



## **Joint Commission on Transportation Accountability**

### **Presentation on VDOT's Tunnel Facilities**

**September 20, 2010**

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# VDOT's Tunnel Facilities

- **VDOT owns and operates six tunnel facilities including four underwater tunnels in Eastern Region and two mountain tunnels in Southwestern Region**
  - **Tunnel facilities are critical as incidents in tunnels can contribute heavily to regional traffic congestion/safety problems**
  - **Tunnels have limited alternative/detour routes**
  - **Tunnels have unique planning needs such as higher capital improvement, maintenance, and operating costs**
  - **Tunnels are Transportation Critical Infrastructure**

# VDOT's Tunnel Facilities

## Eastern Region

- **Hampton Roads Bridge-Tunnel – I-64**
- **Monitor-Merrimac Memorial Bridge-Tunnel – I-664**
- **Elizabeth River Tunnels – Downtown Tunnel – I-264**
- **Elizabeth River Tunnels – Midtown Tunnel – U.S. Route 58**

## Southwestern Region

- **Big Walker Mountain Tunnel – I-77**
- **East River Mountain Tunnel – I-77**

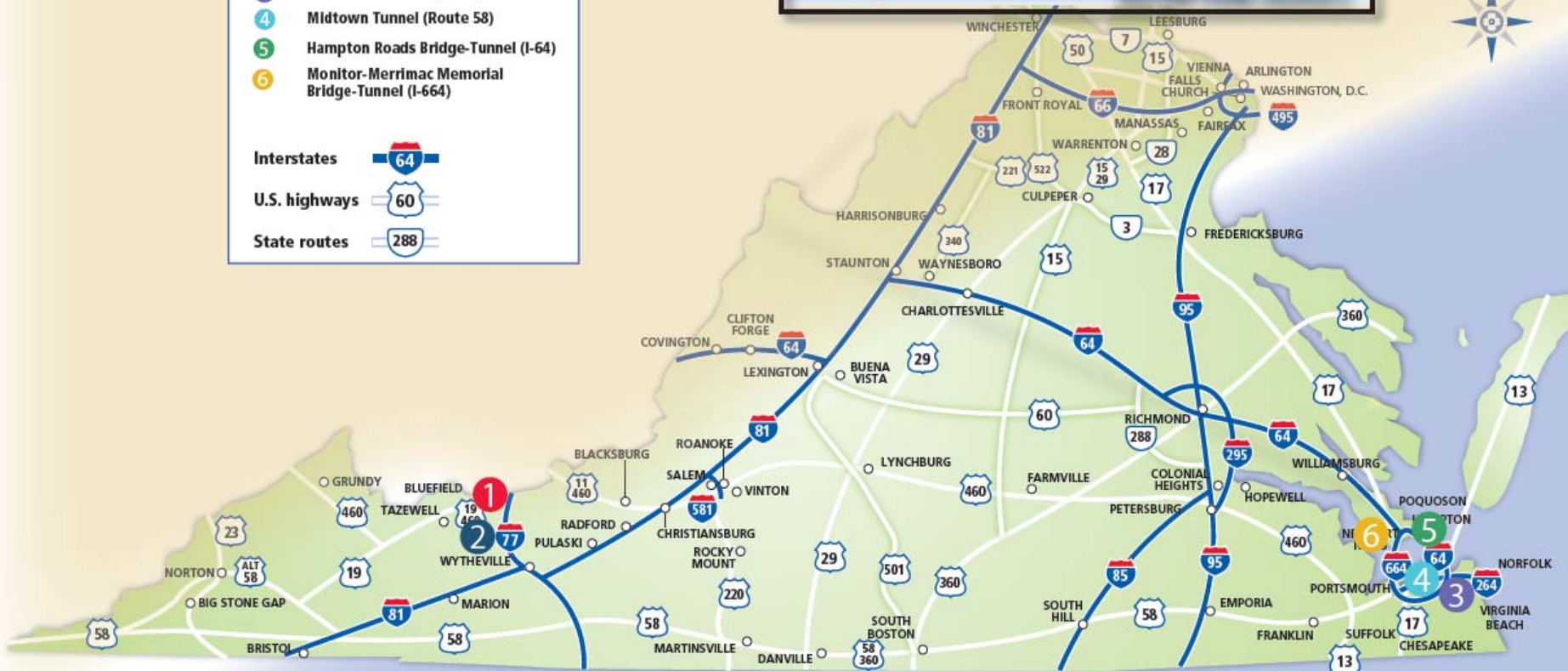
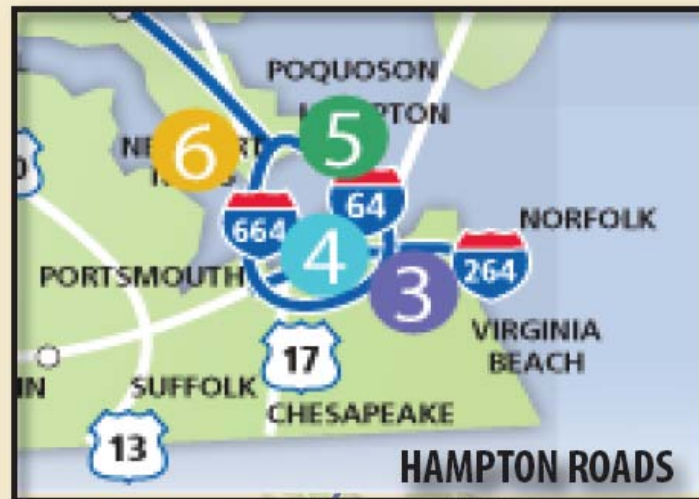
## LEGEND

- ① East River Mountain Tunnel (I-77)
- ② Big Walker Mountain Tunnel (I-77)
- ③ Downtown Tunnel (I-264)
- ④ Midtown Tunnel (Route 58)
- ⑤ Hampton Roads Bridge-Tunnel (I-64)
- ⑥ Monitor-Merrimac Memorial Bridge-Tunnel (I-664)

Interstates 

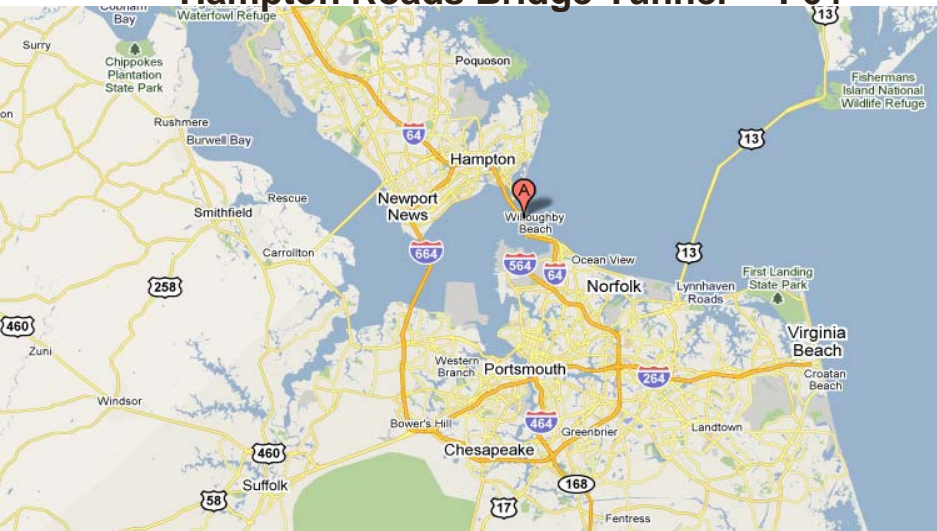
U.S. highways 

State routes 

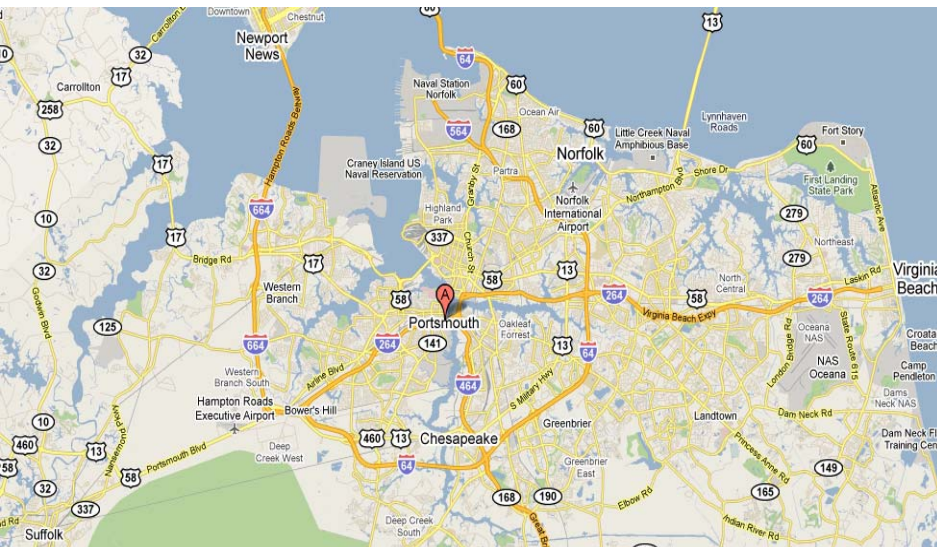
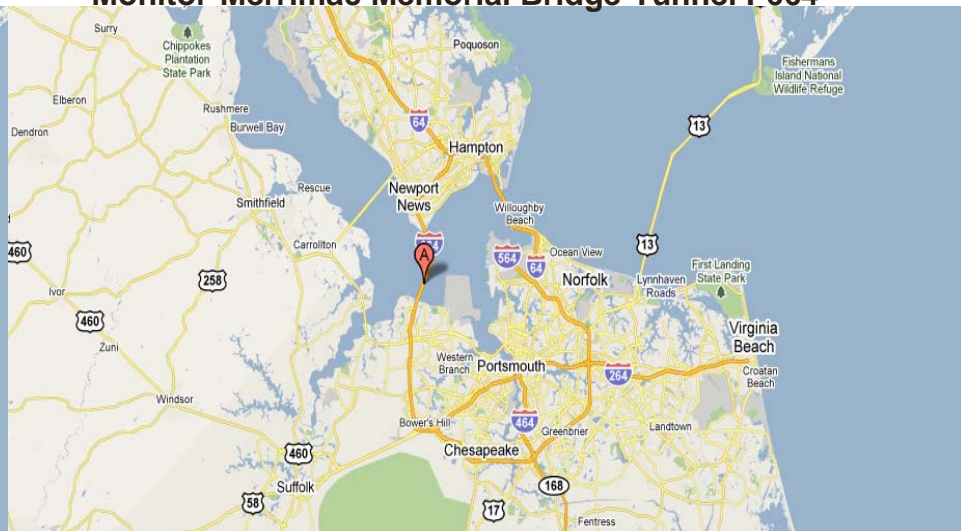


# VDOT's Underwater Tunnels

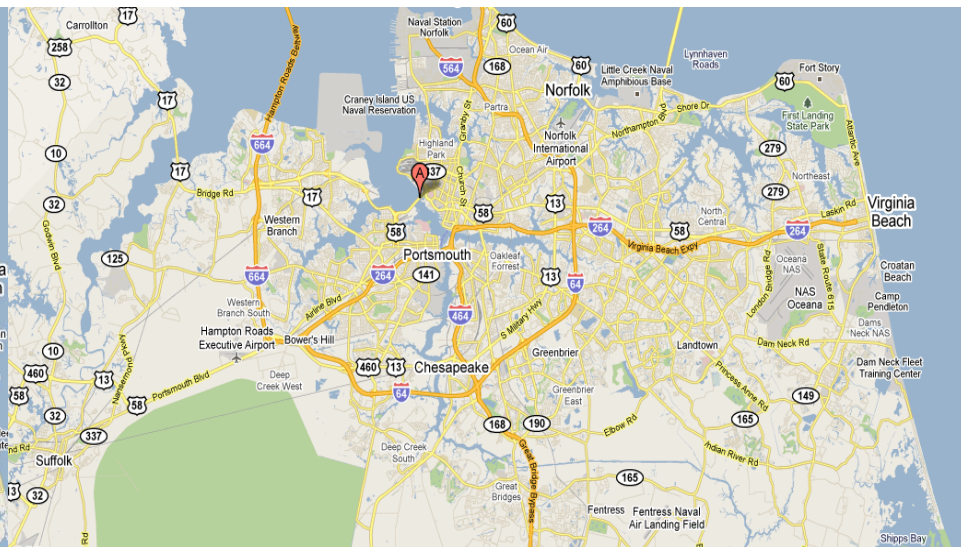
## Hampton Roads Bridge-Tunnel – I-64



## Monitor-Merrimac Memorial Bridge-Tunnel I-664



## ERT – Downtown Tunnel – I-264



## ERT – Midtown Tunnel – U.S. Route 58

# VDOT's Underwater Tunnels

Hampton Roads Bridge-Tunnel – I-64



Monitor-Merrimac Memorial Bridge-Tunnel I-664

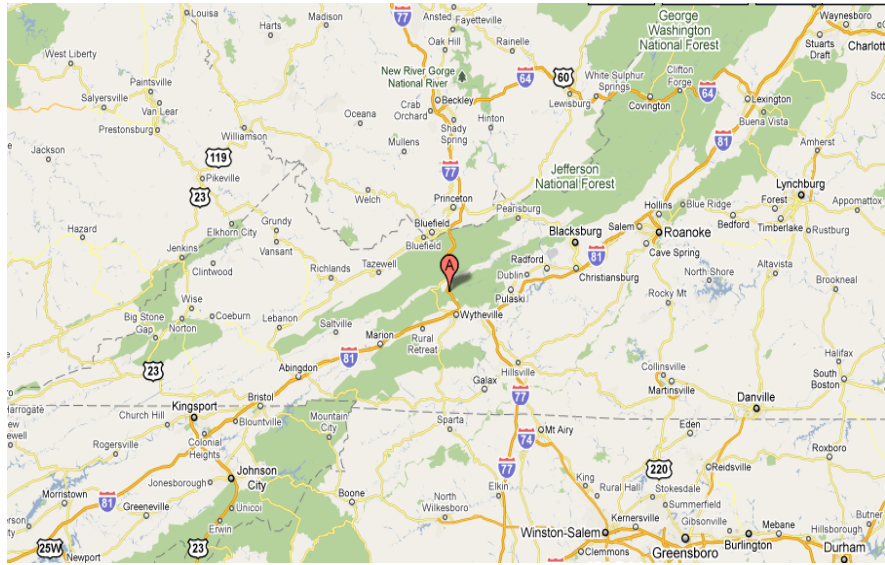


ERT – Downtown Tunnel – I-264



ERT – Midtown Tunnel – U.S. Route 58

# VDOT's Mountain Tunnels



**Big Walker Mountain Tunnel – I-77**



**East River Mountain Tunnel – I-77**



# Tunnel Quick Facts

Tunnel	Interstate	Age (Years)	Tube Length	AADT (08-09 Counts)
Hampton Roads Bridge-Tunnel	64	53, 34	Eastbound - 7,315 feet Westbound - 7,480 feet	88,000
Monitor-Merrimac Memorial Bridge Tunnel	664	18	4,860 feet	56,000
Downtown Tunnel	264	58, 23	Eastbound - 3,814 feet Westbound - 3,350 feet	92,000
Midtown Tunnel	U.S. Route 58	48	4,192 feet	35,000
Big Walker Mountain Tunnel	77	38	4,200 feet	26,000
East River Mountain Tunnel	77	36	5,600 feet	26,000

# Tunnels Needs Assessment

- 2009 Biennial Report “On the Condition of and Investment Needed to Maintain and Operate the Existing Surface Transportation Infrastructure for FY 2011 and FY 2012” [House Document 238 (2009)]
  - **Based on an asset management methodology as required by §33.1-13.02 of the Code of Virginia**
  - **Identifies the investment needed to maintain and operate the network for which VDOT is responsible**
  - **Tunnels included as a major asset**

# Tunnel Needs Assessment

- **Identified approximately \$60 million in September 2009 in maintenance repair and replacement work for FY 11**
  - **\$60 million did not include all capital improvement projects**
- **Additional Fire, Life, and Safety improvements**
  - **Includes other major mechanical and industrial system rehabilitation work, such as replacing 30 year old communications lines and software systems, replacing ceiling tiles, lighting fixtures, and valves, and installing new drives**
- **Ongoing inspection of the tunnels are done by the Structure and Bridge staff and additional needs are identified through these inspections**
- **Work is being planned and scheduled over the next several years based on the following budgeted amounts:**
  - **FY 2011 – \$32 Million**
  - **FY 2012 – \$35 Million (preliminary)**

# Tunnels Investment Plan

- **VDOT is developing a Tunnels Investment Plan, initial draft targeted for completion by Spring 2011**
  - **Risk Assessment process utilized to identify risks to tunnels, provide matrix of recommended courses of action and alternative solutions, include costs and possible timeline of recommendations**
  - **Outcome of risk assessment will be a recommendation of the most cost-effective solutions that would be utilized to develop tunnels investment program**
- **Tunnels Investment Plan will provide updated listing of recommended tunnels projects**
- **Tunnels Investment Plan will integrate and correlate with 2011 Need Assessment Report to the General Assembly**

# Questions?