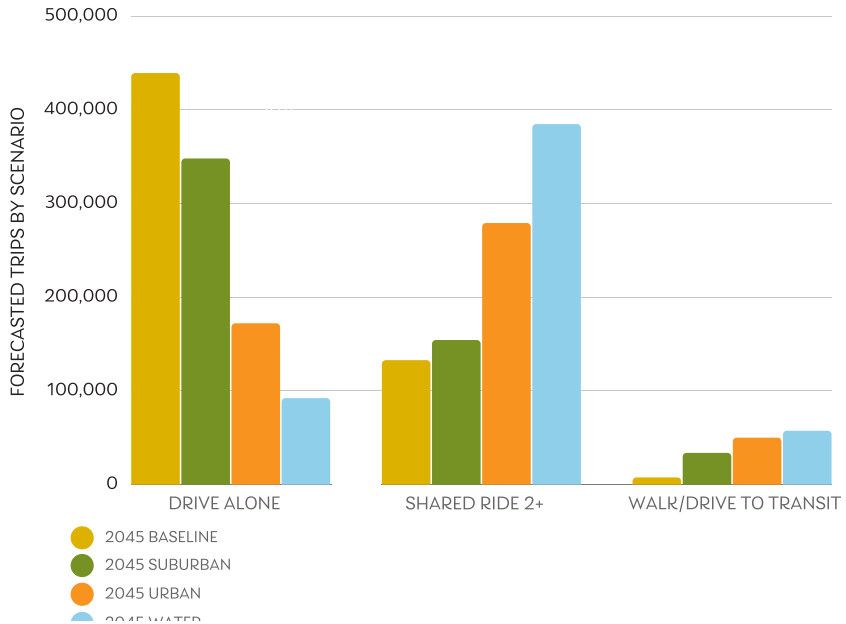


FIGURE 51 – FORECASTED SCENARIO HBO MODE SPLIT – OFF PEAK PERIOD

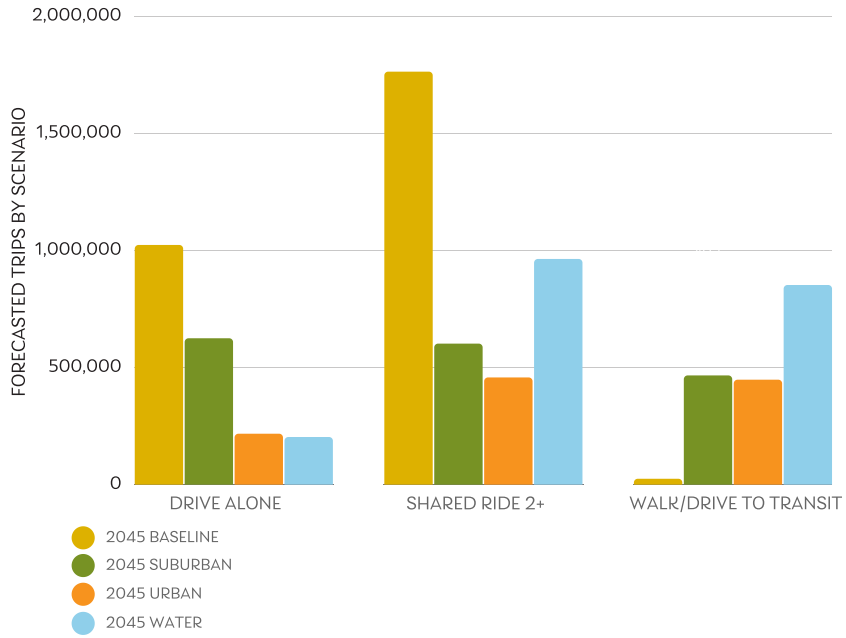


FIGURE 52 – FORECASTED SCENARIO NHB MODE SPLIT – OFF PEAK PERIOD

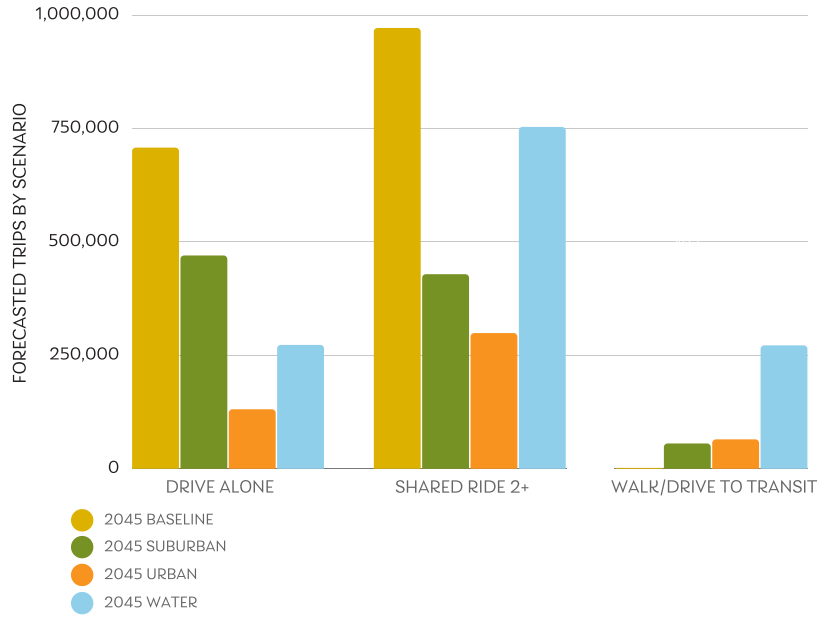


FIGURE 53 – FORECASTED TRANSIT BOARDINGS – PEAK PERIOD

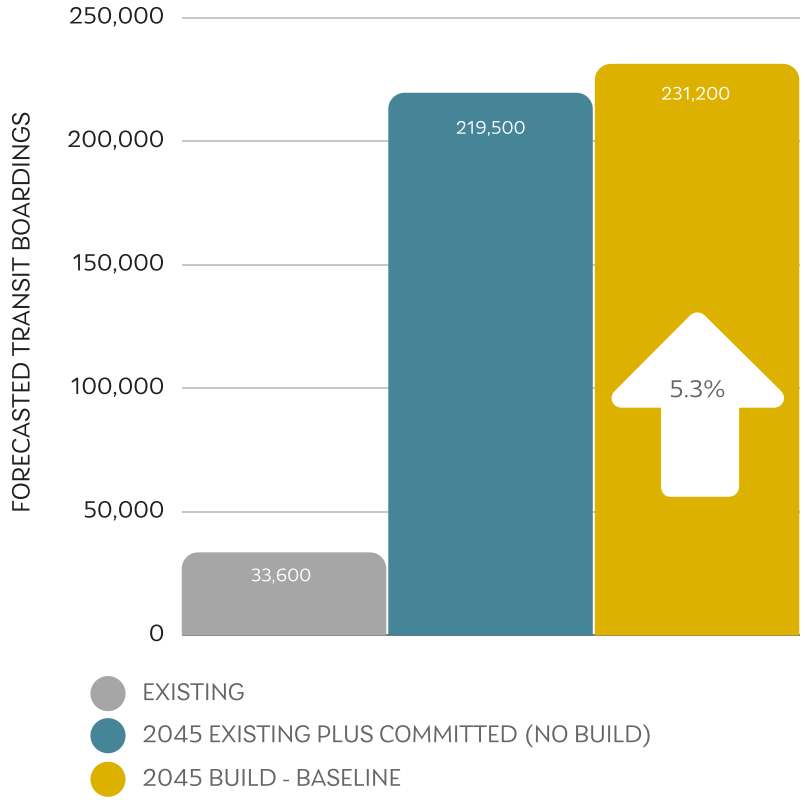
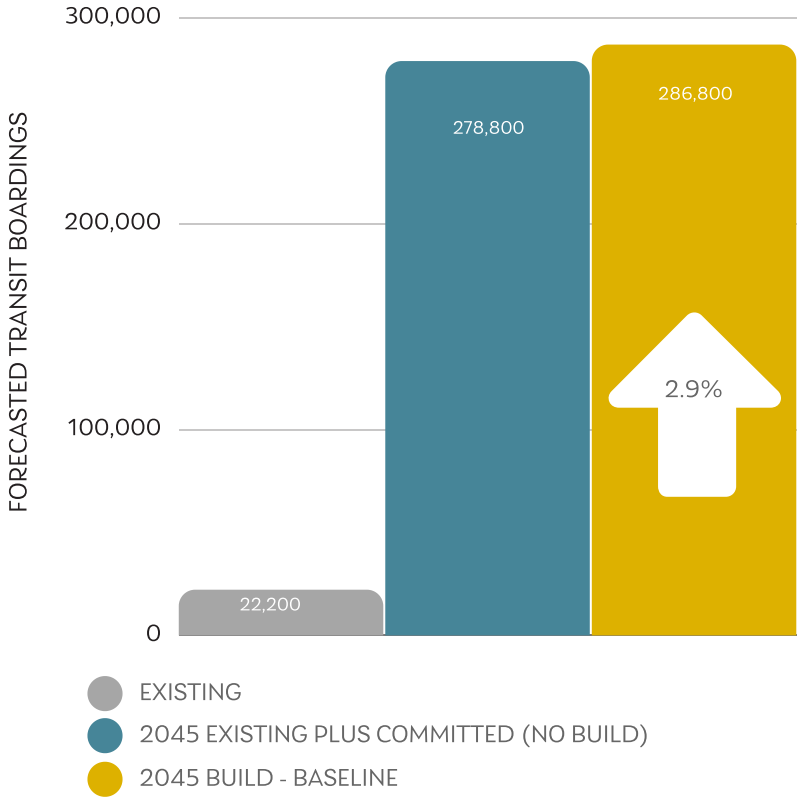


FIGURE 54 – FORECASTED TRANSIT BOARDINGS – OFF PEAK PERIOD



Note: The arrow graphic in the charts represents the percent difference between the Existing plus Committed (No Build) and the 2045 Build – Baseline scenarios.

FIGURE 55 – FORECASTED SCENARIO TRANSIT BOARDINGS – PEAK PERIOD

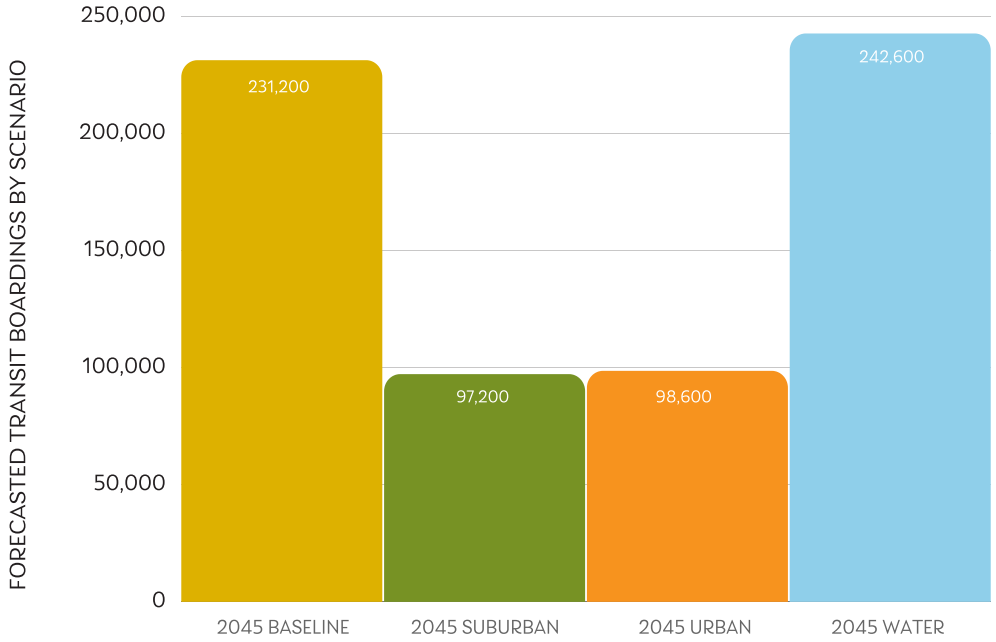


FIGURE 56 – FORECASTED SCENARIO TRANSIT BOARDINGS – OFF PEAK PERIOD

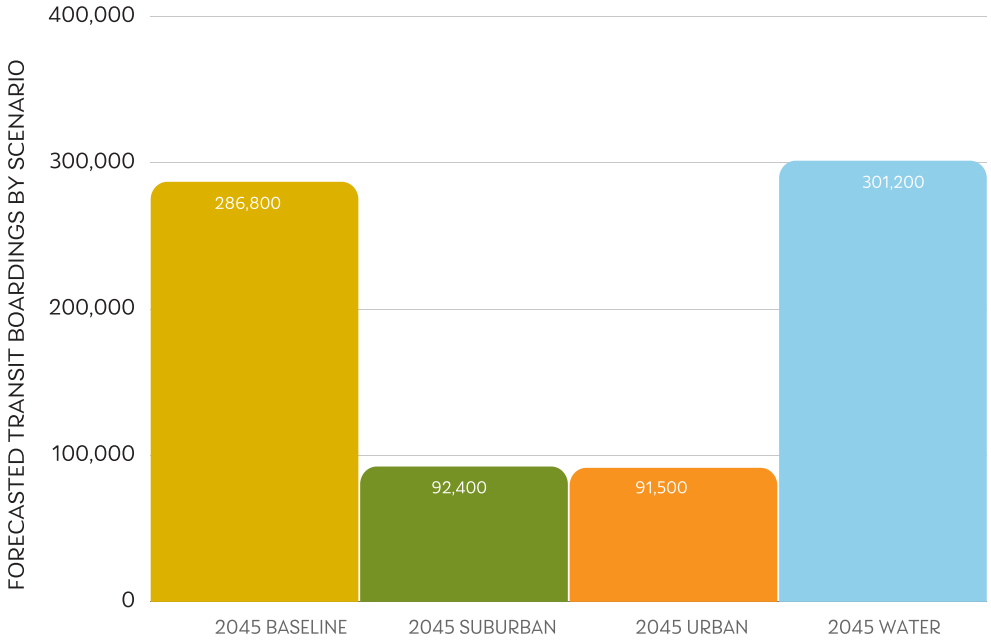


FIGURE 57 – FORECASTED SCENARIO TRUCK TRIPS – PEAK PERIOD

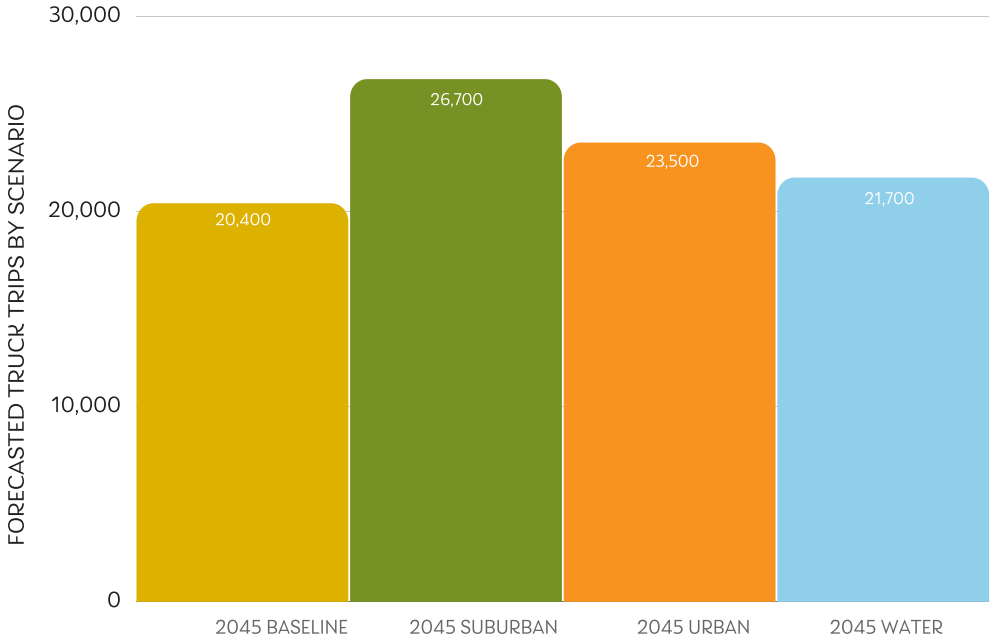


FIGURE 58 – FORECASTED SCENARIO TRUCK TRIPS – OFF PEAK PERIOD

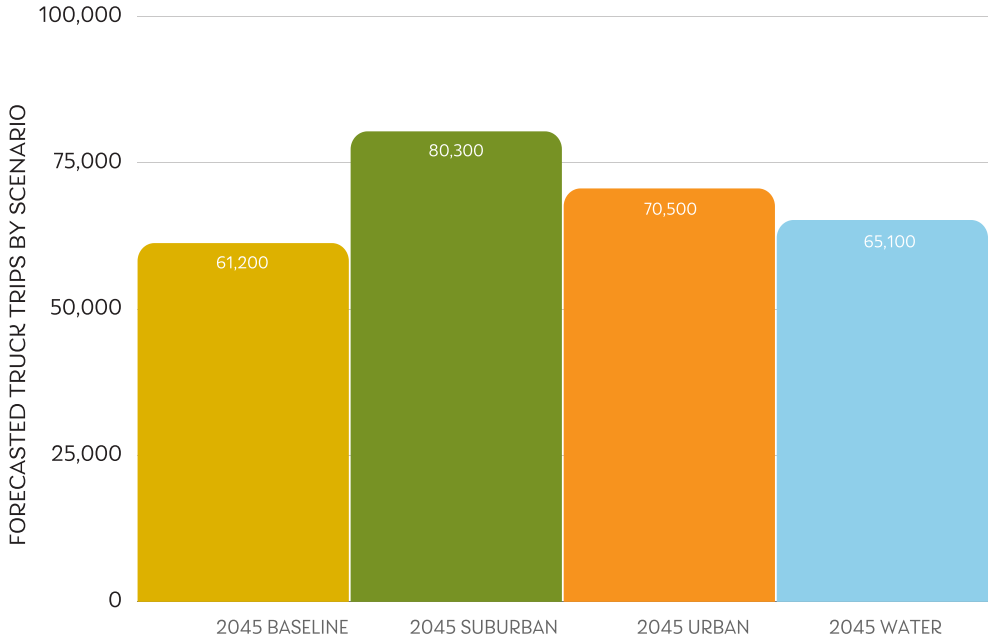


FIGURE 59 - FORECASTED TRANSIT NETWORK PERFORMANCE - TOTAL TRIPS

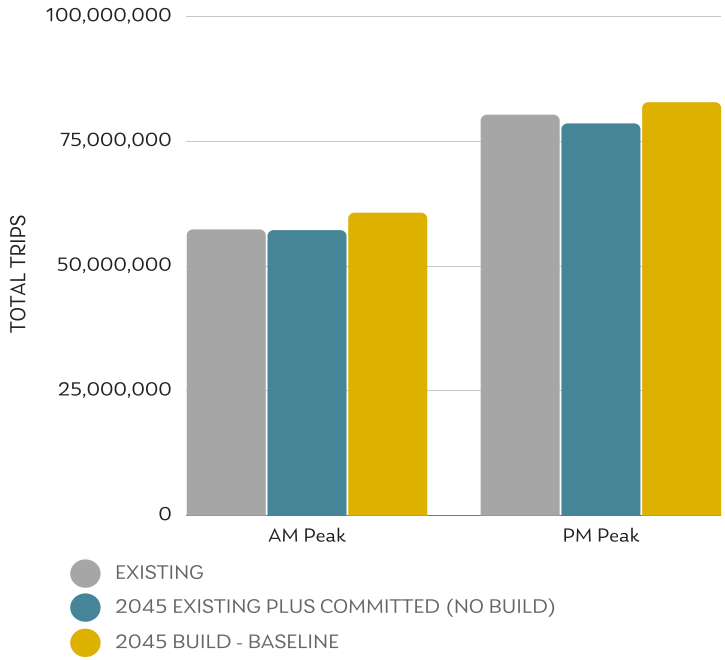
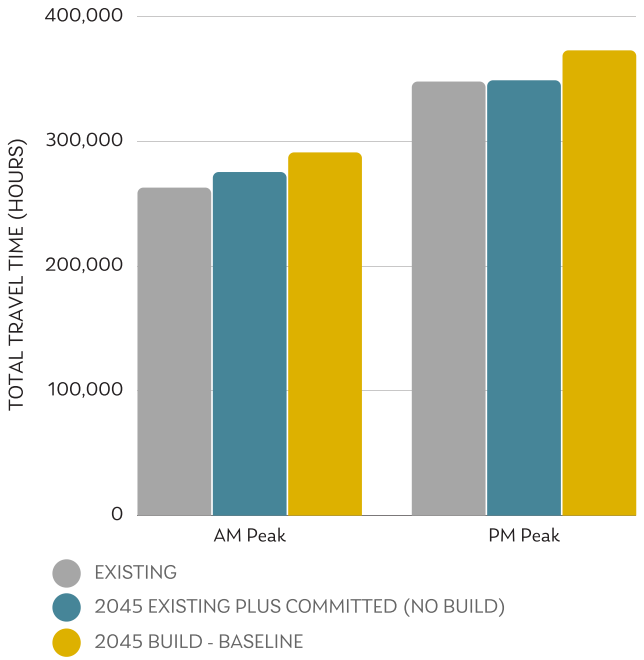


FIGURE 60 - FORECASTED TRANSIT NETWORK PERFORMANCE - TOTAL TRAVEL TIME



MAP 12: 2045 LRTP FREIGHT NETWORK

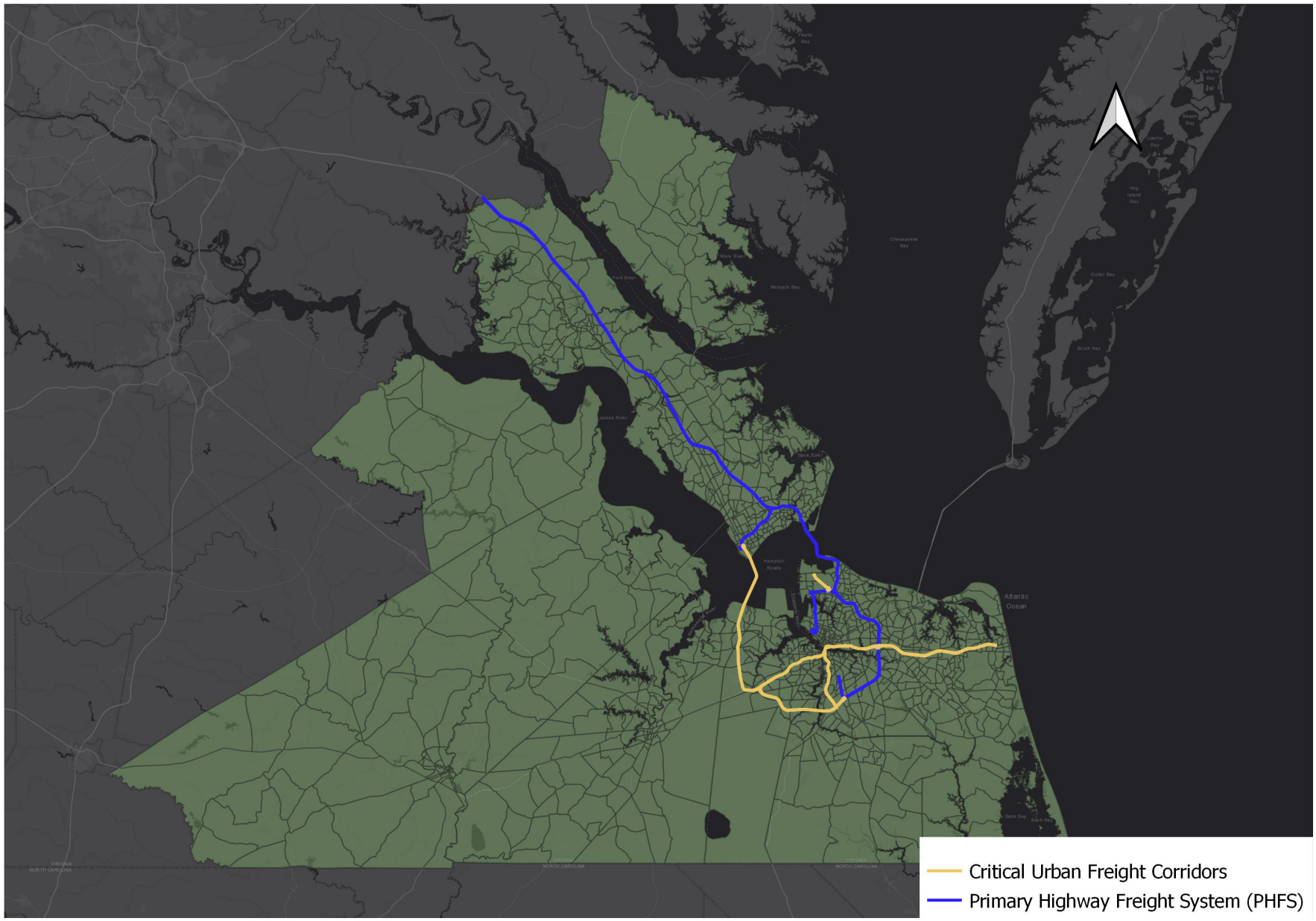


FIGURE 61 - FORECASTED FREIGHT NETWORK PERFORMANCE - TOTAL TRIPS

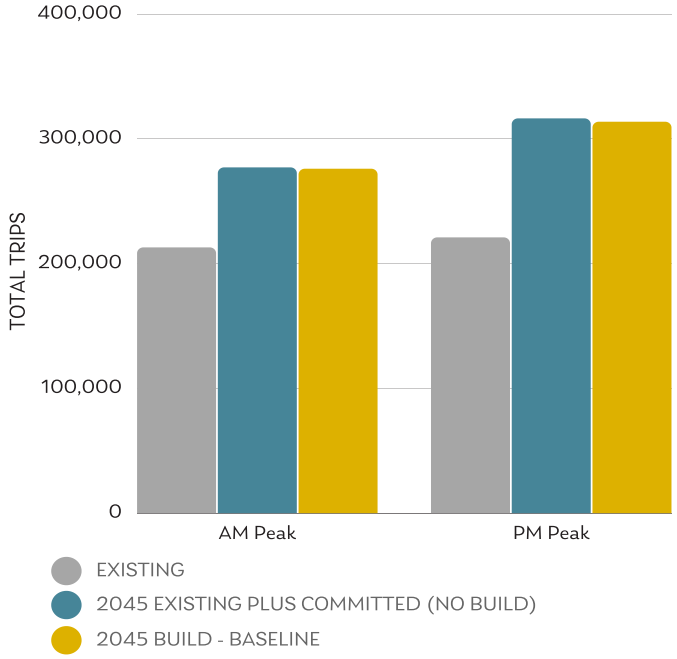
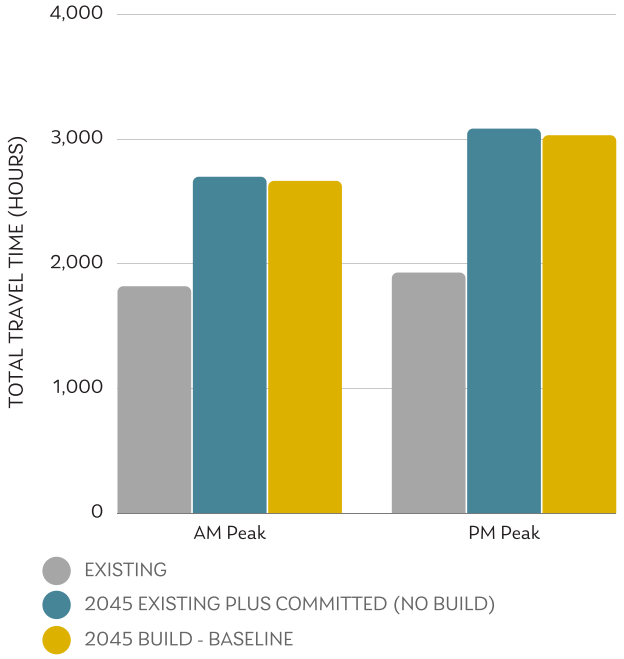


FIGURE 62 - FORECASTED FREIGHT NETWORK PERFORMANCE - TOTAL TRAVEL TIME



MAP 13: 2045 LRTP MILITARY NETWORK

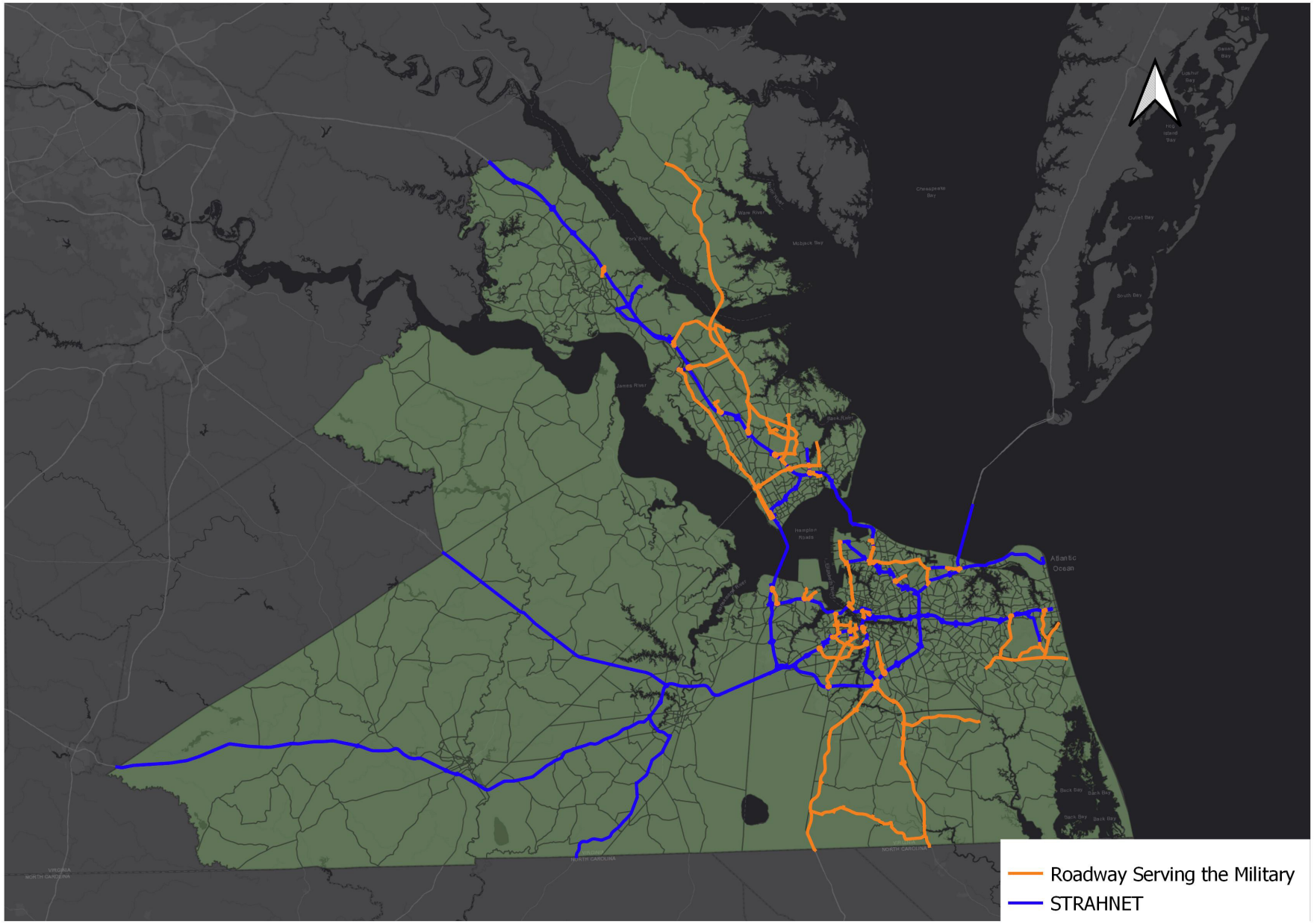


FIGURE 63 - FORECASTED MILITARY NETWORK PERFORMANCE - TOTAL TRIPS

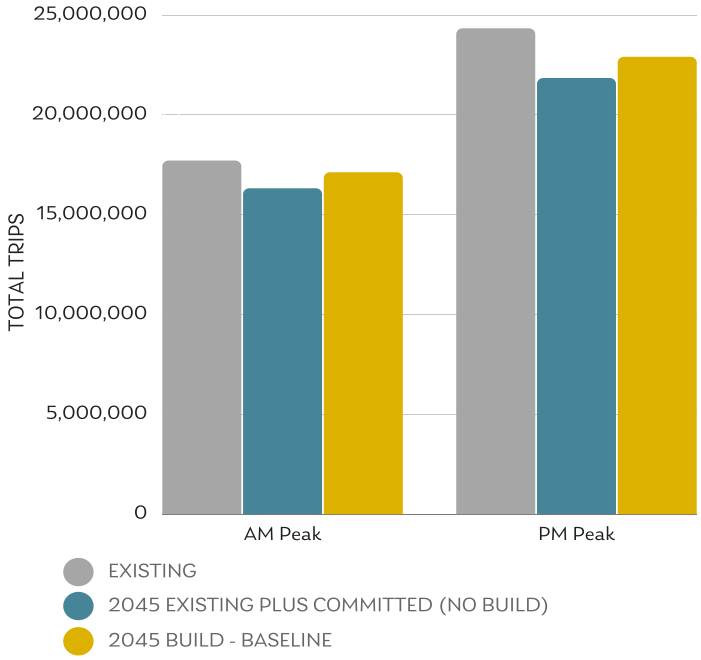
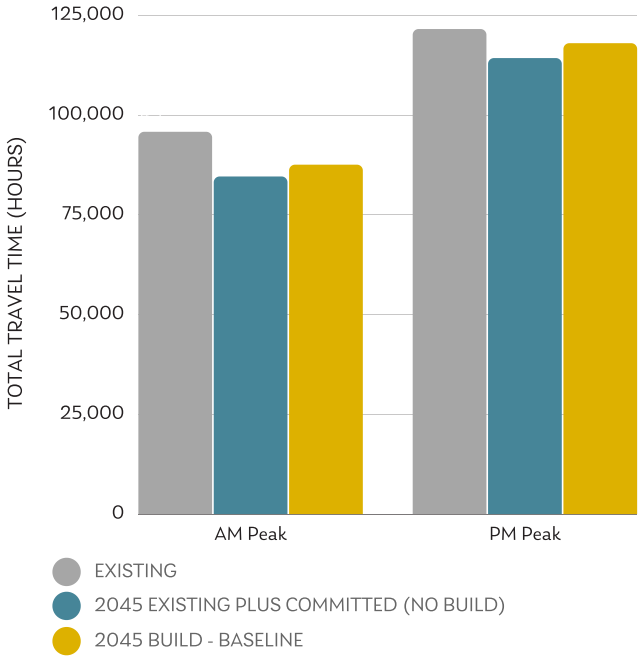
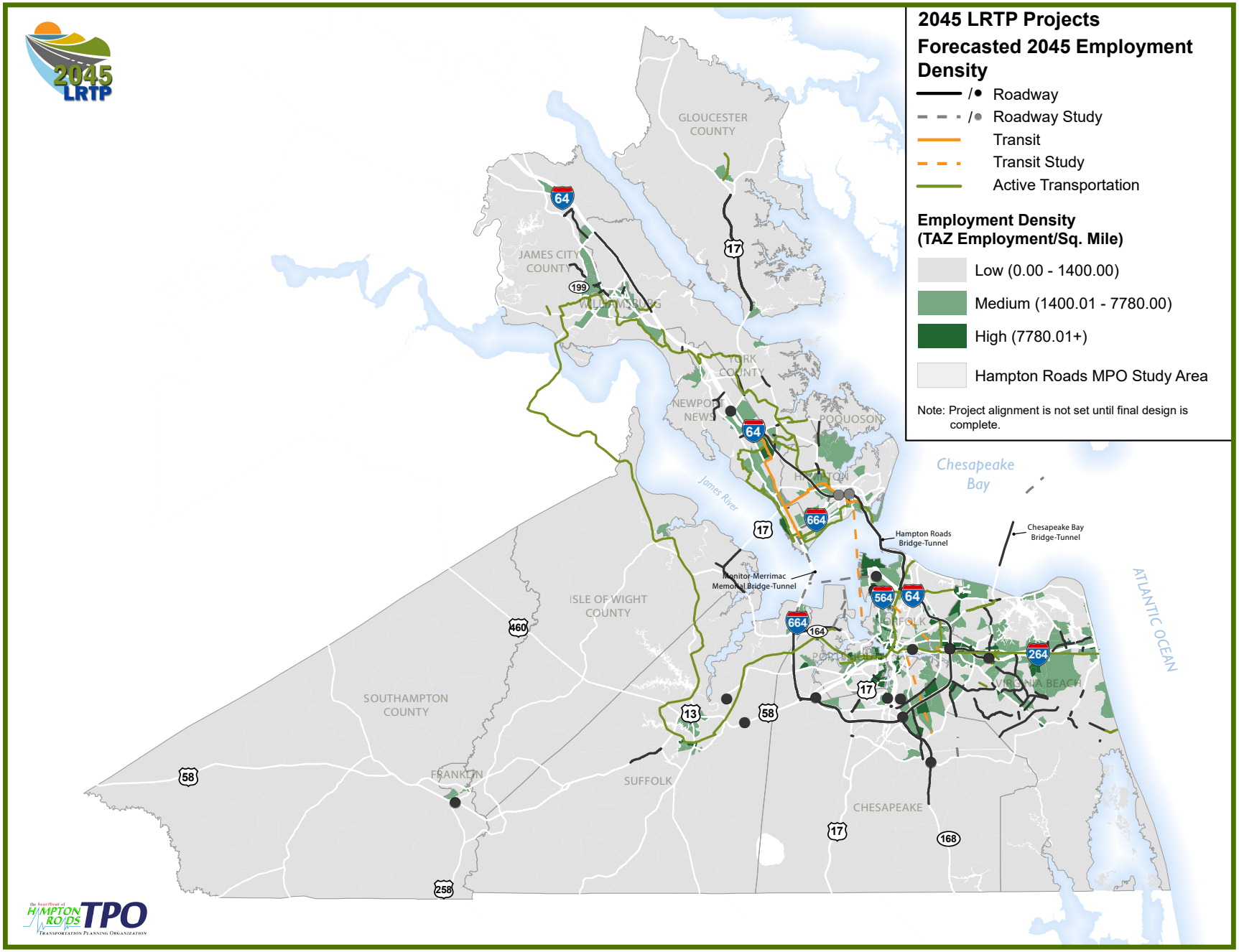


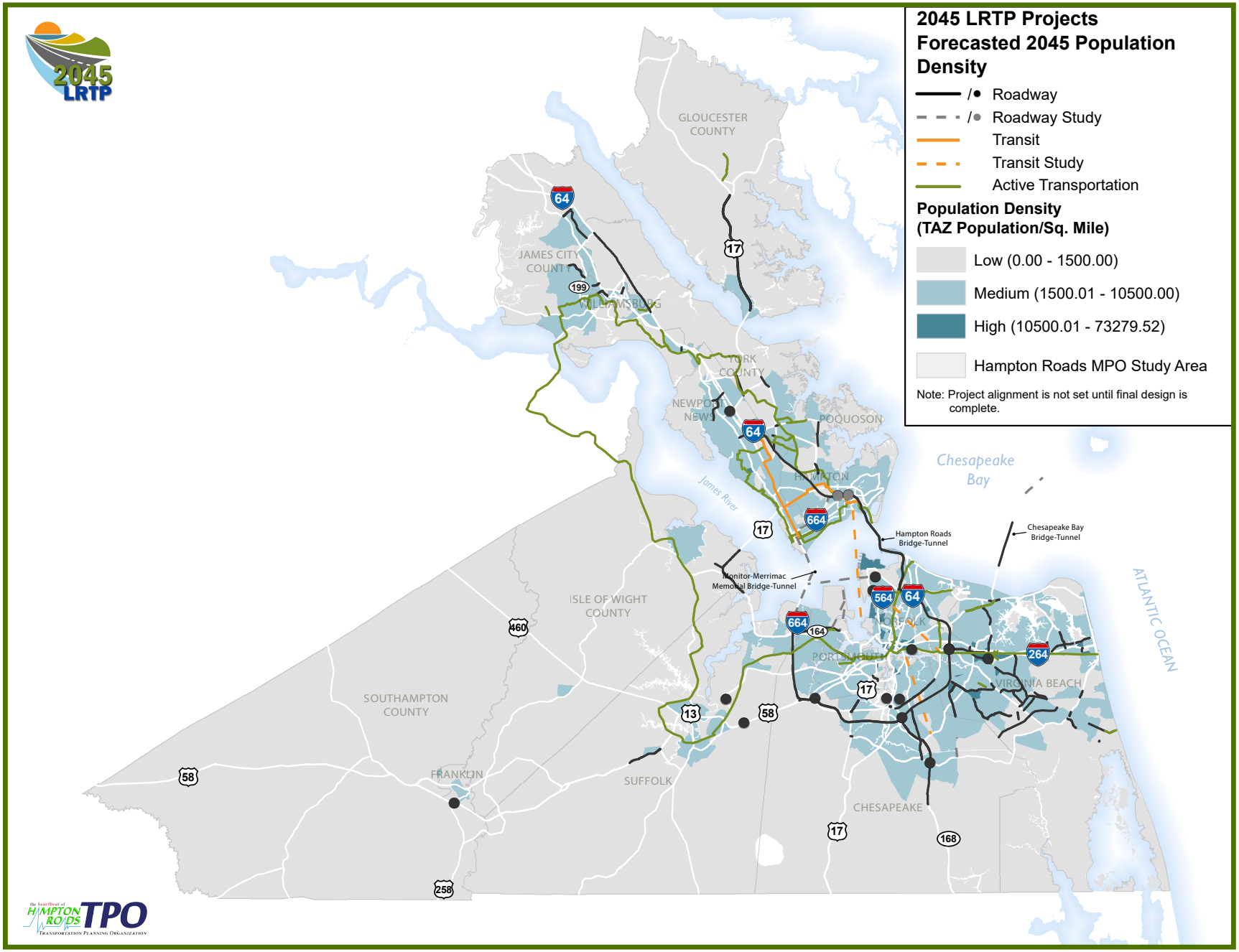
FIGURE 64 - FORECASTED MILITARY NETWORK PERFORMANCE - TOTAL TRAVEL TIME



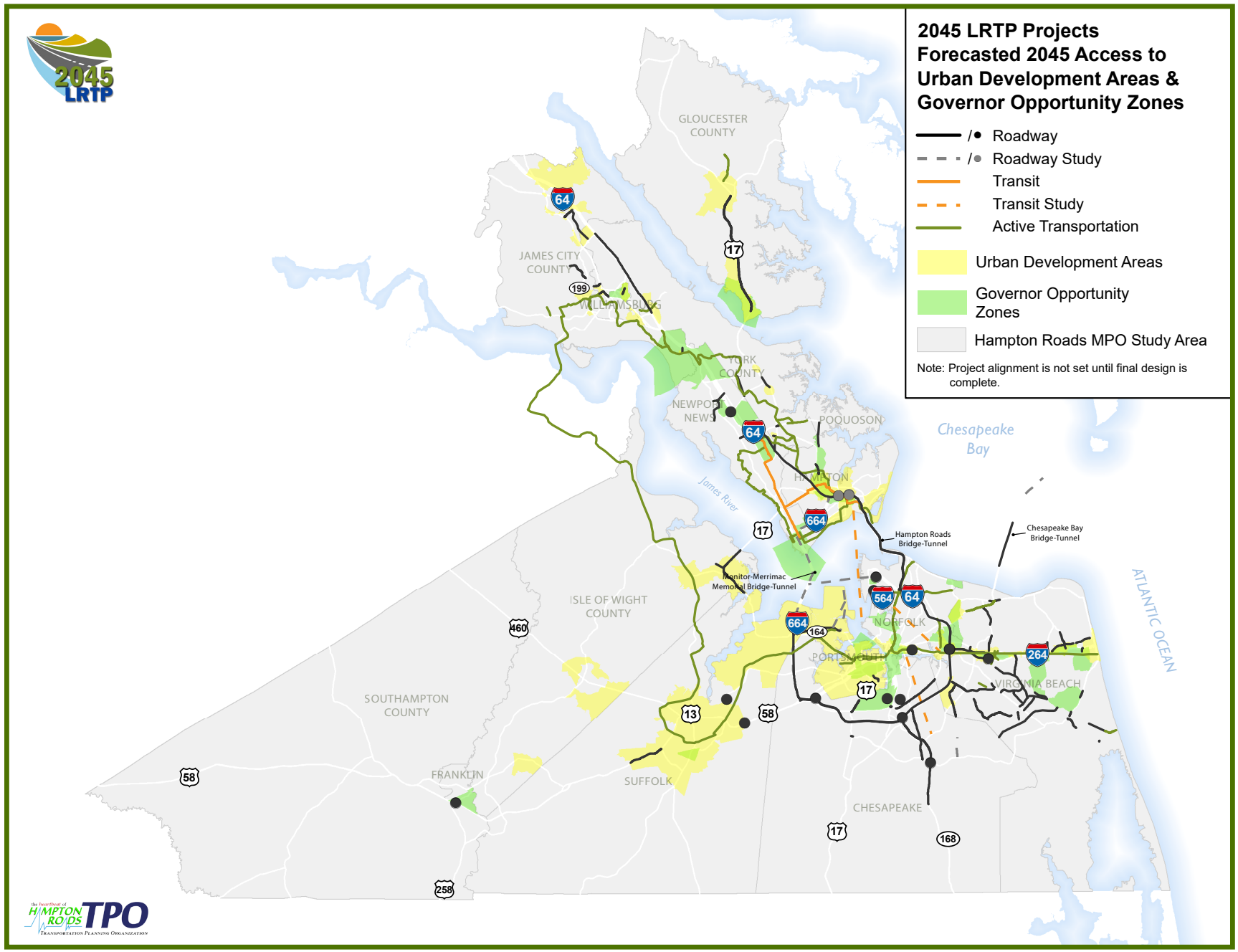
MAP 14: 2045 LRTP PROJECTS ACCESS TO FORECASTED 2045 HIGH DENSITY EMPLOYMENT



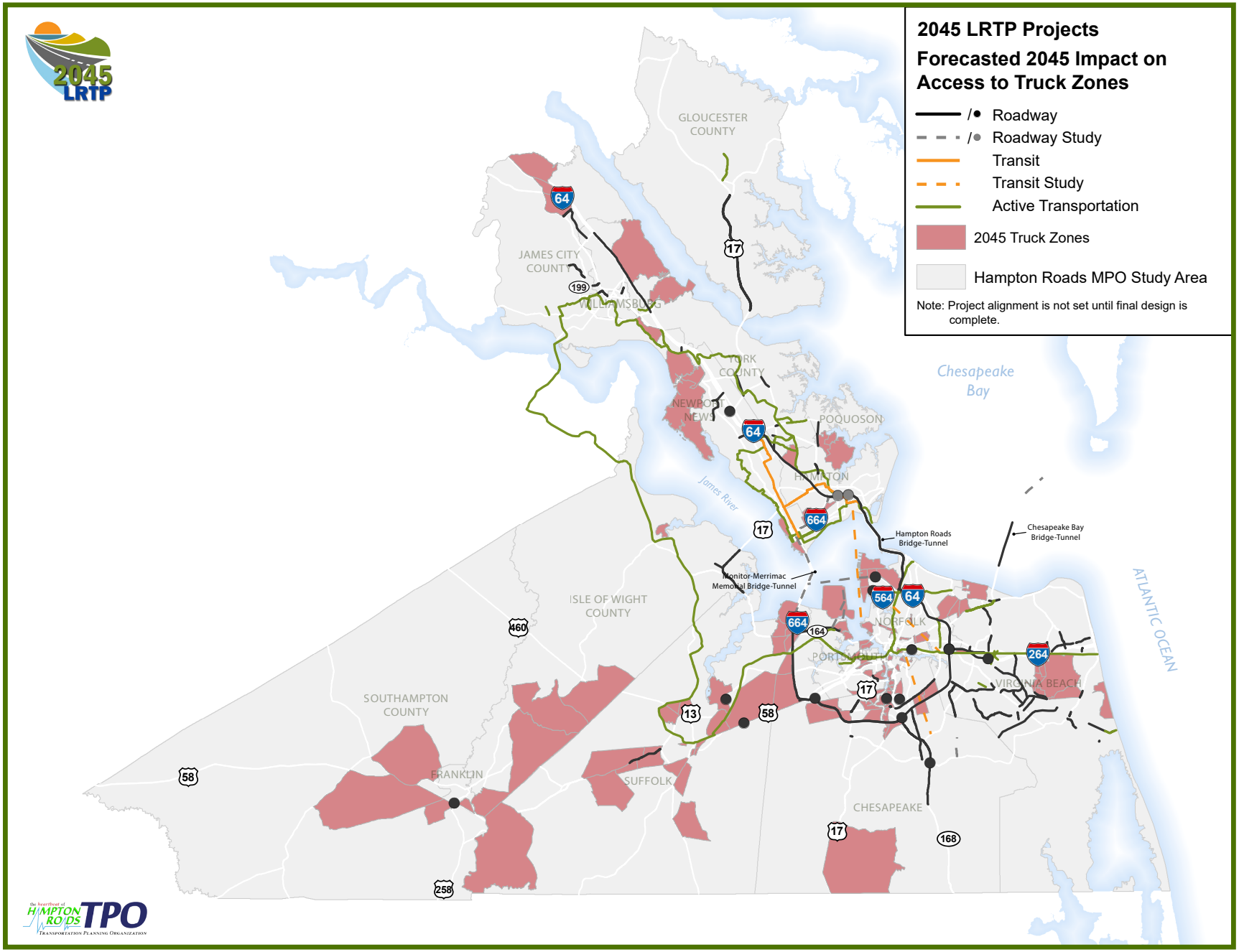
MAP 15: 2045 LRTP PROJECTS ACCESS TO FORECASTED 2045 HIGH DENSITY POPULATION



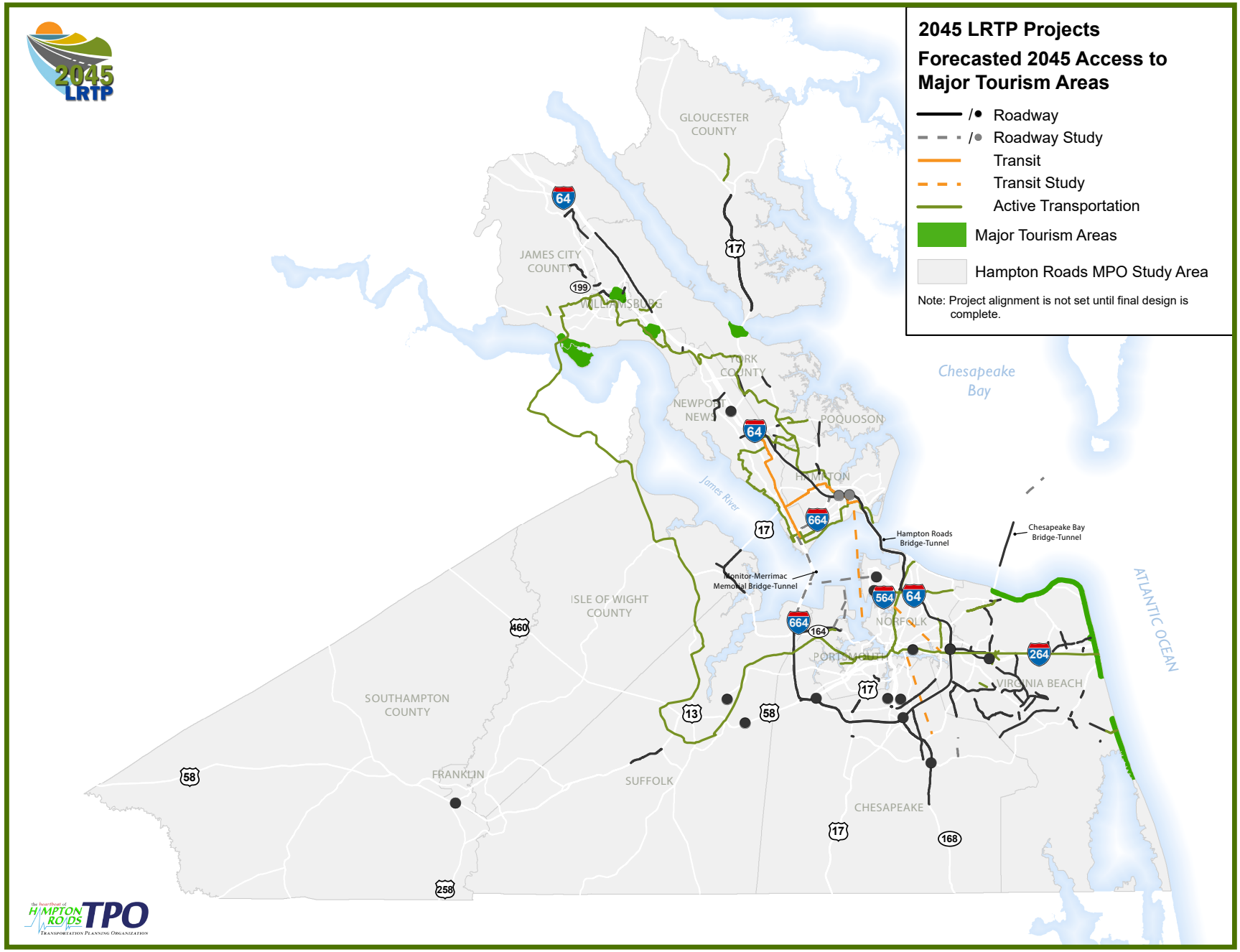
MAP 16: 2045 LRTP PROJECTS ACCESS TO URBAN DEVELOPMENT AREAS AND GOVERNOR OPPORTUNITY ZONES



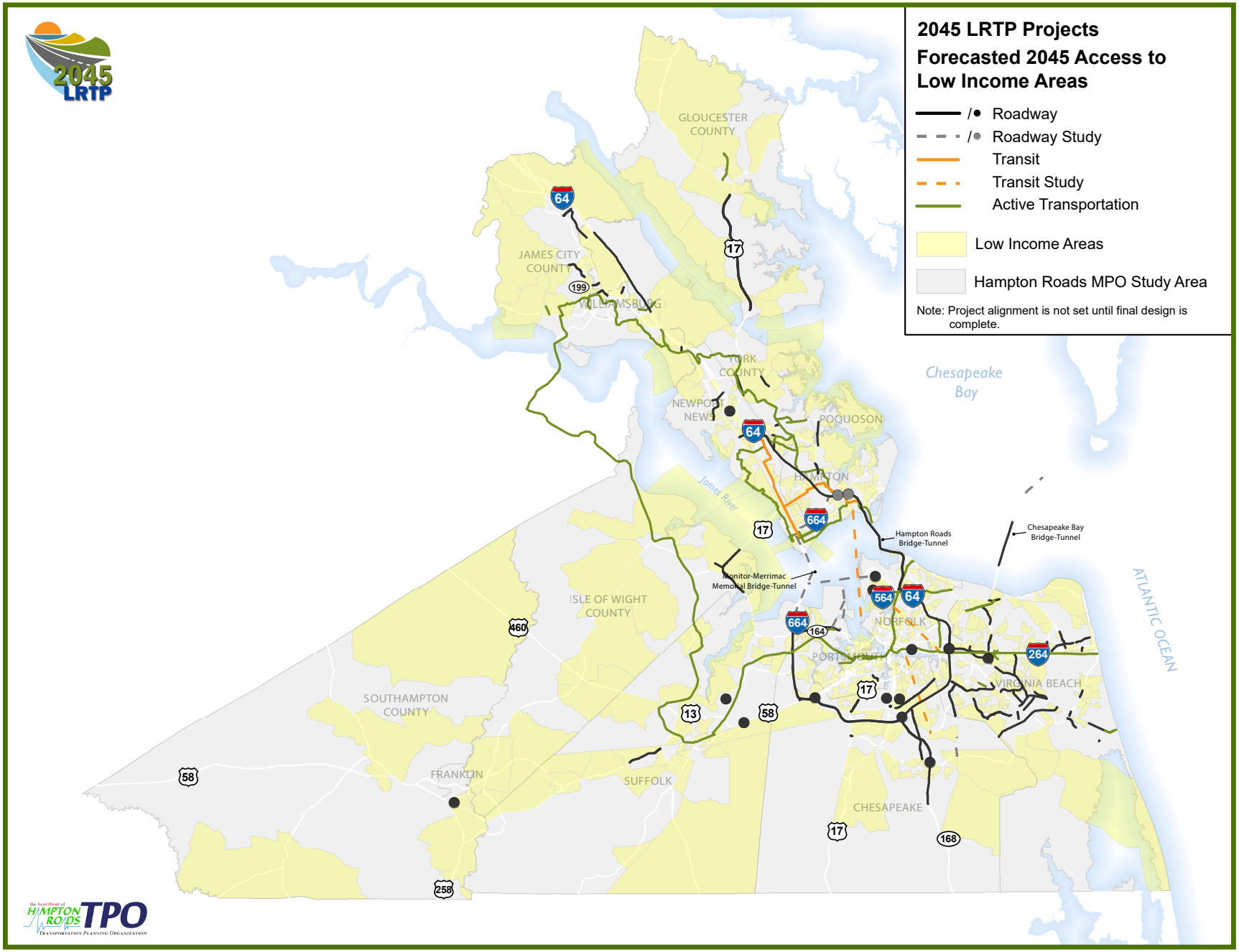
MAP 17: 2045 LRTP PROJECTS ACCESS TO TRUCK ZONES



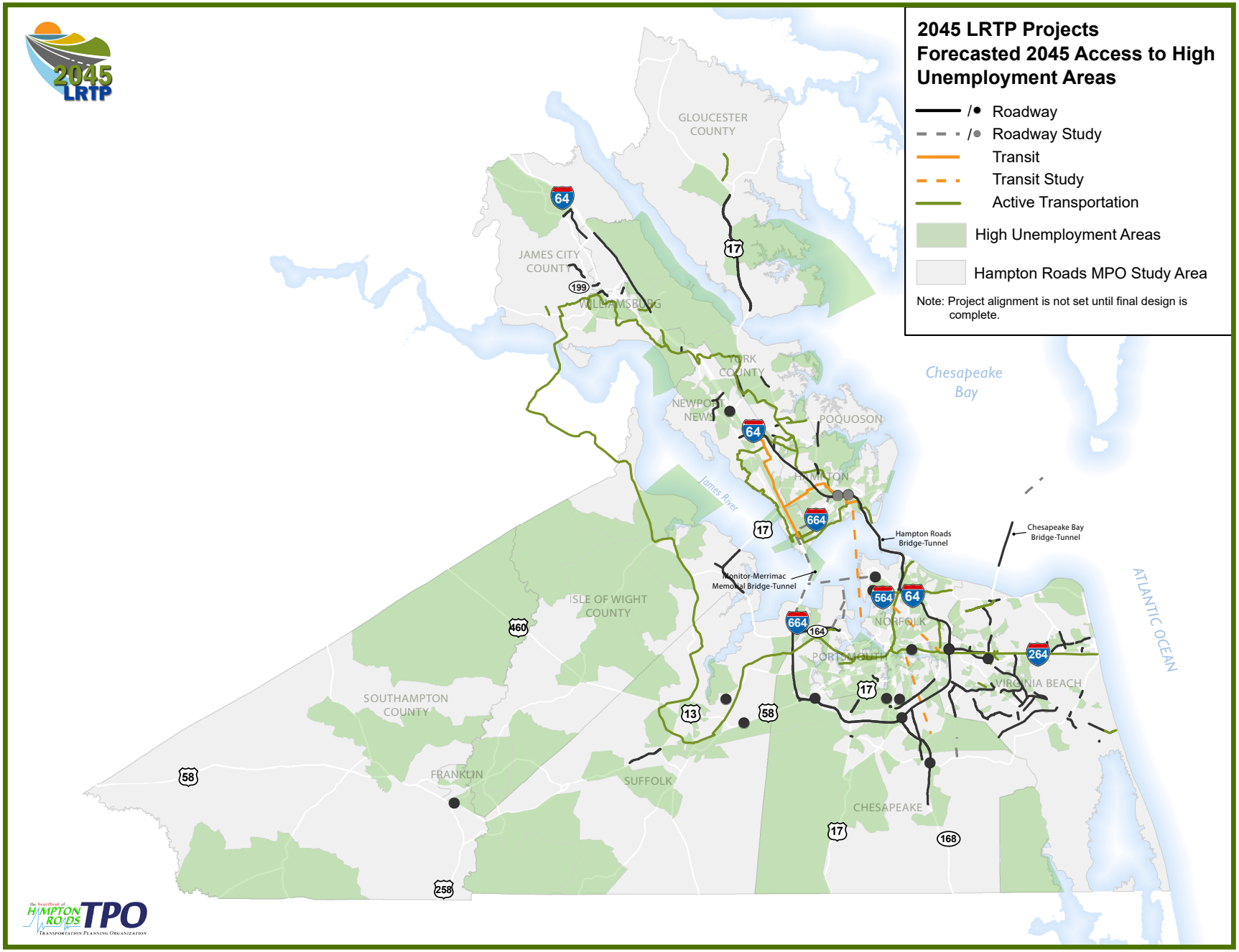
MAP 18: 2045 LRTP PROJECTS ACCESS TO MAJOR TOURIST AREAS



MAP 19: 2045 LRTP PROJECTS ACCESS TO LOW INCOME AREAS



MAP 20: 2045 LRTP PROJECTS ACCESS TO HIGH UNEMPLOYMENT AREAS



TITLE VI/ENVIRONMENTAL JUSTICE ANALYSIS

Environmental Justice as it relates to transportation planning, combines environmental awareness with racial, ethnic, and social awareness to ensure that transportation projects do not unfairly burden populations that may experience barriers to mobility. Central to the heart of Environmental Justice is the right to a safe, healthy, productive, and sustainable environment for all communities.

As part of the Title VI/EJ Analysis for the 2045 LRTP, nine Title VI/EJ indicators were identified:

SEVEN STEP ENVIRONMENTAL JUSTICE EVALUATION

The Title VI/Environmental Justice Methodology is a structured approach consisting of the following seven steps:

1. IDENTIFICATION OF TITLE VI/ENVIRONMENTAL JUSTICE INDICATORS
2. IDENTIFICATION OF GEOGRAPHICAL AREAS OF ANALYSIS
3. IDENTIFICATION OF ENVIRONMENTAL JUSTICE COMMUNITIES
4. ASSIGNMENT OF CANDIDATE PROJECT EXTENT
5. IDENTIFICATION OF POTENTIALLY IMPACTED ENVIRONMENTAL JUSTICE COMMUNITIES
6. DETERMINATION OF ENVIRONMENTAL JUSTICE IMPACT SCORE
7. DEVELOPMENT AND IMPLEMENTATION OF ENVIRONMENTAL JUSTICE PUBLIC PARTICIPATION STRATEGIES FOR THE 2045 LRTP CANDIDATE PROJECTS

Details of the Title VI/EJ analysis on the 2045 LRTP candidate projects can be found in the 2045 LRTP Title VI/Environmental Justice Candidate Project Evaluation Report.

POTENTIAL STRATEGIES FOR REACHING TRADITIONALLY UNDERREPRESENTED POPULATIONS								
	MINORITY	LOW-INCOME	LIMITED ENGLISH PROFICIENCY (LEP)	DISABLED	ELDERLY	CARLESS	PUBLIC ASSISTANCE*	FEMALE HEAD OF HOUSEHOLD
TARGETED ADS AND NOTICE	●	●	●		●			
LANGUAGE OUTREACH STRATEGIES	●	●	●					
TRANSIT ACCESSIBLE MEETINGS	●	●		●	●	●	●	
CONVENIENT MEETING TIMES AND LOCATIONS		●			●	●	●	●
PARTNERSHIPS WITH OTHER ORGANIZATIONS	●	●	●	●	●	●	●	
COMMUNITY CONVERSATIONS	●	●	●	●	●	●	●	●
COORDINATION WITH SCHOOLS	●	●	●	●			●	●

*Public Assistance captures both Households Receiving Cash Public Assistnace and Households Receiving Food Stamps Environmental Justice Indicators

TITLE VI/ENVIRONMENTAL JUSTICE IMPACT SCORES MAPS

After the HRTPO Board approval of the 2045 LRTP Fiscally Constrained List of Projects, using the HRTPO Environmental Justice Methodology, Title VI/Environmental Justice impact scores were updated for projects constrained in the Plan. Projects identified as having a potential impact on an associated Title VI/Environmental Justice community above the regional average are depicted on Maps 21-29 on the following pages.

Additionally, HRTPO staff analyzed accessibility to Title VI/Environmental Justice communities by examining changes in travel time as well as access to transit and active transportation facilities. These metrics/maps can be found on pages 30-34.

TITLE VI/ENVIRONMENTAL JUSTICE TOOL KIT

HRTPO staff has developed an Environmental Toolkit that contains different approaches for each of the nine Title VI/Environmental Justice communities identified during the 2045 LRTP planning process (see table above).

The Toolkit will facilitate the assessment of each project and will include a review of the goals and purposes of public involvement for the project itself. It will also outline the most effective public involvement approach that is most suited to the Title VI/Environmental Justice community that the project may impact by outlining the best way to reach and meaningfully involve each Environmental Justice community group.

TRANSPORTATION AND ENVIRONMENTAL JUSTICE PLANNING

There are two pieces of legislation that are used in the development of plans, programs, and processes regarding underrepresented populations: Title VI of the Civil Rights Act of 1964 and the Environmental Justice Executive Order.

Title VI of the Civil Rights Act of 1964 requires all federal agencies to ensure that no person on the grounds of race, color, or national origin is excluded from participation in, denied the benefits of, or in any other way subjected to discrimination under any program or activity receiving Federal assistance. It also prohibits recipients of Federal funds from actions that reflect "intentional discrimination" or that exhibit "adverse disparate impact discrimination" based on race, ethnicity, or national origin. Supplemental legislation provides these same protections from discrimination based on sex, age, disability, or religion.

The Environment Justice Executive Order, signed by William Jefferson Clinton in 1994, reinforces Title VI. According to the United States Environmental Protection Agency (US EPA), Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

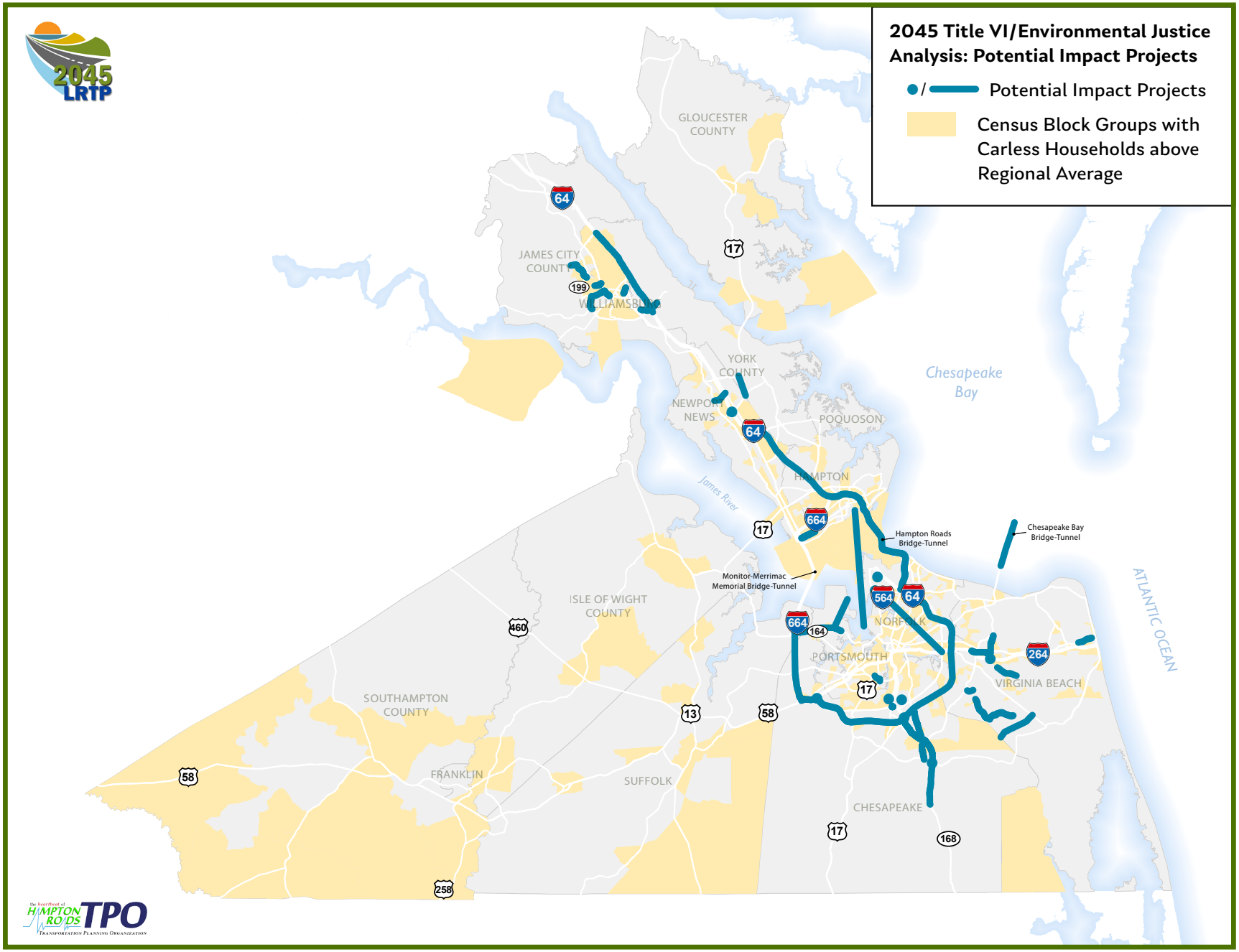
Environmental Justice planning is important in transportation decision-making. Incorporating Environmental Justice planning in long-range transportation planning allows planners to:

- Help make better transportation decisions that meet the needs of all people, including enhancing the public involvement process, strengthening community-based partnerships, and providing minority and low-income populations with opportunities to learn about and improve the quality and usefulness of transportation in their lives.
- Improve data collection, monitoring, and analysis tools that assess the needs of and analyze the potential impacts on minority and low-income populations.
- Partner with other public and private programs to leverage transportation agency resources to achieve a shared vision for communities.
- Avoid disproportionately high and adverse impacts on minority and low-income populations.
- Minimize and mitigate unavoidable impacts by identifying concerns early in the planning phase and providing offsetting initiatives and enhancement measures to benefit affected communities and neighborhoods.

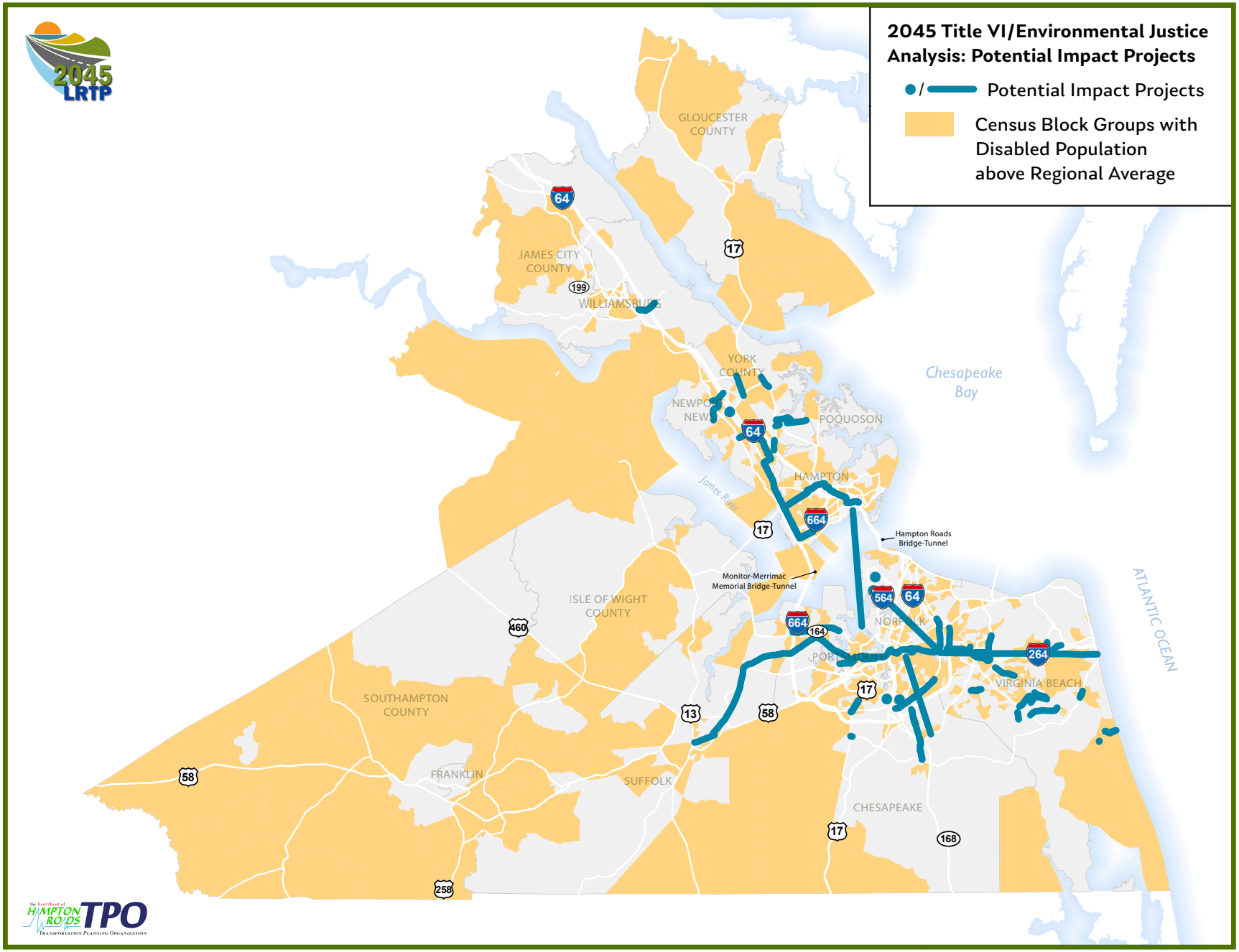
Environmental Justice planning is essential to plan performance because it provides planners the opportunity to examine the potential impact future projects may have on underrepresented populations. Environmental Justice planning is reflected in some of the goals of the 2045 LRTP, which include:

- Improve the sustainability of communities through increased housing choice and reduced auto-dependency
- Ensure that mobility benefits positively affect low-income residents
- Engage a diverse public in the development of the region's transportation system

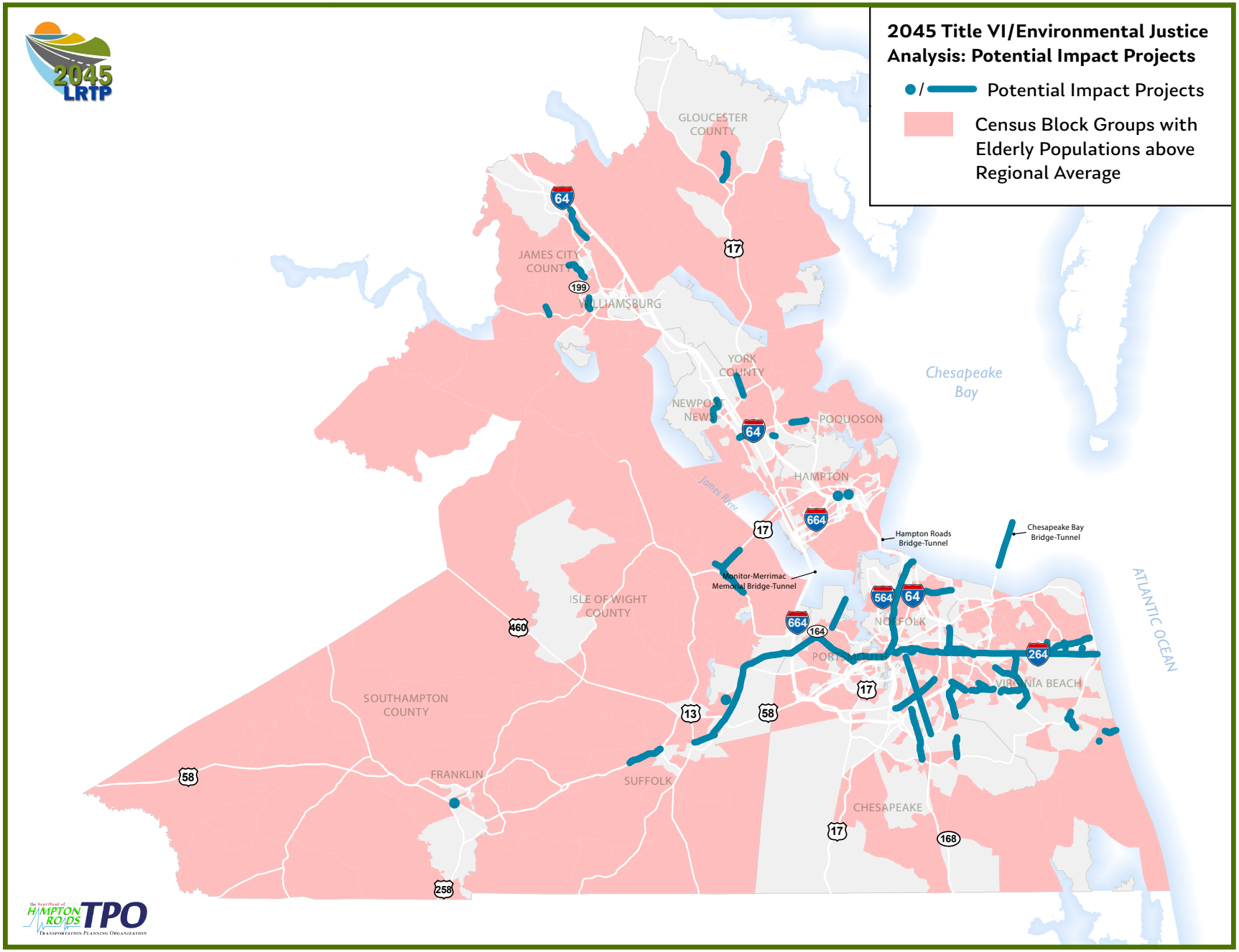
MAP 21: CARLESS HOUSEHOLDS ABOVE THE REGIONAL AVERAGE



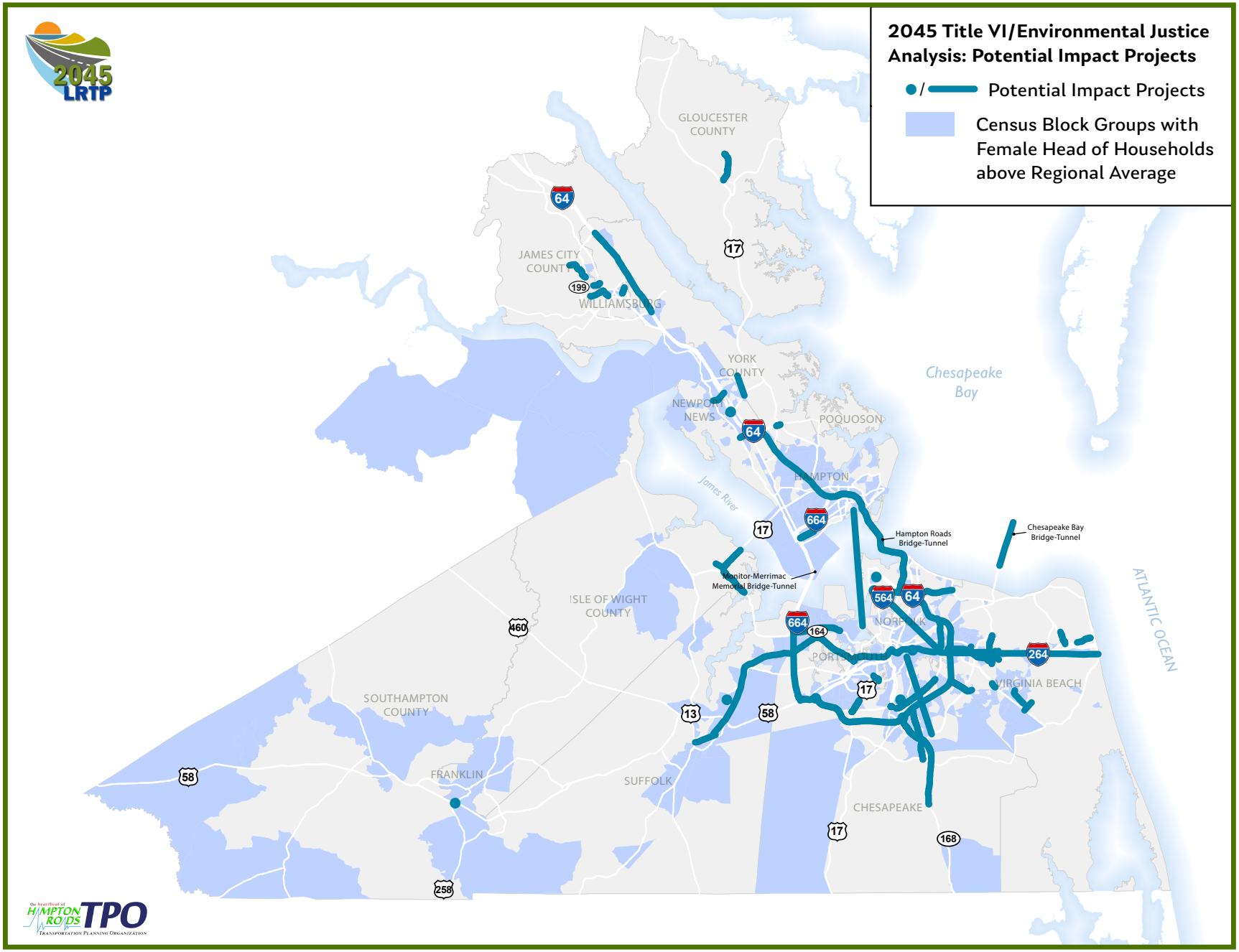
MAP 22: DISABLED POPULATIONS ABOVE THE REGIONAL AVERAGE



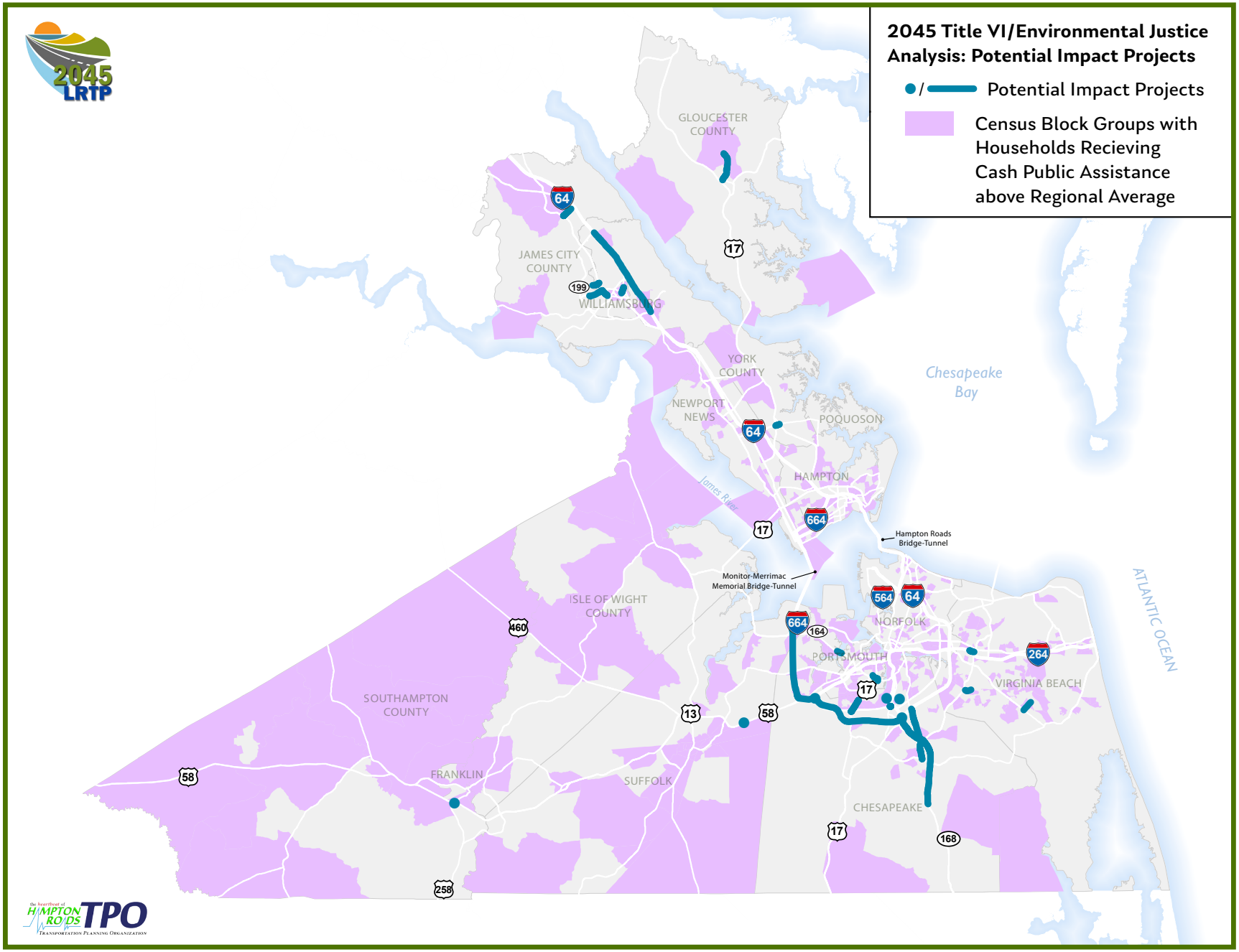
MAP 23: ELDERLY POPULATION ABOVE THE REGIONAL AVERAGE



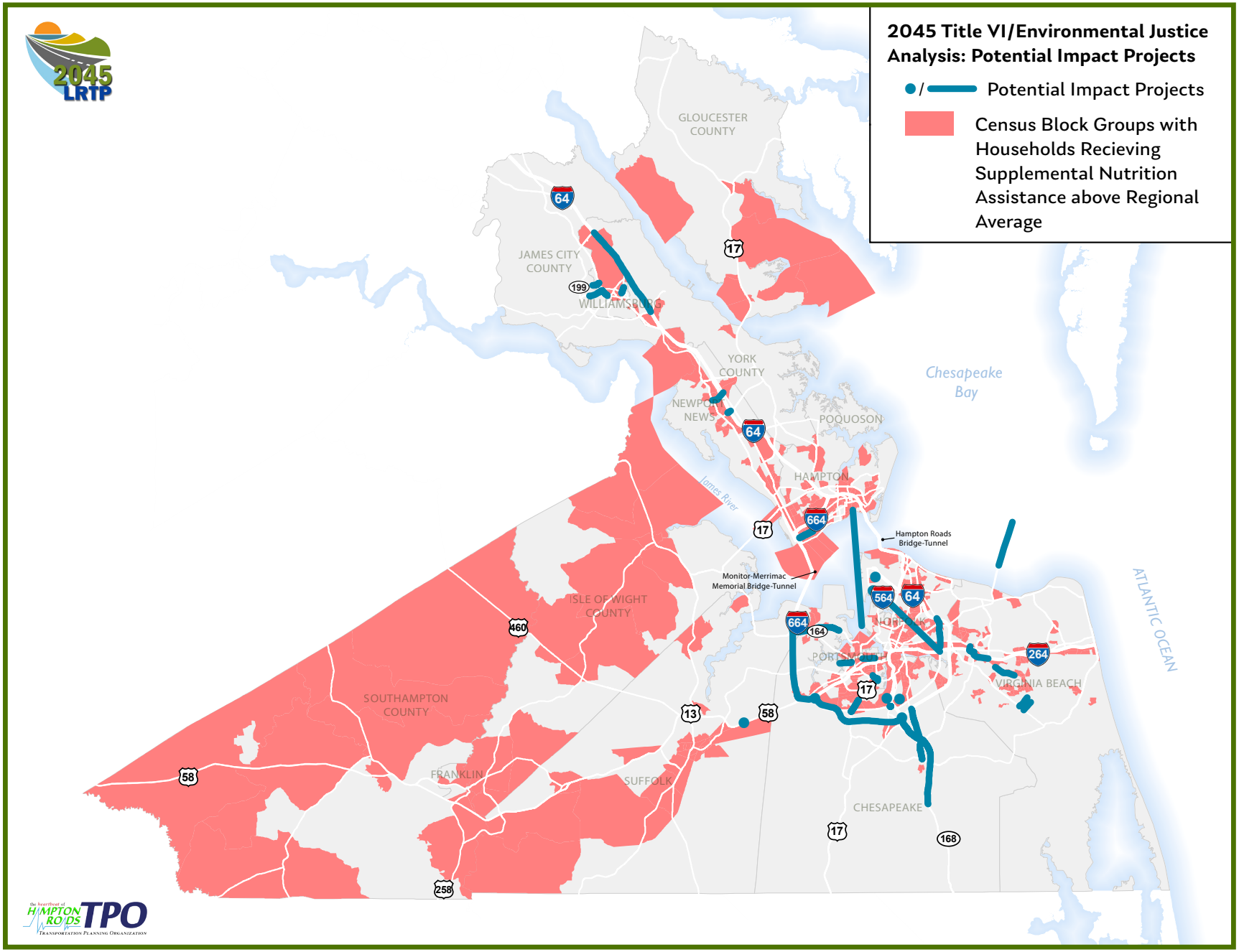
MAP 24: FEMALE HEAD OF HOUSEHOLD ABOVE THE REGIONAL AVERAGE



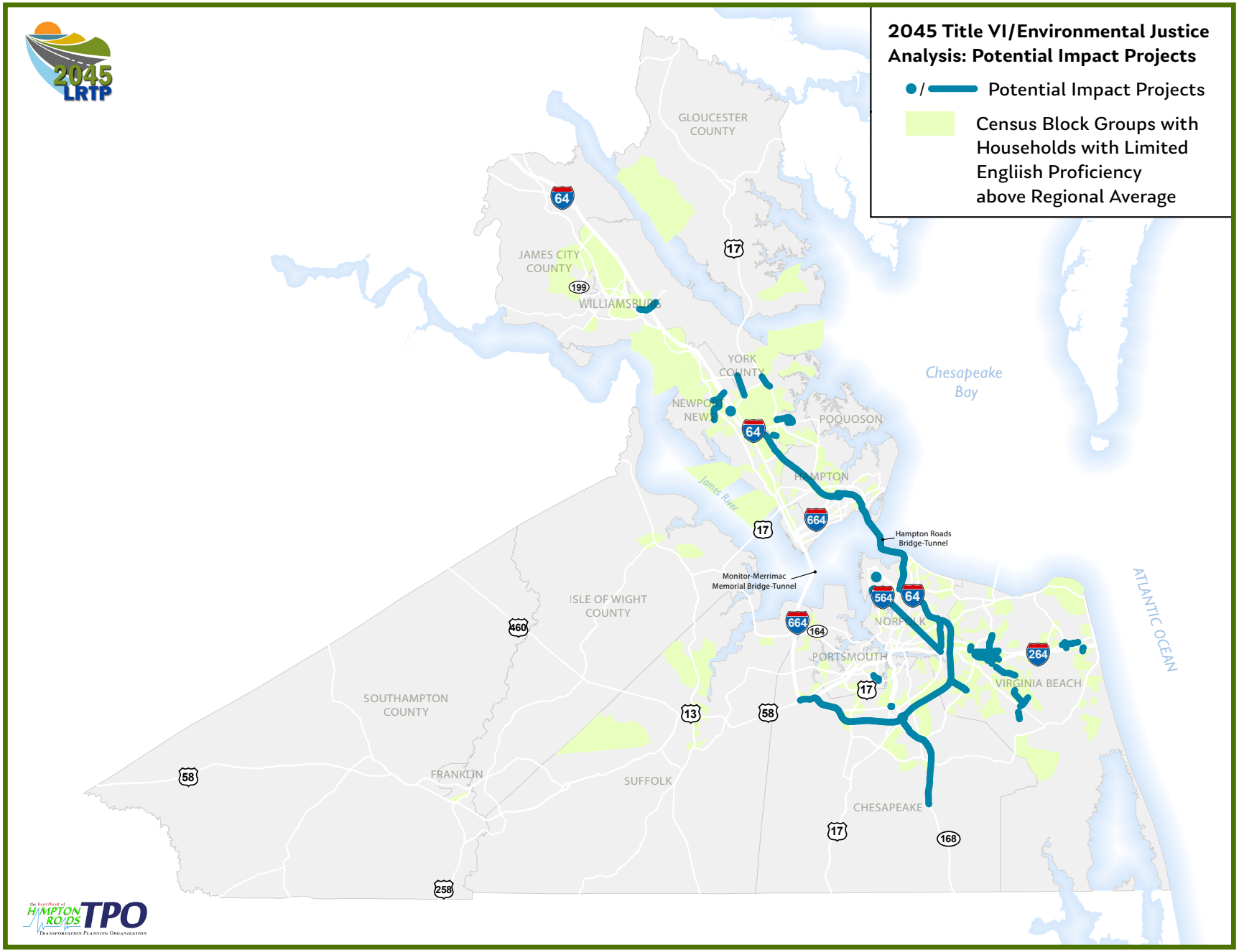
MAP 25: HOUSEHOLDS RECEIVING CASH PUBLIC ASSISTANCE ABOVE THE REGIONAL AVERAGE



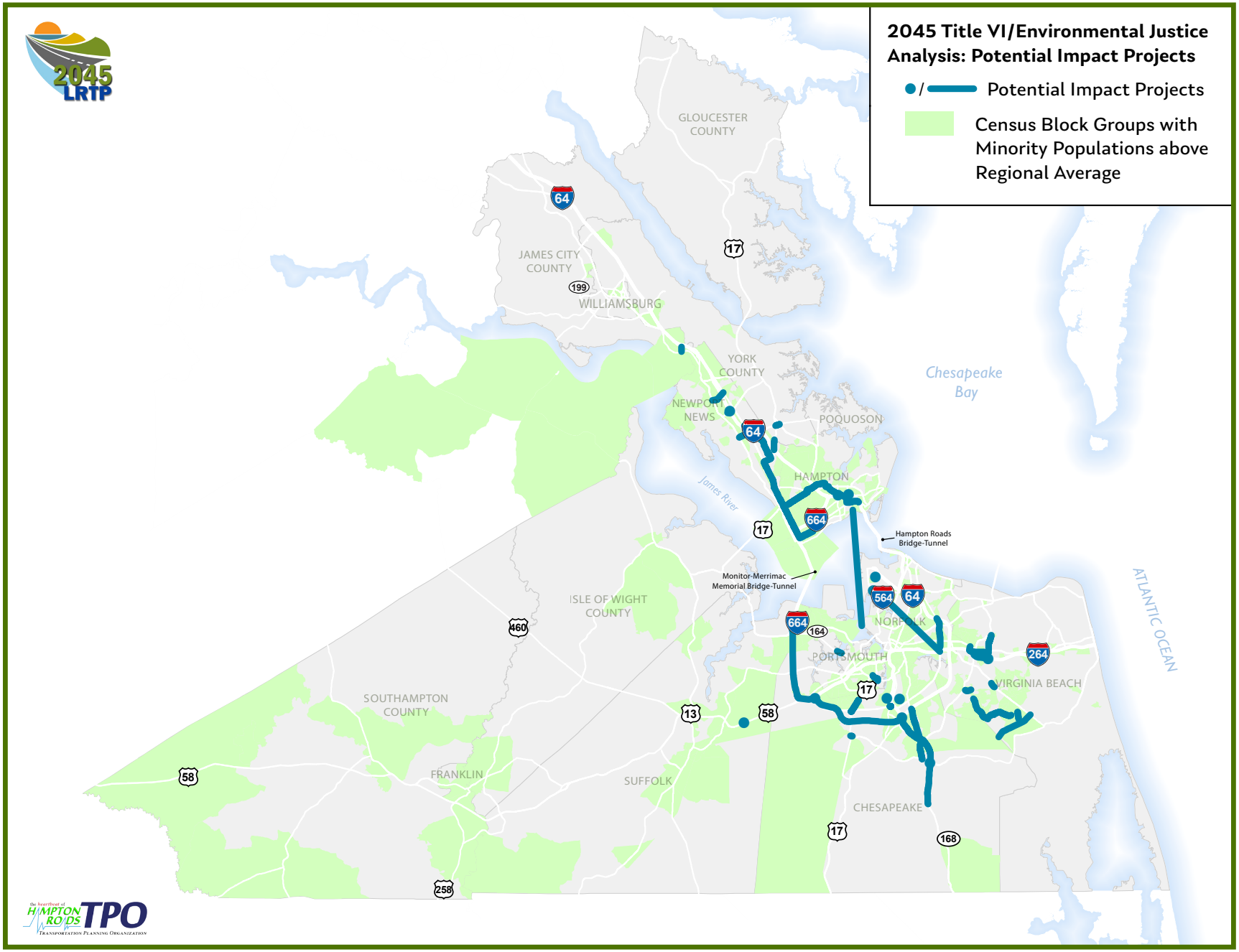
MAP 26: HOUSEHOLDS RECEIVING SUPPLEMENTAL NUTRITION ASSISTANCE ABOVE THE REGIONAL AVERAGE



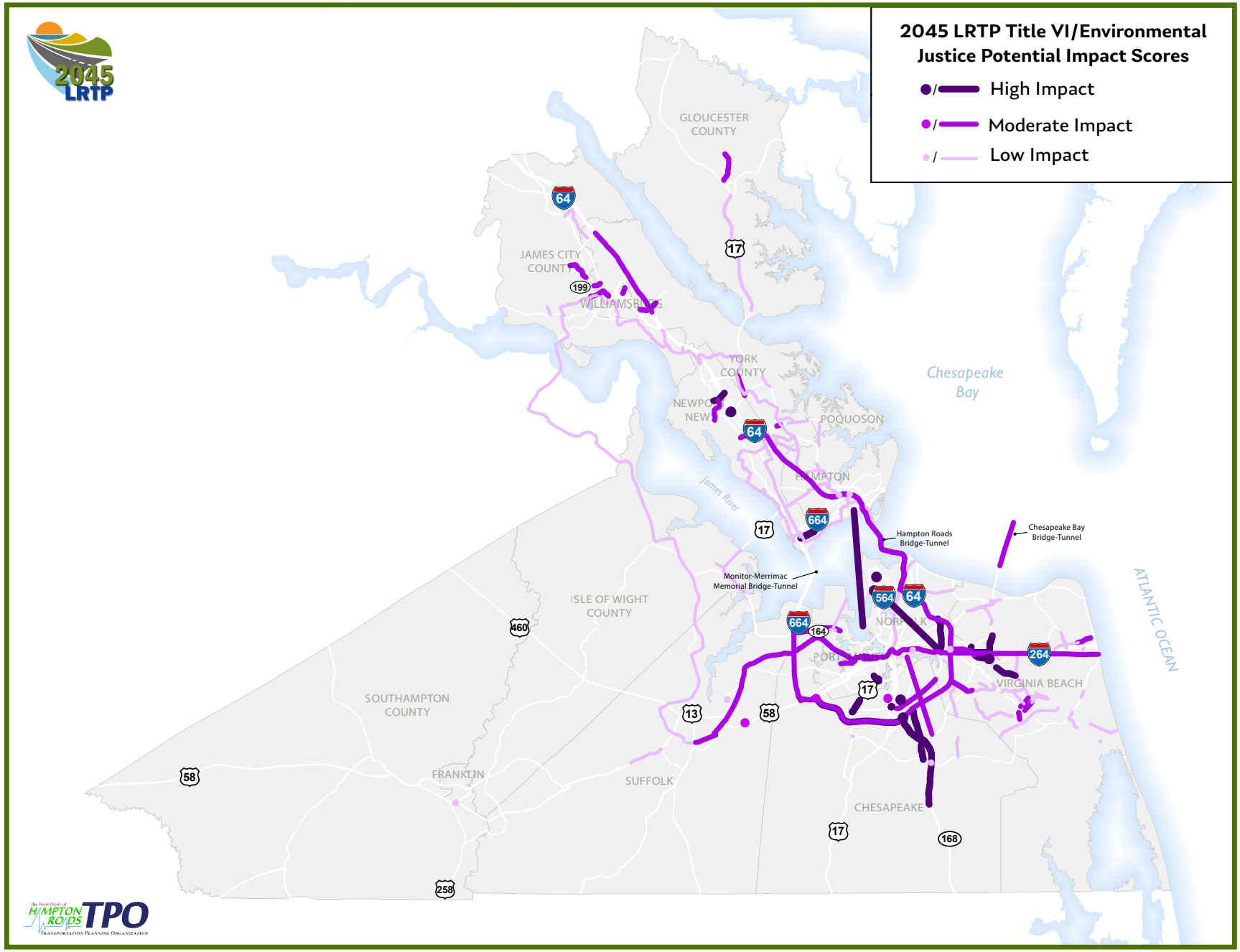
MAP 27: HOUSEHOLDS WITH LIMITED ENGLISH PROFICIENCY ABOVE THE REGIONAL AVERAGE



MAP 28: MINORITY HOUSEHOLDS ABOVE THE REGIONAL AVERAGE



MAP 29: SUMMARY OF 2045 LRTP TITLE VI/ENVIRONMENTAL JUSTICE POTENTIAL IMPACT SCORES



MAP 30: ENVIRONMENTAL JUSTICE FORECASTED TRAVEL TIME ANALYSIS

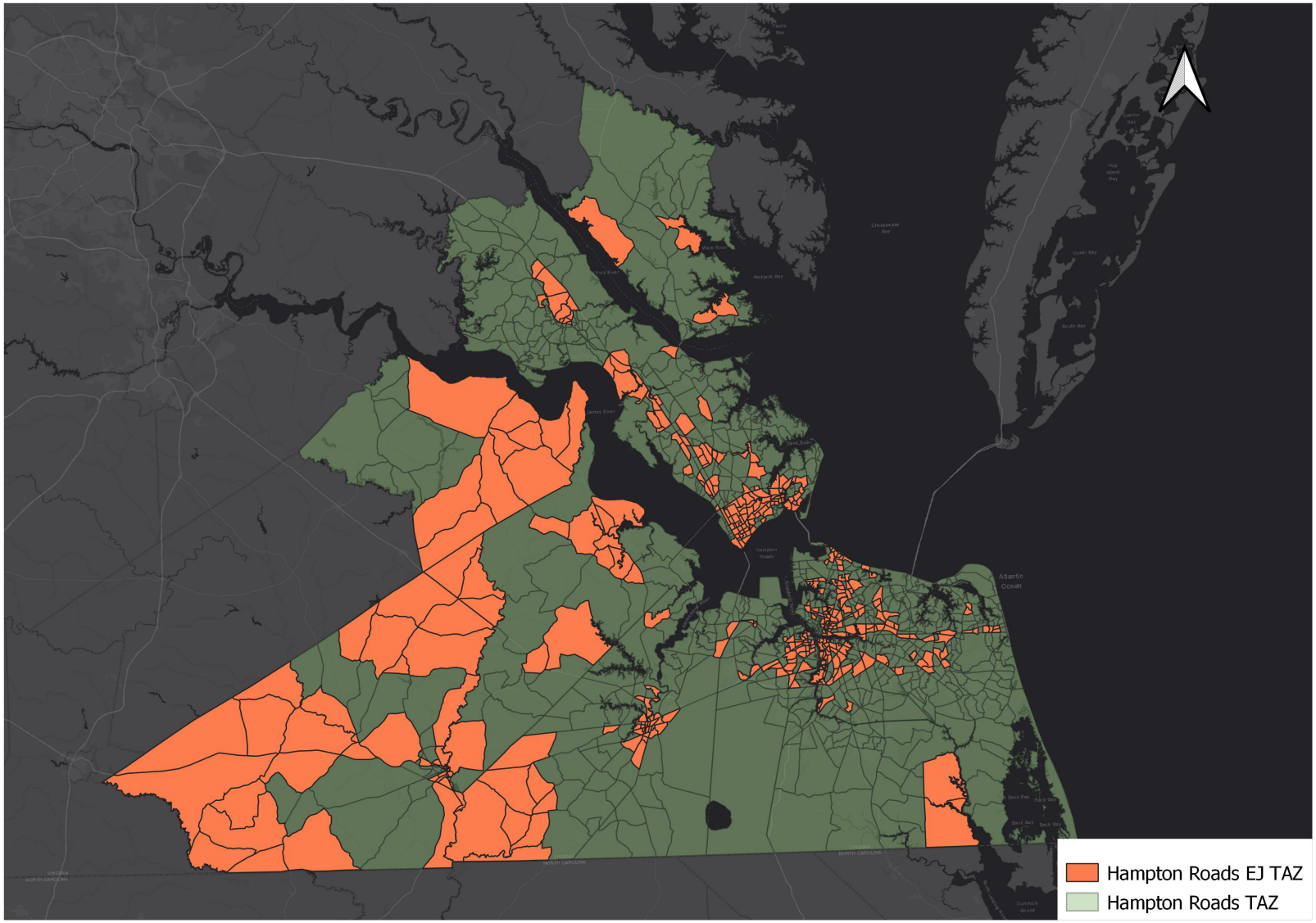
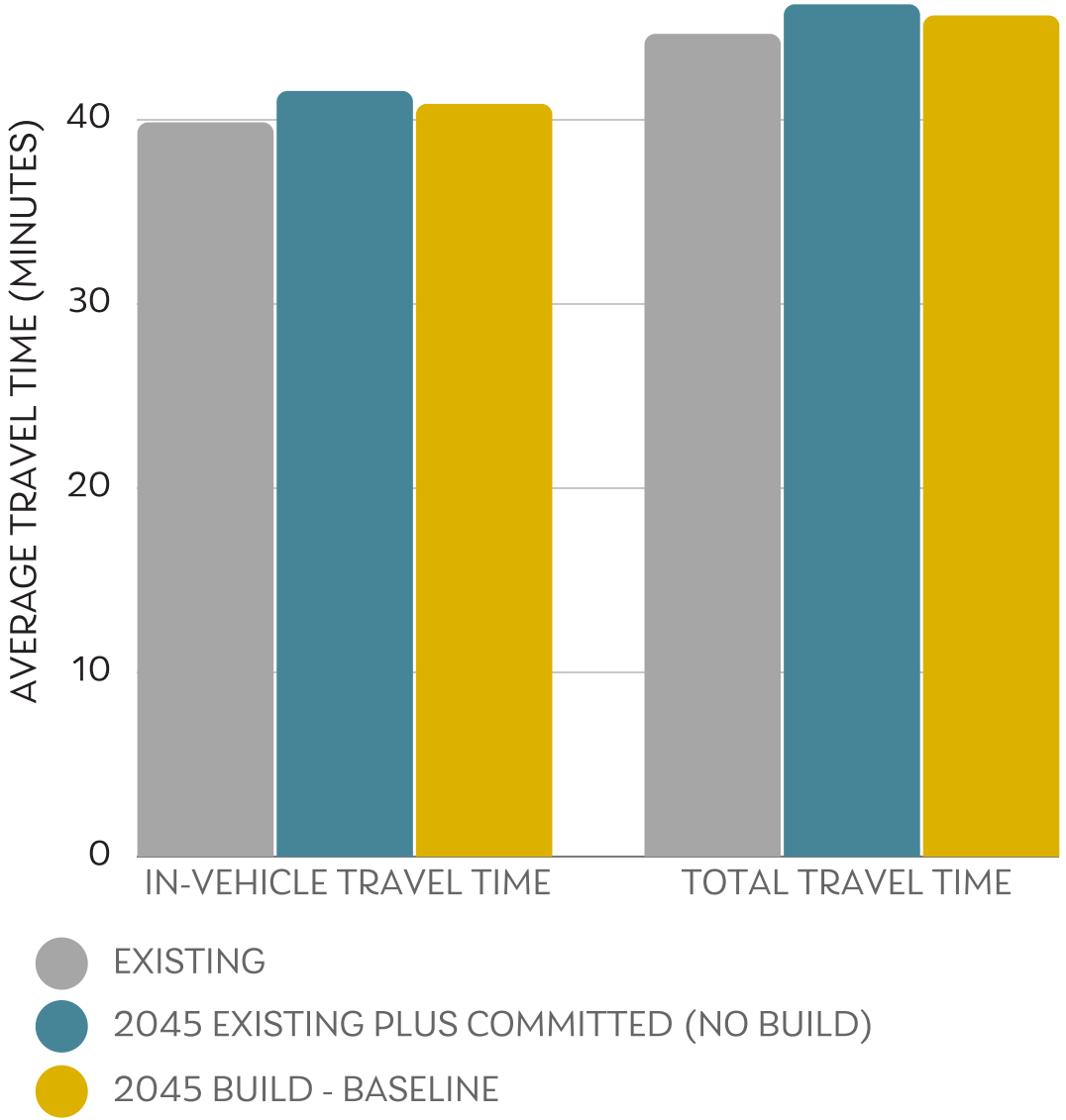
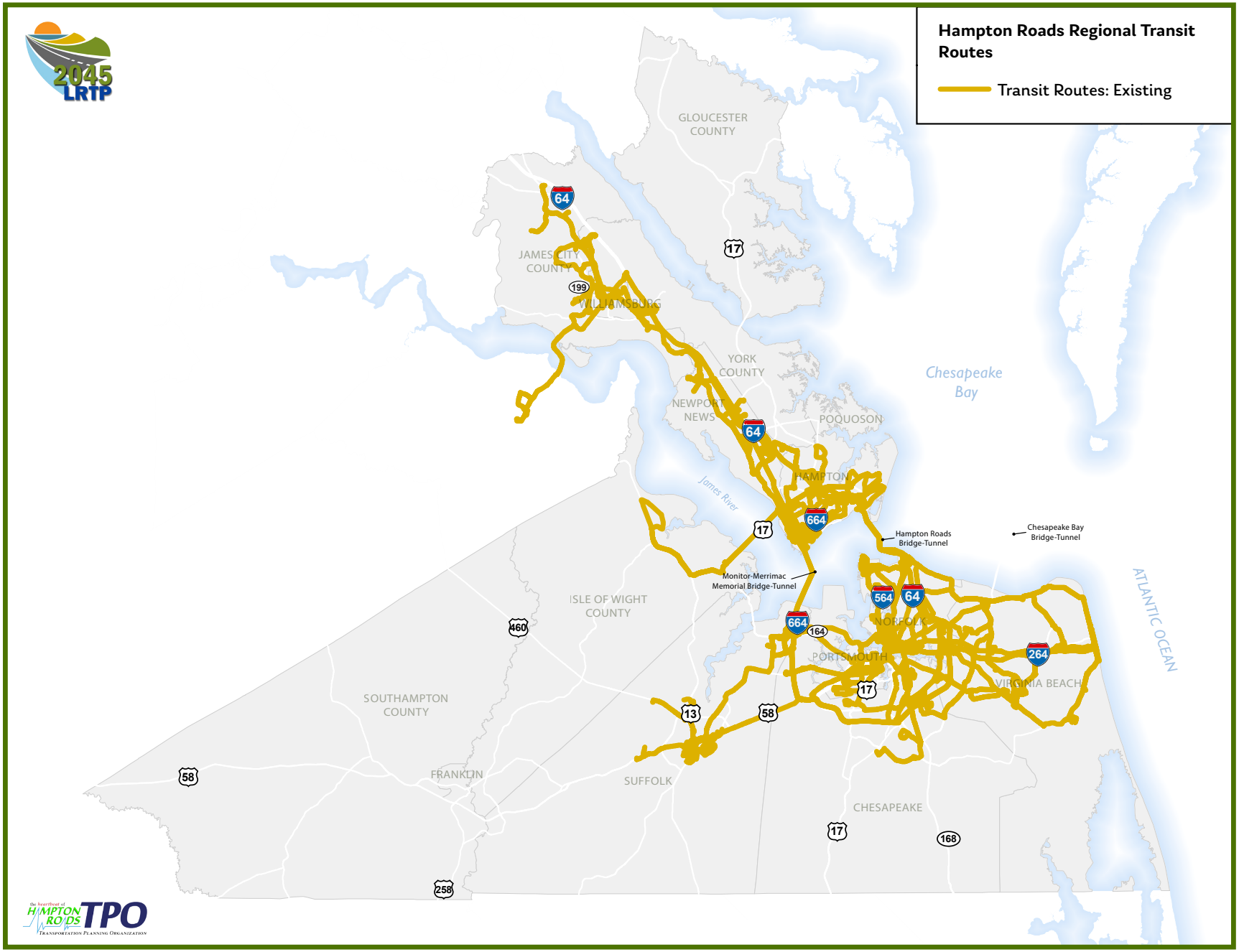


FIGURE 65: ENVIRONMENTAL JUSTICE FORECASTED TRAVEL TIME (AM PEAK PERIOD)

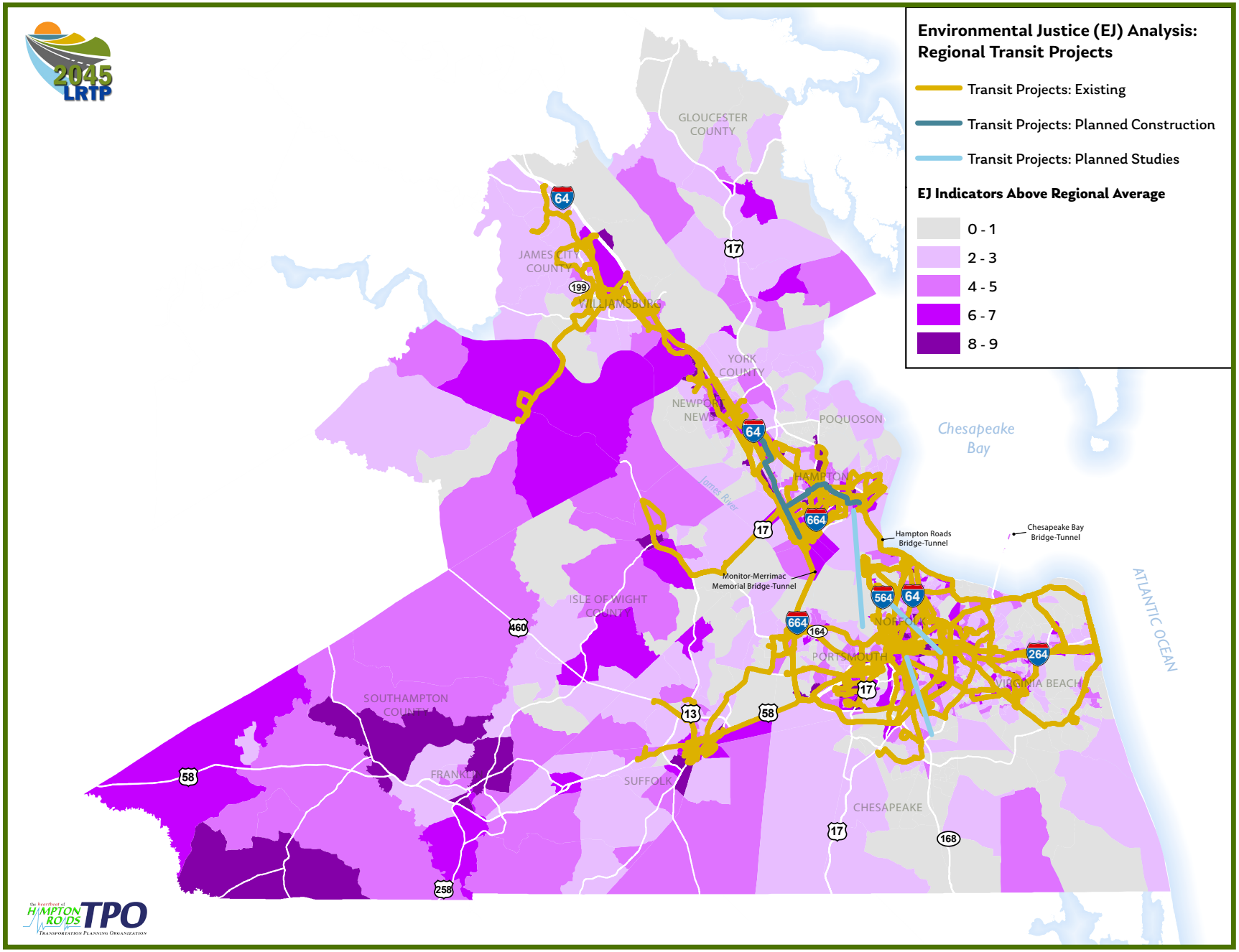


Note: In-Vehicle Travel Time only represents time in vehicle and does not include time to walk to transit stops or transit boardings or transfers

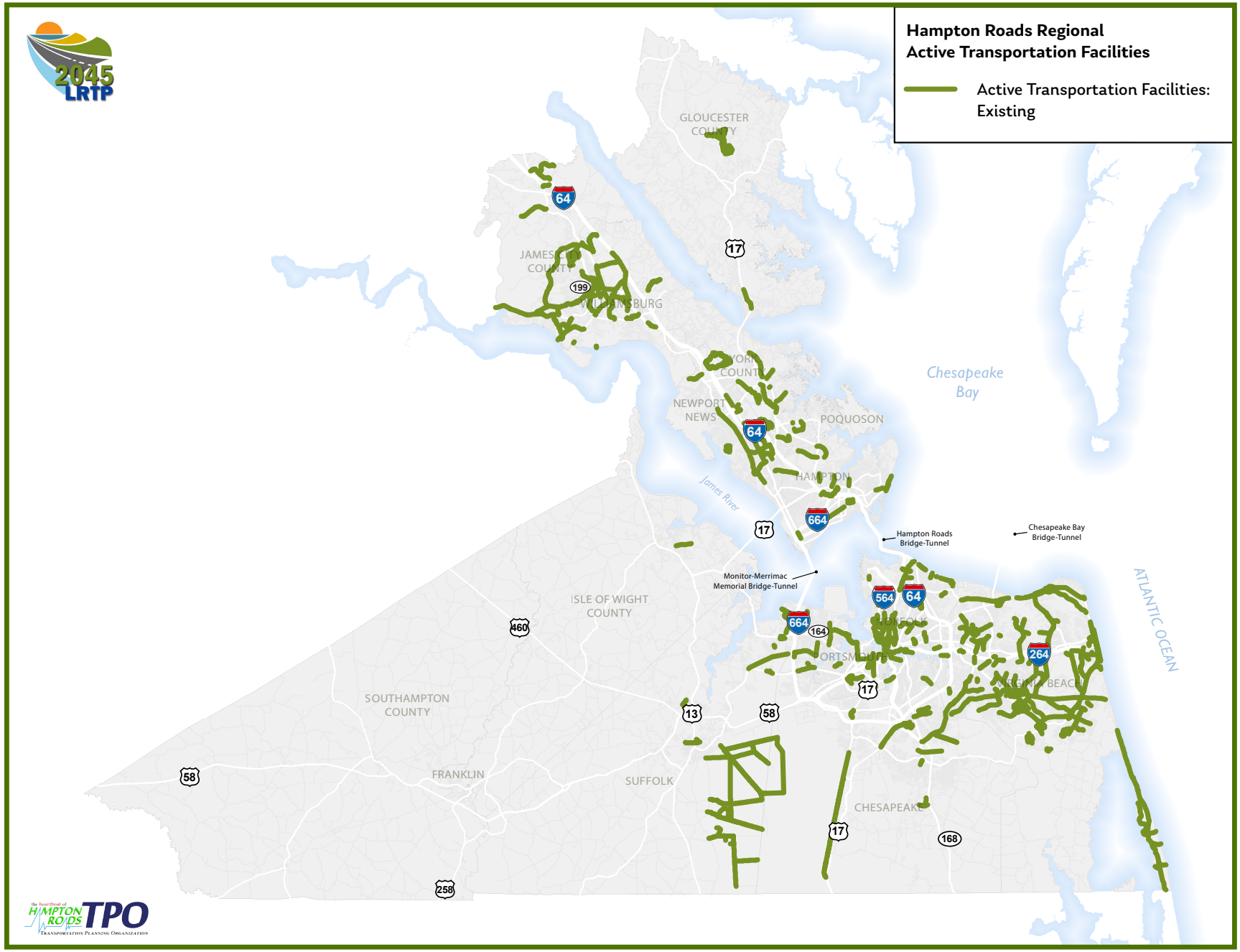
MAP 31: HAMPTON ROADS REGIONAL TRANSIT SERVICE



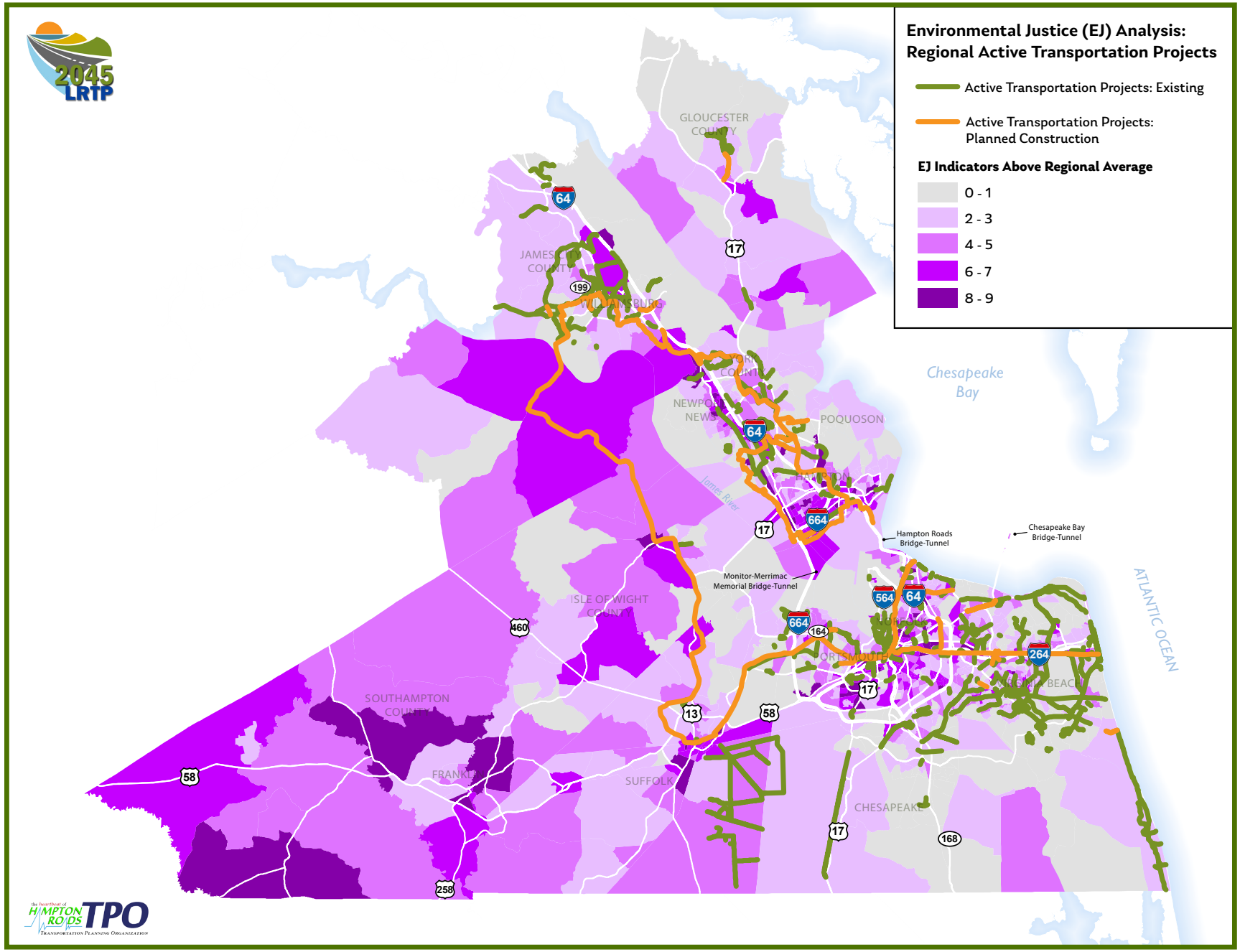
MAP 32: TITLE VI/ENVIRONMENTAL JUSTICE COMMUNITIES ACCESSIBILITY TO ALTERNATE MODES OF TRAVEL (TRANSIT)



MAP 33: EXISTING ACTIVE TRANSPORTATION FACILITIES IN HAMPTON ROADS



MAP 34: TITLE VI/ENVIRONMENTAL JUSTICE COMMUNITIES ACCESSIBILITY TO ALTERNATE MODES OF TRAVEL (ACTIVE TRANSPORTATION)



RESILIENCY AND VULNERABILITY PLAN PERFORMANCE

Natural disasters can cause major disruptions to transportation systems. In the Hampton Roads region, due to its geographic location at the mouth of the Chesapeake Bay and numerous water features including the Hampton Roads Harbor, Elizabeth River, James River, and York River, flooding is a vital concern, which is intensified by a probable sea level rise. In terms of long-range transportation planning, it is difficult to assess the benefits of resilience investments as there can be several disaster scenarios varying in both frequency and severity.

To help plan for potential impacts from sea level rise and severe recurrent flooding, the HRTPO and the Hampton Roads Planning District Commission (HRPDC) have formed numerous partnerships with stakeholders over the years. These stakeholders include regional, state, and federal agencies. These partnerships helped build a foundation for the region to establish resilience policies and integrate resilience and vulnerability planning into various regional efforts.

During the development of the 2045 LRTP, HRTPO and HRPDC staff collaborated with the United States Department of Transportation (US DOT) Volpe Center to pilot a Resilience and Disaster Recovery (RDR) Tool (building off previous Infrastructure Resilience Quantification Initiative). The RDR Tool is designed to efficiently assess and compare hundreds of scenarios covering various external factors (e.g., patterns of growth in the region, sea level rise, and frequency/severity of inundation events) and policy levers (transportation and resilience investments). Outputs from the Volpe RDR Tool will help stakeholders understand and incorporate the cost and benefits of resilience into the decision-making process, including project prioritization, and thus making informed decisions on future infrastructure investments.

The pilot project[1] objectives include :

- Estimate costs (repair/replacement) of transportation disruption caused by natural or man-made hazards (e.g., flooding)
- Estimate regional economic impacts (disruption of regional activities)
- Estimate benefits and costs/return on investment of resilience investments to inform resilient transportation asset investment decisions for long-range and recovery planning

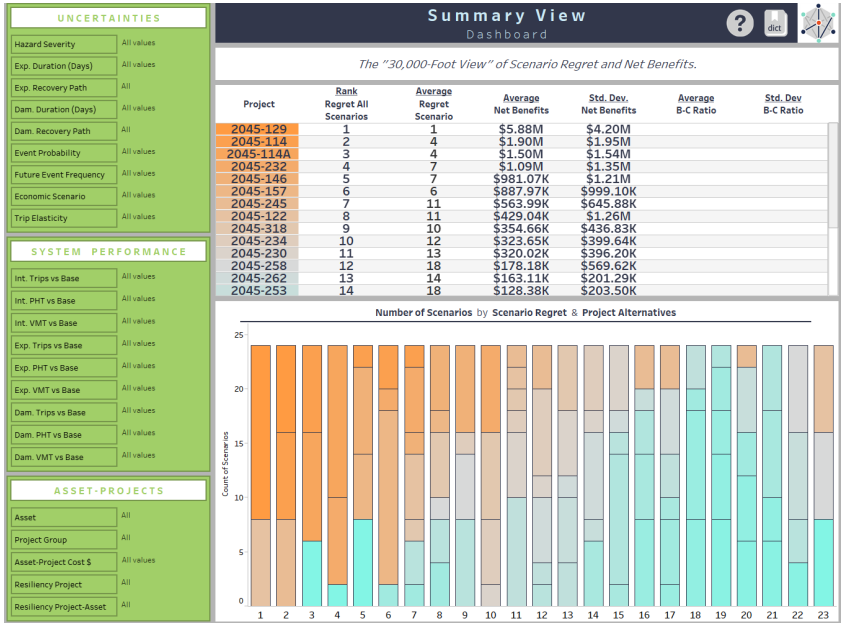
HRTPO staff objectives for the RDR Tool pilot program include:

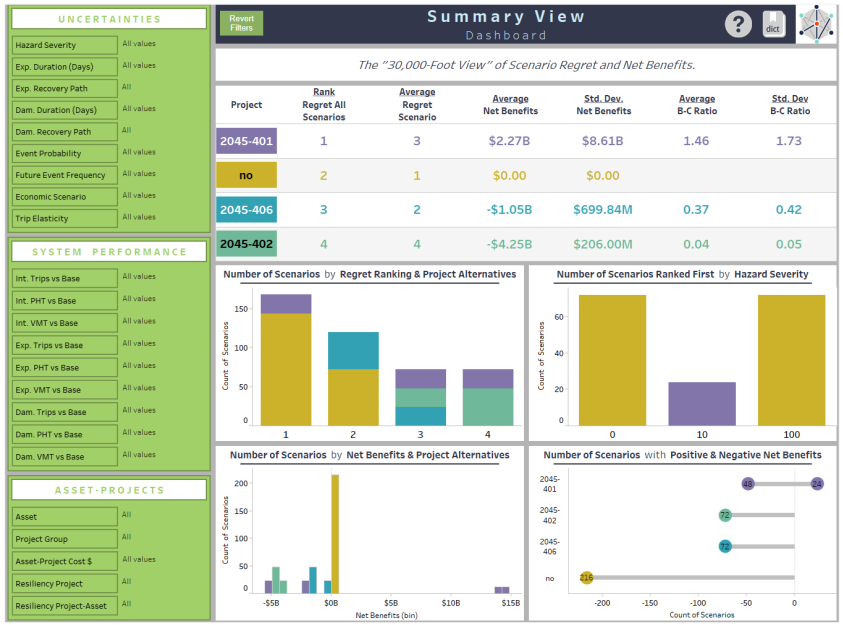
- Support objective, data-driven resiliency measures for use in HRTPO Project Prioritization Tool
- Explore/analyze multiple flooding scenarios efficiently as a part of scenario planning

As of the writing of this report, the Volpe RDR Tool is entering Phase II of its pilot phase, with the Phase I effort for Hampton Roads close to conclusion. As part of the Phase I pilot, the 2045 LRTP fiscally constrained roadway facilities were evaluated with the Volpe RDR Tool. Preliminary results are shown in the graphics on the following page. Once the pilot phase and testing are completed, a subsequent and more detailed summary of results will be produced.

[1] *US DOT's Tools to Augment Transportation Infrastructure and Disaster Recovery, January 2020*

FIGURE 66: VOLPE RESILIENCE AND DISASTER RECOVERY TOOL: HAMPTON ROADS PILOT PROJECT (EXAMPLE OUTPUTS)





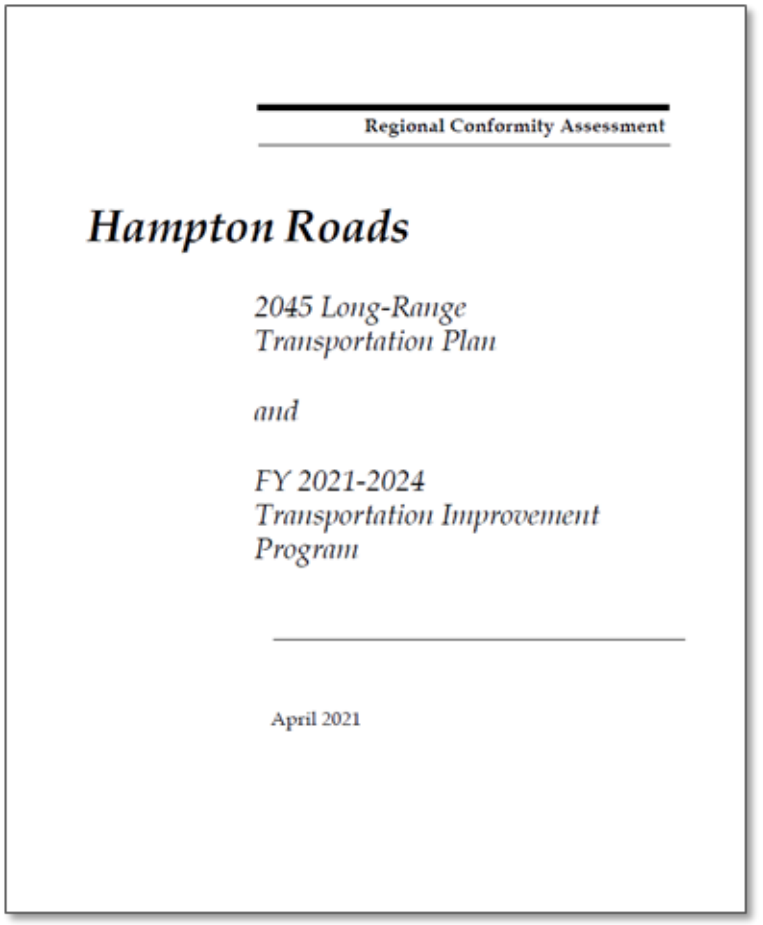
Note: Volpe RDR Tool is still under development. Results for 2045 LRTP are preliminary and subject to change.

REGIONAL CONFORMITY ASSESSMENT

In March 2021, a ***Regional Conformity Assessment (RCA)*** for the 2045 Long-Range Transportation Plan and FY 2021-2024 Transportation Improvement Program was completed, following applicable federal guidance related to conformity as well as local consultation procedures. A finding of conformity for the 2045 LRTP and FY 2021-2024 TIP was proposed as all applicable US Environmental Protection Agency (EPA) and local conformity criteria were met. The RCA was made available for public review from March 31, 2021 to April 14, 2021. No public comments were received.

After HRTPO Board approval on April 15, 2021, the Hampton Roads RCA was transmitted to the Federal Highway Administration (FHWA) as part of the federal review and approval process, which is done in coordination with the Federal Transit Administration (FTA) and in consultation with the EPA.

On May 19, 2021, a joint FHWA/FTA Conformity Finding was issued confirming that the Hampton Roads 2045 LRTP and FY 2021-2024 TIP demonstrate conformity as prescribed by EPA's Transportation Conformity Rule (40 CFR Part 93), subsequent amendments, and guidance issued by EPA in November 2018 for areas affected by the February 2018, South Coast court decision. The EPA, by letter dated May 5, 2021, concurred on the overall conformity determination. Please see Appendix B for copies of this correspondence.



HELPING AIR QUALITY: GREEN OPERATOR PROGRAM

The Virginia Port Authority's (VPA) Virginia Green Operator (GO) program is a public-private, voluntary program that aims to reduce the amount of air pollution from drayage trucks in the state of Virginia. The program has used financial and operational incentives to encourage truck owners to voluntarily scrap their older, higher emission, heavy-duty diesel trucks, and replace them with trucks that are newer, more fuel-efficient, and produce lower emissions or modify their existing trucks with technology verified by the Environmental Protection Agency (EPA).

The Green Operator program is the first voluntary truck replacement program established by a U.S. port. Currently, it remains the most effective clean-truck program in the nation, replacing or retrofitting over 400 trucks and reducing NOx, CO, VOC, SO2, and PM emissions from drayage trucks servicing the Port by as much as 25%. Truck owners can apply and receive up to $30,000 for the purchase of a 2010 or newer truck.

In 2013, the Green Operator program deployed new, hybrid diesel-electric shuttle carriers at the Virginia International Terminals (VIT) to replace its old, diesel-powered shuttle carriers. These shuttle carriers are used for loading, unloading, and transporting containerized cargo. The replacement was completed quickly and efficiently due to the existing procedures in the GO program that already fulfilled the requirements of the Diesel Emissions Reduction Act (DERA) Grant Program. The DERA Grant Program provides incentive funding for projects concentrated on reducing diesel emissions from old, heavy-duty diesel engines that fail to meet the current highway and non-road engine emission standards.

Overall, the Green Operator program helps with plan performance because it is an initiative to improve the air quality of the Hampton Roads region. During times of heavy congestion and backups on the region's highways, the emissions that these diesel-powered trucks release are harmful to the environment. One of the 2045 LRTP goals is to "protect and enhance the environment, promote energy conservation, and improve the quality of life," and the goals of the GO program perfectly align with this particular goal.

REGIONAL PERFORMANCE MEASURES

A key feature of MAP-21 [and continued under the Fixing America's Surface Transportation (FAST) Act] is the establishment of national performance goals in the areas of safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. This legislation also requires Metropolitan Planning Organizations (MPOs) to prepare and set targets for the following federally established performance measures:

Area	Measures
Safety	Fatalities
	Fatality Rate
	Serious Injuries
	Serious Injury Rate
	Bike/Pedestrian Fatalities & Serious Injuries
Transit	Transit Asset Management
	Transit Safety*
Bridge Condition	NHS Bridge Deck Area in Good Condition
	NHS Bridge Deck Area in Poor Condition
Pavement Condition	Interstate System Pavement in Good Condition
	Interstate System Pavement in Poor Condition
	Non-Interstate NHS Pavement in Good Condition
	Non-Interstate NHS Pavement in Poor Condition
Roadway Performance	Interstate Travel Time Reliability
	Non-Interstate NHS Travel Time Reliability
Freight	Truck Travel Time Reliability
Congestion Mitigation and Air Quality Improvement (CMAQ) Program	N/A for attainment areas (Hampton Roads is in attainment of the national ambient air quality standards for all criteria pollutants specified by EPA)

In addition, federal legislation requires that the regional long-range transportation planning process:

- Shall include a description of the federally required performance measures and targets used in assessing the performance of the transportation system
- Shall include a system performance report evaluating the condition and performance of the transportation system with respect to the targets including progress achieved by the MPO towards meeting the performance targets
- MPOs that elect to conduct scenario planning shall describe how the preferred scenario has improved performance of the system

The HRTPO prepares an annual report on regional performance measures and targets. The initial version of the *HRTPO Regional Performance Measures: System Performance* Report was released in April 2019 and last updated in 2021. This report includes an introduction to the collaborative target setting process, a description of the methodology used to calculate each measure, historical data trends for each of the areas, information on statewide targets, a description of the targets that have been established by the HRTPO, and the progress being made towards meeting the established targets.

In addition, the HRTPO also maintains a ***regional performance web page*** that provides information on these regional performance measures and targets as well as the most recent version of the *System Performance Report*.

The LRTP helps the region meet performance targets mainly through the project prioritization and evaluation process. The HRTPO uses an objective and data-driven Project Prioritization Tool (PPT) to evaluate and score candidate projects based on technical merits and regional benefits. The PPT evaluates transportation projects based on three components:

- Project Utility – the ability to solve an existing transportation issue
- Economic Vitality – the ability to support economic growth
- Project Viability – project readiness and compatibility

For more information on the HRTPO Project Prioritization Tool and how it was used to evaluate candidate projects for the 2045 LRTP, please refer to the ***2045 LRTP Candidate Project Evaluation and Prioritization*** report.

In addition to the project prioritization process, the 2045 LRTP also employed scenario planning to consider how dynamic, uncertain, and sometimes competing changes might affect connectivity, mobility, resiliency, and communities across the region. The 2045 LRTP applied exploratory scenario planning as opposed to predictive or prescriptive to investigate four different but plausible future alternatives. Since this effort is exploratory in nature, examining "What Could Happen" instead of "What Should Happen," a preferred scenario was not selected. Instead, transportation projects were evaluated in each of the alternative scenarios to help ascertain regional benefits across scenarios. Please visit the ***2045 LRTP scenario planning webpage*** for more information.

Finally, to help maintain the existing transportation system, funds are set aside as part of the fiscal constraint process which are dedicated to preserving the existing transportation network. Likewise, to promote a multimodal transportation system, funds are also set aside to specifically constrain transit and active transportation projects in the LRTP.

An overview of these performance targets is described on the following pages. More detail about the measures and how they are developed and monitored can be found in the *System Performance Report*.

ROADWAY SAFETY

There are five safety measures that MPOs are required to establish targets and monitor progress for:

MEASURES

- Number of Fatalities
- Fatality Rate
- Number of Serious Injuries
- Serious Injury Rate
- Number of Non-Motorized Fatalities & Serious Injuries Combined

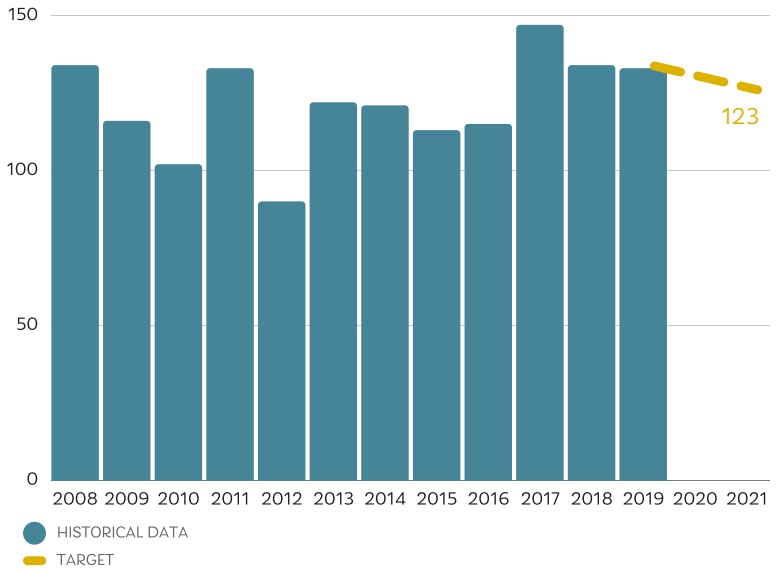
HRTPO has established one-year roadway safety targets each year since 2018. The TTAC and the HRTPO Board established the following roadway safety targets for 2021 at their January 2021 meeting.

Number of Fatalities	**123**
Fatality Rate	**0.82**
Number of Serious Injuries	**1,433**
Serious Injury Rate	**9.61**
Number of Non-Motorized Fatalities & Serious Injuries Combined	**175**

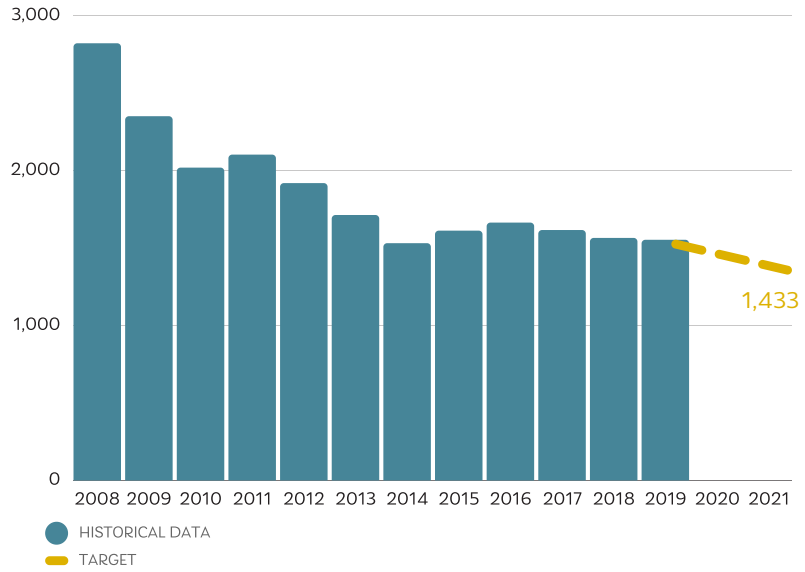
Each of these safety targets is based on the Vision Zero concept, where the number of fatalities, serious injuries, and non-motorized fatalities and serious injuries is reduced by a set amount each year to reach a goal of zero by the LRTP horizon year of 2045. An anticipated increase in vehicle-miles of travel of 1.07% annually was assumed for the fatality and serious injury rates, which is equal to the rate assumed by VDOT for statewide targets.

The following charts show the 2021 targets established by the HRTPO, along with historical data, for the number of roadway fatalities, serious injuries, and bike/pedestrian fatalities and serious injuries in Hampton Roads.

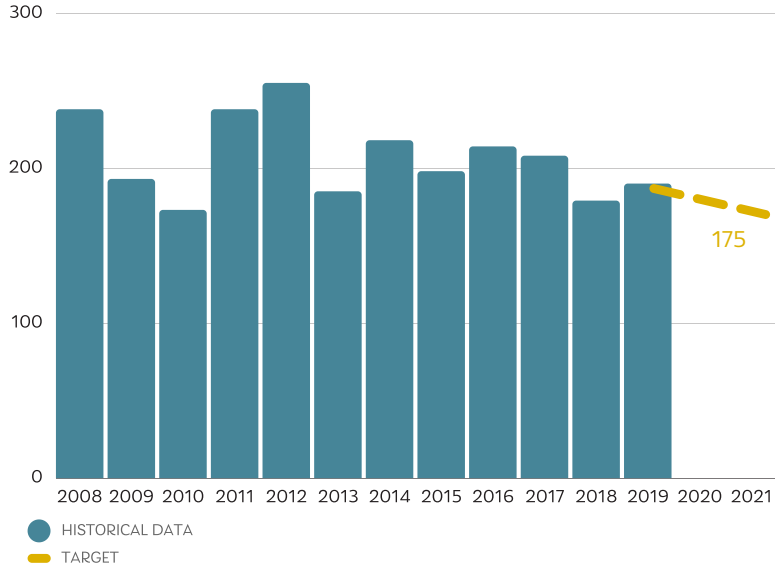
HAMPTON ROADS FATALITIES



HAMPTON ROADS SERIOUS INJURIES



HAMPTON ROADS BIKE/PEDESTRIAN FATALITIES & SERIOUS INJURIES



LRTP SAFETY CONSIDERATIONS

In terms of Roadway Safety, the HRTPO PPT uses the following measures to evaluate safety and security:

- Reduction of Equivalent Property Damage Only (EPDO) of Fatal and Serious Injury Crashes
- Reduction of EPDO Rate of Fatal and Serious Injury Crashes
- Improvement to Incident Management or Evacuation Routes
- Diversion Impact Due to Failure (for bridge/tunnel projects)

For Active Transportation (bike/pedestrian) projects, measures used to evaluate safety include:

- Crash history
- Level of separation/network quality

Transit Safety is addressed in a separate performance metric later in this section.

2045 LRTP Project Prioritization Weighting Factors - Project Utility

Highway/Interchange Projects	
Safety and Security	**15.00**
Reduction of EPDO of Fatal and Serious Injury Crashes	*5.00*
Reduction of EPDO Rate of Fatal and Serious Injury Crashes	*5.00*
Improvement to Incident Management or Evacuation Routes	*5.00*

Bridge & Tunnel Projects	
Safety and Security	**10.00**
Reduction of EPDO of Fatal and Serious Injury Crashes	*2.50*
Reduction of EPDO Rate of Fatal and Serious Injury Crashes	*2.50*
Improvement to Incident Management or Evacuation Routes	*3.00*
Diversion Impact Due to Failure (Impact of Detour to Alternate Crossing)	*2.00*

Transit Projects	
User Benefit	**35.00**
Annual Travel Time Savings per Rider	*10.00*
New Project	*5.00*
Increased Travel Time Reliability	*5.00*
Operating Efficiency	*5.00*
Accessibility (including ADA) and/or Customer Experience	*5.00*
Safety and Security	*5.00*

Active Transportation Projects	
Safety	**30.00**
Crash History	*15.00*
Level of Separation/Network Quality	*10.00*
Associated with Safe Routes to School	*5.00*

BRIDGE CONDITION

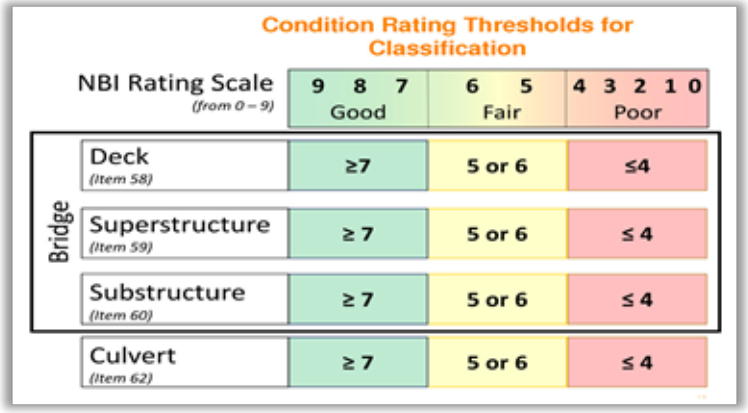
MEASURES

- Percentage of National Highway System (NHS) Bridge Deck Area in Good Condition
- Percentage of National Highway System (NHS) Bridge Deck Area in Poor Condition

These measures examine the condition of bridges on the National Highway System (NHS) – including on- and off-ramps connected to the NHS – on a regional basis. In order to be included, the bridge must meet National Bridge Inventory (NBI) standards. These standards include:

- The structure must be located on roadways open to the public. Bridges located within the security perimeter of military bases and other secure federal facilities are not included.
- The bridge must carry a roadway. Structures that carry only railroad or pedestrian traffic are not included.
- The bridge must be more than 20 feet in length. Culverts are included, as long as the opening in the culvert is more than 20 feet in length.

Bridges are classified as being in good, fair, or poor condition based on the lowest of the condition ratings of the bridge's deck, superstructure, and substructure. For culverts, the classification is based on the culvert condition rating. These classification thresholdsare shown to the right.



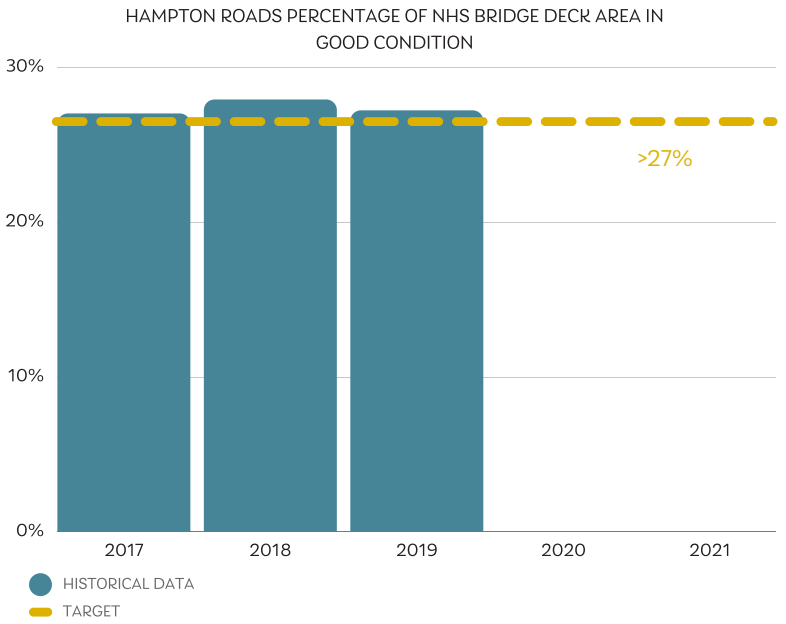
For example, if a structure has a deck condition rated as a 7, a superstructure condition rated as a 4, and a substructure condition rated as a 5, then the structure is classified as being in poor condition based on the lowest condition rating of 4.

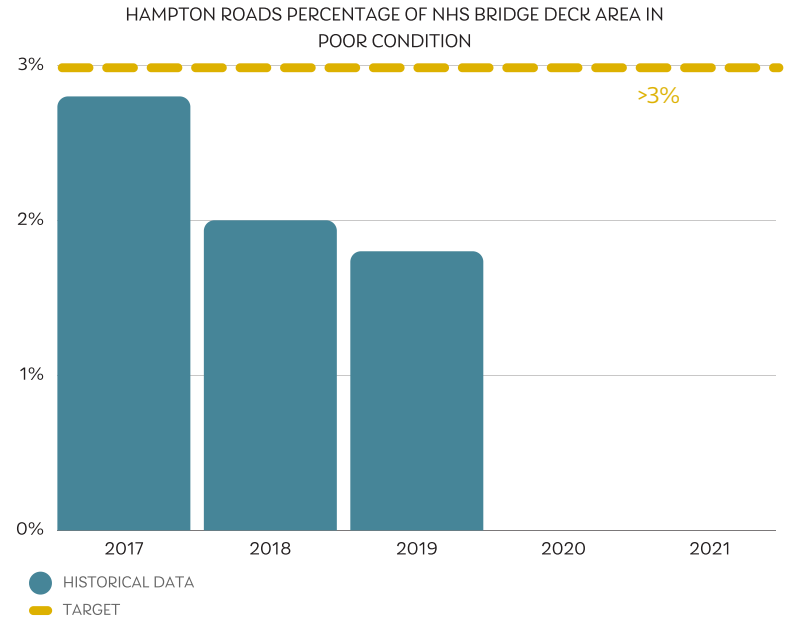
After each NBI bridge on the NHS is classified as being in good, fair, or poor condition, the deck area of each bridge is calculated by multiplying the full width of the bridge by the bridge's length. The total deck area of each good, fair, and poor bridge throughout the region is summed together, and then divided by the total deck area of all NBI bridges on the NHS in the entire region. This produces a total regional percentage of bridges that are in Good Condition, Fair Condition, and Poor Condition. The regional percentages of NBI bridge deck area in good and poor condition on the NHS are tracked for regional targets.

The HRTPO Board established the following bridge condition targets for 2021:

- Percentage of National Highway System (NHS) Bridge Deck Area in Good Condition **>27%**
- Percentage of National Highway System (NHS) Bridge Deck Area in Poor Condition **<3%**

The following charts show the four-year targets established by the HRTPO, along with historical data, for the percentage of NHS bridge deck area in good and poor condition in Hampton Roads.





LRTP BRIDGE CONDITION CONSIDERATIONS

Bridge (and tunnel) condition is evaluated as projects are being considered for inclusion in the 2045 LRTP. The HRTPO PPT uses four measures from VDOT's State of Good Repair (SGR) maintenance prioritization program to evaluate bridge condition (information on how VDOT calculates these four factors are included on VDOT's SGR Bridge website):

- Importance Factor
- Condition Factor
- Design Redundancy Factor
- Structure Capacity

Other factors considered when evaluating tunnel condition include the age of the tunnel, date of last major repair, and costs for necessary repairs/ upgrades.

2045 LRTP Project Prioritization Weighting Factors - Project Utility

Bridge & Tunnel Projects	
Infrastructure Condition	**15.00**
Bridge State of Good Repair Ratings:	
Condition Factor	*5.50*
Importance Factor	*4.50*
Design Redundancy Factor	*3.00*
Structure Capacity	*2.00*
Tunnels:	
Age of Tunnel	*5.00*
Last Major Repair	*5.00*
Costs for Necessary Repairs/Upgrades	*5.00*

MEASURES

- Percentage of Interstate System Pavement in Good Condition
- Percentage of Interstate System Pavement in Poor Condition
- Percentage of Non-Interstate NHS Pavement in Good Condition
- Percentage of Non-Interstate NHS Pavement in Poor Condition

These measures examine the condition of roadway pavement on the National Highway System (NHS). The percentage of the region's Interstate system pavement in good and poor condition is measured as is the percentage of the region's Non-Interstate NHS pavement. These measures only include through travel lanes; ramps, shoulders, turn lanes, crossovers, etc. are not included in this analysis.

The following metrics are used in determining the pavement condition of each NHS roadway:

- International Roughness Index (IRI) – IRI is used to determine the ride quality based on the smoothness of pavement. It is measured in inches per mile of roadway.
- Rutting and Faulting – Rutting is a surface depression in the wheel path of asphalt roadways, and faulting is the difference in elevation across joints or cracks in jointed concrete.
- Cracking - Cracking measures the percentage of roadway surface area where cracks are present.
- Present Serviceability Rating (PSR) – If the posted speed limit is less than 40 mph, the PSR can be used in place of the metrics above to determine the condition of the pavement.

	Good	Fair	Poor
IRI (inches/mile)	<95	95-170	>170
Rutting (inches)	<0.20	0.20-0.40	>0.40
Faulting (inches)	<0.10	0.10-0.15	>0.15
Cracking (%)	<5	5-20 (asphalt) 5-15 (JCP) 5-10 (CRCP)	>20 (asphalt) >15 (JCP) >10 (CRCP)
PSR	PSR ≥ 4.0	2.0 ≤ PSR ≤ 4.0	PSR ≤ 2.0

Each of these aspects of each NHS roadway segment's pavement is rated as good, fair, or poor. These ratings are assigned based on the table above.

For roadways with a posted speed limit below 40 mph, the PSR can be used for determining the overall condition of the pavement. Otherwise, the overall condition of each section of NHS roadway is determined based on the pavement type and the appropriate metrics described previously. As shown below, for a section to be in good condition, all the appropriate metrics must be rated as good. Roadway sections are determined to be in poor condition if two of the three metrics (IRI, cracking, and rutting/faulting) are rated poor for asphalt and jointed concrete, or both metrics (IRI and cracking) are rated poor for continuous concrete.

	Pavement Type		
	Asphalt and Jointed Concrete	Continuous Concrete	
Overall Section Condition Rating	3 metric ratings (IRI, cracking and rutting/faulting)	2 metric ratings (IRI and cracking)	Measures
Good	All three metrics rated "Good"	Both metrics rated "Good"	→ percentage of lane-miles in "Good" condition
Poor	≥ 2 metrics rated "Poor"	Both metrics rated "Poor"	→ percentage of lane-miles in "Poor" condition
Fair	All other combinations	All other combinations	

The HRTPO Board established the following pavement condition targets for 2021:

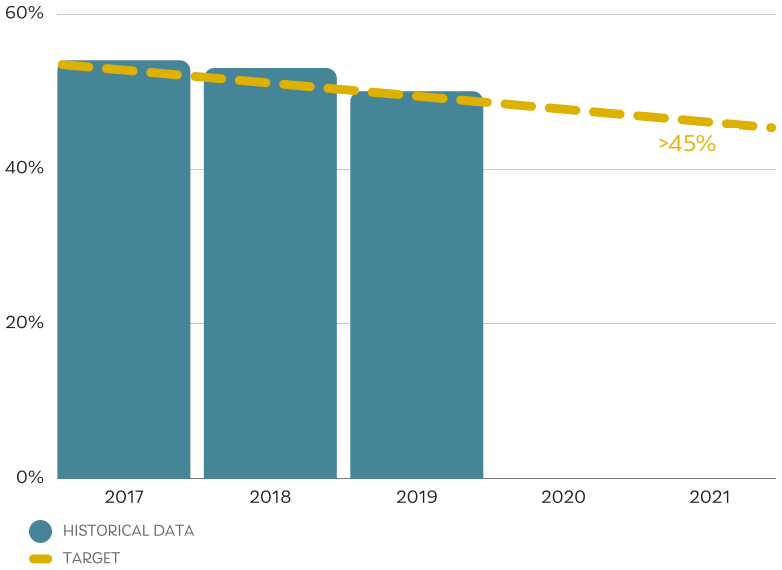
- Percentage of Interstate System Pavement in Good Condition >45%
- Percentage of Interstate System Pavement in Poor Condition <3%
- Percentage of Non-Interstate NHS Pavement in Good Condition >25%
- Percentage of Non-Interstate NHS Pavement in Poor Condition <5%

The charts on the following page show the four-year targets established by the HRTPO, along with historical data, for the percentage of Interstate and Non-Interstate NHS pavement in good and poor condition in Hampton Roads.

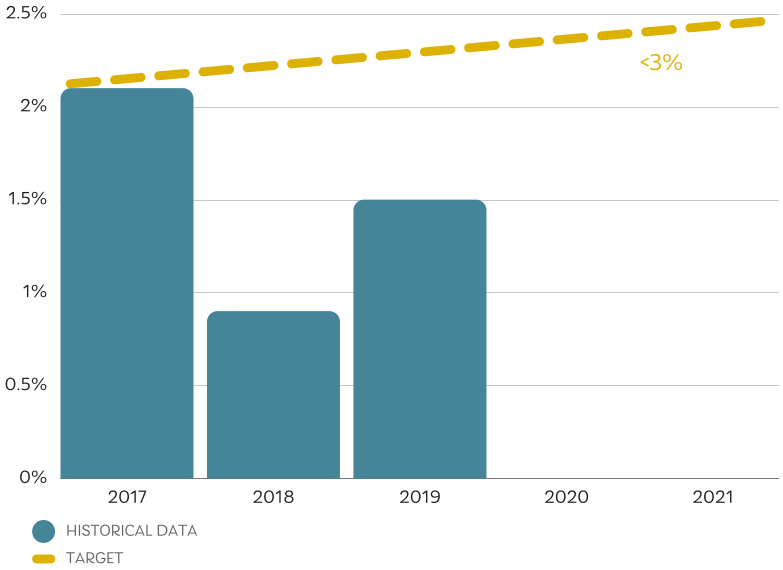
LRTP - PAVEMENT CONDITION CONSIDERATIONS

In the LRTP, Pavement Condition is addressed as part of the dedicated funding assumptions set aside to maintain the existing transportation system and take care of preventive maintenance. For the 2045 LRTP, $17 Billion was set aside for maintenance and system preservation.

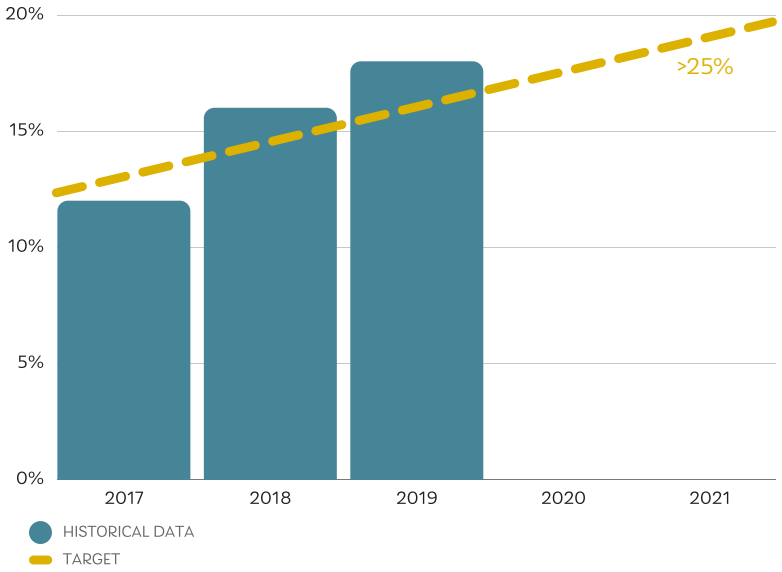
HAMPTON ROADS PERCENTAGE OF INTERSTATE PAVEMENT IN GOOD CONDITION



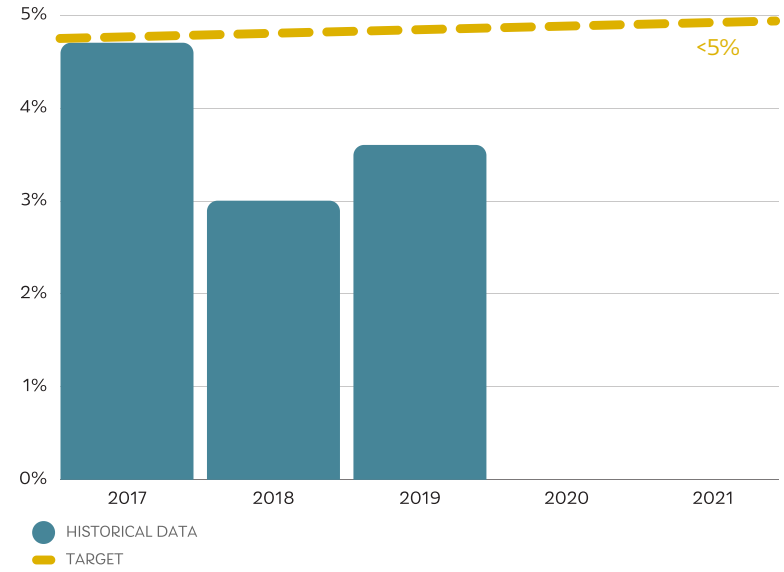
HAMPTON ROADS PERCENTAGE OF INTERSTATE PAVEMENT IN POOR CONDITION



HAMPTON ROADS PERCENTAGE OF NON-INTERSTATE NHS PAVEMENT IN GOOD CONDITION



HAMPTON ROADS PERCENTAGE OF NON-INTERSTATE NHS PAVEMENT IN POOR CONDITION



TRANSIT ASSET MANAGEMENT

MEASURES

- Transit Asset Management (TAM) – Rolling Stock
- TAM – Equipment/Service Vehicles
- TAM - Infrastructure
- TAM - Facilities

The Federal Transit Administration's (FTA) Performance Based Planning final rule requires transit performance measures in the area of state of good repair, also referred to as transit asset management (TAM). MPOs are required to establish regional targets and monitor progress in the following areas:

Asset Type	Performance Measure	Asset Classes
Rolling Stock	% of revenue vehicles within each asset class that have met or exceeded their useful life benchmark (ULB)	Buses, ferry boats, light rail vehicles, trolley buses, vans
Equipment/ Service Vehicles	% of vehicles that have met or exceeded their useful life benchmark (ULB)	Non-revenue automobiles, trucks and other rubber tire vehicles
Infrastructure	% of track segments, signals, and systems with performance restrictions	Light rail infrastructure
Facilities	% of facilities in each asset class rated under 3.0 on FTA's TERM scale	Passenger facilities, parking facilities, maintenance facilities, administrative facilities

Three transit agencies operate within the Hampton Roads Metropolitan Planning Area – Hampton Roads Transit (HRT), the Williamsburg Area Transit Authority (WATA), and Suffolk Transit. HRT, as a Tier I transit agency, must develop and carry out its own TAM plans. As Tier II transit agencies, WATA and Suffolk Transit are eligible to participate in group TAM plans. WATA and Suffolk Transit are using the statewide targets that were established by the Virginia Department of Rail and Public Transportation.

The HRTPO established regional transit asset management targets for 2021 based on a weighted average of HRT, WATA, and Suffolk Transit Fiscal Year 2021 targets. These targets are:

ROLLING STOCK

% of revenue vehicles that have met or exceeded their useful life benchmark

- Buses **<10%**
- Cutaway Buses **<1%**
- Ferry Boat **<33%**
- Light Rail Vehicles **0%**
- Minibus **<20%**
- Trolley Buses **<10%**
- Vans **<25%**

EQUIPMENT/SERVICE VEHICLES

% of vehicles that have met or exceeded their useful life benchmark

- Non-Revenue/Service Vehicles **<62%**
- Trucks & Other Rubber Tire Vehicles **<17%**

INFRASTRUCTURE

% of track segments, signals, and systems with performance restrictions

- Light Rail Infrastructure **<4%**

FACILITIES

% of facilities in each asset class rated under 3.0 on FTA's TERM scale

- Passenger/Parking **<1%**
- Maintenance **<10%**
- Administrative **<10%**

LRTP – TRANSIT ASSET MANAGEMENT CONSIDERATIONS

In the LRTP, Transit Asset Management, like Pavement Condition, is addressed as part of the dedicated funding assumptions set aside to maintain the existing transportation system and take care of preventive maintenance. For transit projects, additional funds are set aside to cover transit needs such as bus replacements, new routes, etc.

For the 2045 LRTP, in addition to the $17 Billion set aside for maintenance and system preservation, the following funds were used to constrain various transit projects that could fund new routes and help keep transit assets in a state of good repair:

- Hampton Roads Regional Transit System (757 Express) - $552 Million
- Enhanced Bus Service/Bus Replacement (WATA) - $44 Million
- Enhanced Bus Service/Bus Replacement (Suffolk Transit) - $22 Million

TRANSIT SAFETY

MEASURES

- Transit Fatalities
- Transit Injuries
- Transit Safety Events
- Transit System Reliability

targets and monitor progress in the following transit safety areas for each mode (bus, demand response, light rail, and vanpool):

Category	Measure
Fatalities	Total number of reportable fatalities per year
	Rate per total vehicle revenue miles
Injuries	Total number of reportable injuries per year
	Rate per total vehicle revenue miles
Safety Events	Total number of safety events per year
	Rate per total vehicle revenue miles
System Reliability	Distance between major failures

Safety events are defined as events that include the following if they occur on a transit right-of-way, transit infrastructure, at a transit revenue facility, at a transit facility during maintenance activity, or involving a transit revenue vehicle:

- A fatality confirmed within 30 days of the event
- An injury requiring immediate medical attention away from the scene for at least one person
- Property damage of $25,000 or more
- Collisions involving transit revenue vehicles that require towing a transit vehicle or other non-transit vehicle away from the scene
- An evacuation for life safety reasons

Like transit asset management, Hampton Roads Transit (HRT), as a Tier I transit agency, must develop their own Public Transportation Agency Safety Plan (PTASP). As Tier II transit agencies, the Williamsburg Area Transit Authority (WATA) and Suffolk Transit are using the statewide transit safety targets that were established in the ***Statewide PTASP*** developed by the Virginia Department of Rail and Public Transportation.

The HRTPO established regional transit safety targets for 2021 for each of the categories shown below.

TRANSIT FATALITIES

Total Number of Reportable Fatalities/Rate per 100,000 Vehicle Revenue Miles

- Buses **0/0.0**
- Demand Response **0/0.0**
- Light Rail **0/0.0**
- Vanpool **0/0.0**

TRANSIT INJURIES

Total Number of Reportable Injuries/Rate per 100,000 Vehicle Revenue Miles

- Buses **<83/<7.62**
- Demand Response **0/0.0**
- Light Rail **0/0.0**
- Vanpool **0/0.0**

TRANSIT SAFETY EVENTS

Total Number of Reportable Injuries/Rate per 100,000 Vehicle Revenue Miles

- Buses **<71/<5.70**
- Demand Response **<1/<0.04**
- Light Rail **<5/<15.40**
- Vanpool **0/0.0**

LRTP – TRANSIT SAFETY CONSIDERATIONS

The HRTPO PPT assesses a transit project's potential to significantly improve safety or security by considering the following:

- Project inclusion of asset condition related improvements that could reduce risk of accidents (e.g., new major facilities or fleet expansion reducing fleet age)
- Project inclusion of technology-related improvements (e.g., cameras, crash avoidance systems)
- Project inclusion of customer facility improvements (e.g., waiting areas with lighting, pedestrian access)
- Project inclusion of elements directly related to safety or emergency response (e.g., transit police related, fire prevention)
- Project inclusion of pedestrian safety

2045 LRTP Project Prioritization Weighting Factors - Project Utility

Transit Projects	
User Benefit	**35.00**
Annual Travel Time Savings per Rider	*10.00*
New Project	*5.00*
Increased Travel Time Reliability	*5.00*
Operating Efficiency	*5.00*
Accessibility (including ADA) and/or Customer Experience	*5.00*
Safety and Security	*5.00*

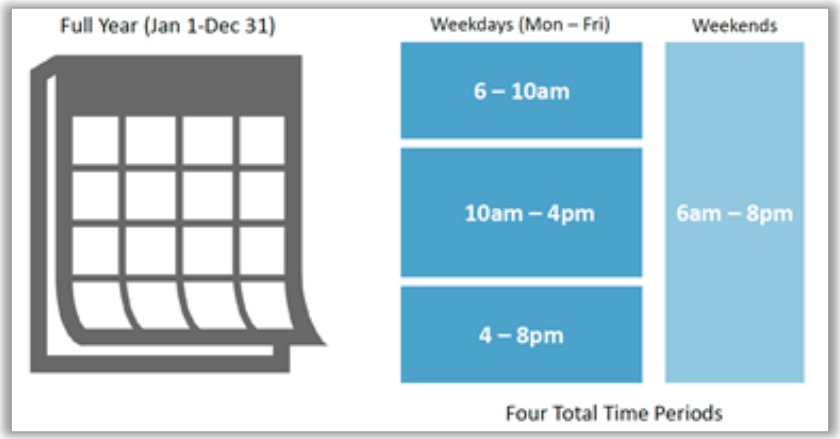
ROADWAY PERFORMANCE

MEASURES

- Interstate Travel Time Reliability (% reliable person-miles of travel)
- Non-Interstate National Highway System Travel Time Reliability (% reliable person-miles of travel)

These measures examine the roadway performance of the National Highway System (NHS) based on the person-miles travelled that are classified as reliable. The reliability of the system is calculated using a new metric referred to as the Level of Travel Time Reliability (LOTTR). The LOTTR is defined as the ratio of the 80th percentile travel time to the mean (50th percentile) travel time.

Travel times throughout the year are divided into four reporting periods: weekday morning peak, weekday midday, weekday afternoon peak, and weekends. The time of day that each period represents is shown below.

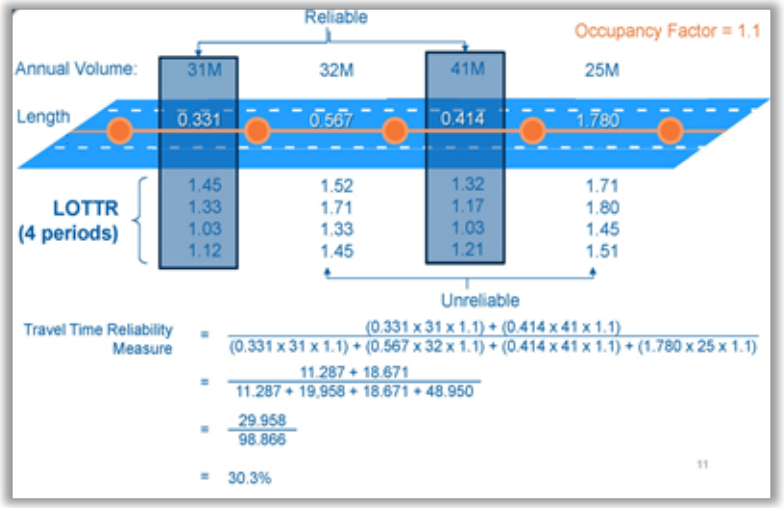


A LOTTR ratio is calculated for each Interstate segment and Non-Interstate NHS segment by direction for each of these time periods over the course of an entire year. This produces a total of four LOTTR ratios for each Interstate and Non-Interstate NHS segment. Segments are considered to be not reliable if any of these four LOTTR ratios are 1.50 or greater. For a segment to be classified as reliable, all four LOTTR ratios must be below 1.50. An example of this calculation is shown below.

$$\frac{\text{Longer Travel Time (80th)}}{\text{Normal Travel Time (50th)}} = \frac{\text{\# seconds}}{\text{\# seconds}} = \text{Level of Travel Time Reliability Ratio}$$

Level of Travel Time Reliability (LOTTR) *(Single Segment, Interstate Highway System)*		
Monday – Friday	6am – 10am	LOTTR = $\frac{44 \text{ sec}}{35 \text{ sec}}$ = 1.26
	10am – 4pm	LOTTR = 1.39
	4pm – 8pm	LOTTR = 1.54
Weekends	6am – 8pm	LOTTR = 1.31
Must exhibit LOTTR below 1.50 during **all** of the time periods		Segment is not reliable

Each Interstate and Non-Interstate NHS segment in the region follows this procedure to determine whether the segment is reliable or not reliable. Each of the reliable individual Interstate and Non-Interstate NHS segments are then multiplied by the length of that particular segment, the annual vehicle volume on that segment, and an occupancy factor based on the average number of persons per vehicle that converts vehicular travel to person travel. These products are added together for the entire Interstate and Non-Interstate NHS network and divided by the same factors for the entire system to produce the regional percentage of reliable person-miles of travel on the Interstate and Non-Interstate NHS systems. An example of this calculation is shown on the next page.



The HRTPO Board established the following roadway performance targets for 2021:

- Interstate Travel Time Reliability (% reliable person-miles of travel) **>82%**
- Non-Interstate National Highway System Travel Time Reliability (% reliable person-miles of travel) **>82.5%**

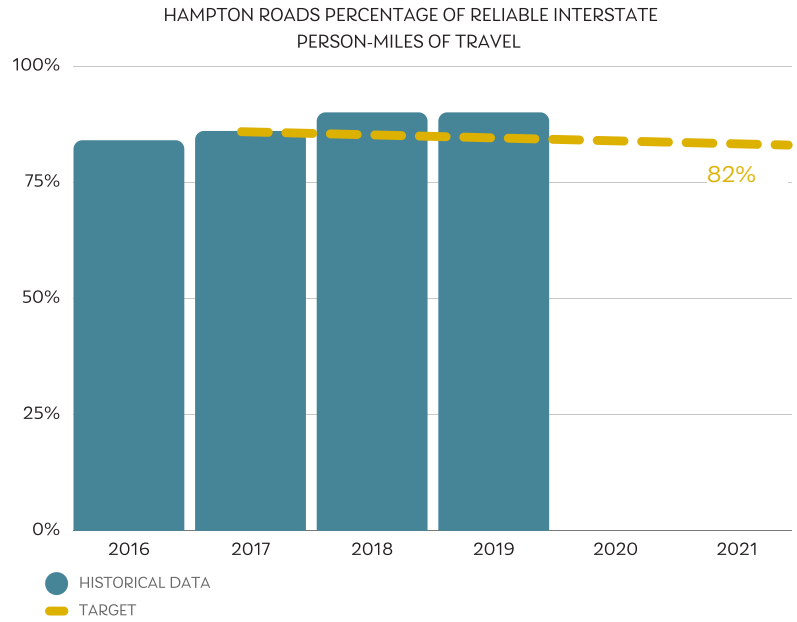
The following charts on the right show the four-year targets established by the HRTPO, along with historical data, for the percentage of reliable person-miles of travel in Hampton Roads.

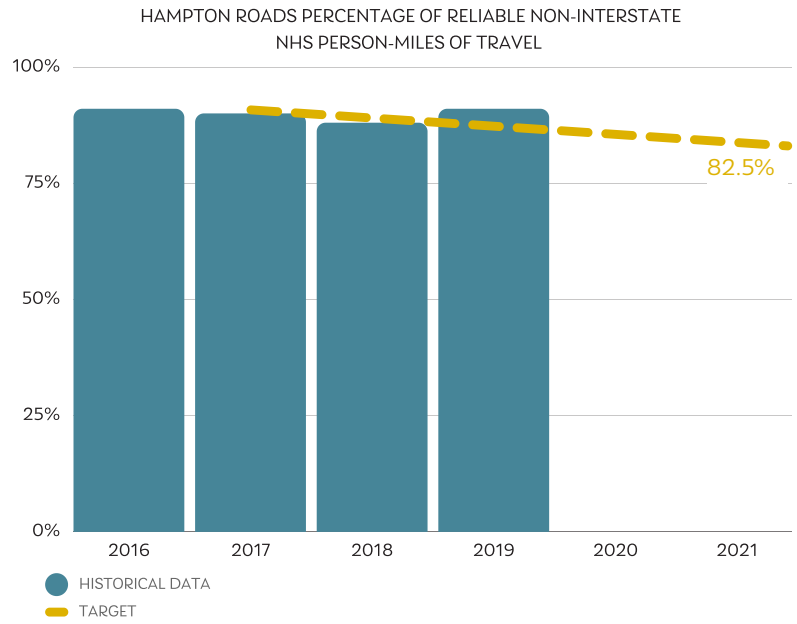
LRTP – ROADWAY PERFORMANCE CONSIDERATIONS

The HRTPO PPT uses the Level of Travel Time Reliability (LOTTR) to measure travel time reliability.

2045 LRTP Project Prioritization Weighting Factors - Project Utility

Roadway Projects	
Travel Time Reliabililty	**15.00**
Level of Travel Time Reliability (LOTTR)	*10.00*
Truck Travel Time Reliability (TTTR)	*5.00*



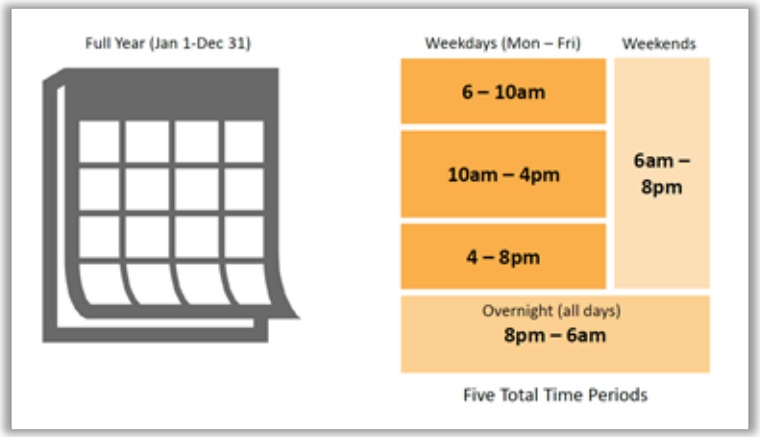


MEASURES

- Truck Travel Time Reliability (TTTR) Index on the Interstate system

This measure examines the reliability of moving freight via truck on the regional Interstate system. The reliability of freight movement is calculated using a new metric referred to as the Truck Travel Time Reliability (TTTR) Index. The TTTR ratio is defined as the ratio of the 95th percentile travel time for trucks to the mean (50th percentile) travel time for trucks.

Truck travel times throughout the year are divided into five reporting periods: weekday morning peak, weekday midday, weekday afternoon peak, weekends, and overnight. The time of day that each period represents is shown below.

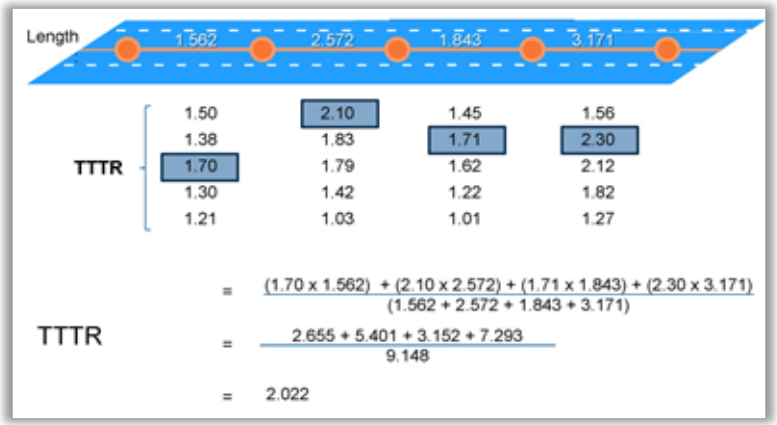


A TTTR ratio is calculated for each Interstate segment by direction for each of these time periods over the course of an entire year. This produces a total of five TTTR ratios for each Interstate segment. For each segment, the maximum of these five TTTR ratios is determined and used to calculate the regional index. This calculation is highlighted below.

$$\frac{\text{Longer Truck Travel Time (95th)}}{\text{Normal Truck Travel Time (50th)}} = \frac{\text{\# seconds}}{\text{\# seconds}} = \text{Truck Travel Time Reliability (TTTR) Ratio}$$

Truck Travel Time Reliability (TTTR) (Single Segment, Interstate Highway System)		
Monday – Friday	6am – 10am	$TTTR = \frac{72 \text{ sec}}{50 \text{ sec}} = 1.44$
	10am – 4pm	TTTR = 1.39
	4pm – 8pm	TTTR = 1.49
Weekends	6am – 8pm	TTTR = 1.31
Overnight	8pm – 6am	TTTR = 1.20
Maximum TTTR		1.49

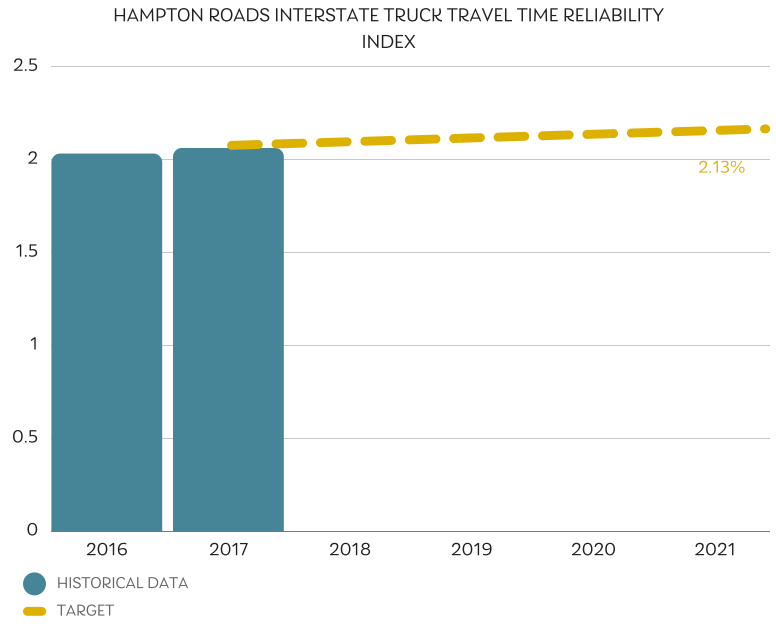
These individual Interstate segment Maximum TTTR ratios are then multiplied by the length of that particular segment. These products are added together for the entire region and divided by the total directional length of the regional Interstate system to produce the regional Truck Travel Time Reliability Index. An example of this calculation is shown below.



The HRTPO Board established the following roadway performance targets for 2021:

- Truck Travel Time Reliability (TTTR) Index on the Interstate system **<2.13**

The following chart shows the four-year target established by the HRTPO, along with historical data, for the percentage of reliable travel for freight in Hampton Roads.



LRTP – FREIGHT CONSIDERATIONS

The HRTPO PPT assesses the benefits of freight in multiple ways. The PPT evaluates projects based on project type, with specific measures for highway, interchange, bridge and tunnel, intermodal/freight, transit, and active transportation. Freight specific prioritization measures look at how projects better accommodate intermodal movements, improve rail/vehicular access, impact on truck movement, improved access to truck zones/flow of rail/access to airports, and Truck Travel Time Reliability (TTTR).

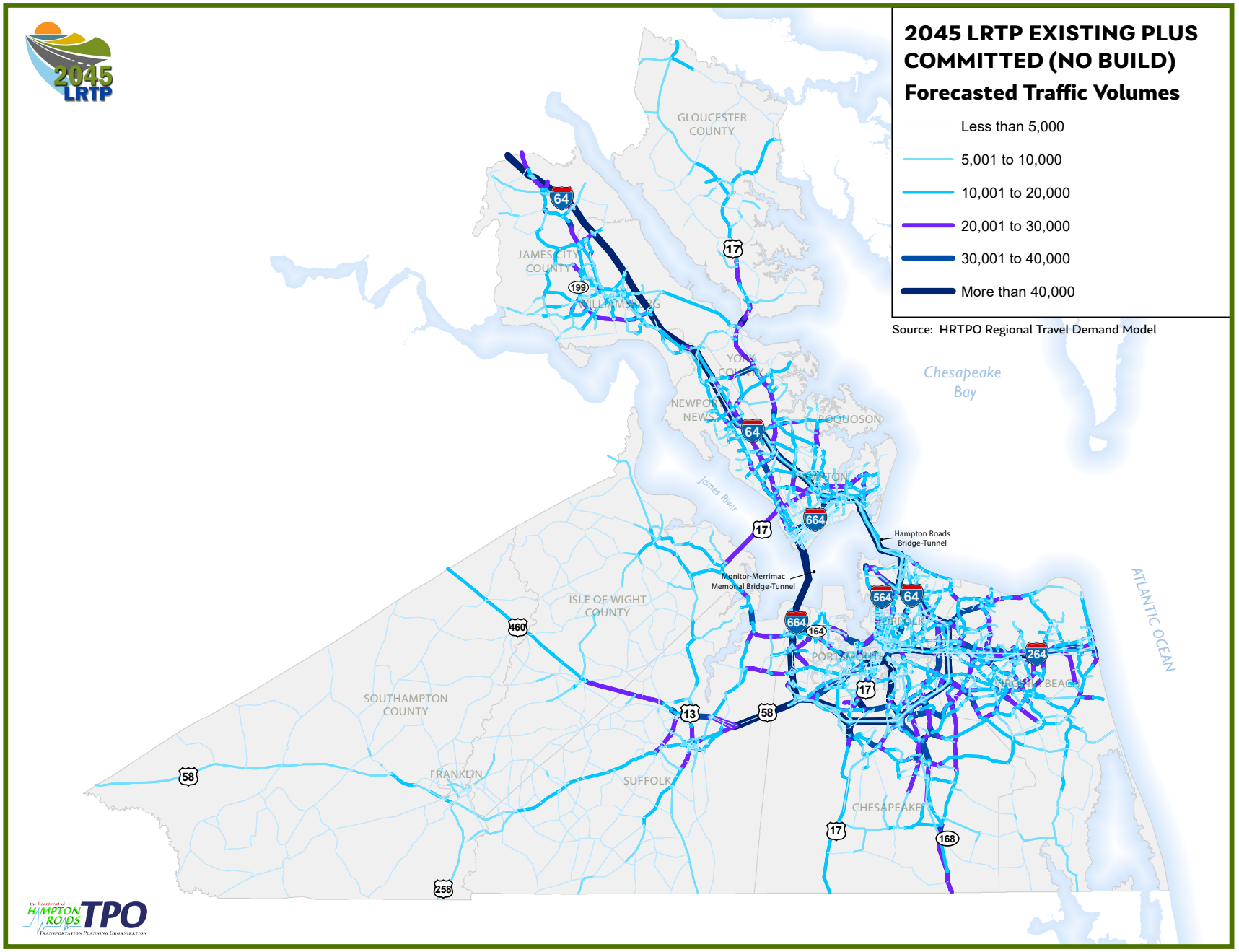
2045 LRTP Project Prioritization Weighting Factors - Project Utility

Intermodal/Freight Projects	
PROJECT UTILITY	
Better Accommodates Intermodal Movements	**30.00**
Improves Rail/Vehicular Access	**30.00**
Travel Time Reliabililty	**15.00**
Level of Travel Time Reliability (LOTTR)	*5.00*
Truck Travel Time Reliability (TTTR)	*10.00*
System Continuity and Connectivity	**15.00**
Degree of Regional Impact	*10.00*
Resiliency	*3.00*
Addresses a Gap	*2.00*
Modal Enhancements	**10.00**
Enhances Other Modal Categories	*6.00*
Access to Multimodal Choices	*4.00*
PROJECT UTILITY TOTAL	***100.00***

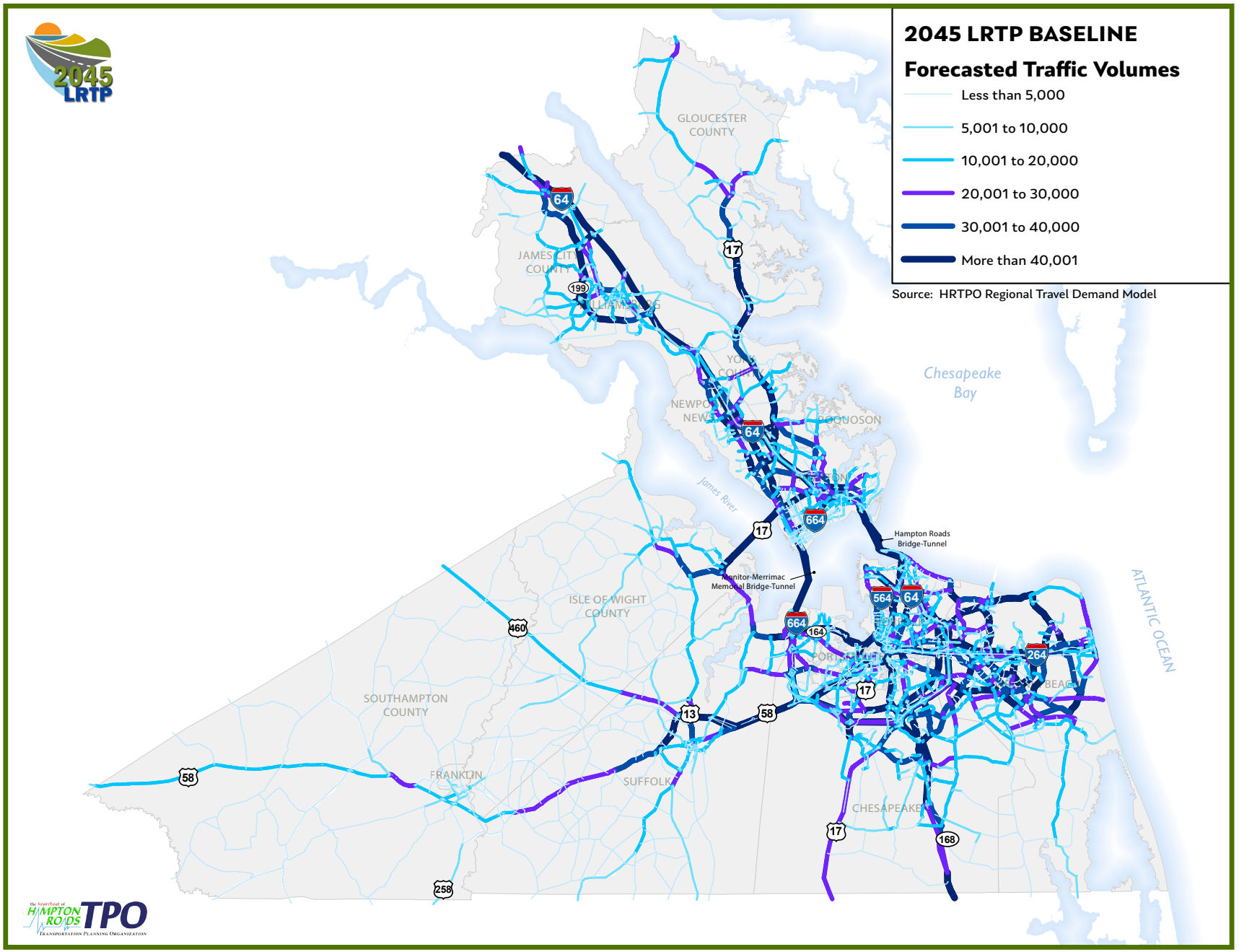
ECONOMIC VITALITY	
Travel Time and Delay Impacts	**30.00**
Total Reduction in Regional Travel Time	*15.00*
Total Reduction in Regional Delay	*15.00*
Labor Market Access	**20.00**
Impact on Truck Movement	*15.00*
Increases Access for High Density Employment Areas	*5.00*
Improves Interaction Between Modes of Travel for Basic Sector Industries	**20.00**
Increases Access for Port Facilities	*5.00*
Improves Access to Truck Zones	*5.00*
Improves Flow of Rail	*5.00*
Increases Access to Air	*5.00*
Increased Opportunity	**30.00**
Provides New of Increased Access	*15.00*
Supports Plans for Future Growth	*10.00*
Improved Access to Urban Development Areas/Governor's Opportunity Zones	*5.00*
ECONOMIC VITALITY TOTAL	***100.00***

FORECASTED 2045 VOLUMES AND CONGESTION DATA

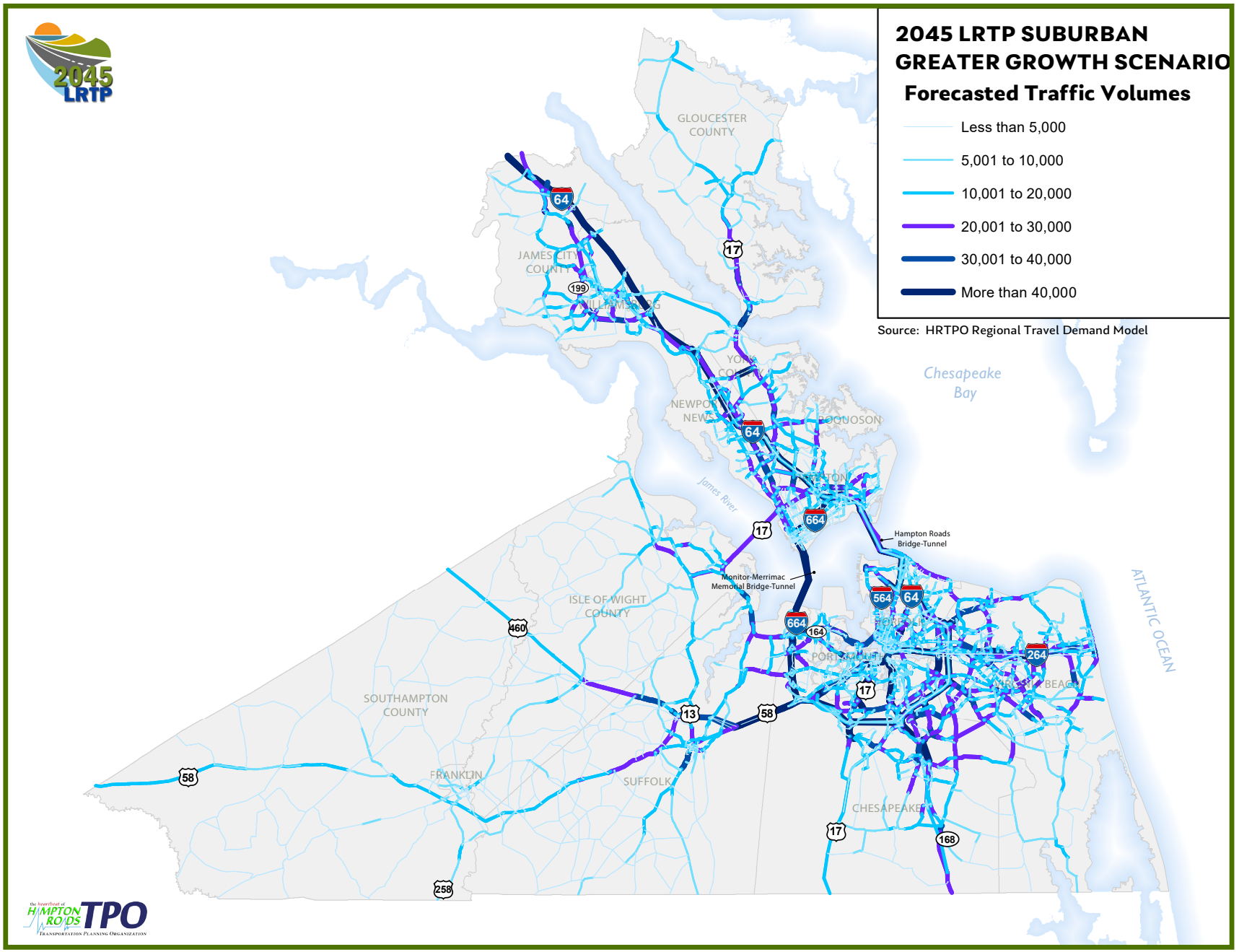
MAP 35: FORECASTED 2045 TRAFFIC VOLUME (DAILY) – EXISTING + COMMITTED NETWORK



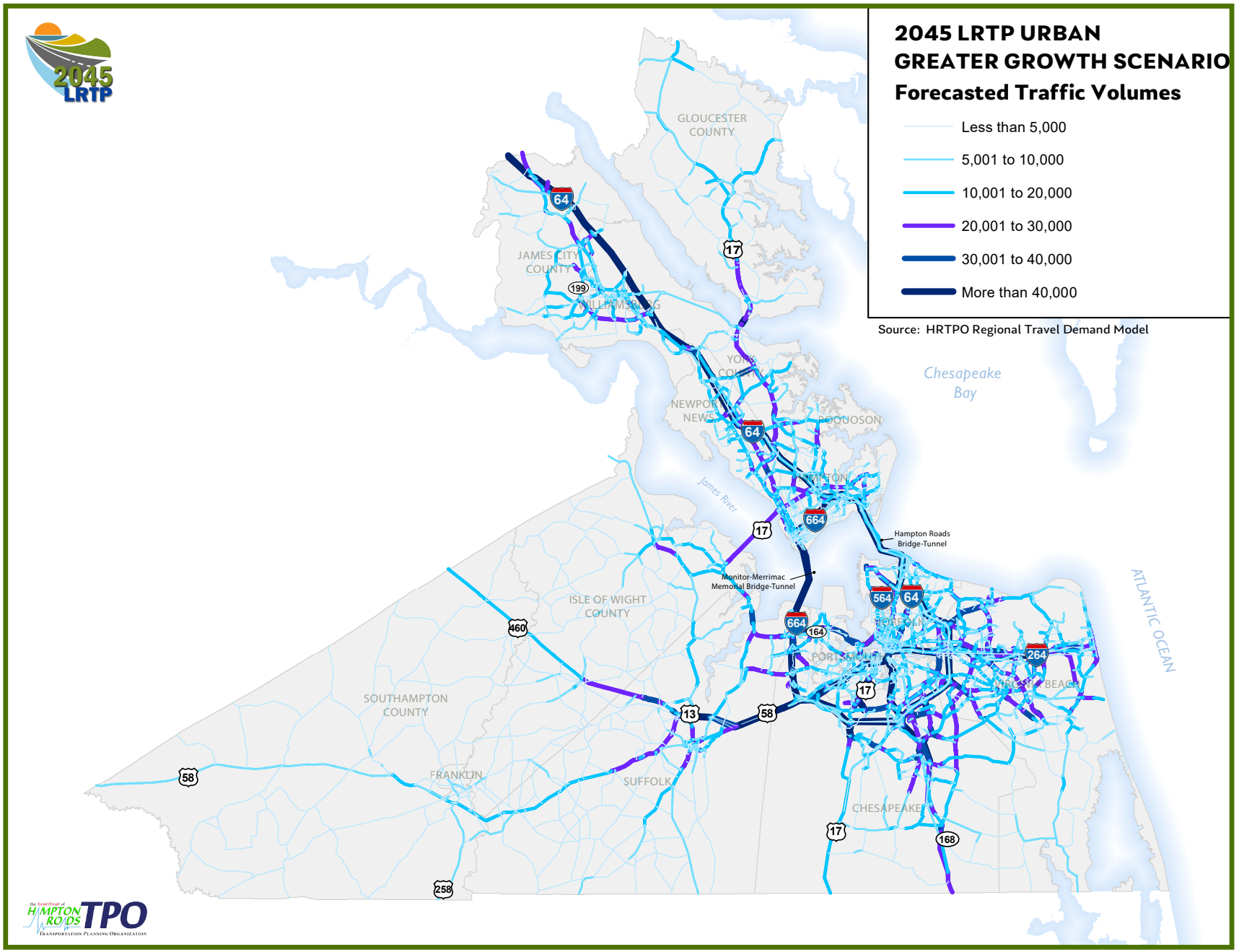
MAP 36: FORECASTED 2045 TRAFFIC VOLUME (DAILY) – BASELINE SCENARIO



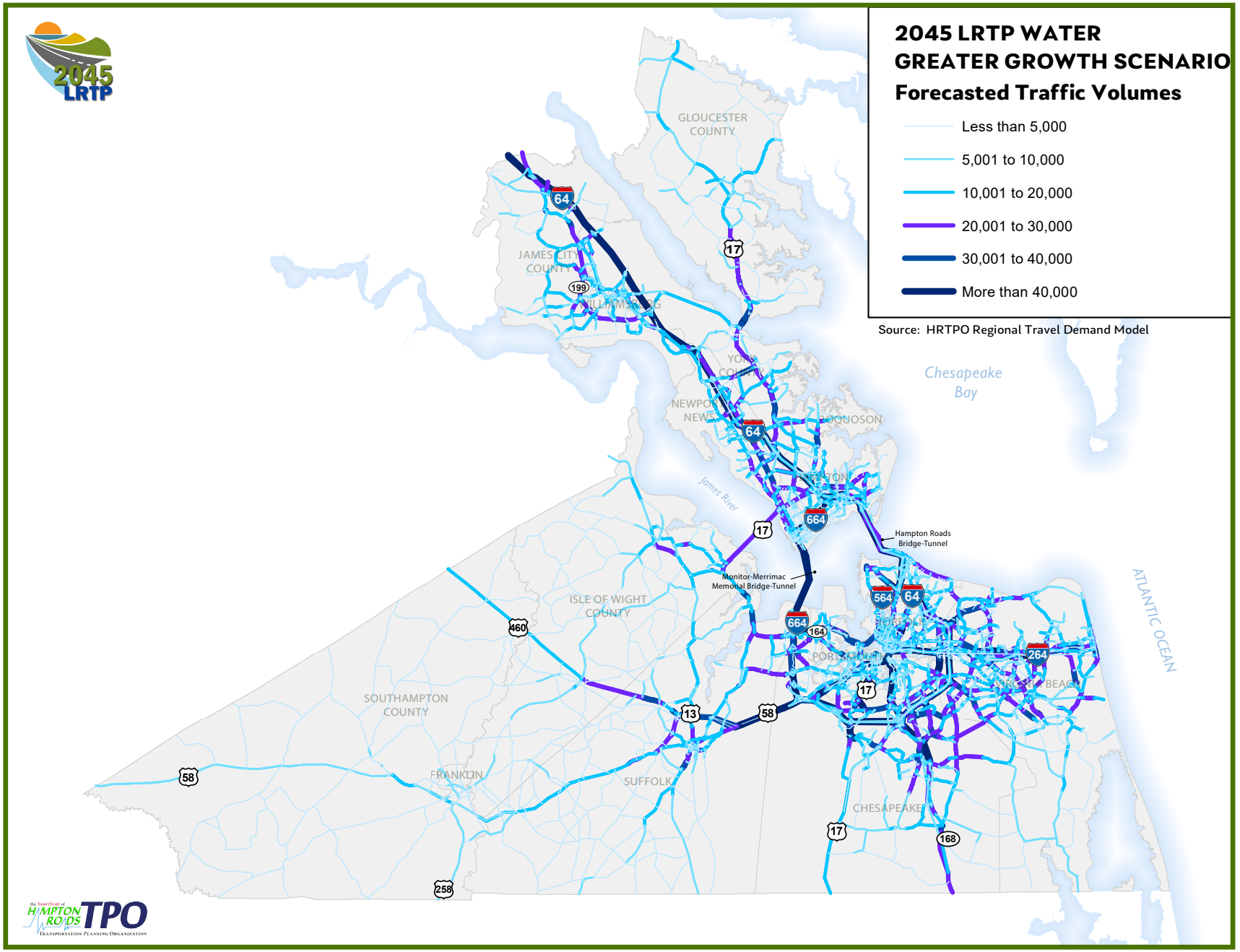
MAP 37: FORECASTED 2045 TRAFFIC VOLUME (DAILY)– SUBURBAN SCENARIO



MAP 38: FORECASTED 2045 TRAFFIC VOLUME (DAILY)– URBAN SCENARIO



MAP 39: FORECASTED 2045 TRAFFIC VOLUME (DAILY)– WATER SCENARIO



LEVELS OF SERVICE
for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

LEVELS OF SERVICE
for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. **No delays**
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. **No delays**
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. **Minimal delays**
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. **Minimal delays**
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. **Minimal delays**
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. **Significant delays**

Source: 2000 HCM, Exhibit 21-3, Speed-Flow Curves with LOS Criteria for Multi-Lane Highways

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
166	CHES	22ND ST	LIBERTY ST	BERKLEY AVE/NORFOLK CL		0.31	4	2	6,245	8,500	F	Severe
58	CHES	AIRLINE BLVD	I-664	JOLLIFF RD		0.38	4	4	10,822	11,100	A-C	Low to Mod.
58	CHES	AIRLINE BLVD	JOLLIFF RD	PORTSMOUTH CL		1.78	2	2	7,765	9,400	A-C	Low to Mod.
168	CHES	ATLANTIC AVE	CAMPOSTELLA RD	PROVIDENCE RD		0.38	4	4	17,690	23,300	A-C	Low to Mod.
168	CHES	ATLANTIC AVE	PROVIDENCE RD	OLD ATLANTIC AVE		1.07	4	4	18,730	24,900	A-C	Low to Mod.
168	CHES	ATLANTIC AVE	OLD ATLANTIC AVE	CAMPOSTELLA RD		0.57	4	4	10,929	16,500	A-C	Low to Mod.
166	CHES	BAINBRIDGE BLVD	DOMINION BLVD	GREAT BRIDGE BLVD		2.05	2	2	2,175	7,200	A-C	Low to Mod.
166	CHES	BAINBRIDGE BLVD	GREAT BRIDGE BLVD	MILITARY HWY		0.68	2	2	8,611	13,500	F	Severe
166	CHES	BAINBRIDGE BLVD	MILITARY HWY	FREEMAN AVE		0.70	2	2	11,961	16,900	F	Severe
166	CHES	BAINBRIDGE BLVD	FREEMAN AVE	SWAIN AVE		0.94	4	4	11,041	13,700	A-C	Low to Mod.
166	CHES	BAINBRIDGE BLVD	SWAIN AVE	CHESAPEAKE DR		0.20	2	2	11,041	12,500	A-C	Low to Mod.
166	CHES	BAINBRIDGE BLVD	CHESAPEAKE DR	POINDEXTER ST		0.93	4	4	9,568	11,000	A-C	Low to Mod.
337	CHES	BAINBRIDGE BLVD	POINDEXTER ST	NORFOLK CL		0.53	2	2	1,874	3,400	A-C	Low to Mod.
902	CHES	BALLAHACK RD	GEORGE WASHINGTON HWY	OLD BATTLEFIELD BLVD		11.72	2	2	1,011	3,000	D	Moderate
168	CHES	BATTLEFIELD BLVD	NORTH CAROLINA STATE LINE	BALLAHACK RD		0.50	4	4	26,321	51,400	F	Severe
168	CHES	BATTLEFIELD BLVD	BALLAHACK RD	GALLBUSH RD		1.00	4	4	26,321	49,100	E	Severe
168	CHES	BATTLEFIELD BLVD	GALLBUSH RD	INDIAN CREEK RD		2.63	2	2	15,015	27,000	F	Severe
168	CHES	BATTLEFIELD BLVD	INDIAN CREEK RD	CENTERVILLE TNPK		1.54	2	2	18,636	33,100	F	Severe
168	CHES	BATTLEFIELD BLVD	CENTERVILLE TNPK	HILLCREST PKWY		2.05	2	2	21,750	30,100	F	Severe
168	CHES	BATTLEFIELD BLVD	HILLCREST PKWY	PEACEFUL RD/HILLWELL RD		1.61	2	2	11,900	19,300	E	Severe
168	CHES	BATTLEFIELD BLVD	PEACEFUL RD/HILLWELL RD	HANBURY RD		0.57	2	2	11,900	18,400	F	Severe
168	CHES	BATTLEFIELD BLVD	HANBURY RD	JOHNSTOWN RD		1.61	2	2	13,628	16,300	D	Moderate
168	CHES	BATTLEFIELD BLVD	JOHNSTOWN RD	CEDAR RD		0.28	4	6	31,709	46,300	D	Moderate
168	CHES	BATTLEFIELD BLVD	CEDAR RD	GREAT BRIDGE BLVD/KEMPSVILLE RD		1.20	4	6	42,229	62,000	F	Severe
168	CHES	BATTLEFIELD BLVD	GREAT BRIDGE BLVD/KEMPSVILLE RD	GREAT BRIDGE BYPASS		0.19	6	8	39,526	58,100	A-C	Low to Mod.
168	CHES	BATTLEFIELD BLVD	GREAT BRIDGE BYPASS	VOLVO PKWY		1.97	6	8	56,203	74,400	F	Severe
168	CHES	BATTLEFIELD BLVD	VOLVO PKWY	I-64		0.65	6	8	74,086	91,000	F	Severe
168	CHES	BATTLEFIELD BLVD	I-64	MILITARY HWY		0.76	6	6	39,846	49,700	A-C	Low to Mod.
168	CHES	BATTLEFIELD BLVD	MILITARY HWY	CAMPOSTELLA RD		0.56	4	4	25,256	37,500	A-C	Low to Mod.
903	CHES	BENEFIT RD	JOHNSTOWN RD	SIGN PINE RD		1.80	2	2	3,296	4,800	D	Moderate
905	CHES	BLACKWATER RD	VIRGINIA BEACH CL	FENTRESS AIRFIELD RD		2.59	2	2	2,939	4,300	D	Moderate
17	CHES	BRIDGE RD	SUFFOLK CL	CHURCHLAND BLVD		0.61	4	4	23,213	25,700	A-C	Low to Mod.
907	CHES	BRUCE RD	TAYLOR RD	TYRE NECK RD		1.60	2	2	12,357	14,900	F	Severe
909	CHES	BUTTS STATION RD	KEMPSVILLE RD	ELBOW RD		1.32	2	2	15,738	18,100	F	Severe
909	CHES	BUTTS STATION RD	ELBOW RD	CENTERVILLE TNPK		0.76	2	2	15,738	18,400	F	Severe
911	CHES	CAMPOSTELLA RD	GREAT BRIDGE BLVD	MILITARY HWY		1.32	2	2	6,582	10,700	F	Severe
911	CHES	CAMPOSTELLA RD	MILITARY HWY	BATTLEFIELD BLVD		1.06	2	2	15,805	14,100	E	Severe
168	CHES	CAMPOSTELLA RD	BATTLEFIELD BLVD	PROVIDENCE RD		0.44	2	2	11,662	13,300	D	Moderate
168	CHES	CAMPOSTELLA RD	PROVIDENCE RD	ATLANTIC AVE		1.47	2	2	12,729	15,500	F	Severe
168	CHES	CAMPOSTELLA RD	ATLANTIC AVE	NORFOLK CL/BERKELY AVE EXT		0.34	6	6	17,593	25,600	A-C	Low to Mod.
196	CHES	CANAL DR	MILITARY HWY	GEORGE WASHINGTON HWY		0.97	4	4	21,167	23,900	A-C	Low to Mod.
913	CHES	CAVALIER BLVD	MILITARY HWY	PORTSMOUTH CL		1.24	4	4	12,757	15,300	A-C	Low to Mod.
165	CHES	CEDAR RD	SHIPYARD RD/MOSES GRANDY TR	SCENIC PKWY		2.02	2	2	8,912	16,300	F	Severe
165	CHES	CEDAR RD	SCENIC PKWY	MOSES GRANDY TRAIL		1.02	2	2	8,912	11,900	A-C	Low to Mod.
165	CHES	CEDAR RD	DOMINION BLVD	BELLS MILL RD (WEST)		0.65	4	4	28,272	38,500	F	Severe
165	CHES	CEDAR RD	BELLS MILL RD (WEST)	BELLS MILL RD (EAST)		1.68	4	4	33,466	39,800	F	Severe
165	CHES	CEDAR RD	BELLS MILL RD (EAST)	BRIARFIELD DR		0.88	4	4	29,695	36,900	A-C	Low to Mod.
165	CHES	CEDAR RD	BRIARFIELD DR	BATTLEFIELD BLVD		0.79	3	3	29,695	39,500	F	Severe
917	CHES	CENTERVILLE TNPK	BATTLEFIELD BLVD	ETHRIDGE MANOR BLVD		3.75	2	2	6,120	10,600	A-C	Low to Mod.
917	CHES	CENTERVILLE TNPK	ETHRIDGE MANOR BLVD	MT PLEASANT RD		2.15	2	2	9,432	13,800	F	Severe
917	CHES	CENTERVILLE TNPK	MT PLEASANT RD	BUTTS STATION RD		1.27	2	2	16,954	19,700	F	Severe
917	CHES	CENTERVILLE TNPK	BUTTS STATION RD	ELBOW RD		0.45	2	2	10,918	15,600	E	Severe
917	CHES	CENTERVILLE TNPK	ELBOW RD	S.E. PARKWAY CORRIDOR		0.45	2	2	9,523	18,500	F	Severe
917	CHES	CENTERVILLE TNPK	S.E. PARKWAY CORRIDOR	VA BEACH CL		0.95	2	2	9,523	21,900	F	Severe

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ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
168	CHES	CHESAPEAKE EXPWY	GALLBUSH RD	BATTLEFIELD BLVD (NEAR INDIAN CREEK)	NB	2.61	2	2	12,104	23,500	A-C	Low to Mod.
					SB		2	2			A-C	Low to Mod.
168	CHES	CHESAPEAKE EXPWY	BATTLEFIELD BLVD (NEAR INDIAN CREEK)	HILLCREST PKWY	NB	2.63	2	2	12,000	23,700	A-C	Low to Mod.
					SB		2	2			A-C	Low to Mod.
168	CHES	CHESAPEAKE EXPWY	HILLCREST PKWY	BATTLEFIELD BLVD (S OF GREAT BRIDGE)	NB	2.21	2	3	32,000	47,600	A-C	Low to Mod.
					SB		2	3			A-C	Low to Mod.
168	CHES	CHESAPEAKE EXPWY	BATTLEFIELD BLVD (S OF GREAT BRIDGE)	HANBURY RD	NB	0.59	2	3	33,444	49,000	A-C	Low to Mod.
					SB		2	3			A-C	Low to Mod.
168	CHES	CHESAPEAKE EXPWY	HANBURY RD	MT PLEASANT RD	NB	1.31	2	3	50,612	75,800	A-C	Low to Mod.
					SB		2	3			A-C	Low to Mod.
168	CHES	CHESAPEAKE EXPWY	MT PLEASANT RD	BATTLEFIELD BLVD (N OF GREAT BRIDGE)	NB	2.31	2	4	71,771	98,200	A-C	Low to Mod.
					SB		2	4			A-C	Low to Mod.
168	CHES	CHESAPEAKE EXPWY	BATTLEFIELD BLVD (N OF GREAT BRIDGE)	DOMINION BLVD	NB	1.90	2	4	73,272	98,500	A-C	Low to Mod.
					SB		2	4			A-C	Low to Mod.
168	CHES	CHESAPEAKE EXPWY	DOMINION BLVD	I-64	NB	0.57	3	4	69,000	91,800	A-C	Low to Mod.
					SB		3	4			A-C	Low to Mod.
923	CHES	CHURCHLAND BLVD	WESTERN BRANCH BLVD	TOWNE POINT RD		0.59	2	2	6,211	4,800	A-C	Low to Mod.
923	CHES	CHURCHLAND BLVD	TOWNE POINT RD	PORTSMOUTH CL		0.11	4	4	14,478	13,500	D	Moderate
1036	CHES	DOCK LANDING RD	JOLLIFF RD	I-664		0.39	4	4	6,030	10,500	A-C	Low to Mod.
1036	CHES	DOCK LANDING RD	I-664	EAGLE HILL DR		0.74	4	4	6,225	9,100	A-C	Low to Mod.
1036	CHES	DOCK LANDING RD	EAGLE HILL DR	PORTSMOUTH BLVD		2.44	2	2	6,163	9,000	A-C	Low to Mod.
17	CHES	DOMINION BLVD	GEORGE WASHINGTON HWY	CEDAR RD		4.00	4	4	10,383	21,600	A-C	Low to Mod.
17	CHES	DOMINION BLVD	DOMINION LAKES BLVD	GREAT BRIDGE BLVD	NB	0.86	2	2	28,166	35,700	A-C	Low to Mod.
					SB		2	2			A-C	Low to Mod.
17	CHES	DOMINION BLVD	GREAT BRIDGE BLVD	CHESAPEAKE EXPRESSWAY	NB	0.30	2	2	40,473	51,300	A-C	Low to Mod.
					SB		2	2			A-C	Low to Mod.
17	CHES	DOMINION BLVD/VETERANS BRIDGE	CEDAR RD	DOMINION LAKES BLVD	NB	1.68	2	2	29,271	39,800	A-C	Low to Mod.
					SB		2	2			A-C	Low to Mod.
949	CHES	EDINBURGH PKWY/ST BRIDES RD	SIGN PINE RD	HILLCREST PKWY		0.80	2	2	7,000	12,300	E	Severe
929	CHES	ELBOW RD	BUTTS STATION RD	CENTERVILLE TNPK		0.86	2	2	5,832	9,700	A-C	Low to Mod.
929	CHES	ELBOW RD	CENTERVILLE TNPK	VA BEACH CL		2.85	2	2	8,873	19,000	F	Severe
937	CHES	ETHERIDGE MANOR RD	HILLWELL RD	RIVER GATE RD		1.23	2	2	15,670	19,500	F	Severe
937	CHES	ETHERIDGE MANOR RD	RIVER GATE RD	CENTERVILLE TPKE		0.76	4	4	15,670	17,600	A-C	Low to Mod.
931	CHES	FENTRESS AIRFIELD RD	BLACKWATER RD	MOUNT PLEASANT RD		0.16	2	2	5,415	6,800	A-C	Low to Mod.
933	CHES	FREEMAN AVE	I-464	BAINBRIDGE BLVD		0.20	4	4	9,234	14,900	A-C	Low to Mod.
17	CHES	GEORGE WASHINGTON HWY	NORTH CAROLINA STATE LINE	DOMINION BLVD		9.83	4	4	15,196	25,900	A-C	Low to Mod.
17	CHES	GEORGE WASHINGTON HWY	DOMINION BLVD	GW HWY RELOCATED		2.83	2	2	5,857	11,800	E	Severe
17	CHES	GEORGE WASHINGTON HWY	GW HWY RELOCATED	MOSES GRANDY TR @ HINTON AVE		0.55	2	2	5,857	14,300	A-C	Low to Mod.
17	CHES	GEORGE WASHINGTON HWY	MILL CREEK PKWY	WILLOWOOD DR		0.80	4	4	33,820	45,700	A-C	Low to Mod.
17	CHES	GEORGE WASHINGTON HWY	WILLOWOOD DR	I-64		0.38	4	4	33,820	47,500	D	Moderate
17	CHES	GEORGE WASHINGTON HWY	I-64	MILITARY HWY		0.94	4	4	23,925	30,100	A-C	Low to Mod.
17	CHES	GEORGE WASHINGTON HWY	MILITARY HWY	CANAL DR		0.98	2	4	13,359	19,800	A-C	Low to Mod.
17	CHES	GEORGE WASHINGTON HWY	CANAL DR	PORTSMOUTH CL		0.61	4	4	31,868	39,400	D	Moderate
190	CHES	GREAT BRIDGE BLVD	BAINBRIDGE BLVD	CAMPOSTELLA RD		0.84	2	2	4,207	5,600	A-C	Low to Mod.
190	CHES	GREAT BRIDGE BLVD	CAMPOSTELLA RD	I-64		0.30	2	2	8,723	11,600	F	Severe
190	CHES	GREAT BRIDGE BLVD	I-64	DOMINION BLVD		0.26	3	3	13,789	16,300	F	Severe
190	CHES	GREAT BRIDGE BLVD	DOMINION BLVD	RIVERWALK PKWY WEST		0.50	4	4	14,711	15,400	A-C	Low to Mod.
190	CHES	GREAT BRIDGE BLVD	RIVERWALK PKWY WEST	BATTLEFIELD BLVD		1.82	2	2	14,711	15,400	F	Severe
935	CHES	GREENBRIER PKWY	KEMPSVILLE RD	VOLVO PKWY		1.86	4	4	29,157	34,300	F	Severe
935	CHES	GREENBRIER PKWY	VOLVO PKWY	EDEN WAY		0.41	6	6	46,169	49,700	D	Moderate
935	CHES	GREENBRIER PKWY	EDEN WAY	I-64		0.69	6	6	83,036	90,900	F	Severe
935	CHES	GREENBRIER PKWY	I-64	WOODLAKE DR		0.50	6	6	56,150	62,500	F	Severe
935	CHES	GREENBRIER PKWY	WOODLAKE DR	MILITARY HWY		0.26	6	6	31,765	39,000	A-C	Low to Mod.
17	CHES	GW HWY (DEEP CREEK BRIDGE)	MOSES GRANDY TR @ HINTON AVE	MILL CREEK PKWY		0.10	2	5	33,820	52,500	F	Severe

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64	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	VA BEACH CL	GREENBRIER PKWY	EB	1.30	0	1	N/A	22,300	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	GREENBRIER PKWY	BATTLEFIELD BLVD	EB	1.42	0	1	N/A	15,100	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	BATTLEFIELD BLVD	I-464	EB	1.08	0	1	N/A	13,100	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	I-464	GEORGE WASHINGTON HWY	EB	4.38	0	2	N/A	24,900	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	GEORGE WASHINGTON HWY	MILITARY HWY	EB	1.53	0	2	N/A	30,000	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	MILITARY HWY	I-264&664	EB	2.31	0	2	N/A	33,600	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
664	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	I-64 & I-264	ROUTES 13/58/460	EB	1.70	0	2	N/A	19,300	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
664	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	ROUTES 13/58/460	DOCK LANDING RD	EB	1.25	0	2	N/A	19,300	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
664	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	DOCK LANDING RD	PORTSMOUTH BLVD	EB	1.14	0	2	N/A	19,300	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
664	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	PORTSMOUTH BLVD	PUGHSVILLE RD	EB	2.06	0	2	N/A	22,800	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
664	CHES	HAMPTON ROADS EXPRESS LANES NETWORK	PUGHSVILLE RD	SUFFOLK CL	EB	0.83	0	2	N/A	22,800	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
937	CHES	HANBURY RD	JOHNSTOWN RD	BATTLEFIELD BLVD		1.01	2	2	10,132	12,400	A-C	Low to Mod.
937	CHES	HANBURY RD	BATTLEFIELD BLVD	CHESAPEAKE EXPRESSWAY		0.26	4	4	17,048	21,100	A-C	Low to Mod.
937	CHES	HANBURY RD	CHESAPEAKE EXPRESSWAY	HILLWELL RD		0.38	4	4	17,048	20,800	A-C	Low to Mod.
949	CHES	HILLCREST PKWY	EDINBURGH PKWY	CHESAPEAKE EXPRESSWAY		0.36	6	6	15,000	23,200	A-C	Low to Mod.
949	CHES	HILLCREST PKWY	CHESAPEAKE EXPRESSWAY	BATTLEFIELD BLVD		0.30	4	4	18,000	23,100	A-C	Low to Mod.
264	CHES	I-264	I-64&664	WCL PORTSMOUTH	EB	1.23	2	2	57,845	75,400	A-C	Low to Mod.
					WB		2	2			F	Severe
464	CHES	I-464	I-64	MILITARY HWY	NB	1.00	3	3	77,532	93,100	A-C	Low to Mod.
					SB		3	3			E	Severe
464	CHES	I-464	MILITARY HWY	FREEMAN AVE	NB	0.97	3	3	63,498	81,700	A-C	Low to Mod.
					SB		3	3			D	Moderate
464	CHES	I-464	FREEMAN AVE	POINDEXTER ST	NB	1.90	3	3	63,956	79,900	A-C	Low to Mod.
					SB		3	3			D	Moderate
464	CHES	I-464	POINDEXTER ST	NORFOLK CL	NB	0.72	2	2	62,165	77,100	A-C	Low to Mod.
					SB		2	2			F	Severe
64	CHES	I-64	VA BEACH CL	GREENBRIER PKWY	EB	1.30	4	3	151,015	155,000	F	Severe
					WB		4	3			D	Moderate
64	CHES	I-64	GREENBRIER PKWY	BATTLEFIELD BLVD	EB	1.42	6	5	140,927	204,700	A-C	Low to Mod.
					WB		6	5			A-C	Low to Mod.
64	CHES	I-64	BATTLEFIELD BLVD	I-464	EB	1.08	5	4	121,600	138,500	A-C	Low to Mod.
					WB		5	4			A-C	Low to Mod.
64	CHES	I-64	I-464	GEORGE WASHINGTON HWY	EB	4.38	2	2	98,358	107,400	F	Severe
					WB		2	2			F	Severe
64	CHES	I-64	GEORGE WASHINGTON HWY	MILITARY HWY	EB	1.53	2	2	89,093	96,400	F	Severe
					WB		2	2			F	Severe
64	CHES	I-64	MILITARY HWY	I-264&664	EB	2.31	2	2	92,279	97,000	D	Moderate
					WB		2	2			E	Severe
664	CHES	I-664	I-64 & I-264	ROUTES 13/58/460	EB	1.70	4	4	128,008	146,500	A-C	Low to Mod.
					WB		4	4			D	Moderate
664	CHES	I-664	ROUTES 13/58/460	DOCK LANDING RD	EB	1.25	2	2	99,024	108,300	F	Severe
					WB		3	3			E	Severe
664	CHES	I-664	DOCK LANDING RD	PORTSMOUTH BLVD	EB	1.14	2	2	96,951	109,100	F	Severe
					WB		2	2			F	Severe
664	CHES	I-664	PORTSMOUTH BLVD	PUGHSVILLE RD	EB	2.06	2	2	91,445	91,800	F	Severe
					WB		2	2			E	Severe
664	CHES	I-664	PUGHSVILLE RD	SUFFOLK CL	EB	0.83	3	3	90,256	92,900	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.

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407	CHES	INDIAN RIVER RD	NORFOLK CL	KEMP LANE		0.39	6	6	21,524	24,200	A-C	Low to Mod.
407	CHES	INDIAN RIVER RD	KEMP LANE	VA BEACH CL		1.22	6	6	28,054	31,400	A-C	Low to Mod.
941	CHES	JOHNSTOWN RD	BENEFIT RD	STONEGATE PKWY		3.85	2	2	3,534	5,700	E	Severe
941	CHES	JOHNSTOWN RD	STONEGATE PKWY	HANBURY RD		1.27	2	2	3,534	9,600	F	Severe
941	CHES	JOHNSTOWN RD	HANBURY RD	PARKER RD		0.76	2	2	3,534	9,700	A-C	Low to Mod.
941	CHES	JOHNSTOWN RD	PARKER RD	BATTLEFIELD BLVD		0.49	4	4	3,534	10,800	A-C	Low to Mod.
191	CHES	JOLLIFF RD	AIRLINE BLVD	DOCK LANDING RD		2.22	2	2	3,642	6,200	A-C	Low to Mod.
191	CHES	JOLLIFF RD	DOCK LANDING RD	PORTSMOUTH BLVD		0.90	2	2	4,159	6,600	D	Moderate
190	CHES	KEMPSVILLE RD	BATTLEFIELD BLVD	CHESAPEAKE EXPRESSWAY		0.23	5	5	33,704	40,100	F	Severe
190	CHES	KEMPSVILLE RD	CHESAPEAKE EXPRESSWAY	GREENBRIER PKWY		1.04	6	6	34,111	42,400	A-C	Low to Mod.
190	CHES	KEMPSVILLE RD	GREENBRIER PKWY	VOLVO PKWY		1.89	6	6	23,044	32,700	A-C	Low to Mod.
190	CHES	KEMPSVILLE RD	VOLVO PKWY	VA BEACH CL		0.38	6	6	21,399	23,600	A-C	Low to Mod.
943	CHES	LIBERTY ST	SCL NORFOLK	22ND ST		0.36	2	2	3,524	4,600	A-C	Low to Mod.
246	CHES	LIBERTY ST	22ND ST	POINDEXTER RD		0.06	4	4	7,424	10,700	D	Moderate
246	CHES	LIBERTY ST	POINDEXTER RD	OLD ATLANTIC AVE		0.37	4	4	7,424	8,500	A-C	Low to Mod.
246	CHES	LIBERTY ST	OLD ATLANTIC AVE	CAMPOSTELLA RD		0.37	4	4	4,662	5,700	A-C	Low to Mod.
13	CHES	MILITARY HWY	AIRLINE BLVD	I-64		3.28	4	4	11,342	10,300	A-C	Low to Mod.
13	CHES	MILITARY HWY	I-64	CAVALIER BLVD		0.30	4	4	20,483	23,700	A-C	Low to Mod.
13	CHES	MILITARY HWY	CAVALIER BLVD	GEORGE WASHINGTON HWY		0.91	4	4	20,483	28,700	A-C	Low to Mod.
13	CHES	MILITARY HWY	GEORGE WASHINGTON HWY	CANAL DR		1.01	4	4	20,391	23,500	A-C	Low to Mod.
13	CHES	MILITARY HWY	BAINBRIDGE BLVD	I-464		0.46	4	4	40,799	46,200	A-C	Low to Mod.
13	CHES	MILITARY HWY	I-464	CAMPOSTELLA RD		0.64	4	8	27,954	38,600	A-C	Low to Mod.
13	CHES	MILITARY HWY	CAMPOSTELLA RD	BATTLEFIELD BLVD		0.60	4	8	27,149	45,000	A-C	Low to Mod.
13	CHES	MILITARY HWY	BATTLEFIELD BLVD	ALLISON DR		0.66	6	8	26,418	44,600	A-C	Low to Mod.
13	CHES	MILITARY HWY	ALLISON DR	GREENBRIER PKWY		0.50	4	8	28,616	46,800	A-C	Low to Mod.
13	CHES	MILITARY HWY	GREENBRIER PKWY	VA BEACH CL		1.68	4	8	33,849	49,500	A-C	Low to Mod.
13	CHES	MILITARY HWY/GILMERTON BRIDGE	CANAL DR	BAINBRIDGE BLVD		2.18	4	4	41,427	44,700	D	Moderate
165	CHES	MOSES GRANDY TRAIL	GW HWY @ HINTON AVE	SHIPYARD/CEDAR RD/GW HWY RELOC		0.32	2	4	14,116	23,100	A-C	Low to Mod.
165	CHES	MOSES GRANDY TRAIL	SHIPYARD RD/CEDAR RD	CEDAR RD		1.97	4	4	14,116	19,700	A-C	Low to Mod.
165	CHES	MOSES GRANDY TRAIL	CEDAR RD	DOMINION BLVD		0.21	4	4	14,116	20,300	A-C	Low to Mod.
165	CHES	MOUNT PLEASANT RD	BATTLEFIELD BLVD	CHESAPEAKE EXPRESSWAY		0.76	4	4	19,593	22,600	A-C	Low to Mod.
165	CHES	MOUNT PLEASANT RD	CHESAPEAKE EXPRESSWAY	CENTERVILLE TNPK		2.43	2	2	20,297	25,800	F	Severe
165	CHES	MOUNT PLEASANT RD	CENTERVILLE TNPK	FENTRESS AIRFIELD RD		4.53	2	2	10,996	12,200	E	Severe
165	CHES	MOUNT PLEASANT RD	FENTRESS AIRFIELD RD	VA BEACH CL		0.91	2	2	11,684	13,900	E	Severe
901	CHES	OLD ATLANTIC AVE	ATLANTIC AVE	LIBERTY ST		0.31	4	4	4,977	6,300	A-C	Low to Mod.
944	CHES	OLD BATTLEFIELD BLVD	BALLAHACK RD	BATTLEFIELD BLVD		0.17	2	2	1,011	3,400	A-C	Low to Mod.
337	CHES	POINDEXTER ST	I-464	BAINBRIDGE BLVD		0.20	4	4	13,149	17,500	D	Moderate
166	CHES	POINDEXTER ST	BAINBRIDGE BLVD	LIBERTY ST		0.48	2	2	8,387	10,900	F	Severe
337	CHES	POINDEXTER ST (S NORFOLK JORDAN BRIDGE)	PORTSMOUTH CL	I-464		0.85	2	2	10,052	11,300	F	Severe
945	CHES	POPLAR HILL RD	WESTERN BRANCH BLVD	CHURCHLAND BLVD		0.23	4	4	11,666	12,400	A-C	Low to Mod.
337	CHES	PORTSMOUTH BLVD	SUFFOLK CL	JOLLIFF RD		0.75	4	4	15,820	22,600	A-C	Low to Mod.
337	CHES	PORTSMOUTH BLVD	JOLLIFF RD	I-664		0.60	4	4	24,136	32,800	A-C	Low to Mod.
337	CHES	PORTSMOUTH BLVD	I-664	TAYLOR RD		1.34	4	4	24,106	37,900	A-C	Low to Mod.
337	CHES	PORTSMOUTH BLVD	TAYLOR RD	DOCK LANDING RD		0.24	4	4	27,811	30,600	A-C	Low to Mod.
337	CHES	PORTSMOUTH BLVD	DOCK LANDING RD	PORTSMOUTH CL		0.49	4	4	28,158	30,700	A-C	Low to Mod.
409	CHES	PROVIDENCE RD	ATLANTIC AVE	CAMPOSTELLA RD		0.20	4	4	8,000	8,200	A-C	Low to Mod.
409	CHES	PROVIDENCE RD	CAMPOSTELLA RD	VA BEACH CL		2.34	4	4	16,429	16,700	A-C	Low to Mod.
947	CHES	PUGHSVILLE RD	SUFFOLK CL	I-664		0.63	4	4	11,953	21,600	A-C	Low to Mod.
947	CHES	PUGHSVILLE RD	I-664	TAYLOR RD		0.37	4	4	23,883	33,600	A-C	Low to Mod.
58	CHES	ROUTE 13/58/460	SUFFOLK CL	I-664	EB	2.50	3	3	81,834	93,900	A-C	Low to Mod.
					WB		3	3			D	Moderate
949	CHES	SIGN PINE RD	EDINBURGH PKWY	BENEFIT RD		1.02	2	2	3,690	9,000	A-C	Low to Mod.
953	CHES	TAYLOR RD	PORTSMOUTH BLVD	ELIZABETH HARBOR RD		0.77	4	4	21,031	26,100	A-C	Low to Mod.
953	CHES	TAYLOR RD	ELIZABETH HARBOR RD	BRUCE RD		0.99	4	4	21,031	24,600	A-C	Low to Mod.
953	CHES	TAYLOR RD	BRUCE RD	PUGHSVILLE RD		0.31	4	4	23,765	32,300	A-C	Low to Mod.
953	CHES	TAYLOR RD	PUGHSVILLE RD	WESTERN BRANCH BLVD		1.70	4	4	14,199	18,300	A-C	Low to Mod.
955	CHES	TOWNE POINT RD	PORTSMOUTH CL	CHURCHLAND BLVD		0.09	4	4	22,992	24,900	D	Moderate
957	CHES	TYRE NECK RD	BRUCE RD	SILVERWOOD BLVD		1.10	2	2	8,932	9,600	A-C	Low to Mod.
957	CHES	TYRE NECK RD	SILVERWOOD BLVD	PORTSMOUTH CL		0.15	2	2	10,492	12,900	F	Severe

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
959	CHES	VOLVO PKWY	BATTLEFIELD BLVD	GREENBRIER PKWY		1.40	4	4	26,034	35,200	A-C	Low to Mod.
959	CHES	VOLVO PKWY	GREENBRIER PKWY	EDEN WAY		0.44	4	4	27,065	33,000	F	Severe
959	CHES	VOLVO PKWY	EDEN WAY	KEMPSVILLE RD		0.98	4	4	30,422	36,400	F	Severe
959	CHES	VOLVO PKWY	KEMPSVILLE RD	VA BEACH CL		0.53	4	4	16,597	18,500	A-C	Low to Mod.
17	CHES	WESTERN BRANCH BLVD	CHURCHLAND BLVD	TAYLOR RD		0.32	4	4	18,365	21,900	A-C	Low to Mod.
17	CHES	WESTERN BRANCH BLVD	TAYLOR RD	PORTSMOUTH CL		0.32	4	4	19,129	21,500	A-C	Low to Mod.
901	FR	ARMORY DR	ROUTE 58	BAILEY DR		0.80	4	4	13,110	15,200	A-C	Low to Mod.
901	FR	ARMORY DR	BAILEY DR	COLLEGE DR		0.42	4	4	13,049	14,600	A-C	Low to Mod.
901	FR	ARMORY DR	COLLEGE DR	GARDNER ST		0.56	2	2	6,371	5,900	D	Moderate
901	FR	ARMORY DR/SECOND AVE	GARDNER ST	HIGH ST		0.31	2	2	6,503	6,000	D	Moderate
58	FR	CLAY ST	SOUTHAMPTON CL	COLLEGE DR		1.20	4	4	3,479	4,400	A-C	Low to Mod.
58	FR	CLAY ST	COLLEGE DR	HOMESTEAD RD		0.50	4	4	3,971	5,400	A-C	Low to Mod.
58	FR	CLAY ST	HOMESTEAD RD	LEE ST		0.45	4	4	3,465	4,400	A-C	Low to Mod.
58	FR	CLAY ST/FOURTH AVE	LEE ST	HIGH ST		0.35	2	2	1,346	3,200	A-C	Low to Mod.
903	FR	COLLEGE DR	SOUTH ST	ARMORY DR		0.48	2	2	8,210	6,700	A-C	Low to Mod.
903	FR	COLLEGE DR	ARMORY DR	CLAY ST		0.87	2	2	9,974	9,000	A-C	Low to Mod.
905	FR	FAIRVIEW DR	HUNTERDALE RD	CRESENT DR		0.25	2	2	4,571	4,800	A-C	Low to Mod.
905	FR	FAIRVIEW DR	CRESENT DR	HIGH ST		0.61	2	2	2,698	3,100	A-C	Low to Mod.
58	FR	FOURTH AVE/MECHANIC ST	HIGH ST	SECOND AVE		0.35	2	2	1,426	2,300	A-C	Low to Mod.
907	FR	HIGH ST	SOUTH ST	SECOND AVE		0.29	2	2	3,043	3,200	A-C	Low to Mod.
907	FR	HIGH ST	SECOND AVE	FOURTH AVE		0.09	2	2	3,303	3,100	A-C	Low to Mod.
907	FR	HIGH ST	FOURTH AVE	HOMESTEAD RD		0.66	2	2	3,302	3,600	A-C	Low to Mod.
907	FR	HIGH ST	HOMESTEAD RD	FAIRVIEW DR		0.39	2	2	2,546	2,900	A-C	Low to Mod.
909	FR	HUNTERDALE RD	CLAY ST	FAIRVIEW DR		0.18	2	2	8,220	8,000	A-C	Low to Mod.
258	FR	MAIN ST	SOUTH ST	SECOND AVE		0.27	2	2	2,534	3,000	A-C	Low to Mod.
915	FR	PRETLOW ST	ROUTE 58	MORTON ST		1.11	2	2	1,962	1,800	A-C	Low to Mod.
915	FR	PRETLOW ST	MORTON ST	LAUREL ST		0.22	2	2	3,000	2,800	A-C	Low to Mod.
915	FR	PRETLOW ST	LAUREL ST	SOUTH ST		0.32	2	2	3,000	2,800	A-C	Low to Mod.
900	FR	SECOND AVE	HIGH ST	MAIN ST		0.15	2	2	5,276	5,100	A-C	Low to Mod.
258	FR	SECOND AVE	MAIN ST	MECHANIC ST		0.10	2	2	5,201	8,000	D	Moderate
58	FR	SECOND AVE	MECHANIC ST	ISLE OF WIGHT CL		0.21	4	4	9,163	10,200	A-C	Low to Mod.
258	FR	SOUTH ST	ROUTE 58	COLLEGE DR		0.48	2	2	6,560	5,200	A-C	Low to Mod.
258	FR	SOUTH ST	COLLEGE DR	PRETLOW ST		0.68	2	2	7,334	6,900	D	Moderate
258	FR	SOUTH ST	PRETLOW ST	HIGH ST		0.20	2	2	5,390	5,500	A-C	Low to Mod.
258	FR	SOUTH ST	HIGH ST	MAIN ST		0.16	2	2	2,808	3,200	A-C	Low to Mod.
616	GLO	BELROI RD	HICKORY FORK RD	ROUTE 17		3.62	2	2	4,840	8,100	E	Severe
216	GLO	GUINEA RD	ROUTE 17	MARYUS RD		3.66	2	2	8,782	9,300	A-C	Low to Mod.
614	GLO	HICKORY FORK RD	ROUTE 17	BELROI RD		5.33	2	2	6,038	6,000	E	Severe
17	GLO	MAIN ST (BUS RTE 17)	RTE 17 (SOUTH INTERSECTION)	RTE 3/14E		1.20	4	4	23,958	25,700	A-C	Low to Mod.
14	GLO	RTE 14	KING AND QUEEN CL	ROUTE 17		1.04	2	2	5,120	6,800	D	Moderate
17	GLO	RTE 17	RTE 216 (GUINEA RD)	RTE 614 (HICKORY FORK RD)		4.29	4	6	35,974	47,100	A-C	Low to Mod.
17	GLO	RTE 17	RTE 614 (HICKORY FORK RD)	RTE 17 BUS S (MAIN ST)		4.76	4	6	29,129	37,100	A-C	Low to Mod.
17	GLO	RTE 17	RTE 17 BUS S (MAIN ST)	RTE 17 BUS N (MAIN ST)		1.68	4	4	20,500	24,000	A-C	Low to Mod.
17	GLO	RTE 17	RTE 17 BUS N (MAIN ST)	RTE 606 (ARK RD)		2.38	4	4	17,093	21,300	A-C	Low to Mod.
17	GLO	RTE 17	RTE 606 (ARK RD)	ROUTE 14		5.44	4	4	11,444	17,400	A-C	Low to Mod.
17	GLO	RTE 17	ROUTE 14	ROUTES 33/198		4.78	4	4	6,986	10,900	A-C	Low to Mod.
17	GLO	RTE 17	ROUTES 33/198	MIDDLESEX CL		1.55	4	4	12,419	20,700	A-C	Low to Mod.
17	GLO	RTE 17 (COLEMAN BRIDGE)	YORK CL	RTE 216 (GUINEA RD)		2.96	4	6	34,539	43,500	A-C	Low to Mod.
198	GLO	RTE 198	ROUTE 17	RTE 601 (PAMPA RD)		4.45	2	2	2,182	3,900	A-C	Low to Mod.
198	GLO	RTE 198	RTE 601 (PAMPA RD)	RTE 606 (HARCUM RD)		2.92	2	2	2,338	3,900	A-C	Low to Mod.
198	GLO	RTE 198	RTE 606 (HARCUM RD)	MATHEWS CL		4.10	2	2	2,353	3,200	A-C	Low to Mod.
3	GLO	RTE 3/14	RTE 17 BUS	COW CREEK		1.70	4	4	19,906	23,900	A-C	Low to Mod.
3	GLO	RTE 3/14	COW CREEK	MATHEWS CL		4.55	4	4	14,382	18,200	A-C	Low to Mod.
33	GLO	RTE 33	KING AND QUEEN CL	ROUTE 17		2.55	4	4	9,051	11,700	A-C	Low to Mod.

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ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
905	HAM	ABERDEEN RD	NEWPORT NEWS CL	PEMBROKE AVE		0.30	4	4	12,456	13,600	A-C	Low to Mod.
905	HAM	ABERDEEN RD	PEMBROKE AVE	I-664		0.17	4	4	12,456	13,200	A-C	Low to Mod.
905	HAM	ABERDEEN RD	I-664	BRIARFIELD RD		0.99	4	4	21,696	26,300	A-C	Low to Mod.
905	HAM	ABERDEEN RD	BRIARFIELD RD	MERCURY BLVD		1.29	4	4	18,933	19,800	A-C	Low to Mod.
905	HAM	ABERDEEN RD	MERCURY BLVD	TODDS LA		0.20	4	4	12,286	16,100	A-C	Low to Mod.
920	HAM	ARMISTEAD AVE	COMMANDER SHEPARD BLVD	HRC PARKWAY		1.52	4	4	17,818	25,400	A-C	Low to Mod.
920	HAM	ARMISTEAD AVE	HRC PARKWAY	MERCURY BLVD		1.30	4	4	25,732	32,700	A-C	Low to Mod.
134	HAM	ARMISTEAD AVE	MERCURY BLVD	PINE CHAPEL RD		0.14	4	4	18,185	26,700	A-C	Low to Mod.
134	HAM	ARMISTEAD AVE	PINE CHAPEL RD	LASALLE AVE		0.95	4	4	20,103	28,800	A-C	Low to Mod.
134	HAM	ARMISTEAD AVE	LASALLE AVE	RIP RAP RD		0.44	4	4	15,163	18,400	A-C	Low to Mod.
134	HAM	ARMISTEAD AVE	RIP RAP RD	PEMBROKE AVE		0.37	4	4	12,637	13,200	A-C	Low to Mod.
134	HAM	ARMISTEAD AVE	PEMBROKE AVE	SETTLERS LANDING RD		0.37	4	4	10,970	13,300	D	Moderate
940	HAM	BIG BETHEL RD	TODDS LANE	HRC PKWY		1.23	4	4	16,773	22,100	A-C	Low to Mod.
940	HAM	BIG BETHEL RD	HRC PKWY	THOMAS NELSON DR		0.57	4	4	22,354	23,000	A-C	Low to Mod.
940	HAM	BIG BETHEL RD	THOMAS NELSON DR	SAUNDERS RD		1.25	4	4	15,320	15,900	A-C	Low to Mod.
940	HAM	BIG BETHEL RD	SAUNDERS RD	SEMPLE FARM RD		0.15	4	4	15,320	20,200	A-C	Low to Mod.
940	HAM	BIG BETHEL RD	SEMPLE FARM RD	YORK CL		0.28	2	2	12,010	13,100	F	Severe
945	HAM	BRIARFIELD RD	NEWPORT NEWS CL	ABERDEEN RD		0.87	2	2	10,193	11,000	D	Moderate
945	HAM	BRIARFIELD RD	ABERDEEN RD	POWER PLANT PKWY		1.06	4	4	10,655	13,900	A-C	Low to Mod.
950	HAM	CHESTNUT AVE	NEWPORT NEWS CL	MERCURY BLVD		0.20	2	2	5,530	7,000	A-C	Low to Mod.
960	HAM	COLISEUM DR	CONVENTION CENTER BLVD	PINE CHAPEL RD		0.53	4	4	1,100	1,800	A-C	Low to Mod.
960	HAM	COLISEUM DR	PINE CHAPEL RD	MERCURY BLVD		0.30	4	4	8,434	9,900	A-C	Low to Mod.
960	HAM	COLISEUM DR	MERCURY BLVD	MARCELLA DR		0.66	4	4	18,443	20,800	D	Moderate
960	HAM	COLISEUM DR	MARCELLA DR	HRC PARKWAY		0.74	4	4	17,933	23,800	A-C	Low to Mod.
960	HAM	COLISEUM DR EXTENSION A	HRC PARKWAY	BUTLER FARM RD		0.27	0	4	N/A	13,900	A-C	Low to Mod.
960	HAM	COLISEUM DR EXTENSION B	BUTLER FARM RD	MAGRUDER BLVD		0.61	0	4	N/A	14,600	A-C	Low to Mod.
1070	HAM	COMMANDER SHEPARD BLVD	BIG BETHEL RD	NORTH CAMPUS PKWY		1.33	4	4	5,876	10,300	A-C	Low to Mod.
1070	HAM	COMMANDER SHEPARD BLVD	NORTH CAMPUS PKWY	MAGRUDER BLVD/NEIL ARMSTRONG PKWY		0.44	4	4	5,876	10,300	A-C	Low to Mod.
172	HAM	COMMANDER SHEPARD BLVD	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	ARMISTEAD AVE		0.73	4	4	10,577	10,400	A-C	Low to Mod.
172	HAM	COMMANDER SHEPARD BLVD	ARMISTEAD AVE	NASA MAIN GATE		0.32	4	4	16,253	25,700	A-C	Low to Mod.
172	HAM	COMMANDER SHEPARD BLVD	NASA MAIN GATE	WYTHE CREEK RD		0.96	4	4	12,962	13,100	A-C	Low to Mod.
1075	HAM	COMMANDER SHEPARD BLVD	WYTHE CREEK RD	MAGRUDER BLVD/NEIL ARMSTRONG PKWY		0.18	4	4	21,255	33,300	F	Severe
	HAM	CONVENTION CENTER BLVD	COLISEUM DR	ARMISTEAD AVE		0.30	5	5	1,100	2,800	A-C	Low to Mod.
143	HAM	COUNTY ST	WOODLAND RD	MALLORY ST		0.41	3	3	4,819	5,200	A-C	Low to Mod.
152	HAM	CUNNINGHAM DR	TODDS LA	COLISEUM DR		0.86	4	4	21,980	25,000	A-C	Low to Mod.
152	HAM	CUNNINGHAM DR	COLISEUM DR	MERCURY BLVD		0.74	4	4	10,316	10,300	A-C	Low to Mod.
169	HAM	FOX HILL RD	OLD BUCKROE RD	WOODLAND RD		1.10	4	4	14,366	14,500	A-C	Low to Mod.
169	HAM	FOX HILL RD	WOODLAND RD	MERCURY BLVD		1.89	4	4	27,718	27,500	F	Severe
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	NEWPORT NEWS CL	HRC PARKWAY	EB	2.24	0	1	N/A	14,600	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	HRC PARKWAY	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	EB	0.77	0	1	N/A	13,500	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	MERCURY BLVD	EB	1.04	0	1	N/A	13,600	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	MERCURY BLVD	I-664	EB	0.96	0	1	N/A	28,500	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	I-664	ARMISTEAD AVE	EB	0.88	0	1	N/A	30,300	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	ARMISTEAD AVE	RIP RAP RD	EB	0.46	0	1	N/A	33,700	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	RIP RAP RD	SETTLERS LANDING RD	EB	1.55	0	2	N/A	35,400	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	SETTLERS LANDING RD	MALLORY ST	EB	0.54	0	2	N/A	48,900	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	HAM	HAMPTON ROADS EXPRESS LANES NETWORK	MALLORY ST	NORFOLK CL	EB	3.69	0	2	N/A	49,800	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
970	HAM	HARRIS CREEK RD	FOX HILL RD	LITTLE BACK RIVER RD		0.80	2	2	3,274	3,100	A-C	Low to Mod.

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ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
975	HAM	HRC PARKWAY	NEWPORT NEWS CL	BIG BETHEL RD		1.26	4	4	23,286	31,500	A-C	Low to Mod.
975	HAM	HRC PARKWAY	BIG BETHEL RD	I-64		0.57	4	4	42,347	50,500	F	Severe
975	HAM	HRC PARKWAY	I-64	MAGRUDER BLVD/NEIL ARMSTRONG PKWY		0.87	4	4	38,875	45,100	F	Severe
975	HAM	HRC PARKWAY	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	COLISEUM DR		0.45	4	4	30,532	28,100	A-C	Low to Mod.
975	HAM	HRC PARKWAY	COLISEUM DR	ARMISTEAD AVE		0.40	4	4	24,469	32,700	A-C	Low to Mod.
64	HAM	I-64	NEWPORT NEWS CL	HRC PARKWAY	EB	2.24	4	3	166,730	196,600	F	Severe
					WB		4	3			F	Severe
64	HAM	I-64	HRC PARKWAY	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	EB	0.77	4	3	150,805	170,000	A-C	Low to Mod.
					WB		4	3			D	Moderate
64	HAM	I-64	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	MERCURY BLVD	EB	1.04	6	5	177,383	203,100	D	Moderate
					WB		6	5			F	Severe
64	HAM	I-64	MERCURY BLVD	I-664	EB	0.96	6	5	168,891	155,400	A-C	Low to Mod.
					WB		6	5			D	Moderate
64	HAM	I-64	I-664	ARMISTEAD AVE	EB	0.88	4	3	121,433	114,100	F	Severe
					WB		4	3			E	Severe
64	HAM	I-64	ARMISTEAD AVE	RIP RAP RD	EB	0.46	3	2	107,498	93,100	D	Moderate
					WB		3	2			D	Moderate
64	HAM	I-64	RIP RAP RD	SETTLERS LANDING RD	EB	1.55	3	2	96,189	96,500	A-C	Low to Mod.
					WB		3	2			D	Moderate
64	HAM	I-64	SETTLERS LANDING RD	MALLORY ST	EB	0.54	3	3	96,300	104,400	A-C	Low to Mod.
					WB		3	3			F	Severe
64	HAM	I-64/HRBT	MALLORY ST	NORFOLK CL	EB	3.69	2	2	92,063	106,800	F	Severe
					WB		2	2			F	Severe
664	HAM	I-664	NEWPORT NEWS CL	ABERDEEN RD	EB	0.44	3	3	87,992	93,600	A-C	Low to Mod.
					WB		3	3			D	Moderate
664	HAM	I-664	ABERDEEN RD	POWER PLANT PKWY	EB	1.29	3	3	92,158	89,100	A-C	Low to Mod.
					WB		3	3			D	Moderate
664	HAM	I-664	POWER PLANT PKWY	I-64	EB	1.38	3	3	99,679	93,600	A-C	Low to Mod.
					WB		3	3			D	Moderate
60	HAM	KECOUGHTAN RD	NEWPORT NEWS CL	POWHATAN PKWY		1.19	4	4	4,652	5,000	A-C	Low to Mod.
60	HAM	KECOUGHTAN RD	POWHATAN PKWY	LASALLE AVE		1.09	4	4	6,011	5,900	A-C	Low to Mod.
60	HAM	KECOUGHTAN RD	LASALLE AVE	VICTORIA BLVD		1.04	4	4	7,742	9,000	A-C	Low to Mod.
980	HAM	KECOUGHTAN RD	VICTORIA BLVD	SETTLERS LANDING RD		0.28	4	4	10,587	13,200	D	Moderate
985	HAM	KING ST	PEMBROKE AVE	I-64 OVERPASS		0.29	3	3	7,079	8,200	A-C	Low to Mod.
985	HAM	KING ST	I-64 OVERPASS	RIP RAP RD		0.45	4	4	7,079	8,500	A-C	Low to Mod.
985	HAM	KING ST	RIP RAP RD	MERCURY BLVD		0.20	4	4	17,729	20,100	A-C	Low to Mod.
278	HAM	KING ST	MERCURY BLVD	OLD FOX HILL RD		0.12	4	4	23,214	25,100	A-C	Low to Mod.
278	HAM	KING ST	OLD FOX HILL RD	LITTLE BACK RIVER RD		0.54	4	4	16,871	18,800	A-C	Low to Mod.
278	HAM	KING ST	LITTLE BACK RIVER RD	LAMINGTON RD		0.30	4	4	6,179	6,400	A-C	Low to Mod.
278	HAM	KING ST	LAMINGTON RD	OLD BUCKINGHAM RD		0.49	2	2	6,179	4,900	A-C	Low to Mod.
278	HAM	KING ST	OLD BUCKINGHAM RD	LANGLEY AFB		0.61	3	3	6,179	4,900	A-C	Low to Mod.
167	HAM	LASALLE AVE	KECOUGHTAN RD	VICTORIA BLVD		0.58	2	2	5,422	5,000	A-C	Low to Mod.
167	HAM	LASALLE AVE	VICTORIA BLVD	SETTLERS LANDING RD		0.68	4	4	17,245	14,200	A-C	Low to Mod.
167	HAM	LASALLE AVE	SETTLERS LANDING RD	PEMBROKE AVE		0.15	4	4	17,386	15,400	A-C	Low to Mod.
167	HAM	LASALLE AVE	PEMBROKE AVE	ARMISTEAD AVE		0.51	4	4	20,647	23,700	A-C	Low to Mod.
167	HAM	LASALLE AVE	ARMISTEAD AVE	MERCURY BLVD		0.63	4	4	13,625	15,900	A-C	Low to Mod.
167	HAM	LASALLE AVE	MERCURY BLVD	LANGLEY GATE		1.46	4	4	10,591	11,800	A-C	Low to Mod.
990	HAM	LITTLE BACK RIVER RD	KING ST	ROCKWELL RD		1.33	2	2	11,331	13,800	F	Severe
990	HAM	LITTLE BACK RIVER RD	ROCKWELL RD	HARRIS CREEK RD		0.67	2	2	3,671	4,400	A-C	Low to Mod.
134	HAM	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	YORK CL	SEMPLE FARM RD		0.28	4	4	20,362	31,500	F	Severe
134	HAM	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	SEMPLE FARM RD	COMM SHEPARD BLVD (SOUTH)		0.90	4	4	25,422	31,400	A-C	Low to Mod.
134	HAM	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	COMM SHEPARD BLVD (SOUTH)	HRC PARKWAY		1.38	4	4	33,085	27,900	A-C	Low to Mod.
134	HAM	MAGRUDER BLVD/NEIL ARMSTRONG PKWY	HRC PARKWAY	I-64		0.67	4	4	34,653	33,400	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
1000	HAM	MALLORY ST	I-64	COUNTY ST		0.40	2	2	8,875	16,000	F	Severe
169	HAM	MALLORY ST	COUNTY ST	MERCURY BLVD		0.23	2	2	8,692	12,700	D	Moderate
169	HAM	MALLORY ST	MERCURY BLVD	PEMBROKE AVE		1.94	4	4	5,338	8,500	A-C	Low to Mod.
143	HAM	MELLEN ST	MERCURY BLVD	MALLORY ST		0.70	2	2	2,625	3,200	A-C	Low to Mod.
258	HAM	MERCURY BLVD	NEWPORT NEWS CL	BIG BETHEL RD		1.26	8	8	50,398	55,800	A-C	Low to Mod.
258	HAM	MERCURY BLVD	BIG BETHEL RD	ABERDEEN RD		0.78	8	8	50,755	60,600	A-C	Low to Mod.
258	HAM	MERCURY BLVD	ABERDEEN RD	POWER PLANT PKWY		0.43	8	8	59,988	72,000	A-C	Low to Mod.
258	HAM	MERCURY BLVD	POWER PLANT PKWY	I-64		0.38	8	8	71,980	81,700	A-C	Low to Mod.
258	HAM	MERCURY BLVD	I-64	COLISEUM DR		0.35	8	8	66,472	69,700	A-C	Low to Mod.
258	HAM	MERCURY BLVD	COLISEUM DR	CUNNINGHAM DR		0.42	8	8	46,842	47,600	A-C	Low to Mod.
258	HAM	MERCURY BLVD	CUNNINGHAM DR	ARMISTEAD AVE		0.24	8	8	52,397	60,100	A-C	Low to Mod.
258	HAM	MERCURY BLVD	ARMISTEAD AVE	LASALLE AVE		0.70	8	8	51,254	52,800	A-C	Low to Mod.
258	HAM	MERCURY BLVD	LASALLE AVE	KING ST		0.82	8	8	61,267	65,100	A-C	Low to Mod.
258	HAM	MERCURY BLVD	KING ST	FOX HILL RD		0.31	6	6	30,311	30,800	A-C	Low to Mod.
258	HAM	MERCURY BLVD	FOX HILL RD	ANDREWS BLVD		0.70	4	4	30,311	34,600	A-C	Low to Mod.
258	HAM	MERCURY BLVD	ANDREWS BLVD	PEMBROKE AVE		0.55	4	4	18,379	25,600	A-C	Low to Mod.
258	HAM	MERCURY BLVD	PEMBROKE AVE	WOODLAND RD		0.44	4	4	11,479	17,900	A-C	Low to Mod.
258	HAM	MERCURY BLVD	WOODLAND RD	MALLORY ST		0.50	4	4	11,479	17,500	D	Moderate
258	HAM	MERCURY BLVD	MALLORY ST	MELLEN ST/INGALLS RD		0.78	4	4	4,510	4,000	A-C	Low to Mod.
169	HAM	OLD BUCKROE RD	PEMBROKE AVE	FOX HILL RD		1.50	2	2	5,718	7,100	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	NEWPORT NEWS CL	ABERDEEN RD		0.33	4	4	9,679	10,000	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	ABERDEEN RD	POWHATAN PKWY		1.18	4	4	9,859	9,700	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	POWHATAN PKWY	SETTLERS LANDING RD		1.44	4	4	10,919	11,200	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	SETTLERS LANDING RD	LASALLE AVE		0.17	4	4	10,877	12,100	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	LASALLE AVE	ARMISTEAD AVE		0.71	4	4	8,349	12,200	D	Moderate
351	HAM	PEMBROKE AVE	ARMISTEAD AVE	KING ST		0.27	4	4	10,759	11,500	D	Moderate
351	HAM	PEMBROKE AVE	KING ST	EATON ST		0.14	4	4	10,759	12,700	D	Moderate
351	HAM	PEMBROKE AVE	EATON ST	BARRON ST		0.40	2	2	10,759	9,600	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	BARRON ST	MERCURY BLVD		0.60	3	3	10,759	9,400	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	MERCURY BLVD	WOODLAND RD		0.19	4	4	13,339	12,600	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	WOODLAND RD	OLD BUCKROE RD		1.10	4	4	12,348	14,200	A-C	Low to Mod.
351	HAM	PEMBROKE AVE	OLD BUCKROE RD	MALLORY ST		0.60	2	2	2,752	4,500	A-C	Low to Mod.
1045	HAM	POWER PLANT PKWY	I-664	BRIARFIELD RD		0.73	4	4	12,898	14,500	A-C	Low to Mod.
415	HAM	POWER PLANT PKWY	BRIARFIELD RD	PINE CHAPEL RD		0.46	4	4	21,793	25,700	F	Severe
415	HAM	POWER PLANT PKWY	PINE CHAPEL RD	MERCURY BLVD		0.71	4	4	15,055	18,800	F	Severe
1045	HAM	POWHATAN PKWY	KECOUGHTAN RD	PEMBROKE AVE		0.76	2	2	10,252	9,900	A-C	Low to Mod.
1045	HAM	POWHATAN PKWY	PEMBROKE AVE	I-664		0.19	4	4	23,621	23,200	A-C	Low to Mod.
415	HAM	QUEEN ST	BRIARFIELD RD	MICHIGAN DR		1.27	4	4	10,840	11,500	A-C	Low to Mod.
415	HAM	QUEEN ST	MICHIGAN DR	PEMBROKE AVE		0.09	4	4	10,438	10,600	A-C	Low to Mod.
1055	HAM	RIP RAP RD	ARMISTEAD AVE	I-64		0.20	2	2	8,132	6,500	D	Moderate
1055	HAM	RIP RAP RD	I-64	KING ST		0.46	2	2	14,002	13,900	F	Severe
1060	HAM	ROANOKE AVE	NEWPORT NEWS CL	MERCURY BLVD		0.19	2	2	4,804	4,800	A-C	Low to Mod.
1070	HAM	SAUNDERS RD	NEWPORT NEWS CL	BIG BETHEL RD		0.72	4	4	9,764	12,100	A-C	Low to Mod.
7034	HAM	SEMPLE FARM RD	BIG BETHEL RD	BELLGRADE DR		0.69	2	2	1,913	1,800	A-C	Low to Mod.
7034	HAM	SEMPLE FARM RD	BELLGRADE DR	MAGRUDER BLVD/NEIL ARMSTRONG PKWY		1.38	2	2	1,913	400	A-C	Low to Mod.
1080	HAM	SETTLERS LANDING RD	PEMBROKE AVE	LASALLE AVE		0.15	4	4	8,442	8,700	A-C	Low to Mod.
1080	HAM	SETTLERS LANDING RD	LASALLE AVE	KECOUGHTAN RD		0.60	4	4	10,000	11,100	A-C	Low to Mod.
1080	HAM	SETTLERS LANDING RD	KECOUGHTAN RD	ARMISTEAD AVE		0.08	4	4	15,387	21,600	D	Moderate
60	HAM	SETTLERS LANDING RD	ARMISTEAD AVE	EATON ST		0.43	2	2	13,233	19,600	F	Severe
60	HAM	SETTLERS LANDING RD	EATON ST	TYLER ST		0.64	4	4	17,772	24,800	D	Moderate
60	HAM	SETTLERS LANDING RD	TYLER ST	I-64		0.10	4	4	18,000	19,900	D	Moderate
152	HAM	TODDS LA	NEWPORT NEWS CL	BIG BETHEL RD		1.19	4	4	18,298	23,200	A-C	Low to Mod.
152	HAM	TODDS LA	BIG BETHEL RD	ABERDEEN RD		0.98	4	4	18,578	24,400	A-C	Low to Mod.
152	HAM	TODDS LA	ABERDEEN RD	CUNNINGHAM DR		0.30	4	4	21,126	22,300	A-C	Low to Mod.
1100	HAM	TODDS LA	CUNNINGHAM DR	MERCURY BLVD		0.18	4	4	N/A	15,400	A-C	Low to Mod.
143	HAM	WOODLAND RD	I-64	COUNTY ST		0.22	4	4	N/A	33,400	D	Moderate
1115	HAM	WOODLAND RD	COUNTY ST	MERCURY BLVD		0.38	4	4	20,702	27,800	D	Moderate
1115	HAM	WOODLAND RD	MERCURY BLVD	PEMBROKE AVE		0.45	4	4	13,625	19,000	A-C	Low to Mod.
1115	HAM	WOODLAND RD	PEMBROKE AVE	FOX HILL RD		1.82	4	4	8,298	12,900	A-C	Low to Mod.
172	HAM	WYTHE CREEK RD	COMMANDER SHEPARD BLVD	POQUOSON CL		1.00	2	2	14,986	22,800	D	Moderate

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
704	IW	BATTERY PARK RD	S CHURCH ST	NIKE PARK RD		1.33	2	2	10,612	13,100	A-C	Low to Mod.
704	IW	BATTERY PARK RD	NIKE PARK RD	COUNTRY WAY		1.17	2	2	3,818	5,100	A-C	Low to Mod.
10	IW	BENNS CHURCH BLVD	SUFFOLK CL	RIDDICK RD		2.07	4	4	11,603	17,200	A-C	Low to Mod.
10	IW	BENNS CHURCH BLVD	RIDDICK RD	ROUTE 10 & 32 (BREWERS NECK BLVD)		2.08	4	4	11,603	18,400	A-C	Low to Mod.
258	IW	BENNS CHURCH BLVD	ROUTE 10 & 32 (BREWERS NECK BLVD)	ECL SMITHFIELD (RTE 644)		1.00	4	4	25,746	32,200	A-C	Low to Mod.
10	IW	BENNS CHURCH BLVD	ECL SMITHFIELD (RTE 644)	CHURCH ST S		0.96	4	4	28,271	35,000	A-C	Low to Mod.
258	IW	BREWERS NECK BLVD	ROUTE 10 & 32 (BENN'S CHURCH)	RTE 670		1.82	4	4	25,459	33,300	A-C	Low to Mod.
258	IW	BREWERS NECK BLVD	RTE 670	ROUTE 17		1.03	4	4	25,459	32,600	A-C	Low to Mod.
610	IW	BUCKHORN DR	SUFFOLK CL	SUNSET DR (RTE 609)		1.34	2	2	487	2,300	D	Moderate
610	IW	BUCKHORN DR	SUNSET DR (RTE 609)	SCL WINDSOR		2.64	2	2	511	1,400	A-C	Low to Mod.
10	IW	BUS RTE 10	NCL SMITHFIELD	JENKINS LANE		0.87	2	2	6,091	7,800	E	Severe
10	IW	BUS RTE 10	JENKINS LANE	RT 10 BYPASS		2.05	2	2	1,516	1,700	D	Moderate
58	IW	BUS RTE 58	ROUTE 258	SUFFOLK CL		5.20	2	2	2,363	3,000	A-C	Low to Mod.
58	IW	BUS RTE 58/BUS RTE 258	FRANKLIN CL	JAMESTOWN LN (RTE 691)		0.33	4	4	6,883	9,400	A-C	Low to Mod.
58	IW	BUS RTE 58/BUS RTE 258	JAMESTOWN LN (RTE 691)	ROUTE 258		1.19	2	2	6,883	9,300	A-C	Low to Mod.
17	IW	CARROLLTON BLVD	SUFFOLK CL	WEST END CHUCKATUCK BRIDGE		0.60	2	2	16,617	23,700	F	Severe
17	IW	CARROLLTON BLVD	WEST END CHUCKATUCK BRIDGE	ROUTE 258		1.83	4	6	16,617	23,700	A-C	Low to Mod.
17	IW	CARROLLTON BLVD	ROUTE 258	SMITH'S NECK RD		0.87	4	6	32,280	43,600	A-C	Low to Mod.
17	IW	CARROLLTON BLVD/JAMES RIVER BR	SMITH'S NECK RD	WEST END JAMES RIVER BRIDGE		1.55	4	6	32,280	48,700	F	Severe
17	IW	CARROLLTON BLVD/JAMES RIVER BR	WEST END JAMES RIVER BRIDGE	NEWPORT NEWS CL		4.39	4	4	32,280	48,700	F	Severe
10	IW	CHURCH ST N	MAIN ST	SMITHFIELD CL		1.28	2	2	6,089	8,500	F	Severe
10	IW	CHURCH ST S	RTE 10 BYPASS	BATTERY PARK RD		0.85	4	4	13,956	16,200	A-C	Low to Mod.
10	IW	CHURCH ST S	BATTERY PARK RD	CYPRESS CREEK BRIDGE		1.00	2	2	12,512	18,500	F	Severe
10	IW	CHURCH ST S	CYPRESS CREEK BRIDGE	MAIN ST		0.58	2	2	12,392	18,400	F	Severe
610	IW	COURT ST	SCL WINDSOR/BUCKHORN DR	ROUTE 460		0.31	2	2	725	1,200	A-C	Low to Mod.
258	IW	MAIN ST	ROUTE 10 BYPASS	CHURCH ST		0.64	2	2	3,407	5,900	D	Moderate
669	IW	NIKE PARK RD	BATTERY PARK RD	TITUS CREEK DR		1.55	2	2	9,999	15,000	F	Severe
669	IW	NIKE PARK RD	TITUS CREEK DR	REYNOLDS DR		1.30	2	2	N/A	13,900	F	Severe
669	IW	NIKE PARK RD	REYNOLDS DR	ROUTE 17		1.00	0	2	N/A	15,800	F	Severe
704	IW	RESCUE RD	NEWPORT ST (RTE 1002)	SMITH'S NECK RD		1.30	2	2	1,009	2,300	A-C	Low to Mod.
10	IW	ROUTE 10 (OLD STAGE HWY)	BUS RTE 10	IW/SURRY CL		4.20	2	2	6,974	10,100	D	Moderate
10	IW	ROUTE 10 BYPASS	CHURCH ST S	FAIRWAY DR		1.55	2	2	18,489	22,800	E	Severe
10	IW	ROUTE 10 BYPASS	FAIRWAY DR	MAIN ST		0.75	2	2	18,489	22,800	E	Severe
10	IW	ROUTE 10 BYPASS	MAIN ST	NCL SMITHFIELD		0.78	2	2	10,275	16,200	A-C	Low to Mod.
10	IW	ROUTE 10 BYPASS	NCL SMITHFIELD	BUS RTE 10		2.96	2	2	7,335	10,000	D	Moderate
258	IW	ROUTE 258	SUFFOLK CL	UNION CAMP DR (RTE 656)		1.54	2	2	2,579	2,600	A-C	Low to Mod.
258	IW	ROUTE 258	UNION CAMP DR (RTE 656)	CARRSVILLE HWY (BUS RTE 58)		1.31	2	2	1,057	1,000	A-C	Low to Mod.
258	IW	ROUTE 258	CARRSVILLE HWY (BUS RTE 58)	BURDETTE RD (W RTE 619)		5.60	2	2	3,478	4,300	A-C	Low to Mod.
258	IW	ROUTE 258	BURDETTE RD (W RTE 619)	RIVER RUN TRAIL (W RTE 614)		1.25	2	2	3,478	4,900	A-C	Low to Mod.
258	IW	ROUTE 258	RIVER RUN TRAIL (W RTE 614)	BLACKWATER RD (RTE 603)		5.77	2	2	5,282	6,900	D	Moderate
258	IW	ROUTE 258	BLACKWATER RD (RTE 603)	WCL WINDSOR		0.08	2	2	5,274	7,200	D	Moderate
258	IW	ROUTE 258	WCL WINDSOR	ROUTE 460		0.15	2	2	5,274	7,200	D	Moderate
258	IW	ROUTE 258	ROUTE 460	ECL WINDSOR		0.25	2	2	5,658	7,300	D	Moderate
258	IW	ROUTE 258	ECL WINDSOR	COURT ST NORTH (RTE 610)		0.59	2	2	5,658	7,300	D	Moderate
258	IW	ROUTE 258	COURT ST NORTH (RTE 610)	IRON MINE SPRINGS RD (RTE 605)		4.27	2	2	4,521	6,200	D	Moderate
258	IW	ROUTE 258	IRON MINE SPRINGS RD (RTE 605)	CENTRAL HILL RD (W RTE 637)		2.28	2	2	4,521	6,200	D	Moderate
258	IW	ROUTE 258	CENTRAL HILL RD (W RTE 637)	SCOTTS FACTORY RD (RTE 620)		5.20	2	2	5,001	7,200	D	Moderate
258	IW	ROUTE 258	SCOTTS FACTORY RD (RTE 620)	WCL SMITHFIELD		1.04	2	2	9,794	13,500	E	Severe
258	IW	ROUTE 258/N MAIN ST	WCL SMITHFIELD	RTE 10 BYPASS		0.76	2	2	12,765	16,500	F	Severe
460	IW	ROUTE 460	SOUTHAMPTON CL	FIRETOWER RD (RTE 644)		0.54	4	4	10,032	13,300	A-C	Low to Mod.
460	IW	ROUTE 460	FIRETOWER RD (RTE 644)	WCL WINDSOR		5.56	4	4	10,032	12,800	A-C	Low to Mod.
460	IW	ROUTE 460	WCL WINDSOR	ROUTE 258		0.08	4	4	10,032	13,200	A-C	Low to Mod.
460	IW	ROUTE 460	ROUTE 258	COURT ST (RTE 610)		0.46	4	4	15,319	18,200	A-C	Low to Mod.
460	IW	ROUTE 460	COURT ST (RTE 610)	ECL WINDSOR		0.75	4	4	15,587	18,900	A-C	Low to Mod.
460	IW	ROUTE 460	ECL WINDSOR	SUFFOLK CL		2.35	4	4	15,587	18,900	A-C	Low to Mod.
669	IW	SMITH'S NECK RD	CARROLLTON BLVD	REYNOLDS DR		0.72	2	2	11,726	8,500	E	Severe
665	IW	SMITH'S NECK RD	REYNOLDS DR	TITUS CREEK DR		1.03	2	2	9,048	12,400	E	Severe
665	IW	SMITH'S NECK RD	TITUS CREEK DR	RESCUE RD		2.10	2	2	1,657	4,500	D	Moderate
668	IW	TITUS CREEK DR	SMITH'S NECK RD	NIKE PARK RD		0.92	2	2	6,866	7,400	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
704	IW	TODD AVE/WARWICK ST	COUNTRY WAY	NEWPORT ST (RTE 1002)		0.57	2	2	1,009	2,300	A-C	Low to Mod.
30	JCC	BARHAMSVILLE RD	I-64	ROUTE 60		1.71	4	4	10,503	28,800	A-C	Low to Mod.
614	JCC	CENTERVILLE RD	JOHN TYLER HWY	MONTICELLO AVE		0.50	2	2	4,000	6,900	A-C	Low to Mod.
614	JCC	CENTERVILLE RD	MONTICELLO AVE	NEWS RD		1.62	2	2	5,184	7,600	D	Moderate
614	JCC	CENTERVILLE RD	NEWS RD	LONGHILL RD		2.85	2	2	10,243	15,100	A-C	Low to Mod.
614	JCC	CENTERVILLE RD	LONGHILL RD	RICHMOND RD		3.11	2	2	11,971	16,400	F	Severe
910	JCC	COLONIAL NATL HIST PKWY	JAMESTOWN/RTE 359	WILLIAMSBURG CL/RTE 199		7.51	2	2	2,000	1,500	A-C	Low to Mod.
607	JCC	CROAKER RD	ROUTE 60	MAXTON LN (RTE 760)		0.73	2	4	9,916	9,200	A-C	Low to Mod.
607	JCC	CROAKER RD	MAXTON LN (RTE 760)	I-64		0.45	4	4	9,462	10,700	A-C	Low to Mod.
607	JCC	CROAKER RD	I-64	FENTON MILL RD		0.41	4	4	6,122	10,100	A-C	Low to Mod.
607	JCC	CROAKER RD	FENTON MILL RD	RIVERVIEW RD		0.73	2	2	3,182	8,200	D	Moderate
615	JCC	DEPUE DR	LONGHILL RD (RTE 612)	IRONBOUND RD		0.85	2	2	10,722	15,500	F	Severe
64	JCC	I-64	NEW KENT CL	RTE 30	EB	2.69	2	2	52,654	99,600	F	Severe
					WB		2	2			F	Severe
64	JCC	I-64	RTE 30	CROAKER RD (RTE 607)	EB	4.34	2	2	58,247	109,600	F	Severe
					WB		2	2			F	Severe
64	JCC	I-64	CROAKER RD (RTE 607)	YORK CL	EB	1.67	2	2	66,152	120,800	F	Severe
					WB		2	2			F	Severe
64	JCC	I-64	YORK CL	NEWPORT NEWS CL	EB	2.38	3	3	95,651	120,600	F	Severe
					WB		3	3			F	Severe
615	JCC	IRONBOUND RD	STRAWBERRY PLAINS RD	MONTICELLO AVE		0.13	4	4	10,997	11,700	A-C	Low to Mod.
615	JCC	IRONBOUND RD	MONTICELLO AVE	WILLIAMSBURG CL		0.76	4	4	11,626	12,300	A-C	Low to Mod.
615	JCC	IRONBOUND RD/NEWS RD	JOHN TYLER HWY	MONTICELLO AVE		1.36	2	2	8,393	15,600	A-C	Low to Mod.
615	JCC	IRONBOUND RD/SANDY BAY RD	JAMESTOWN RD	JOHN TYLER HWY		0.98	2	2	6,390	14,100	F	Severe
31	JCC	JAMESTOWN RD	JAMES RIVER/FERRY	COLONIAL PARKWAY (RTE 359)		0.37	2	2	7,462	11,200	D	Moderate
31	JCC	JAMESTOWN RD	COLONIAL PARKWAY (RTE 359)	SANDY BAY RD (RTE 681)		1.46	2	2	7,462	11,000	A-C	Low to Mod.
31	JCC	JAMESTOWN RD	SANDY BAY RD (RTE 681)	NECK-O-LAND RD		0.88	2	2	9,362	12,100	A-C	Low to Mod.
31	JCC	JAMESTOWN RD	NECK-O-LAND RD	WILLIAMSBURG CL		1.46	2	2	9,362	12,600	A-C	Low to Mod.
5	JCC	JOHN TYLER HWY	CHARLES CITY CL	MONTICELLO AVE		1.50	2	2	3,131	6,900	D	Moderate
5	JCC	JOHN TYLER HWY	MONTICELLO AVE	CENTERVILLE RD (RTE 614)		2.70	2	2	3,241	8,300	A-C	Low to Mod.
5	JCC	JOHN TYLER HWY	CENTERVILLE RD (RTE 614)	IRONBOUND RD (RTE 615)		2.10	2	2	7,670	8,400	A-C	Low to Mod.
5	JCC	JOHN TYLER HWY	IRONBOUND RD (RTE 615)	STANLEY DR (RTE 712)		1.56	2	2	10,954	13,200	A-C	Low to Mod.
5	JCC	JOHN TYLER HWY	STANLEY DR (RTE 712)	ROUTE 199		0.23	4	4	18,339	20,500	A-C	Low to Mod.
612	JCC	LONGHILL RD	CENTERVILLE RD (RTE 614)	WARHILL TRAIL		1.14	2	2	8,092	12,300	A-C	Low to Mod.
612	JCC	LONGHILL RD	WARHILL TRAIL	OLDE TOWNE RD (RTE 658)		1.25	2	4	8,092	12,200	A-C	Low to Mod.
612	JCC	LONGHILL RD	OLDE TOWNE RD (RTE 658)	ROUTE 199		0.66	2	4	15,429	21,500	A-C	Low to Mod.
612	JCC	LONGHILL RD	ROUTE 199	DEPUE DR		0.30	4	4	18,000	24,000	A-C	Low to Mod.
143	JCC	MERRIMAC TRL	NEWPORT NEWS CL @ I-64	YORK CL (SOUTH OF GROVE INT)		2.44	4	4	9,992	8,500	A-C	Low to Mod.
143	JCC	MERRIMAC TRL	YORK CL @ ROUTE 199	PENNIMAN RD (YORK CL)		1.21	4	4	15,904	22,700	A-C	Low to Mod.
900	JCC	MONTICELLO AVE	JOHN TYLER HWY	CENTERVILLE RD (RTE 614)		1.08	2	2	6,000	9,700	D	Moderate
900	JCC	MONTICELLO AVE	CENTERVILLE RD (RTE 614)	NEWS RD		2.65	2	2	12,433	14,700	F	Severe
615	JCC	MONTICELLO AVE	NEWS RD	ROUTE 199		0.57	4	4	45,153	58,900	F	Severe
930	JCC	MONTICELLO AVE	ROUTE 199	IRONBOUND RD (RTE 615)		0.82	4	4	31,477	42,000	F	Severe
	JCC	MOORETOWN RD	YORK CL	CROAKER RD (RTE 607)		1.85	0	4	N/A	19,100	A-C	Low to Mod.
30	JCC	OLD STAGE RD	NEW KENT CL	BARNES RD (RTE 601 S)		1.29	2	2	10,565	19,300	E	Severe
30	JCC	OLD STAGE RD	BARNES RD (RTE 601 S)	I-64		0.84	4	4	10,565	17,500	A-C	Low to Mod.
658	JCC	OLDE TOWNE RD	LONGHILL RD	RICHMOND RD		1.40	2	2	7,289	8,700	A-C	Low to Mod.
60	JCC	POCAHONTAS TRL	WILLIAMSBURG CL	YORK CL @ 199		1.38	4	4	9,197	9,300	A-C	Low to Mod.
60	JCC	POCAHONTAS TRL	YORK CL	BASF RD/ROUTE 60 RELOCATION		3.10	2	2	10,634	12,700	A-C	Low to Mod.
60	JCC	POCAHONTAS TRL	BASF RD/ROUTE 60 RELOCATION	NEWPORT NEWS CL		1.04	2	2	11,452	16,800	A-C	Low to Mod.
60	JCC	RICHMOND RD	ROUTE 199	OLDE TOWNE RD (RTE 658)		1.92	4	4	13,306	24,000	A-C	Low to Mod.
60	JCC	RICHMOND RD	OLDE TOWNE RD (RTE 658)	WILLIAMSBURG CL		0.48	4	4	22,330	29,900	A-C	Low to Mod.
30	JCC	ROCHAMBEAU DR	ROUTE 60	0.7 MI EAST OF ASHINGTON WAY		2.17	4	4	9,832	24,900	D	Moderate
30	JCC	ROCHAMBEAU DR	0.7 MI EAST OF ASHINGTON WAY	CROAKER RD (RTE 607)		0.76	2	2	9,832	18,900	E	Severe

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
199	JCC	ROUTE 199	JOHN TYLER HWY (RTE 5)	WILLIAMSBURG CL		0.23	4	4	35,838	50,600	F	Severe
199	JCC	ROUTE 199	WILLIAMSBURG CL	HENRY ST/COLONIAL PKWY		1.73	4	4	33,665	45,700	F	Severe
199	JCC	ROUTE 199	HENRY ST/COLONIAL PKWY	MOUNTS BAY RD/QUARTERPATH RD		1.11	4	4	34,428	49,900	F	Severe
199	JCC	ROUTE 199	MOUNTS BAY RD/QUARTERPATH RD	RTE 60/RTE 143/YORK CL		1.19	4	4	31,668	39,500	A-C	Low to Mod.
199	JCC	ROUTE 199	YORK CL	RICHMOND RD (RTE 60)	EB	0.16	2	2	24,663	39,700	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
199	JCC	ROUTE 199	RICHMOND RD (RTE 60)	LONGHILL RD (RTE 612)	EB	2.94	2	2	25,294	43,500	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
199	JCC	ROUTE 199	LONGHILL RD (RTE 612)	MONTICELLO AVE (RTE 321)	EB	1.89	2	2	29,182	43,300	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
199	JCC	ROUTE 199	MONTICELLO AVE (RTE 321)	JOHN TYLER HWY (RTE 5)	EB	1.30	2	2	28,751	55,500	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
60	JCC	ROUTE 60	NEW KENT CL	ROUTE 30		5.05	4	4	6,230	11,600	A-C	Low to Mod.
60	JCC	ROUTE 60	ROUTE 30	CROAKER RD (RTE 607)		3.17	4	4	16,436	32,300	A-C	Low to Mod.
60	JCC	ROUTE 60	CROAKER RD (RTE 607)	LIGHTFOOT RD (RTE 646)		2.70	4	4	21,623	44,800	D	Moderate
60	JCC	ROUTE 60	LIGHTFOOT RD (RTE 646)	CENTERVILLE RD (RTE 614)		0.13	4	4	21,623	41,600	F	Severe
60	JCC	ROUTE 60	CENTERVILLE RD (RTE 614)	ROUTE 199		0.21	4	4	24,814	45,800	F	Severe
	JCC	SKIFFES CREEK CONNECTOR	POCAHONTAS TRL	MERRIMAC TRL		0.42	0	4	N/A	13,300	A-C	Low to Mod.
616	JCC	STRAWBERRY PLAINS RD	JOHN TYLER HWY/ROUTE 199	IRONBOUND RD		1.35	2	2	10,303	10,600	A-C	Low to Mod.
60	NN	23RD/25TH CONNECTOR	HUNTINGTON AVE	JEFFERSON AVE		0.36	2	2	2,923	2,300	A-C	Low to Mod.
1	NN	25TH ST	HUNTINGTON AVE	WARWICK BLVD		0.14	2	2	2,810	3,100	A-C	Low to Mod.
60	NN	25TH ST	JEFFERSON AVE	26TH ST		1.37	2	2	2,194	4,500	A-C	Low to Mod.
60	NN	25TH ST	26TH ST	HAMPTON CL		0.46	2	2	5,416	4,600	A-C	Low to Mod.
60	NN	26TH ST	25TH ST	ROANOKE AVE		0.67	2	2	844	2,300	A-C	Low to Mod.
60	NN	26TH ST	ROANOKE AVE	JEFFERSON AVE		0.74	2	2	2,627	4,000	A-C	Low to Mod.
60	NN	26TH ST	JEFFERSON AVE	WARWICK BLVD		0.34	2	2	3,058	5,200	A-C	Low to Mod.
60	NN	26TH ST	WARWICK BLVD	HUNTINGTON AVE		0.13	2	2	3,058	5,100	A-C	Low to Mod.
351	NN	39TH ST	HUNTINGTON AVE	MADISON AVE		0.63	2	2	5,109	5,500	F	Severe
351	NN	39TH ST	MADISON AVE	HAMPTON CL		1.00	4	4	6,641	8,700	A-C	Low to Mod.
1030	NN	ATKINSON BLVD	WARWICK BLVD	JEFFERSON AVE		1.19	4	4	N/A	11,600	A-C	Low to Mod.
917	NN	BLAND BLVD	WARWICK BLVD	I-64		0.54	4	4	29,669	29,400	A-C	Low to Mod.
917	NN	BLAND BLVD	I-64	JEFFERSON AVE		0.40	4	4	29,669	29,400	A-C	Low to Mod.
917	NN	BLAND BLVD	JEFFERSON AVE	McMANUS BLVD		0.48	4	4	13,547	26,200	A-C	Low to Mod.
930	NN	BRIARFIELD RD	JEFFERSON AVE	HAMPTON CL		1.17	2	2	7,329	8,200	A-C	Low to Mod.
933	NN	BUXTON AVE	HAMPTON CL	25TH ST		0.52	2	2	11,186	11,700	A-C	Low to Mod.
940	NN	CENTER AVE	WARWICK BLVD	JEFFERSON AVE		0.35	2	2	4,908	4,200	A-C	Low to Mod.
945	NN	CHESTNUT AVE	39TH ST	44TH ST		0.20	4	4	6,088	8,600	A-C	Low to Mod.
945	NN	CHESTNUT AVE	44TH ST	BRIARFIELD RD		0.90	2	2	6,088	8,600	A-C	Low to Mod.
945	NN	CHESTNUT AVE	BRIARFIELD RD	HAMPTON CL		1.00	4	4	6,706	6,900	A-C	Low to Mod.
998	NN	CITY CENTER BLVD	WARWICK BLVD	JEFFERSON AVE		1.00	4	4	18,335	14,500	A-C	Low to Mod.
173	NN	DENBIGH BLVD	LUCAS CREEK RD	WARWICK BLVD		0.51	4	4	15,991	10,100	A-C	Low to Mod.
173	NN	DENBIGH BLVD	WARWICK BLVD	JEFFERSON AVE		1.15	4	4	28,407	37,100	A-C	Low to Mod.
173	NN	DENBIGH BLVD	JEFFERSON AVE	YORK CL		1.32	4	4	29,759	29,600	A-C	Low to Mod.
957	NN	DILIGENCE DR	THIMBLE SHOALS BLVD	J CLYDE MORRIS BLVD		0.45	4	4	22,361	27,800	A-C	Low to Mod.
105	NN	FORT EUSTIS BLVD	WARWICK BLVD	I-64		0.82	4	4	43,779	30,300	A-C	Low to Mod.
105	NN	FORT EUSTIS BLVD	I-64	JEFFERSON AVE		0.16	4	4	26,123	24,500	A-C	Low to Mod.
105	NN	FORT EUSTIS BLVD	JEFFERSON AVE	.54 MILES EAST OF RTE 143		0.54	4	4	19,528	19,300	A-C	Low to Mod.
105	NN	FORT EUSTIS BLVD	.54 MILES EAST OF RTE 143	YORK CL		0.74	4	4	19,528	19,400	A-C	Low to Mod.
64	NN	HAMPTON ROADS EXPRESS LANES NETWORK	JEFFERSON AVE	OYSTER POINT RD	EB	1.60	0	1	N/A	1,100	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NN	HAMPTON ROADS EXPRESS LANES NETWORK	OYSTER POINT RD	J C MORRIS BLVD	EB	1.64	0	1	N/A	13,100	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NN	HAMPTON ROADS EXPRESS LANES NETWORK	J C MORRIS BLVD	HAMPTON CL	EB	0.90	0	1	N/A	14,600	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
965	NN	HARPERSVILLE RD	J CLYDE MORRIS BLVD	SAUNDERS RD		0.54	2	2	12,471	12,700	F	Severe
965	NN	HARPERSVILLE RD	SAUNDERS RD	HRC PARKWAY		2.33	2	2	8,868	11,800	A-C	Low to Mod.
965	NN	HARPERSVILLE RD	HRC PARKWAY	JEFFERSON AVE		0.44	6	6	19,792	30,600	A-C	Low to Mod.
306	NN	HARPERSVILLE RD	JEFFERSON AVE	WARWICK BLVD		0.89	2	2	12,119	14,500	F	Severe
960	NN	HRC PARKWAY	HARPERSVILLE RD	HAMPTON CL		0.63	4	4	23,286	31,000	A-C	Low to Mod.

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ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
60	NN	HUNTINGTON AVE	71ST ST	39TH ST		1.78	3	3	9,724	13,100	A-C	Low to Mod.
60	NN	HUNTINGTON AVE	39TH ST	26TH ST		0.65	3	3	6,069	8,400	D	Moderate
60	NN	HUNTINGTON AVE	26TH ST	23RD ST		0.13	3	3	6,069	9,700	D	Moderate
64	NN	I-64	JAMES CITY CL	RTE 143 (NORTH)	EB	0.27	3	3	95,651	120,300	A-C	Low to Mod.
					WB		3	3			D	Moderate
64	NN	I-64	RTE 143 (NORTH)	YORKTOWN RD	EB	0.88	3	3	89,678	111,100	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
64	NN	I-64	YORKTOWN RD	FORT EUSTIS BLVD	EB	2.45	3	3	95,880	114,000	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
64	NN	I-64	FORT EUSTIS BLVD	JEFFERSON AVE	EB	4.86	3	3	114,293	110,900	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
64	NN	I-64	JEFFERSON AVE	OYSTER POINT RD	EB	1.60	4	3	134,253	181,300	F	Severe
					WB		4	3			F	Severe
64	NN	I-64	OYSTER POINT RD	J C MORRIS BLVD	EB	1.64	4	3	146,697	160,700	E	Severe
					WB		4	3			F	Severe
64	NN	I-64	J C MORRIS BLVD	HAMPTON CL	EB	0.90	4	3	166,730	198,400	F	Severe
					WB		4	3			F	Severe
664	NN	I-664	TERMINAL AVE	23RD ST	EB	0.92	3	3	65,814	79,900	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
664	NN	I-664	23RD ST	CHESTNUT AVE	EB	1.69	3	3	78,984	78,900	A-C	Low to Mod.
					WB		3	3			D	Moderate
664	NN	I-664	CHESTNUT AVE	HAMPTON CL	EB	0.24	3	3	87,992	83,900	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
664	NN	I-664/MMMBT	SUFFOLK CL	TERMINAL AVE	EB	2.85	2	2	76,345	93,300	F	Severe
					WB		2	2			F	Severe
	NN	INDEPENDENCE BLVD	DENBIGH BLVD	FORT EUSTIS BLVD		1.78	0	4	N/A	15,400	A-C	Low to Mod.
312	NN	J CLYDE MORRIS BLVD	WARWICK BLVD	JEFFERSON AVE		1.12	4	4	28,350	33,800	A-C	Low to Mod.
17	NN	J CLYDE MORRIS BLVD	JEFFERSON AVE	THIMBLE SHOALS BLVD		0.67	6	6	45,230	47,200	A-C	Low to Mod.
17	NN	J CLYDE MORRIS BLVD	THIMBLE SHOALS BLVD	I-64		0.86	6	6	32,592	47,000	A-C	Low to Mod.
17	NN	J CLYDE MORRIS BLVD	I-64	HARPERSVILLE RD		0.60	4	6	33,401	51,600	A-C	Low to Mod.
17	NN	J CLYDE MORRIS BLVD	HARPERSVILLE RD	YORK CL		0.19	4	6	37,896	52,900	A-C	Low to Mod.
143	NN	JEFFERSON AVE	JAMES CITY CL	YORKTOWN RD		1.14	4	4	27,977	20,300	A-C	Low to Mod.
143	NN	JEFFERSON AVE	YORKTOWN RD	FORT EUSTIS BLVD		2.50	4	4	13,364	18,800	D	Moderate
143	NN	JEFFERSON AVE	FORT EUSTIS BLVD	FUTURE ATKINSON BLVD		1.34	4	4	34,146	40,000	F	Severe
143	NN	JEFFERSON AVE	FUTURE ATKINSON BLVD	DENBIGH BLVD		1.68	6	6	34,051	40,000	A-C	Low to Mod.
143	NN	JEFFERSON AVE	DENBIGH BLVD	BLAND BLVD		0.87	6	6	51,629	63,200	F	Severe
143	NN	JEFFERSON AVE	BLAND BLVD	I-64		0.92	6	6	88,450	81,300	F	Severe
143	NN	JEFFERSON AVE	I-64	OYSTER POINT RD		0.95	6	6	58,393	59,300	F	Severe
143	NN	JEFFERSON AVE	OYSTER POINT RD	MUELLER LA		0.83	6	6	52,474	61,500	F	Severe
143	NN	JEFFERSON AVE	MUELLER LA	CITY CENTER BLVD		0.45	6	6	52,474	77,300	F	Severe
143	NN	JEFFERSON AVE	CITY CENTER BLVD	J CLYDE MORRIS BLVD		1.10	6	6	38,157	43,500	D	Moderate
17	NN	JEFFERSON AVE	J CLYDE MORRIS BLVD	HARPERSVILLE RD		1.12	6	6	33,637	54,700	A-C	Low to Mod.
17	NN	JEFFERSON AVE	HARPERSVILLE RD	MAIN ST		1.67	6	6	47,487	43,500	A-C	Low to Mod.
17	NN	JEFFERSON AVE	MAIN ST	CENTER AVE		0.72	6	6	40,848	46,600	A-C	Low to Mod.
17	NN	JEFFERSON AVE	CENTER AVE	MERCURY BLVD		0.61	6	6	34,999	36,600	A-C	Low to Mod.
143	NN	JEFFERSON AVE	MERCURY BLVD	BRIARFIELD RD		1.06	6	6	25,840	35,400	A-C	Low to Mod.
143	NN	JEFFERSON AVE	BRIARFIELD RD	41ST ST		1.08	6	6	21,282	27,900	A-C	Low to Mod.
143	NN	JEFFERSON AVE	41ST ST	35TH ST		0.25	4	4	10,088	14,700	D	Moderate
143	NN	JEFFERSON AVE	35TH ST	25TH ST		0.54	2	2	10,088	11,100	D	Moderate
	NN	LUCAS CREEK RD EXTENSION	DENBIGH BLVD	WARWICK BLVD		1.25	0	4	N/A	16,600	A-C	Low to Mod.
	NN	LUCAS CREEK RD EXTENSION	WARWICK BLVD	ATKINSON BLVD		0.78	0	4	N/A	7,100	A-C	Low to Mod.
152	NN	MAIN ST	WARWICK BLVD	JEFFERSON AVE		0.42	4	4	9,188	14,200	A-C	Low to Mod.
152	NN	MAIN ST	JEFFERSON AVE	HAMPTON CL		0.56	4	4	14,121	14,500	A-C	Low to Mod.
997	NN	MCMANUS BLVD/SIEMENS WAY	DENBIGH BLVD	BLAND BLVD		1.04	2	2	9,113	16,400	F	Severe
17	NN	MERCURY BLVD	RIVER RD	WARWICK BLVD		0.23	4	4	34,353	43,500	F	Severe
17	NN	MERCURY BLVD	WARWICK BLVD	JEFFERSON AVE		0.34	6	6	38,184	51,800	A-C	Low to Mod.
258	NN	MERCURY BLVD	JEFFERSON AVE	HAMPTON CL		0.25	6	6	39,974	44,600	A-C	Low to Mod.
17	NN	MERCURY BLVD/JAMES RIVER BR	ISLE OF WIGHT CL	RIVER RD		0.22	4	4	32,280	48,700	F	Severe
1015	NN	OYSTER POINT RD	WARWICK BLVD	JEFFERSON AVE		1.04	4	6	28,865	38,600	A-C	Low to Mod.
1015	NN	OYSTER POINT RD	JEFFERSON AVE	CANON BLVD		0.73	6	6	44,905	49,400	A-C	Low to Mod.
1015	NN	OYSTER POINT RD	CANON BLVD	I-64		0.42	6	6	53,530	61,100	D	Moderate

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
636	NN	RICHNECK RD	OLD YORK CL	FORT EUSTIS BLVD		0.90	2	2	1,592	500	A-C	Low to Mod.
1016	NN	RICHNECK RD	DENBIGH BLVD	JEFFERSON AVE		0.97	2	2	3,888	3,600	A-C	Low to Mod.
1016	NN	RICHNECK RD	JEFFERSON AVE	OLD YORK CL		1.53	2	2	5,873	7,800	D	Moderate
1020	NN	ROANOKE AVE	I-664	43RD ST		0.20	4	4	4,994	2,900	A-C	Low to Mod.
1020	NN	ROANOKE AVE	43RD ST	BRIARFIELD RD		1.00	2	2	4,994	3,200	A-C	Low to Mod.
1020	NN	ROANOKE AVE	BRIARFIELD RD	HAMPTON CL		0.90	2	2	3,558	4,500	A-C	Low to Mod.
1025	NN	SAUNDERS RD	HARPERSVILLE RD	HAMPTON CL		0.84	2	2	9,135	10,400	D	Moderate
	NN	SHELLABARGER DR	FORT EUSTIS	WARWICK BLVD		0.56	3	3	8,139	13,600	F	Severe
1031	NN	THIMBLE SHOALS BLVD	JEFFERSON AVE	DILIGENCE DR		0.87	4	4	13,414	16,800	A-C	Low to Mod.
1031	NN	THIMBLE SHOALS BLVD	DILIGENCE DR	J CLYDE MORRIS BLVD		0.38	4	4	6,771	9,500	A-C	Low to Mod.
1015	NN	VICTORY BLVD	I-64	YORK CL		0.51	6	6	52,767	57,700	F	Severe
60	NN	WARWICK BLVD	JAMES CITY CL	YORKTOWN RD		1.69	2	2	16,480	11,400	A-C	Low to Mod.
60	NN	WARWICK BLVD	YORKTOWN RD	FORT EUSTIS BLVD		1.44	2	2	18,517	20,900	F	Severe
60	NN	WARWICK BLVD	FORT EUSTIS BLVD	SNIDOW BLVD		1.86	4	4	24,657	38,700	A-C	Low to Mod.
60	NN	WARWICK BLVD	SNIDOW BLVD	DENBIGH BLVD		1.66	4	4	37,943	28,600	A-C	Low to Mod.
60	NN	WARWICK BLVD	DENBIGH BLVD	BLAND BLVD		0.84	4	4	39,028	42,300	A-C	Low to Mod.
60	NN	WARWICK BLVD	BLAND BLVD	OYSTER POINT RD		1.39	4	4	39,965	49,200	F	Severe
60	NN	WARWICK BLVD	OYSTER POINT RD	MAXWELL LN		1.31	4	4	28,686	27,600	A-C	Low to Mod.
60	NN	WARWICK BLVD	MAXWELL LN	DEEP CREEK RD		0.55	6	6	36,127	43,400	A-C	Low to Mod.
60	NN	WARWICK BLVD	DEEP CREEK RD	J CLYDE MORRIS BLVD		1.43	6	6	29,565	43,800	A-C	Low to Mod.
60	NN	WARWICK BLVD	J CLYDE MORRIS BLVD	HARPERSVILLE RD		1.07	5	5	29,331	36,900	F	Severe
60	NN	WARWICK BLVD	HARPERSVILLE RD	MAIN ST		1.49	4	4	26,284	36,000	F	Severe
60	NN	WARWICK BLVD	MAIN ST	CENTER AVE		0.69	4	4	24,864	29,200	F	Severe
60	NN	WARWICK BLVD	CENTER AVE	MERCURY BLVD		0.50	6	6	22,543	27,200	D	Moderate
60	NN	WARWICK BLVD	MERCURY BLVD	HUNTINGTON AVE		0.50	6	6	22,101	29,500	F	Severe
60	NN	WARWICK BLVD	23RD ST	39TH ST		0.75	3	3	3,602	5,100	A-C	Low to Mod.
60	NN	WARWICK BLVD	39TH ST	HUNTINGTON AVE		1.75	3	3	11,067	15,500	F	Severe
238	NN	YORKTOWN RD	WARWICK BLVD	I-64		0.98	2	2	4,811	6,700	A-C	Low to Mod.
238	NN	YORKTOWN RD	I-64	JEFFERSON AVE		0.15	4	4	11,567	7,900	A-C	Low to Mod.
238	NN	YORKTOWN RD	JEFFERSON AVE	CRAWFORD RD		0.61	2	2	11,055	14,200	D	Moderate
238	NN	YORKTOWN RD	CRAWFORD RD	YORK CL		0.44	2	2	10,105	11,600	A-C	Low to Mod.
979	NOR	21ST ST	HAMPTON BLVD	COLLEY AVE		0.35	2	2	7,211	7,300	A-C	Low to Mod.
979	NOR	21ST ST	COLLEY AVE	LLEWELLYN ST		0.45	2	2	12,513	13,100	D	Moderate
979	NOR	21ST ST	LLEWELLYN ST	MONTICELLO AVE		0.27	2	2	9,479	8,400	A-C	Low to Mod.
247	NOR	26TH ST	HAMPTON BLVD	COLLEY AVE		0.39	2	2	4,415	4,500	A-C	Low to Mod.
247	NOR	26TH ST	COLLEY AVE	LLEWELLYN AVE		0.77	3	3	10,690	13,400	D	Moderate
247	NOR	26TH ST	LLEWELLYN AVE	MONTICELLO AVE		0.27	3	3	11,226	11,500	D	Moderate
247	NOR	26TH ST	MONTICELLO AVE	CHURCH ST		0.15	3	3	10,901	15,400	D	Moderate
247	NOR	26TH ST	CHURCH ST	27TH ST		0.26	2	2	9,306	11,000	D	Moderate
247	NOR	27TH ST	HAMPTON BLVD	COLLEY AVE		0.39	2	2	9,990	11,200	A-C	Low to Mod.
247	NOR	27TH ST	COLLEY AVE	LLEWELLYN AVE		0.47	3	3	9,990	11,200	A-C	Low to Mod.
247	NOR	27TH ST	LLEWELLYN AVE	MONTICELLO AVE		0.26	3	3	10,768	12,700	A-C	Low to Mod.
247	NOR	27TH ST	MONTICELLO AVE	CHURCH ST		0.10	3	3	10,768	16,200	D	Moderate
247	NOR	27TH ST	CHURCH ST	26TH ST		0.25	3	3	10,768	10,500	A-C	Low to Mod.
983	NOR	38TH ST	HAMPTON BLVD	COLLEY AVE		0.40	2	2	7,134	6,800	A-C	Low to Mod.
983	NOR	38TH ST	COLLEY AVE	LLEWELLYN AVE		0.54	2	2	9,264	11,000	A-C	Low to Mod.
983	NOR	38TH ST	LLEWELLYN AVE	GRANBY ST		0.16	2	2	4,563	5,100	A-C	Low to Mod.
985	NOR	4TH VIEW ST	I-64	OCEAN VIEW AVE		0.24	4	4	13,257	16,200	A-C	Low to Mod.
170	NOR	ADMIRAL TAUSSIG BLVD	HAMPTON BLVD	I-564		0.74	4	4	30,538	21,000	A-C	Low to Mod.
901	NOR	AZALEA GARDEN RD	VA BEACH BLVD	PRINCESS ANNE RD		0.79	2	2	12,995	11,600	D	Moderate
901	NOR	AZALEA GARDEN RD	PRINCESS ANNE RD	SEWELLS POINT RD		0.31	4	4	18,258	22,000	D	Moderate
901	NOR	AZALEA GARDEN RD	SEWELLS POINT RD	ROBIN HOOD RD		0.64	2	2	8,519	10,200	D	Moderate
901	NOR	AZALEA GARDEN RD	ROBIN HOOD RD	I-64		0.43	2	2	9,133	10,000	D	Moderate
901	NOR	AZALEA GARDEN RD	I-64	MILITARY HWY		0.40	2	2	8,266	10,300	D	Moderate
901	NOR	AZALEA GARDEN RD	MILITARY HWY	NORVIEW AVE		0.60	4	4	14,379	17,300	D	Moderate
901	NOR	AZALEA GARDEN RD	NORVIEW AVE	LITTLE CREEK RD		1.42	4	4	14,379	15,900	D	Moderate
902	NOR	BAINBRIDGE BLVD	CHESAPEAKE CL	S MAIN ST		0.50	2	2	1,812	3,100	A-C	Low to Mod.
905	NOR	BALLENTINE BLVD	I-264	VA BEACH BLVD		0.70	4	4	24,398	31,700	E	Severe
903	NOR	BALLENTINE BLVD	VA BEACH BLVD	PRINCESS ANNE RD		0.50	2	2	13,223	15,100	E	Severe
903	NOR	BALLENTINE BLVD	PRINCESS ANNE RD	CHESAPEAKE BLVD		0.95	2	2	10,359	12,000	D	Moderate
907	NOR	BAY AVE	FIRST VIEW ST	I-64		0.27	4	4	13,511	11,100	D	Moderate

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907	NOR	BAY AVE/OCEAN AVE	I-64	GRANBY ST		0.38	4	4	1,865	3,000	A-C	Low to Mod.
909	NOR	BAYVIEW BLVD	GRANBY ST	TIDEWATER DR		0.61	2	2	16,208	7,600	D	Moderate
909	NOR	BAYVIEW BLVD	TIDEWATER DR	CHESAPEAKE BLVD		0.51	2	2	12,215	12,600	D	Moderate
909	NOR	BAYVIEW BLVD	CHESAPEAKE BLVD	CAPE VIEW AVE		1.11	2	2	6,485	6,500	A-C	Low to Mod.
911	NOR	BERKLEY AVE	I-464	STATE ST		0.10	4	4	14,000	15,400	D	Moderate
911	NOR	BERKLEY AVE	STATE ST	MAIN ST		0.10	4	4	12,934	14,200	D	Moderate
911	NOR	BERKLEY AVE	MAIN ST	BERKLEY AVE EXT		0.20	4	4	13,383	15,200	D	Moderate
911	NOR	BERKLEY AVE	BERKLEY AVE EXT	INDIAN RIVER RD		0.54	4	4	12,000	12,700	D	Moderate
911	NOR	BERKLEY AVE EXT	BERKLEY AVE/FAUQUIER ST	WILSON RD		0.77	2	2	3,878	5,300	A-C	Low to Mod.
911	NOR	BERKLEY AVE EXT	WILSON RD	CAMPOSTELLA RD		0.48	2	2	3,837	4,800	A-C	Low to Mod.
915	NOR	BOUSH ST	CITY HALL AVE	BUTE STREET		0.35	4	4	20,653	27,900	F	Severe
915	NOR	BOUSH ST	BUTE STREET	BRAMBLETON AVE		0.09	4	4	20,653	28,200	F	Severe
915	NOR	BOUSH ST	BRAMBLETON AVE	OLNEY RD		0.14	3	3	9,738	11,400	A-C	Low to Mod.
915	NOR	BOUSH ST	OLNEY RD	VA BEACH BLVD		0.07	3	3	9,738	11,200	A-C	Low to Mod.
915	NOR	BOUSH ST/WATERSIDE DR	ST PAULS BLVD	CITY HALL AVE		0.57	4	4	21,180	35,600	F	Severe
58	NOR	BRAMBLETON AVE	HAMPTON BLVD	COLLEY AVE		0.50	6	6	30,422	36,900	A-C	Low to Mod.
337	NOR	BRAMBLETON AVE	COLLEY AVE	BOUSH ST		0.85	6	6	38,905	44,400	A-C	Low to Mod.
337	NOR	BRAMBLETON AVE	BOUSH ST	MONTICELLO AVE		0.18	6	6	31,448	35,700	A-C	Low to Mod.
337	NOR	BRAMBLETON AVE	MONTICELLO AVE	ST PAULS BLVD		0.12	6	6	31,448	32,400	A-C	Low to Mod.
337	NOR	BRAMBLETON AVE	ST PAULS BLVD	CHURCH ST		0.30	4	4	22,493	28,800	A-C	Low to Mod.
337	NOR	BRAMBLETON AVE	CHURCH ST	TIDEWATER DR		0.29	6	6	34,849	49,400	A-C	Low to Mod.
168	NOR	BRAMBLETON AVE	TIDEWATER DR	PARK AVE		0.42	4	4	38,112	44,500	D	Moderate
168	NOR	BRAMBLETON AVE	PARK AVE	I-264		0.20	6	6	48,658	59,100	A-C	Low to Mod.
168	NOR	CAMPOSTELLA RD	SCL NORFOLK/BERKLEY AVE EXT	INDIAN RIVER RD		0.55	6	6	19,987	29,800	A-C	Low to Mod.
168	NOR	CAMPOSTELLA RD	INDIAN RIVER RD	WILSON RD		0.23	6	6	26,237	36,500	D	Moderate
168	NOR	CAMPOSTELLA RD	WILSON RD	S. END CAMPOSTELLA BRIDGE		0.33	6	6	48,068	59,400	F	Severe
168	NOR	CAMPOSTELLA RD	S. END CAMPOSTELLA BRIDGE	KIMBALL TERR		0.44	6	6	48,068	59,400	F	Severe
168	NOR	CAMPOSTELLA RD	KIMBALL TERR	I-264		0.10	6	6	48,068	60,100	F	Severe
168	NOR	CAPE VIEW AVE	BAYVIEW BLVD	OCEAN VIEW AVE		0.41	2	2	4,482	4,200	A-C	Low to Mod.
918	NOR	CHESAPEAKE BLVD	LAFAYETTE BLVD	CROMWELL DR		0.13	4	4	19,286	23,300	A-C	Low to Mod.
247	NOR	CHESAPEAKE BLVD	CROMWELL DR	ROBIN HOOD RD		0.21	4	4	19,286	21,000	A-C	Low to Mod.
247	NOR	CHESAPEAKE BLVD	ROBIN HOOD RD	HYDE CIR		0.89	4	4	19,286	20,700	A-C	Low to Mod.
247	NOR	CHESAPEAKE BLVD	HYDE CIR	NORVIEW AVE		0.13	6	6	19,286	20,800	A-C	Low to Mod.
194	NOR	CHESAPEAKE BLVD	NORVIEW AVE	I-64		0.94	6	6	17,916	22,000	A-C	Low to Mod.
194	NOR	CHESAPEAKE BLVD	I-64	JOHNSTONS RD		0.31	6	6	25,816	30,500	A-C	Low to Mod.
194	NOR	CHESAPEAKE BLVD	JOHNSTONS RD	LITTLE CREEK RD		0.49	6	6	25,816	30,800	A-C	Low to Mod.
194	NOR	CHESAPEAKE BLVD	LITTLE CREEK RD	SHEPPARD AVE		0.63	4	4	24,451	29,500	A-C	Low to Mod.
194	NOR	CHESAPEAKE BLVD	SHEPPARD AVE	BAYVIEW BLVD		0.41	4	4	24,451	28,800	A-C	Low to Mod.
194	NOR	CHESAPEAKE BLVD	BAYVIEW BLVD	CHESAPEAKE ST		0.61	4	4	13,533	15,200	A-C	Low to Mod.
194	NOR	CHESAPEAKE BLVD	CHESAPEAKE ST	OCEAN VIEW AVE		0.47	4	4	6,085	7,600	A-C	Low to Mod.
919	NOR	CHURCH ST	BRAMBLETON AVE	VA BEACH BLVD		0.22	4	4	17,023	21,800	D	Moderate
919	NOR	CHURCH ST	VA BEACH BLVD	PRINCESS ANNE RD		0.12	4	4	17,720	24,400	D	Moderate
919	NOR	CHURCH ST	PRINCESS ANNE RD	26TH ST		0.83	4	4	22,193	28,500	D	Moderate
919	NOR	CHURCH ST	26TH ST	27TH ST		0.06	4	4	15,944	20,400	A-C	Low to Mod.
919	NOR	CHURCH ST	27TH ST	MONTICELLO AVE		0.21	4	4	12,282	14,700	A-C	Low to Mod.
460	NOR	CHURCH ST	MONTICELLO AVE	GRANBY ST		0.13	4	4	29,000	34,300	A-C	Low to Mod.
921	NOR	CITY HALL AVE	BOUSH ST	GRANBY ST		0.08	2	2	8,000	12,000	F	Severe
921	NOR	CITY HALL AVE	GRANBY ST	MONTICELLO AVE		0.06	2	2	8,000	12,100	F	Severe
921	NOR	CITY HALL AVE	MONTICELLO AVE	ST PAULS BLVD		0.29	4	4	9,536	18,000	D	Moderate
923	NOR	COLLEY AVE	BRAMBLETON AVE	OLNEY RD		0.21	4	4	15,665	17,000	D	Moderate
923	NOR	COLLEY AVE	OLNEY RD	PRINCESS ANNE RD		0.39	4	4	12,770	14,300	D	Moderate
923	NOR	COLLEY AVE	PRINCESS ANNE RD	21ST ST		0.40	2	2	14,014	14,500	F	Severe
923	NOR	COLLEY AVE	21ST ST	26TH ST		0.24	4	4	14,511	14,900	A-C	Low to Mod.
923	NOR	COLLEY AVE	26TH ST	27TH ST		0.05	4	4	14,511	18,000	D	Moderate
923	NOR	COLLEY AVE	27TH ST	38TH ST		0.34	2	2	14,233	16,200	F	Severe
923	NOR	COLLEY AVE	38TH ST	53RD ST		0.74	2	2	14,233	17,400	F	Severe
925	NOR	CROMWELL DR	TAIT TERRACE DR	CHESAPEAKE BLVD		0.59	4	4	17,342	19,200	D	Moderate
925	NOR	CROMWELL DR	CHESAPEAKE BLVD	TIDEWATER DR		0.82	2	2	13,509	13,300	D	Moderate
929	NOR	DUKE ST	OLNEY RD	BRAMBLETON AVE		0.19	4	4	5,104	12,200	D	Moderate
460	NOR	GRANBY ST	CHURCH ST	38TH ST		0.36	4	4	26,976	32,500	A-C	Low to Mod.
460	NOR	GRANBY ST	38TH ST	LLEWELLYN AVE		0.42	4	4	26,976	33,200	A-C	Low to Mod.

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460	NOR	GRANBY ST	LLEWELLYN AVE	WILLOW WOOD DRIVE		0.28	6	6	37,572	38,800	A-C	Low to Mod.
460	NOR	GRANBY ST	WILLOW WOOD DRIVE	THOLE ST		1.15	6	6	36,558	44,200	A-C	Low to Mod.
460	NOR	GRANBY ST	THOLE ST	LITTLE CREEK RD		0.60	6	6	29,298	37,700	A-C	Low to Mod.
460	NOR	GRANBY ST	LITTLE CREEK RD	I-564		0.26	6	6	25,601	33,300	A-C	Low to Mod.
460	NOR	GRANBY ST	I-564	I-64		0.18	4	4	25,968	34,900	F	Severe
460	NOR	GRANBY ST	I-64	BAYVIEW BLVD		0.99	4	4	21,992	26,100	D	Moderate
460	NOR	GRANBY ST	BAYVIEW BLVD	BAY AVE		0.56	4	4	14,358	12,500	A-C	Low to Mod.
460	NOR	GRANBY ST	BAY AVE	TIDEWATER DR		0.38	4	4	14,358	12,700	A-C	Low to Mod.
460	NOR	GRANBY ST	TIDEWATER DR	OCEAN VIEW AVE		0.71	4	4	11,993	11,600	A-C	Low to Mod.
337	NOR	HAMPTON BLVD	BRAMBLETON AVE	PRINCESS ANNE RD		0.40	4	4	35,824	40,700	D	Moderate
337	NOR	HAMPTON BLVD	PRINCESS ANNE RD	21ST ST		0.48	4	4	35,824	38,900	D	Moderate
337	NOR	HAMPTON BLVD	21ST ST	26TH ST		0.21	4	4	40,899	39,900	F	Severe
337	NOR	HAMPTON BLVD	26TH ST	27TH ST		0.05	4	4	32,666	42,400	F	Severe
337	NOR	HAMPTON BLVD	27TH ST	38TH ST		0.18	4	4	32,666	47,200	F	Severe
337	NOR	HAMPTON BLVD	38TH ST	JAMESTOWN CRESCENT		1.32	6	6	38,394	39,000	A-C	Low to Mod.
337	NOR	HAMPTON BLVD	JAMESTOWN CRESCENT	LITTLE CREEK RD		1.28	6	6	38,394	37,500	A-C	Low to Mod.
337	NOR	HAMPTON BLVD	LITTLE CREEK RD	INTERNATIONAL TERMINAL BLVD		0.18	6	6	33,802	31,700	A-C	Low to Mod.
337	NOR	HAMPTON BLVD	INTERNATIONAL TERMINAL BLVD	INTERMODAL CONNECTOR		1.00	6	6	29,689	20,500	A-C	Low to Mod.
337	NOR	HAMPTON BLVD	INTERMODAL CONNECTOR	ADM TAUSSIG BLVD		0.92	6	6	29,689	21,800	A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	HAMPTON CL	OCEAN VIEW AVE	EB	0.19	0	2	N/A	49,800	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	OCEAN VIEW AVE	4TH VIEW AVE	EB	1.82	0	2	N/A	48,200	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	4TH VIEW AVE	BAY AVE	EB	1.01	0	2	N/A	42,200	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	BAY AVE	GRANBY ST	EB	1.60	0	2	N/A	45,700	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	GRANBY ST	I-564/LITTLE CREEK RD	EB	0.21	0	2	N/A	19,500	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	I-564/LITTLE CREEK RD	TIDEWATER DR	EB	1.17	0	1	N/A	8,400	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	TIDEWATER DR	CHESAPEAKE BLVD	EB	1.04	0	1	N/A	6,600	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	CHESAPEAKE BLVD	NORVIEW AVE	EB	0.97	0	1	N/A	7,000	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	NORVIEW AVE	MILITARY HWY	EB	1.22	0	1	N/A	7,100	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	MILITARY HWY	NORTHAMPTON BLVD	EB	1.07	0	1	N/A	3,000	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	NORTHAMPTON BLVD	I-264	EB	2.12	0	1	N/A	4,400	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	NOR	HAMPTON ROADS EXPRESS LANES NETWORK	I-264	VA BEACH CL	EB	0.93	0	1	N/A	16,700	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
264	NOR	I-264	WATERSIDE/CITY HALL/TIDEWATER	BRAMBLETON AVE	EB	0.91	5	5	101,761	118,100	A-C	Low to Mod.
					WB		4	4			A-C	Low to Mod.
264	NOR	I-264	BRAMBLETON AVE	BALLENTINE BLVD	EB	0.85	4	4	135,490	149,200	D	Moderate
					WB		4	4			A-C	Low to Mod.
264	NOR	I-264	BALLENTINE BLVD	MILITARY HWY	EB	2.43	4	4	131,958	138,400	E	Severe
					WB		4	4			A-C	Low to Mod.
264	NOR	I-264	MILITARY HWY	I-64	EB	0.78	6	6	135,158	139,300	A-C	Low to Mod.
					WB		6	6			A-C	Low to Mod.
264	NOR	I-264	I-64	NEWTOWN RD/WCL VA. BEACH	EB	0.74	6	7	235,309	239,100	D	Moderate
					WB		6	6			A-C	Low to Mod.
264	NOR	I-264/BERKLEY BRIDGE	I-464	WATERSIDE/CITY HALL/TIDEWATER	EB	0.72	4	4	101,000	122,000	A-C	Low to Mod.
					WB		4	4			A-C	Low to Mod.
264	NOR	I-264/DOWNTOWN TUNNEL	PORTSMOUTH CL	I-464	EB	0.40	2	2	79,117	86,600	F	Severe
					WB		2	2			F	Severe

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ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
464	NOR	I-464	CHESAPEAKE CL	SOUTH MAIN ST	NB	0.42	2	2	62,165	76,500	A-C	Low to Mod.
					SB		2	2			F	Severe
464	NOR	I-464	SOUTH MAIN ST	I-264	NB	0.61	2	2	60,565	69,000	A-C	Low to Mod.
					SB		2	2			E	Severe
564	NOR	I-564	ADMIRAL TAUSSIG BLVD	INTERMODAL CONNECTOR	NB	0.50	2	2	44,313	32,000	A-C	Low to Mod.
					SB		2	2			D	Moderate
564	NOR	I-564	INTERMODAL CONNECTOR	INTERNATIONAL TERMINAL BLVD	NB	1.37	3	3	44,313	72,500	A-C	Low to Mod.
					SB		3	3			E	Severe
564	NOR	I-564	INTERNATIONAL TERMINAL BLVD	I-64	NB	0.90	4	4	80,547	97,400	A-C	Low to Mod.
					SB		4	4			D	Moderate
64	NOR	I-64	OCEAN VIEW AVE	4TH VIEW AVE	EB	1.82	2	2	92,063	104,400	E	Severe
					WB		2	2			D	Moderate
64	NOR	I-64	4TH VIEW AVE	BAY AVE	EB	1.01	2	2	87,456	94,400	A-C	Low to Mod.
					WB		2	2			D	Moderate
64	NOR	I-64	BAY AVE	GRANBY ST	EB	1.60	2	2	93,230	111,500	F	Severe
					WB		2	2			A-C	Low to Mod.
64	NOR	I-64	GRANBY ST	I-564/LITTLE CREEK RD	EB	0.21	2	2	93,230	120,400	F	Severe
					WB		2	2			D	Moderate
64	NOR	I-64	I-264	VA BEACH CL	EB	0.93	3	3	160,818	176,600	F	Severe
					WB		3	3			D	Moderate
64	NOR	I-64	I-564/LITTLE CREEK RD	TIDEWATER DR	REV	1.17	2	2	150,735	169,900	A-C	Low to Mod.
					EB		4	4			D	Moderate
					WB		4	4			A-C	Low to Mod.
64	NOR	I-64	TIDEWATER DR	CHESAPEAKE BLVD	REV	1.04	2	2	148,717	162,300	A-C	Low to Mod.
					EB		3	3			F	Severe
					WB		3	3			A-C	Low to Mod.
64	NOR	I-64	CHESAPEAKE BLVD	NORVIEW AVE	REV	0.97	2	2	164,892	178,700	A-C	Low to Mod.
					EB		3	3			F	Severe
					WB		3	3			D	Moderate
64	NOR	I-64	NORVIEW AVE	MILITARY HWY	REV	1.22	2	2	166,670	192,300	A-C	Low to Mod.
					EB		3	3			F	Severe
					WB		3	3			E	Severe
64	NOR	I-64	MILITARY HWY	NORTHAMPTON BLVD	REV	1.07	2	2	163,482	175,900	A-C	Low to Mod.
					EB		3	3			F	Severe
					WB		3	3			E	Severe
64	NOR	I-64	NORTHAMPTON BLVD	I-264	REV	2.12	2	2	202,440	197,700	A-C	Low to Mod.
					EB		3	5			A-C	Low to Mod.
					WB		4	4			D	Moderate
64	NOR	I-64/HRBT	HAMPTON CL	OCEAN VIEW AVE	EB	0.19	2	2	92,063	104,700	F	Severe
					WB		2	2			F	Severe
407	NOR	INDIAN RIVER RD	MARSH ST	WILSON RD		0.36	4	4	14,035	15,100	D	Moderate
407	NOR	INDIAN RIVER RD	WILSON RD	CAMPOSTELLA RD		0.16	4	4	14,035	14,600	D	Moderate
407	NOR	INDIAN RIVER RD	CAMPOSTELLA RD	CHESAPEAKE CL		0.71	6	6	17,301	22,200	A-C	Low to Mod.
933	NOR	INGLESIDE RD	VA BEACH BLVD	PRINCESS ANNE RD		0.66	4	4	16,924	16,300	A-C	Low to Mod.
933	NOR	INGLESIDE RD	PRINCESS ANNE RD	TAIT TERRACE DR		0.46	4	4	15,828	20,100	A-C	Low to Mod.
	NOR	INTERMODAL CONNECTOR	SECOND ST	I-564	EB	1.50	2	2	N/A	20,000	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
406	NOR	INTERNATIONAL TERMINAL BLVD	HAMPTON BLVD	I-564		1.74	4	4	25,491	23,600	A-C	Low to Mod.
937	NOR	JAMESTOWN CRESCENT	53RD ST	HAMPTON BLVD		0.73	2	2	8,531	6,500	A-C	Low to Mod.
939	NOR	JOHNSTONS RD	SEWELLS POINT RD	CHESAPEAKE BLVD		0.21	2	2	6,290	6,500	A-C	Low to Mod.
939	NOR	JOHNSTONS RD	CHESAPEAKE BLVD	MILITARY HWY		0.36	2	2	12,010	11,700	D	Moderate
939	NOR	JOHNSTONS RD/HALPRIN LN	MILITARY HWY	LITTLE CREEK RD		0.94	2	2	8,156	9,300	A-C	Low to Mod.
165	NOR	KEMPSVILLE RD	NEWTOWN RD	VA BEACH BLVD		1.00	4	4	20,875	27,600	A-C	Low to Mod.
165	NOR	KEMPSVILLE RD	VA BEACH BLVD	NORTHAMPTON BLVD		1.58	2	2	12,027	15,900	F	Severe
247	NOR	LAFAYETTE BLVD	27TH ST	TIDEWATER DR		0.89	4	4	17,648	17,200	D	Moderate
247	NOR	LAFAYETTE BLVD	TIDEWATER DR	CHESAPEAKE BLVD		0.56	2	2	17,753	19,400	F	Severe
943	NOR	LIBERTY ST	STATE ST	SOUTH MAIN ST		0.11	2	2	5,379	6,000	D	Moderate
943	NOR	LIBERTY ST	SOUTH MAIN ST	CHESAPEAKE CL		0.63	2	2	5,471	5,300	D	Moderate

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165	NOR	LITTLE CREEK RD	HAMPTON BLVD	GRANBY ST		1.98	4	4	21,511	21,000	D	Moderate
165	NOR	LITTLE CREEK RD	GRANBY ST	I-64		0.35	4	4	25,817	29,100	D	Moderate
165	NOR	LITTLE CREEK RD	I-64	TIDEWATER DR		0.77	6	6	21,117	25,700	A-C	Low to Mod.
165	NOR	LITTLE CREEK RD	TIDEWATER DR	SEWELLS POINT RD		0.18	4	4	22,818	26,600	A-C	Low to Mod.
165	NOR	LITTLE CREEK RD	SEWELLS POINT RD	CHESAPEAKE BLVD		0.53	4	4	22,818	28,500	A-C	Low to Mod.
165	NOR	LITTLE CREEK RD	CHESAPEAKE BLVD	MILITARY HWY		0.15	4	4	38,573	41,800	A-C	Low to Mod.
170	NOR	LITTLE CREEK RD	MILITARY HWY	AZALEA GARDEN RD		1.54	4	4	26,271	28,400	A-C	Low to Mod.
170	NOR	LITTLE CREEK RD	AZALEA GARDEN RD	SHORE DR		1.10	4	4	21,385	29,000	A-C	Low to Mod.
947	NOR	LLEWELLYN AVE	VA BEACH BLVD	PRINCESS ANNE RD		0.30	4	4	8,356	11,800	D	Moderate
947	NOR	LLEWELLYN AVE	PRINCESS ANNE RD	21ST ST		0.50	2	2	9,347	12,400	F	Severe
947	NOR	LLEWELLYN AVE	21ST ST	26TH ST		0.26	2	2	6,905	10,500	D	Moderate
947	NOR	LLEWELLYN AVE	26TH ST	27TH ST		0.05	2	2	6,905	9,300	D	Moderate
947	NOR	LLEWELLYN AVE	27TH ST	35TH ST		0.41	2	2	7,832	7,300	D	Moderate
947	NOR	LLEWELLYN AVE	35TH ST	38TH ST		0.15	2	2	7,832	7,600	D	Moderate
947	NOR	LLEWELLYN AVE	38TH ST	DELAWARE AVE		0.20	2	2	12,457	14,000	D	Moderate
947	NOR	LLEWELLYN AVE	DELAWARE AVE	GRANBY ST		0.27	2	2	8,507	9,100	D	Moderate
58	NOR	MIDTOWN TUNNEL	PORTSMOUTH CL	BRAMBLETON AVE		0.59	4	4	39,444	42,100	F	Severe
13	NOR	MILITARY HWY	VA BEACH CL	I-264		0.75	8	8	50,329	67,400	A-C	Low to Mod.
13	NOR	MILITARY HWY	I-264	VA BEACH BLVD		0.83	8	8	59,705	80,000	F	Severe
13	NOR	MILITARY HWY	VA BEACH BLVD	LOWERY RD		0.54	8	8	45,000	62,100	A-C	Low to Mod.
13	NOR	MILITARY HWY	LOWERY RD	PRIN ANNE RD/NORTHAMPTON BLVD		0.81	8	8	45,000	62,200	A-C	Low to Mod.
165	NOR	MILITARY HWY	PRIN ANNE RD/NORTHAMPTON BLVD	I-64		0.52	6	6	36,298	65,800	F	Severe
165	NOR	MILITARY HWY	I-64	AZALEA GARDEN RD		0.65	4	4	22,210	40,300	A-C	Low to Mod.
165	NOR	MILITARY HWY	AZALEA GARDEN RD	NORVIEW AVE		0.39	4	4	20,026	32,800	A-C	Low to Mod.
165	NOR	MILITARY HWY	NORVIEW AVE	JOHNSTONS RD		1.16	4	4	22,821	29,900	A-C	Low to Mod.
165	NOR	MILITARY HWY	JOHNSTONS RD	LITTLE CREEK RD		0.48	4	4	22,821	27,400	A-C	Low to Mod.
953	NOR	MONTICELLO AVE	CITY HALL AVE	BRAMBLETON AVE		0.47	4	4	2,880	9,500	A-C	Low to Mod.
953	NOR	MONTICELLO AVE	BRAMBLETON AVE	ST PAULS BLVD		0.19	4	4	4,692	10,900	A-C	Low to Mod.
460	NOR	MONTICELLO AVE	ST PAULS BLVD	VA BEACH BLVD		0.10	4	4	26,919	27,300	D	Moderate
460	NOR	MONTICELLO AVE	VA BEACH BLVD	PRINCESS ANNE RD		0.18	4	4	22,701	25,900	D	Moderate
460	NOR	MONTICELLO AVE	PRINCESS ANNE RD	21ST ST		0.48	4	4	22,701	24,200	D	Moderate
460	NOR	MONTICELLO AVE	21ST ST	26TH ST		0.27	4	4	19,355	17,300	D	Moderate
460	NOR	MONTICELLO AVE	26TH ST	27TH ST		0.05	4	4	19,355	18,500	D	Moderate
460	NOR	MONTICELLO AVE	27TH ST	CHURCH ST		0.18	4	4	19,355	20,600	D	Moderate
403	NOR	NEWTOWN RD	KEMPSVILLE RD	I-264		0.38	4	4	29,837	43,400	F	Severe
403	NOR	NEWTOWN RD	I-264	VA BEACH BLVD		0.66	4	4	36,630	43,100	F	Severe
403	NOR	NEWTOWN RD	VA BEACH BLVD	VA BEACH CL		0.15	4	4	39,580	43,200	D	Moderate
13	NOR	NORTHAMPTON BLVD	MILITARY HWY	KEMPSVILLE RD		0.24	6	6	28,204	46,600	A-C	Low to Mod.
13	NOR	NORTHAMPTON BLVD	KEMPSVILLE RD	I-64		0.49	6	6	35,000	50,300	A-C	Low to Mod.
13	NOR	NORTHAMPTON BLVD	I-64	WESLEYAN DR/VA BEACH CL		0.34	8	8	82,000	92,400	A-C	Low to Mod.
957	NOR	NORVIEW AVE	TIDEWATER DR	CHESAPEAKE BLVD		1.14	2	2	5,764	6,300	A-C	Low to Mod.
247	NOR	NORVIEW AVE	CHESAPEAKE BLVD	I-64		0.41	4	4	23,663	25,800	A-C	Low to Mod.
247	NOR	NORVIEW AVE	I-64	MILITARY HWY		0.47	4	4	27,403	26,900	A-C	Low to Mod.
247	NOR	NORVIEW AVE	MILITARY HWY	AZALEA GARDEN RD		0.50	4	4	15,880	15,800	A-C	Low to Mod.
247	NOR	NORVIEW AVE	AZALEA GARDEN RD	NORFOLK INT AIRPORT		0.20	4	4	14,499	25,400	D	Moderate
60	NOR	OCEAN VIEW AVE	4TH VIEW ST	TIDEWATER DR		0.09	4	4	14,650	26,000	A-C	Low to Mod.
60	NOR	OCEAN VIEW AVE	TIDEWATER DR	GRANBY ST		0.75	4	4	14,650	21,300	A-C	Low to Mod.
60	NOR	OCEAN VIEW AVE	GRANBY ST	CHESAPEAKE BLVD		0.44	4	4	19,149	24,600	A-C	Low to Mod.
60	NOR	OCEAN VIEW AVE	CHESAPEAKE BLVD	CAPE VIEW AVE		1.41	4	4	16,321	21,600	A-C	Low to Mod.
60	NOR	OCEAN VIEW AVE	CAPE VIEW AVE	21ST BAY ST		1.84	2	2	19,060	23,800	F	Severe
959	NOR	OLNEY RD	COLLEY AVE	DUKE ST/VA BEACH BLVD		0.56	4	4	9,504	12,500	D	Moderate
166	NOR	PARK AVE	BRAMBLETON AVE	VA BEACH BLVD		0.45	4	4	14,943	19,700	D	Moderate
166	NOR	PARK AVE	VA BEACH BLVD	PRINCESS ANNE RD		0.14	4	4	13,618	16,200	D	Moderate
961	NOR	PRINCESS ANNE RD	HAMPTON BLVD	COLLEY AVE		0.08	2	2	6,123	6,700	A-C	Low to Mod.
961	NOR	PRINCESS ANNE RD	COLLEY AVE	LLEWELLYN AVE		0.57	2	2	8,353	7,800	D	Moderate
961	NOR	PRINCESS ANNE RD	LLEWELLYN AVE	MONTICELLO AVE		0.18	2	2	10,596	9,800	D	Moderate
961	NOR	PRINCESS ANNE RD	MONTICELLO AVE	CHURCH ST		0.51	2	2	8,981	8,400	D	Moderate
961	NOR	PRINCESS ANNE RD	CHURCH ST	TIDEWATER DR		0.28	4	4	12,117	12,200	A-C	Low to Mod.
961	NOR	PRINCESS ANNE RD	TIDEWATER DR	MAY AVE		0.14	4	4	16,169	16,900	D	Moderate
961	NOR	PRINCESS ANNE RD	MAY AVE	PARK AVE		0.36	4	4	16,169	17,100	D	Moderate
166	NOR	PRINCESS ANNE RD	PARK AVE	BALLENTINE BLVD		0.97	4	4	19,096	21,200	A-C	Low to Mod.

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166	NOR	PRINCESS ANNE RD	BALLENTINE BLVD	INGLESIDE RD		0.37	4	4	23,054	28,200	A-C	Low to Mod.
166	NOR	PRINCESS ANNE RD	INGLESIDE RD	AZALEA GARDEN RD		0.59	4	4	23,054	26,000	A-C	Low to Mod.
166	NOR	PRINCESS ANNE RD	AZALEA GARDEN RD	SEWELLS POINT RD		0.32	4	4	19,836	26,100	A-C	Low to Mod.
166	NOR	PRINCESS ANNE RD	SEWELLS POINT RD	MILITARY HWY		1.18	4	4	19,836	26,300	A-C	Low to Mod.
949	NOR	ROBIN HOOD RD	CHESAPEAKE BLVD	SEWELLS POINT RD		0.98	2	2	5,787	6,600	A-C	Low to Mod.
949	NOR	ROBIN HOOD RD	SEWELLS POINT RD	AZALEA GARDEN RD		0.36	2	2	4,877	5,500	A-C	Low to Mod.
949	NOR	ROBIN HOOD RD	AZALEA GARDEN RD	ELLSMERE AVE		0.41	4	4	7,363	11,300	A-C	Low to Mod.
949	NOR	ROBIN HOOD RD	ELLSMERE AVE	MILITARY HWY		0.33	4	4	12,525	18,600	A-C	Low to Mod.
962	NOR	SEWELLS POINT RD	PRINCESS ANNE RD	AZALEA GARDEN RD		0.26	2	2	15,329	14,000	F	Severe
194	NOR	SEWELLS POINT RD	AZALEA GARDEN RD	ROBIN HOOD RD		0.50	4	4	15,329	17,400	A-C	Low to Mod.
194	NOR	SEWELLS POINT RD	ROBIN HOOD RD	CHESAPEAKE BLVD		0.86	4	4	15,329	15,500	A-C	Low to Mod.
962	NOR	SEWELLS POINT RD	CHESAPEAKE BLVD	PARTRIDGE ST		0.12	2	2	8,202	9,400	A-C	Low to Mod.
962	NOR	SEWELLS POINT RD	PARTRIDGE ST	PHILPOTTS RD		0.28	2	2	8,202	8,800	A-C	Low to Mod.
962	NOR	SEWELLS POINT RD	PHILPOTTS RD	I-64		0.31	4	4	8,202	8,400	A-C	Low to Mod.
962	NOR	SEWELLS POINT RD	I-64	LITTLE CREEK RD		1.02	4	4	8,202	7,900	A-C	Low to Mod.
60	NOR	SHORE DRIVE	21ST BAY ST	LITTLE CREEK RD		0.88	4	4	26,614	34,100	A-C	Low to Mod.
60	NOR	SHORE DRIVE	LITTLE CREEK RD	VA BEACH CL		0.98	4	4	32,824	45,400	F	Severe
951	NOR	SOUTH MAIN ST	I-464	BAINBRIDGE BLVD		0.07	2	2	7,008	7,800	D	Moderate
951	NOR	SOUTH MAIN ST	BAINBRIDGE BLVD	LIBERTY ST		0.21	2	2	7,008	7,800	D	Moderate
951	NOR	SOUTH MAIN ST	LIBERTY ST	BERKLEY AVE		0.06	2	2	7,008	7,400	D	Moderate
965	NOR	ST PAULS BLVD	WATERSIDE DR	CITY HALL AVE		0.23	6	6	10,941	15,800	D	Moderate
965	NOR	ST PAULS BLVD	CITY HALL AVE	I-264 RAMP/MACARTHUR MALL		0.11	6	6	44,000	48,400	D	Moderate
460	NOR	ST PAULS BLVD	I-264 RAMP/MACARTHUR MALL	BRAMBLETON AVE		0.39	6	6	44,000	44,700	D	Moderate
460	NOR	ST PAULS BLVD	BRAMBLETON AVE	MONTICELLO AVE		0.25	6	6	22,446	20,400	A-C	Low to Mod.
967	NOR	STATE ST	LIBERTY ST	BERKLEY AVE		0.07	2	2	4,000	4,600	F	Severe
337	NOR	STATE ST	BERKLEY AVE	I-464 RAMP		0.15	2	2	14,152	15,900	F	Severe
971	NOR	THOLE ST	GRANBY ST	TIDEWATER DR		1.10	2	2	10,396	9,000	A-C	Low to Mod.
168	NOR	TIDEWATER DR	CITY HALL AVE	BRAMBLETON AVE		0.35	6	6	29,755	39,700	A-C	Low to Mod.
168	NOR	TIDEWATER DR	BRAMBLETON AVE	VA BEACH BLVD		0.29	6	6	36,620	41,700	A-C	Low to Mod.
168	NOR	TIDEWATER DR	VA BEACH BLVD	PRINCESS ANNE RD		0.14	6	6	34,682	38,700	A-C	Low to Mod.
168	NOR	TIDEWATER DR	PRINCESS ANNE RD	LAFAYETTE BLVD		1.59	4	4	34,682	38,000	A-C	Low to Mod.
168	NOR	TIDEWATER DR	LAFAYETTE BLVD	CROMWELL DR		0.62	4	4	33,218	35,500	A-C	Low to Mod.
168	NOR	TIDEWATER DR	CROMWELL DR	NORVIEW AVE		0.43	4	4	42,187	46,000	D	Moderate
168	NOR	TIDEWATER DR	NORVIEW AVE	THOLE ST		0.91	4	4	41,803	44,200	A-C	Low to Mod.
168	NOR	TIDEWATER DR	THOLE ST	I-64		0.15	4	4	41,803	42,900	A-C	Low to Mod.
168	NOR	TIDEWATER DR	I-64	LITTLE CREEK RD		0.68	4	4	29,369	30,000	A-C	Low to Mod.
168	NOR	TIDEWATER DR	LITTLE CREEK RD	BAYVIEW BLVD		1.18	4	4	20,022	20,000	A-C	Low to Mod.
168	NOR	TIDEWATER DR	BAYVIEW BLVD	GRANBY ST		1.01	4	4	12,772	15,900	A-C	Low to Mod.
168	NOR	TIDEWATER DR	GRANBY ST	OCEAN VIEW AVE		0.89	4	4	9,483	13,500	A-C	Low to Mod.
973	NOR	VA BEACH BLVD	OLNEY RD	GRANBY ST		0.23	4	4	6,042	8,500	A-C	Low to Mod.
973	NOR	VA BEACH BLVD	GRANBY ST	MONTICELLO AVE		0.07	4	4	6,011	5,900	A-C	Low to Mod.
58	NOR	VA BEACH BLVD	MONTICELLO AVE	CHURCH ST		0.45	4	4	14,495	16,300	D	Moderate
58	NOR	VA BEACH BLVD	CHURCH ST	TIDEWATER DR		0.30	4	4	14,495	14,800	D	Moderate
58	NOR	VA BEACH BLVD	TIDEWATER DR	PARK AVE		0.53	4	4	14,866	18,300	D	Moderate
58	NOR	VA BEACH BLVD	PARK AVE	BALLENTINE BLVD		0.99	4	4	18,470	21,700	A-C	Low to Mod.
58	NOR	VA BEACH BLVD	BALLENTINE BLVD	INGLESIDE RD		0.48	6	6	32,688	36,600	A-C	Low to Mod.
58	NOR	VA BEACH BLVD	INGLESIDE RD	AZALEA GARDEN RD		0.43	6	6	32,688	38,500	A-C	Low to Mod.
58	NOR	VA BEACH BLVD	AZALEA GARDEN RD	JETT ST		0.38	6	6	35,743	40,000	A-C	Low to Mod.
58	NOR	VA BEACH BLVD	JETT ST	MILITARY HWY		0.88	6	6	35,743	39,100	A-C	Low to Mod.
58	NOR	VA BEACH BLVD	MILITARY HWY	GLENROCK RD		0.36	6	6	28,006	43,100	A-C	Low to Mod.
58	NOR	VA BEACH BLVD	GLENROCK RD	KEMPSVILLE RD		0.51	4	4	28,006	42,700	F	Severe
58	NOR	VA BEACH BLVD	KEMPSVILLE RD	NEWTOWN RD		0.93	4	4	28,584	49,800	F	Severe
975	NOR	WESLEYAN DR	NORTHAMPTON BLVD	NCL VA BEACH		0.38	4	4	21,493	25,000	A-C	Low to Mod.
977	NOR	WILLOW WOOD DR	GRANBY ST	TIDEWATER DR		1.10	2	2	10,637	10,400	A-C	Low to Mod.
460	NOR	WILSON RD	BERKLEY AVE/CHESAPEAKE CL	INDIAN RIVER RD		0.44	2	2	7,594	12,100	D	Moderate
460	NOR	WILSON RD	INDIAN RIVER RD	CAMPOSTELLA RD		0.22	4	4	7,594	13,700	D	Moderate

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
904	POQ	EAST YORKTOWN RD	YORK CL	HUNT'S NECK RD		1.14	2	2	4,160	5,200	A-C	Low to Mod.
171	POQ	EAST YORKTOWN RD	HUNT'S NECK RD	POQUOSON AVE		0.18	2	2	7,669	7,900	A-C	Low to Mod.
171	POQ	LITTLE FLORIDA RD	WYTHE CREEK RD	POQUOSON AVE		1.44	2	2	11,937	14,600	F	Severe
902	POQ	POQUOSON AVE	WYTHE CREEK RD	LITTLE FLORIDA RD		1.50	2	2	2,850	2,800	A-C	Low to Mod.
171	POQ	VICTORY BLVD	YORK CL	WYTHE CREEK RD		0.79	2	2	12,343	15,300	A-C	Low to Mod.
172	POQ	WYTHE CREEK RD	HAMPTON CL	ALPHUS ST		0.96	2	2	13,238	17,300	A-C	Low to Mod.
172	POQ	WYTHE CREEK RD	ALPHUS ST	LITTLE FLORIDA RD		0.12	4	4	13,238	15,200	A-C	Low to Mod.
172	POQ	WYTHE CREEK RD	LITTLE FLORIDA RD	HUDGINS RD		0.25	4	4	12,544	13,100	A-C	Low to Mod.
172	POQ	WYTHE CREEK RD	HUDGINS RD	POQUOSON AVE		0.61	2	2	7,635	8,400	A-C	Low to Mod.
58	PORT	AIRLINE BLVD	CHESAPEAKE CL	GREENWOOD DR		0.30	3	3	12,297	14,200	A-C	Low to Mod.
58	PORT	AIRLINE BLVD	GREENWOOD DR	ELMHURST LN		0.16	3	3	12,471	15,400	A-C	Low to Mod.
58	PORT	AIRLINE BLVD	ELMHURST LN	.55 MI E ELMHURST LN		0.55	3	3	9,466	11,500	A-C	Low to Mod.
58	PORT	AIRLINE BLVD	.55 MI E ELMHURST LN	VICTORY BLVD		0.75	4	4	9,466	11,300	A-C	Low to Mod.
58	PORT	AIRLINE BLVD	VICTORY BLVD	PORTSMOUTH BLVD		0.29	4	4	9,681	14,100	A-C	Low to Mod.
58	PORT	AIRLINE BLVD	PORTSMOUTH BLVD	FREDERICK BLVD		1.35	4	4	11,745	18,000	A-C	Low to Mod.
58	PORT	AIRLINE BLVD	FREDERICK BLVD	HIGH ST		0.20	4	4	14,204	26,100	A-C	Low to Mod.
903	PORT	CAVALIER BLVD	CHESAPEAKE CL	GREENWOOD DR		0.81	4	4	12,147	13,900	A-C	Low to Mod.
905	PORT	CEDAR LN	HIGH ST	W NORFOLK RD		1.18	2	2	10,657	13,600	A-C	Low to Mod.
905	PORT	CEDAR LN	W NORFOLK RD	WESTERN FREEWAY		0.23	4	4	16,545	15,400	A-C	Low to Mod.
905	PORT	CEDAR LN	WESTERN FREEWAY	S PERIMETER RD		0.93	2	2	9,701	14,200	F	Severe
909	PORT	CHURCHLAND BLVD	CHESAPEAKE CL	W NORFOLK RD		0.08	4	4	14,542	13,500	D	Moderate
909	PORT	CHURCHLAND BLVD	W NORFOLK RD	TYRE NECK RD		0.12	4	4	10,571	12,100	A-C	Low to Mod.
909	PORT	CHURCHLAND BLVD	TYRE NECK RD	HIGH ST		0.30	4	4	9,897	10,400	A-C	Low to Mod.
984	PORT	COAST GUARD BLVD	CEDAR LN	COAST GUARD BASE GATE		1.15	2	2	3,664	1,900	A-C	Low to Mod.
913	PORT	COUNTY ST	CONSTITUTION AVE	PENINSULA AVE		0.40	2	2	3,871	1,900	A-C	Low to Mod.
913	PORT	COUNTY ST	PENINSULA AVE	ELM AVE		0.31	4	4	4,237	2,600	A-C	Low to Mod.
913	PORT	COUNTY ST	ELM AVE	EFFINGHAM ST		0.33	4	4	5,407	4,900	A-C	Low to Mod.
915	PORT	COURT ST	PAVILION DR	COUNTY ST		0.30	4	4	6,236	13,800	D	Moderate
915	PORT	COURT ST	COUNTY ST	HIGH ST		0.10	4	4	5,357	9,300	D	Moderate
915	PORT	COURT ST	HIGH ST	LONDON BLVD		0.10	4	4	2,303	6,400	A-C	Low to Mod.
915	PORT	COURT ST	LONDON BLVD	CRAWFORD PKWY		0.24	4	4	789	4,400	A-C	Low to Mod.
917	PORT	CRAWFORD PKWY	EFFINGHAM ST	CRAWFORD ST		0.43	4	4	2,289	8,300	D	Moderate
917	PORT	CRAWFORD ST	CRAWFORD PKWY	LONDON BLVD		0.22	4	4	1,797	4,600	A-C	Low to Mod.
917	PORT	CRAWFORD ST	LONDON BLVD	HIGH ST		0.11	4	4	3,887	13,100	D	Moderate
917	PORT	CRAWFORD ST	HIGH ST	COUNTY ST		0.11	4	4	4,608	12,500	D	Moderate
917	PORT	CRAWFORD ST/BART ST	COUNTY ST	COURT ST		0.23	4	4	5,289	11,300	D	Moderate
919	PORT	DEEP CREEK BLVD	VICTORY BLVD	GREENWOOD DR		0.83	2	2	6,798	8,900	A-C	Low to Mod.
919	PORT	DEEP CREEK BLVD	GREENWOOD DR	PORTSMOUTH BLVD		0.73	2	2	8,476	9,700	A-C	Low to Mod.
919	PORT	DEEP CREEK BLVD	PORTSMOUTH BLVD	FREDERICK BLVD		0.14	2	2	8,860	12,300	D	Moderate
919	PORT	DEEP CREEK BLVD	FREDERICK BLVD	DES MOINES AVE		0.77	2	2	6,356	6,700	A-C	Low to Mod.
921	PORT	DES MOINES AVE	DEEP CREEK BLVD	I-264		0.10	2	2	5,611	5,400	A-C	Low to Mod.
141	PORT	EFFINGHAM ST	PORTSMOUTH BLVD	I-264		0.77	6	6	26,587	25,000	D	Moderate
141	PORT	EFFINGHAM ST	I-264	SOUTH ST		0.14	4	4	24,044	37,500	D	Moderate
141	PORT	EFFINGHAM ST	SOUTH ST	HIGH ST		0.21	4	4	25,793	31,500	D	Moderate
141	PORT	EFFINGHAM ST	HIGH ST	LONDON BLVD		0.11	4	4	19,502	26,200	D	Moderate
923	PORT	EFFINGHAM ST	LONDON BLVD	NORTH ST		0.10	5	5	15,968	24,900	F	Severe
923	PORT	EFFINGHAM ST	NORTH ST	CRAWFORD PKWY		0.19	4	4	16,107	23,700	D	Moderate
923	PORT	EFFINGHAM ST	CRAWFORD PKWY	NAVAL MEDICAL CENTER		0.09	4	4	15,373	26,100	F	Severe
925	PORT	ELM AVE	LONDON BLVD	HIGH ST		0.10	3	3	6,361	9,800	D	Moderate
925	PORT	ELM AVE	HIGH ST	COUNTY ST		0.10	4	4	8,300	13,400	D	Moderate
925	PORT	ELM AVE	COUNTY ST	SOUTH ST		0.19	4	4	8,688	12,300	D	Moderate
925	PORT	ELM AVE	SOUTH ST	I-264		0.09	2	2	7,124	9,400	E	Severe
925	PORT	ELM AVE	I-264	PORTSMOUTH BLVD		0.70	2	2	7,124	9,800	E	Severe
337	PORT	ELM AVE	PORTSMOUTH BLVD	GEORGE WASHINGTON HWY		0.34	4	4	7,323	10,400	A-C	Low to Mod.
337	PORT	ELM AVE	GEORGE WASHINGTON HWY	VICTORY BLVD		0.70	2	4	9,003	9,400	A-C	Low to Mod.
337	PORT	ELM AVE	VICTORY BLVD	BURTONS POINT RD		0.30	4	4	13,200	15,500	A-C	Low to Mod.
337	PORT	ELM AVE (S NORFOLK JORDAN BRIDGE)	BURTONS POINT RD	CHESAPEAKE CL		0.31	2	2	10,052	11,300	F	Severe
927	PORT	ELMHURST LN	GARWOOD AVE	AIRLINE BLVD		0.19	4	4	4,014	3,900	A-C	Low to Mod.
927	PORT	ELMHURST LN	AIRLINE BLVD	PORTSMOUTH BLVD		1.03	4	4	7,404	6,800	A-C	Low to Mod.

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17	PORT	FREDERICK BLVD	GEORGE WASHINGTON HWY	PORTSMOUTH BLVD		0.66	4	4	14,854	15,400	A-C	Low to Mod.
17	PORT	FREDERICK BLVD	PORTSMOUTH BLVD	DEEP CREEK BLVD		0.08	4	4	16,176	15,900	A-C	Low to Mod.
17	PORT	FREDERICK BLVD	DEEP CREEK BLVD	I-264		0.52	4	4	22,790	23,700	A-C	Low to Mod.
17	PORT	FREDERICK BLVD	I-264	TURNPIKE RD		0.36	4	4	29,052	40,000	D	Moderate
17	PORT	FREDERICK BLVD	TURNPIKE RD	AIRLINE BLVD		0.51	4	4	28,337	28,000	D	Moderate
17	PORT	FREDERICK BLVD	AIRLINE BLVD	HIGH ST		0.14	4	4	13,164	16,800	D	Moderate
929	PORT	GARWOOD AVE	GREENWOOD DR	ELMHURST LN		0.17	4	4	3,487	4,000	A-C	Low to Mod.
141	PORT	GEORGE WASHINGTON HWY	FREDERICK BLVD	ELM AVE		0.35	4	4	19,991	21,800	D	Moderate
141	PORT	GEORGE WASHINGTON HWY	ELM AVE	PORTSMOUTH BLVD		0.70	4	4	16,302	17,200	D	Moderate
17	PORT	GEORGE WASHINGTON HWY	CHESAPEAKE CL	VICTORY BLVD		0.17	4	4	32,555	39,000	A-C	Low to Mod.
17	PORT	GEORGE WASHINGTON HWY	VICTORY BLVD	DAVIS ST		0.19	5	5	23,435	30,400	D	Moderate
17	PORT	GEORGE WASHINGTON HWY	DAVIS ST	GREENWOOD DR		0.42	4	4	24,168	28,700	D	Moderate
17	PORT	GEORGE WASHINGTON HWY	GREENWOOD DR	FREDERICK BLVD		0.33	4	4	26,954	31,900	E	Severe
931	PORT	GREENWOOD DR	AIRLINE BLVD	I-264		0.50	4	4	18,371	22,300	A-C	Low to Mod.
931	PORT	GREENWOOD DR	I-264	CAVALIER BLVD		0.88	4	4	16,175	18,800	A-C	Low to Mod.
931	PORT	GREENWOOD DR	CAVALIER BLVD	VICTORY BLVD		0.63	4	4	10,978	13,100	A-C	Low to Mod.
931	PORT	GREENWOOD DR	VICTORY BLVD	INDEPENDENCE ST		1.05	4	4	4,673	5,100	A-C	Low to Mod.
931	PORT	GREENWOOD DR	INDEPENDENCE ST	DEEP CREEK BLVD		0.37	2	2	4,707	6,900	D	Moderate
931	PORT	GREENWOOD DR	DEEP CREEK BLVD	GEORGE WASHINGTON HWY		0.51	2	2	3,051	4,100	A-C	Low to Mod.
17	PORT	HIGH ST	TYRE NECK RD	CHURCHLAND BLVD		0.22	4	4	13,900	16,400	A-C	Low to Mod.
17	PORT	HIGH ST	CHURCHLAND BLVD	CEDAR LA		0.89	4	4	20,041	24,200	A-C	Low to Mod.
17	PORT	HIGH ST	CEDAR LA	RODMAN AVE		2.13	4	4	22,563	27,900	D	Moderate
17	PORT	HIGH ST	RODMAN AVE	FREDERICK BLVD		0.29	4	4	16,821	22,400	D	Moderate
935	PORT	HIGH ST	FREDERICK BLVD	AIRLINE BLVD		0.12	4	4	12,391	12,000	A-C	Low to Mod.
935	PORT	HIGH ST	AIRLINE BLVD	MT VERNON AVE		0.23	5	5	10,820	10,900	A-C	Low to Mod.
935	PORT	HIGH ST	MT VERNON AVE	M L K FWY		0.48	4	4	12,418	12,900	A-C	Low to Mod.
935	PORT	HIGH ST	M L K FWY	ELM AVE		0.79	4	4	10,497	10,700	D	Moderate
935	PORT	HIGH ST	ELM AVE	EFFINGHAM ST		0.33	4	4	5,939	5,900	A-C	Low to Mod.
935	PORT	HIGH ST	EFFINGHAM ST	CRAWFORD ST		0.51	2	2	5,254	6,500	D	Moderate
264	PORT	I-264	WCL PORTSMOUTH	GREENWOOD DR	EB	0.42	2	2	57,845	75,400	A-C	Low to Mod.
					WB		2	2			F	Severe
264	PORT	I-264	GREENWOOD DR	VICTORY BLVD	EB	1.31	2	2	55,207	62,400	A-C	Low to Mod.
					WB		2	2			F	Severe
264	PORT	I-264	VICTORY BLVD	PORTSMOUTH BLVD	EB	0.75	3	3	64,097	69,700	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
264	PORT	I-264	PORTSMOUTH BLVD	FREDERICK BLVD	EB	0.91	3	3	59,310	62,300	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
264	PORT	I-264	FREDERICK BLVD	MLK FWY	EB	0.45	3	3	61,110	66,800	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
264	PORT	I-264	MLK FWY	DES MOINES AVE	EB	0.51	3	3	61,110	78,400	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
264	PORT	I-264	DES MOINES AVE	EFFINGHAM ST	EB	0.72	3	3	67,669	63,300	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
264	PORT	I-264/DOWNTOWN TUNNEL	EFFINGHAM ST	NORFOLK CL	EB	0.72	2	2	79,117	86,600	F	Severe
					WB		2	2			F	Severe
58	PORT	LONDON BLVD	HIGH ST	MT VERNON AVE		0.31	6	6	18,948	20,100	A-C	Low to Mod.
58	PORT	LONDON BLVD	MT VERNON AVE	MLK FWY		0.40	6	6	18,948	20,400	A-C	Low to Mod.
141	PORT	LONDON BLVD	MLK FWY	ELM AVE		0.86	6	6	24,845	28,600	A-C	Low to Mod.
141	PORT	LONDON BLVD	ELM AVE	EFFINGHAM ST		0.32	6	6	18,710	20,700	A-C	Low to Mod.
939	PORT	LONDON ST	EFFINGHAM ST	CRAWFORD ST		0.50	2	2	5,288	8,900	D	Moderate
164	PORT	M L K FREEWAY	I-264	HIGH ST	NB	0.57	2	2	64,000	63,300	D	Moderate
					SB		2	2			A-C	Low to Mod.
933	PORT	M L K FREEWAY	HIGH ST	LONDON BLVD	NB	0.23	2	2	46,000	46,400	A-C	Low to Mod.
					SB		2	2			A-C	Low to Mod.
58	PORT	M L K FREEWAY	LONDON BLVD	WESTERN FREEWAY/MIDTOWN TUNNEL	NB	0.98	3	3	59,768	63,700	A-C	Low to Mod.
					SB		3	3			A-C	Low to Mod.
58	PORT	MIDTOWN TUNNEL	MLK FWY/WESTERN FREEWAY	NORFOLK CL		0.95	4	4	39,444	42,100	F	Severe
1020	PORT	PORTCENTRE PKWY	PORTSMOUTH BLVD	CRAWFORD ST		0.68	4	4	6,618	6,800	D	Moderate

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337	PORT	PORTSMOUTH BLVD	CHESAPEAKE CL	ELMHURST LN		1.01	4	4	28,965	28,700	D	Moderate
337	PORT	PORTSMOUTH BLVD	ELMHURST LN	VICTORY BLVD		1.19	4	4	21,098	21,600	D	Moderate
337	PORT	PORTSMOUTH BLVD	VICTORY BLVD	AIRLINE BLVD		0.22	4	4	14,460	15,100	D	Moderate
337	PORT	PORTSMOUTH BLVD	AIRLINE BLVD	TURNPIKE RD		0.10	4	4	14,000	15,700	D	Moderate
337	PORT	PORTSMOUTH BLVD	TURNPIKE RD	I-264		0.35	4	4	12,492	12,400	A-C	Low to Mod.
337	PORT	PORTSMOUTH BLVD	I-264	DEEP CREEK BLVD		1.07	4	4	12,150	13,100	A-C	Low to Mod.
337	PORT	PORTSMOUTH BLVD	DEEP CREEK BLVD	FREDERICK BLVD		0.17	4	4	7,335	7,700	A-C	Low to Mod.
337	PORT	PORTSMOUTH BLVD	FREDERICK BLVD	ELM AVE		0.77	4	4	9,300	9,600	A-C	Low to Mod.
943	PORT	PORTSMOUTH BLVD	ELM AVE	EFFINGHAM ST		0.34	4	4	5,529	4,500	A-C	Low to Mod.
1022	PORT	PORTSMOUTH BLVD	EFFINGHAM ST	PORTCENTRE PKWY		0.54	2	2	3,837	3,300	A-C	Low to Mod.
947	PORT	TOWNE POINT RD	SUFFOLK CL	TWIN PINES RD		0.72	2	2	12,052	10,600	A-C	Low to Mod.
947	PORT	TOWNE POINT RD	TWIN PINES RD	WESTERN FREEWAY		0.11	4	4	24,525	27,100	A-C	Low to Mod.
947	PORT	TOWNE POINT RD	WESTERN FREEWAY	CHESAPEAKE CL		0.25	4	4	23,368	23,900	D	Moderate
337	PORT	TURNPIKE RD	PORTSMOUTH BLVD	FREDERICK BLVD		1.06	2	2	3,868	4,000	A-C	Low to Mod.
337	PORT	TURNPIKE RD	FREDERICK BLVD	HOWARD ST		0.29	4	4	6,850	11,700	A-C	Low to Mod.
337	PORT	TURNPIKE RD	HOWARD ST	HARBOR DR		0.53	4	4	4,435	9,700	A-C	Low to Mod.
337	PORT	TURNPIKE RD	HARBOR DR	COUNTY ST		0.10	3	3	4,435	9,700	A-C	Low to Mod.
949	PORT	TWIN PINES RD	TOWNE POINT RD	HEDGEROW LN		1.38	2	2	10,335	12,600	A-C	Low to Mod.
951	PORT	TYRE NECK RD	CHESAPEAKE CL	HIGH ST		0.24	2	2	10,752	12,900	F	Severe
951	PORT	TYRE NECK RD	HIGH ST	CHURCHLAND BLVD		0.18	2	2	5,457	6,800	A-C	Low to Mod.
951	PORT	TYRE NECK RD	CHURCHLAND BLVD	WEST NORFOLK RD		0.07	2	2	3,672	3,200	A-C	Low to Mod.
239	PORT	VICTORY BLVD	PORTSMOUTH BLVD	AIRLINE BLVD		0.20	4	4	8,318	8,500	A-C	Low to Mod.
239	PORT	VICTORY BLVD	AIRLINE BLVD	I-264		0.36	6	6	20,143	24,200	A-C	Low to Mod.
239	PORT	VICTORY BLVD	I-264	GREENWOOD DR		0.55	4	4	25,329	27,400	D	Moderate
239	PORT	VICTORY BLVD	GREENWOOD DR	DEEP CREEK BLVD		1.08	4	4	19,601	20,700	A-C	Low to Mod.
239	PORT	VICTORY BLVD	DEEP CREEK BLVD	GEORGE WASHINGTON HWY		0.44	5	5	20,329	22,100	A-C	Low to Mod.
239	PORT	VICTORY BLVD	GEORGE WASHINGTON HWY	AFTON PKWY		1.24	4	4	7,884	15,500	A-C	Low to Mod.
239	PORT	VICTORY BLVD	AFTON PKWY	ELM AVE		0.57	4	4	8,465	10,600	A-C	Low to Mod.
953	PORT	W NORFOLK RD	CHURCHLAND BLVD	TYRE NECK RD		0.11	2	2	3,773	1,300	A-C	Low to Mod.
953	PORT	W NORFOLK RD	TYRE NECK RD	CEDAR LN		1.02	2	2	7,050	3,500	A-C	Low to Mod.
953	PORT	W NORFOLK RD	CEDAR LN	WESTERN FWY		1.58	4	4	5,012	2,400	A-C	Low to Mod.
17	PORT	WESTERN BRANCH BLVD	CHESAPEAKE CL	TYRE NECK RD		0.21	4	4	17,154	21,500	D	Moderate
164	PORT	WESTERN FWY	SUFFOLK CL	TOWNE POINT RD	EB	1.01	2	3	66,610	74,400	A-C	Low to Mod.
					WB		2	3			A-C	Low to Mod.
164	PORT	WESTERN FWY	TOWNE POINT RD	CEDAR LN	EB	1.31	2	3	61,000	69,100	A-C	Low to Mod.
					WB		2	3			A-C	Low to Mod.
164	PORT	WESTERN FWY	CEDAR LN	VIG BLVD	EB	1.00	2	3	65,367	75,400	A-C	Low to Mod.
					WB		2	3			A-C	Low to Mod.
164	PORT	WESTERN FWY	VIG BLVD	WEST NORFOLK RD	EB	0.61	2	3	65,367	72,300	A-C	Low to Mod.
					WB		2	3			D	Moderate
164	PORT	WESTERN FWY	WEST NORFOLK RD	MLK FREEWAY/MIDTOWN TUNNEL	EB	1.78	2	2	68,857	70,700	A-C	Low to Mod.
					WB		2	2			D	Moderate
58	SH	BUS ROUTE 58	ROUTE 35	ECL COURTLAND		1.10	2	2	6,715	7,700	D	Moderate
58	SH	BUS ROUTE 58	ECL COURTLAND	ROUTE 58		1.18	4	4	6,715	8,900	A-C	Low to Mod.
58	SH	BUSINESS ROUTE 58 (CAMP PKWY)	ROUTE 58	DELAWARE RD (RTE 687)		1.88	4	4	3,479	4,500	A-C	Low to Mod.
58	SH	BUSINESS ROUTE 58 (CAMP PKWY)	DELAWARE RD (RTE 687)	FRANKLIN CL		0.44	4	4	3,479	4,400	A-C	Low to Mod.
186	SH	ROUTE 186	NC STATE LINE	WCL BRANCHVILLE		2.98	2	2	907	1,300	A-C	Low to Mod.
186	SH	ROUTE 186	WCL BRANCHVILLE	JOYNER RD (RTE 701)		0.27	2	2	907	1,100	A-C	Low to Mod.
186	SH	ROUTE 186	JOYNER RD (RTE 701)	ECL BRANCHVILLE		0.35	2	2	1,382	1,500	A-C	Low to Mod.
186	SH	ROUTE 186	ECL BRANCHVILLE	WCL BOYKINS		2.35	2	2	1,382	1,500	A-C	Low to Mod.
186	SH	ROUTE 186	WCL BOYKINS	ROUTE 35		0.26	2	2	1,920	1,900	A-C	Low to Mod.
189	SH	ROUTE 189	ROUTE 258	PRETLOW RD (RTE 714)		2.20	2	2	1,797	3,000	A-C	Low to Mod.
189	SH	ROUTE 189	PRETLOW RD (RTE 714)	SUFFOLK CL		0.22	2	2	2,390	3,300	A-C	Low to Mod.
258	SH	ROUTE 258	NC STATE LINE	ROUTE 189		5.28	2	2	5,244	7,900	D	Moderate
258	SH	ROUTE 258	ROUTE 189	DOGWOOD BEND RD (RTE 684)		3.44	2	2	3,779	4,400	A-C	Low to Mod.
258	SH	ROUTE 258	DOGWOOD BEND RD (RTE 684)	ROUTE 58		0.40	4	4	4,350	5,300	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
35	SH	ROUTE 35	NC STATE LINE	SCL BOYKINS		1.40	2	2	1,406	2,000	A-C	Low to Mod.
35	SH	ROUTE 35	SCL BOYKINS	ROUTE 1324		0.81	2	2	1,406	2,000	A-C	Low to Mod.
35	SH	ROUTE 35	ROUTE 1324	ROUTE 186		0.42	2	2	1,406	2,000	A-C	Low to Mod.
35	SH	ROUTE 35	ROUTE 186	NCL BOYKINS		0.44	2	2	3,652	3,500	A-C	Low to Mod.
35	SH	ROUTE 35	NCL BOYKINS	ROUTE 671		0.46	2	2	3,652	3,500	D	Moderate
35	SH	ROUTE 35	ROUTE 671	GRAYS SHOP RD (RTE 673)		5.22	2	2	1,445	1,500	A-C	Low to Mod.
35	SH	ROUTE 35	GRAYS SHOP RD (RTE 673)	ROUTE 58		4.38	2	2	1,490	1,400	A-C	Low to Mod.
35	SH	ROUTE 35	BUS RTE 58	NCL COURTLAND		0.59	2	2	5,139	5,400	A-C	Low to Mod.
35	SH	ROUTE 35	NCL COURTLAND	IVOR RD (RTE 616)		0.10	2	2	5,139	5,400	A-C	Low to Mod.
35	SH	ROUTE 35	IVOR RD (RTE 616)	CARYS BRIDGE RD (RTE 653)		6.18	2	2	2,468	3,500	A-C	Low to Mod.
35	SH	ROUTE 35	CARYS BRIDGE RD (RTE 653)	SUSSEX CL		3.94	2	2	2,365	3,500	A-C	Low to Mod.
35	SH	ROUTE 35/BUS ROUTE 58	ROUTE 58	WCL COURTLAND		2.03	2	2	3,314	3,200	D	Moderate
35	SH	ROUTE 35/BUS ROUTE 58	WCL COURTLAND	BUS RTE 58		0.14	2	2	3,314	3,200	A-C	Low to Mod.
460	SH	ROUTE 460	SUSSEX CL	WCL IVOR		3.72	4	4	10,421	16,500	A-C	Low to Mod.
460	SH	ROUTE 460	WCL IVOR	ROUTE 616 (IVOR RD)		0.56	4	4	10,421	16,000	A-C	Low to Mod.
460	SH	ROUTE 460	ROUTE 616 (IVOR RD)	ECL IVOR		0.73	4	4	8,793	12,200	A-C	Low to Mod.
460	SH	ROUTE 460	ECL IVOR	ISLE OF WIGHT CL		3.59	4	4	8,793	12,200	A-C	Low to Mod.
58	SH	ROUTE 58	GREENSVILLE CL	ADAMS GROVE RD (RTE 615)		5.44	4	4	11,892	18,000	A-C	Low to Mod.
58	SH	ROUTE 58	ADAMS GROVE RD (RTE 615)	DREWRY RD (RTE 659)		4.72	4	4	11,951	17,700	A-C	Low to Mod.
58	SH	ROUTE 58	DREWRY RD (RTE 659)	PINOPOLIS RD (ROUTE 653)		5.69	4	4	12,221	17,300	A-C	Low to Mod.
58	SH	ROUTE 58	PINOPOLIS RD (ROUTE 653)	ROUTE 35		5.71	4	4	13,915	19,800	A-C	Low to Mod.
58	SH	ROUTE 58	ROUTE 35	BUS RTE 58 W		3.46	4	4	12,836	17,200	A-C	Low to Mod.
58	SH	ROUTE 58	BUS RTE 58 W	CAMP PKWY (BUS RTE 58 E)		2.50	4	4	21,356	26,100	A-C	Low to Mod.
58	SH	ROUTE 58	CAMP PKWY (BUS RTE 58 E)	ARMORY DR (RTE 671)		2.70	4	4	16,803	18,700	A-C	Low to Mod.
58	SH	ROUTE 58	ARMORY DR (RTE 671)	ROUTE 258		0.97	4	4	16,803	18,200	A-C	Low to Mod.
58	SH	ROUTE 58	ROUTE 258	PRETLOW RD (RTE 714)		1.88	4	4	18,135	18,200	A-C	Low to Mod.
58	SH	ROUTE 58	PRETLOW RD (RTE 714)	SUFFOLK CL		0.93	4	4	19,075	19,400	A-C	Low to Mod.
616	SH	ROUTE 616	ROUTE 35	SAINT LUKES RD (RTE 633)		5.84	2	2	1,234	900	A-C	Low to Mod.
616	SH	ROUTE 616	SAINT LUKES RD (RTE 633)	SEACOCK RD (RTE 614)		4.30	2	2	1,408	1,100	A-C	Low to Mod.
616	SH	ROUTE 616	SEACOCK RD (RTE 614)	MILLFIELD RD (RTE 605)		2.04	2	2	1,598	1,400	A-C	Low to Mod.
616	SH	ROUTE 616	MILLFIELD RD (RTE 605)	SCL IVOR		4.38	2	2	1,354	1,000	A-C	Low to Mod.
616	SH	ROUTE 616	SCL IVOR	ROUTE 460		0.67	2	2	2,223	1,700	A-C	Low to Mod.
671	SH	ROUTE 671	ROUTE 35	CROSS KEYS RD (RTE 665)		2.02	2	2	2,098	1,800	A-C	Low to Mod.
671	SH	ROUTE 671	CROSS KEYS RD (RTE 665)	WCL NEWSOMS		2.49	2	2	2,409	1,600	A-C	Low to Mod.
671	SH	ROUTE 671	WCL NEWSOMS	GRAYS SHOP RD (RTE 673)		0.17	2	2	2,515	1,700	A-C	Low to Mod.
671	SH	ROUTE 671	GRAYS SHOP RD (RTE 673)	ECL NEWSOMS		0.60	2	2	2,713	1,900	A-C	Low to Mod.
671	SH	ROUTE 671	ECL NEWSOMS	SUNBEAM RD (RTE 680)		3.83	2	2	3,253	1,900	A-C	Low to Mod.
671	SH	ROUTE 671	SUNBEAM RD (RTE 680)	DELAWARE RD (RTE 687)		3.84	2	2	4,488	3,100	D	Moderate
671	SH	ROUTE 671	DELAWARE RD (RTE 687)	ROUTE 58		1.77	4	4	5,762	5,500	A-C	Low to Mod.
627	SUF	BENNETTS PASTURE RD	NANSEMOND PKWY	KINGS HWY		1.36	2	2	5,825	8,200	A-C	Low to Mod.
627	SUF	BENNETTS PASTURE RD	KINGS HWY	BRIDGE RD		3.38	2	2	10,447	14,500	A-C	Low to Mod.
17	SUF	BRIDGE RD	ISLE OF WIGHT CL	E. END CHUCKATUCK BRIDGE		0.16	2	2	16,617	23,700	F	Severe
17	SUF	BRIDGE RD	E. END CHUCKATUCK BRIDGE	CRITTENDEN RD		0.71	4	4	16,617	23,200	A-C	Low to Mod.
17	SUF	BRIDGE RD	CRITTENDEN RD	N. END NANSEMOND RIVER		0.79	4	4	22,742	29,000	A-C	Low to Mod.
17	SUF	BRIDGE RD	N. END NANSEMOND RIVER	S. END NANSEMOND RIVER		0.77	2	2	22,742	29,100	F	Severe
17	SUF	BRIDGE RD	S. END NANSEMOND RIVER	BENNETTS PASTURE RD		0.91	4	4	22,742	30,700	A-C	Low to Mod.
17	SUF	BRIDGE RD	BENNETTS PASTURE RD	SHOULDERS HILL RD		1.53	4	4	29,794	39,000	A-C	Low to Mod.
17	SUF	BRIDGE RD	SHOULDERS HILL RD	HARBOUR VIEW BLVD		1.16	4	4	41,745	51,600	F	Severe
17	SUF	BRIDGE RD	HARBOUR VIEW BLVD	WESTERN FWY		0.18	4	4	38,254	41,500	F	Severe
17	SUF	BRIDGE RD	WESTERN FWY	I-664		0.49	4	4	25,000	25,400	A-C	Low to Mod.
17	SUF	BRIDGE RD	I-664	COLLEGE DR		0.55	4	4	24,705	33,200	A-C	Low to Mod.
17	SUF	BRIDGE RD	COLLEGE DR	CHESAPEAKE CL		0.05	4	4	23,213	32,400	A-C	Low to Mod.
610	SUF	BUCKHORN DR	ROUTE 58	INDIAN TRAIL		3.30	2	2	439	2,200	D	Moderate
610	SUF	BUCKHORN DR	INDIAN TRAIL	ISLE OF WIGHT CL		1.55	2	2	343	2,000	D	Moderate
32	SUF	CAROLINA RD	NC STATE LINE	ADAMS SWAMP RD (RTE 642)		2.89	2	2	4,116	5,800	D	Moderate
32	SUF	CAROLINA RD	ADAMS SWAMP RD (RTE 642)	CYPRESS CHAPEL RD (RTE 675)		2.06	2	2	4,553	6,800	D	Moderate
32	SUF	CAROLINA RD	CYPRESS CHAPEL RD (RTE 675)	BABBTOWN RD (RTE 759)		1.40	2	2	4,676	6,900	D	Moderate
32	SUF	CAROLINA RD	BABBTOWN RD (RTE 759)	WHALEYVILLE BLVD		3.08	2	2	4,958	7,400	D	Moderate
13	SUF	CAROLINA RD	WHALEYVILLE BLVD	TURLINGTON RD		0.87	4	4	15,316	22,100	A-C	Low to Mod.
13	SUF	CAROLINA RD	TURLINGTON RD	SW SUFFOLK BYPASS		0.61	4	4	15,316	22,800	A-C	Low to Mod.
13	SUF	CAROLINA RD	SW SUFFOLK BYPASS	FAYETTE ST		1.84	4	4	10,865	19,000	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
135	SUF	COLLEGE DR	BRIDGE RD	WESTERN FREEWAY		0.14	4	4	23,732	28,500	A-C	Low to Mod.
135	SUF	COLLEGE DR	WESTERN FREEWAY	HAMPTON ROADS PKWY		0.74	4	4	22,555	42,300	D	Moderate
135	SUF	COLLEGE DR	HAMPTON ROADS PKWY	I-664		0.70	4	4	24,087	31,300	A-C	Low to Mod.
135	SUF	COLLEGE DR	I-664	HARBOUR VIEW BLVD		0.60	2	2	11,935	12,200	A-C	Low to Mod.
58	SUF	CONSTANCE RD	HOLLAND RD	PITCHKETTLE RD		0.28	2	2	8,723	10,500	A-C	Low to Mod.
58	SUF	CONSTANCE RD	PITCHKETTLE RD	MAIN ST		0.85	2	2	10,211	12,500	A-C	Low to Mod.
13	SUF	CONSTANCE RD	MAIN ST	WILROY RD		0.88	4	4	16,237	18,500	D	Moderate
647	SUF	COPELAND RD	ROUTE 58	WHALEYVILLE BLVD		5.26	2	2	569	1,600	A-C	Low to Mod.
647	SUF	COPELAND RD	WHALEYVILLE BLVD	CAROLINA RD		1.56	2	2	325	800	A-C	Low to Mod.
628	SUF	CRITTENDEN RD	KINGS HWY	BRIDGE RD (RTE 17)		5.26	2	2	2,779	6,500	A-C	Low to Mod.
603	SUF	EVERETTS RD	LAKE PRINCE DR (RTE 604)	MOORE FARM LN		1.42	2	2	1,995	3,700	A-C	Low to Mod.
603	SUF	EVERETTS RD	MOORE FARM LN	GODWIN BLVD		0.93	2	2	1,859	3,100	A-C	Low to Mod.
919	SUF	FINNEY AVE	N MAIN ST	PINNER ST		0.20	2	2	8,112	9,100	A-C	Low to Mod.
32	SUF	GODWIN BLVD	PRUDEN BLVD	SUFFOLK BYPASS		0.54	4	4	20,302	24,000	A-C	Low to Mod.
32	SUF	GODWIN BLVD	SUFFOLK BYPASS	KENSINGTON BLVD		0.58	4	4	40,755	50,100	F	Severe
32	SUF	GODWIN BLVD	KENSINGTON BLVD	KINGS FORK RD		0.82	4	4	23,278	29,800	A-C	Low to Mod.
32	SUF	GODWIN BLVD	KINGS FORK ROAD	1.36 MI N OF KINGS FORK RD		1.36	4	4	12,128	17,600	A-C	Low to Mod.
32	SUF	GODWIN BLVD	1.36 MILES N OF KINGS FORK RD	EVERETS RD		3.46	2	2	12,128	17,000	E	Severe
32	SUF	GODWIN BLVD	EVERETS RD	KINGS HWY		0.87	2	2	13,465	19,200	E	Severe
32	SUF	GODWIN BLVD	KINGS HWY	ISLE OF WIGHT CL		1.31	2	2	11,173	17,200	E	Severe
664	SUF	HAMPTON ROADS EXPRESS LANES NETWORK	CHESAPEAKE CL	BRIDGE RD	EB	0.74	0	2	N/A	22,800	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
664	SUF	HAMPTON ROADS EXPRESS LANES NETWORK	BRIDGE RD	WESTERN FWY	EB	0.15	0	2	N/A	16,500	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
664	SUF	HAMPTON ROADS EXPRESS LANES NETWORK	WESTERN FWY	COLLEGE DR	EB	1.41	0	2	N/A	22,000	A-C	Low to Mod.
					WB		0	2			A-C	Low to Mod.
658	SUF	HAMPTON ROADS PKWY	HARBOUR VIEW BLVD	COLLEGE DR		0.80	4	4	13,242	15,500	A-C	Low to Mod.
658	SUF	HAMPTON ROADS PKWY	COLLEGE DR	PORTSMOUTH CL		0.60	4	4	10,563	11,000	A-C	Low to Mod.
917	SUF	HARBOUR VIEW BLVD	BRIDGE RD	HAMPTON ROADS PKWY		1.02	4	4	20,648	24,600	A-C	Low to Mod.
917	SUF	HARBOUR VIEW BLVD	HAMPTON ROADS PKWY	COLLEGE DR		1.44	4	4	5,587	5,800	A-C	Low to Mod.
58	SUF	HOLLAND RD (BUS RTE 58)	SUFFOLK BYPASS	CONSTANCE RD		1.86	2	2	9,245	12,800	A-C	Low to Mod.
58	SUF	HOLLAND RD (BUS RTE 58)	RURITAN BLVD	HOLLAND RD (RTE 58)		0.70	2	2	2,345	3,600	A-C	Low to Mod.
664	SUF	I-664	CHESAPEAKE CL	BRIDGE RD	EB	0.74	3	3	90,256	94,800	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
664	SUF	I-664	BRIDGE RD	WESTERN FWY	EB	0.15	2	2	63,127	69,400	D	Moderate
					WB		2	2			A-C	Low to Mod.
664	SUF	I-664	WESTERN FWY	COLLEGE DR	EB	1.41	3	3	78,574	68,700	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
664	SUF	I-664/MMMBT	COLLEGE DR	NEWPORT NEWS CL	EB	3.28	2	2	76,345	93,300	F	Severe
					WB		2	2			F	Severe
634	SUF	KINGS FORK RD	PITCHKETTLE RD	PRUDEN BLVD		0.64	2	2	2,647	3,200	A-C	Low to Mod.
634	SUF	KINGS FORK RD	PRUDEN BLVD	GODWIN BLVD		2.27	2	2	5,424	9,200	D	Moderate
125	SUF	KINGS HWY	GODWIN BLVD	CRITTENDEN RD		0.69	2	2	3,025	7,000	A-C	Low to Mod.
125	SUF	KINGS HWY	BENNETTS PASTURE RD	NANSEMOND PKWY		0.48	2	2	2,804	5,700	A-C	Low to Mod.
604	SUF	LAKE PRINCE DR (RTE 604)	ROUTE 460 (PRUDEN BLVD)	ROUTE 603 (EVERETTS RD)		3.93	2	2	2,648	5,300	D	Moderate
13	SUF	MAIN ST	FAYETTE ST	WASHINGTON ST		0.35	4	4	11,061	17,200	D	Moderate
13	SUF	MAIN ST	WASHINGTON ST	MARKET ST		0.15	2	2	19,123	19,100	F	Severe
13	SUF	MAIN ST	MARKET ST	CONSTANCE RD		0.52	4	4	19,123	24,400	D	Moderate
460	SUF	MAIN ST	CONSTANCE RD	PRUDEN BLVD/GODWIN BLVD		1.55	4	4	26,253	32,300	D	Moderate
911	SUF	MARKET ST	WASHINGTON ST	MAIN ST		0.49	4	4	3,306	4,000	A-C	Low to Mod.
337	SUF	NANSEMOND PKWY	WILROY RD	BENNETTS PASTURE RD		1.72	2	2	13,323	17,400	E	Severe
337	SUF	NANSEMOND PKWY	BENNETTS PASTURE RD	KINGS HWY		1.33	2	2	9,089	12,800	D	Moderate
337	SUF	NANSEMOND PKWY	KINGS HWY	SHOULDERS HILL RD		1.77	2	2	14,372	21,200	E	Severe
337	SUF	NANSEMOND PKWY	SHOULDERS HILL RD	CHESAPEAKE CL		0.75	4	4	12,948	22,600	A-C	Low to Mod.
1329	SUF	PINNER ST	WASHINGTON ST	BANK ST		0.11	2	2	7,513	15,900	F	Severe
1329	SUF	PINNER ST	BANK ST	FINNEY AVE		0.20	2	2	7,513	20,700	F	Severe
1329	SUF	PINNER ST	FINNEY AVE	CONSTANCE RD		0.87	2	2	10,804	15,300	F	Severe
604	SUF	PITCHKETTLE RD	CONSTANCE RD	SUFFOLK BYPASS		1.36	2	2	4,568	8,700	D	Moderate
604	SUF	PITCHKETTLE RD	SUFFOLK BYPASS	KINGS FORK RD		2.41	2	2	2,831	6,300	D	Moderate
13	SUF	PORTSMOUTH BLVD	WILROY RD	WASHINGTON ST		1.59	4	4	17,825	23,500	A-C	Low to Mod.
13	SUF	PORTSMOUTH BLVD	WASHINGTON ST	SUFFOLK BYPASS		1.04	4	4	24,587	34,100	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
604	SUF	PROVIDENCE RD (RTE 604)	KINGS FORK RD	ROUTE 460 (PRUDEN BLVD)		0.50	2	2	1,607	3,800	A-C	Low to Mod.
460	SUF	PRUDEN BLVD	ISLE OF WIGHT CL	LAKE PRINCE DR		3.08	4	4	16,368	20,400	A-C	Low to Mod.
460	SUF	PRUDEN BLVD	LAKE PRINCE DR	KINGS FORK RD		0.58	4	4	18,825	22,000	A-C	Low to Mod.
460	SUF	PRUDEN BLVD	KINGS FORK RD	SUFFOLK BYPASS		1.47	4	4	24,187	29,100	A-C	Low to Mod.
460	SUF	PRUDEN BLVD	SUFFOLK BYPASS	GODWIN BLVD		1.10	4	4	11,199	14,000	A-C	Low to Mod.
659	SUF	PUGHSVILLE RD	SHOULDERS HILL RD	TOWN POINT RD		1.20	2	2	6,969	11,300	A-C	Low to Mod.
659	SUF	PUGHSVILLE RD	TOWN POINT RD	CHESAPEAKE CL		0.08	2	2	11,953	18,800	F	Severe
58	SUF	ROUTE 13/58/460	SUFFOLK BYPASS	CHESAPEAKE CL	EB	3.61	3	3	81,834	93,900	A-C	Low to Mod.
					WB		3	3			D	Moderate
189	SUF	ROUTE 189	SOUTHAMPTON CL	RTE 272		2.08	2	2	1,810	3,000	A-C	Low to Mod.
189	SUF	ROUTE 189	RTE 272	RTE 58		0.83	2	2	1,717	1,800	A-C	Low to Mod.
189	SUF	ROUTE 189 (IN HOLLAND)	RTE 58 (SOUTH OF HOLLAND)	BUS RTE 58 (RURITAN BLVD)		0.37	2	2	662	900	A-C	Low to Mod.
260	SUF	ROUTE 258	RTE 58	ISLE OF WIGHT CL		0.83	2	2	2,367	2,400	A-C	Low to Mod.
272	SUF	ROUTE 272	ROUTE 189	ROUTE 58		1.33	2	2	1,462	2,300	A-C	Low to Mod.
58	SUF	ROUTE 58	SOUTHAMPTON CL	RTE 189/258		1.34	4	4	19,075	19,500	A-C	Low to Mod.
58	SUF	ROUTE 58	RTE 189/258	RTE 272 (S. QUAY RD)		1.26	4	4	19,461	19,900	A-C	Low to Mod.
58/189	SUF	ROUTE 58	RTE 272	S. QUAY RD (ROUTE 189)		4.17	4	4	21,101	25,000	A-C	Low to Mod.
58	SUF	ROUTE 58 (HOLLAND BYPASS)	S. QUAY RD (ROUTE 189)	BUS RTE 58 (HOLLAND RD)		1.19	4	4	21,545	26,300	A-C	Low to Mod.
58	SUF	ROUTE 58 (HOLLAND RD)	BUS RTE 58 (HOLLAND RD)	RTE 649 (LUMMIS RD)		4.01	4	4	24,740	26,500	A-C	Low to Mod.
58	SUF	ROUTE 58 (HOLLAND RD)	RTE 649 (LUMMIS RD)	RTE 643 (MANNING BRIDGE RD)		2.05	4	4	25,722	30,500	A-C	Low to Mod.
58	SUF	ROUTE 58 (HOLLAND RD)	RTE. 643 (MANNING BRIDGE RD)	COVE POINT DR		1.03	4	6	33,787	37,900	A-C	Low to Mod.
58	SUF	ROUTE 58 (HOLLAND RD)	COVE POINT DR	SUFFOLK BYPASS		1.20	4	6	33,708	38,000	D	Moderate
616	SUF	ROUTE 616	ROUTE 58	WHALEYVILLE BLVD		11.50	2	2	254	700	A-C	Low to Mod.
616	SUF	ROUTE 616	WHALEYVILLE BLVD	CAROLINA RD		6.70	2	2	125	500	A-C	Low to Mod.
58	SUF	RURITAN BLVD (BUS RTE 58)	ISLE OF WIGHT CL	RTE 189 (HOLLAND RD BUS)		2.65	2	2	1,890	3,500	A-C	Low to Mod.
626	SUF	SHOULDERS HILL RD	NANSEMOND PKWY	PUGHSVILLE RD		1.44	2	2	8,953	11,900	D	Moderate
626	SUF	SHOULDERS HILL RD	PUGHSVILLE RD	BRIDGE RD		1.63	2	2	13,531	17,500	F	Severe
13	SUF	SOUTHWEST SUFFOLK BYPASS	HOLLAND RD	CAROLINA RD	NB	2.55	2	2	11,678	15,900	A-C	Low to Mod.
					SB		2	2			A-C	Low to Mod.
58	SUF	SUFFOLK BYPASS	HOLLAND RD	PITCHKETTLE RD	EB	1.69	2	2	40,881	48,900	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
58	SUF	SUFFOLK BYPASS	PITCHKETTLE RD	PRUDEN BLVD	EB	1.63	2	2	43,056	51,000	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
58	SUF	SUFFOLK BYPASS	PRUDEN BLVD	GODWIN BLVD	EB	1.06	2	2	53,000	60,400	A-C	Low to Mod.
					WB		2	2			D	Moderate
58	SUF	SUFFOLK BYPASS	GODWIN BLVD	WILROY RD	EB	1.85	2	2	64,865	73,000	A-C	Low to Mod.
					WB		2	2			F	Severe
58	SUF	SUFFOLK BYPASS	WILROY RD	ROUTES 13/58/460	EB	2.02	2	2	55,183	60,300	A-C	Low to Mod.
					WB		2	2			D	Moderate
658	SUF	TOWN POINT RD	PUGHSVILLE RD	BRIDGE RD		1.71	2	2	1,308	2,700	A-C	Low to Mod.
337	SUF	WASHINGTON ST	W CONSTANCE RD	SARATOGA ST		0.84	2	2	7,758	10,500	D	Moderate
337	SUF	WASHINGTON ST	SARATOGA ST	MAIN ST		0.08	3	3	7,758	9,400	D	Moderate
337	SUF	WASHINGTON ST	MAIN ST	PINNER ST		0.20	2	2	7,429	13,100	D	Moderate
337	SUF	WASHINGTON ST	PINNER ST	PORTSMOUTH BLVD		2.84	2	2	12,268	16,100	D	Moderate
164	SUF	WESTERN FWY	BRIDGE RD	I-664	EB	0.74	2	2	27,020	38,000	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
164	SUF	WESTERN FWY	I-664	COLLEGE DR	EB	0.57	2	3	49,957	58,100	A-C	Low to Mod.
					WB		2	3			A-C	Low to Mod.
164	SUF	WESTERN FWY	COLLEGE DR	PORTSMOUTH CL	EB	0.20	2	3	66,610	74,400	A-C	Low to Mod.
					WB		2	3			A-C	Low to Mod.
13	SUF	WHALEYVILLE BLVD	NC STATE LINE	RTE 616 (MINERAL SPRING RD)		5.37	2	2	5,253	7,900	D	Moderate
13	SUF	WHALEYVILLE BLVD	RTE 616 (MINERAL SPRING RD)	RTE 677 (GREAT FORK RD)		1.27	2	2	8,088	9,000	A-C	Low to Mod.
13	SUF	WHALEYVILLE BLVD	RTE 677 (GREAT FORK RD)	RTE 675 (CYPRESS CHAPEL RD)		0.83	2	2	8,088	10,200	D	Moderate
13	SUF	WHALEYVILLE BLVD	RTE 675 (CYPRESS CHAPEL RD)	RTE 759 (BABBTOWN RD)		3.28	2	2	9,053	11,300	D	Moderate
13	SUF	WHALEYVILLE BLVD	RTE 759 (BABBTOWN RD)	RTE 32 (CAROLINA RD)		2.56	2	2	9,446	13,300	E	Severe
642	SUF	WILROY RD	CONSTANCE RD	SUFFOLK BYPASS		1.98	2	2	6,316	7,600	A-C	Low to Mod.
642	SUF	WILROY RD	SUFFOLK BYPASS	NANSEMOND PKWY		1.89	2	2	9,864	12,000	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
903	VB	21ST ST	PARKS AVE	PACIFIC AVE		0.53	4	4	11,192	16,500	A-C	Low to Mod.
903	VB	21ST ST	PACIFIC AVE	ATLANTIC AVE		0.06	3	3	3,664	8,200	A-C	Low to Mod.
903	VB	22ND ST	PARKS AVE	PACIFIC AVE		0.53	4	4	9,725	15,500	A-C	Low to Mod.
903	VB	22ND ST	PACIFIC AVE	ATLANTIC AVE		0.06	3	3	2,189	7,000	A-C	Low to Mod.
58	VB	30TH ST	LASKIN RD	PACIFIC AVE		0.32	3	3	4,233	6,900	A-C	Low to Mod.
58	VB	30TH ST	PACIFIC AVE	ATLANTIC AVE		0.06	3	3	3,111	4,300	A-C	Low to Mod.
901	VB	ATLANTIC AVE	FORT STORY	83RD ST		0.44	2	2	3,136	5,300	A-C	Low to Mod.
60	VB	ATLANTIC AVE	83RD ST	PACIFIC AVE		2.62	4	4	18,216	24,000	D	Moderate
901	VB	ATLANTIC AVE	PACIFIC AVE	LASKIN RD		0.85	2	2	4,205	8,900	A-C	Low to Mod.
901	VB	ATLANTIC AVE	LASKIN RD	22ND ST		0.65	2	2	8,057	13,800	F	Severe
901	VB	ATLANTIC AVE	22ND ST	21ST ST		0.07	2	2	8,521	12,800	D	Moderate
901	VB	ATLANTIC AVE	21ST ST	VA BEACH BLVD		0.27	2	2	8,782	9,300	A-C	Low to Mod.
901	VB	ATLANTIC AVE	VA BEACH BLVD	5TH ST		0.82	2	2	6,445	7,500	A-C	Low to Mod.
907	VB	BAXTER RD	PRINCESS ANNE RD	INDEPENDENCE BLVD		0.96	4	4	22,659	26,300	A-C	Low to Mod.
909	VB	BIRDNECK RD	GENERAL BOOTH BLVD	NORFOLK AVE		2.29	4	4	14,111	14,600	A-C	Low to Mod.
909	VB	BIRDNECK RD	NORFOLK AVE	VA BEACH BLVD		0.31	4	4	20,000	22,700	A-C	Low to Mod.
909	VB	BIRDNECK RD	VA BEACH BLVD	I-264		0.33	4	6	28,946	42,800	A-C	Low to Mod.
909	VB	BIRDNECK RD	I-264	LASKIN RD		0.58	4	4	24,114	28,000	A-C	Low to Mod.
911	VB	BLACKWATER RD	PUNGO FERRY RD	CHESAPEAKE CL		4.47	2	2	2,816	4,000	D	Moderate
913	VB	BONNEY RD	INDEPENDENCE BLVD	ROSEMONT RD		2.39	4	4	14,595	21,400	A-C	Low to Mod.
915	VB	CENTERVILLE TNPK	CHESAPEAKE CL	LYNNHAVEN PKWY		0.38	2	4	10,348	25,500	A-C	Low to Mod.
915	VB	CENTERVILLE TNPK	LYNNHAVEN PKWY	KEMPSVILLE RD		0.75	2	4	17,617	32,100	A-C	Low to Mod.
915	VB	CENTERVILLE TNPK	KEMPSVILLE RD	JAKE SEARS RD		0.88	2	6	21,909	25,500	A-C	Low to Mod.
915	VB	CENTERVILLE TNPK	JAKE SEARS RD	INDIAN RIVER RD		0.95	2	6	21,909	28,800	A-C	Low to Mod.
13	VB	CHESAPEAKE BAY BRIDGE-TUNNEL	SHORE DR	TOLL PLAZA		0.91	4	4	9,221	19,800	A-C	Low to Mod.
13	VB	CHESAPEAKE BAY BRIDGE-TUNNEL	TOLL PLAZA	NCL VA BEACH		0.24	4	4	9,221	19,800	A-C	Low to Mod.
	VB	CLEARFIELD AVE	VIRGINIA BEACH BLVD	CLEVELAND ST		0.33	2	4	N/A	3,900	A-C	Low to Mod.
	VB	CLEVELAND ST	GREENWICH RD	CLEARFIELD AVE		0.50	4	4	N/A	9,900	A-C	Low to Mod.
	VB	CLEVELAND ST	CLEARFIELD AVE	WITCHDUCK RD		0.45	2	4	5,993	13,800	A-C	Low to Mod.
	VB	CLEVELAND ST	WITCHDUCK RD	KELLAM RD		0.97	2	4	10,066	16,700	A-C	Low to Mod.
	VB	COLUMBUS ST	KELLAM RD	INDEPENDENCE BLVD		0.22	4	4	11,660	29,100	F	Severe
917	VB	COLUMBUS ST	INDEPENDENCE BLVD	CONSTITUTION DR		0.30	4	4	12,781	20,200	A-C	Low to Mod.
	VB	CONSTITUTION DR	BONNEY RD	COLUMBUS ST		0.45	4	4	6,694	8,800	A-C	Low to Mod.
919	VB	CONSTITUTION DR	COLUMBUS ST	VIRGINIA BEACH BLVD		0.17	4	4	8,146	9,600	A-C	Low to Mod.
920	VB	DAM NECK RD	SALEM RD	VA BEACH AMPHITHEATER		1.07	2	4	15,107	11,900	A-C	Low to Mod.
920	VB	DAM NECK RD	VA BEACH AMPHITHEATER	PRINCESS ANNE RD		1.16	4	4	20,243	19,000	A-C	Low to Mod.
920	VB	DAM NECK RD	PRINCESS ANNE RD	ROSEMONT RD		0.44	4	6	40,566	30,700	A-C	Low to Mod.
920	VB	DAM NECK RD	ROSEMONT RD	HOLLAND RD		0.55	4	6	35,198	35,300	A-C	Low to Mod.
920	VB	DAM NECK RD	HOLLAND RD	DRAKESMILE RD		0.72	4	6	37,368	21,400	A-C	Low to Mod.
920	VB	DAM NECK RD	DRAKESMILE RD	LONDON BRIDGE RD		0.86	4	6	41,372	35,200	A-C	Low to Mod.
920	VB	DAM NECK RD	LONDON BRIDGE RD	HARPERS RD		0.60	4	4	28,586	29,200	A-C	Low to Mod.
920	VB	DAM NECK RD	HARPERS RD	GENERAL BOOTH BLVD		2.19	4	4	22,538	24,200	A-C	Low to Mod.
920	VB	DAM NECK RD	GENERAL BOOTH BLVD	UPTON DR		0.40	6	6	35,111	38,200	A-C	Low to Mod.
920	VB	DAM NECK RD	UPTON DR	USN TRAINING CENTER		1.70	4	4	21,541	24,600	A-C	Low to Mod.
927	VB	DIAMOND SPRINGS RD	NEWTOWN RD	WESLEYAN RD		0.41	4	4	23,488	29,200	A-C	Low to Mod.
927	VB	DIAMOND SPRINGS RD	WESLEYAN RD	NORTHAMPTON BLVD		1.22	4	4	21,557	23,500	A-C	Low to Mod.
166	VB	DIAMOND SPRINGS RD	NORTHAMPTON BLVD	SHORE DR		1.32	4	4	29,683	28,700	A-C	Low to Mod.
943	VB	DRAKESMILE RD	DAM NECK RD	SHIPPS CORNER RD		0.25	4	4	19,450	23,700	A-C	Low to Mod.
943	VB	DRAKESMILE RD EXTENDED	PRINCESS ANNE RD	HOLLAND RD		0.63	0	4	N/A	4,700	A-C	Low to Mod.
943	VB	DRAKESMILE RD EXTENDED	HOLLAND RD	DAM NECK RD		0.59	0	4	N/A	11,800	A-C	Low to Mod.
1038	VB	ELBOW RD	CHESAPEAKE CL	INDIAN RIVER RD (WEST)		0.32	2	2	8,902	8,400	D	Moderate
1038	VB	ELBOW RD	INDIAN RIVER RD (EAST)	SALEM RD		1.21	2	4	12,740	13,000	D	Moderate
1038	VB	ELBOW RD/INDIAN RIVER RD	INDIAN RIVER RD (WEST)	INDIAN RIVER RD (EAST)		0.12	2	4	13,610	21,700	A-C	Low to Mod.
929	VB	FERRELL PKWY	INDIAN RIVER RD	INDIAN LAKES BLVD		0.45	4	6	48,225	59,200	A-C	Low to Mod.
929	VB	FERRELL PKWY	INDIAN LAKES BLVD	PLEASANT VALLEY RD		0.87	4	6	41,143	58,200	A-C	Low to Mod.
929	VB	FERRELL PKWY	PLEASANT VALLEY RD	PRINCESS ANNE RD		1.42	4	6	41,495	56,300	A-C	Low to Mod.
408	VB	FIRST COLONIAL RD	VA BEACH BLVD	I-264		0.22	4	4	30,726	31,600	D	Moderate
408	VB	FIRST COLONIAL RD	I-264	LASKIN RD		0.35	4	6	35,066	41,300	D	Moderate
408	VB	FIRST COLONIAL RD	LASKIN RD	OLD DONATION PKWY		1.10	4	6	39,750	44,000	D	Moderate
408	VB	FIRST COLONIAL RD	OLD DONATION PKWY	GREAT NECK RD		0.89	4	4	18,920	21,800	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
149	VB	GENERAL BOOTH BLVD	PRINCESS ANNE RD	NIMMO PKWY		0.30	4	4	21,572	37,900	A-C	Low to Mod.
149	VB	GENERAL BOOTH BLVD	NIMMO PKWY	LONDON BRIDGE RD		0.56	4	6	32,224	38,600	A-C	Low to Mod.
149	VB	GENERAL BOOTH BLVD	LONDON BRIDGE RD	DAM NECK RD		1.51	4	4	32,981	42,200	F	Severe
149	VB	GENERAL BOOTH BLVD	DAM NECK RD	OCEANA BLVD/PROSPERITY RD		0.60	6	8	53,740	59,600	A-C	Low to Mod.
149	VB	GENERAL BOOTH BLVD	OCEANA BLVD/PROSPERITY RD	BIRDNECK RD		1.20	4	4	26,840	36,700	A-C	Low to Mod.
149	VB	GENERAL BOOTH BLVD	BIRDNECK RD	HARBOUR POINT		1.61	4	4	15,122	25,500	A-C	Low to Mod.
279	VB	GREAT NECK RD	VA BEACH BLVD	OLD DONATION PKWY		1.57	4	6	39,574	53,500	A-C	Low to Mod.
279	VB	GREAT NECK RD	OLD DONATION PKWY	FIRST COLONIAL RD		0.79	4	4	36,385	37,500	A-C	Low to Mod.
279	VB	GREAT NECK RD	FIRST COLONIAL RD	SHOREHAVEN RD		0.98	6	6	33,566	40,600	A-C	Low to Mod.
279	VB	GREAT NECK RD	SHOREHAVEN RD	SHORE DR		2.24	4	4	36,166	42,000	A-C	Low to Mod.
	VB	GREENBELT	INDIAN RIVER RD	CHESAPEAKE CL		0.55	0	4	N/A	3,600	A-C	Low to Mod.
	VB	GREENBELT	SALEM RD	INDIAN RIVER RD		0.55	0	4	N/A	9,700	A-C	Low to Mod.
	VB	GREENBELT	PRINCESS ANNE RD	SALEM RD		2.32	0	4	N/A	20,400	A-C	Low to Mod.
	VB	GREENBELT	HOLLAND RD	PRINCESS ANNE RD		0.61	0	4	N/A	34,200	A-C	Low to Mod.
	VB	GREENBELT	LONDON BRIDGE RD	HOLLAND RD		1.41	0	4	N/A	31,700	A-C	Low to Mod.
	VB	GREENWICH RD	NEWTOWN RD	CLEVELAND ST		0.77	4	4	NA	10,600	A-C	Low to Mod.
64	VB	HAMPTON ROADS EXPRESS LANES NETWORK	NORFOLK CL	INDIAN RIVER RD	EB	1.57	0	1	N/A	17,700	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
64	VB	HAMPTON ROADS EXPRESS LANES NETWORK	INDIAN RIVER RD	CHESEAPEAKE CL	EB	1.36	0	1	N/A	22,300	A-C	Low to Mod.
					WB		0	1			A-C	Low to Mod.
931	VB	HARPERS RD	DAM NECK RD	OCEANA BLVD		2.44	2	2	6,665	8,600	A-C	Low to Mod.
403	VB	HAYGOOD RD	NEWTOWN RD	WESLEYAN DR		0.25	2	2	7,305	7,600	A-C	Low to Mod.
403	VB	HAYGOOD RD	WESLEYAN DR	INDEPENDENCE BLVD		1.10	4	4	20,720	21,200	A-C	Low to Mod.
410	VB	HOLLAND RD	INDEPENDENCE BLVD	SOUTH PLAZA TRAIL		0.33	4	6	40,699	48,500	A-C	Low to Mod.
410	VB	HOLLAND RD	SOUTH PLAZA TRAIL	ROSEMONT RD		1.32	4	6	40,385	43,000	A-C	Low to Mod.
410	VB	HOLLAND RD	ROSEMONT RD	LYNNHAVEN PKWY		1.15	4	6	32,990	40,200	A-C	Low to Mod.
410	VB	HOLLAND RD	LYNNHAVEN PKWY	DAM NECK RD		1.07	4	6	37,669	37,500	A-C	Low to Mod.
410	VB	HOLLAND RD	DAM NECK RD	NIMMO PKWY		1.93	2	2	21,097	24,900	A-C	Low to Mod.
410	VB	HOLLAND RD	NIMMO PKWY	PRINCESS ANNE RD		0.76	2	2	4,463	6,000	A-C	Low to Mod.
264	VB	I-264	NEWTOWN RD/ECL NORFOLK	WITCHDUCK RD	EB	1.47	4	5	206,126	220,600	A-C	Low to Mod.
					WB		4	4			E	Severe
264	VB	I-264	WITCHDUCK RD	INDEPENDENCE BLVD	EB	1.27	4	5	208,686	196,600	A-C	Low to Mod.
					WB		4	5			A-C	Low to Mod.
264	VB	I-264	INDEPENDENCE BLVD	ROSEMONT RD	EB	2.36	4	4	163,934	176,900	D	Moderate
					WB		4	4			D	Moderate
264	VB	I-264	ROSEMONT RD	LYNNHAVEN PKWY	EB	1.72	4	4	153,337	161,600	D	Moderate
					WB		4	4			D	Moderate
264	VB	I-264	LYNNHAVEN PKWY	LONDON BRIDGE RD	EB	0.65	4	4	138,658	152,000	D	Moderate
					WB		4	4			A-C	Low to Mod.
264	VB	I-264	LONDON BRIDGE RD	LASKIN RD	EB	0.83	4	4	118,496	128,500	A-C	Low to Mod.
					WB		4	4			A-C	Low to Mod.
264	VB	I-264	LASKIN RD	FIRST COLONIAL RD	EB	1.19	4	4	72,835	87,400	A-C	Low to Mod.
					WB		4	4			A-C	Low to Mod.
264	VB	I-264	FIRST COLONIAL RD	S.E. PARKWAY CORRIDOR	EB	0.92	3	3	56,179	74,300	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
264	VB	I-264	S.E. PARKWAY CORRIDOR	BIRDNECK RD	EB	0.56	3	3	56,179	76,700	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
264	VB	I-264	BIRDNECK RD	PARKS AVE	EB	0.49	3	3	29,126	41,300	A-C	Low to Mod.
					WB		3	3			A-C	Low to Mod.
64	VB	I-64	NORFOLK CL	INDIAN RIVER RD	EB	1.57	4	3	160,818	187,800	F	Severe
					WB		4	3			E	Severe
64	VB	I-64	INDIAN RIVER RD	CHESEAPEAKE CL	EB	1.36	4	3	151,015	167,500	F	Severe
					WB		4	3			E	Severe
225	VB	INDEPENDENCE BLVD	INDIAN RIVER RD	SALEM RD		1.93	2	2	6,332	8,100	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	SALEM RD	PRINCESS ANNE RD		0.77	4	4	17,225	17,500	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	PRINCESS ANNE RD	LYNNHAVEN PKWY		0.55	4	4	26,302	31,400	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	LYNNHAVEN PKWY	PLAZA TRAIL		1.65	4	4	33,029	34,800	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	PLAZA TRAIL	HOLLAND RD		0.76	4	4	29,033	31,900	F	Severe
225	VB	INDEPENDENCE BLVD	HOLLAND RD	BAXTER RD		0.80	8	8	78,620	80,400	F	Severe
225	VB	INDEPENDENCE BLVD	BAXTER RD	I-264		0.23	8	8	89,000	99,200	F	Severe
225	VB	INDEPENDENCE BLVD	I-264	BONNEY RD		0.24	8	8	97,000	116,600	F	Severe

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ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
225	VB	INDEPENDENCE BLVD	BONNEY RD	COLUMBUS ST		0.25	8	8	82,166	97,100	F	Severe
225	VB	INDEPENDENCE BLVD	COLUMBUS ST	VA BEACH BLVD		0.18	8	8	58,042	88,800	F	Severe
225	VB	INDEPENDENCE BLVD	VA BEACH BLVD	JEANNE ST		0.28	8	8	54,899	88,700	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	JEANNE ST	PEMBROKE BLVD		1.07	6	8	54,899	71,300	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	PEMBROKE BLVD	HAYGOOD RD		0.90	6	6	47,798	57,500	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	HAYGOOD RD	NORTHAMPTON BLVD		1.77	4	6	39,027	50,100	A-C	Low to Mod.
225	VB	INDEPENDENCE BLVD	NORTHAMPTON BLVD	SHORE DR		0.58	4	4	23,949	23,300	A-C	Low to Mod.
936	VB	INDIAN LAKES BLVD	FERRELL PKWY	INDIAN RIVER RD		0.45	4	4	12,441	14,000	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	CHESAPEAKE CL	MILITARY HWY		0.52	6	6	29,630	30,800	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	MILITARY HWY	PROVIDENCE RD		0.57	6	6	29,595	31,100	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	PROVIDENCE RD	I-64		0.66	6	6	48,460	46,100	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	I-64	CENTERVILLE TNPK		0.57	8	10	80,512	92,300	D	Moderate
407	VB	INDIAN RIVER RD	CENTERVILLE TNPK	KEMPSVILLE RD		0.72	6	8	72,409	74,200	D	Moderate
407	VB	INDIAN RIVER RD	KEMPSVILLE RD	FERRELL PKWY		0.24	6	8	65,531	76,300	D	Moderate
407	VB	INDIAN RIVER RD	FERRELL PKWY	INDIAN LAKES BLVD		0.59	4	4	15,008	17,200	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	INDIAN LAKES BLVD	LYNNHAVEN PKWY		0.32	4	4	25,296	27,500	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	LYNNHAVEN PKWY	INDEPENDENCE BLVD		1.36	2	4	16,317	21,600	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	INDEPENDENCE BLVD	ELBOW RD (WEST)		0.83	2	4	9,531	17,300	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	ELBOW RD (EAST)	S.E. PARKWAY CORRIDOR		1.12	2	2	8,800	12,400	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	S.E. PARKWAY CORRIDOR	NORTH LANDING RD		1.70	2	2	8,800	10,900	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	NORTH LANDING RD	WEST NECK RD		2.84	2	2	5,253	5,800	A-C	Low to Mod.
407	VB	INDIAN RIVER RD	WEST NECK RD	PRINCESS ANNE RD		1.97	2	2	5,253	4,000	A-C	Low to Mod.
933	VB	INTERNATIONAL PKWY	LYNNHAVEN PKWY	LONDON BRIDGE RD		1.02	4	4	10,796	12,100	A-C	Low to Mod.
190	VB	KEMPSVILLE RD	CHESAPEAKE CL	CENTERVILLE TNPK		1.01	6	6	24,774	32,200	A-C	Low to Mod.
190	VB	KEMPSVILLE RD	CENTERVILLE TNPK	INDIAN RIVER RD		1.54	4	4	28,832	43,200	F	Severe
190	VB	KEMPSVILLE RD	INDIAN RIVER RD	PROVIDENCE RD		1.29	4	4	32,020	32,700	A-C	Low to Mod.
190	VB	KEMPSVILLE RD	PROVIDENCE RD	PRINCESS ANNE RD		0.98	4	4	35,903	41,400	F	Severe
	VB	LANDSTOWN RD	SALEM RD	0.6 MI SOUTH OF LANDSTOWN CENTERE WAY		1.04	2	2	2,626	7,700	F	Severe
	VB	LANDSTOWN RD	0.6 MI SOUTH OF LANDSTOWN CENTERE WAY	DAM NECK RD		0.87	2	4	2,626	7,700	A-C	Low to Mod.
58	VB	LASKIN RD	VA BEACH BLVD	FIRST COLONIAL RD		1.48	4	6	30,260	39,300	A-C	Low to Mod.
58	VB	LASKIN RD	FIRST COLONIAL RD	WINWOOD DR		0.51	4	8	30,781	35,000	A-C	Low to Mod.
58	VB	LASKIN RD	WINWOOD DR	BIRDNECK RD		0.98	4	6	27,755	31,400	A-C	Low to Mod.
58	VB	LASKIN RD	BIRDNECK RD	30TH ST/32ND ST		0.68	4	6	23,505	28,500	A-C	Low to Mod.
58	VB	LASKIN RD	30TH ST/32ND ST	PACIFIC AVE		0.29	4	4	7,092	12,600	A-C	Low to Mod.
58	VB	LASKIN RD/31ST ST	PACIFIC AVE	ATLANTIC AVE		0.06	4	4	4,001	8,500	A-C	Low to Mod.
943	VB	LONDON BRIDGE RD	GENERAL BOOTH BLVD	DAM NECK RD		2.22	4	4	20,181	35,700	F	Severe
943	VB	LONDON BRIDGE RD	DAM NECK RD	DRAKESMILE RD		1.10	2	4	12,356	16,000	A-C	Low to Mod.
943	VB	LONDON BRIDGE RD	SHIPPS CORNER RD/DRAKESMILE RD	INTERNATIONAL PKWY		1.34	4	4	36,480	40,100	F	Severe
943	VB	LONDON BRIDGE RD	INTERNATIONAL PKWY	POTTERS RD		2.08	4	4	34,737	38,900	A-C	Low to Mod.
279	VB	LONDON BRIDGE RD	POTTERS RD	I-264 RAMP		0.15	6	6	39,773	43,800	D	Moderate
279	VB	LONDON BRIDGE RD	I-264 RAMP	VA BEACH BLVD		0.21	6	6	38,644	45,700	D	Moderate
414	VB	LYNNHAVEN PKWY	CHESAPEAKE CL	CENTERVILLE TNPK		0.55	4	4	18,485	19,900	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	CENTERVILLE TNPK	INDIAN RIVER RD		2.07	4	4	19,409	17,200	D	Moderate
414	VB	LYNNHAVEN PKWY	INDIAN RIVER RD	SALEM RD		2.01	4	4	21,130	23,300	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	SALEM RD	PRINCESS ANNE RD		0.48	4	4	22,981	25,800	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	PRINCESS ANNE RD	INDEPENDENCE BLVD		0.67	4	6	24,545	30,700	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	INDEPENDENCE BLVD	ROSEMONT RD		0.56	4	6	33,675	42,700	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	ROSEMONT RD	HOLLAND RD		0.92	4	6	27,898	32,400	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	HOLLAND RD	S LYNNHAVEN RD		1.06	6	6	37,122	42,700	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	S LYNNHAVEN RD	INTERNATIONAL PKWY		0.61	6	6	30,630	37,000	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	INTERNATIONAL PKWY	POTTERS RD		1.17	6	6	48,391	51,200	A-C	Low to Mod.
414	VB	LYNNHAVEN PKWY	POTTERS RD	I-264		0.20	6	6	46,000	52,600	D	Moderate
414	VB	LYNNHAVEN PKWY	I-264	VA BEACH BLVD		0.42	4	4	15,903	20,700	D	Moderate
13	VB	MILITARY HWY	CHESAPEAKE CL	PROVIDENCE RD		0.16	6	6	33,849	47,800	A-C	Low to Mod.
13	VB	MILITARY HWY	PROVIDENCE RD	INDIAN RIVER RD		0.50	6	6	28,660	43,100	A-C	Low to Mod.
13	VB	MILITARY HWY	INDIAN RIVER RD	NORFOLK CL		0.98	8	8	46,360	68,700	F	Severe
402	VB	NEWTOWN RD	NORFOLK CL	BAKER RD		0.24	4	4	40,532	42,500	A-C	Low to Mod.
402	VB	NEWTOWN RD	BAKER RD	DIAMOND SPRINGS RD		0.48	4	4	30,041	27,600	A-C	Low to Mod.
947	VB	NEWTOWN RD	DIAMOND SPRINGS RD	HAYGOOD RD		0.90	2	2	7,305	8,300	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
1083	VB	NIMMO PKWY	WEST NECK RD	PRINCESS ANNE RD		0.85	4	4	18,057	17,900	A-C	Low to Mod.
967	VB	NIMMO PKWY	PRINCESS ANNE RD	HOLLAND RD		0.57	4	4	22,210	12,400	A-C	Low to Mod.
967	VB	NIMMO PKWY	HOLLAND RD	GENERAL BOOTH BLVD		2.02	4	4	26,512	25,800	A-C	Low to Mod.
967	VB	NIMMO PKWY	GENERAL BOOTH BLVD	UPTON DR		0.69	4	4	23,023	29,400	A-C	Low to Mod.
967	VB	NIMMO PKWY	UPTON DR	ALBUQUERQUE RD		1.15	2	2	N/A	4,300	A-C	Low to Mod.
967	VB	NIMMO PKWY	ALBUQUERQUE RD	SANDBRIDGE RD - NIMMO VIIA		1.31	0	2	N/A	4,300	A-C	Low to Mod.
949	VB	NORFOLK AVE	BIRDNECK RD	PACIFIC AVE		1.40	2	2	9,406	11,800	A-C	Low to Mod.
949	VB	NORFOLK AVE	PACIFIC AVE	ATLANTIC AVE		0.06	4	4	3,675	3,500	A-C	Low to Mod.
165	VB	NORTH LANDING RD	CHESAPEAKE CL	INDIAN RIVER RD		1.12	2	2	10,808	16,100	E	Severe
165	VB	NORTH LANDING RD	INDIAN RIVER RD	SALEM RD		0.36	2	2	7,082	12,100	A-C	Low to Mod.
165	VB	NORTH LANDING RD	SALEM RD	WEST NECK RD		2.08	2	2	7,082	5,100	A-C	Low to Mod.
165	VB	NORTH LANDING RD	WEST NECK RD	PRINCESS ANNE RD		0.57	2	2	9,701	5,700	A-C	Low to Mod.
	VB	NORTH LYNNHAVEN RD	VIRGINIA BEACH BLVD	LYNNHAVEN PKWY		0.59	2	4	N/A	18,700	A-C	Low to Mod.
13	VB	NORTHAMPTON BLVD	WESLEYAN DR/NORFOLK CL	DIAMOND SPRINGS RD		0.98	8	8	63,001	74,700	A-C	Low to Mod.
13	VB	NORTHAMPTON BLVD	DIAMOND SPRINGS RD	INDEPENDENCE BLVD		2.13	6	6	39,840	47,800	A-C	Low to Mod.
13	VB	NORTHAMPTON BLVD	INDEPENDENCE BLVD	SHORE DR		1.01	6	6	26,974	37,900	A-C	Low to Mod.
615	VB	OCEANA BLVD	GENERAL BOOTH BLVD	HARPERS RD		0.63	4	4	31,452	30,900	A-C	Low to Mod.
615	VB	OCEANA BLVD	HARPERS RD	TOMCAT BLVD (NAS MAIN ENT)		0.39	4	4	31,452	30,200	A-C	Low to Mod.
615	VB	OCEANA BLVD/FIRST COLONIAL RD	TOMCAT BLVD (NAS MAIN ENT)	VA BEACH BLVD		3.11	4	4	37,212	35,500	A-C	Low to Mod.
60	VB	PACIFIC AVE	ATLANTIC AVE	LASKIN RD		0.83	4	4	21,401	28,400	D	Moderate
60	VB	PACIFIC AVE	LASKIN RD	22ND ST		0.65	4	4	12,649	18,500	D	Moderate
60	VB	PACIFIC AVE	22ND ST	21ST ST		0.07	4	4	19,168	27,600	E	Severe
60	VB	PACIFIC AVE	21ST ST	VA BEACH BLVD		0.27	4	4	17,465	24,200	D	Moderate
60	VB	PACIFIC AVE	VA BEACH BLVD	NORFOLK AVE		0.54	4	4	14,989	30,200	F	Severe
60	VB	PACIFIC AVE	NORFOLK AVE	HARBOUR POINT		0.61	4	4	15,052	22,800	D	Moderate
190	VB	PEMBROKE BLVD	WITCHDUCK RD	INDEPENDENCE BLVD		0.40	4	4	10,969	9,200	A-C	Low to Mod.
953	VB	PLAZA TRAIL, S.	PRINCESS ANNE RD	INDEPENDENCE BLVD		0.76	4	4	28,278	25,800	A-C	Low to Mod.
953	VB	PLAZA TRAIL, S.	INDEPENDENCE BLVD	HOLLAND RD		0.49	4	4	11,278	13,000	D	Moderate
953	VB	PLAZA TRAIL, S.	HOLLAND RD	MARINA LAKE RD		0.24	4	4	8,738	11,200	A-C	Low to Mod.
953	VB	PLAZA TRAIL, S.	MARINA LAKE RD	ROSEMONT RD		1.41	2	2	8,738	11,200	D	Moderate
953	VB	PLAZA TRAIL, S.	ROSEMONT RD	CONTINENTAL ST		0.65	2	2	10,331	12,600	E	Severe
953	VB	PLAZA TRAIL, S.	CONTINENTAL ST	VA BEACH BLVD		0.46	4	4	10,331	14,200	D	Moderate
165	VB	PRINCESS ANNE RD	NEWTOWN RD/NORFOLK CL	KEMPSVILLE RD		1.90	4	4	26,186	34,300	F	Severe
165	VB	PRINCESS ANNE RD	KEMPSVILLE RD	BAXTER RD		0.58	4	4	29,903	32,300	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	BAXTER RD	PROVIDENCE RD		1.65	4	4	28,560	32,000	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	PROVIDENCE RD	FERRELL PKWY		0.76	4	6	39,666	49,600	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	FERRELL PKWY	LYNNHAVEN PKWY		0.48	8	8	59,582	67,300	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	LYNNHAVEN PKWY	INDEPENDENCE BLVD		0.44	8	8	47,090	46,600	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	INDEPENDENCE BLVD	DAM NECK RD		1.48	8	8	54,672	52,200	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	DAM NECK RD	S.E. PARKWAY CORRIDOR		1.09	4	4	31,021	27,000	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	S.E. PARKWAY CORRIDOR	NIMMO PKWY		1.24	4	4	31,021	22,300	A-C	Low to Mod.
165	VB	PRINCESS ANNE RD	NIMMO PKWY	NORTH LANDING RD		0.55	2	2	6,918	3,300	A-C	Low to Mod.
149	VB	PRINCESS ANNE RD	NORTH LANDING RD	HOLLAND RD		0.27	2	2	12,852	7,000	A-C	Low to Mod.
149	VB	PRINCESS ANNE RD	HOLLAND RD	SEABOARD RD		1.00	2	2	12,852	10,500	A-C	Low to Mod.
149	VB	PRINCESS ANNE RD	SEABOARD RD	GENERAL BOOTH BLVD		1.00	2	2	14,691	10,300	A-C	Low to Mod.
615	VB	PRINCESS ANNE RD	GENERAL BOOTH BLVD	SANDBRIDGE RD/UPTON DR		0.85	2	4	17,161	18,600	A-C	Low to Mod.
615	VB	PRINCESS ANNE RD	SANDBRIDGE RD/UPTON DR	SEABOARD RD		1.76	2	2	11,973	11,300	A-C	Low to Mod.
615	VB	PRINCESS ANNE RD	SEABOARD RD	INDIAN RIVER RD		0.38	2	2	12,957	11,500	A-C	Low to Mod.
615	VB	PRINCESS ANNE RD	INDIAN RIVER RD	PUNGO FERRY RD		7.71	2	2	7,801	11,200	E	Severe
615	VB	PRINCESS ANNE RD	PUNGO FERRY RD	NORTH CAROLINA STATE LINE		5.74	2	2	3,806	7,400	D	Moderate
409	VB	PROVIDENCE RD	CHESAPEAKE CL	MILITARY HWY		0.08	4	4	12,107	14,800	A-C	Low to Mod.
409	VB	PROVIDENCE RD	MILITARY HWY	INDIAN RIVER RD		0.72	4	4	15,150	14,800	A-C	Low to Mod.
409	VB	PROVIDENCE RD	INDIAN RIVER RD	KEMPSVILLE RD		2.28	4	4	20,806	21,800	A-C	Low to Mod.
409	VB	PROVIDENCE RD	KEMPSVILLE RD	PRINCESS ANNE RD		2.02	2	2	15,427	16,700	F	Severe
1134	VB	PUNGO FERRY RD	BLACKWATER RD	PRINCESS ANNE RD		2.73	2	2	3,811	5,000	D	Moderate
411	VB	ROSEMONT RD	DAM NECK RD	BUCKNER BLVD		0.93	2	4	12,021	10,200	A-C	Low to Mod.
411	VB	ROSEMONT RD	BUCKNER BLVD	LYNNHAVEN PKWY		0.58	2	4	17,888	13,400	A-C	Low to Mod.
411	VB	ROSEMONT RD	LYNNHAVEN PKWY	HOLLAND RD		1.25	4	4	17,923	21,600	A-C	Low to Mod.
411	VB	ROSEMONT RD	HOLLAND RD	PLAZA TRAIL		1.16	4	6	31,924	42,700	D	Moderate
411	VB	ROSEMONT RD	PLAZA TRAIL	I-264		0.61	4	6	31,975	43,800	D	Moderate
411	VB	ROSEMONT RD	I-264	VA BEACH BLVD		0.14	4	6	36,000	58,500	F	Severe

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955	VB	SALEM RD	NORTH LANDING RD	ELBOW RD		2.60	2	2	5,188	13,300	F	Severe
955	VB	SALEM RD	ELBOW RD	INDEPENDENCE BLVD		0.90	2	2	10,765	12,000	F	Severe
955	VB	SALEM RD	INDEPENDENCE BLVD	LYNNHAVEN PKWY		0.60	4	4	10,765	11,700	A-C	Low to Mod.
955	VB	SALEM RD	LYNNHAVEN PKWY	PRINCESS ANNE RD		0.73	6	6	15,375	16,700	A-C	Low to Mod.
1140	VB	SANDBRIDGE RD	PRINCESS ANNE RD	ATWOODTOWN RD		1.55	2	2	11,334	12,100	A-C	Low to Mod.
1140	VB	SANDBRIDGE RD	ATWOODTOWN RD	SANDPIPER DR		3.18	2	2	11,208	5,800	D	Moderate
956	VB	SEABOARD RD	PRINCESS ANNE RD (AT PUNGO FIELD)	PRINCESS ANNE RD (AT P.A. ELEMENTARY)		2.42	2	2	2,856	2,900	A-C	Low to Mod.
956	VB	SEABOARD RD	PRINCESS ANNE RD (AT P.A. ELEMENTARY)	NIMMO PKWY		0.63	2	2	5,071	3,300	A-C	Low to Mod.
60	VB	SHORE DRIVE	NORFOLK CL	DIAMOND SPRINGS RD		0.21	4	4	35,105	40,700	A-C	Low to Mod.
60	VB	SHORE DRIVE	DIAMOND SPRINGS RD	INDEPENDENCE BLVD		1.82	4	4	29,300	37,900	D	Moderate
60	VB	SHORE DRIVE	INDEPENDENCE BLVD	PLEASURE HOUSE RD		0.64	4	4	20,721	23,300	A-C	Low to Mod.
60	VB	SHORE DRIVE	PLEASURE HOUSE RD	NORTHAMPTON BLVD		0.37	4	6	20,721	28,500	A-C	Low to Mod.
60	VB	SHORE DRIVE	NORTHAMPTON BLVD	GREAT NECK RD		3.47	4	4	38,681	44,800	A-C	Low to Mod.
60	VB	SHORE DRIVE	GREAT NECK RD	ATLANTIC AVE		4.61	4	4	14,383	16,700	A-C	Low to Mod.
0	VB	UPTON DR	NIMMO PKWY	PRINCESS ANNE RD		0.72	4	4	23,521	20,300	A-C	Low to Mod.
58	VB	VA BEACH BLVD	NEWTOWN RD/NORFOLK CL	WITCHDUCK RD		1.26	8	8	32,343	51,900	A-C	Low to Mod.
58	VB	VA BEACH BLVD	WITCHDUCK RD	INDEPENDENCE BLVD		1.12	8	8	37,988	72,900	F	Severe
58	VB	VA BEACH BLVD	INDEPENDENCE BLVD	CONSTITUTION DR		0.32	8	8	39,593	55,500	D	Moderate
58	VB	VA BEACH BLVD	CONSTITUTION DR	ROSEMONT RD		1.90	8	8	42,338	71,900	A-C	Low to Mod.
58	VB	VA BEACH BLVD	ROSEMONT RD	S. PLAZA TRAIL/LITTLE NECK RD		0.39	8	8	51,324	61,400	A-C	Low to Mod.
58	VB	VA BEACH BLVD	S. PLAZA TRAIL/LITTLE NECK RD	LYNNHAVEN PKWY		1.61	8	8	31,488	44,600	A-C	Low to Mod.
58	VB	VA BEACH BLVD	LYNNHAVEN PKWY	GREAT NECK RD		0.83	8	8	26,243	42,800	A-C	Low to Mod.
58	VB	VA BEACH BLVD	GREAT NECK RD	LASKIN RD		0.14	8	8	34,000	49,800	A-C	Low to Mod.
58	VB	VA BEACH BLVD	LASKIN RD	FIRST COLONIAL RD		1.04	4	4	31,058	31,000	A-C	Low to Mod.
58	VB	VA BEACH BLVD	FIRST COLONIAL RD	N OCEANA BLVD		0.45	4	4	18,484	17,900	D	Moderate
58	VB	VA BEACH BLVD	N OCEANA BLVD	BIRDNECK RD		0.96	4	4	12,584	12,900	A-C	Low to Mod.
58	VB	VA BEACH BLVD	BIRDNECK RD	PACIFIC AVE		1.18	4	4	10,322	14,700	D	Moderate
58	VB	VA BEACH BLVD	PACIFIC AVE	ATLANTIC AVE		0.07	4	4	3,207	2,600	A-C	Low to Mod.
961	VB	WESLEYAN DR	NORFOLK CL	BAKER RD		0.43	4	4	18,843	23,000	A-C	Low to Mod.
961	VB	WESLEYAN DR	BAKER RD	DIAMOND SPRINGS RD		0.54	4	4	17,147	16,000	A-C	Low to Mod.
961	VB	WESLEYAN DR	DIAMOND SPRINGS RD	HAYGOOD DR		1.18	4	4	18,406	21,200	A-C	Low to Mod.
1162	VB	WEST NECK RD	NIMMO PKWY	NORTH LANDING RD		0.19	4	4	15,959	16,500	A-C	Low to Mod.
1162	VB	WEST NECK RD	NORTH LANDING RD	INDIAN RIVER RD		2.05	2	2	4,274	4,000	A-C	Low to Mod.
190	VB	WITCHDUCK RD	PRINCESS ANNE RD	I-264		0.78	6	6	33,418	35,900	A-C	Low to Mod.
190	VB	WITCHDUCK RD	I-264	VA BEACH BLVD		0.51	4	4	59,616	73,000	F	Severe
190	VB	WITCHDUCK RD	VA BEACH BLVD	PEMBROKE BLVD		1.58	4	4	17,147	17,600	A-C	Low to Mod.
5	WMB	BOUNDARY ST	JAMESTOWN RD	FRANCIS ST		0.07	2	2	9,613	6,000	A-C	Low to Mod.
60	WMB	BYPASS RD	RICHMOND RD	YORK CL		0.11	4	4	26,368	31,100	A-C	Low to Mod.
60	WMB	BYPASS RD	ROUTE 132/YORK CL	PAGE ST		0.71	4	4	14,436	16,900	A-C	Low to Mod.
5	WMB	CAPITOL LANDING RD	BYPASS RD	MERRIMAC TRAIL		0.62	4	2	6,918	12,900	D	Moderate
970	WMB	COLONIAL NATL HIST PKWY	JAMES CITY CL/RTE 199	YORK CL		3.09	2	2	7,000	10,300	A-C	Low to Mod.
5	WMB	FRANCIS ST	BOUNDARY ST	HENRY ST		0.09	2	2	7,222	3,600	A-C	Low to Mod.
5	WMB	HENRY ST	FRANCIS ST	LAFAYETTE ST		0.38	2	2	4,444	7,900	D	Moderate
132	WMB	HENRY ST N.	LAFAYETTE ST	RTE 132Y		0.44	2	2	4,841	7,600	A-C	Low to Mod.
132	WMB	HENRY ST S.	ROUTE 199	FRANCIS ST		1.85	2	2	2,737	2,400	A-C	Low to Mod.
915	WMB	IRONBOUND RD	JAMES CITY CL	DEPUE DR		0.18	4	4	11,626	12,300	A-C	Low to Mod.
915	WMB	IRONBOUND RD	DEPUE DR	LONGHILL RD		0.57	2	2	10,006	10,300	D	Moderate
915	WMB	IRONBOUND RD	LONGHILL RD	RICHMOND RD		0.05	4	4	13,229	14,200	A-C	Low to Mod.
31	WMB	JAMESTOWN RD	JAMES CITY CL	RTE 199		0.06	4	4	17,074	21,300	A-C	Low to Mod.
5	WMB	JAMESTOWN RD	RTE 199	JOHN TYLER LN		0.27	4	4	8,378	9,600	A-C	Low to Mod.
5	WMB	JAMESTOWN RD	JOHN TYLER LN	COLLEGE CREEK		0.58	4	4	9,191	9,700	A-C	Low to Mod.
5	WMB	JAMESTOWN RD	COLLEGE CREEK	BOUNDARY ST		0.92	2	2	9,191	8,300	D	Moderate
900	WMB	LAFAYETTE ST	RICHMOND RD	HENRY ST		0.95	2	2	10,380	11,600	D	Moderate
5	WMB	LAFAYETTE ST	HENRY ST	CAPITOL LANDING RD		0.85	2	2	10,193	8,600	D	Moderate
5	WMB	LAFAYETTE ST	CAPITOL LANDING RD	PAGE ST		0.21	2	2	8,535	8,600	D	Moderate
143	WMB	MERRIMAC TRAIL	YORK CL (SOUTH)	CAPITOL LANDING RD		0.90	2	2	6,629	12,700	A-C	Low to Mod.
143	WMB	MERRIMAC TRAIL	CAPITOL LANDING RD	YORK CL (NORTH)		0.37	4	4	9,246	16,600	A-C	Low to Mod.
321	WMB	MONTICELLO AVE	IRONBOUND RD	TREYBURN DR		0.80	2	2	17,903	20,300	F	Severe
321	WMB	MONTICELLO AVE	TREYBURN DR	RICHMOND RD		0.37	2	4	15,922	18,700	A-C	Low to Mod.

2045 LRTP Forecasted Volumes and Congestion Data

ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
60	WMB	PAGE ST	BYPASS RD	SECOND ST		0.31	4	4	15,370	17,700	D	Moderate
60	WMB	PAGE ST	SECOND ST	YORK ST		0.25	4	4	13,735	13,900	A-C	Low to Mod.
945	WMB	QUARTERPATH RD	ROUTE 199	YORK ST		1.44	2	2	1,032	1,500	A-C	Low to Mod.
60	WMB	RICHMOND RD	JAMES CITY CL	IRONBOUND RD		1.34	4	4	22,330	27,400	D	Moderate
60	WMB	RICHMOND RD	IRONBOUND RD	BYPASS RD		0.33	4	4	26,383	32,600	D	Moderate
950	WMB	RICHMOND RD	BYPASS RD	MONTICELLO AVE		0.37	4	4	19,630	27,400	D	Moderate
950	WMB	RICHMOND RD	MONTICELLO AVE	BROOKS ST		0.38	2	2	10,137	13,000	D	Moderate
950	WMB	RICHMOND RD	BROOKS ST	BOUNDARY ST		0.67	2	2	10,137	12,400	D	Moderate
132	WMB	ROUTE 132	ROUTE 132Y	BYPASS RD/YORK CL		0.26	4	4	7,014	12,700	A-C	Low to Mod.
132	WMB	ROUTE 132Y	ROUTE 132	COLONIAL PKWY		0.30	4	4	5,085	11,800	A-C	Low to Mod.
199	WMB	ROUTE 199	JAMES CITY CL (WEST)	JAMESTOWN RD		0.24	4	4	35,838	47,400	A-C	Low to Mod.
199	WMB	ROUTE 199	JAMESTOWN RD	JAMES CITY CL (EAST)		0.16	4	4	41,352	50,200	F	Severe
900	WMB	SECOND ST	PAGE ST	YORK CL		0.41	4	4	13,700	17,900	A-C	Low to Mod.
	WMB	TREYBURN DR	MONTICELLO AVE	IRONBOUND RD		0.73	2	2	4,000	6,200	A-C	Low to Mod.
60	WMB	YORK ST	PAGE ST	JAMES CITY CL		0.60	2	2	12,581	10,900	D	Moderate
1020	YC	BALLARD ST	COLONIAL PKWY	COOK RD		0.11	2	2	6,394	8,100	D	Moderate
238	YC	BALLARD ST	COOK RD	COAST GUARD TRAINING CENTER		1.32	2	2	2,613	4,500	A-C	Low to Mod.
600	YC	BIG BETHEL RD	HAMPTON CL	HAMPTON HWY (RTE 134)		0.96	2	2	10,393	11,500	A-C	Low to Mod.
600	YC	BIG BETHEL RD	HAMPTON HWY (RTE 134)	VICTORY BLVD (RTE 171)		1.09	2	2	4,798	5,100	A-C	Low to Mod.
60	YC	BYPASS RD	WILLIAMSBURG CL	WALLER MILL RD		0.19	4	4	26,368	31,100	A-C	Low to Mod.
60	YC	BYPASS RD	WALLER MILL RD	ROUTE 132/WILLIAMSBURG CL		0.88	4	4	26,368	37,600	A-C	Low to Mod.
950	YC	COLONIAL NATL HIST PKWY	WILLIAMSBURG CL	BALLARD ST		11.21	2	2	8,000	6,100	D	Moderate
	YC	COMMONWEALTH DR EXTENSION	GEORGE WASHINGTON HWY	COMMONWEALTH DR		0.27	0	4	N/A	6,800	A-C	Low to Mod.
704	YC	COOK RD	GEORGE WASHINGTON HWY	GOOSLEY RD		2.09	2	2	7,024	9,200	A-C	Low to Mod.
238	YC	COOK RD	GOOSLEY RD	BALLARD ST		0.25	2	2	7,691	9,600	A-C	Low to Mod.
173	YC	DENBIGH BLVD	NEWPORT NEWS CL	ROUTE 17		2.18	2	2	14,487	14,600	E	Severe
782	YC	EAST YORKTOWN RD	VICTORY BLVD	POQUOSON CL		0.29	2	2	5,792	6,700	A-C	Low to Mod.
105	YC	FORT EUSTIS BLVD	NEWPORT NEWS CL	ROUTE 17		2.36	4	4	18,635	21,400	A-C	Low to Mod.
1050	YC	FORT EUSTIS BLVD EXT	ROUTE 17	OLD YORK - HAMPTON HWY		0.38	4	4	3,752	7,400	A-C	Low to Mod.
17	YC	GEORGE WASHINGTON HWY	NEWPORT NEWS CL	VICTORY BLVD (RTE 171)		1.20	4	4	36,802	44,900	F	Severe
17	YC	GEORGE WASHINGTON HWY	VICTORY BLVD (RTE 171)	HAMPTON HWY (RTE 134)		0.64	4	4	36,740	41,000	F	Severe
17	YC	GEORGE WASHINGTON HWY	HAMPTON HWY (RTE 134)	DARE RD		2.37	6	6	48,876	53,800	A-C	Low to Mod.
17	YC	GEORGE WASHINGTON HWY	DARE RD	DENBIGH BLVD (RTE 173)		1.08	4	6	37,878	47,200	A-C	Low to Mod.
17	YC	GEORGE WASHINGTON HWY	DENBIGH BLVD (RTE 173)	FORT EUSTIS BLVD (RTE 105)		1.38	4	4	36,890	39,800	A-C	Low to Mod.
17	YC	GEORGE WASHINGTON HWY	FORT EUSTIS BLVD (RTE 105)	COOK RD		0.59	4	4	27,769	45,100	F	Severe
17	YC	GEORGE WASHINGTON HWY	COOK RD	GOOSLEY RD (RTE 238)		2.52	4	4	21,033	34,600	A-C	Low to Mod.
17	YC	GEORGE WASHINGTON HWY	GOOSLEY RD (RTE 238)	GLOUCESTER CL (COLEMAN BRIDGE)		1.06	4	4	33,453	42,400	F	Severe
173	YC	GOODWIN NECK RD	ROUTE 17	WOLF TRAP RD		1.05	2	2	8,795	13,300	A-C	Low to Mod.
238	YC	GOOSLEY RD	OLD WILLIAMSBURG RD	CRAWFORD RD		0.89	2	2	6,571	7,200	A-C	Low to Mod.
238	YC	GOOSLEY RD	CRAWFORD RD	ROUTE 17		0.30	2	2	6,571	7,900	A-C	Low to Mod.
238	YC	GOOSLEY RD	ROUTE 17	COOK RD		0.52	2	2	1,619	2,400	A-C	Low to Mod.
134	YC	HAMPTON HWY	ROUTE 17	VICTORY BLVD (RTE 171)		0.72	4	4	16,657	20,500	A-C	Low to Mod.
134	YC	HAMPTON HWY	VICTORY BLVD (RTE 171)	BIG BETHEL RD (RTE 600)		1.54	4	4	24,453	33,400	A-C	Low to Mod.
134	YC	HAMPTON HWY	BIG BETHEL RD (RTE 600)	NCL HAMPTON		1.77	4	4	23,632	32,600	A-C	Low to Mod.
64	YC	I-64	JAMES CITY CL	RTE 199/646	EB	1.12	2	2	66,152	120,800	F	Severe
					WB		2	2			F	Severe
64	YC	I-64	RTE 199/646	RTE 143	EB	4.29	2	3	63,608	123,300	D	Moderate
					WB		2	3			F	Severe
64	YC	I-64	RTE 143	RTE 199 (EAST OF WILLIAMSBURG)	EB	3.88	2	3	71,984	119,100	A-C	Low to Mod.
					WB		2	3			D	Moderate
64	YC	I-64	RTE 199 (EAST OF WILLIAMSBURG)	GROVE CONNECTOR	EB	1.14	3	3	89,516	126,300	A-C	Low to Mod.
					WB		3	3			D	Moderate
64	YC	I-64	GROVE CONNECTOR	JAMES CITY CL	EB	0.85	3	3	95,651	120,600	A-C	Low to Mod.
					WB		3	3			D	Moderate
646	YC	LIGHTFOOT RD	ROUTE 60	MOORETOWN RD		0.65	2	2	10,412	16,700	F	Severe
143	YC	MERRIMAC TRAIL	JAMES CITY CL	BUSCH GARDENS INTERCHANGE		0.66	4	4	9,992	8,000	A-C	Low to Mod.
143	YC	MERRIMAC TRAIL	BUSCH GARDENS INTERCHANGE	ROUTE 199/JAMES CITY CL		1.75	4	4	15,257	13,100	A-C	Low to Mod.
143	YC	MERRIMAC TRAIL	PENNIMAN RD/JAMES CITY CL	SECOND ST		0.50	4	4	18,000	25,500	A-C	Low to Mod.
143	YC	MERRIMAC TRAIL	SECOND ST	WILLIAMSBURG CL		0.26	2	2	7,402	16,200	A-C	Low to Mod.
143	YC	MERRIMAC TRAIL	WILLIAMSBURG CL	ROUTE 132		0.22	4	4	9,523	16,300	A-C	Low to Mod.

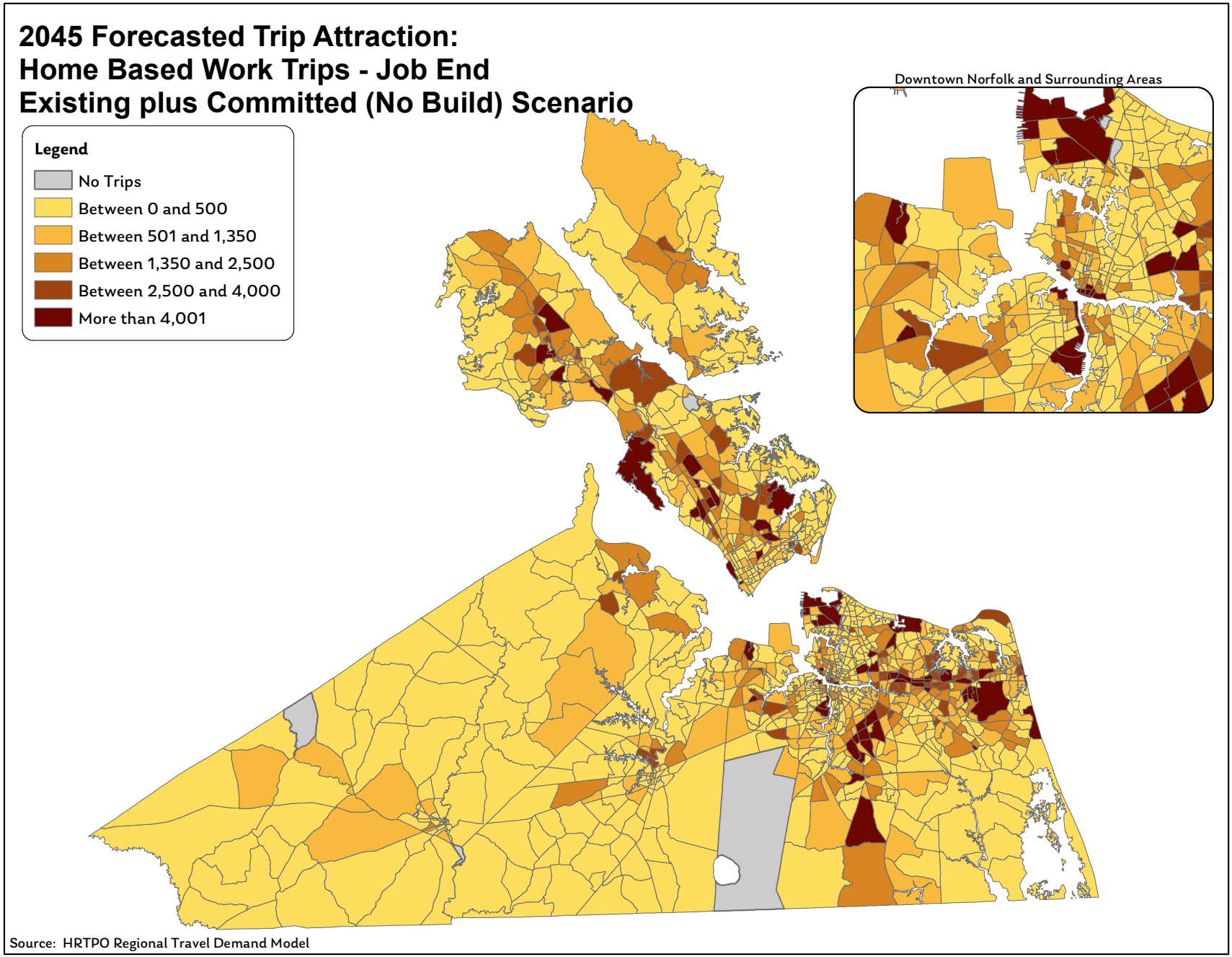
2045 LRTP Forecasted Volumes and Congestion Data

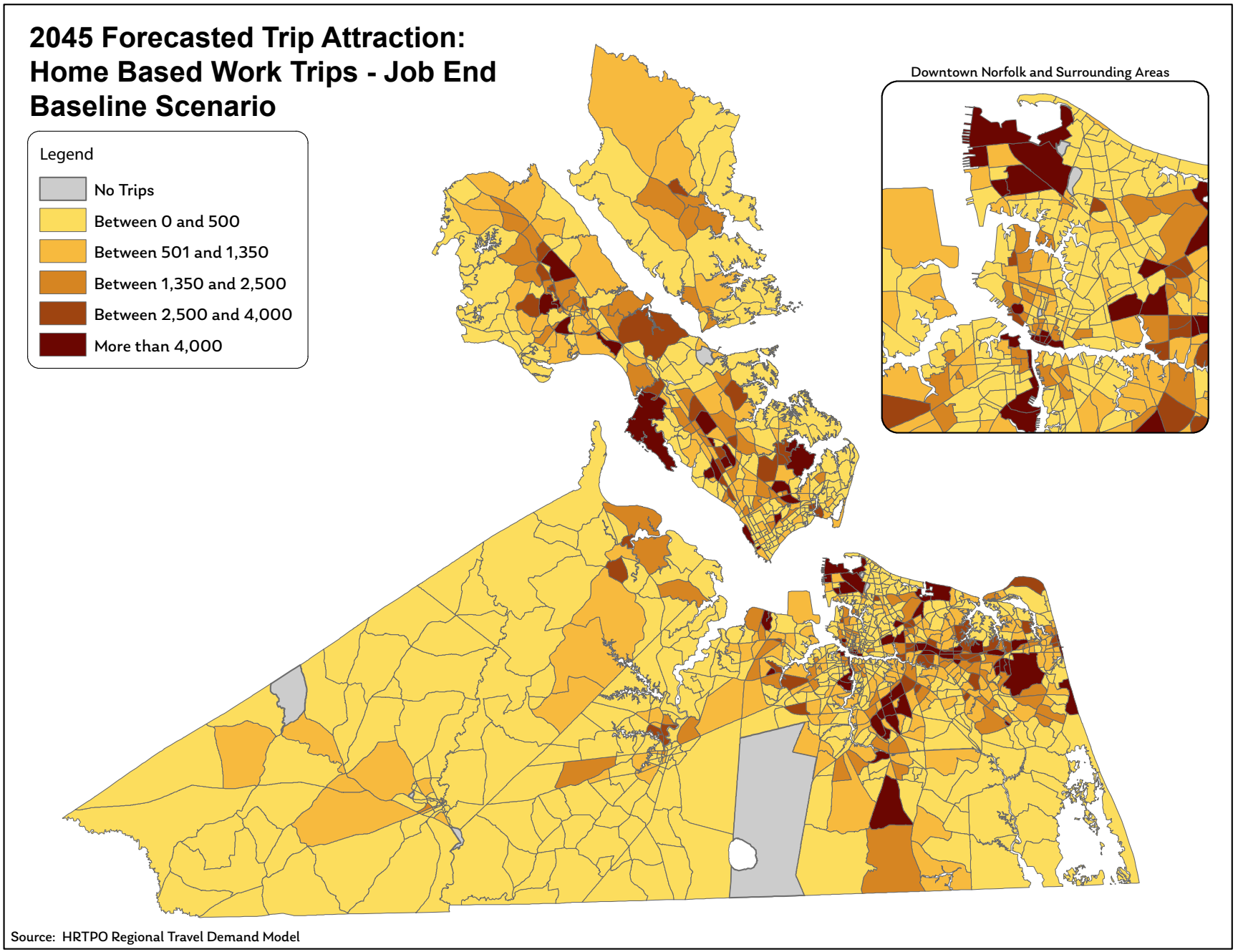
ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
603	YC	MOORETOWN RD	WALLER MILL RD	AIRPORT RD		1.96	2	2	6,919	9,600	A-C	Low to Mod.
603	YC	MOORETOWN RD	AIRPORT RD	OLD MOORETOWN RD		1.48	2	2	9,686	13,100	A-C	Low to Mod.
603	YC	MOORETOWN RD	OLD MOORETOWN RD	ROUTE 199		0.95	4	4	18,000	29,400	A-C	Low to Mod.
603	YC	MOORETOWN RD	ROUTE 199	LIGHTFOOT RD		0.15	4	4	15,000	33,600	A-C	Low to Mod.
603	YC	MOORETOWN RD	LIGHTFOOT RD	JAMES CITY CL		0.87	0	4	N/A	19,100	A-C	Low to Mod.
646	YC	NEWMAN RD	I-64	FENTON MILL RD		0.46	2	2	2,915	7,100	E	Severe
238	YC	OLD WILLIAMSBURG RD	NEWPORT NEWS CL	BAPTIST RD/MAIN RD		1.35	2	2	10,105	11,600	A-C	Low to Mod.
238	YC	OLD WILLIAMSBURG RD	BAPTIST RD/MAIN RD	GOOSLEY RD		0.91	2	2	9,449	10,000	A-C	Low to Mod.
641	YC	PENNIMAN RD (RTE 641)	ROUTE 199	COLONIAL PKWY		1.19	2	2	5,993	9,000	D	Moderate
60	YC	POCAHONTAS TRAIL	JCC LINE @ RTE 199	KINGSMILL RD		0.66	4	4	8,600	15,700	A-C	Low to Mod.
60	YC	POCAHONTAS TRAIL	KINGSMILL RD	BUSCH GARDENS INTERCHANGE		1.16	4	4	12,000	15,900	A-C	Low to Mod.
60	YC	POCAHONTAS TRAIL	BUSCH GARDENS INTERCHANGE	JAMES CITY CL		0.71	2	2	11,291	12,700	A-C	Low to Mod.
132	YC	ROUTE 132	BYPASS RD/WILLIAMSBURG CL	ROUTE 143		1.16	2	2	9,135	9,800	D	Moderate
143	YC	ROUTE 143	ROUTE 132	I-64		0.60	4	4	15,649	23,700	A-C	Low to Mod.
199	YC	ROUTE 199	RTE 60/RTE 143/JCC LINE	I-64		1.00	4	4	31,830	38,000	A-C	Low to Mod.
199	YC	ROUTE 199	I-64	MARQUIS PKWY		0.48	4	4	19,014	31,000	A-C	Low to Mod.
199	YC	ROUTE 199	MARQUIS PKWY	RTE 641 (PENNIMAN RD)		0.42	4	4	9,022	12,100	A-C	Low to Mod.
199	YC	ROUTE 199	JCC LINE (WESTSIDE)	MOORETOWN RD	EB	0.57	2	2	24,663	39,700	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
199	YC	ROUTE 199	MOORETOWN RD	I-64	EB	0.85	2	2	26,066	42,300	A-C	Low to Mod.
							2	2			A-C	Low to Mod.
162	YC	SECOND ST	WILLIAMSBURG CL	MERRIMAC TRAIL		0.17	4	4	13,700	17,900	A-C	Low to Mod.
171	YC	VICTORY BLVD	NEWPORT NEWS CL	ROUTE 17		0.85	6	6	43,910	42,100	A-C	Low to Mod.
171	YC	VICTORY BLVD	ROUTE 17	HAMPTON HWY (RTE 134)		0.35	4	6	31,361	40,100	A-C	Low to Mod.
171	YC	VICTORY BLVD	HAMPTON HWY (RTE 134)	BIG BETHEL RD (RTE 600)		1.02	2	2	20,040	21,600	F	Severe
171	YC	VICTORY BLVD	BIG BETHEL RD (RTE 600)	CARYS CHAPEL RD (RTE 782)		1.25	2	2	20,411	23,100	F	Severe
171	YC	VICTORY BLVD	CARYS CHAPEL RD (RTE 782)	POQUOSON CL		0.23	2	2	12,343	15,300	A-C	Low to Mod.
713	YC	WALLER MILL RD	ROUTE 60	MOORETOWN RD		0.18	4	4	4,616	6,500	A-C	Low to Mod.

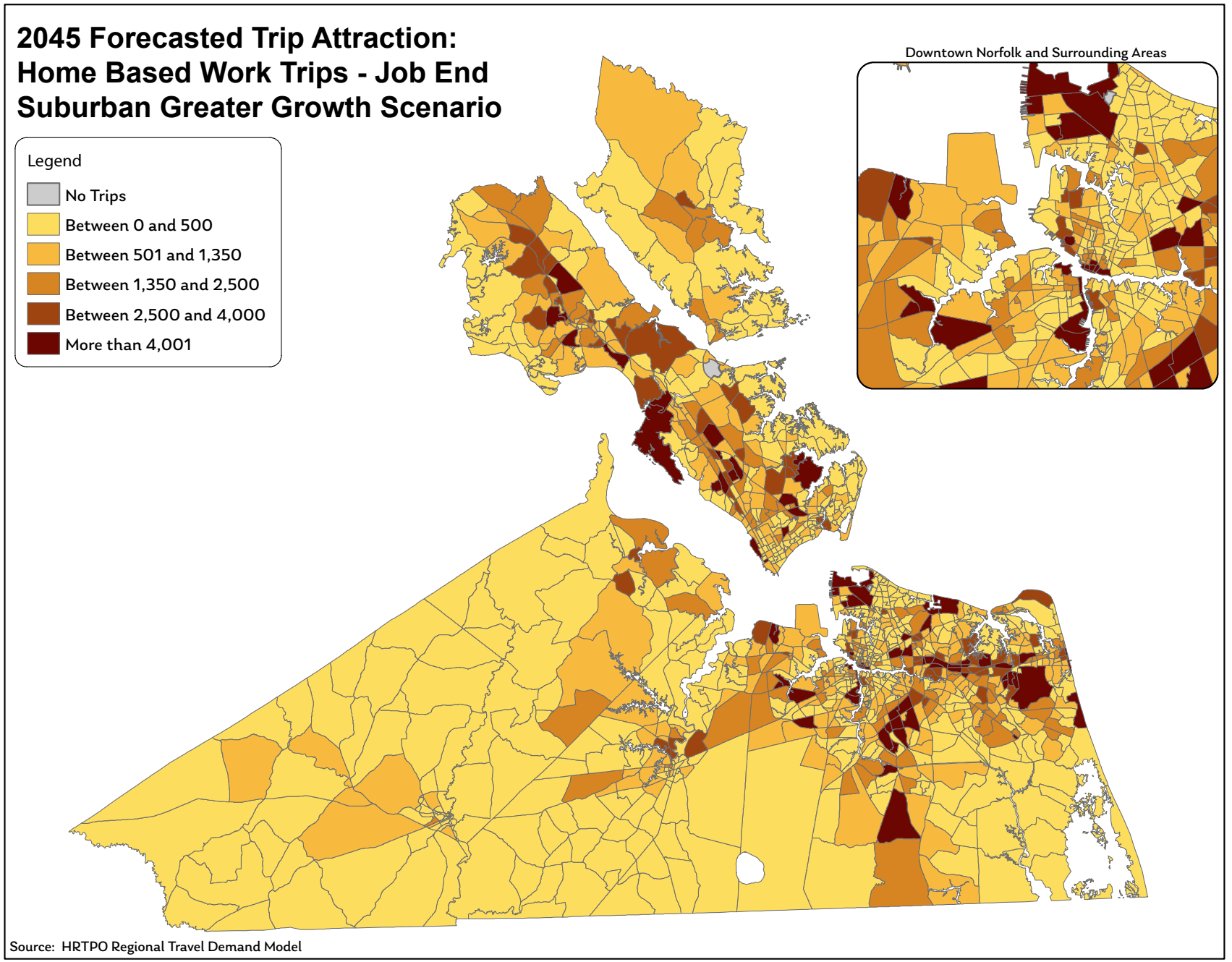
2045 LRTP Forecasted Volumes and Congestion Data

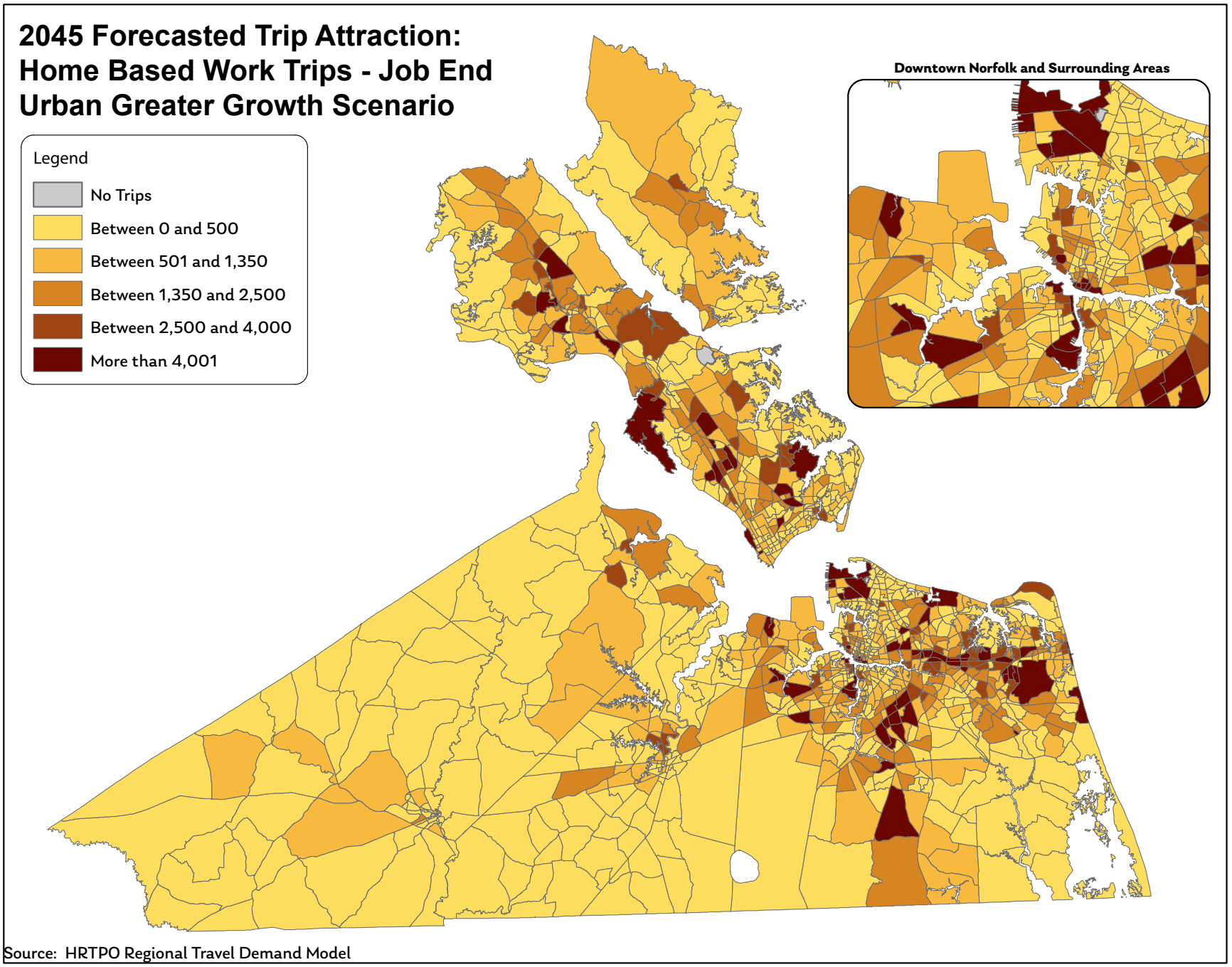
ROUTE #	JURIS NAME	FACILITY NAME	SEGMENT FROM	SEGMENT TO	DIR	SEGMENT LENGTH (MILES)	EXISTING LANES	2045 LANES	MOST RECENT WEEKDAY COUNT	2045 FORECAST VOLUME	2045 PM PEAK PERIOD LEVEL OF SERVICE	2045 PM PEAK PERIOD CONGESTION LEVEL
603	YC	MOORETOWN RD	WALLER MILL RD	AIRPORT RD		1.96	2	2	6,919	9,600	A-C	Low to Mod.
603	YC	MOORETOWN RD	AIRPORT RD	OLD MOORETOWN RD		1.48	2	2	9,686	13,100	A-C	Low to Mod.
603	YC	MOORETOWN RD	OLD MOORETOWN RD	ROUTE 199		0.95	4	4	18,000	29,400	A-C	Low to Mod.
603	YC	MOORETOWN RD	ROUTE 199	LIGHTFOOT RD		0.15	4	4	15,000	33,600	A-C	Low to Mod.
603	YC	MOORETOWN RD	LIGHTFOOT RD	JAMES CITY CL		0.87	0	4	N/A	19,100	A-C	Low to Mod.
646	YC	NEWMAN RD	I-64	FENTON MILL RD		0.46	2	2	2,915	7,100	E	Severe
238	YC	OLD WILLIAMSBURG RD	NEWPORT NEWS CL	BAPTIST RD/MAIN RD		1.35	2	2	10,105	11,600	A-C	Low to Mod.
238	YC	OLD WILLIAMSBURG RD	BAPTIST RD/MAIN RD	GOOSLEY RD		0.91	2	2	9,449	10,000	A-C	Low to Mod.
641	YC	PENNIMAN RD (RTE 641)	ROUTE 199	COLONIAL PKWY		1.19	2	2	5,993	9,000	D	Moderate
60	YC	POCAHONTAS TRAIL	JCC LINE @ RTE 199	KINGSMILL RD		0.66	4	4	8,600	15,700	A-C	Low to Mod.
60	YC	POCAHONTAS TRAIL	KINGSMILL RD	BUSCH GARDENS INTERCHANGE		1.16	4	4	12,000	15,900	A-C	Low to Mod.
60	YC	POCAHONTAS TRAIL	BUSCH GARDENS INTERCHANGE	JAMES CITY CL		0.71	2	2	11,291	12,700	A-C	Low to Mod.
132	YC	ROUTE 132	BYPASS RD/WILLIAMSBURG CL	ROUTE 143		1.16	2	2	9,135	9,800	D	Moderate
143	YC	ROUTE 143	ROUTE 132	I-64		0.60	4	4	15,649	23,700	A-C	Low to Mod.
199	YC	ROUTE 199	RTE 60/RTE 143/JCC LINE	I-64		1.00	4	4	31,830	38,000	A-C	Low to Mod.
199	YC	ROUTE 199	I-64	MARQUIS PKWY		0.48	4	4	19,014	31,000	A-C	Low to Mod.
199	YC	ROUTE 199	MARQUIS PKWY	RTE 641 (PENNIMAN RD)		0.42	4	4	9,022	12,100	A-C	Low to Mod.
199	YC	ROUTE 199	JCC LINE (WESTSIDE)	MOORETOWN RD	EB	0.57	2	2	24,663	39,700	A-C	Low to Mod.
					WB		2	2			A-C	Low to Mod.
199	YC	ROUTE 199	MOORETOWN RD	I-64	EB	0.85	2	2	26,066	42,300	A-C	Low to Mod.
							2	2			A-C	Low to Mod.
162	YC	SECOND ST	WILLIAMSBURG CL	MERRIMAC TRAIL		0.17	4	4	13,700	17,900	A-C	Low to Mod.
171	YC	VICTORY BLVD	NEWPORT NEWS CL	ROUTE 17		0.85	6	6	43,910	42,100	A-C	Low to Mod.
171	YC	VICTORY BLVD	ROUTE 17	HAMPTON HWY (RTE 134)		0.35	4	6	31,361	40,100	A-C	Low to Mod.
171	YC	VICTORY BLVD	HAMPTON HWY (RTE 134)	BIG BETHEL RD (RTE 600)		1.02	2	2	20,040	21,600	F	Severe
171	YC	VICTORY BLVD	BIG BETHEL RD (RTE 600)	CARYS CHAPEL RD (RTE 782)		1.25	2	2	20,411	23,100	F	Severe
171	YC	VICTORY BLVD	CARYS CHAPEL RD (RTE 782)	POQUOSON CL		0.23	2	2	12,343	15,300	A-C	Low to Mod.
713	YC	WALLER MILL RD	ROUTE 60	MOORETOWN RD		0.18	4	4	4,616	6,500	A-C	Low to Mod.

APPENDIX A

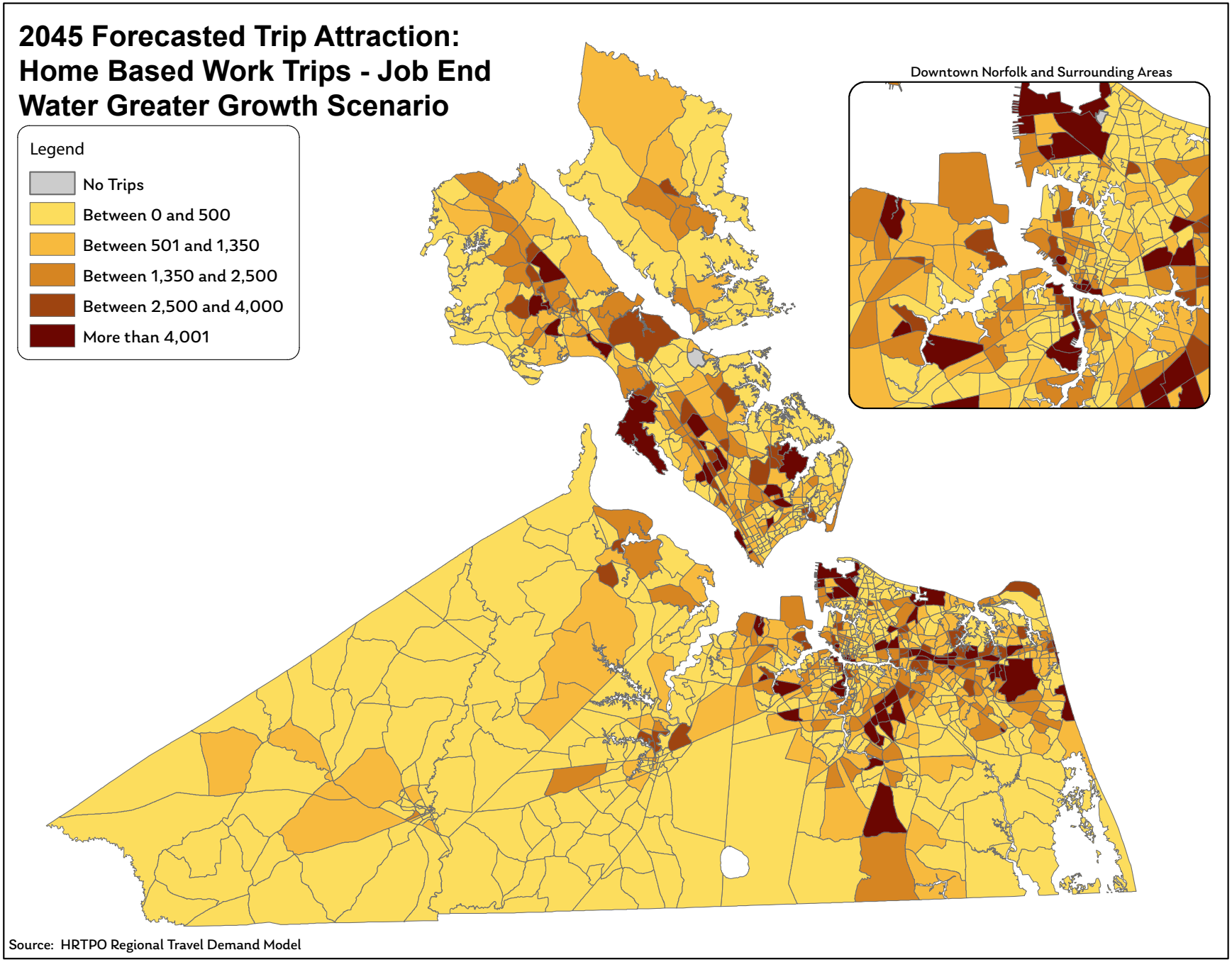

2045 Forecasted Trip Attraction:
Home Based Work Trips - Job End
Existing plus Committed (No Build) Scenario
Legend
No Trips
Between 0 and 500
Between 501 and 1,350
Between 1,350 and 2,500
Between 2,500 and 4,000
More than 4,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model


2045 Forecasted Trip Attraction:
Home Based Work Trips - Job End
Baseline Scenario
Legend
No Trips
Between 0 and 500
Between 501 and 1,350
Between 1,350 and 2,500
Between 2,500 and 4,000
More than 4,000
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model


2045 Forecasted Trip Attraction:
Home Based Work Trips - Job End
Suburban Greater Growth Scenario
Legend
No Trips
Between 0 and 500
Between 501 and 1,350
Between 1,350 and 2,500
Between 2,500 and 4,000
More than 4,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

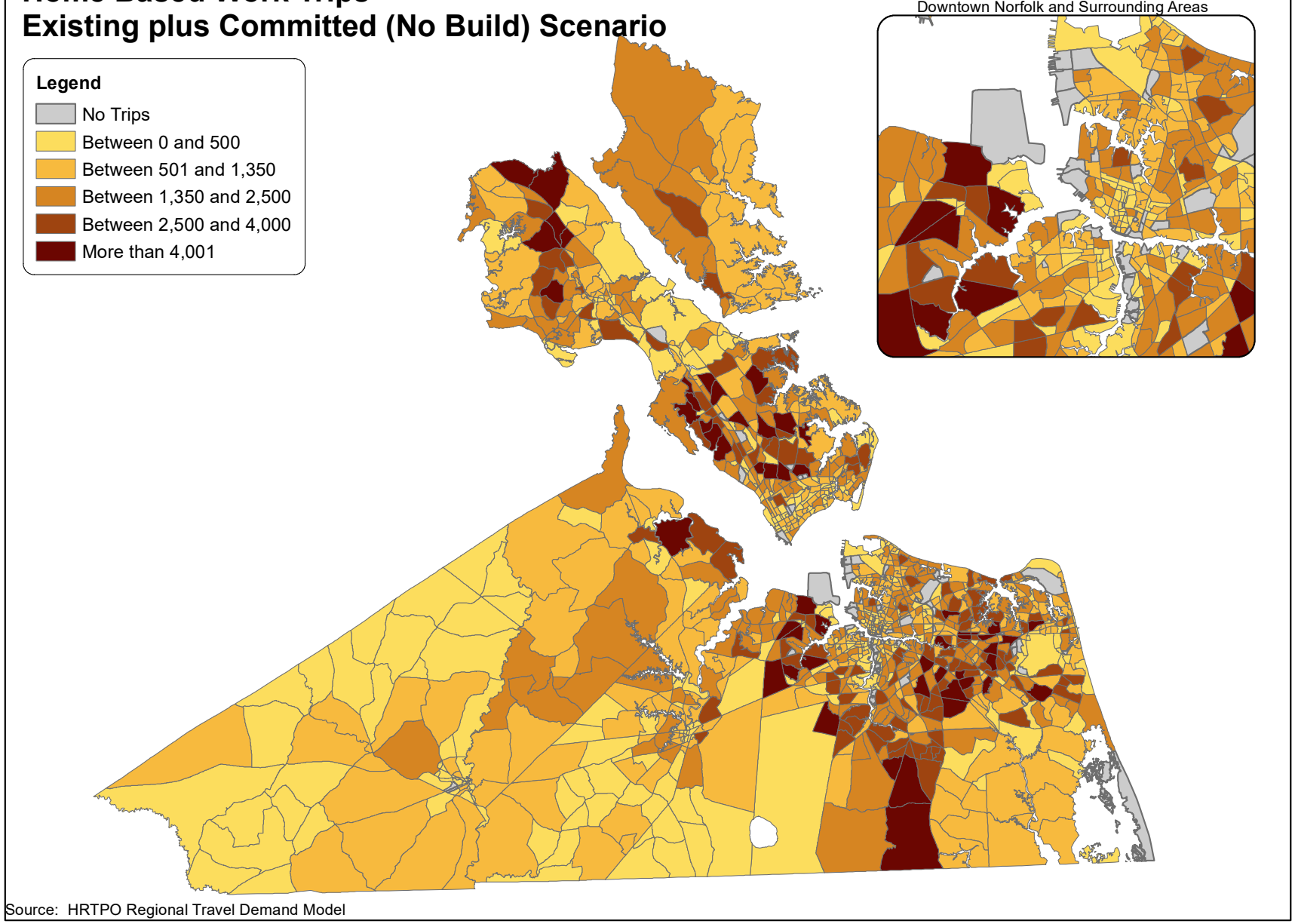


Source: HRTPO Regional Travel Demand Model

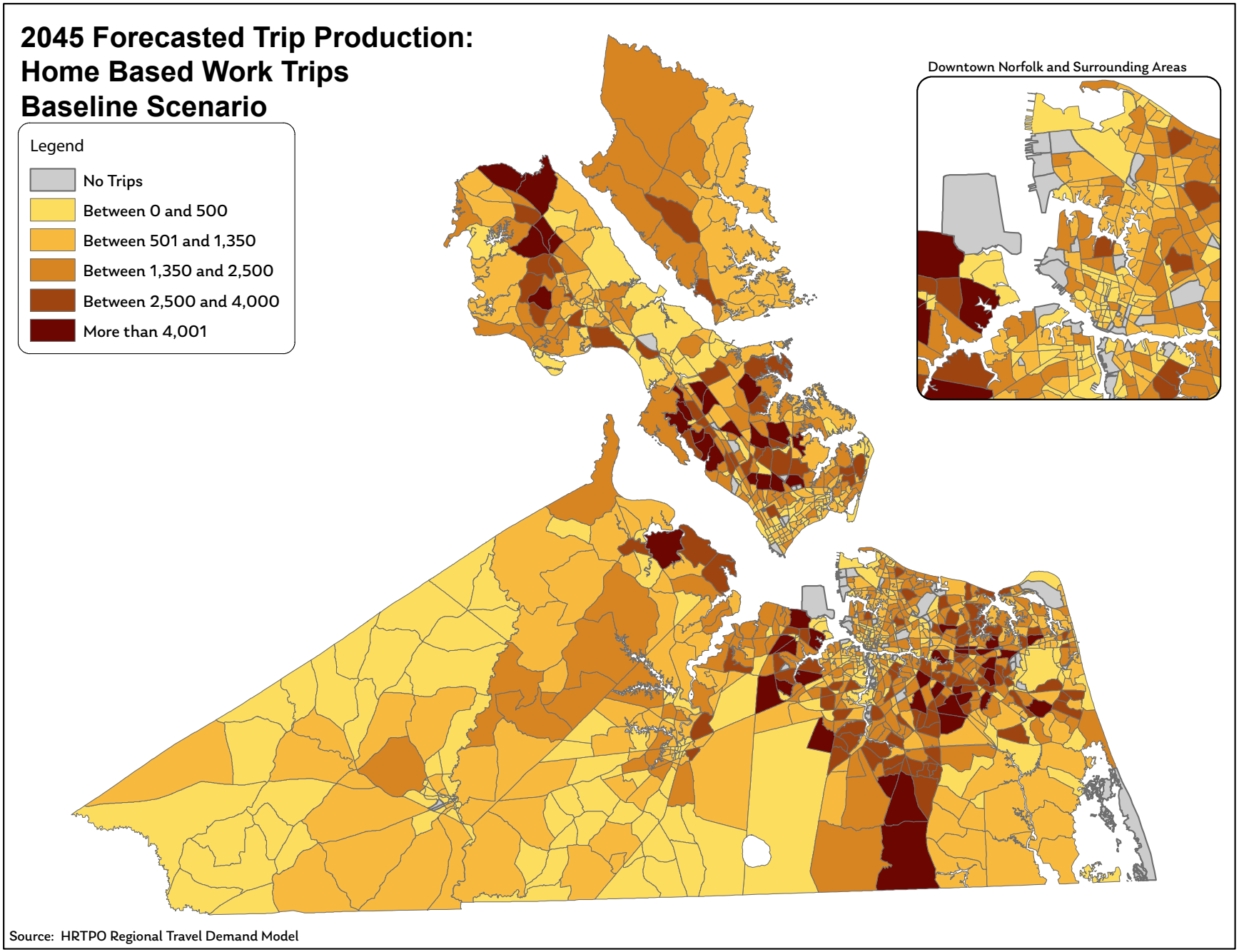


Source: HRTPO Regional Travel Demand Model

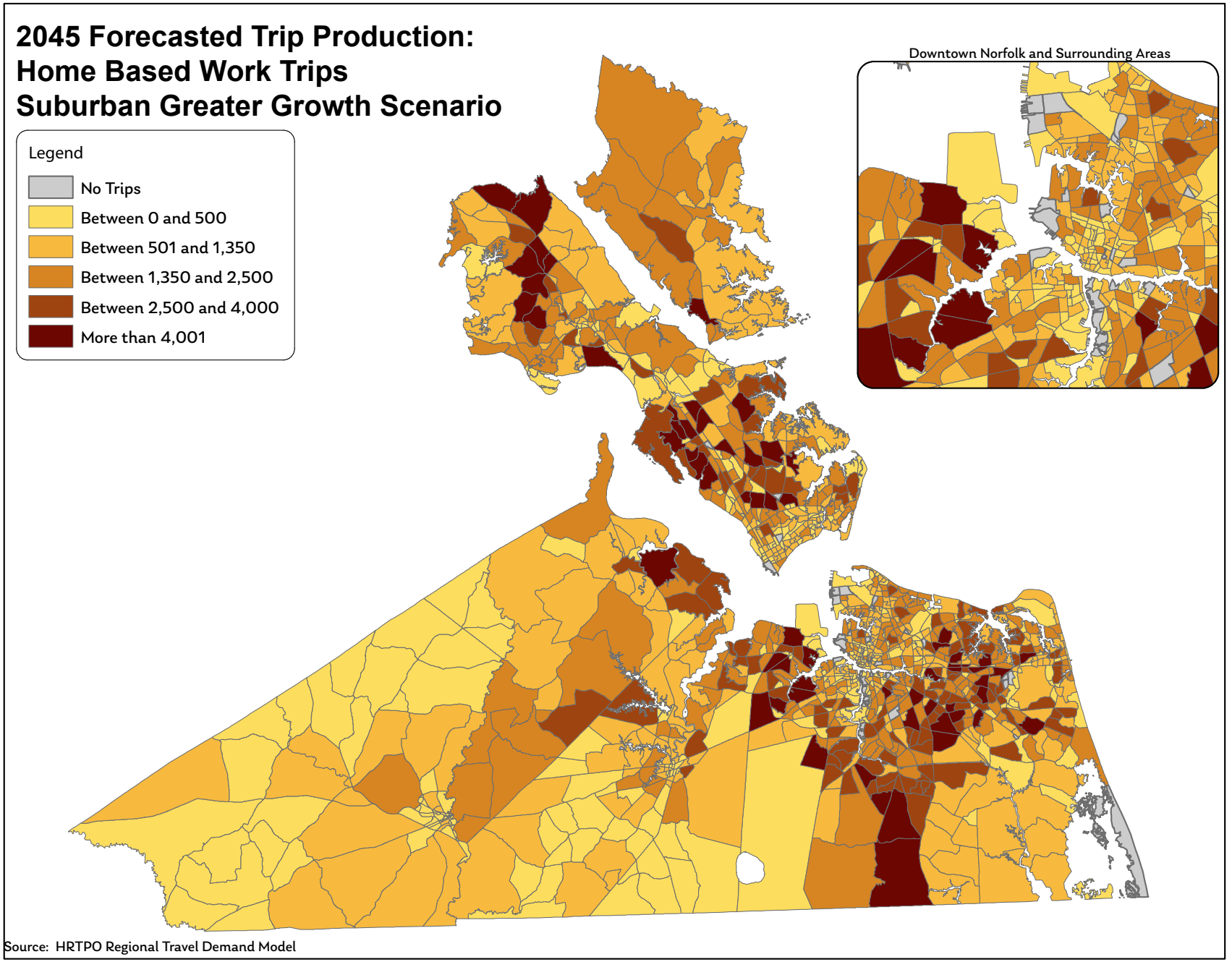
2045 Forecasted Trip Production: Home Based Work Trips Existing plus Committed (No Build) Scenario



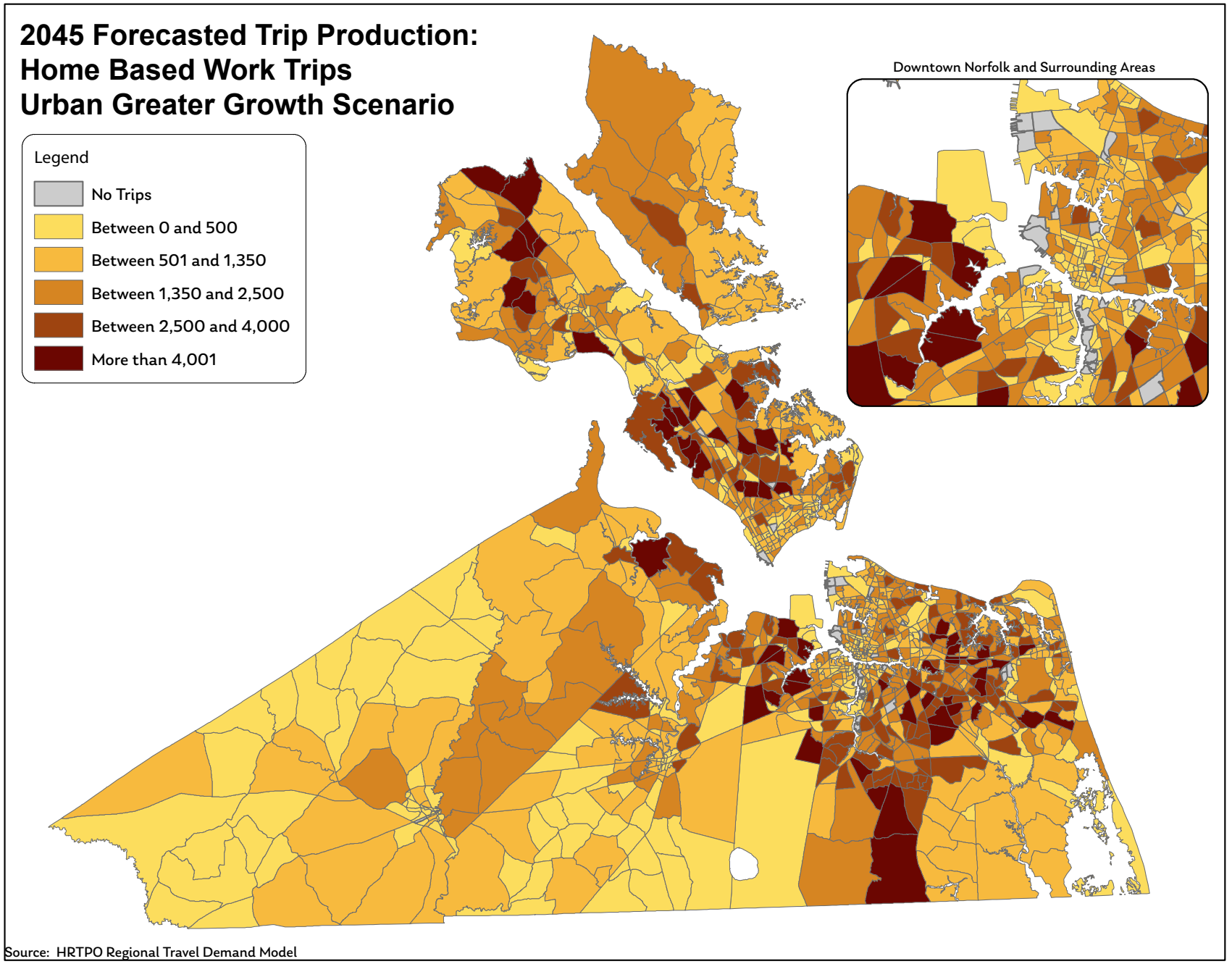
Source: HRTPO Regional Travel Demand Model



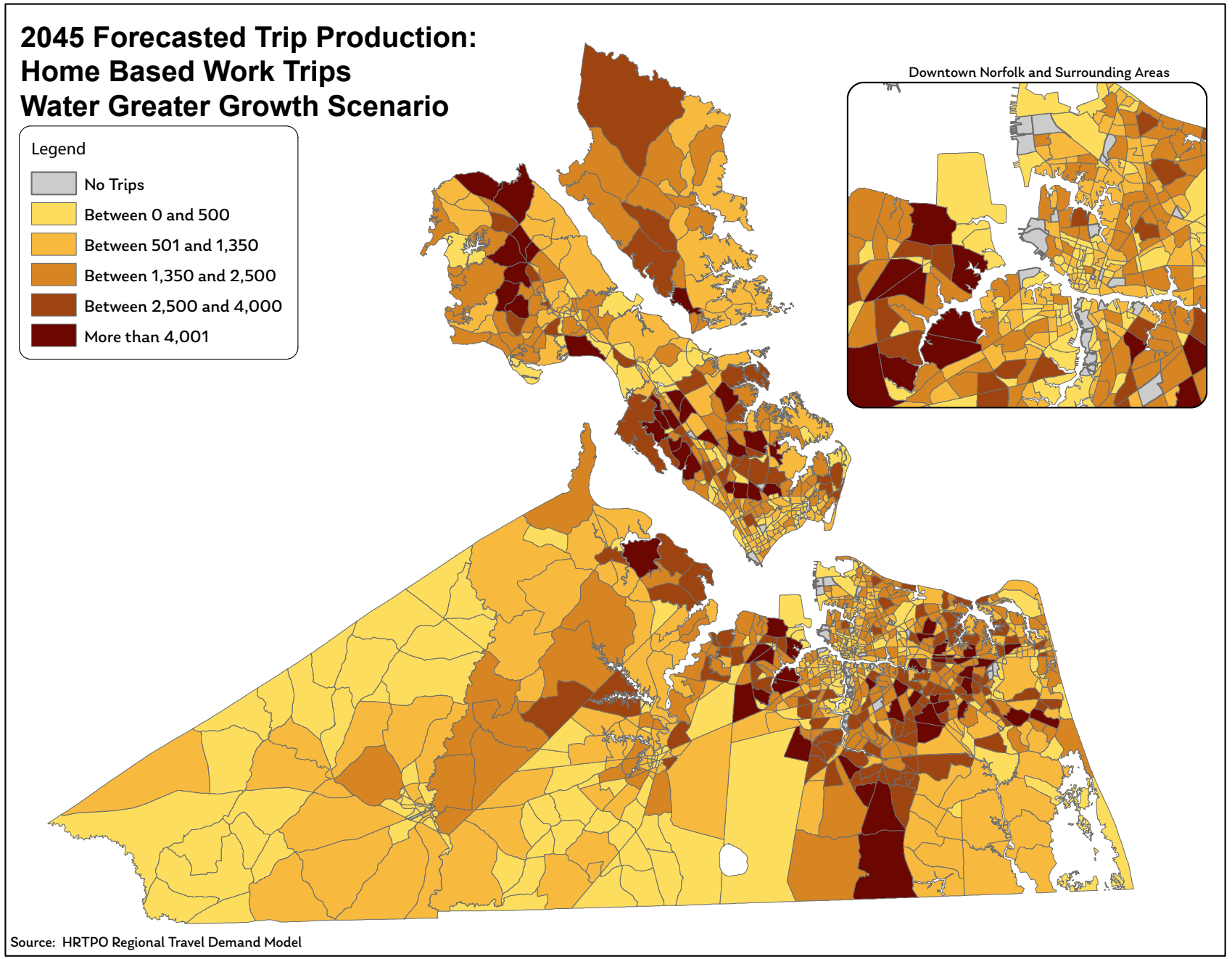
Source: HRTPO Regional Travel Demand Model



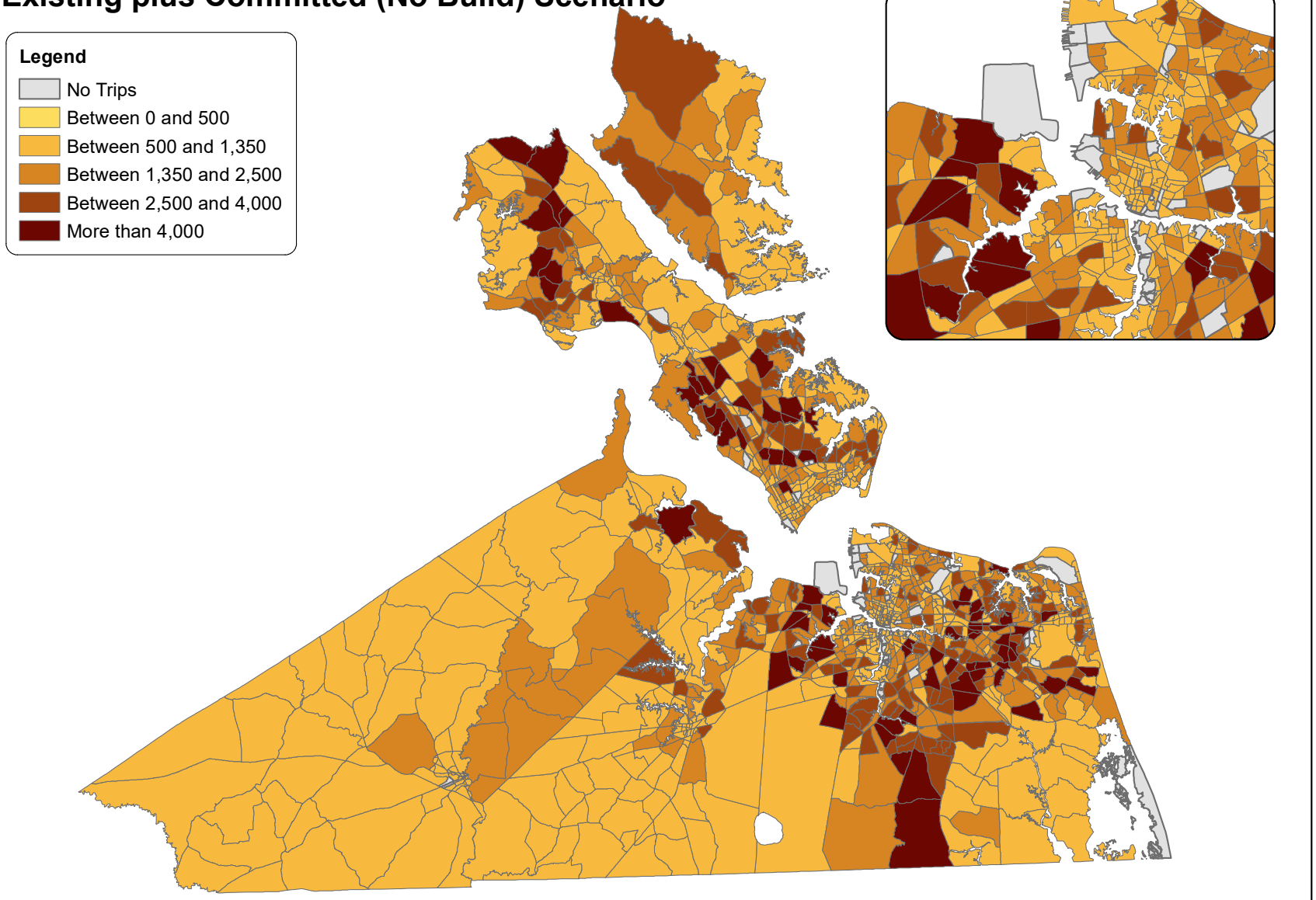
Source: HRTPO Regional Travel Demand Model



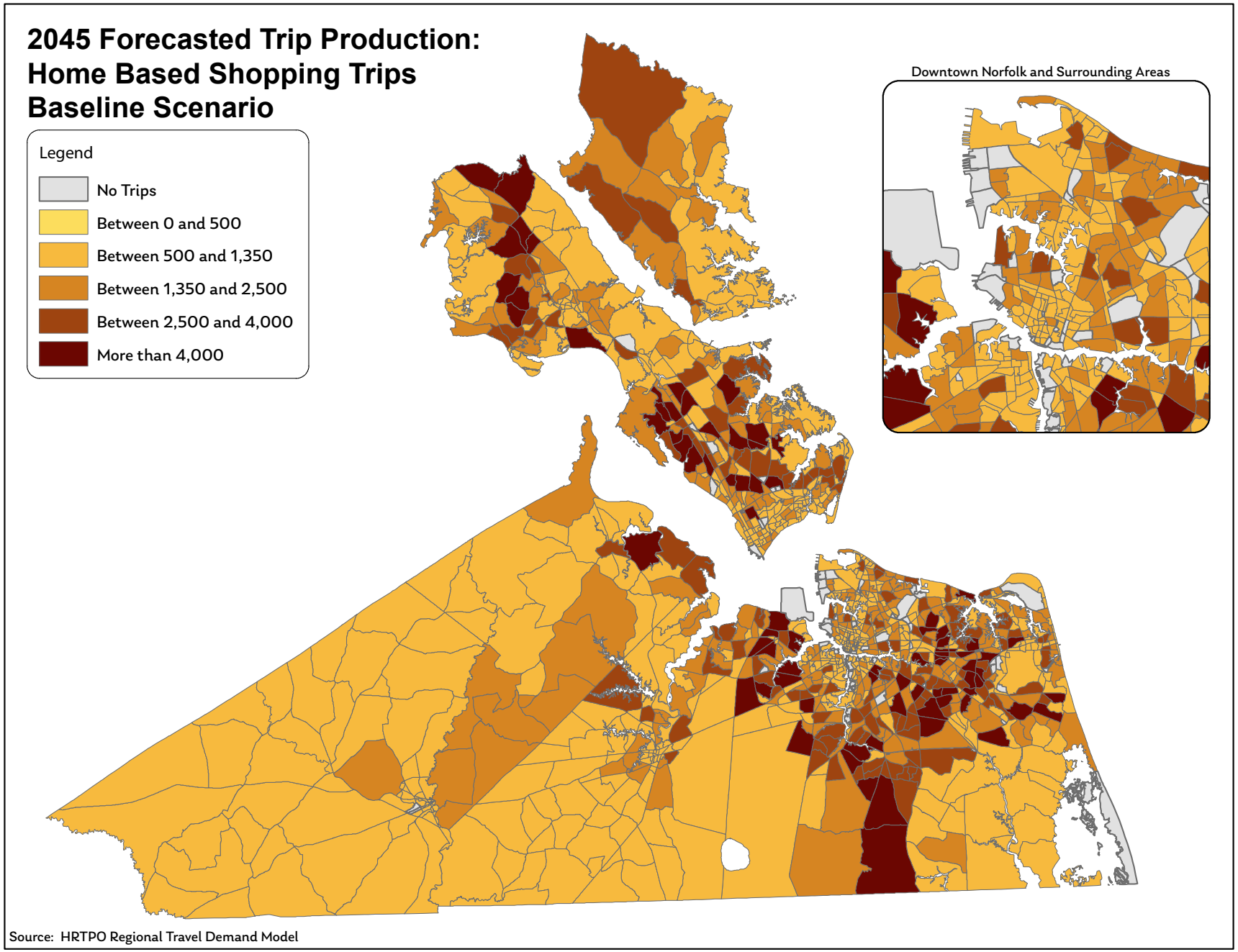
Source: HRTPO Regional Travel Demand Model

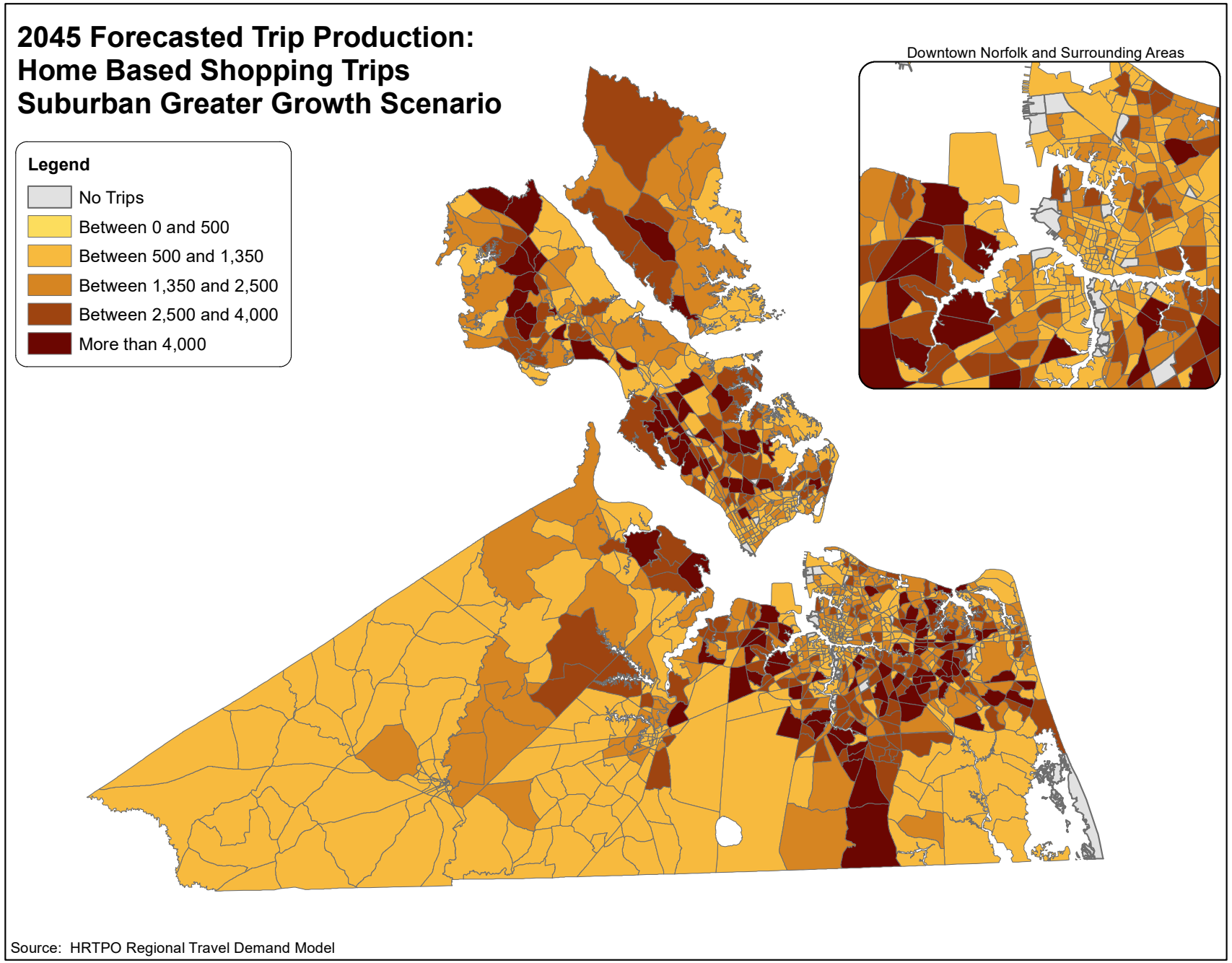

2045 Forecasted Trip Production:
Home Based Work Trips
Water Greater Growth Scenario
Legend
No Trips
Between 0 and 500
Between 501 and 1,350
Between 1,350 and 2,500
Between 2,500 and 4,000
More than 4,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

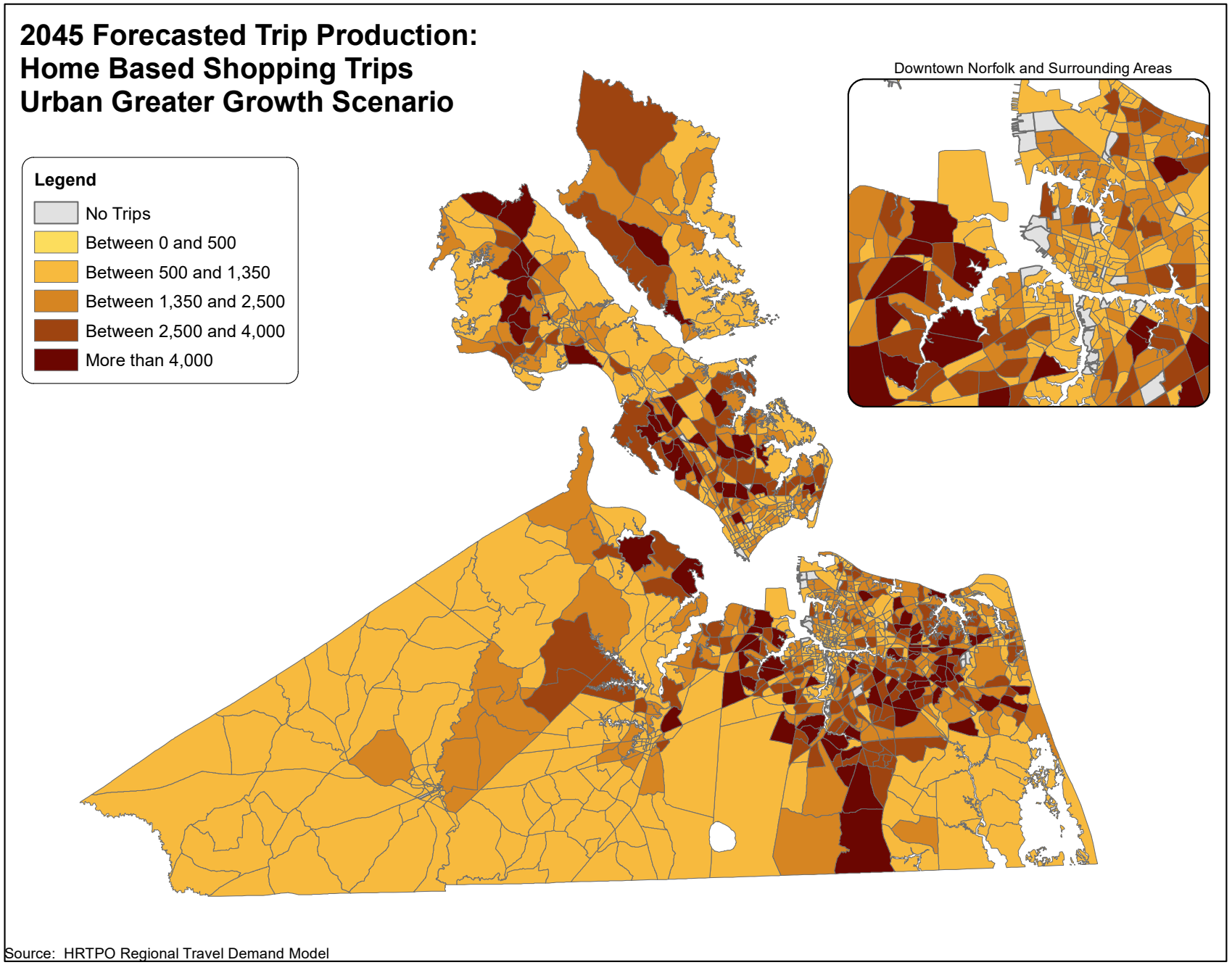
2045 ForecastedTrip Production: Home Based Shopping Trips Existing plus Committed (No Build) Scenario



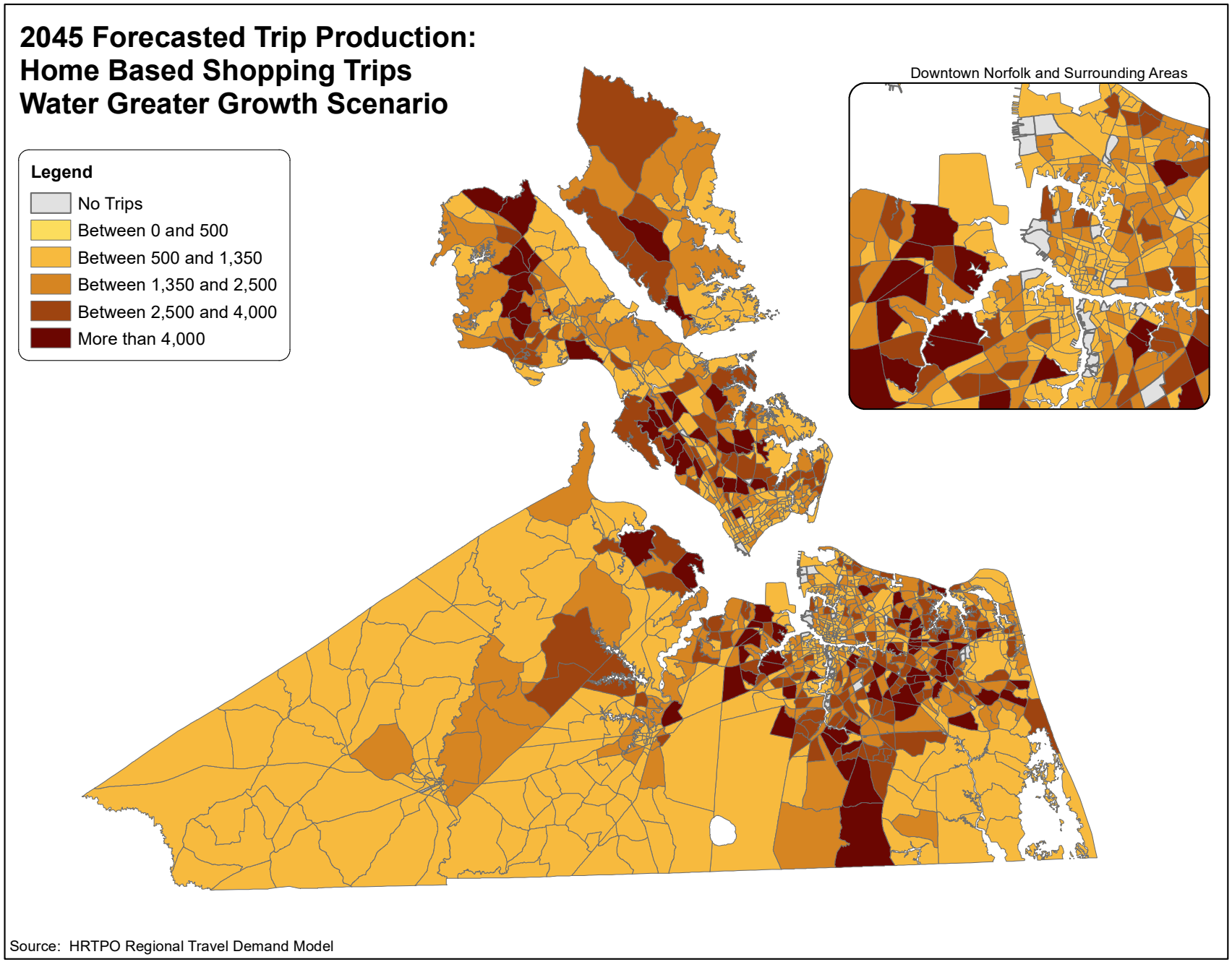
Source: HRTPO Regional Travel Demand Model


2045 Forecasted Trip Production:
Home Based Shopping Trips
Baseline Scenario
Legend
No Trips
Between 0 and 500
Between 500 and 1,350
Between 1,350 and 2,500
Between 2,500 and 4,000
More than 4,000
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

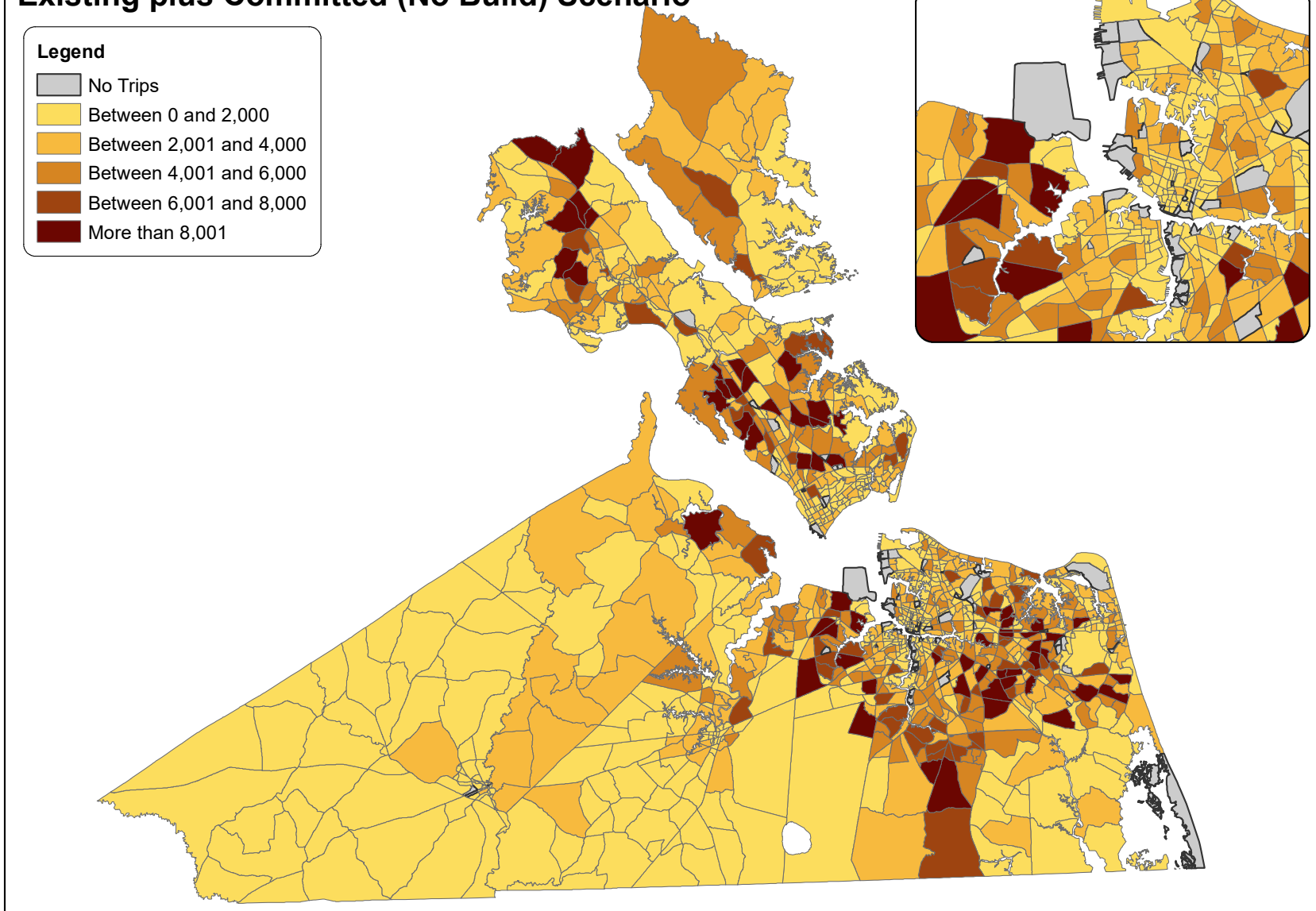

2045 Forecasted Trip Production:
Home Based Shopping Trips
Suburban Greater Growth Scenario
Legend
No Trips
Between 0 and 500
Between 500 and 1,350
Between 1,350 and 2,500
Between 2,500 and 4,000
More than 4,000
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model



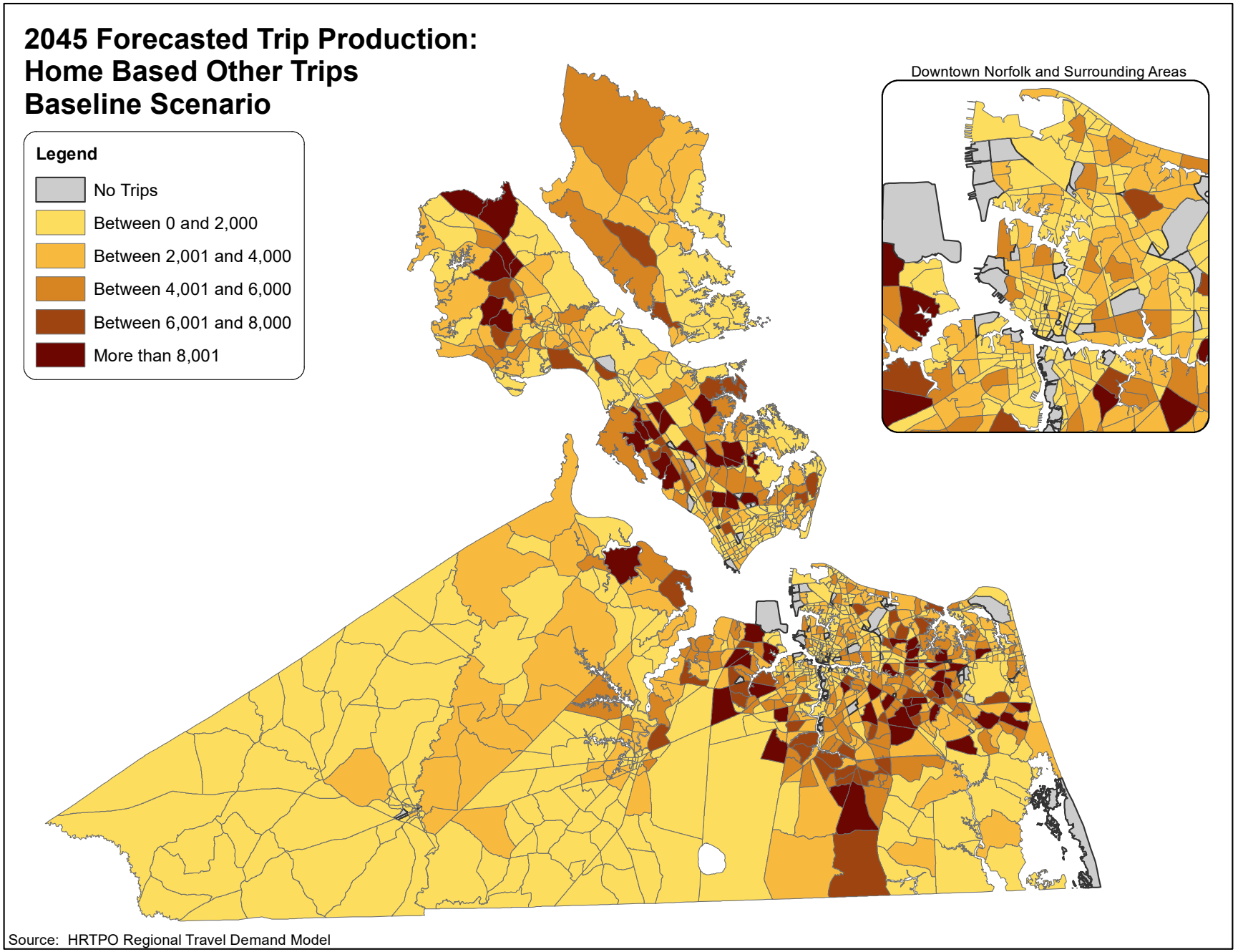
Source: HRTPO Regional Travel Demand Model


2045 Forecasted Trip Production:
Home Based Shopping Trips
Water Greater Growth Scenario
Legend
No Trips
Between 0 and 500
Between 500 and 1,350
Between 1,350 and 2,500
Between 2,500 and 4,000
More than 4,000
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

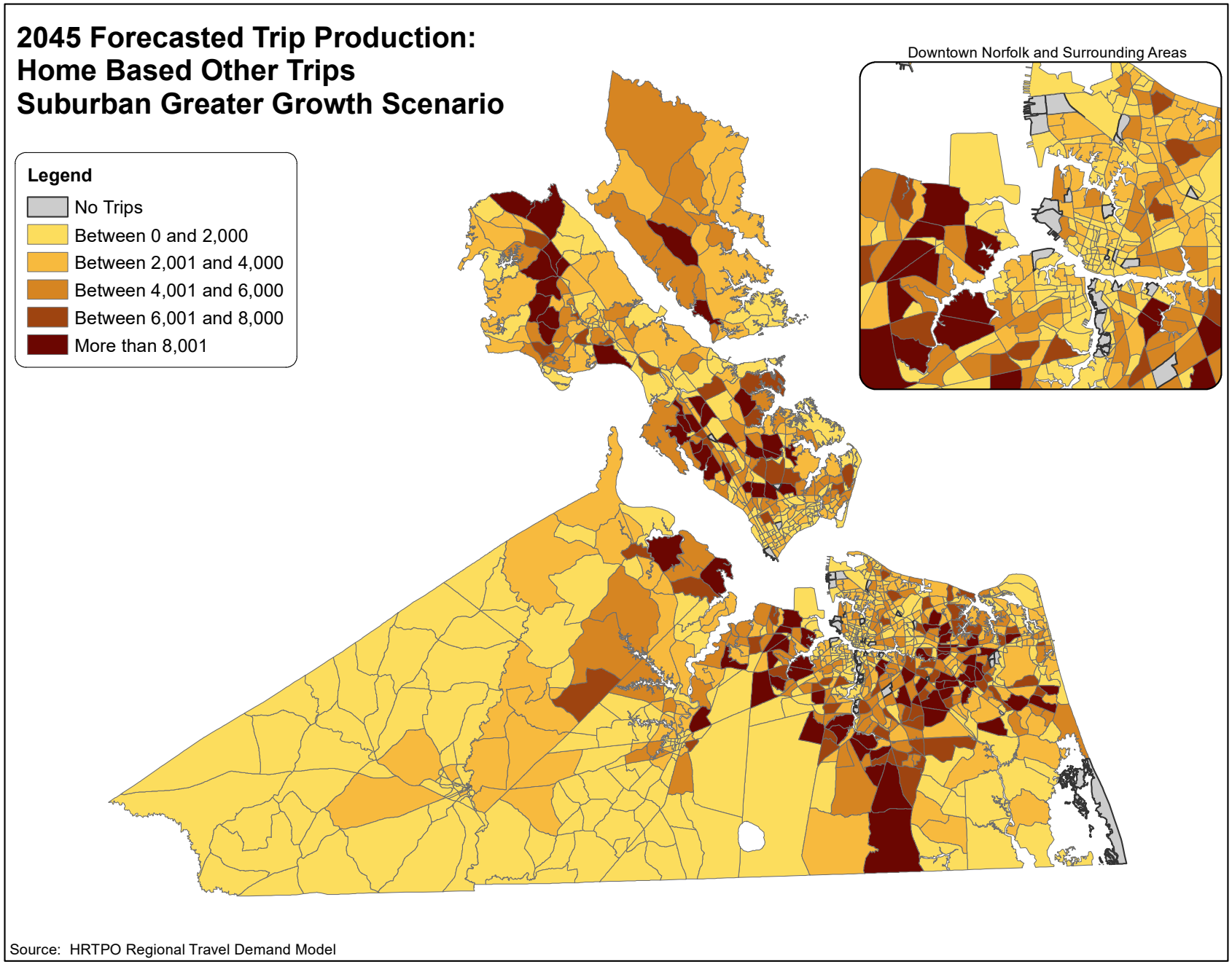
2045 Forecasted Trip Production:
Home Based Other Trips
Existing plus Committed (No Build) Scenario

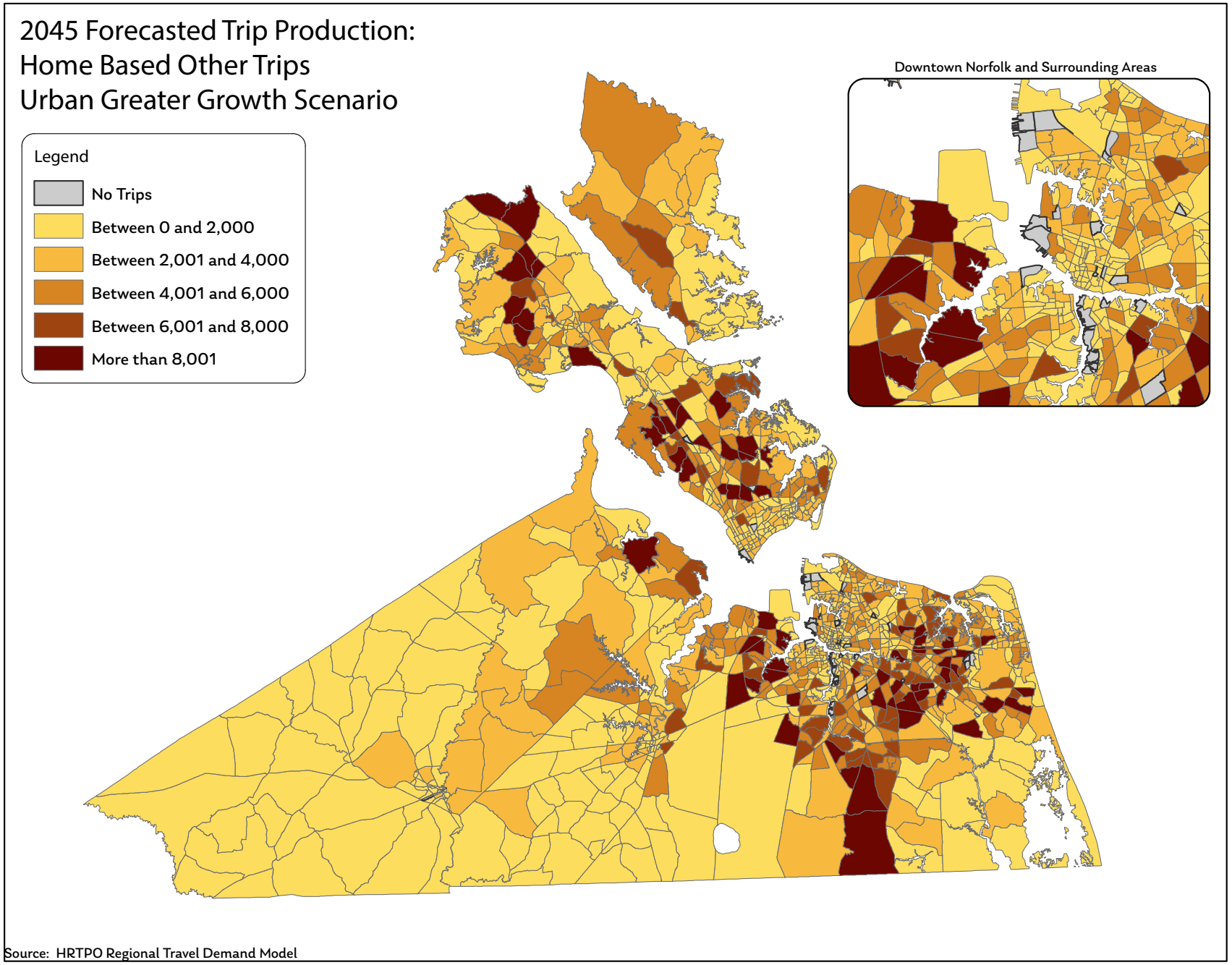


Source: HRTPO Regional Travel Demand Model

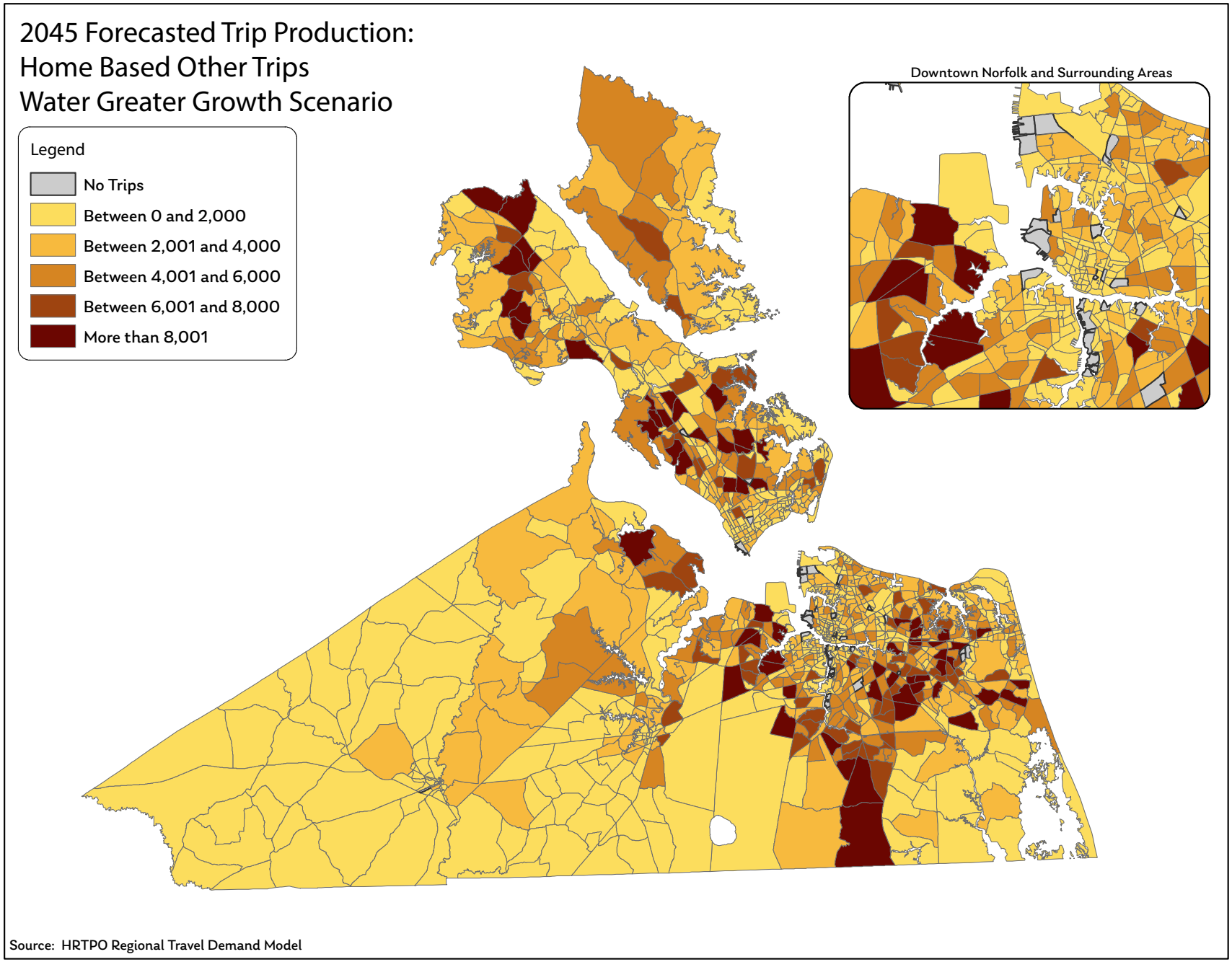


Source: HRTPO Regional Travel Demand Model

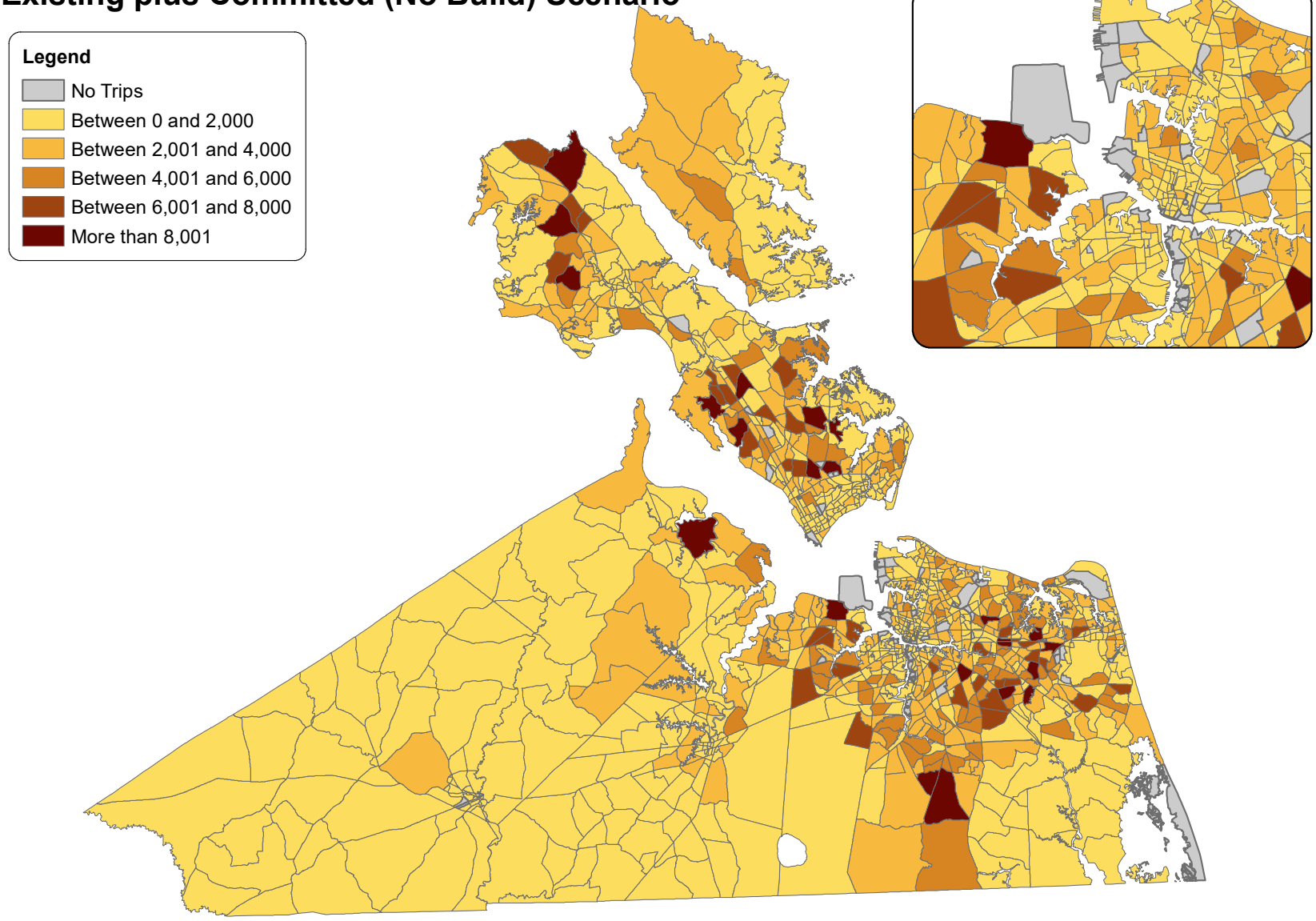

2045 Forecasted Trip Production:
Home Based Other Trips
Suburban Greater Growth Scenario
Legend
No Trips
Between 0 and 2,000
Between 2,001 and 4,000
Between 4,001 and 6,000
Between 6,001 and 8,000
More than 8,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model



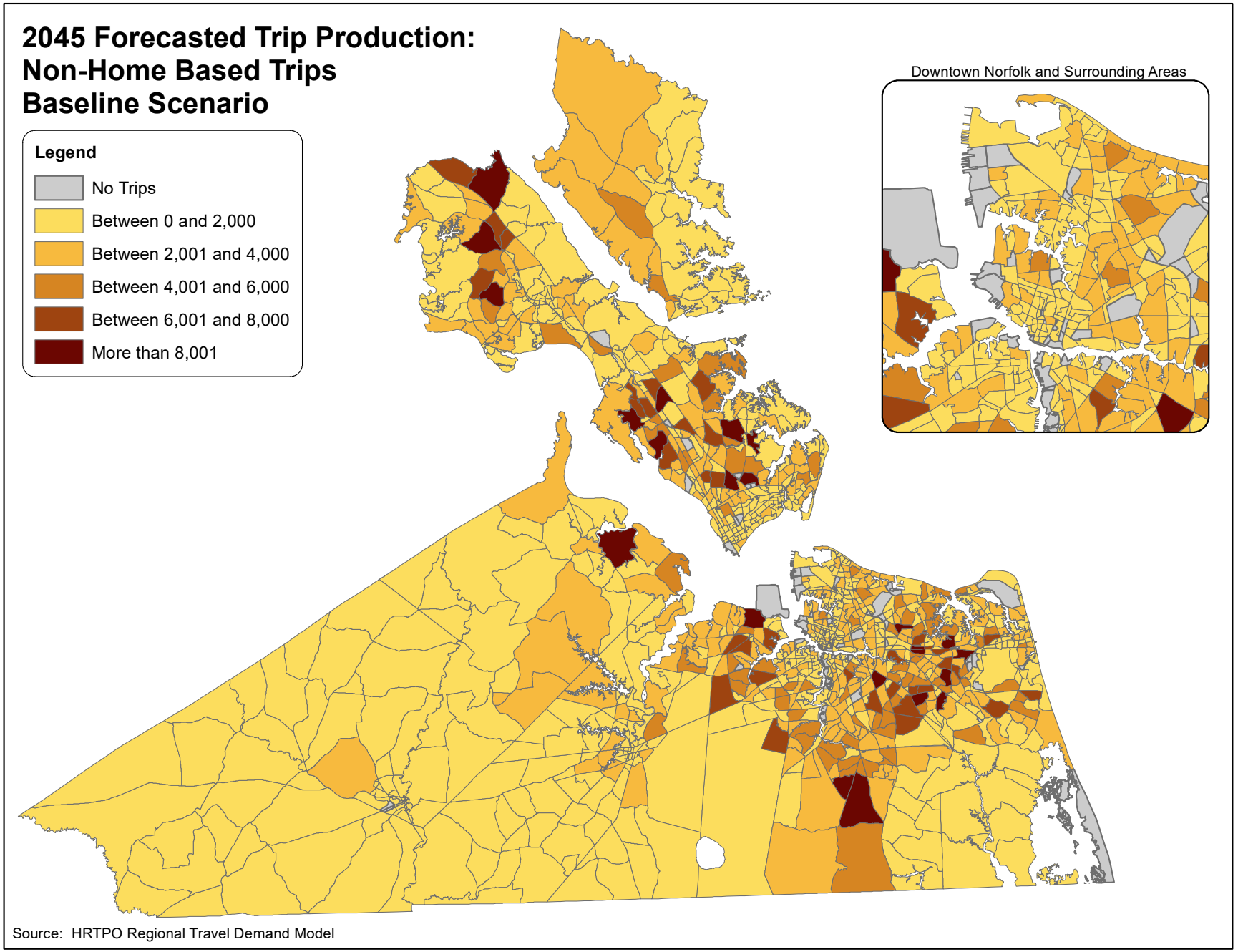
Source: HRTPO Regional Travel Demand Model

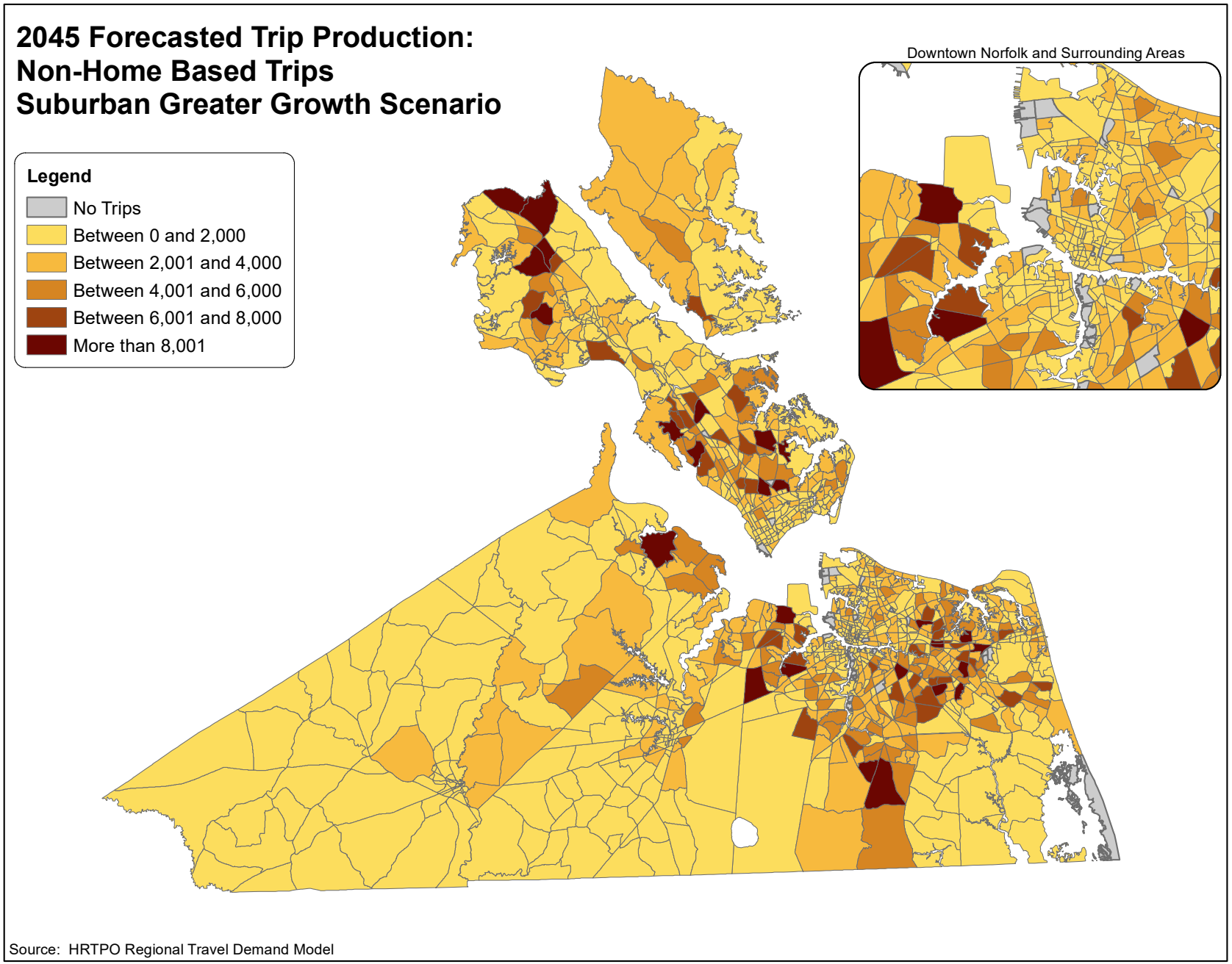

2045 Forecasted Trip Production:
Home Based Other Trips
Water Greater Growth Scenario
Legend
No Trips
Between 0 and 2,000
Between 2,001 and 4,000
Between 4,001 and 6,000
Between 6,001 and 8,000
More than 8,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

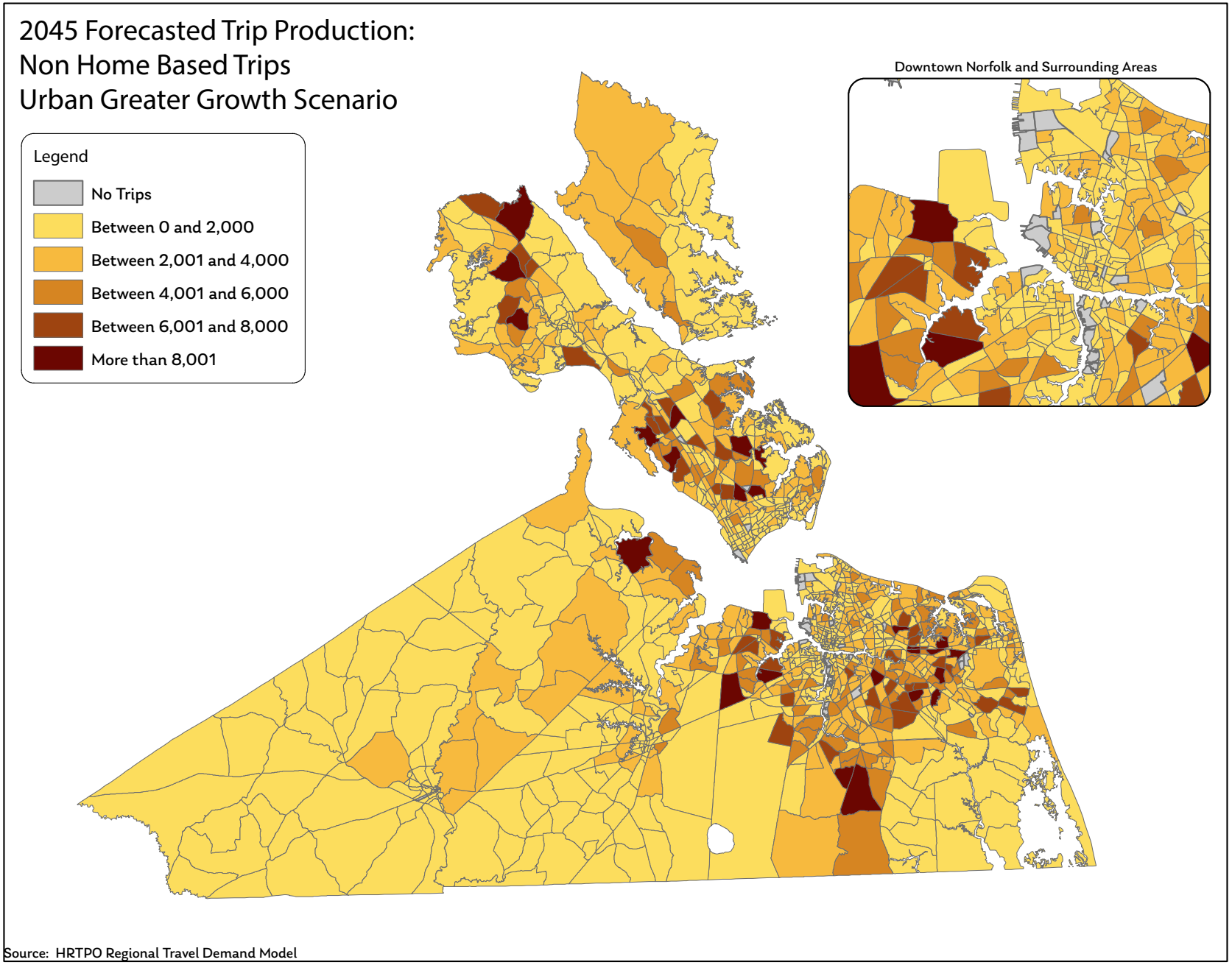
2045 Forecasted Trip Production: Non-Home Based Trips Existing plus Committed (No Build) Scenario



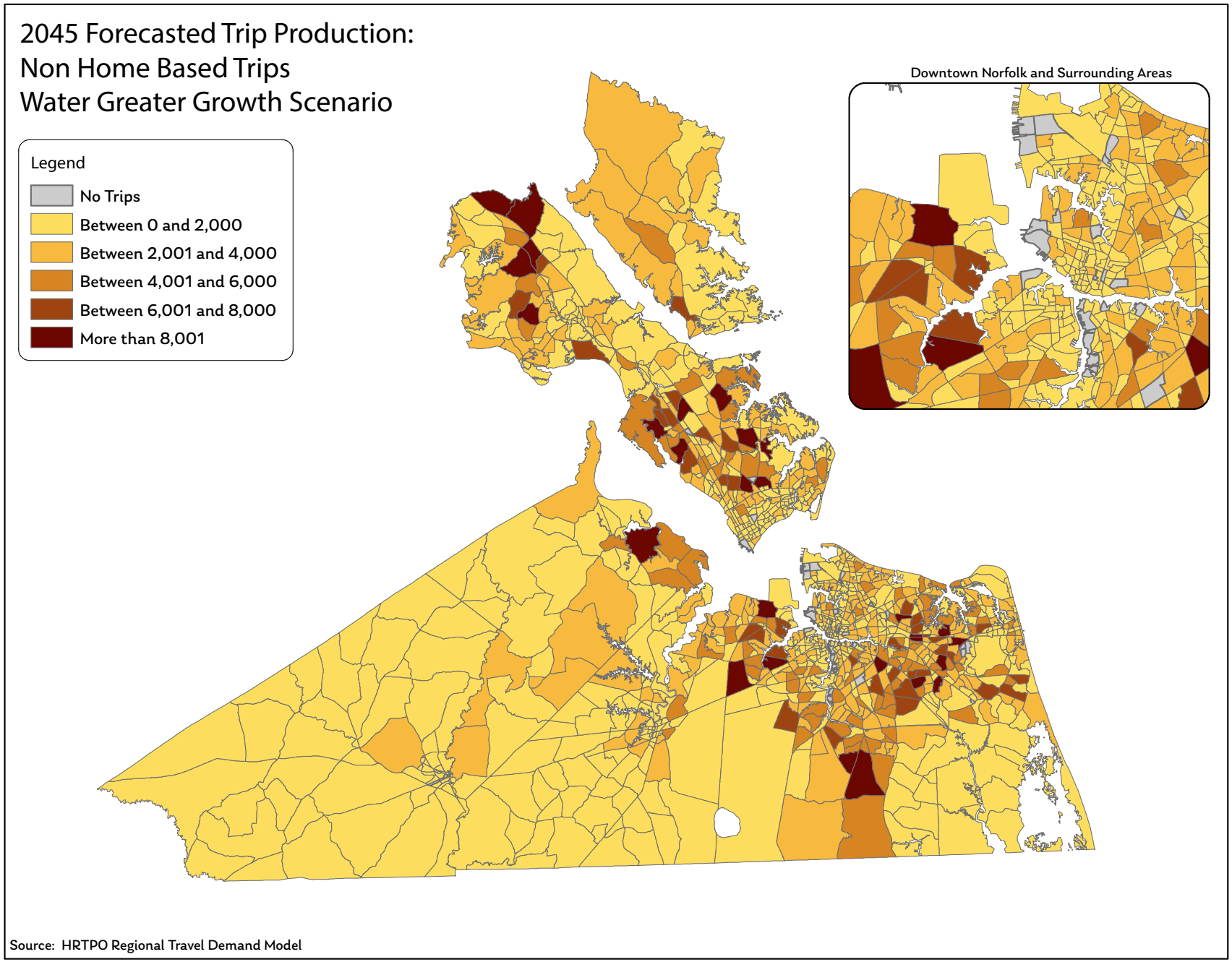
Source: HRTPO Regional Travel Demand Model


2045 Forecasted Trip Production:
Non-Home Based Trips
Baseline Scenario
Legend
No Trips
Between 0 and 2,000
Between 2,001 and 4,000
Between 4,001 and 6,000
Between 6,001 and 8,000
More than 8,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

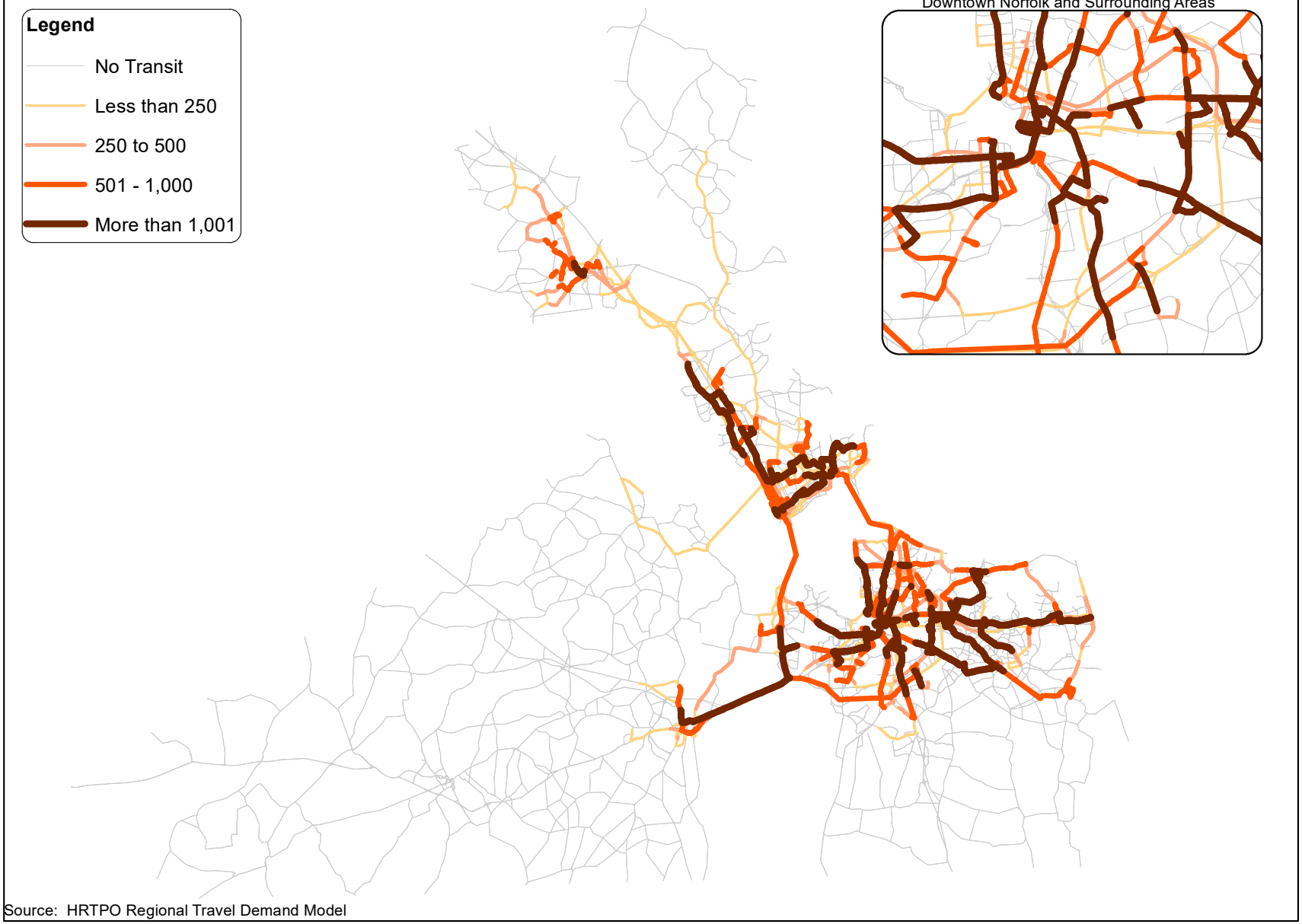

2045 Forecasted Trip Production:
Non-Home Based Trips
Suburban Greater Growth Scenario
Legend
No Trips
Between 0 and 2,000
Between 2,001 and 4,000
Between 4,001 and 6,000
Between 6,001 and 8,000
More than 8,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model



Source: HRTPO Regional Travel Demand Model

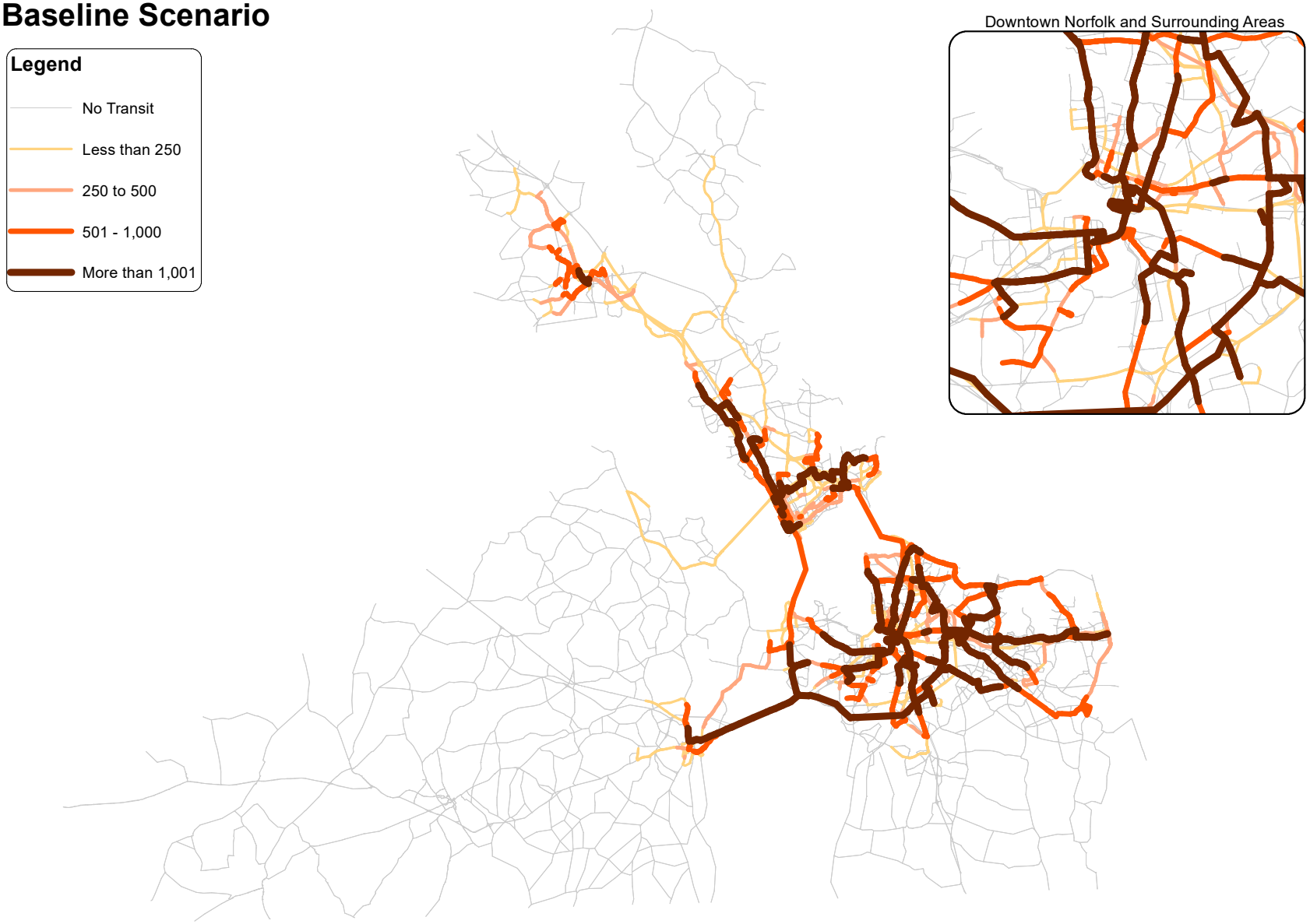

2045 Forecasted Trip Production:
Non Home Based Trips
Water Greater Growth Scenario
Legend
No Trips
Between 0 and 2,000
Between 2,001 and 4,000
Between 4,001 and 6,000
Between 6,001 and 8,000
More than 8,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

2045 Forecasted Peak Period Transit Volume (No Build) Scenario

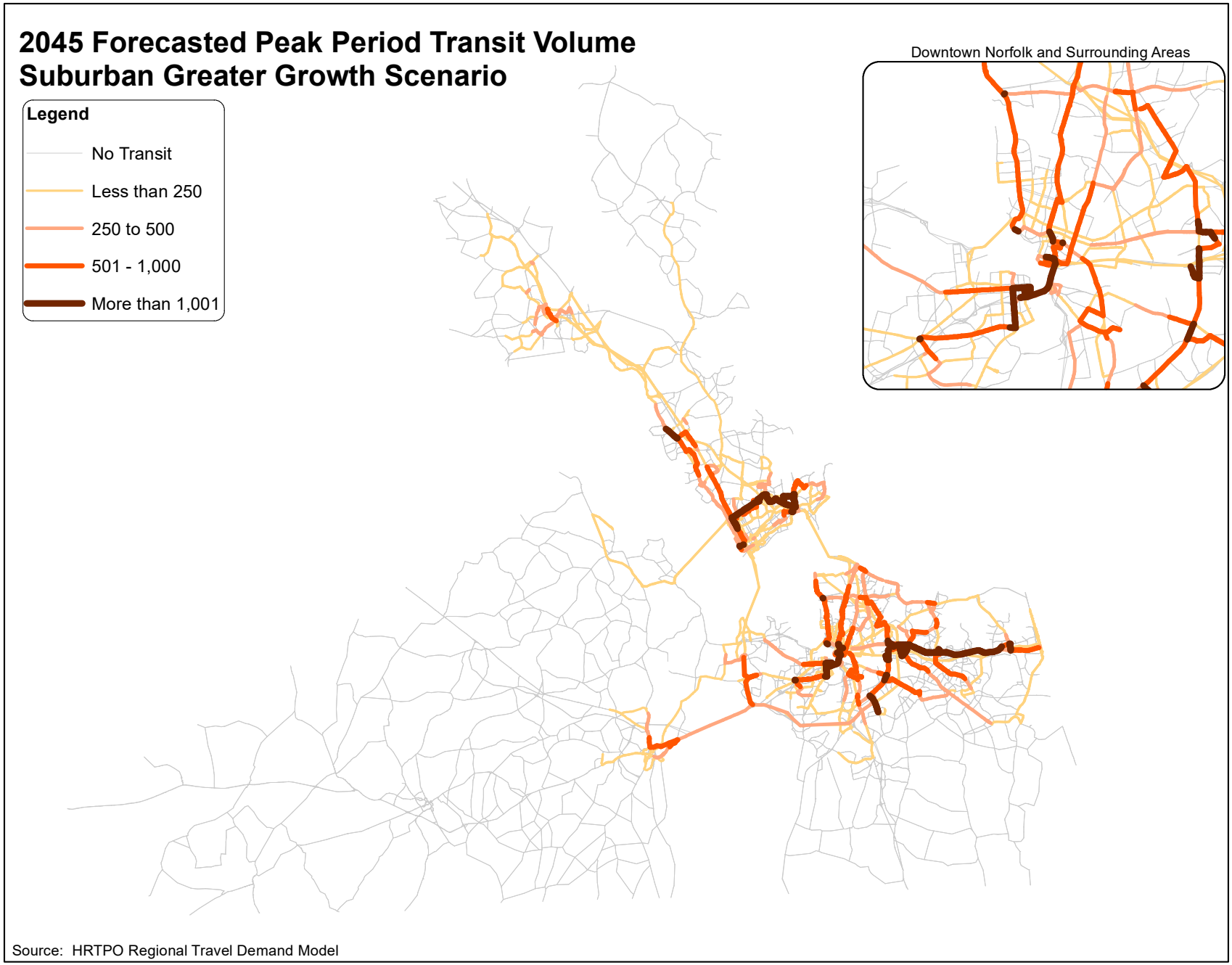


Source: HRTPO Regional Travel Demand Model

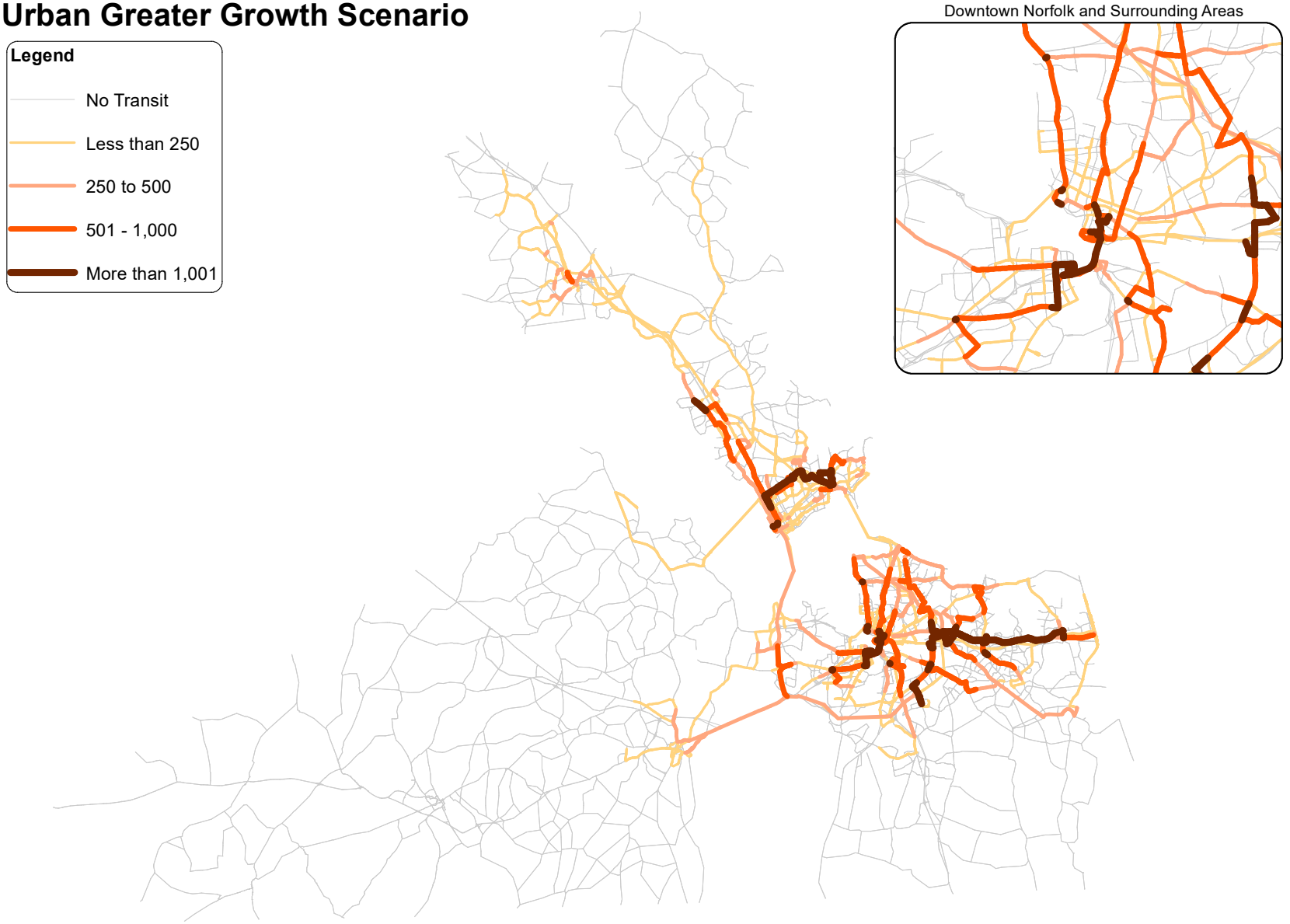
2045 Forecasted Peak Period Transit Volume
Baseline Scenario



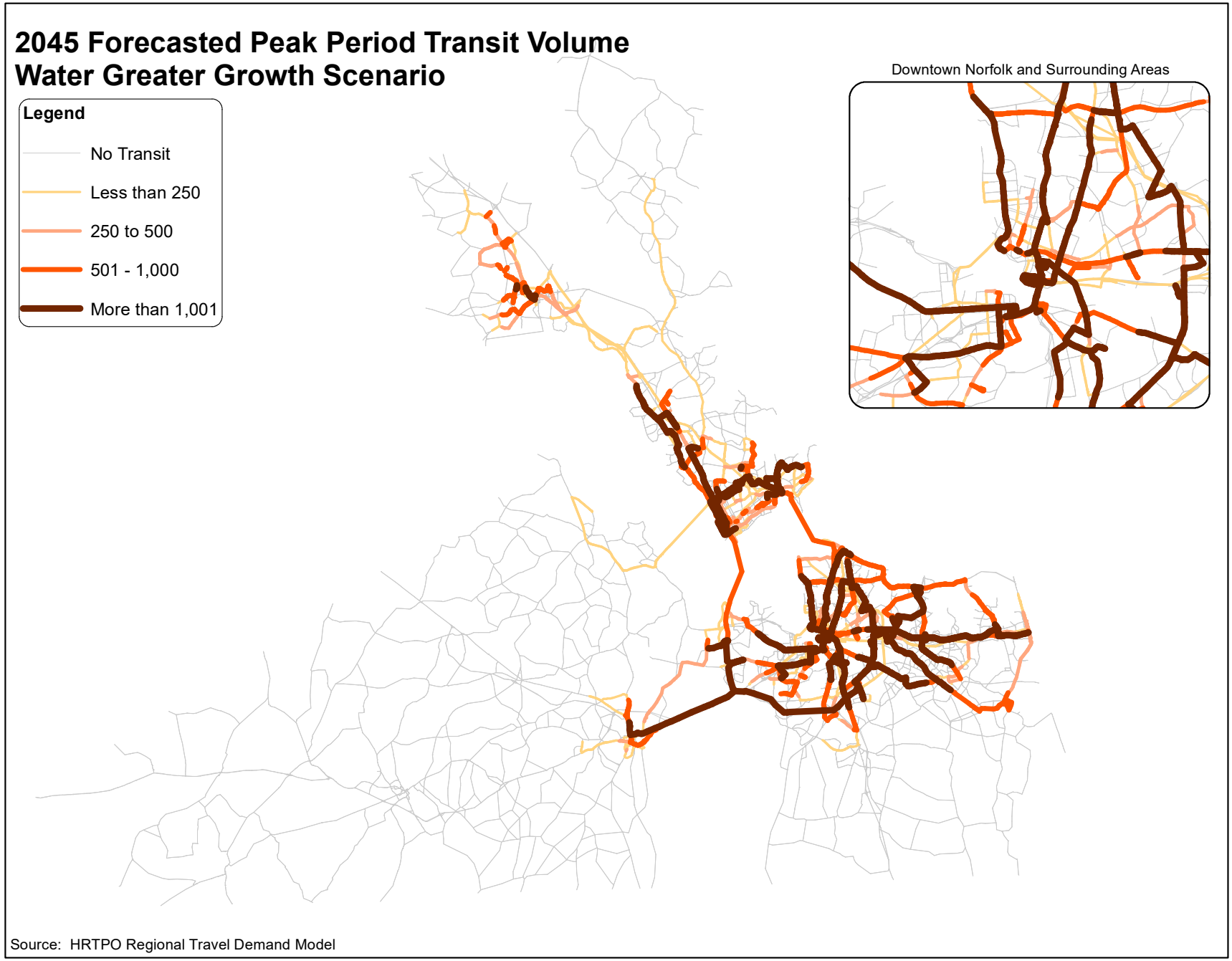
Source: HRTPO Regional Travel Demand Model


2045 Forecasted Peak Period Transit Volume
Suburban Greater Growth Scenario
Legend
No Transit
Less than 250
250 to 500
501 - 1,000
More than 1,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

2045 Forecasted Peak Period Transit Volume
Urban Greater Growth Scenario



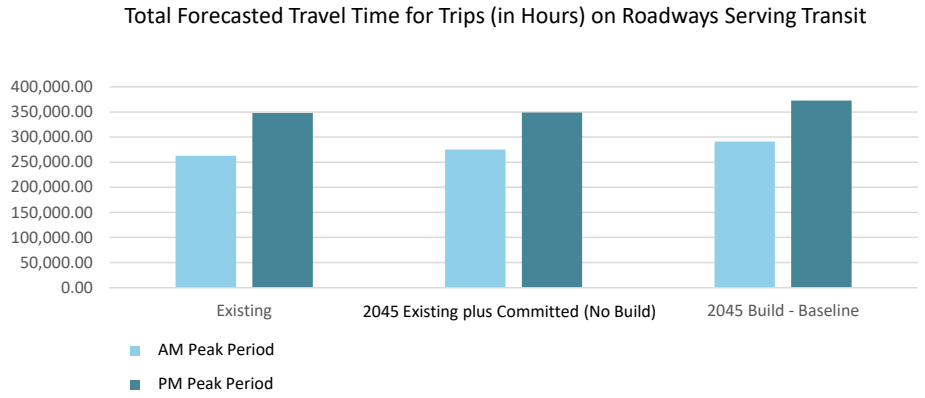
Source: HRTPO Regional Travel Demand Model


2045 Forecasted Peak Period Transit Volume
Water Greater Growth Scenario
Legend
No Transit
Less than 250
250 to 500
501 - 1,000
More than 1,001
Downtown Norfolk and Surrounding Areas
Source: HRTPO Regional Travel Demand Model

Forecasted Network Performance for Roadways Serving Transit Analysis: Method & Results

1. The analysis is conducted at link level for roadways serving transit
2. From the Travel Demand Model loaded network tables: total AM and PM peak period trips and travel times for links were queried
3. Total Trips Travel Time = link trips * link travel time during the analysis period, calculated for 3 scenarios:
   - Existing Conditions
   - 2045 Existing plus Committed (No Build)
   - 2045 Build – Baseline

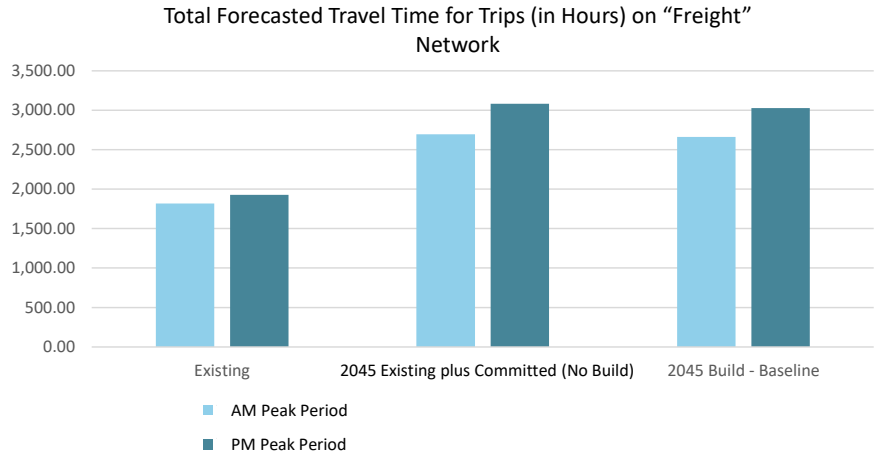
Scenario	Total Forecasted Trips on Roadways that Serve Transit * Total Travel Time (in Hours)	Total Forecasted Trips on Roadways that Serve Transit * Total Travel Time (in Hours)
	AM Peak Period	PM Peak Period
Existing	262,766	347,814
Existing plus Committed (No Build)	275,253	348,830
2045 Build - Baseline	290,972	372,810



Forecasted Freight Network Performance Analysis: Method & Results

1. The analysis is conducted at link level for Critical Urban Freight Corridors and Primary Highway Freight System
2. From the Travel Demand Model loaded network tables: total AM and PM peak period truck trips and travel times for links were queried
3. Total Truck-Trips Travel Time = link truck trips * link travel time during the analysis period, calculated for 3 scenarios:
   - Existing Conditions
   - 2045 Existing plus Committed (No Build)
   - 2045 Build – Baseline

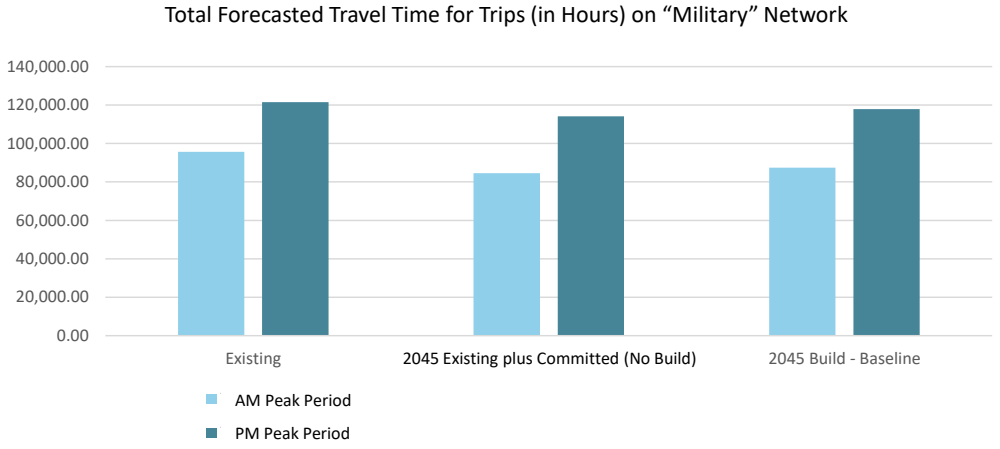
Scenario	Total Forecasted Truck Trips * Total Travel Time (in Hours)	Total Forecasted Truck Trips * Total Travel Time (in Hours)
	AM Peak Period	PM Peak Period
Existing	1,817	1,927
Existing plus Committed (No Build)	2,694	3,080
2045 Build - Baseline	2,661	3,027



Forecasted Military Network Performance Analysis: Method & Results

1. The analysis is conducted at link level for STRAHNET and Roadways Serving the Military Network
2. From the Travel Demand Model loaded network tables: total AM and PM peak period trips and travel times for links were queried
3. Total Trips Travel Time = link trips * link travel time during the analysis period, calculated for 3 scenarios:
   - Existing Conditions
   - 2045 Existing plus Committed (No Build)
   - 2045 Build – Baseline

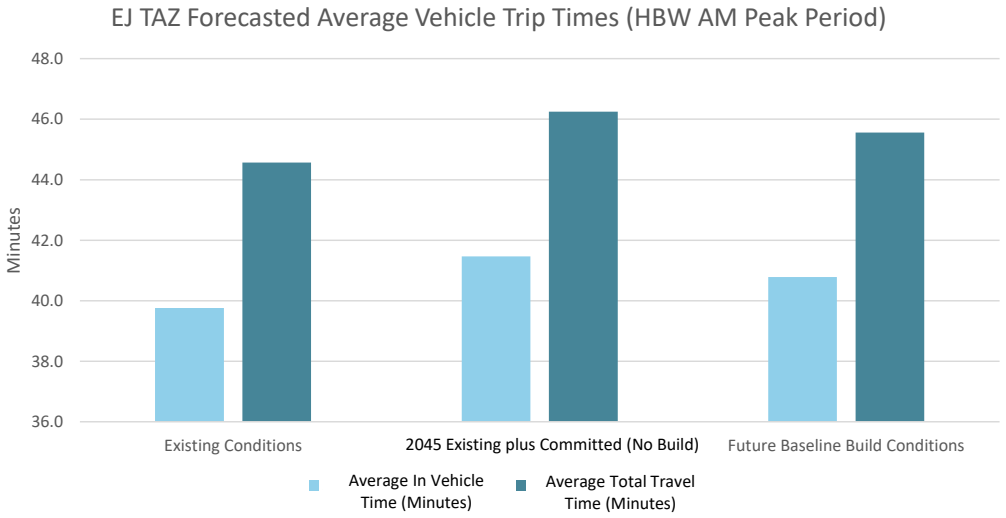
Scenario	Total Forecasted Trips on Military Network * Total Travel Time (in Hours)	Total Forecasted Trips on Military Network * Total Travel Time (in Hours)
	AM Peak Period	PM Peak Period
Existing	95,706	121,457
Existing plus Committed (No Build)	84,517	114,186
2045 Build - Baseline	87,473	117,913



Environmental Justice (EJ) Forecasted Travel Time Analysis Results: Method & Results

1. The analysis corresponds to the Home-Based-Work (HBW) trips from the EJ Transportation Analysis Zones (TAZ) to all other TAZs during the AM and PM Peak periods (from Origin-Destination matrices) – for Single-Occupied-Vehicles (SOV) mode only
2. Get the skim matrices of HBW-SOV trips on travel time:
   - In-vehicle time (IVT) only (minutes) – does not include travel time related to walking
   - Total travel time (TTT) (minutes)
3. Metric: Average IVT and Average TTT

Scenario	Forecasted Average In-Vehicle Travel Time (Minutes)	Forecasted Total Travel Time (Minutes)
Existing	39.8	44.6
Existing plus Committed (No Build)	41.5	46.2
2045 Build - Baseline	40.8	45.6



2045 LRTP PROJECT ENVIRONMENTAL JUSTICE IMPACT SCORES

2045 ID	2045 LRTP CANDIDATE PROJECTS	FROM	TO	LOCALITY	PROJECT CATEGORY	2045 LRTP ENVIRONMENTAL JUSTICE IMPACT SCORE	CARLESS HOUSEHOLDS	DISABLED POPULATIONS	ELDERLY POPULATIONS	FEMALE HEAD OF HOUSEHOLDS	HOUSEHOLDS RECEIVING CASH PUBLIC ASSISTANCE	HOUSEHOLDS RECEIVED FOOD STAMPS	LIMITED ENGLISH PROFICIENCY POPULATIONS	LOW-INCOME HOUSEHOLDS	MINORITY POPULATIONS	TOTAL CENSUS BLOCKS	TOTAL CENSUS BLOCKS WITH EJ INDICATOR ABOVE REGIONAL AVERAGE
2045-1	Chesapeake Bay Bridge-Tunnel Parallel Thimble Shoal Tunnel	Virginia Beach	Northampton County	Multi-jurisdictional	Bridge/Tunnel	4	●		●	●		●				1	1
2045-10	Freeman Avenue Railroad Overpass	N/A	N/A	Chesapeake	Intermodal/Freight	9	●	●	●	●	●	●	●	●	●	11	9
2045-11	Coliseum Drive Extension A	Hampton Roads Center Parkway	Butler Farm Road	Hampton	Highway	9	●	●	●	●	●	●	●	●	●	14	13
2045-111	Mooretown Road Extension	Lightfoot Road	Croaker Road	Multi-jurisdictional	Highway	9	●	●	●	●	●	●	●	●	●	9	9
2045-114	Greenbelt Segment - Phase I	London Bridge Road	Princess Anne Road	Virginia Beach	Highway	6	●	●	●		●		●		●	12	9
2045-114A	Greenbelt Segment - Phase II	Princess Anne Road	Chesapeake City Line	Virginia Beach	Highway	4	●				●		●		●	9	7
2045-116A	Regional Landfill (SPSA) Flyover	N/A	N/A	Suffolk	Highway	6	●	●			●	●		●	●	3	3
2045-119	VA-164 Widening	West Norfolk Road	I-664	Multi-jurisdictional	Highway	9	●	●	●	●	●	●	●	●	●	45	40
2045-12	Nike Park Road Extension	Reynolds Drive	US 17	Isle of Wight County	Highway	3	●		●	●						4	4
2045-122	Battlefield Boulevard	Johnstown Road	I-64	Chesapeake	Highway	9	●	●	●	●	●	●	●	●	●	27	26
2045-127	Centerville Turnpike - Phase 1 Study	Mount Pleasant Road	Elbow Road	Chesapeake	Highway	8	●	●	●	●	●		●	●	●	19	12
2045-129	VA-168 Bypass	I-64	Hillcrest Parkway	Chesapeake	Highway	9	●	●	●	●	●	●	●	●	●	55	42
2045-13	Pocahontas Trail Reconstruction	James City County Fire Station #2	James River Elementary School	James City County	Active Transportation	8		●	●	●	●	●	●	●	●	5	5
2045-135	George Washington Highway (US 17)	Yadkin Road	Canal Drive	Chesapeake	Highway	9	●	●	●	●	●	●	●	●	●	17	16
2045-14	Croaker Road	Richmond Road (US 60)	Rochambeau Road	James City County	Highway	5		●	●	●	●			●		4	4
2045-146	Military Highway	Virginia Beach City Line	I-464	Chesapeake	Highway	9	●	●	●	●	●	●	●	●	●	38	37
2045-15	Longhill Road - Phase 1	Humelsine Parkway (Route 199)	Olde Towne Road	James City County	Highway	8	●	●	●	●		●	●	●	●	9	9
2045-151	George Washington Mem Highway (US 17)	1 mile north of Coleman Bridge	Main Street (@ Walmart)	Gloucester County	Highway	8	●	●	●	●	●	●	●	●		14	13
2045-154	Coliseum Drive Extension B	Butler Farm Road	N Campus Pkwy/Magruder Boulevard	Hampton	Highway	9	●	●	●	●	●	●	●	●	●	11	10
2045-157	US 17/Carrollton Boulevard (part of Route 17 corridor)	End of Chuckatuck Creek Bridge	James River Bridge	Isle of Wight County	Highway	4		●	●	●		●				6	6
2045-16	Skiffes Creek Connector	Green Mount Parkway	Merrimac Trail (Route 143)	James City County	Highway	8	●	●		●	●	●	●	●	●	5	5
2045-161	Longhill Road - Phase 2	Olde Towne Road	Warhill Trail	James City County	Highway	7	●	●	●	●			●	●	●	8	8
2045-17	Denbigh Boulevard Bridge Replacement	Richneck Road	Trailblazer Boulevard	Newport News	Bridge	9	●	●	●	●	●	●	●	●	●	22	22
2045-171	J. Clyde Morris Boulevard/George Washington Highway (US 17) Widening	I-64	York County Line	Newport News	Highway	9	●	●	●	●	●	●	●	●	●	16	16
2045-176	Lucas Creek Road Extension	Denbigh Boulevard (Route 173)	Atkinson Boulevard	Newport News	Highway	9	●	●	●	●	●	●	●	●	●	27	27
2045-179	Oyster Point Road Widening - Phase I	Operations Drive	Waterman Drive	Newport News	Highway	9	●	●	●	●	●	●	●	●	●	17	17
2045-18	Atkinson Boulevard	Jefferson Avenue	Warwick Boulevard	Newport News	Highway	9	●	●	●	●	●	●	●	●	●	24	24
2045-180	Oyster Point Road Widening - Phase II	Warwick Boulevard	Radcliff Lane	Newport News	Highway	9	●	●	●	●	●	●	●	●	●	19	19
2045-19	Independence Boulevard	Denbigh Boulevard (Route 173)	Fort Eustis Boulevard	Newport News	Highway	9	●	●	●	●	●	●	●	●	●	17	17
2045-1A	Chesapeake Bay Bridge-Tunnel: Parallel Chesapeake Tunnel Study (Preliminary Engineering)	Virginia Beach	Northampton County	Multi-jurisdictional	N/A	0										N/A	N/A

2045 LRTP PROJECT ENVIRONMENTAL JUSTICE IMPACT SCORES

2045 ID	2045 LRTP CANDIDATE PROJECTS	FROM	TO	LOCALITY	PROJECT CATEGORY	2045 LRTP ENVIRONMENTAL JUSTICE IMPACT SCORE	CARLESS HOUSEHOLDS	DISABLED POPULATIONS	ELDERLY POPULATIONS	FEMALE HEAD OF HOUSEHOLDS	HOUSEHOLDS RECEIVING CASH PUBLIC ASSISTANCE	HOUSEHOLDS RECEIVED FOOD STAMPS	LIMITED ENGLISH PROFICIENCY POPULATIONS	LOW-INCOME HOUSEHOLDS	MINORITY POPULATIONS	TOTAL CENSUS BLOCKS	TOTAL CENSUS BLOCKS WITH EJ INDICATOR ABOVE REGIONAL AVERAGE
2045-33	Elbow Road/Dam Neck Road	Indian River Road	Virginia Beach Amphitheater	Virginia Beach	Highway	**8**	●	●	●		●	●	●	●	●	17	**16**
2045-34	Indian River Road - Phase VII-A	Lynnhaven Parkway	Elbow Road	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	29	**28**
2045-35	Laskin Road - Phase IA	Republic Road	Fremac Drive	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	25	**25**
2045-36	Princess Anne Road - Phase VII	Fisher Arch	General Booth Boulevard	Virginia Beach	Highway	**5**		●	●	●	●		●			13	**7**
2045-37	Capitol Landing Road Corridor Improvements	Bypass Road	Merrimac Trail	Williamsburg	Highway	**9**	●	●	●	●	●	●	●	●	●	9	**9**
2045-38	Ironbound Road (Route 615)	Richmond Road (US 60)	DePue Drive (formerly Longhill Connector)	Williamsburg	Highway	**9**	●	●	●	●	●	●	●	●	●	10	**10**
2045-39	Lafayette Street	Richmond Road (US 60)	Virginia Avenue	Williamsburg	Highway	**9**	●	●	●	●	●	●	●	●	●	9	**9**
2045-4	I-64/I-264 Interchange - Phase II	N/A	N/A	Multi-jurisdictional	Interchange	**9**	●	●	●	●	●	●	●	●	●	77	**75**
2045-40	George Washington Memorial Highway (US 17)	Wolf Trap Road	Old York-Hampton Highway	York County	Highway	**5**		●	●	●	●		●			7	**7**
2045-41	I-64 Peninsula Widening - Segment 3	1.05 miles west of Route 199 (Exit 242)	1.15 miles west of Route 199, Lightfoot (Exit 234)	Multi-jurisdictional	Highway	**9**	●	●	●	●	●	●	●	●	●	24	**24**
2045-42	Victory Boulevard (Route 171)	George Washington Memorial Highway (US 17)	Hampton Highway (Route 134)	York County	Highway	**7**		●	●	●	●		●	●	●	11	**11**
2045-50	Hampton Roads Express Lanes Network	Jefferson Avenue	Bowers Hill	Multi-jurisdictional	Highway	**9**	●	●	●	●	●	●	●	●	●	412	**398**
2045-504/51	Ferry Service Expansion Study	Southside	Peninsula	Multi-jurisdictional	Transit	**9**	●	●	●	●	●	●	●	●	●	35	**30**
2045-51	Regional Connectors Study	Peninsula	Southside	Multi-jurisdictional	N/A	**9**	●	●	●	●	●	●	●	●	●	166	**156**
2045-510	Peninsula High-Capacity Transit	Hampton/ Newport News	Hampton/ Newport News	Multi-jurisdictional	Transit	**9**	●	●	●	●	●	●	●	●	●	139	**139**
2045-516	High Capacity Transit Extension to Greenbrier Area Study	Existing Service Locations	Greenbrier Area	Chesapeake	Transit	**9**	●	●	●	●	●	●	●	●	●	56	**55**
2045-518	Naval Station Norfolk Transit Extension Study	Existing Tide Light Rail	Naval Station Norfolk	Norfolk	Transit	**9**	●	●	●	●	●	●	●	●	●	76	**74**
2045-520	Hampton Roads Regional Transit System - 757 Express	N/A	N/A	Multi-jurisdictional	Transit	**0**										N/A	**N/A**
2045-521	Enhanced Bus Service/Bus Replacement - WATA	N/A	N/A	Multi-jurisdictional	Transit	**0**										N/A	**N/A**
2045-522	Enhanced Bus Service/Bus Replacement - Suffolk Transit	N/A	N/A	Multi-jurisdictional	Transit	**0**										N/A	**N/A**
2045-6	Deep Creek Bridge Replacement and George Washington Hwy/Moses Grandy Trail Intersection Improvements	Mill Creek Parkway	Diamond Avenue	Chesapeake	Bridge	**7**	●	●	●		●		●	●	●	8	**5**
2045-602	Portlock Road Railroad Overpass	N/A	N/A	Chesapeake	Intermodal	**9**	●	●	●	●	●	●	●	●	●	12	**12**
2045-603	Hampton Boulevard at Terminal Boulevard	N/A	N/A	Norfolk	Intermodal	**9**	●	●	●	●	●	●	●	●	●	11	**10**
2045-604	Craney Island Access Road Study (Preliminary Engineering)	VA 164 and Median Rail	Future Craney Island Marine Terminal	Portsmouth	Intermodal	**9**	●	●	●	●	●	●	●	●	●	32	**28**
2045-7	I-64 Southside Widening Including High Rise Bridge - Phase 1	I-464	I-664	Multi-jurisdictional	Bridge	**9**	●	●	●	●	●	●	●	●	●	55	**51**
2045-703	E Little Creek Road Bike Path	Norfolk Elizabeth River Trail (Hampton Boulevard)	Virginia Beach City Line (Shore Drive)	Norfolk	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	67	**64**
2045-704	Birthplace of America Trail (portions of trail)	Virginia Capital Trail	Fort Monroe and Suffolk	Multi-jurisdictional	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	247	**244**
2045-707	South Hampton Roads Trail - Suffolk to Virginia Beach Oceanfront (portions of trail)	Suffolk	Virginia Beach	Multi-jurisdictional	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	241	**233**
2045-723	Gloucester County Multi-use Paths	Beaverdam Park	Main Street	Gloucester County	Active Transportation	**7**	●	●	●	●	●	●		●		6	**5**
2045-725	Bike Lanes on Centerville Road (connect to Virginia Capital Trail)	John Tyler Highway (Route 5)	Monticello Avenue	James City County	Active Transportation	**2**			●		●					4	**4**

2045 LRTP PROJECT ENVIRONMENTAL JUSTICE IMPACT SCORES

2045 ID	2045 LRTP CANDIDATE PROJECTS	FROM	TO	LOCALITY	PROJECT CATEGORY	2045 LRTP ENVIRONMENTAL JUSTICE IMPACT SCORE	CARLESS HOUSEHOLDS	DISABLED POPULATIONS	ELDERLY POPULATIONS	FEMALE HEAD OF HOUSEHOLDS	HOUSEHOLDS RECEIVING CASH PUBLIC ASSISTANCE	HOUSEHOLDS RECEIVED FOOD STAMPS	LIMITED ENGLISH PROFICIENCY POPULATIONS	LOW-INCOME HOUSEHOLDS	MINORITY POPULATIONS	TOTAL CENSUS BLOCKS	TOTAL CENSUS BLOCKS WITH EJ INDICATOR ABOVE REGIONAL AVERAGE
2045-728	Multi-Use Path on 25th Street	Jefferson Avenue	Parish Avenue	Newport News	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	30	**30**
2045-729	Multi-Use Path on 26th Street	Jefferson Avenue	Parish Avenue	Newport News	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	30	**30**
2045-732	Bike Lanes on Granby Street	West Ocean View Avenue	West Main Street	Norfolk	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	103	**101**
2045-735	Military Highway Bike Access	N/A	Shopping Areas and Outlet Mall	Norfolk	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	28	**26**
2045-738	High Street - Complete Street Conversion	Chesnut Street	Martin Luther King Freeway Overpass	Portsmouth	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	30	**29**
2045-739	Portsmouth Rail-to-Trail	Churchland Plaza	Old Coast Guard Road	Portsmouth	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	21	**20**
2045-745	Northampton Boulevard Shared Use Path	Bayside Road	Greenwell Road	Virginia Beach	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	24	**21**
2045-748	Thalia Creek Greenway - Phase IV	Constitution Drive	Virginia Beach Trail	Virginia Beach	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	24	**24**
2045-749	Thalia Creek Greenway - Phase V	Virginia Beach Trail	Virginia Beach Boulevard	Virginia Beach	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	24	**24**
2045-750	Thalia Creek Greenway - Phase VI	Constitution Drive	I-264	Virginia Beach	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	27	**27**
2045-752	I-264 Pedestrian Land Bridge/Flyover	Thalia Creek Greenway	Mount Trashmore Park	Virginia Beach	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	33	**33**
2045-754	Monticello Avenue Shared-Use Path	Treyburn Drive	Ironbound Road (Route 615)	Williamsburg	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	10	**10**
2045-755	Strawberry Plains Road Shared Use Path	Ironbound Road	John Tyler Lane	Williamsburg	Active Transportation	**6**	●	●	●	●			●	●		11	**11**
2045-756	Penniman Road Sidewalk/Multi Use Path	Williamsburg City Line	Marquis Center Parkway (Route 199)	York County	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	8	**8**
2045-757	Victory Boulevard Shared Use Path I	Tabb High School	Hampton Highway (Route 134)	York County	Active Transportation	**3**		●	●				●			10	**10**
2045-758	Yorktown Road Shared Use Path	Cardinal Lane (Route 670)	Victory Boulevard (Route 171)	York County	Active Transportation	**5**		●	●	●	●		●			12	**12**
2045-759	Victory Boulevard Shared Use Path II	Big Bethel Road (Route 600)	Carys Chapel Road (Route 762)	York County	Active Transportation	**5**		●	●	●	●		●			12	**12**
2045-8	Triple Decker Bridge (Interchange of US 13, US 460, and Norfolk Southern Rail Line)	N/A	N/A	Chesapeake	Bridge	**9**	●	●	●	●	●	●	●	●	●	9	**8**
2045-9	Mount Pleasant Road/Great Bridge Bypass	N/A	N/A	Chesapeake	Intersection	**9**	●	●	●	●	●	●	●	●	●	12	**9**

2045 LRTP PROJECT ENVIRONMENTAL JUSTICE IMPACT SCORES

2045 ID	2045 LRTP CANDIDATE PROJECTS	FROM	TO	LOCALITY	PROJECT CATEGORY	2045 LRTP ENVIRONMENTAL JUSTICE IMPACT SCORE	CARLESS HOUSEHOLDS	DISABLED POPULATIONS	ELDERLY POPULATIONS	FEMALE HEAD OF HOUSEHOLDS	HOUSEHOLDS RECEIVING CASH PUBLIC ASSISTANCE	HOUSEHOLDS RECEIVED FOOD STAMPS	LIMITED ENGLISH PROFICIENCY POPULATIONS	LOW-INCOME HOUSEHOLDS	MINORITY POPULATIONS	TOTAL CENSUS BLOCKS	TOTAL CENSUS BLOCKS WITH EJ INDICATOR ABOVE REGIONAL AVERAGE
2045-2	I-64 Widening Including Hampton Roads Bridge-Tunnel	Near I-664/Hampton Coliseum	I-564	Multi-jurisdictional	Bridge/Tunnel	9	●	●	●	●	●	●	●	●	●	137	132
2045-20	Westhaven Bicycle Improvements	Clifford Street/Powhatan Avenue	Bart Street/Airline Boulevard	Portsmouth	Active Transportation	9	●	●	●	●	●	●	●	●	●	32	31
2045-200	Elm Avenue	Victory Boulevard (Route 239)	George Washington Highway (US 17)	Portsmouth	Highway	9	●	●	●	●	●	●	●	●	●	21	20
2045-21	Churchland Bridge	N/A	N/A	Portsmouth	Bridge	9	●	●	●	●	●	●	●	●	●	17	16
2045-215	Birdneck Road	I-264	Virginia Beach Boulevard	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	21	21
2045-216	Clearfield Avenue	Virginia Beach Boulevard	Cleveland Street	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	23	23
2045-217	Dam Neck Road - Phase I	Princess Anne Road	Holland Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	19	18
2045-218	Dam Neck Road - Phase II	Holland Road	Drakesmile Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	18	17
2045-219	Dam Neck Road - Phase III	Drakesmile Road	London Bridge Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	13	12
2045-22	Route 58 (Holland Road)	Suffolk Bypass	0.7 miles west of Manning Bridge Road	Suffolk	Highway	8	●	●	●	●	●	●	●	●		8	8
2045-220	Drakesmile Road Extended - Phase I	Dam Neck Road	Holland Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	13	12
2045-221	Drakesmile Road Extended - Phase II	Holland Road	Princess Anne Road	Virginia Beach	Highway	8		●	●	●	●	●	●	●	●	11	10
2045-222	Ferrell Parkway	Indian Lakes Boulevard	Indian River Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	31	31
2045-223	Ferrell Parkway	Indian Lakes Boulevard	Pleasant Valley Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	33	32
2045-224	Ferrell Parkway	Pleasant Valley Road	Salem Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	34	32
2045-225	First Colonial Road	Old Donation Parkway	Laskin Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	19	19
2045-227	General Booth Boulevard - Phase II	Oceana Boulevard	Dam Neck Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	12	11
2045-229	General Booth Boulevard - Phase IV	London Bridge Road	Nimmo Parkway	Virginia Beach	Highway	6		●	●	●	●		●	●		12	6
2045-230	Holland Road - Phase III	Rosemont Road	Independence Boulevard	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	42	41
2045-231	Holland Road	Dam Neck Road	Rosemont Road	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	42	41
2045-232	I-264 Widening	Witchduck Road	Independence Boulevard	Multi-jurisdictional	Highway	9	●	●	●	●	●	●	●	●	●	75	75
2045-233	Independence Boulevard	Haygood Road	Northampton Boulevard	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	25	22
2045-234	Independence Blvd	Pembroke Boulevard	Virginia Beach Boulevard	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	37	36
2045-235	Indian River Road	Centerville Turnpike	Ferrell Parkway	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	33	33
2045-236	Indian River Road	Centerville Turnpike	I-64	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	22	22
2045-24	Nansemond Parkway (Route 337) Railroad Overpass	N/A	N/A	Suffolk	Highway	4			●	●	●				●	4	4
2045-240	Landstown Road - Phase I	Landstown Centre Way	Landstown Road	Virginia Beach	Highway	6		●			●	●	●	●	●	7	6
2045-244	Laskin Road - Phase IB	Laskin Road Bridge	Oriole Drive	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	21	21
2045-245	Laskin Road - Phase II	Oriole Drive	30th/31st Street	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	18	18
2045-246	Laskin Road - Phase III	Republic Road	I-264	Virginia Beach	Highway	9	●	●	●	●	●	●	●	●	●	21	20

2045 LRTP PROJECT ENVIRONMENTAL JUSTICE IMPACT SCORES

2045 ID	2045 LRTP CANDIDATE PROJECTS	FROM	TO	LOCALITY	PROJECT CATEGORY	2045 LRTP ENVIRONMENTAL JUSTICE IMPACT SCORE	CARLESS HOUSEHOLDS	DISABLED POPULATIONS	ELDERLY POPULATIONS	FEMALE HEAD OF HOUSEHOLDS	HOUSEHOLDS RECEIVING CASH PUBLIC ASSISTANCE	HOUSEHOLDS RECEIVED FOOD STAMPS	LIMITED ENGLISH PROFICIENCY POPULATIONS	LOW-INCOME HOUSEHOLDS	MINORITY POPULATIONS	TOTAL CENSUS BLOCKS	TOTAL CENSUS BLOCKS WITH EJ INDICATOR ABOVE REGIONAL AVERAGE
2045-247	London Bridge Road	Dam Neck Road	Shipps Corner Road	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	15	**14**
2045-248	Lynnhaven Parkway	Holland Road	Princess Anne Road	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	49	**47**
2045-25	Sandbridge Road - Nimmo Parkway Bike Lanes/Shared Use Path	Sandpiper Road	1.10 miles west of Sandpiper Road	Virginia Beach	Active Transportation	**3**		●	●				●			4	**3**
2045-252	Nimmo Parkway - Phase VIIB	Albuquerque Road	Sandbridge Road-Nimmo Parkway	Virginia Beach	Highway	**4**		●	●	●			●			9	**4**
2045-253	North Great Neck Road	Virginia Beach Boulevard	Wolfsnare Road	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	23	**22**
2045-254	North Lynnhaven Road	Virginia Beach Boulevard	Lynnhaven Parkway	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	20	**19**
2045-256	Princess Anne Road	Providence Road	Salem Road	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	25	**23**
2045-258	Rosemont Road	Virginia Beach Boulevard	Holland Road	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	47	**47**
2045-259	Rosemont Road - Phase V	Dam Neck Road	Lynnhaven Parkway	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	32	**30**
2045-26	Violet Bank Drive Bike Trail	Kittery Drive	Selwood Drive	Virginia Beach	Active Transportation	**9**	●	●	●	●	●	●	●	●	●	30	**28**
2045-262	Shore Drive - Phase II	Pleasure House Road	Treasure Island Drive	Virginia Beach	Highway	**8**	●	●	●	●		●	●	●	●	13	**11**
2045-264	Monticello Avenue	Richmond Road (US 60)	Treyburn Drive	Williamsburg	Highway	**9**	●	●	●	●	●	●	●	●	●	8	**8**
2045-265	Commonwealth Drive Extension	George Washington Memorial Highway (US 17)	Commonwealth Drive	York County	Highway	**9**	●	●	●	●	●	●	●	●	●	14	**14**
2045-27	Laskin Road Bridge Replacement	Laskin Road	Laskin Road	Virginia Beach	Bridge	**9**	●	●	●	●	●	●	●	●	●	18	**18**
2045-28	Sandbridge Road Bridge Replacement	N/A	N/A	Virginia Beach	Bridge	**3**		●	●				●			3	**2**
2045-29	Centerville Turnpike - Phase 3	Chesapeake City Line	Kempsville Road	Virginia Beach	Highway	**8**	●	●	●	●	●		●	●	●	17	**16**
2045-3	Wythe Creek Road	Alphus Street	Commander Shepard Boulevard	Multi-jurisdictional	Highway	**9**	●	●	●	●	●	●	●	●	●	16	**14**
2045-30	Centerville Turnpike	Indian River Road	Kempsville Road	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	32	**32**
2045-301	I-64/I-264 Interchange Phase IIIA	I-64/I-264 Interchange - Phase IIIA	N/A	Multi-jurisdictional	Interchange	**9**	●	●	●	●	●	●	●	●	●	71	**68**
2045-307	US 58/258 Interchange	N/A	N/A	Franklin/Southampton County	Interchange	**9**	●	●	●	●	●	●	●	●	●	5	**5**
2045-308	I-664 Widening (including Bowers Hill Interchange)	Bowers Hill	College Drive	Multi-jurisdictional	Interchange	**9**	●	●	●	●	●	●	●	●	●	56	**50**
2045-309	I-64/I-464 Loop Ramps	N/A	N/A	Chesapeake	Interchange	**9**	●	●	●	●	●	●	●	●	●	23	**21**
2045-31	Cleveland Street - Phase III	Witchduck Road	Clearfield Avenue	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	23	**23**
2045-311	I-64/LaSalle Avenue Study	I-64 (Westbound)	LaSalle Avenue	Hampton	Interchange	**9**	●	●	●	●	●	●	●	●	●	44	**43**
2045-312	I-64/N King Street Study	N/A	N/A	Hampton	Interchange	**9**	●	●	●	●	●	●	●	●	●	46	**45**
2045-314	I-64/Denbigh Boulevard Interchange Project	N/A	N/A	Newport News	Interchange	**9**	●	●	●	●	●	●	●	●	●	47	**47**
2045-316	Air Terminal Interchange	N/A	N/A	Norfolk	Interchange	**7**	●	●		●		●	●	●	●	4	**3**
2045-318	I-264/Ballentine Boulevard Diverging Diamond Interchange	N/A	N/A	Norfolk	Interchange	**9**	●	●	●	●	●	●	●	●	●	22	**21**
2045-32	Cleveland Street - Phase IV	Witchduck Road	Independence Boulevard	Virginia Beach	Highway	**9**	●	●	●	●	●	●	●	●	●	27	**27**
2045-326	I-264/Independence Boulevard Interchange	N/A	N/A	Virginia Beach	Interchange	**9**	●	●	●	●	●	●	●	●	●	59	**59**

APPENDIX B: CONFORMITY FINDINGS

JOINT FHWA/FTA CONFORMITY FINDING

U.S. Department of Transportation

Federal Transit Administration
Region III
1835 Market, Suite 500
Philadelphia, PA 19103
215-656-7100
215-656-7260 (fax)

Federal Highway Administration
Virginia Division
400 N. 8th Street, Suite 750
Richmond, VA 23219
Phone: 804-775-3320
804-775-3356 (fax)

May 19, 2021

Mr. Stephen Brich
Commissioner
Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

Re: Joint FHWA/FTA Conformity Finding for the 1997 8-hour ozone standard; Hampton Roads, Virginia

Dear Mr. Brich:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed a joint review of the Hampton Roads Transportation Planning Organization's (HRTPO) 2045 Long-Range Transportation Plan (LRTP) and FY 2021-2024 Transportation Improvement Program (TIP).

In accordance with the 1990 Clean Air Act Amendments (CAAA), the FHWA and the FTA are required to make a joint air quality conformity finding. Based on our evaluation of the materials submitted, coordination with the U.S. Environmental Protection Agency - Region 3 Office (EPA), and input from HRTPO, the FHWA and FTA therefore find that the Conformity Determination submittal for the FY 2045 LRTP and FY 2021-2024 TIP for the Hampton Roads 1997 8-hour Ozone Area demonstrates conformity as prescribed by EPA's Transportation Conformity Rule (40 CFR Part 93), subsequent amendments, and guidance issued by EPA in November 2018 for areas affected by the February 2018 South Coast court decision. The EPA, by letter dated May 5, 2021, concurred on the overall conformity determination.

This letter represents that joint conformity finding. This conformity finding remains valid for a period of four years provided no regionally significant projects are amended to or removed from the LRTP or TIP and provided no metropolitan transportation planning deadlines come due before then. Based on our transportation planning regulatory requirements (23 USC 134 and 49 USC 5303), our day-to-day involvement with the HRTPO, and extensive review of their fiscal analysis reports, FTA and FHWA find the financial information needed to support our fiscal constraint determination complete.

If you have any questions or need additional information, please contact Ivan Rucker, FHWA-Virginia Division, at (804) 775-3350 or Ryan Long, FTA Region III, at (215) 656-7051.

Sincerely,

Digitally signed by THERESA GARCIA CREWS
Date: 2021.05.19 15:04:41 -04'00'

Terry Garcia Crews
Regional Administrator
Federal Transit Administration

EDWARD S SUNDRA
Digitally signed by EDWARD S SUNDRA
Date: 2021.05.19 15:38:11 -04'00'

Edward Sundra
Acting Deputy Division Administrator
Federal Highway Administration

cc: Mr. Robert Crum, Jr., HRTPO (via e-mail)
Ms. Marsha Fiol, VDOT (via email)
Mr. James Ponticello, VDOT (via email)
Mr. Ivan Rucker, FHWA (via email)
Ms. Kathleen Zubrzycki, FTA (via e-mail)
Ms. Gail McFadden-Roberts, FTA (via e-mail)
Mr. Gregory Becoat, EPA (via email)
Ms. Susan Spielberger, EPA (via e-mail)

EPA CONFORMITY FINDING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. Thomas Nelson, Jr.
Division Administrator
Federal Highway Administration
Virginia Division
400 N. 8th Street, Suite 750
Richmond, Virginia 23219

Dear Mr. Nelson:

The United States Environmental Protection Agency (EPA) has reviewed the conformity determinations for the Hampton Roads Transportation Planning Organization (HRTPO) for the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS) Conformity Determination for the Fiscal Year (FY) 2021-2024 Transportation Improvement Program (TIP) and the 2045 Long-Range Transportation Plan (LRTP). EPA has reviewed the conformity determinations in accordance with the procedures and criteria of the Transportation Conformity Rule contained in 40 CFR part 93.

EPA's review of the conformity determinations indicates that the determination meets the requirements of the Clean Air Act and the applicable regulations promulgated under 40 CFR part 93. Enclosed please find EPA's detailed evaluation titled "Technical Support Document (TSD) - Review of the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS) Conformity Determination for the Fiscal Year (FY) 2021-2024 Transportation Improvement Program (TIP) and the 2045 Long-Range Transportation Plan (LRTP) for the Hampton Roads Transportation Planning Organization (HRTPO)." It should be noted that in the technical support document, EPA is deferring to the Federal Highway Administration (FHWA) on the question of whether the Plan is fiscally constrained. EPA concurs on the overall conformity determination based on the FHWA's determination that the Plan is fiscally constrained.

If you have any questions, please contact Mr. David Talley, Acting Chief, Planning & Implementation Branch, at 215-814-2117, or have your staff contact Mr. Gregory Becoat at 215-814-2036.

Sincerely,
CRISTINA FERNANDEZ
Digitally signed by CRISTINA FERNANDEZ
Date: 2021.05.05 10:22:21 -04'00'
Cristina Fernandez, Director
Air and Radiation Division

Enclosure

cc: Ms. Kathleen Zubrzycki, FTA
Mr. Jim Ponticello, VDOT
Mr. Robert Crum, Jr., HRTPO
Mr. Ed Sundra, FHWA

APPENDIX C: US DOT VOLPE CENTER OVERVIEW

US DOT VOLPE CENTER – RESILIENCE AND DISASTER RECOVERY TOOL OVERVIEW

U.S. DOT's
Tools to Augment Transportation Infrastructure and Disaster Recovery
January 2020

Sponsors: Federal Highway Administration (FHWA),
Office of the Secretary of Transportation – Research (OST-R), and Office of Intelligence, Security and Emergency Response (S-60)
Executed by: The Volpe National Transportation Systems Center (Volpe)

Rationale

Federal, State and local governments, as well as industry, need to accurately assess the value of resilience in future infrastructure investments. To achieve this, all stakeholders need to be able to understand and incorporate the cost and benefits of resilience into the decision-making process, including project prioritization, weighing trade-offs, and making informed decisions on future infrastructure investments. To date, there are no existing tools to conduct a comprehensive resilience return of investment (ROI) analysis on infrastructure from start to finish. This project will develop guidance for performing such an analysis. It will complement the guidance with a nationally-replicable "hazard-agnostic tool," initially focused on flood hazards, that will build on existing travel demand modeling and exposure/vulnerability analyses tools to enable the comparison of resilience investment performance options across a range of scenarios.

Project Objective

Develop a guidance document and nationally-replicable tool to facilitate transportation planning and project prioritization that will augment existing prioritization tools and processes, where they exist, to:

- Estimate ***costs*** (repair/replacement) of transportation disruption caused by natural or man-made hazards (e.g., flooding);
- Estimate ***regional economic impacts*** (disruption of regional activities); and
- Estimate ***benefits and costs/return on investment*** of resilience investments to inform resilient transportation asset investment decisions for long-range and recovery planning.

Target Outcome

Federal, State, and local governments, as well as industry, will be better positioned to make informed infrastructure investments that efficiently protect and/or rebuild their assets and economies.

Phase 1 Approach

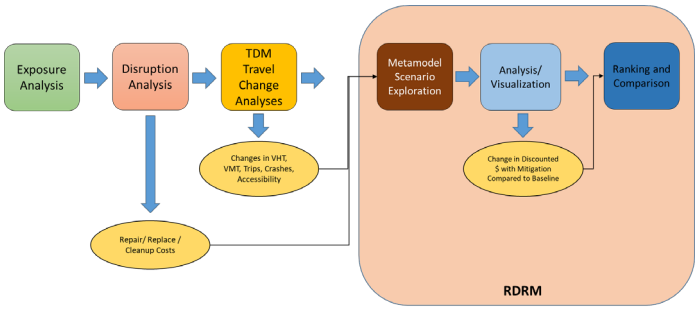
Phase 1 of the project, currently underway, is focusing on supporting long-range transportation planning (LRTP) decisions. It is informed by the previous Infrastructure Resilience Quantification Initiative (IRQI) prototype and the Robust Decision-Making framework for assessing uncertain future scenarios, as well as the FHWA Resilience Framework and DOT Benefit Cost Analysis (BCA) guidance. The project team is developing a unique Resilience/Disaster

INTENDED USERS

State DOTs and MPOs are anticipated to employ the Phase 1 RDRM tool to:

1. Assess economic effects of hazards
2. Assess resilient asset investment costs and benefits
3. Communicate resilience costs and benefits
4. Assess relative performance of resiliency investment options
5. Assess hazard impacts on emergency response
6. Inform project prioritization

Figure 1: Components of Resilience Return on Investment Analysis and Planned Resilience/Disaster Recovery Metamodel (RDRM) Tool Development (pink box).



Recovery Metamodel (RDRM) for use in conjunction with existing travel demand models (TDM) to enable an analyst to use exposure analyses to assess performance of potential resilience investments in managing travel demand impacts of hazards such as flooding (see Figure 1). Guidance and technical documentation will explain how local and regional transportation asset, infrastructure and usage information can be combined with hazard data to estimate the potential for exposure and associated damage of the transportation infrastructure to provide the basis for TDM and metamodel analyses. It , will also provide the technical documentation and user guide to the metamodel and associated analysis and visualization tools. The TDM metamodel leverages the widespread use of TDMs by State DOTs and Metropolitan/Regional Planning Organizations (M/RPOs) nationwide. Scenario-specific outputs related to a given hazard event can be used to evaluate regional economic impacts, such as disruption of port access, emergency vehicle access, or commuting.

Phase 1 will incorporate input and feedback from multiple State DOTs and MPOs, and draw from our partners at Virginia DOT and the Hampton Roads Transportation Planning Organization and District Planning Commission to provide a flood hazard case study for implementation of the modeling approach.

Future Phases

In addition, the team is gathering key stakeholder input on project prioritization and disaster recovery from DOTs, MPOs and ports in Puerto Rico and the U.S. Virgin Islands based on their recent experiences with hurricane disaster recovery to inform future (currently unfunded) phase(s) of the tool development that will plan to focus on disaster recovery, project prioritization, and Emergency Relief funding analysis needs to aid Federal, State and local decision-makers. Industry is also being consulted.

For more information contact: Shawn Johnson, OST-R (shawn.johnson@dot.gov) or Mike Culp, FHWA (michael.culp@dot.gov)

TRBAPPCON 2021

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TRB TRANSPORTATION RESEARCH BOARD Transportation Planning Applications

Planning for Resilience in Hampton Roads: Resilience and Disaster Recovery (RDR) Tool

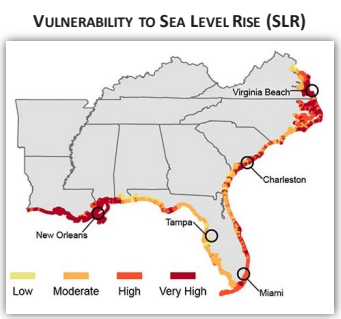
Dale Stith, HRTPO
Scott Smith, Volpe

Hampton Roads - Virginia

- Home to 1.7 Million People
- Strategic location for Foreign Trade, Tourism, and Military Facilities

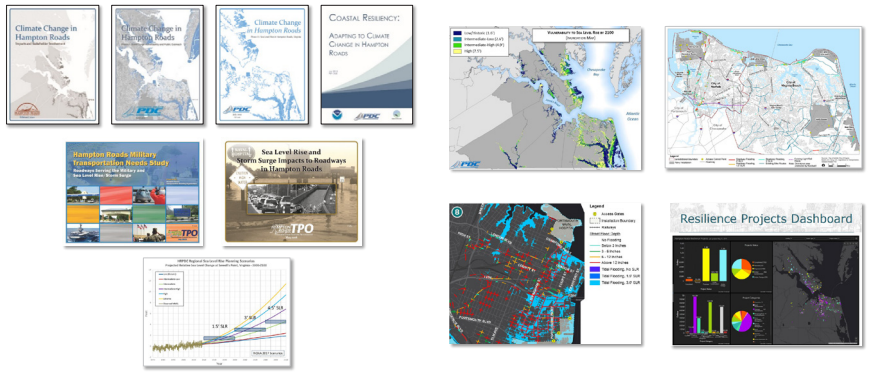
Sea Level Rise in Hampton Roads

- Hampton Roads is experiencing the highest rate of relative Sea Level Rise on the East Coast
- Sea Level Rise will result in significant impacts:
  - Permanent inundation of some areas
  - More frequent flooding of other areas
  - Some areas that have not seen flooding will start to experience it



Source: National Climate Assessment via EPA, data from Hammar-Klose and Thieler 2001

Resiliency and Vulnerability Planning Efforts



Hampton Roads 2045 Long-Range Transportation Plan

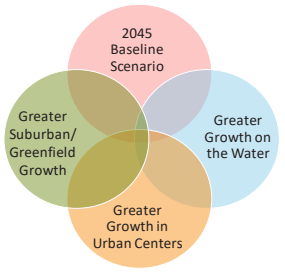
2045 LRTP will "use INNOVATIVE planning techniques to advance an ADAPTIVE transportation system…"

Goals and Objectives include:

- **Promote an efficient, reliable, and RESILIENT regional transportation system**
- **Make investments that IMPROVE FLOOD RESILIENCY**

HRTPO Regional Scenario Planning and Project Prioritization

Evaluate and Rank Project Across ALL Scenarios



Most Robust Projects

HRTPO Project Prioritization Tool

- **Project Utility:** Ability to solve a problem
- **Economic Vitality:** Potential for economic gain
- **Project Viability:** Project readiness

Sea Level Rise Assumption:

- 3-Feet for all Scenarios
  - More scenarios desired, but limited staff and tools

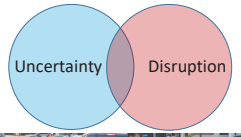
Volpe Resilience Disaster Recovery (RDR) Tool

HRTPO Objectives with Volpe RDR Tool

- Support objective, data-driven resiliency measures for use in Project Prioritization Tool
  - Identify inundation and extent (low and high frequency events)
  - Quantify congestion as a result of flooding
  - Quantify congestion avoided from mitigating flooding
  - Cost-benefit ratio of resiliency improvements
- Model multiple flooding scenarios efficiently

Modeling Uncertain Disruption Scenarios

- RDR Tool to explore a large scenario space
- Techniques drawn from
  - Robust decision-making
  - TMIP-EMAT
- Network-wide effects of losing some assets (highway links)



Robust Decision-Making Framework: XLRM

eXternal factors (uncertainties)

- Socio-economic conditions
- Land use
- Frequency / severity of hazard events
- New technology
- Changes in user attitudes: travel and mode choice
- Fuel prices

(Lempert et al., 2003)

policy Levers

- Resilience investments
- Transportation investments
- Financial incentives
- Land use policies

Relationships

- Travel demand
- Network
- Baseline trips, miles, travel times
- Network response to hazard events
- Hazard recovery times and effects on the network
- Impact of economic conditions, trip elasticity, etc. on travel behavior
- Comparison of many scenarios

Metrics

- Trips
- Person Hours Traveled (PHT)
- Vehicle Miles Traveled (VMT)
- Asset damage repair costs
- BCA
- BCA-U/Regret
- Breakeven benefit
- Impacts on specific groups (e.g., equity).

The RDR approach is based in part on the Travel Model Improvement Program, Exploratory Modeling and Analysis Tool (TMIP-EMAT) (see 2018 Innovations in Travel Modeling conference presentation).

RDR Tool Suite Scenario Development

Analysis framework defined by external factors (uncertainties) and levers (resilience Investments
- Population and land use (…)
- Transport supply (…)
- Resilience Investments (…)
- Disruptive events (…)
- Recovery process (…)

Core Models → RDR Metamodel Analysis → RDR ROI Analysis

TDM	AequilibraE	RDRM: Regression	RDRM: Recovery	RDR ROI Analysis
Network performance results for select scenarios	Network performance results for projects under different disruption scenarios	All project scenarios in scenario space, single-day of disruption	All project scenarios with duration and recovery processes	All project scenarios modeled as annual streams of benefits and costs through analysis period

Y1 Y2 Y3….

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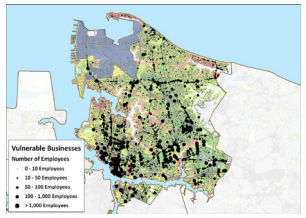
Pilot with Hampton Roads MPO and Virginia DOT

- The RDR Tool Suite is being piloted with:
  - Hampton Roads Transportation Planning Organization
  - Hampton Roads Planning District Commission
  - Virginia DOT
- Current analysis covers:
  - Fiscally-constrained project list (approx. 80 projects)
  - 3 feet sea level rise + up to 100 yr storm surge
  - Region-specific cost and time of repair estimates
- Completed in spring 2021.
- RDR Tool Suite outputs will inform project prioritization



Storm Surge Analysis – Norfolk, Virginia

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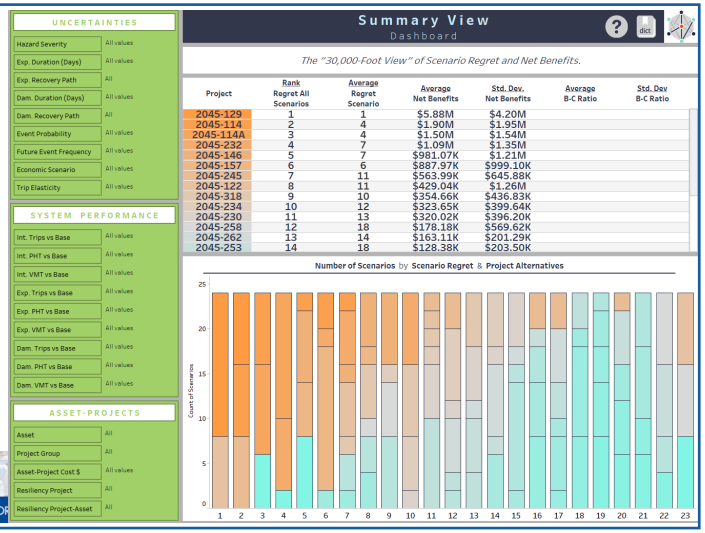
Tableau Visualization



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Visualizations – drill down

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Successes

- Ability to combine inundation data (raster) and network links (vector) identifies links and projects that might benefit from resilience investments
- The open-source routing model is fast (run times in minutes)
  - Several hundred runs can be done over a weekend on an ordinary PC
  - Generated runs for full scenario space of pilot over the course of one week
- Tableau dashboard enables exploration of the many dimensions of the problem
  - Different hazards and recovery timelines
  - Benefits including repair cost savings and improvements in network performance
- Made the process of incorporating resilience considerations less abstract

Challenges

- Network-wide resilience benefit from any one project is small
  - Benefits may be lost in the "noise" of the model, producing counter-intuitive results
  - Challenges for the regression model with overfitting and statistically insignificant coefficients
- Tradeoff between canceled trips and longer travel times in a disruption scenario
- Data challenges on repair costs and repair times
- Elevation data
- Storm scenarios could be better defined

Volpe RDR Tool: Transportation Planning Applications

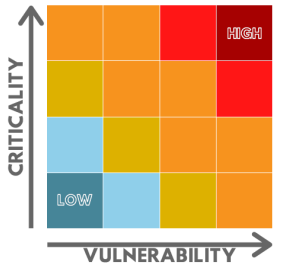
Scenario Planning
- Multiple flooding scenarios

Candidate Project Identification
- Identification of high disruption assets for project consideration
- Project design/cost refinement incorporating resilience

Factors for Project Prioritization
- Vulnerability/exposure across scenarios
- Disruption severity/change in network performance
- Refinement of cost effectiveness measures

Fiscal Constraint
- Most critical projects that can be constrained are included in LRTP

Measuring Criticality and Vulnerability



Thank you

Dale Stith
Hampton Roads Transportation Planning Organization (HRTPO)
dstith@hrtpo.org

Scott Smith
Volpe Center, US DOT
scott.smith@dot.gov

With thanks to

FHWA (Sponsor) Project Manager:
- Mike Culp

OST-R Project Manager:
- Shawn Johnson

Volpe Project Manager:
- Kristin Lewis, Ph.D.

APPENDIX D: PUBLIC NOTICES

As part of the HRTPO effort to provide opportunities for the public and stakeholders to review and comment on LRTP related products, a draft version of this report was made available for public review between May 26 and June 8, 2021.

Hampton Roads 2045 Long-Range Transportation Plan: DRAFT Plan Performance, Regional Transportation Vision Plan, and Public Involvement Documentation Reports

As the federally designated Metropolitan Planning Organization for Hampton Roads, the HRTPO is required to develop and maintain the region's Long-Range Transportation Plan (LRTP). The HRTPO is currently updating the LRTP to a horizon year of 2045. The plan serves as the transportation blueprint, identifying all regionally significant projects over the next 24-years. The development of the 2045 LRTP for the past five years has been based on a collaborative process involving many regional stakeholders and the public to identify, prioritize, and fiscally constrain needed transportation investments. Based on analysis using the Regional Scenario Planning Framework and the HRTPO Project Prioritization Tool, the 2045 LRTP identifies $17 Billion to maintain the existing transportation system and an additional $13.7 Billion for multimodal projects and studies that will help improve the movement of people and goods.

As part of Federal requirements, a Regional Conformity Assessment (RCA) on the 2045 LRTP and 2021-2024 Transportation Improvement Program was completed and submitted to the Federal Highway Administration for review. A joint FHWA/FTA finding of conformity was received on May 19, 2021.

The 2045 LRTP is documented through a series of reports, which are available on the 2045 LRTP webpage. The remaining three draft reports in this series include:

- 2045 LRTP: Plan Performance
- 2045 LRTP: Regional Transportation Vision Plan
- 2045 LRTP: Public Involvement Documentation

This public notice is to request public review and comment on the remaining DRAFT 2045 LRTP reports: Plan Performance, Regional Transportation Vision Plan, and Public Involvement Documentation (available via the links above).

All interested parties are encouraged to review the DRAFT reports and send comments to Ms. Dale M. Stith, Principal Transportation Planner, at dstith@hrtpo.org or by mail to 723 Woodlake Drive, Chesapeake, Virginia 23320 by **June 8, 2021.**