Congestion

Prepared for the Office of Intermodal Planning and Investment

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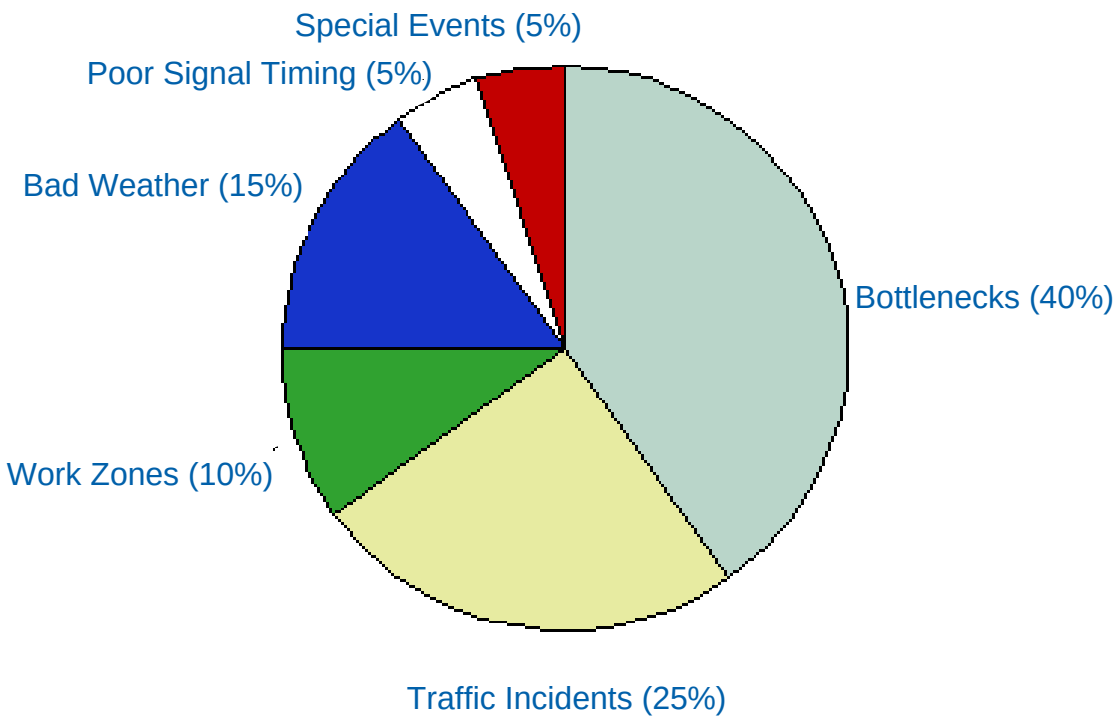
DEFINITION OF THE ISSUE

Congestion:

- **Demand for use of a given transportation facility is greater than the available capacity**
- **Can affect all modes of travel**
- **Highly subjective**
- **Causes are varied**
- **Non-recurring congestion accounts for 60% of delay**

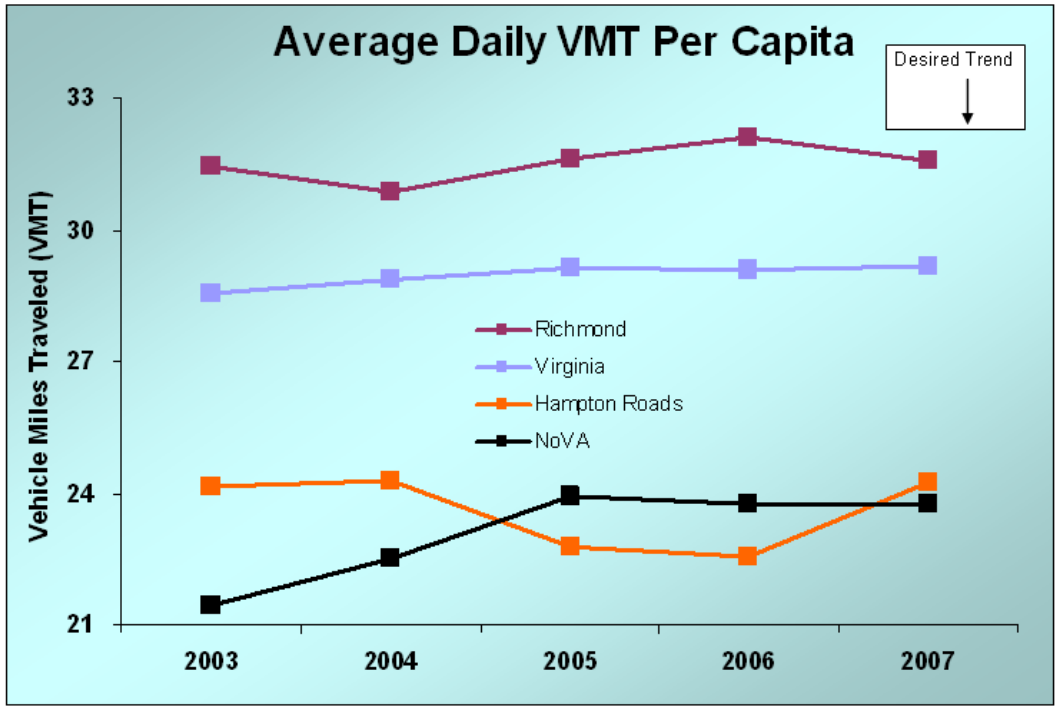


WHY IS THIS ISSUE IMPORTANT?

- **Urban Congestion**
  - Costs of congestion have risen
  - More than half of congestion is non-recurring
  - Environmental impacts are substantial
- **Rural Congestion**
  - Congestion not just an urban problem
  - Seasonal congestion affects routes to tourist and holiday destinations
  - Some rural corridors (e.g., I-81) experience congestion due to freight traffic
- **Deficiencies exist for all modes**
  - Crowded Metrorail trains, station parking in NoVa
  - Port of Virginia faces growth in freight traffic

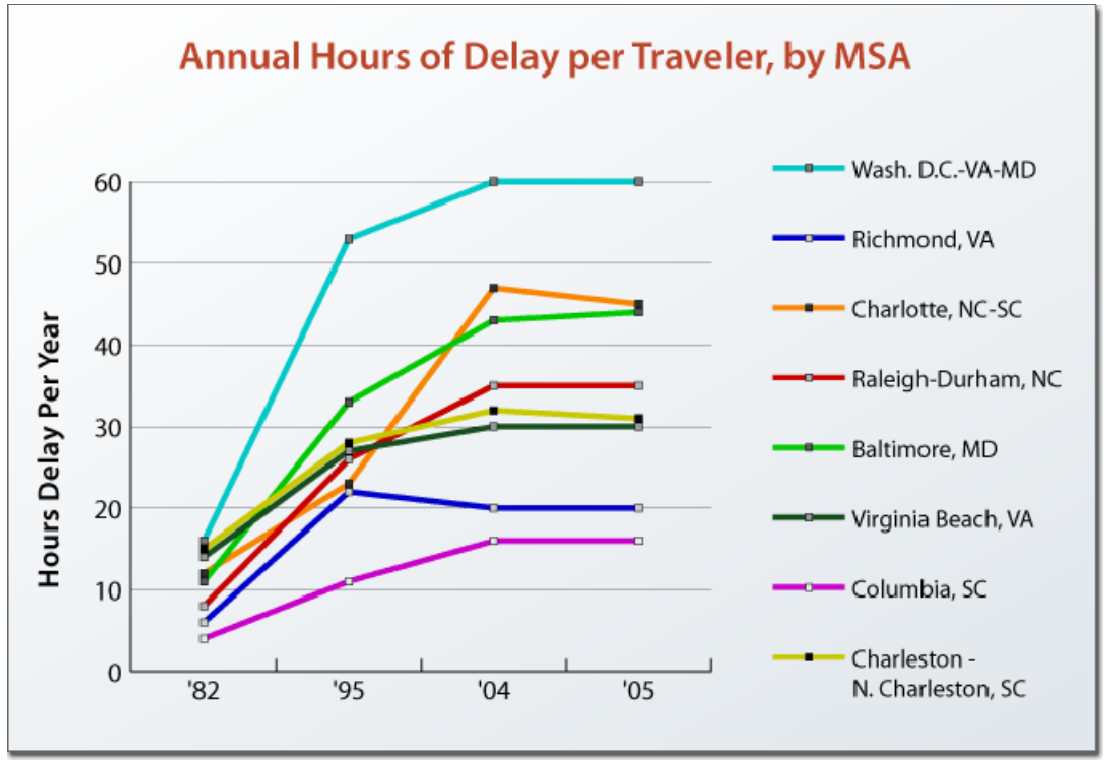
CURRENT CONDITIONS AND PERFORMANCE IN VIRGINIA

- Historically, increases in road capacity have not kept pace with growth in Vehicle Miles Traveled (VMT)
- Growth in VMT abated in 2007, and likely declined in 2008



CURRENT CONDITIONS AND PERFORMANCE IN VIRGINIA

- **Travelers faced delay in Northern Virginia, Hampton Roads, and Richmond***
- **Virginia's average commute time to work in 2006 was the 6th highest in the country (26.9 minutes; national average 25 minutes)**



*Texas Transportation Institute *Urban Mobility Study 2007*; Data for 2005

CURRENT CONDITIONS AND PERFORMANCE IN VIRGINIA

- **Congestion contributed to increased cost for travelers:**

Northern Virginia:	**$1,094**
Virginia Beach:	**550**
Richmond:	**362**

. . . But it could have been worse

CURRENT CONDITIONS AND PERFORMANCE IN VIRGINIA

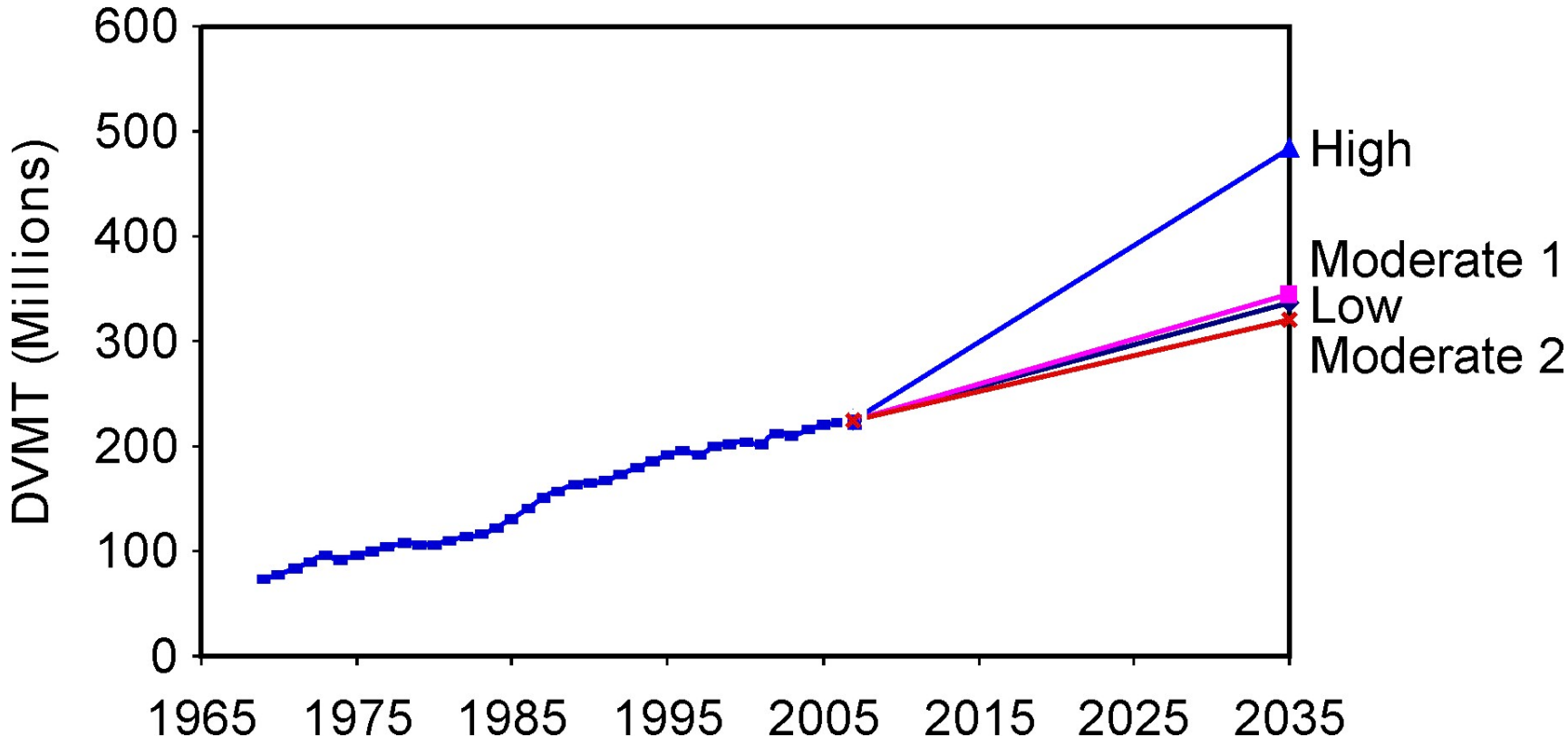
- **Operations treatments saved travelers significant amounts of time**
  - **HOV lanes**
  - **Ramp meters**
  - **Signal coordination**
  - **Incident management**
  - **Service patrols**
- **Public Transportation also contributed**

RECENT TRENDS AND AVAILABLE FORECASTS

- **Population growth forecast at 28% to 36%**

	2010	2035
Population (VEC)	8.01 M	10.28 M
Population (NPA)	8.06 M	10.93 M
Employment	5.21 M	7.75 M
Household Size	2.62	2.54

Forecasts of travel demand vary



RECENT TRENDS AND AVAILABLE FORECASTS

- **Volumes at the Port of Virginia will increase by 100% by 2020 and by nearly 300% by 2040**
- **Twelve of the 227 freight bottlenecks in the U.S. occur in Virginia**
- **Construction projects and work zones will contribute to congestion in Northern Virginia**

CURRENT LEADERSHIP ROLES AND UNIQUENESS

- **Virginia's extensive High Occupancy Vehicle (HOV) system in Northern Virginia and Hampton Roads save travelers time**

- **Virginia will construct a major new network of High Occupancy Toll Lanes**

CURRENT LEADERSHIP ROLES AND UNIQUENESS

- **Advanced Traveler Information Systems provide much needed traffic and transit information**
- **Transit Oriented Development (TOD) has concentrated higher density development in Metrorail transit corridors**

RELEVANT LESSONS FROM OTHER STATES

State of Washington Puget Sound area

- Operations Measures and Intelligent Transportation Systems (ITS)
- Value Pricing
- "Do something and measure it"
- Ramp Metering had significant impact

SR 167 HOT Lanes

RELEVANT LESSONS FROM OTHER STATES

California

- LA converting 85 miles of HOV lanes to HOT lanes
- High capacity CNG fueled buses will operate in HOT lanes
- Sustainable Communities Strategy - reductions in VMT
- Sustainable regional transportation systems

Texas

- Metropolitan Mobility Plans
- Information about beneficial impacts of additional funding

New Jersey

- **New Jersey's Future in Transportation (NJFIT)**
- **Comprehensive and cooperative approach to transportation and land use planning**
  - Downsizing alternatives
  - increasing transportation options
  - lowering design speeds
  - pedestrian-friendly streetscapes
- **"Toolbox" of strategies**
  - Traffic calming measures
  - transit-oriented design,
  - environmental sensitivity, and
  - mix of land uses

FUTURE INITIATIVES / FUTURE PRIORITIES

- **Hierarchy of strategies:**
  - **Reduce need for travel or shift time of day**
  - **Encourage use of alternate modes (transit, biking, walking)**
  - **Shift trips into higher occupancy vehicles (ridesharing)**
  - **Improve operations to carry vehicles more efficiently**
  - **Increase capacity**

FUTURE INITIATIVES / FUTURE PRIORITIES

- **Address Jobs-Housing Balance**
- **Encourage Transit-Oriented Development**
- **Implement Travel Demand Management (TDM) Programs**
- **Expand Travel Options/Alternate Modes**

FUTURE INITIATIVES / FUTURE PRIORITIES

- **Expand high occupancy vehicle (HOV) and high occupancy toll (HOT) facilities**
- **Extend "Smart Highways" Program (Technology)**
- **Continue to Pursue Public-Private Partnerships**