

Prepared by Robert Case, PE, PhD and Keith Nichols, PE

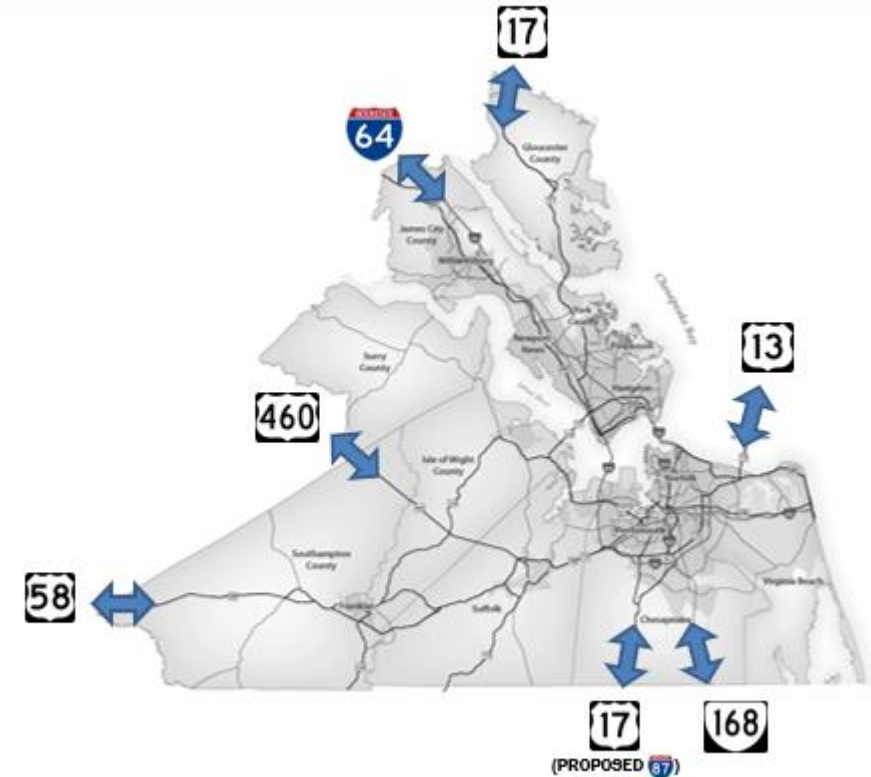
Presented to CAC by Robert Case, PE, PhD

February 10, 2022

Gateways

- Improvements have been proposed for many of the corridors that provide access to and from Hampton Roads.
- Because of the importance of these gateways to the vitality of Hampton Roads, HRTPO is preparing a study to compare proposed improvements for these gateways.

MAJOR REGIONAL GATEWAYS



Overview of Today's Presentation

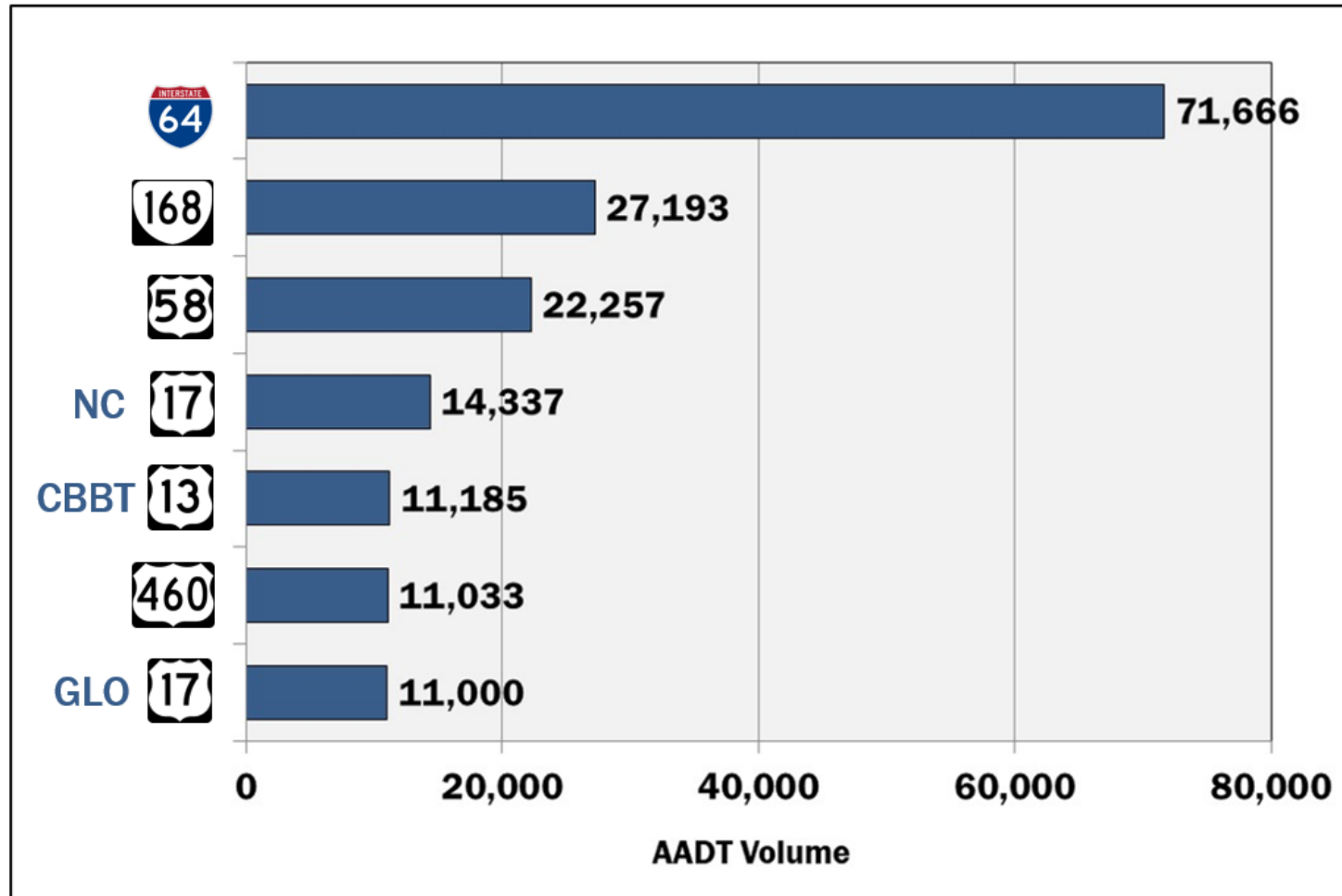
I. Need for Improvements

- A. Vehicle volumes
- B. Truck volumes

II. Candidate Projects- Bang-for-the-Buck

- A. Project Description
- B. Project Impacts
 - 1. Trips to Hampton Roads
 - 2. Trucking to Hampton Roads
 - 3. Hurricane Evacuation

Vehicles by Gateway



ANNUAL AVERAGE DAILY TRAFFIC (AADT) VOLUMES AT REGIONAL GATEWAYS, 2019

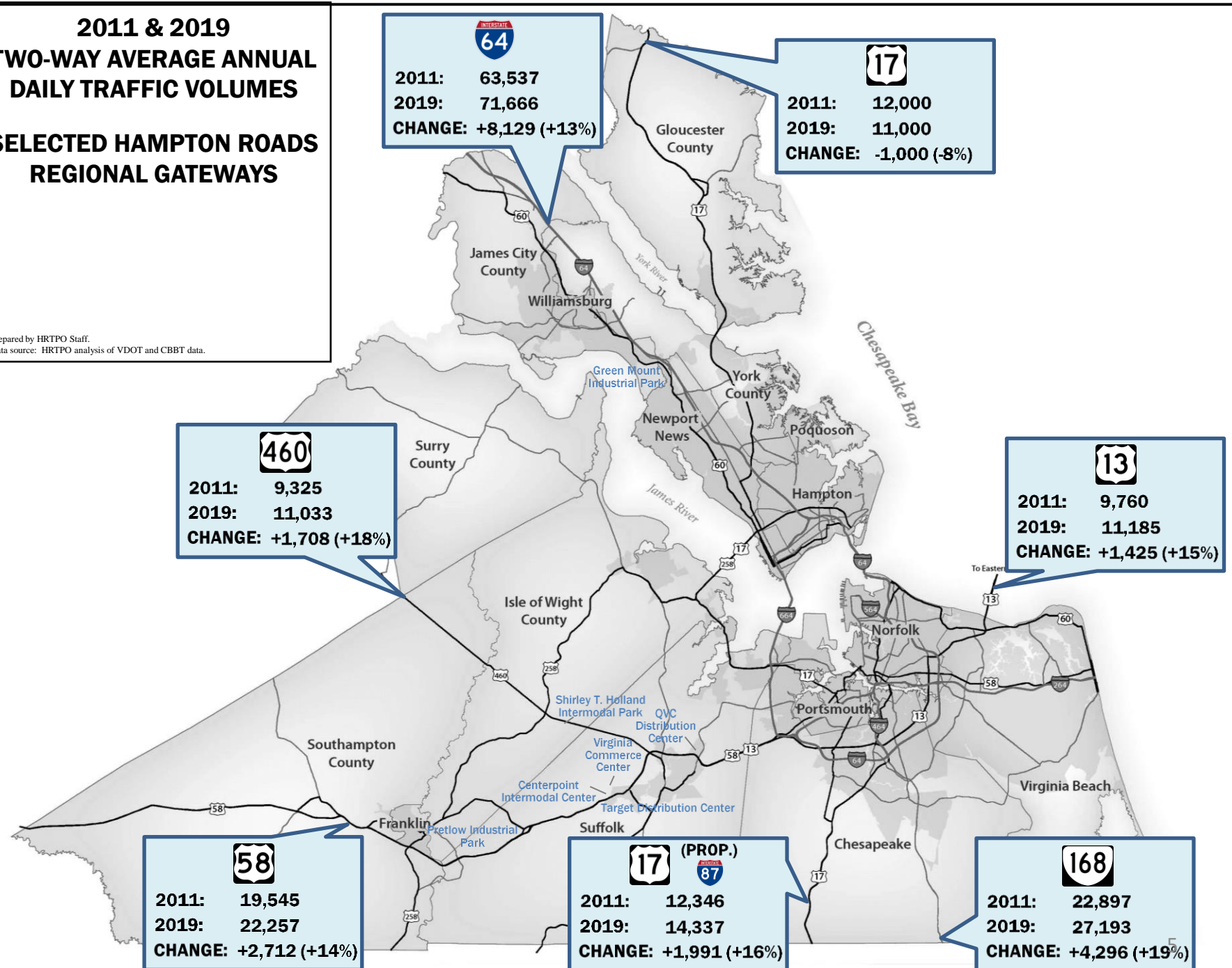
Data source: HRTPO analysis of VDOT and CBBT data.

Vehicles

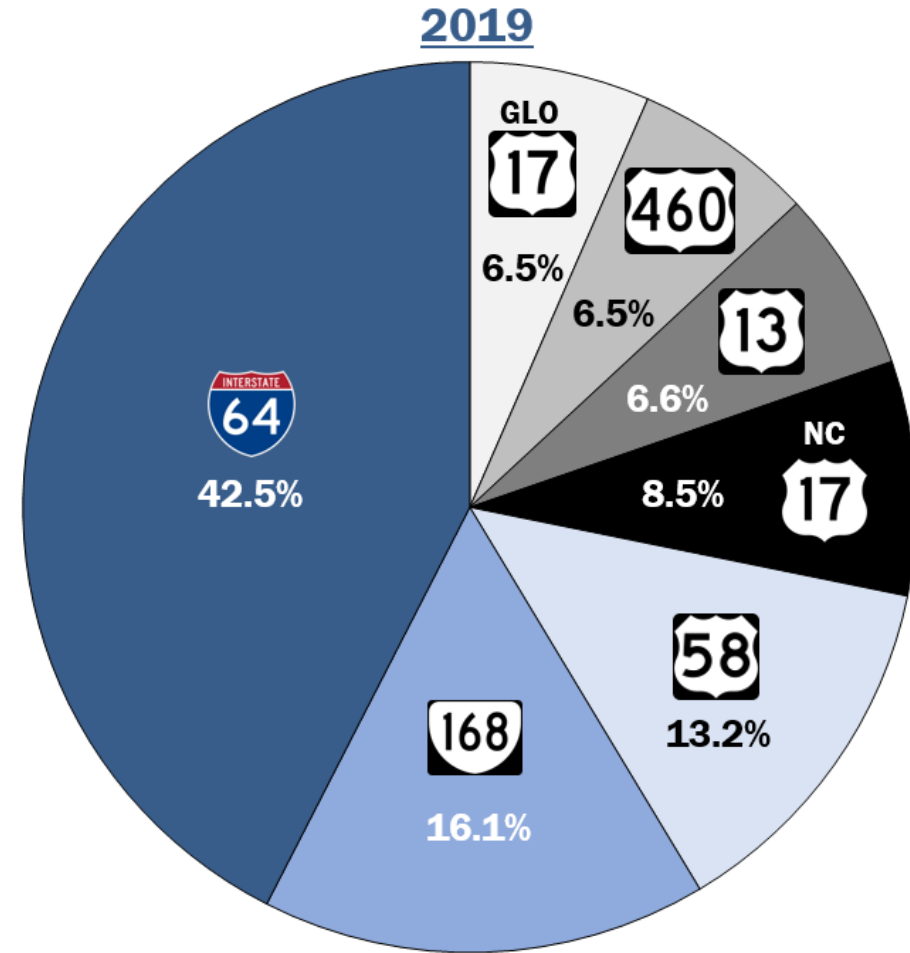
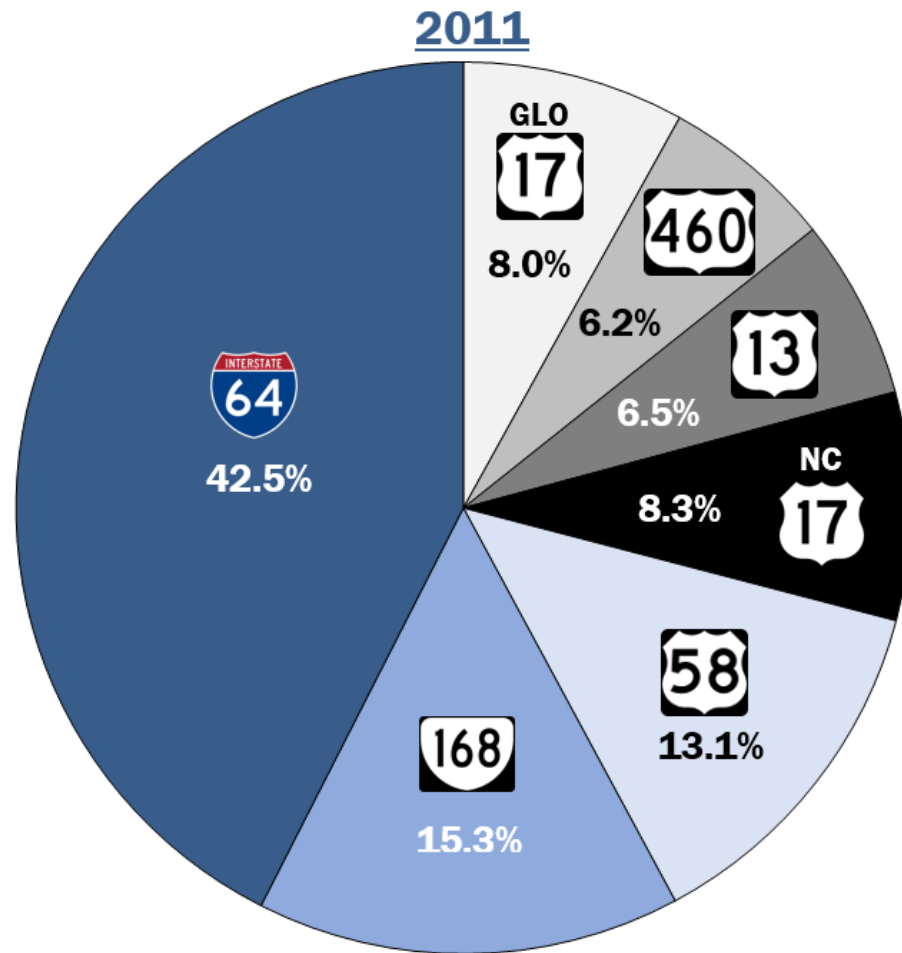
2011 & 2019 TWO-WAY AVERAGE ANNUAL DAILY TRAFFIC VOLUMES

SELECTED HAMPTON ROADS REGIONAL GATEWAYS

Prepared by HRTPO Staff.
Data source: HRTPO analysis of VDOT and CBBT data.



Vehicle Split By Gateway

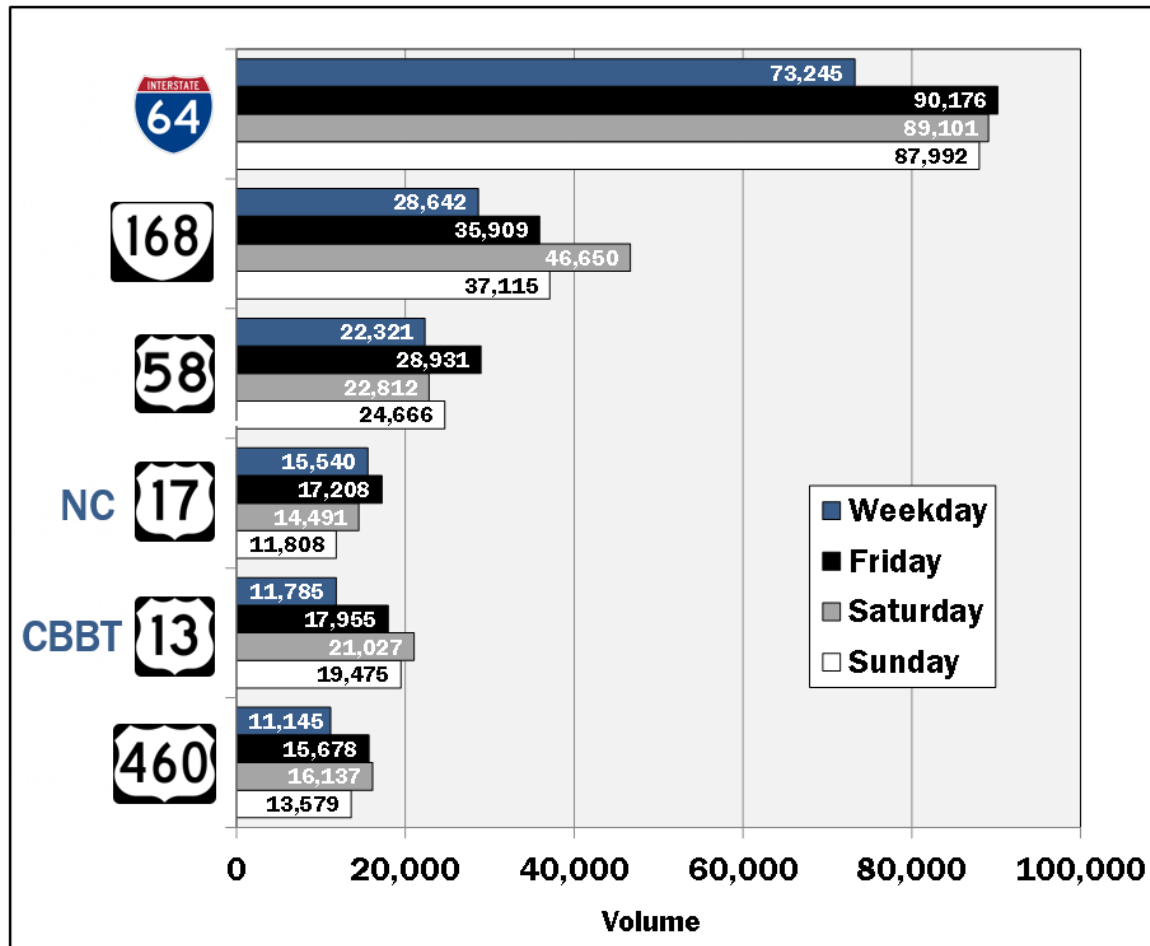


SHARE OF AADT VOLUMES AT REGIONAL GATEWAYS, 2011 AND 2019

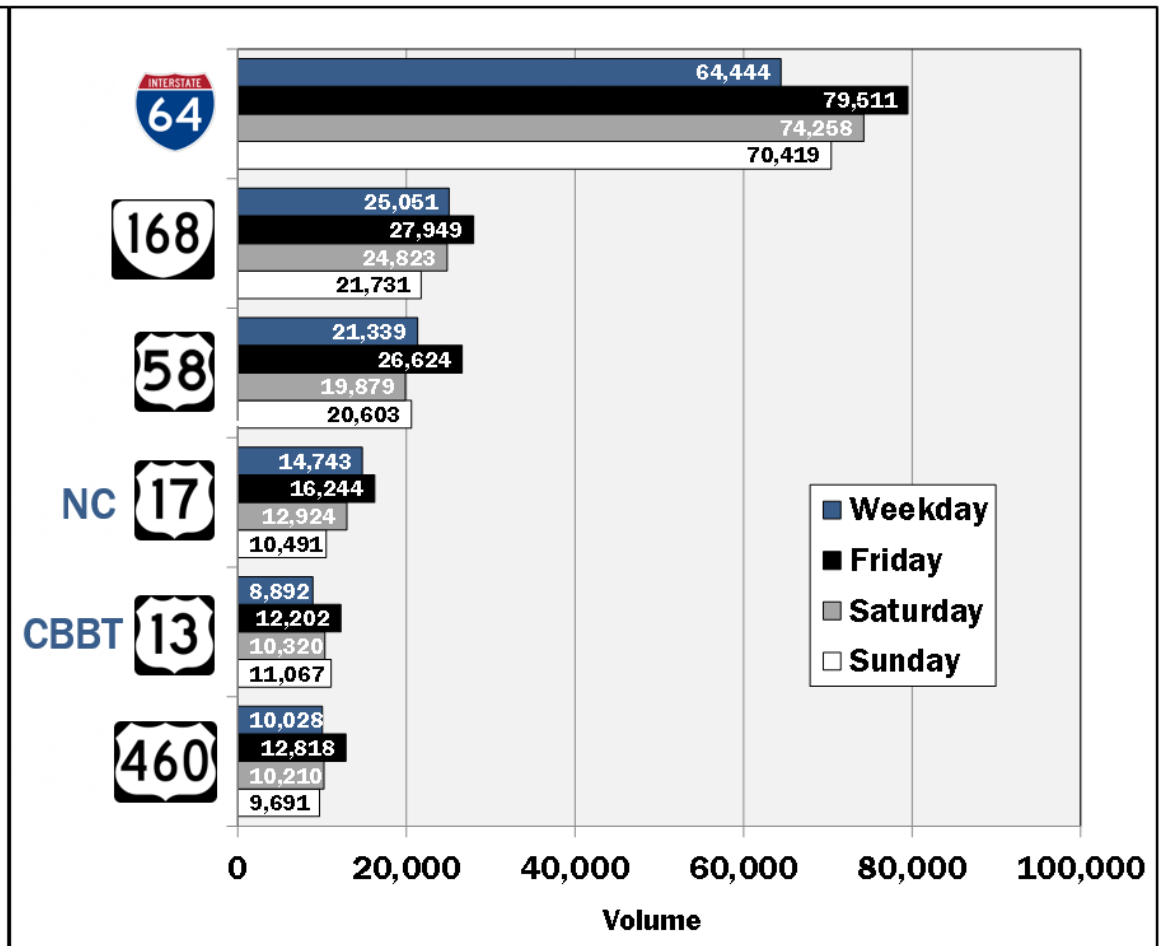
Data source: HRTPO analysis of VDOT and CBBT data.

Vehicles By Season and Day of Week

SUMMER



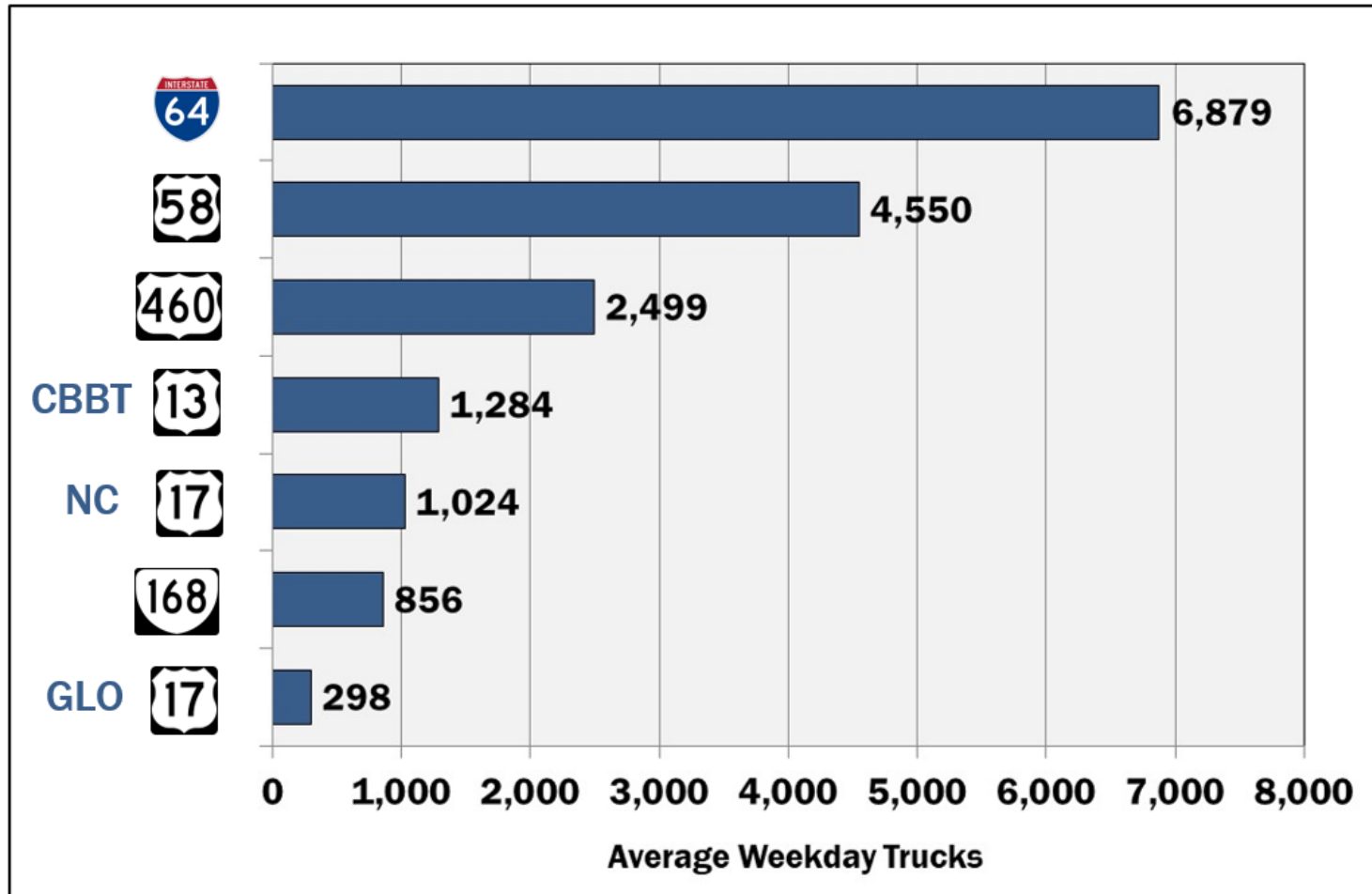
NON-SUMMER



VOLUMES BY SEASON AND DAY OF WEEK AT REGIONAL GATEWAYS, 2019

Data source: HRTPO analysis of VDOT and CBBT data. Daily data not available on Route 17 at the Gloucester County gateway

Trucks by Gateway



WEEKDAY TRUCK VOLUMES AT REGIONAL GATEWAYS, 2019

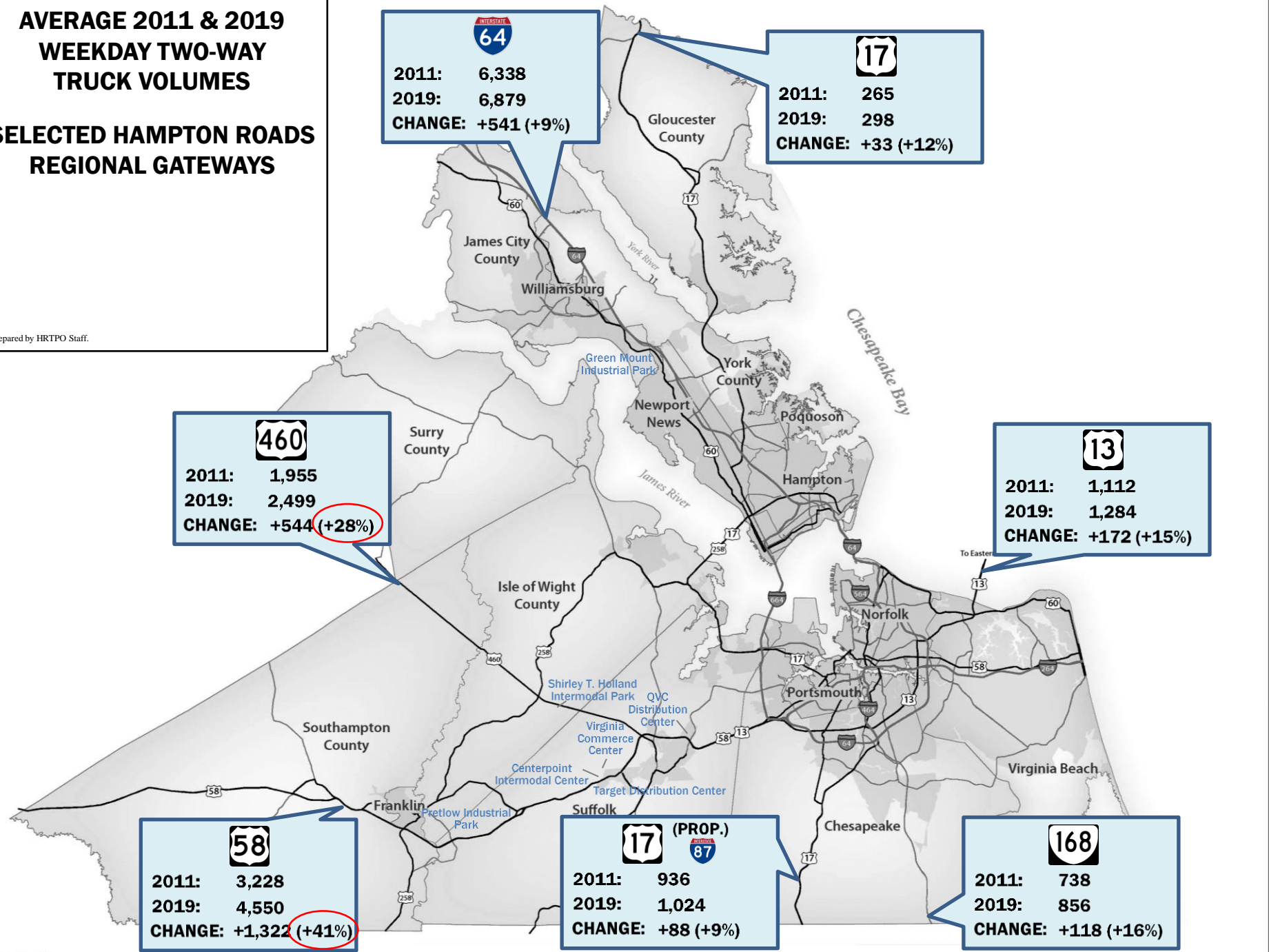
Data source: HRTPO analysis of VDOT and CBBT data.

Trucks

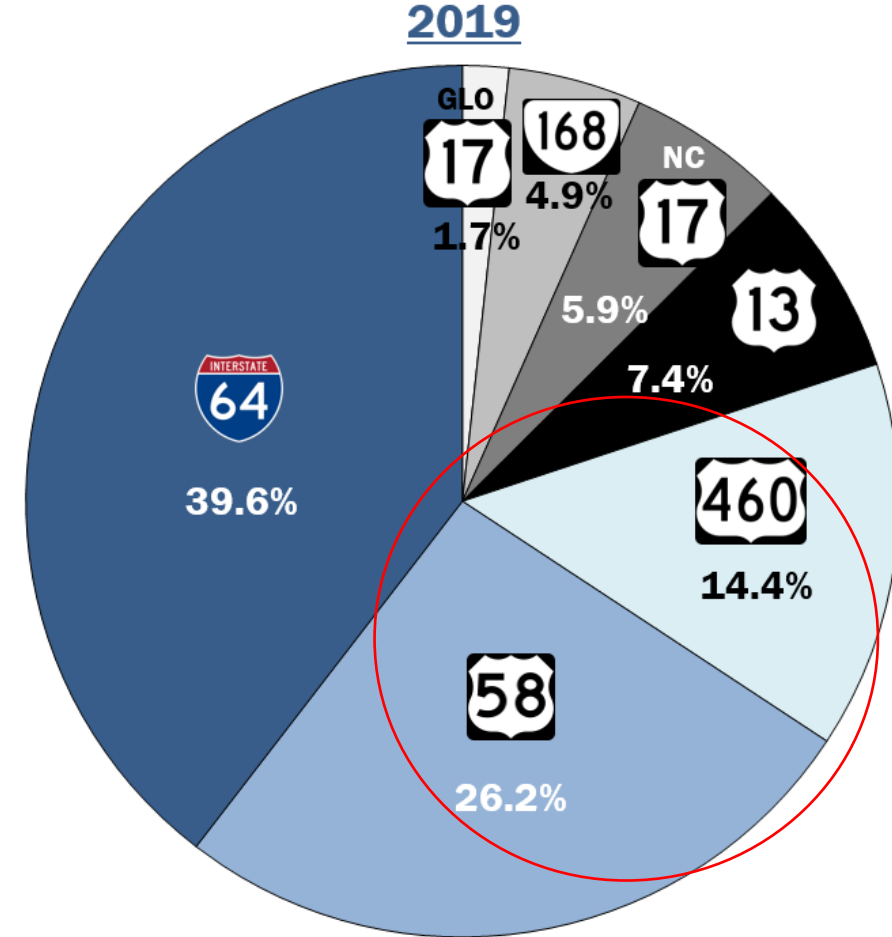
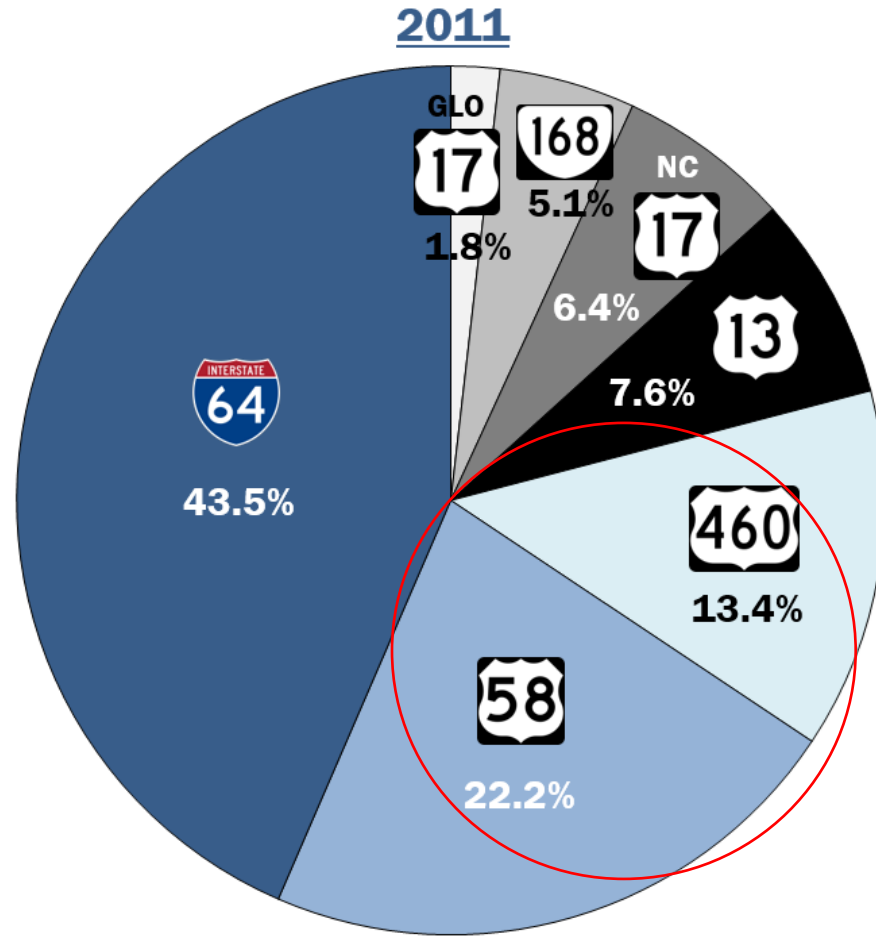
AVERAGE 2011 & 2019 WEEKDAY TWO-WAY TRUCK VOLUMES

SELECTED HAMPTON ROADS REGIONAL GATEWAYS

Prepared by HRTPO Staff.



Truck Split By Gateway



SHARE OF WEEKDAY TRUCK VOLUMES AT REGIONAL GATEWAYS, 2011 AND 2019

Data source: HRTPO analysis of VDOT and CBBT data.

II. Candidate Projects- Bang-for-the-Buck

Candidate Gateway Projects

- Two projects on US 58
- Two projects on US 17
- One project on I-64

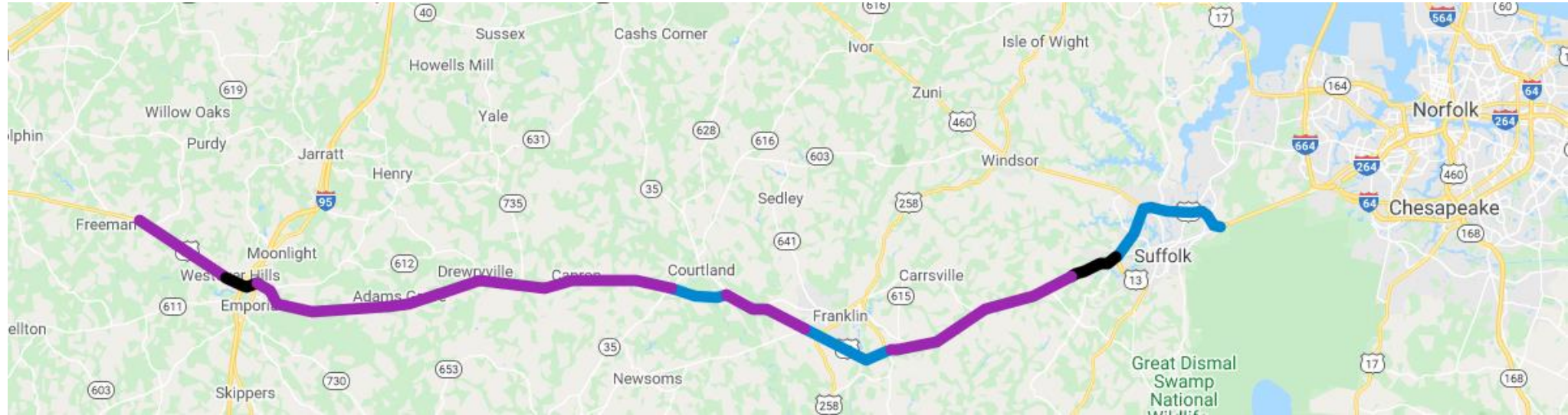
US 58- Existing traffic signals



US 58 “Mostly Limited Access” (MLA)

Legend

- Blue: already fully-controlled access
- Purple: to be upgraded to fully-controlled access
- Black: to remain signalized



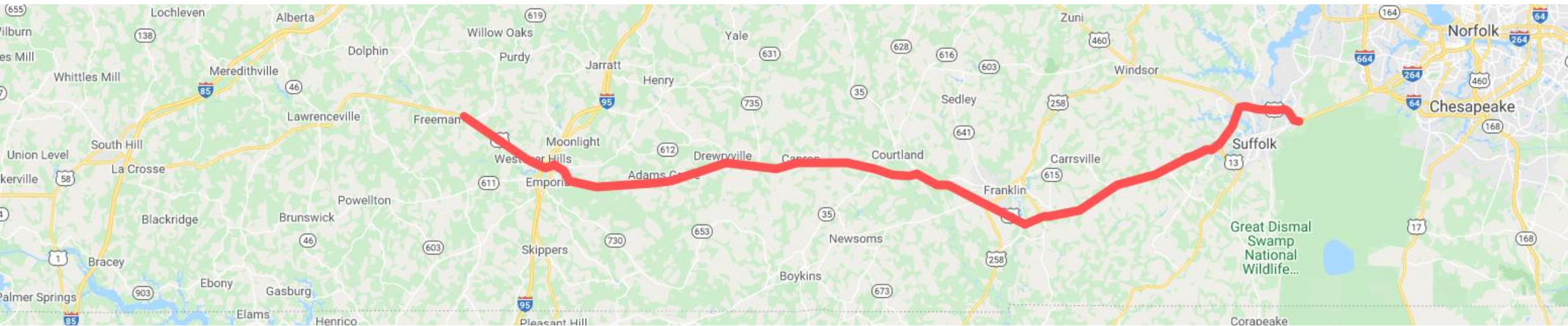
• Travel Time Improvement

- For trips accessing I-95

5 minutes*

*vs. current travel time; source: 2019 VDOT study, p. 22; total savings less 1 minute (Greensville WCL to Ruritan Dr)

I-58 (upgrade to Interstate)



- Travel Time Improvement

- For trips accessing I-95

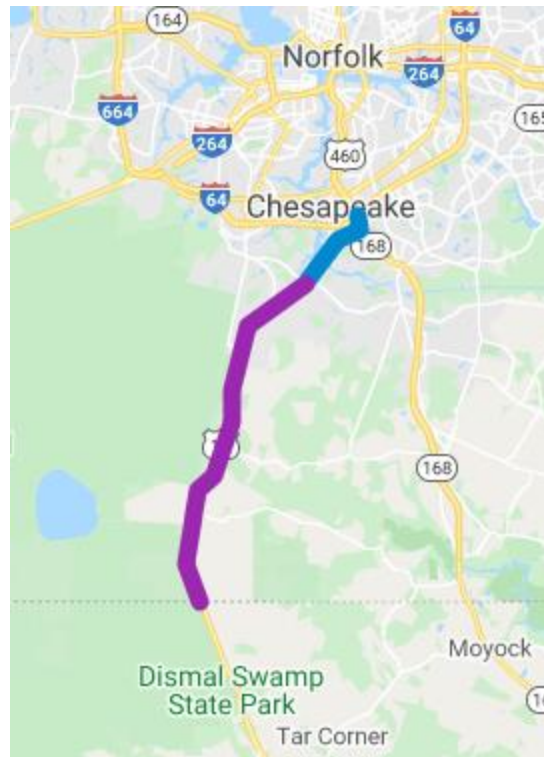
12 minutes*

I-87 (VA)

Existing Conditions

Legend

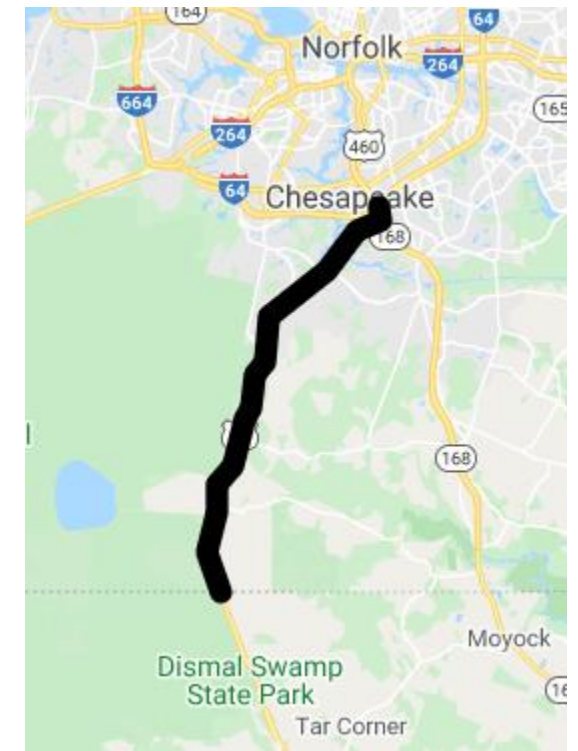
- Blue: already fully-controlled access
- Purple: not fully-controlled access



Work: upgrade to Interstate

Travel Time Improvement

- **2 minutes**

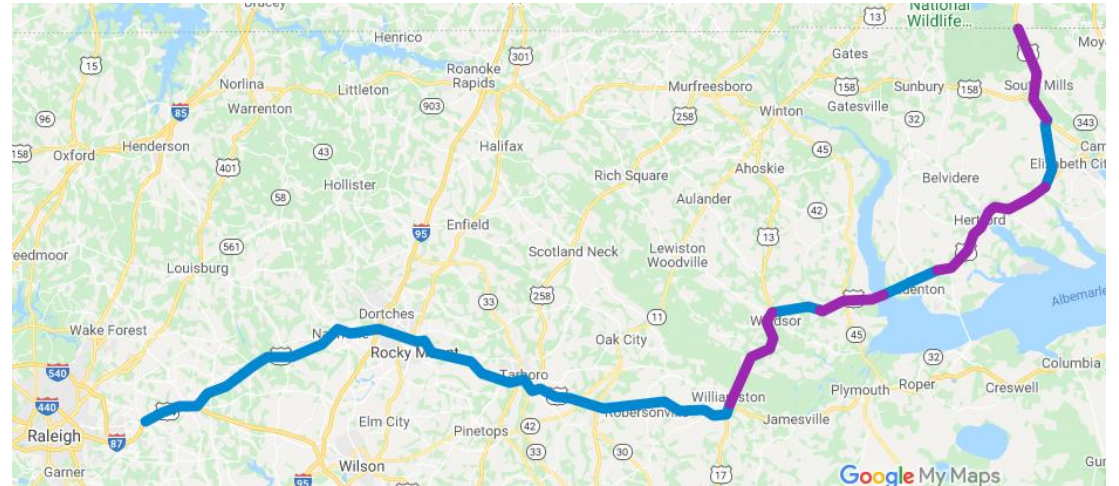


I-87 (NC)

Existing
Conditions

Legend

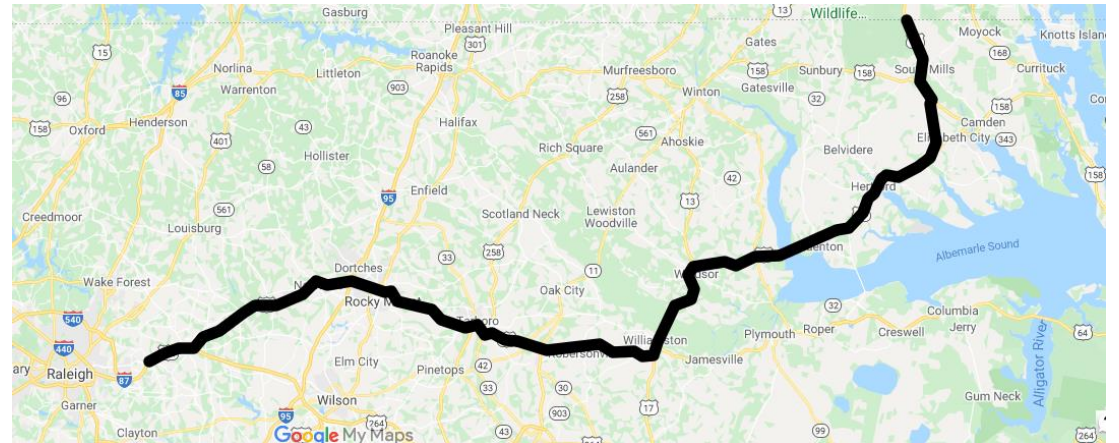
- Blue: already fully-controlled access
- Purple: not fully-controlled access



Work:
upgrade to
Interstate

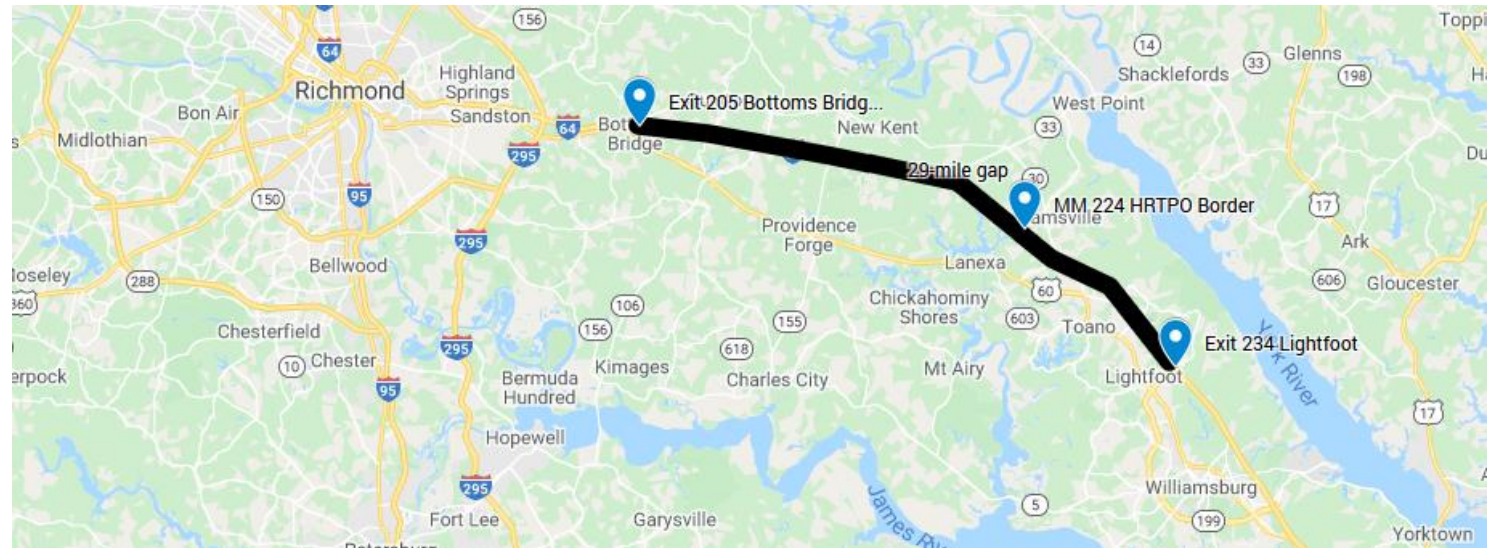
Travel Time Improvement

- **14 minutes**



I-64 Gap

- Termini: MM205 to MM234 (29 miles)
- Work: Widening to 3 lanes in each direction
- Time Improvement: 2 minutes*



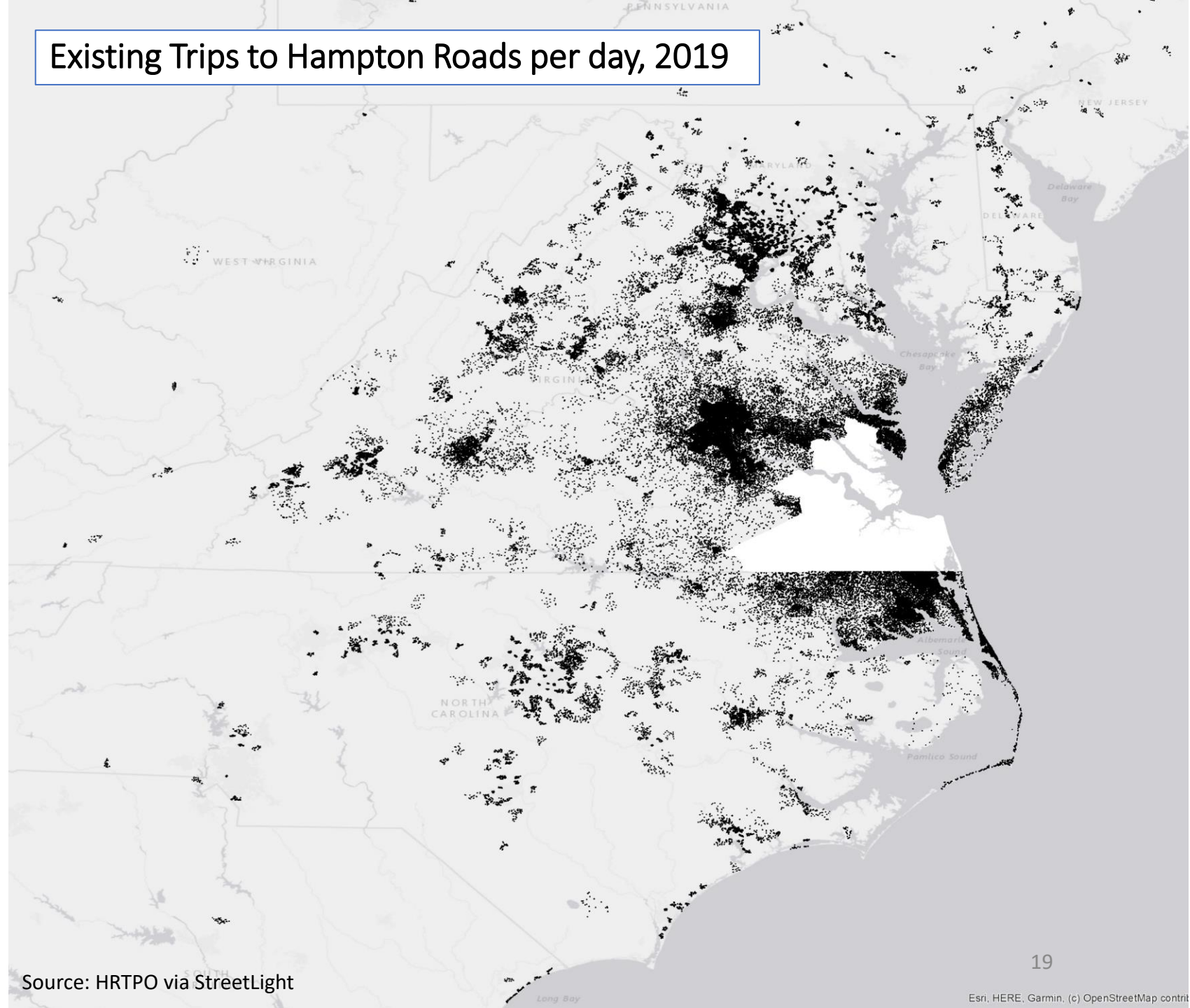
B. Impact of Candidate Projects

1. **Trips** between Hampton Roads and external areas
2. **Trucking** between Hampton Roads and external areas
3. Hurricane **Evacuation**

1. Trips between HR and External Areas

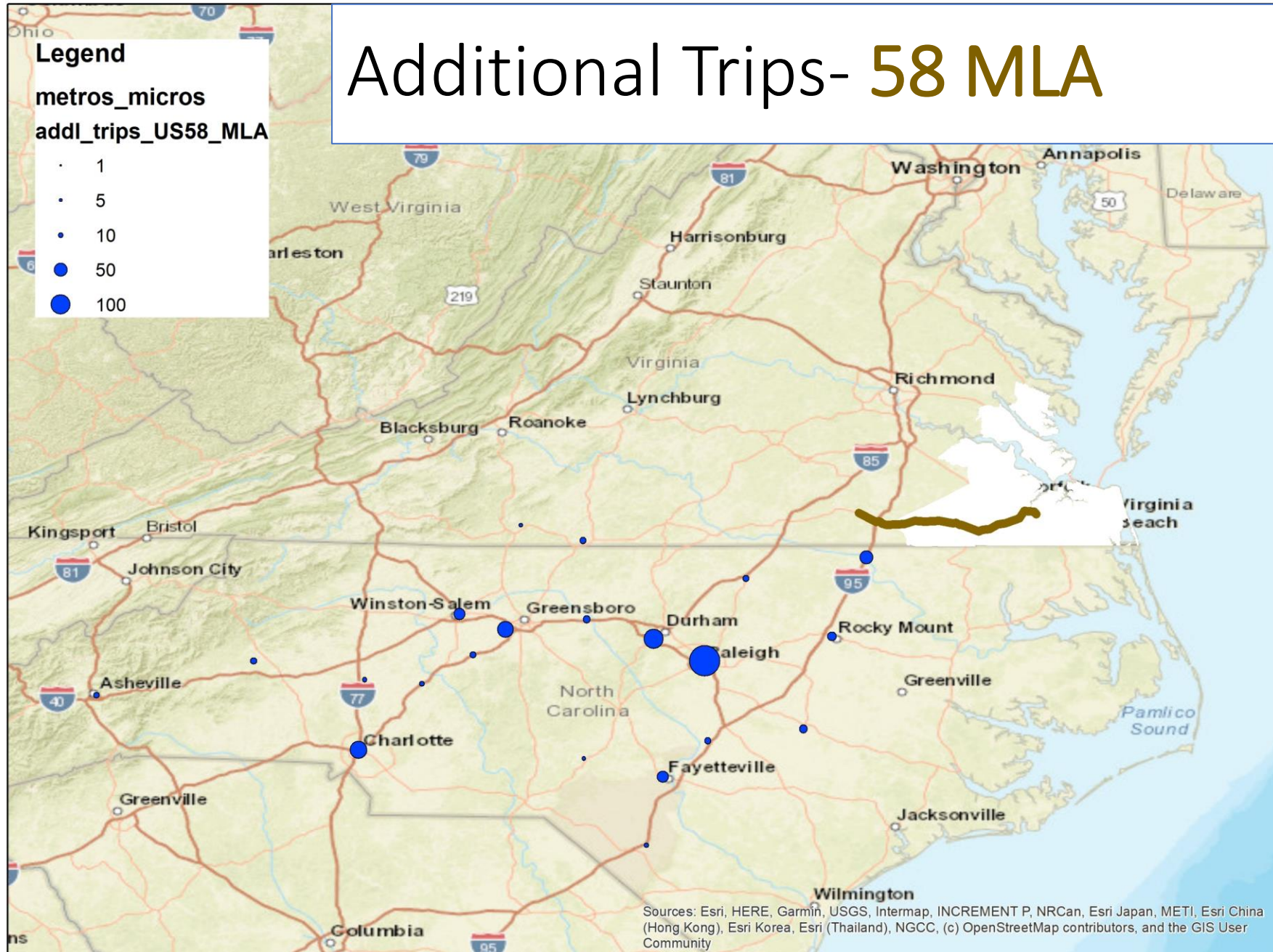
Note:
“Trips” are for any reason-
business trips, family visits, vacations,
etc.

Existing Trips to Hampton Roads per day, 2019

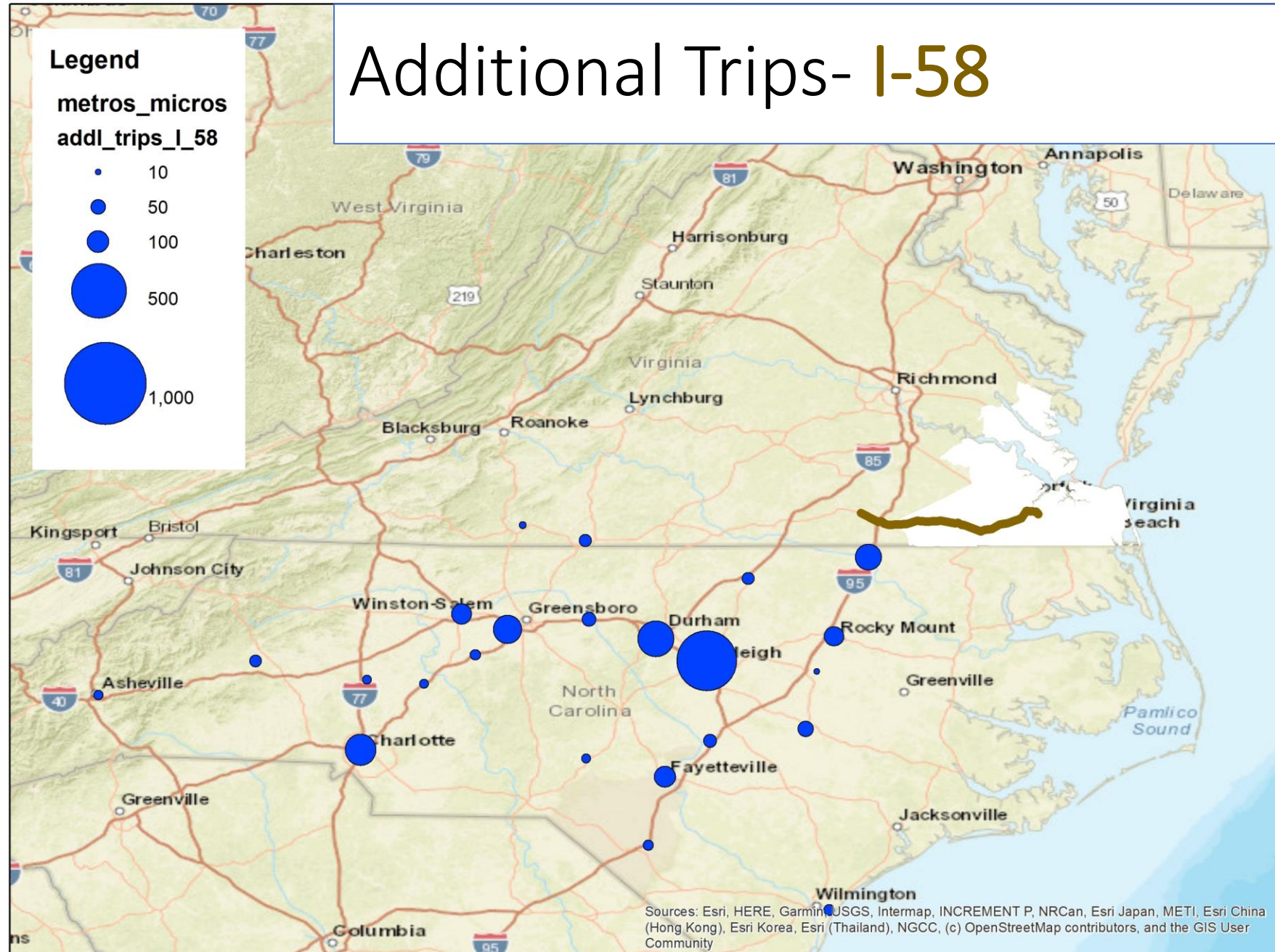


Source: HRTPO via StreetLight

Additional Trips- 58 MLA



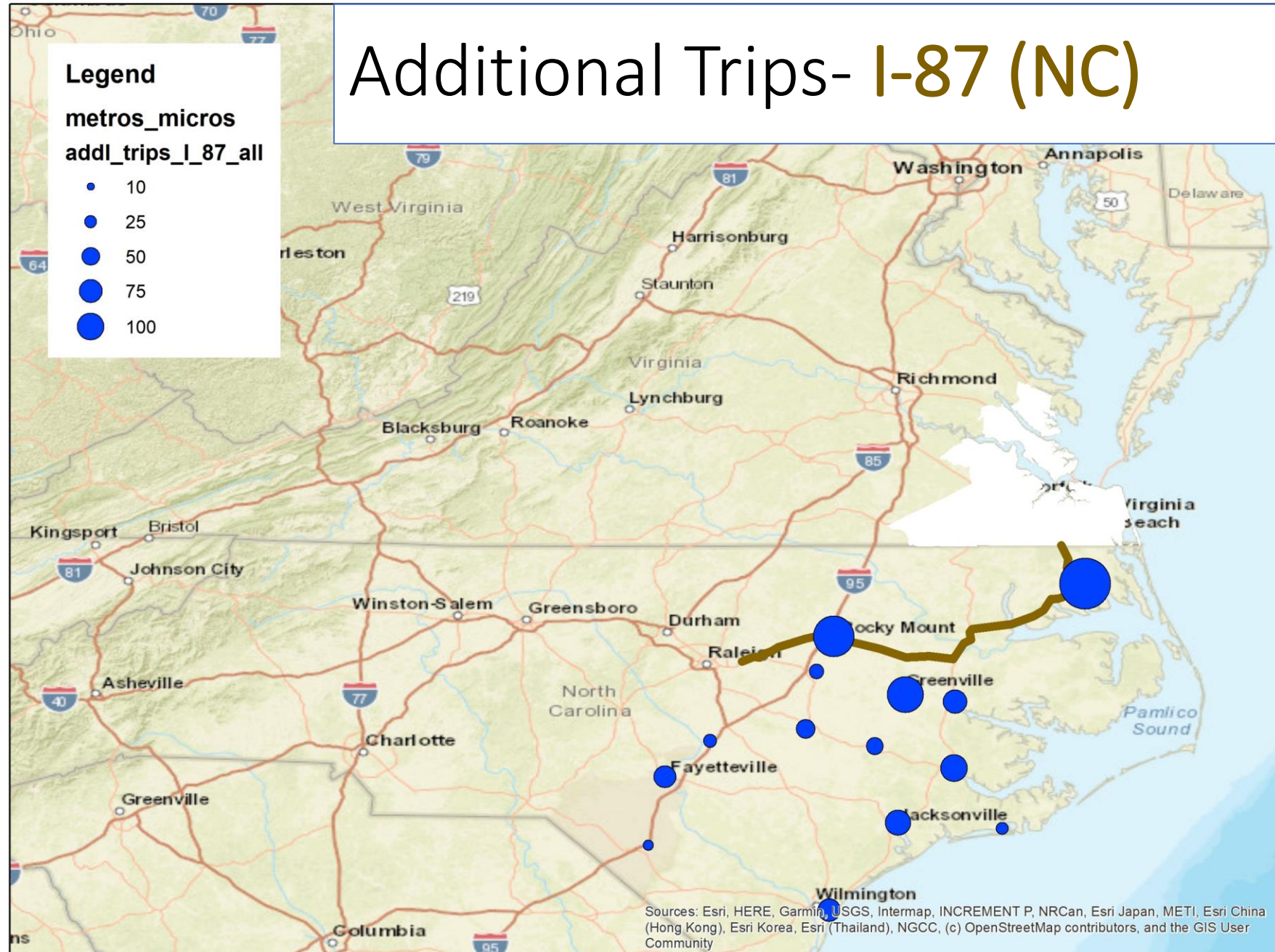
Additional Trips- I-58



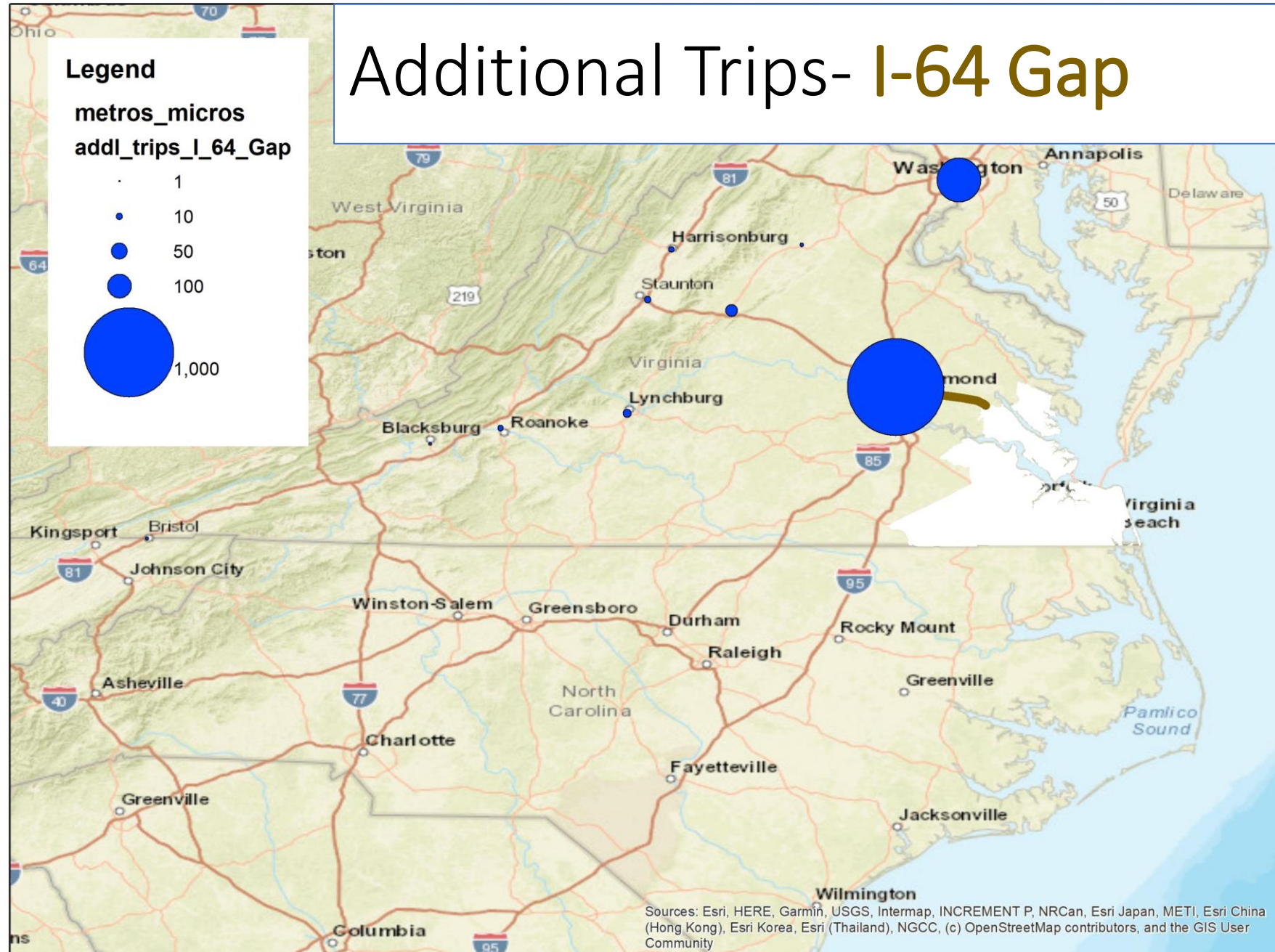
Additional Trips- I-87 (VA)



Additional Trips- I-87 (NC)

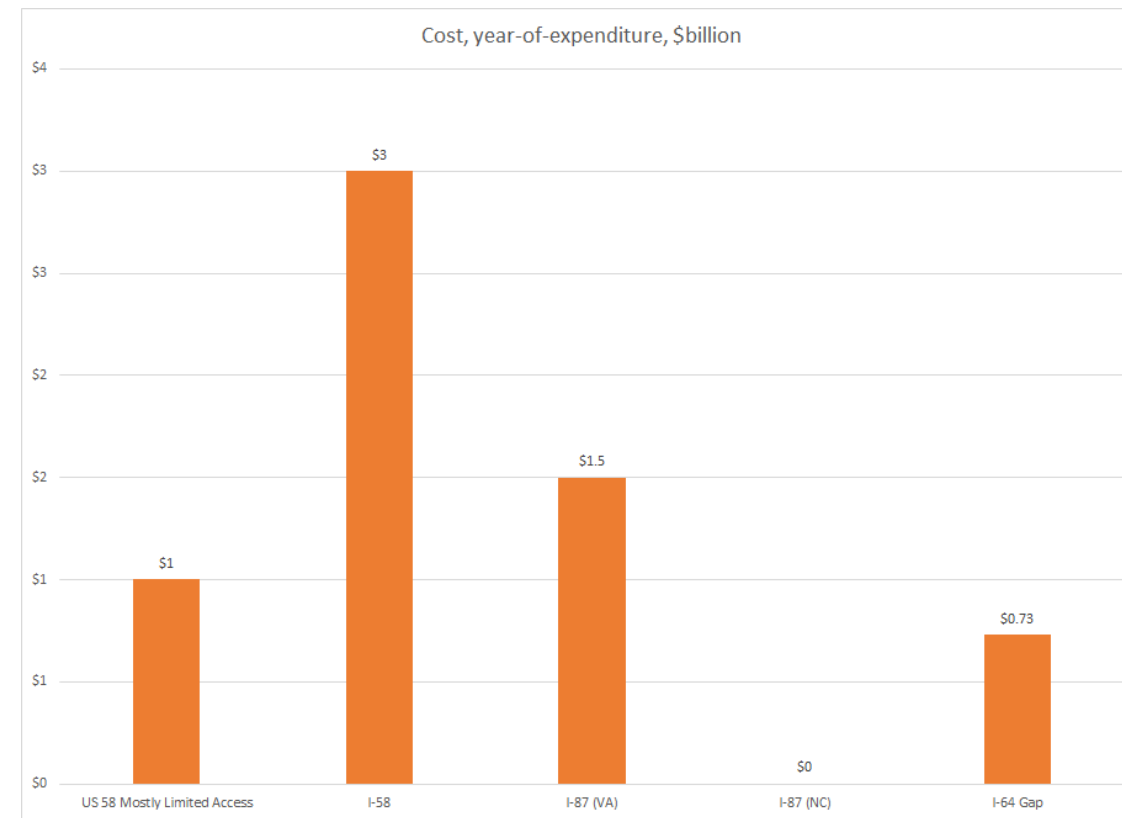
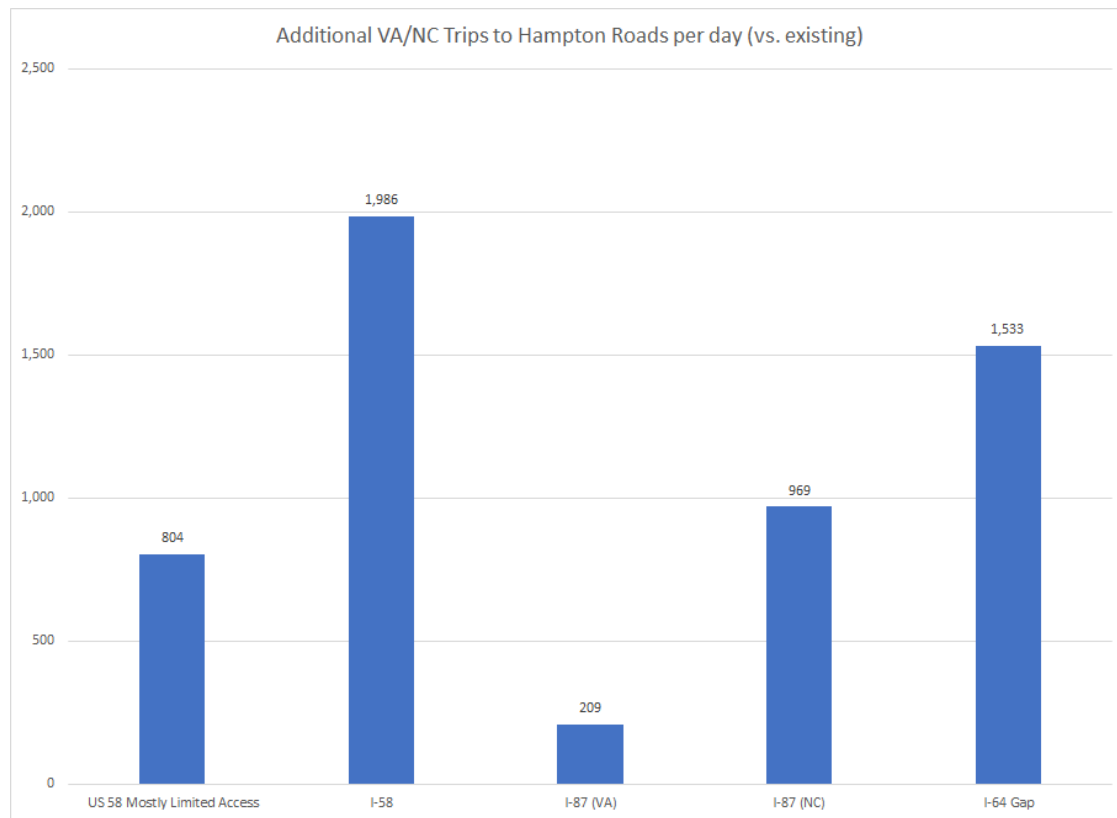


Additional Trips- I-64 Gap



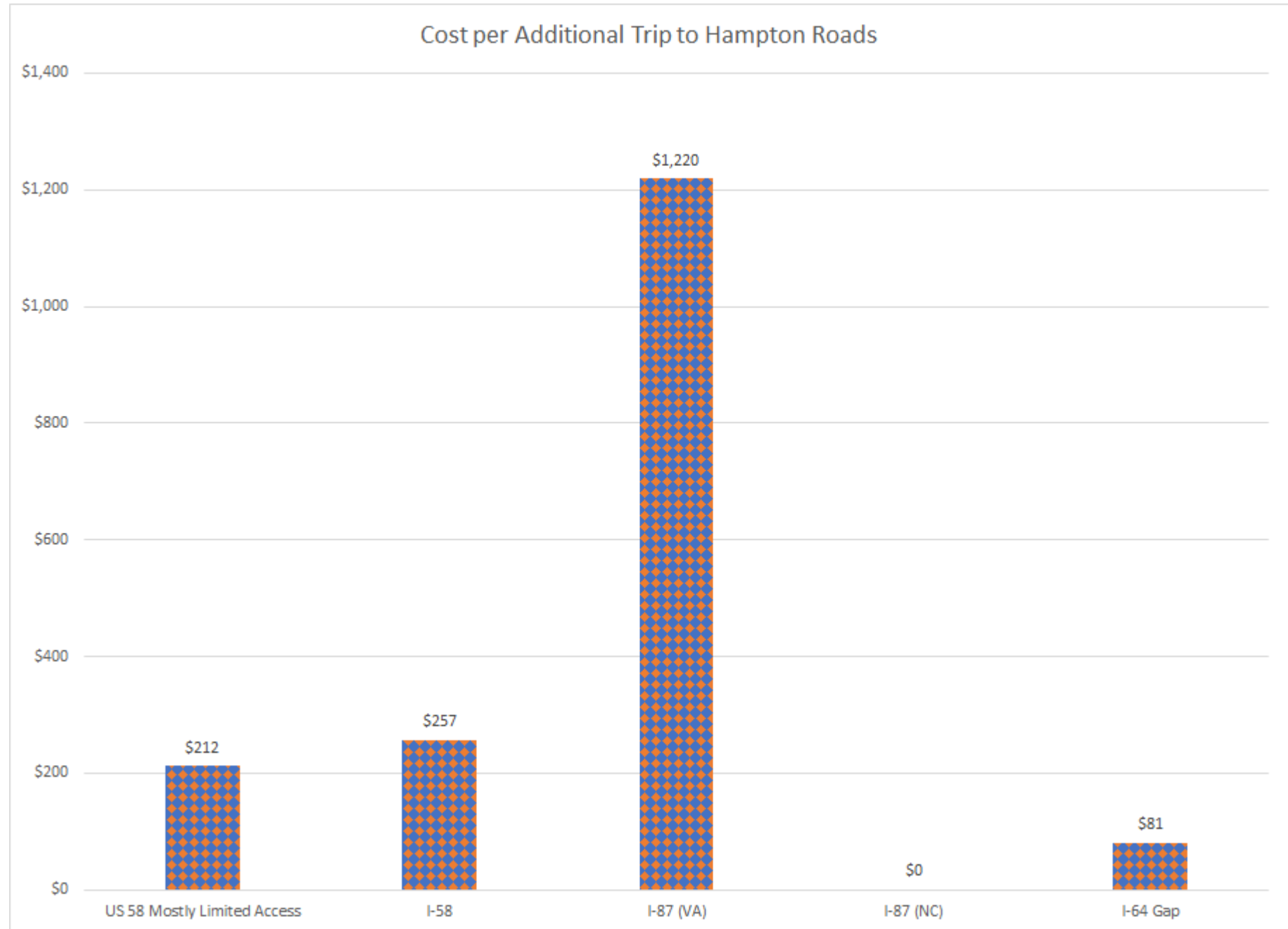
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Additional Trips and Costs



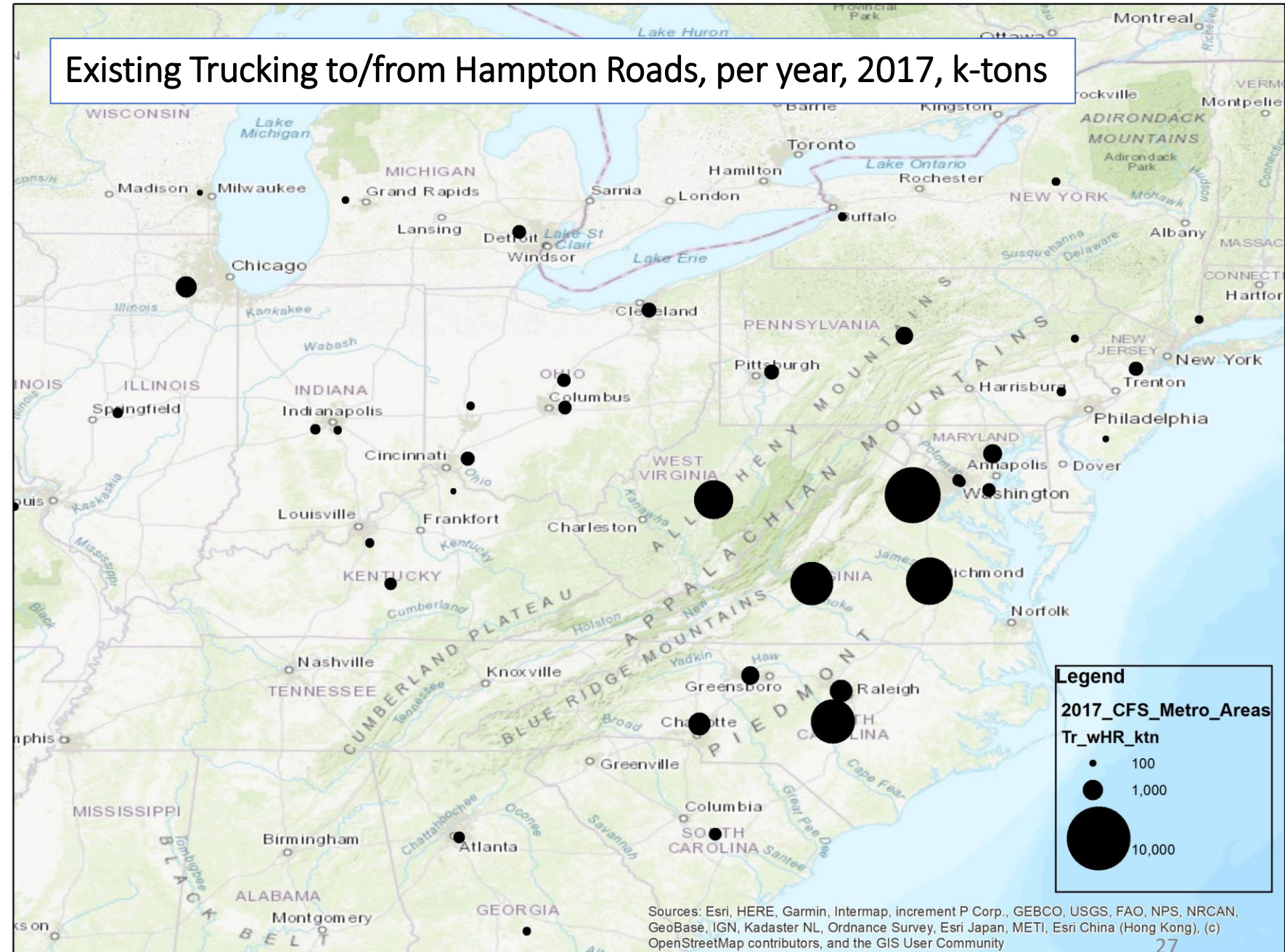
Cost per Additional Trip to HR

(lower is better)



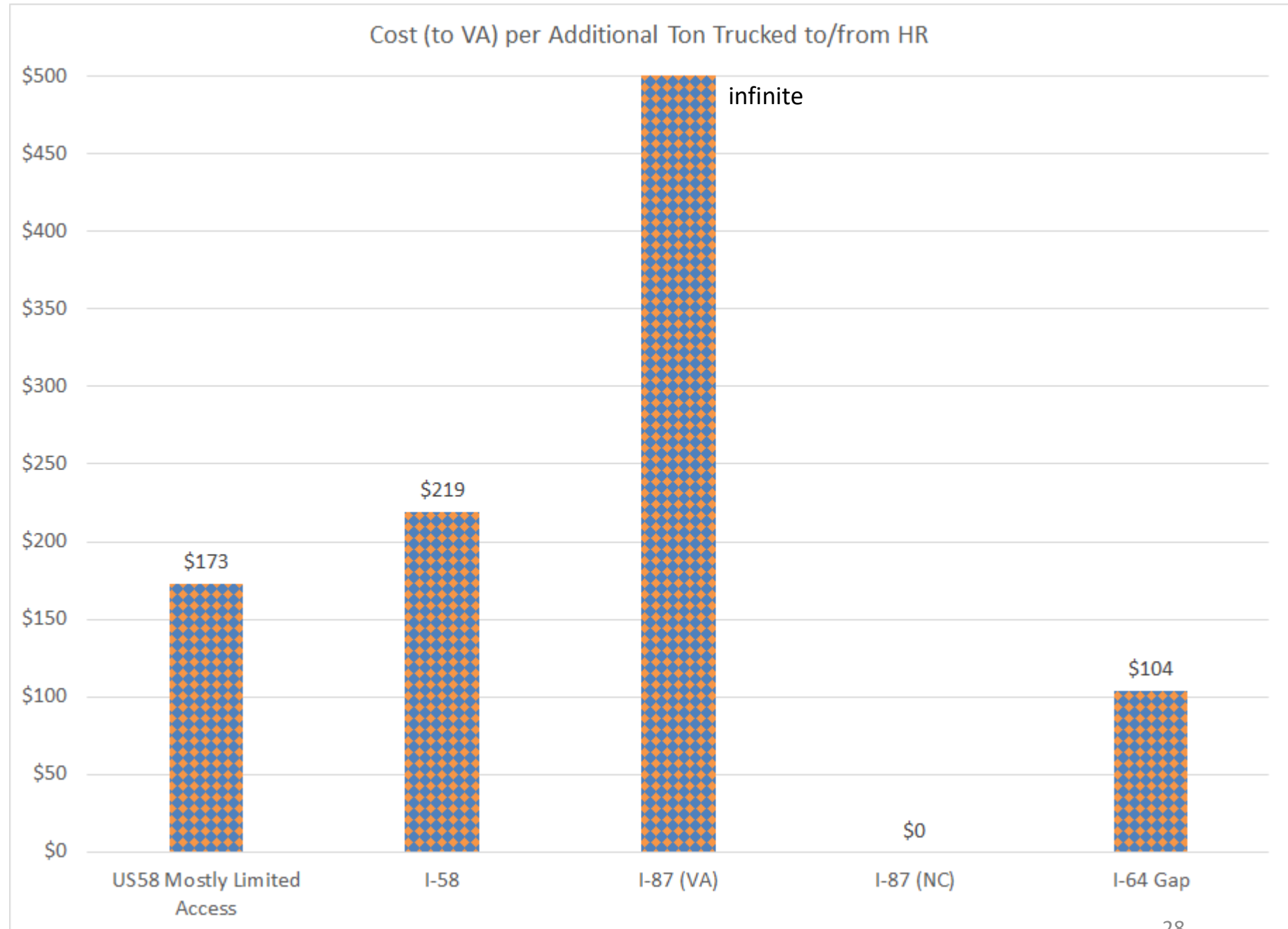
2. Trucking to/from Hampton Roads

Existing Trucking to/from Hampton Roads, per year, 2017, k-tons



Cost per
Additional
Ton
Trucked
to/from HR

(lower is better)



3. Impact of Projects on Evacuation

EVACUATION ROUTES

If officials order an evacuation for your area, use one of these designated routes. Become familiar with these routes and plan to leave early to avoid major traffic delays.

PENINSULA

- » Interstate 64 West
- » Interstate 664 North
- » U.S. Route 17 North
- » U.S. Route 60 West
- » Route 143

During severe weather, the Jamestown-Scotland Ferry is removed from service and should NOT be considered part of your evacuation plan.

SOUTHSIDE

- » 264 West and Interstate 64 Hampton Roads Bridge-Tunnel
- » Interstate 664 North Monitor Merrimac Memorial Bridge-Tunnel
- » U.S. Route 17 North
- » U.S. Route 58 West
- » U.S. Route 460 West
- » Route 10 West

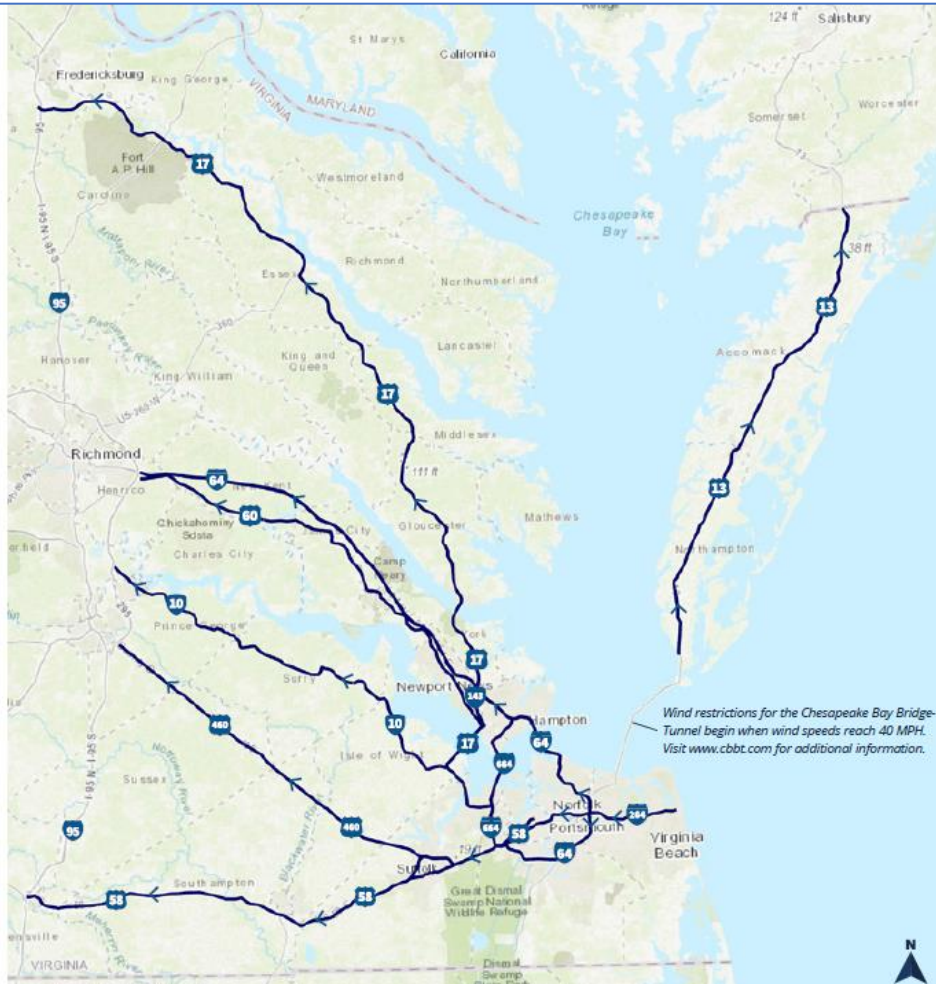
The Chesapeake Bay Bridge-Tunnel is NOT an evacuation route. For closure information, visit www.cbtt.com.

EASTERN SHORE

All Eastern Shore residents will use U.S. Route 13 North toward Salisbury, Maryland.



LOOK FOR THESE SIGNS DURING AN EVACUATION



- ✓✓ **Capacity Improving Projects on an Evacuation Route**
 - I-58
 - I-64 Gap
- ✓ **Travel-time Improving Projects on an Evacuation Route**
 - US 58 MLA
- **Projects NOT on an Evacuation Route**
 - I-87

Study Overview

- Vision for the Study: Strategic and Systematic Analysis
- Presented Today
 - Volumes
 - Candidate Projects
 - Scope
 - Bang-for-the-Buck
- Future Work
 - Safety
 - Forecasted Volumes and Congestion
 - Quality of Life
 - Community Impacts
 - Economic Development Opportunities