I-95/I-395 HOV/Bus/HOT Lanes

Project update

December 2008

Presentation Outline

- Project Overview and Update
- HOV and Transit Features
  - Transit/TDM Study
  - BRT Operational Analysis
  - Park and Ride Lots
- Bus-Only Lane Analysis Findings
- Safety Study
- Project Mitigation Measures
- Q and A

Most local travelers say reducing congestion on I-95/I-395 is a top priority for them, as it affects

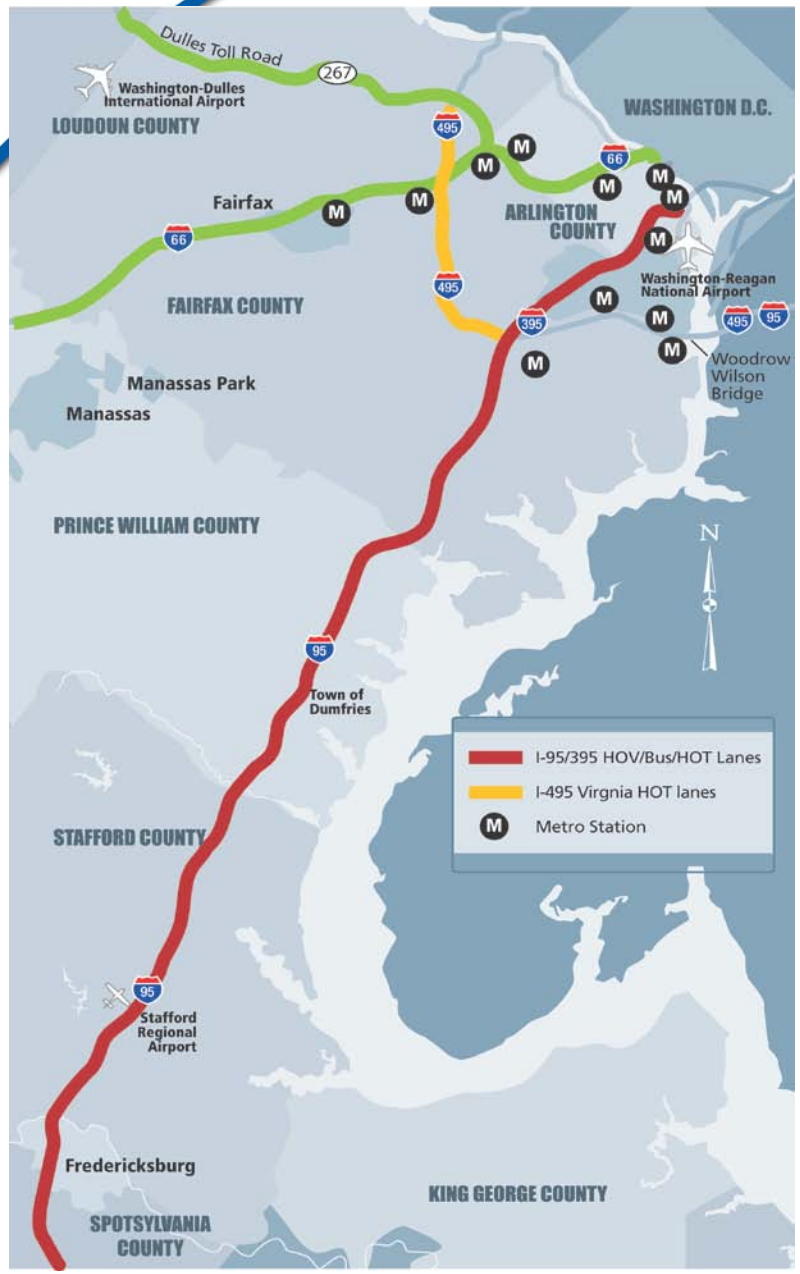
quality of life

economy

home values

- Nearly two-thirds of local travelers in the I-95/I-395 corridor say reducing traffic congestion on I-95/I-395 is a "top priority"
- More than 90 percent of local I-95/I-395 travelers fear congestion will only get worse on I-95/I-395 over next ten years
- 54 percent of local travelers say traffic congestion on I-95/I-395 is having a negative impact on their quality of life
- Two-thirds of local travelers say addressing congestion on I-95/I-395 is important to sustaining the local economy, protecting home values
- Nearly two-thirds of local travelers believe adding more lanes on I-95/I-395 would help relieve congestion
- More than 60 percent of travelers support HOT lanes on I-95/I-395 if some of the revenue goes to support public transportation in the corridor

Project overview



- **Expand existing 28-mile HOV lanes** from 2 lanes to 3 lanes
- **Extend HOV** to Stafford and Spotsylvania
- **Improve existing HOV service** with new access points, increased enforcement and improved incident response
- Provide **new choice for drivers** to pay toll on occasion for faster more reliable travel times
- Create regional, free-flowing **HOV, transit network**
- **$195 million concession payment to fund transit improvements such as** Park & Ride lots, new buses and bus routes

I-95/I-395 HOT Lanes serve current and future military bases

- Federal Military Bases – **serving approximately 84,000 employees** (Pentagon, Mark Center, Engineering Proving Grounds (EPG), Fort Belvoir and Quantico)
- New direct access to EPG (by others) and at Seminary (Mark Center)

Northern Section

- Expands existing High Occupancy Vehicle (HOV) lanes from 2 to 3 lanes
- Existing HOV system plus 9 mile extension – Eads Street to Garrisonville Road

Southern Section

- Extends HOV/HOT system south to Massaponax, Spotsylvania County

Years of Study and Input

- **1994** Third lane of HOV added to long range plan
- **2003** Conceptual proposal submitted for I-95/I-395 HOT Lanes to VDOT
- **2005** Commonwealth Transportation Board (CTB) approves High Occupancy Toll (HOT) lanes concept and commissions advisory plan to review competing proposals.

  Advisory Board recommends Fluor Transurban (FTU) proposal after formal evaluations, public hearing and local government comments.
- **2006** CTB and the public is briefed on major business points of the proposed interim agreement. CTB commits to using excess revenue for transit in the corridor. VDOT and FTU signs interim agreement

  Virginia Transportation Secretary Pierce Homer establishes Transit Advisory Committee to facilitate continued communications between the project and local/regional transit agencies

  Preliminary engineering and traffic modeling begins; VDOT initiates environmental review process for the northern section of the project.
- **2007** Series of Public Information Meetings in the corridor held
- **2008** Transit Advisory Committee completes I-95/I-395 Transit/TDM Study

Project status

Northern section

- Environmental study (NEPA) near completion
- Regional transit study complete, bus rapid transit operational study starting soon
- Design exceptions/design waivers review and approval process underway
- Interchange Justification Report review and approval process underway
- Location and design public hearing anticipated in February
- Extensive communication effort including briefing local jurisdictional staff, transit/transportation agencies, first responders and 26 elected officials – will continue
- Negotiation of comprehensive agreement in spring/summer
- Financial close Fall 2009
- North section construction begins in late 2009/early 2010

Southern section

- Environmental review underway – targeting spring 2010
- Financial close – targeting late 2010
- South section construction begins in 2011

Improving HOV and transit service

New infrastructure, funding for transit

- $195 million concession payment
- Regional free-flowing pathway for buses
- Bus Rapid Transit stations, new buses and bus routes
- 6,750 new Park & Ride spaces
- Transportation Demand Management programs
- VRE station improvements

New options, quality service for carpools

- Expanded system, new service to Stafford, Spotsylvania
- New entry and exit points
- New and expanded Park & Rides
- Design improvements to relieve bottlenecks
- Improved incident response
- Enhanced enforcement to reduce violators

New Park and Ride Lot Spaces in the Corridor

– **6,750 new Park & Ride spaces in the corridor**

- 3,000 new Park & Ride spaces paid by Concessionaire
  - Coordinate with local stakeholders
  - Open same time as the HOT lanes facility

- 3,750 Park & Ride spaces recommended in the Transit/TDM Study to be funded from concession payment

BRT Operational Analysis

The Transit/TDM study developed by the Transit Advisory Committee identified a variety of transit and TDM improvements, including capital investments for creation of a BRT system with In-line transit stations and additional park and ride facilities throughout the corridor.

Purpose: to conduct operational analyses for the proposed BRT system in order to verify performance and to refine elements of the BRT system.

This study will include:

- BRT Station concepts and location studies;
- BRT system regional performance modeling;
- Parking support modeling and studies;
- Fatal flaw analysis for stations and parking facilities

Schedule:

- Data Collection / Station Area Location Planning – January 2009
- Operational Modeling – January-March 2009
- Recommendations – April/May 2009

Bus–Only Lane Analysis: Findings

- **Travel Time Savings**
  - –No material change in vehicle speeds or travel times for buses
- **Transit/HOV Ridership**
  - –HOV ridership remains the same
  - –Transit usage remains effectively unchanged
- **Capacity**
  - –Lane utilization in a bus-only lane would be well below suggested industry standards
- **Operations/Safety**
  - –Significant merge and weave issues due to ramps on both sides
  - –Refuge bay issues
  - –Increase number of accidents when bus-only lane is separated without a barrier
- **Conclusion -** *Modifying the original FTU proposal to include a bus-only lane is not consistent with the project goal of improving bus service in the corridor and is not in the best interest of the traveling public*

Halcrow Safety Study

- **The objective of the study:**

  "To research and carry out independent analysis on operational safety characteristics of HOT Lane projects"

  - **This is not an engineering study. This study looked at operations of other facilities similar to I-95/I-395, and identified and raised safety issues.**

- **Halcrow conducted workshops in March and April, 2008 to solicit feedback from interested stakeholders**

Stakeholders Risk Workshops

First Responders Workshop, top five risks:

- Limited access to incidents
- Higher operating speed, more incidents
- Officer safety in pullover bays, too few
- Narrow shoulders put officers in danger
- Narrow lane impact on traffic behavior

Transit Operator Workshop, top five risks:

- Lateral collisions due to narrow lanes
- Increased weave and merge maneuvers, more conflict
- Transition sections too short, causing stacking
- Narrow shoulders prevent safe exit from stopped bus
- Drivers ignore lane signage, increases severity of incidents

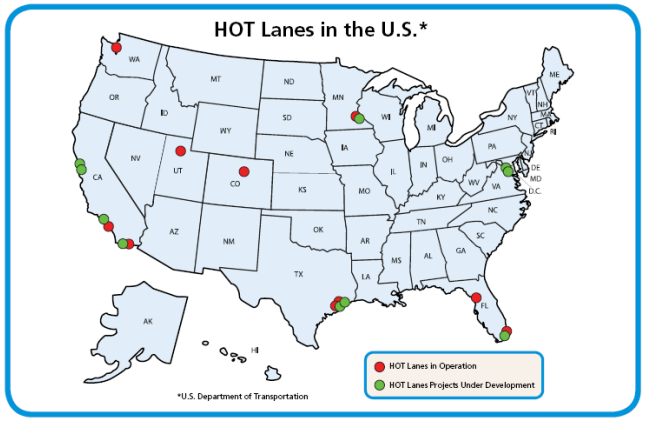
Addressing Safety Risks and Issues

Safety Risks and Issues	Project efforts underway
Lane widths	• Full, 12ft lane in center (PW Parkway to Shirlington) • 31 miles of 34 total miles have at least one full 12' lane • Lane use management system
Shoulder widths	• 19 emergency pull-off areas • 10' and 2.5' shoulders (PW Parkway to Shirlington) – feedback from first responders • Full 12' shoulders on both sides (Garrisonville to PW Parkway)
Incident Management	• Incident management plan • Lane use management system • 24/7 CCTV monitoring • 20 emergency access openings, 13 new
Merge/diverge/weave	• Barrier separation • Detailed design of key interchanges/ key locations • Proper design to minimizing weaving • Enforcement strategy, including electronic
Driver confusion	• Public outreach & education program • VMS signs, lane use management • Extensive signage program

A closer look at Lane and Shoulder widths

- **Garrisonville Road to Prince William Parkway** — **14.1 miles**
  - standard 12-ft lanes and 2 standard 12-ft shoulders
- **Prince William Parkway to South of Shirlington Rotary** — **17.4 miles**
  - 1 standard 12-ft lane flanked by 2 11ft lanes
  - 2 shoulders (2.5-ft left; 10-ft right)
- **South of Shirlington Rotary to Eads Street** — **3 miles**
  - 3 11-ft lanes and 2 shoulders (2'-9' and 8'-9')

HOT Lanes: lessons learned



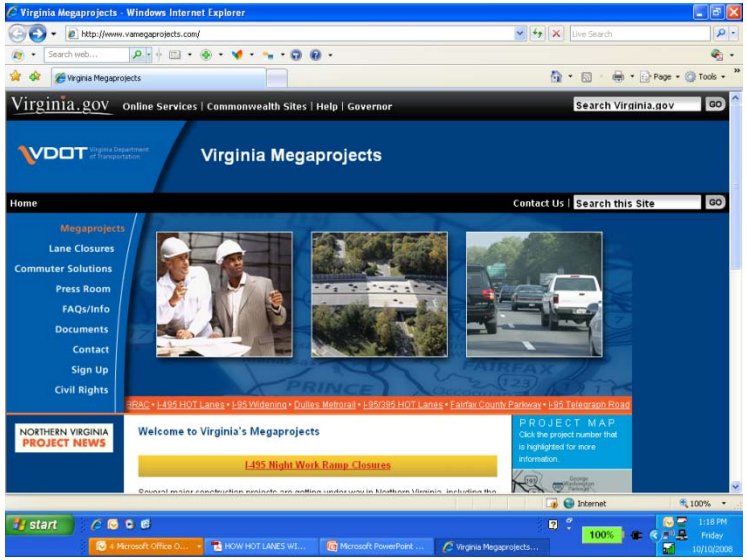
I-25 Express Lanes in Colorado

Existing HOT lanes:

- **Provide faster, more reliable travel times**
  - I-15 San Diego – 20 minute savings per trip
- **Attract customers from all income levels, most use lanes infrequently**
  - Only 1-in-4 on SR-91 in California are in top income bracket, most use lanes couple times a week
- **Reduce violation rates when HOV are converted to HOT**
  - I-394 Minneapolis dropped 25% to 10%
- **Promote reliable bus travel**
  - Denver regional buses on-time 96% of time in HOT lanes

Preparing for construction

VIRGINIA MEGAPROJECTS



Comprehensive program designed to keep motorists, businesses, employers and surrounding residents informed, prepared and safe during construction

- Public information and outreach
- Commuter Connections and other commuter assistance solutions
- Incident management program
- Local road network enhancements

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Questions and Answers