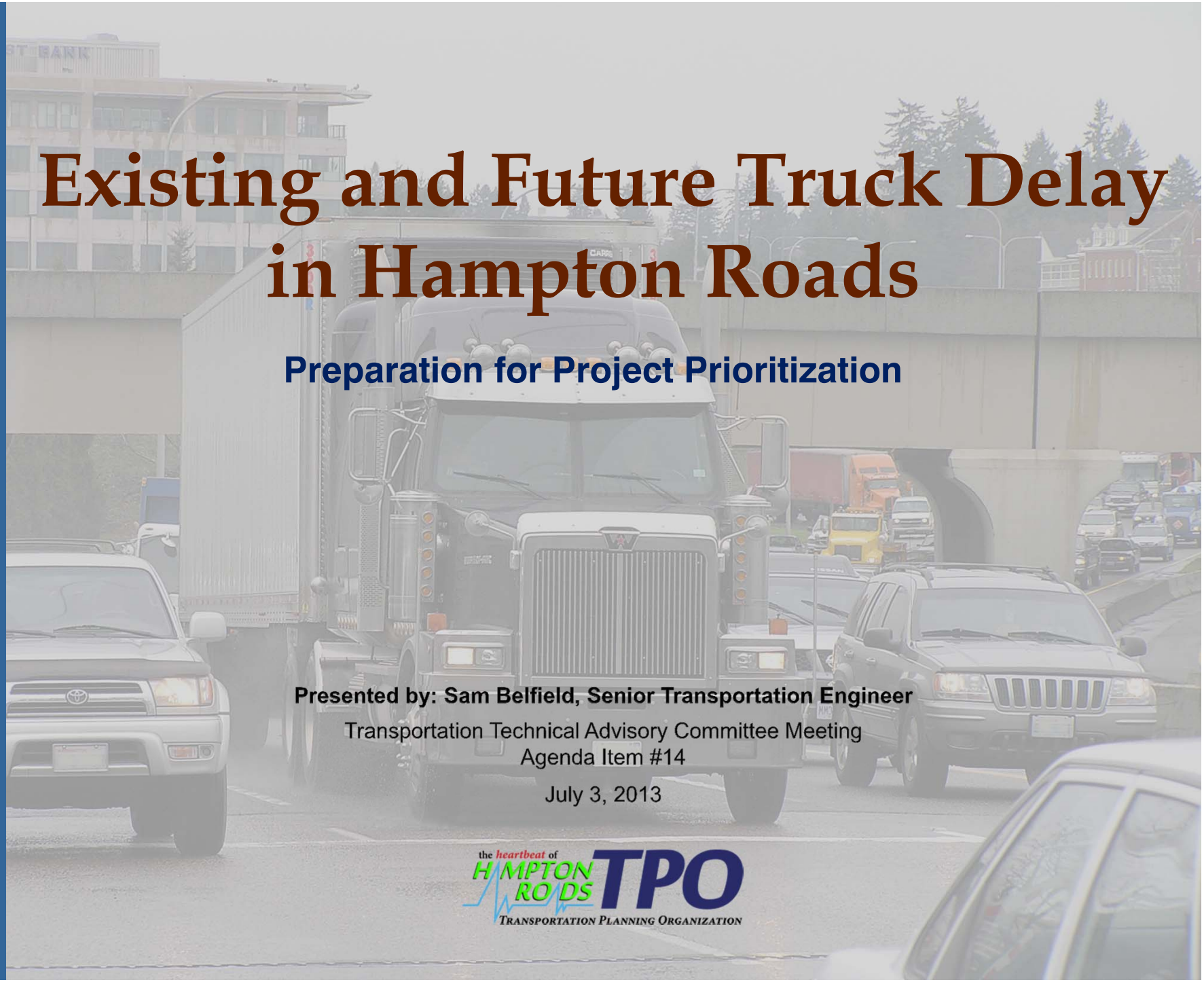

Existing and Future Truck Delay in Hampton Roads

Preparation for Project Prioritization

Presented by: Sam Belfield, Senior Transportation Engineer

Transportation Technical Advisory Committee Meeting
Agenda Item #14

July 3, 2013

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TRANSPORTATION PLANNING ORGANIZATION

Study Outline

1. **Truck Delay (2010 Existing)**
   (from HRTPO's HR Regional Freight Study – September 2012)

2. **Truck Delay (20-Year Forecast)**

3. **Comparison of Truck Volumes and Delay (2010 Existing vs. 20-Year Forecast)**

Study Purpose

- **Forecast truck volumes and congestion to be faced by trucks (hours of delay) in the next 20 years.**

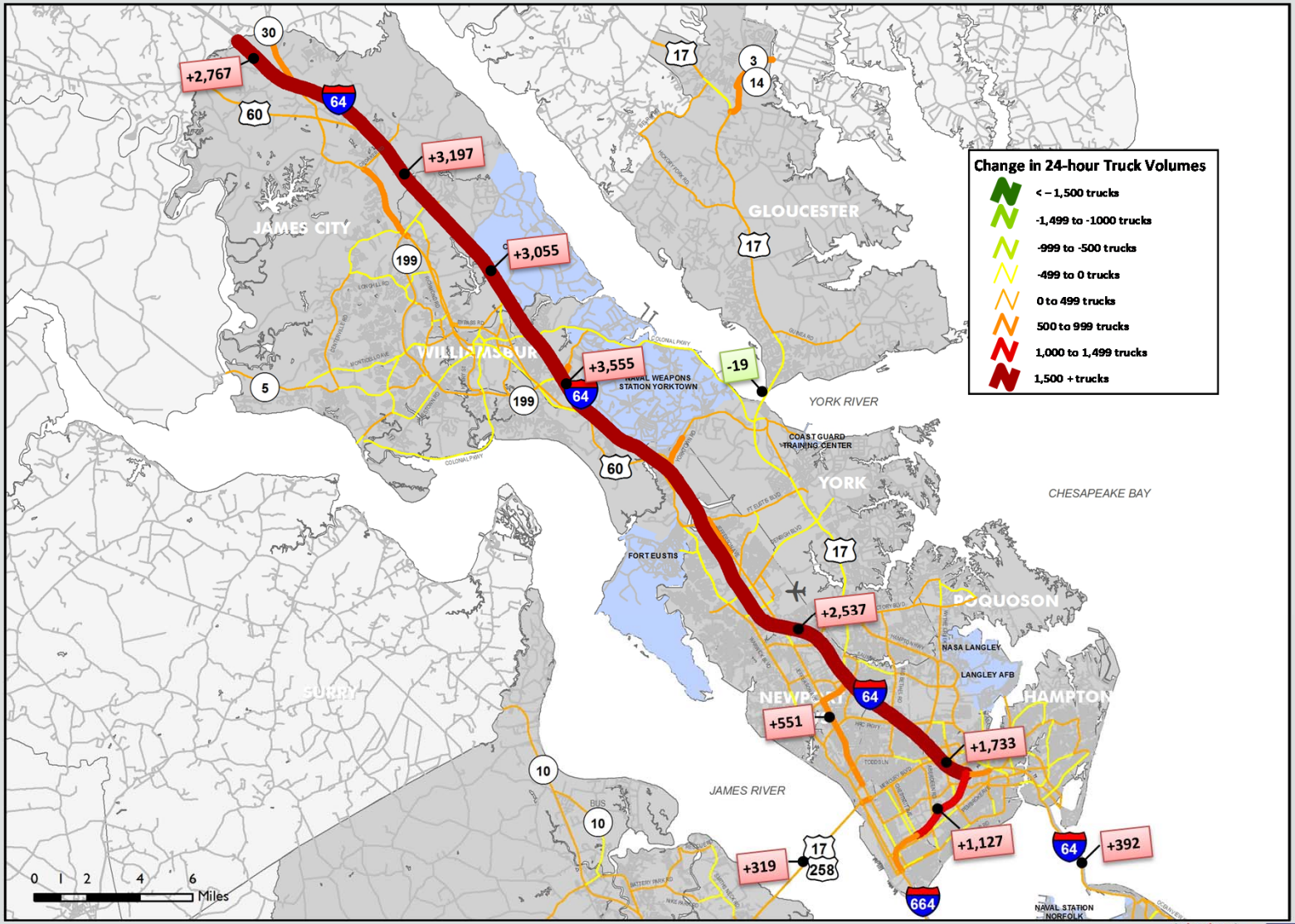
- **Incorporate truck delay results into future versions of the Project Prioritization Tool to improve the HRTPO Board's ability to consider freight in project scoring and selection.**

Methodology

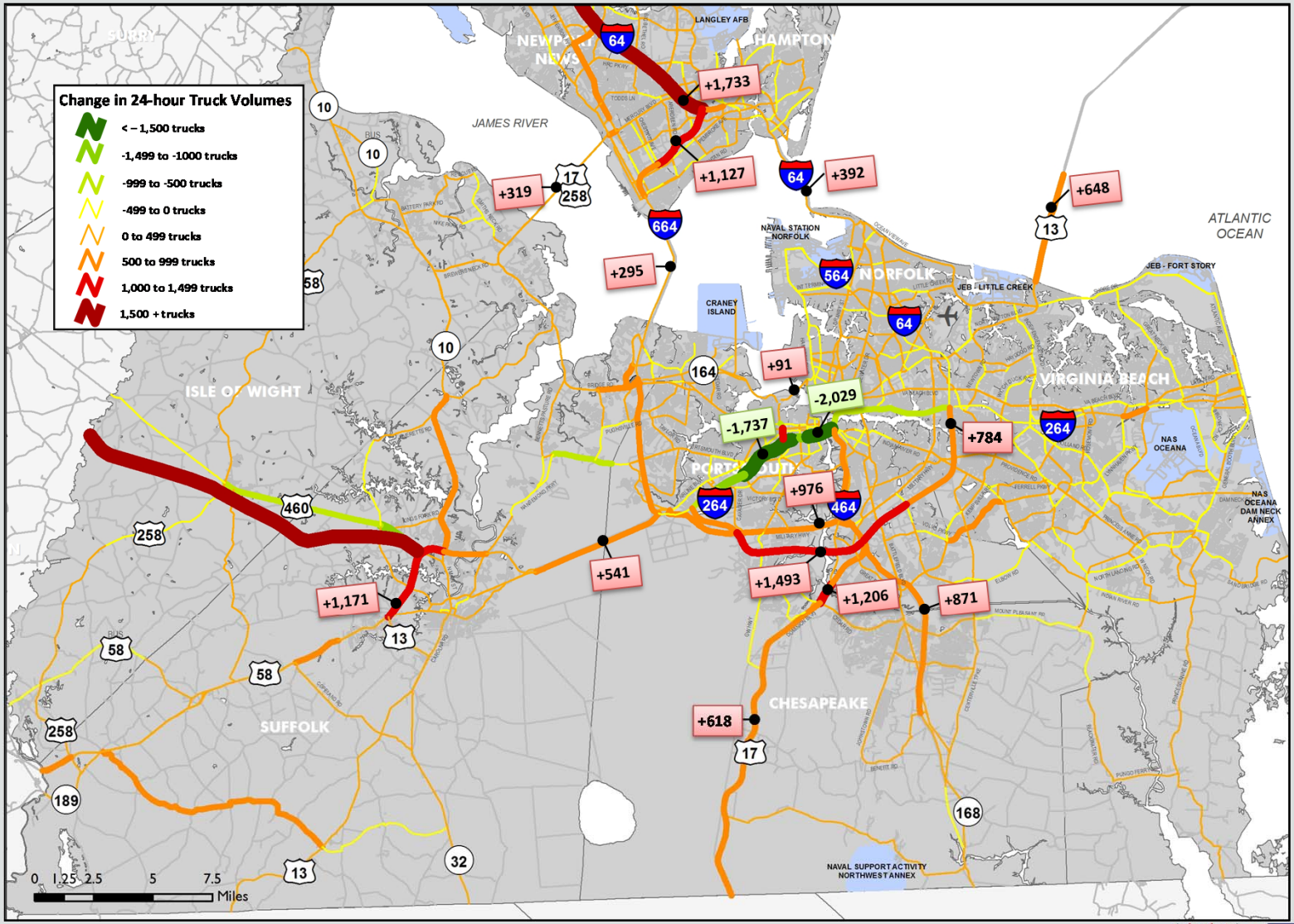
- **Used truck component of new regional travel demand model**
  - **Population, household, employment forecasts from 2034 LRTP**
  - **Network from 2018 Air Quality (Approximation of "Existing + Committed")**
- **Calculated Weekday Truck Delay (Hours)**
  - **Difference between uncongested and congested travel time**

$$\textbf{Total Truck Delay} = \left(\left(\frac{Truck\ Volume\ x\ Segment\ Length}{Segment\ Actual\ Travel\ Speed}\right) - \left(\frac{Truck\ Volume\ x\ Segment\ Length}{Segment\ Free\ Flow\ Travel\ Speed}\right)\right)$$

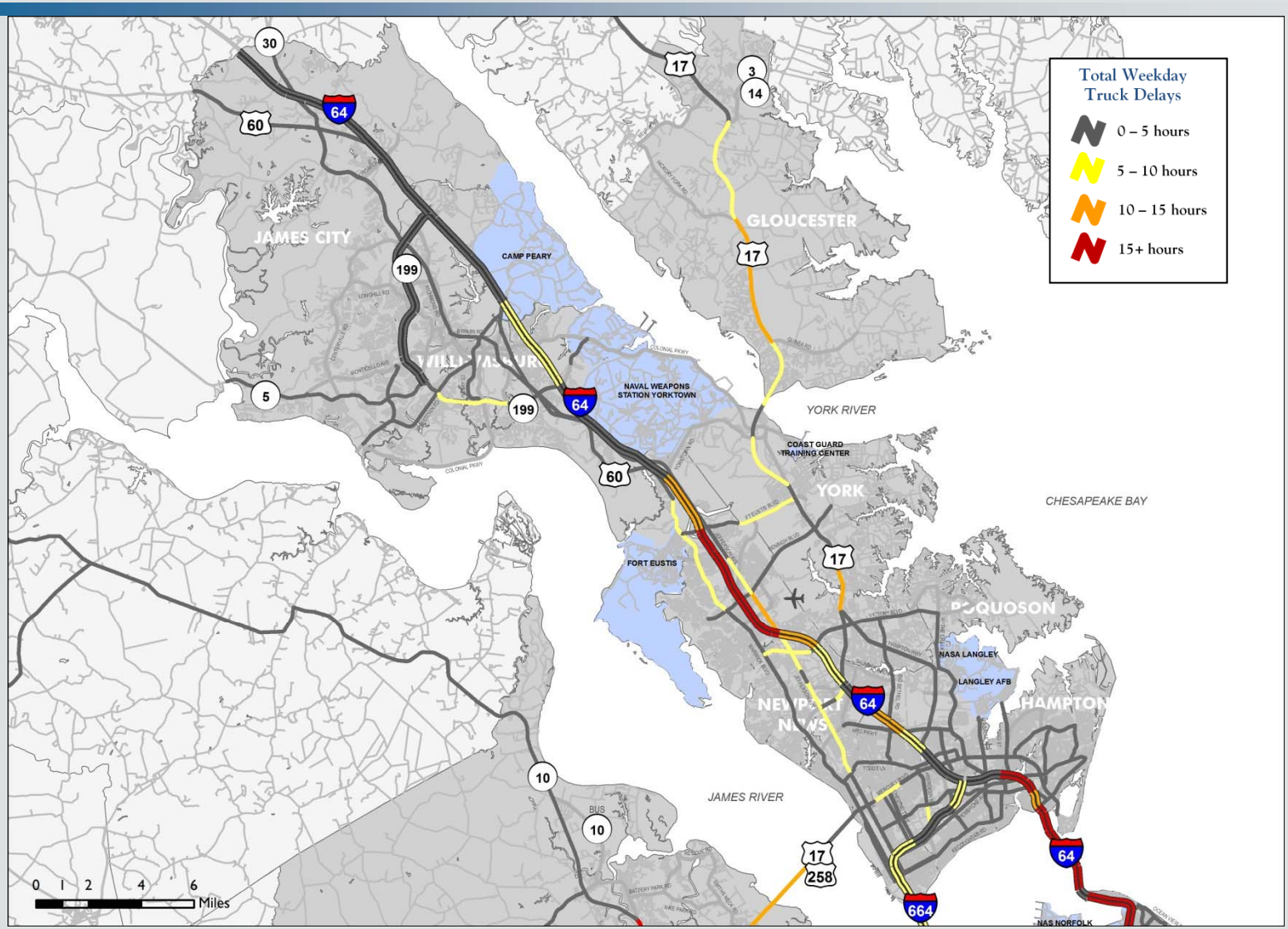
Change in Weekday Truck Volumes – Peninsula
(20-Year Forecast vs. 2010 Existing)



Change in Weekday Truck Volumes – Southside
(20-Year Forecast vs. 2010 Existing)

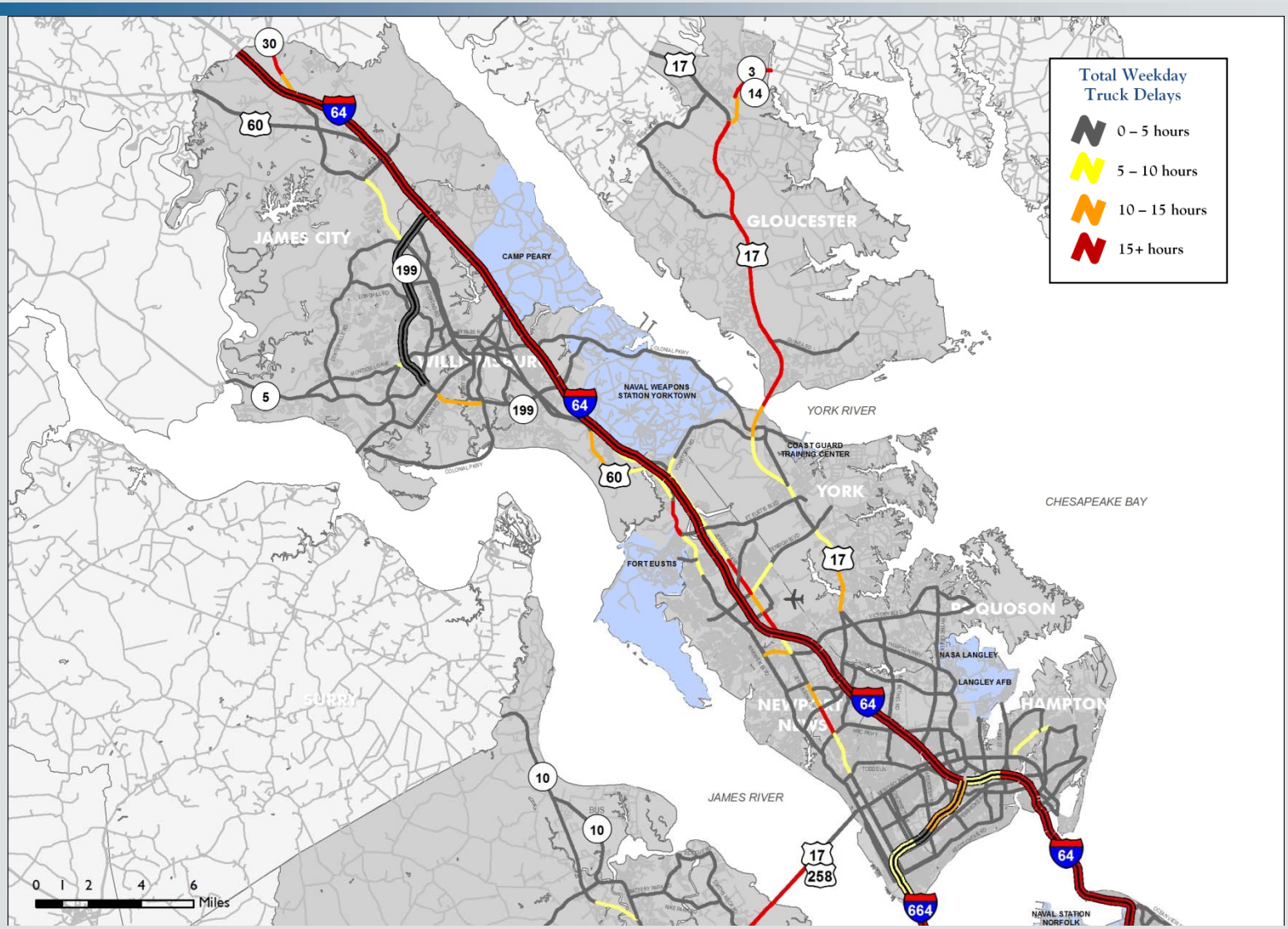


2010 Existing Total Weekday Truck Delay - Peninsula

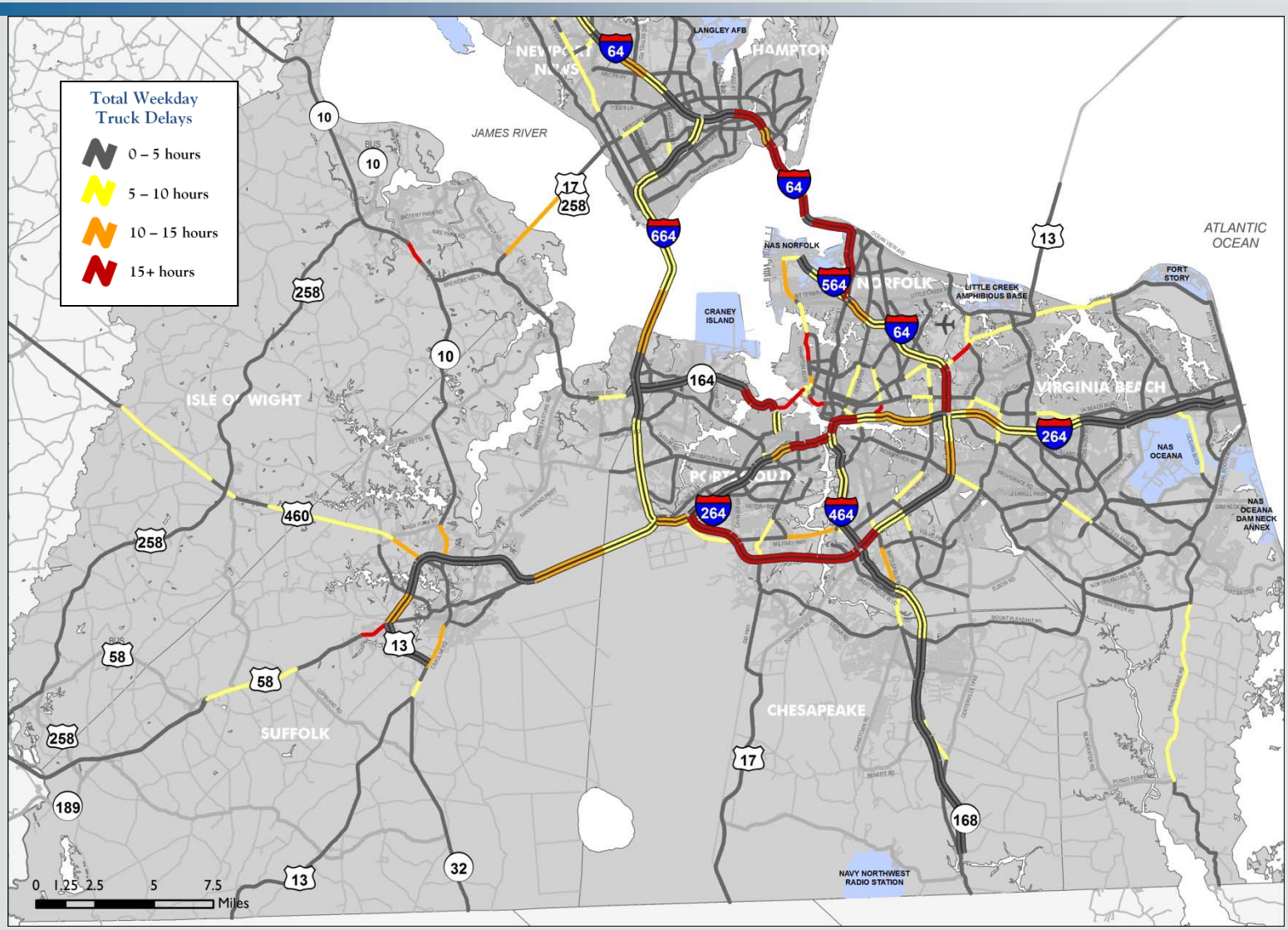


Source: HRTPO analysis of INRIX and VDOT data.

20-Year Forecast Total Weekday Truck Delay - Peninsula

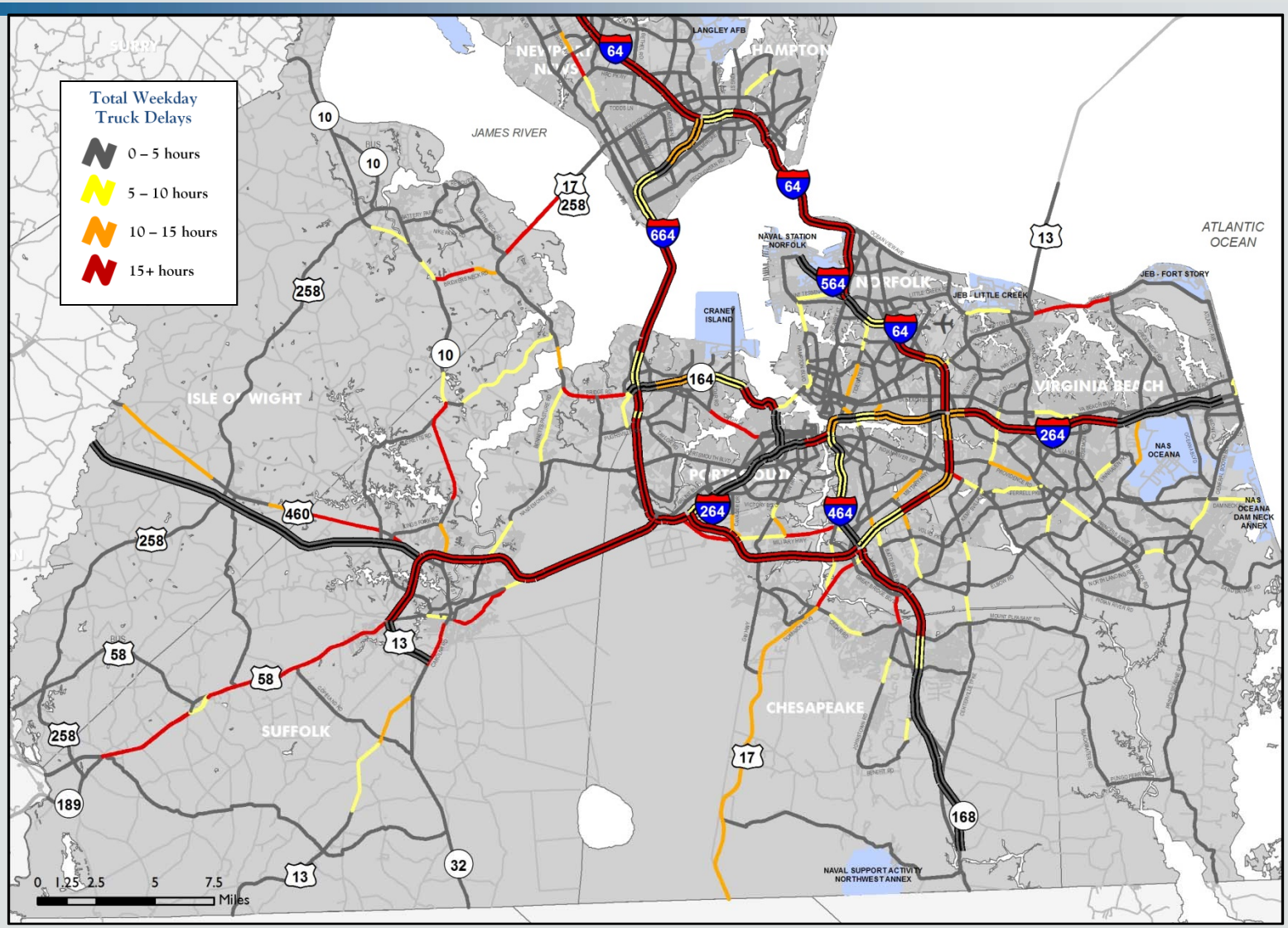


2010 Existing Total Weekday Truck Delay - Southside



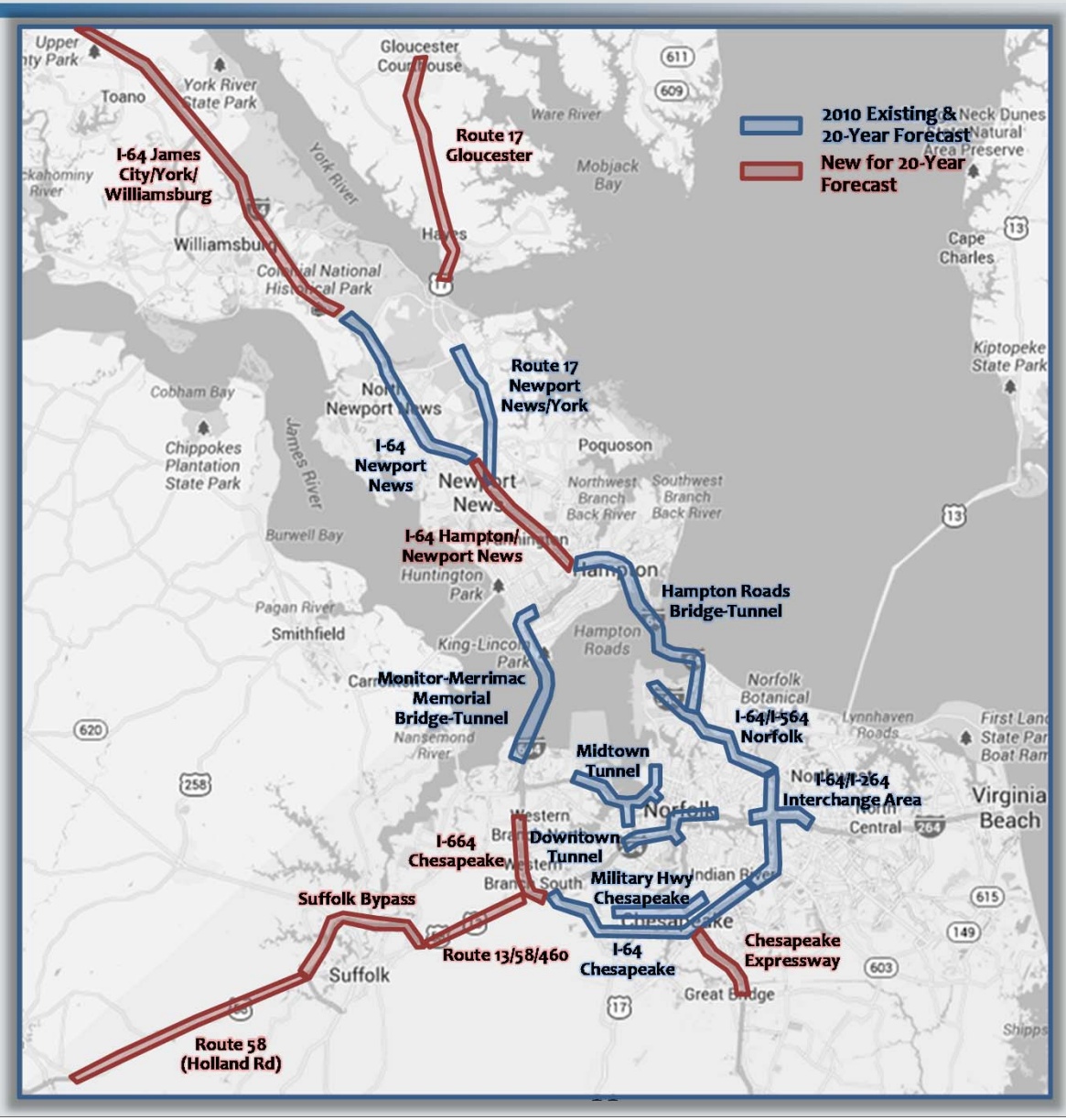
Source: HRTPO analysis of INRIX and VDOT data.

20-Year Forecast Total Weekday Truck Delay - Southside



Source: HRTPO analysis of INRIX and VDOT data.

18 High Profile Corridors
(20-Year Forecast)



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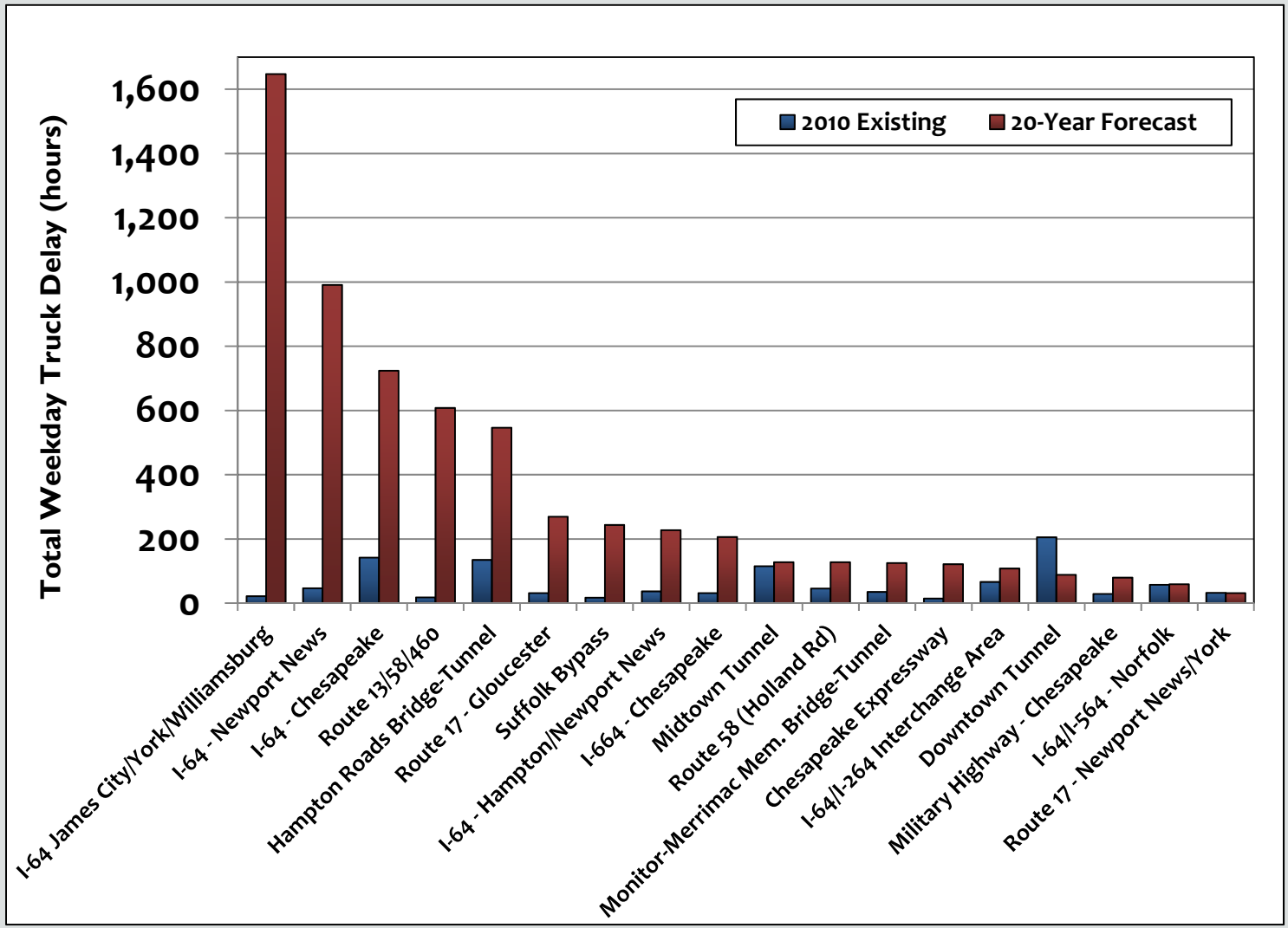
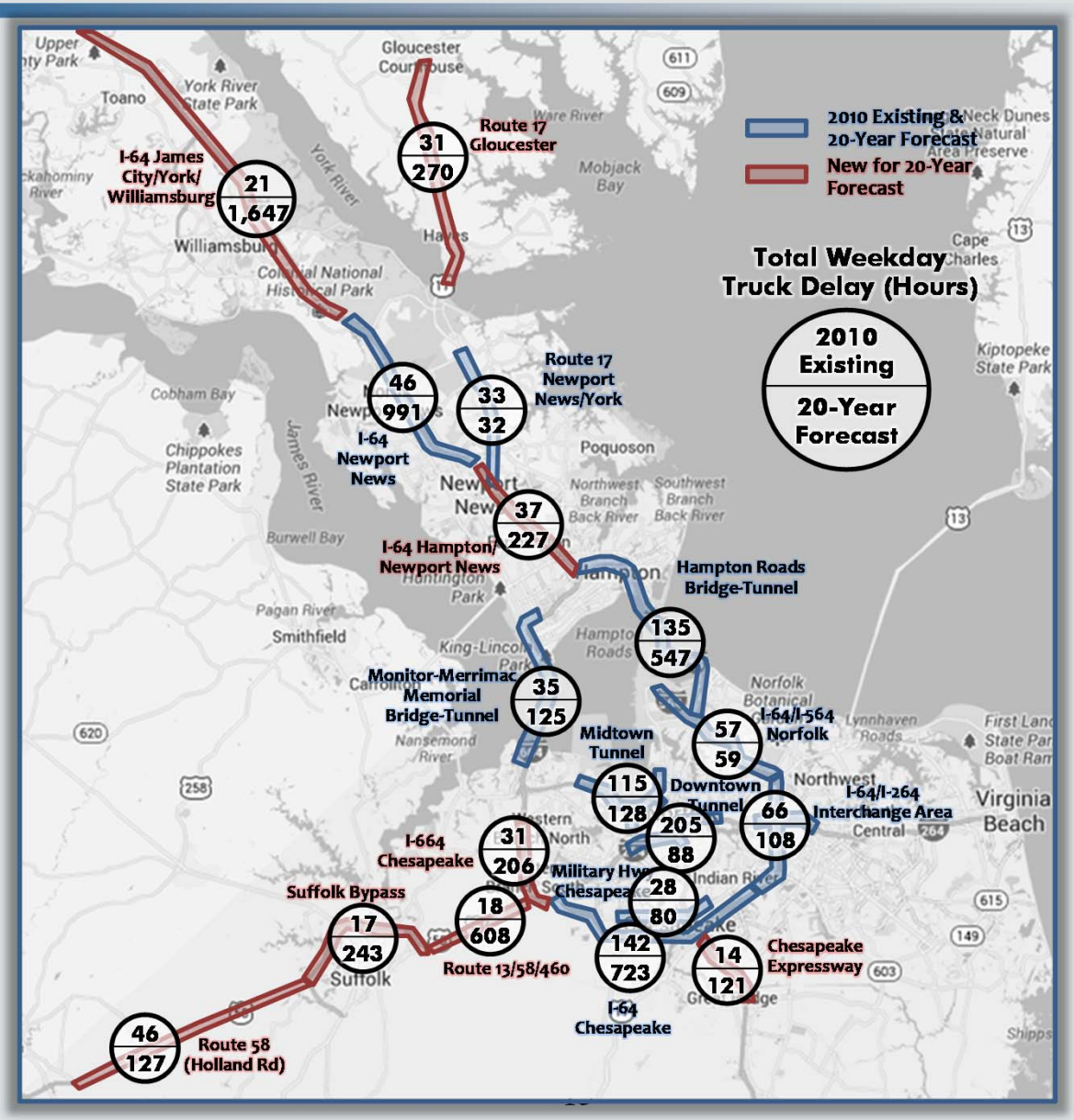
Total Weekday Truck Delay
at 18 High Profile Corridors



Comparison of Truck Delay

at 18 High Profile Corridors



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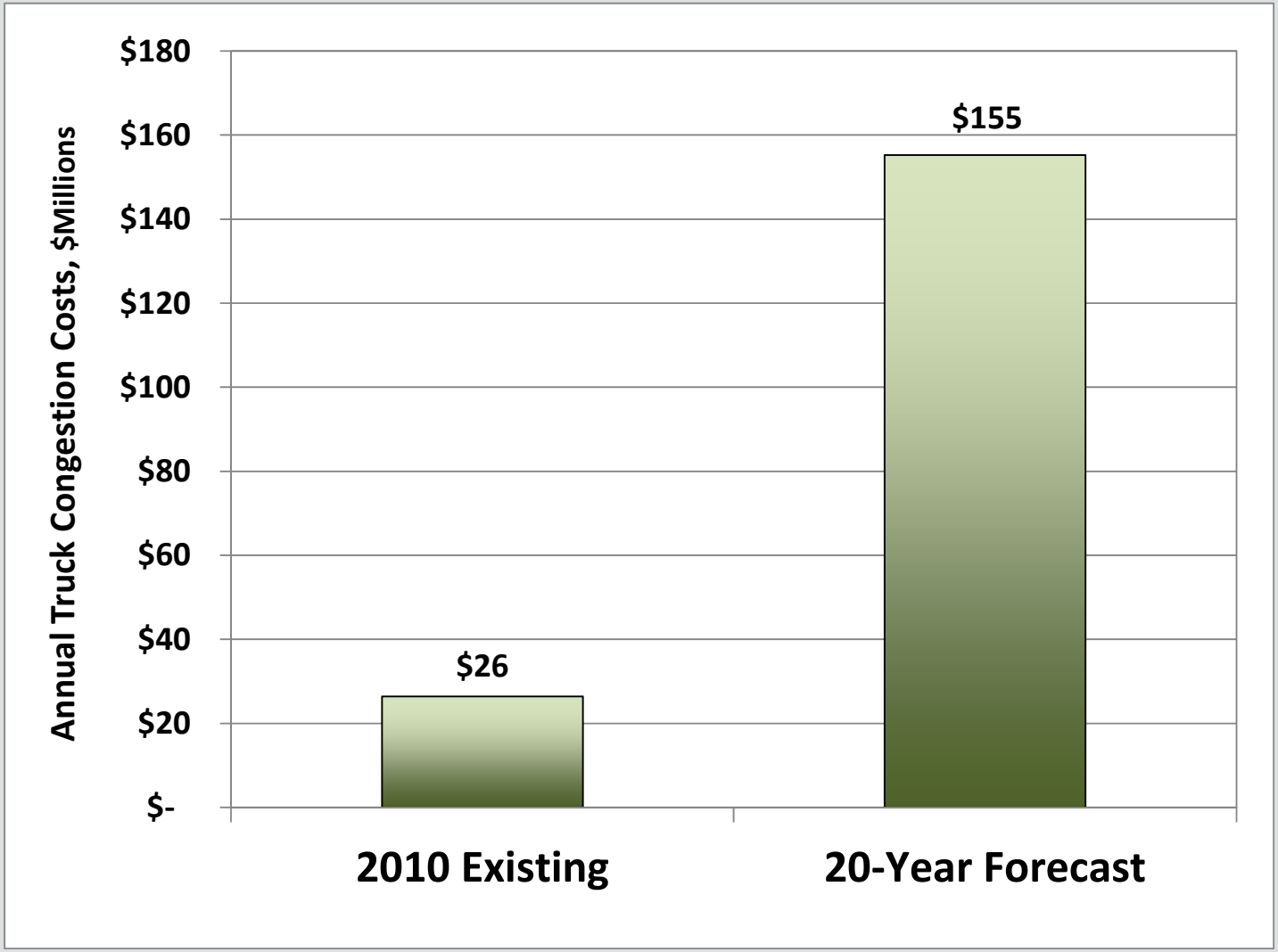
Annual Truck Congestion Costs, $Millions
(All 18 High Profile Corridors)



Used TTI rates from 2012 Urban Mobility Report.
Annual Truck Congestion Cost = Annual Truck Delay Cost + Annual Wasted Truck Fuel Cost

Recommendations

Incorporate Truck Delay Results into Future Versions of the Project Prioritization Tool

Consider including I-64 Peninsula Widening in next LRTP

- **I-64 JCC/YC/WMB Corridor**
  - **Highest projected weekday total truck delay in 20 years (1,647 hours)**
- **I-64 NN Corridor**
  - **2nd highest projected weekday total truck delay in 20 years (990 hours)**
- **I-64 (Jefferson Ave to New Kent CL)**
  - **Weekday truck volumes are projected to increase between 2,310 to 3,555**

Consider including I-64 Southside Widening in next LRTP

- **I-64 Chesapeake (including High-Rise Bridge) Corridor**
  - **2nd highest weekday total truck delay in 2010 (142 hours)**
  - **3rd highest weekday total truck delay in 20 years (723 hours)**
  - **Weekday truck volumes are projected to increase by 1,493**

Next Steps

- **DRAFT report now available on TPO website (Public Notices)**

- **Public review and comment period open until July 26, 2013**
- **Approval of report – September TTAC and TPO Board meetings**