Virginia’s 495 Express Lanes: Funding, Construction and Operations

Presentation to: World Bank

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Virginia: Leader in P3 Projects

- Governed under Public Private Transportation Act of 1995
- Governor McDonnell renewed Virginia's commitment to P3 delivery in 2010
  - Established a separate, multi-modal P3 office
  - Developed standard processes for P3 project screening and prioritization
- Receptive political environment toward P3 projects
- Delivery of tangible benefits
- Virginia currently involved in four billion-plus P3 projects
Goals of Public-Private Partnership

- Leverage private investment to enable major projects, maximize tax dollars
- Accelerate delivery of major transportation improvements
- Shift key risks to private sector, away from taxpayers
- Deliver on-time, on-budget at rates higher than traditional delivery
- Access private sector skills, innovation
- Preserve state debt capacity and protect credit rating
- Shift long-term operations and maintenance responsibilities
- Create jobs and boost the economy
Keys to Virginia’s Public-Private Partnership Success

Successful P3 Program

- P3 Law
- Implementation Guidelines
- Pipeline of Projects
- Political/Public Support
- Transparent Development Process
- Public Sector Capacity
Case Study: 495 Express Lanes
Road to Improving I-495

- Virginia began looking for solutions to growing congestion on I-495 in 1980’s
- Initial proposal for traditional highway expansion failed due to public opposition, prohibitive costs and impacts
- Private proposal for HOT Lanes provided:
  - Funding source
  - Reduced impact on community and environment
  - Reduced ROW requirements
  - Operational expertise
  - Risk transferred to private sector
495 Express Lanes Partnership

- Nearly $2 billion transportation improvement project accelerated due to public-private partnership with Transurban-Fluor
- Funded by $1.5 billion in private equity and debt and state contribution of $409 million
- Key risks transferred to private partner, away from taxpayers
- 80-year partnership agreement shifting long-term operations and maintenance responsibilities
- Partnership agreement includes key provisions to protect public interest
  - Revenue sharing
  - No non-compete
  - Transparency
  - Long-term performance requirements
Partnership Structure

VDOT

Comprehensive Agreement

Capital Beltway Express LLC

Design-Build Contractor

Design-Build Contractor

Subcontractor

Operations & Maintenance

Subcontractors

ETC Maintenance
Roadway Maintenance

O&SS Contract
Innovative Funding

- Project funded through 4 sources:

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Private Activity Bonds</td>
<td>$589M</td>
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<tr>
<td>Transportation Finance &amp; Innovation Act (TIFIA)</td>
<td>$589M</td>
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<tr>
<td>Private equity</td>
<td>$350M</td>
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<tr>
<td>Virginia grant</td>
<td>$409M</td>
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</tbody>
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- Fair and equitable risk allocation between consortium and Commonwealth allows for reasonable financing terms
- Open, transparent process: Commonwealth, Federal Government, Consortium
- All parties working together to achieve aggressive deadline
Key Benefits: 495 Express Lanes

• Began construction July 2008, opened Nov. 2012 – ahead of schedule
• Added 50% capacity to manage congestion
• Replaced $260M of local aging infrastructure
• First major improvement to the Capital Beltway in a generation
• First-time opportunity for ride-sharing, carpooling and use of mass transit
• Connected four major commuter routes creating seamless HOV and transit network
• Three new access points to major retail and employment centers
Supporting Transit Development

Tysons Corner, Virginia
• By 2050, Tysons will be transformed into a walkable, sustainable, urban center that will be home to up to 100,000 residents and 200,000 jobs.
• Envisioned to become a 24-hour urban center where people live, work and play; where people are engaged with their surroundings; and, where people want to be.

Fairfax County Comp Plan)

A Multi-modal system
• Dulles Metrorail Extension
  • 4 new stations
• 495 Express Lanes
  • 3 new access points
  • Direct access to shopping and employers
  • Increased commuter bus service
  • New vanpools
• Improvements to the Beltway
  • Reduced congestion and improved infrastructure
Construction Highlights

- 12 key interchanges rebuilt
- More than 50 new bridges and overpasses
- 1.4 million tons of asphalt
- 21,400 tons of steel
- 220+ pieces of heavy equipment
- 80,000 linear feet of sound walls
- 890,000 square feet of retaining walls
- Over 350 total overnight closures of I-495
- 3,000+ orange barrels used
- 204 new highway signs
During construction, this project:

- Supported more than 16,000 jobs in Virginia
- Generated nearly $3.5 billion of economic impact statewide
- Awarded more than $450 million in contracts to small and disadvantaged businesses
- Employed more than 250 contractors – more than 75% based in Virginia

“The 495 Express Lanes commitment to small, women and minority-owned businesses is the largest in Virginia’s history for a single transportation project.”

- Governor Robert F. McDonnell
Keeping Traffic Moving

- Dynamic toll rates adjust to keep lanes free flowing
- Mandatory E-ZPass: all-electronic with no toll booths or options to pay cash
- HOV-3+ free with E-ZPass Flex
- Enhanced incident response
- Improved driver information
- Express Assist to aid disabled drivers
- Unlike current HOV, in effect 24/7
Accessing 495 Express Lanes

- Not available from every Beltway entry/exit
- Entry and exit points to and from highways and major side routes
Key Strategies for Success

- Risk Management
- Innovation at all phases of project
- Common vision between all partners – FHWA, VDOT, Private Partners and Design-Build Contractor
- Partnering program involving all levels of team to resolve issues; tough issues resolved through escalation to senior leadership
- The “right” team sharing same level of commitment
- Dedicated engineering support (GEC)
- Proactive public involvement program ensuring public and political support
Challenges

Scope
• Clear definition of scope at the outset

Schedule
• Maximize design-build advantages by moving design plans to field as approved

Design
• Established processes for fast tracking design, claims and key decisions
  • “100 in 100” Design Challenge
  • “Mini-me Meetings”
  • QA/QC Processes “Gang of 4”
Challenges

Delivery

• **Managing Beltway traffic – 200,000 vehicles per day - during construction**
  • Regional and project lane closure coordination
  • Additional Virginia State Police Troopers
  • Extra Safety Service Patrols
  • Portable electronic message signs
  • Proactive communications campaigns

• **Proximity to Dulles Metrorail Project**
  • Weekly coordination with 495 and Dulles key area managers

• **Entrance to largest shopping mall in the region**
  • Close interface with surrounding neighborhoods
  • Regular coordination with Mall property owner and Tysons business leaders
Traffic Management Plan

Communications Solutions

- More than 900 community meetings
- More than 215 lane closure bulletins reaching 70,000 weekly
- More than 265 traffic alerts/news releases
- More than 300,000 emails providing project benefits and updates
- More than 1,700 citizen inquiries
- More than 40 groups from local communities provided community grants from private partners
Traffic Management Plan

Commuter Solutions

- **Employer Solutions Team (EST)** dedicated to the I-495 corridor and Tysons Corner business district
  - Over 1,000 meetings, events and transportation fairs
- **Express bus service** from Loudoun & Woodbridge to Tysons Corner
- **$50,000 Telework incentive**
  - 35 Employer Telework programs Implemented
- **Vanpool incentive**
  - 24 Vanpools created
  - 107,750 Passenger rides per month reduced!
- **NuRide loyalty reward program**
  - Nearly 500 active NuRide subscribers
Making Safety a Top Priority

- More than 8.7 million hours worked with an incident rate significantly below industry standards
- 5.0 million safe work hours reached September 2012
- Fluor-Lane’s “Zero Accident” Safety Culture and aggressive safety program largely contributed to top safety record including strict safety training for all employees and contractors
- VDOT-GEC dedicated Safety Manager ensured training, safety equipment and enforcement for all employees and contractors

In 2009, Transurban and Fluor partnered with AAA Mid-Atlantic to launch Orange Cones. No Phones. to curb distracted driving in the construction zone.

Driving Change: 2011 research showed that 65% of Beltway drivers report they have changed their use of cell phones in construction zones
Civil Rights Program Success

- Exceeded aggressive 40% DBE-SWaM participation goals
- 136 DBEs and 157 SWaMs supported 495 Express Lanes Project
- More than half-a-billion dollars paid to SWaM and DBE businesses
- Comprehensive marketing, outreach and certification support
- Robust database of qualified small and minority businesses
- Compliance support and enforcement, ensuring fair pay for all workers
- Strong field assistance/work evaluation & individualized infrastructure support to subcontractors to ensure DBE/SWaM contract fulfillment
Transition to Long-Term Supportability

- Cooperative development between VDOT and private partners of JOMP (Joint Operations Maintenance Protocol)
- Regular coordination between key personnel from across disciplines
- Clearly defined accountabilities for maintenance and snow removal
- Baseline Assessment Condition Report to ensure condition-status
- Seamless traffic operations and incident response coordination
- Dedicated customer service centers & processes from both partners
- Dedicated “new position” at VDOT focused on Express Lanes
Express Lanes in Operation

- Open approximately one year – still in ramp-up phase
- Toll revenue grew 14.3%, from a daily average of $45,270 in June quarter to $51,736 in September quarter
- Average daily trips from Sept. quarter increased 5.6% in Sept. quarter compared to June quarter
- 37,574: number of average workday trips during the September quarter*
- Average dynamic toll charged was $1.86 for the September quarter*
- Maximum dynamic toll charged since opening was $8.90 to travel full length
- 60% of regular VA-Beltway travelers have an E-ZPass or E-ZPass Flex

* 495 Express Lanes Usage Update: October 2013
HOV Travel on Express Lanes

• High Occupancy Vehicles (HOV 3+) and exempt vehicles make up approximately 9% of customers*

• New bus service and revised bus schedules since opening
  • **Fairfax County Express Connector Service** from Burke, Lorton, and Springfield to Tysons Corner
  • **OmniRide bus service** from Woodbridge and Manassas to Tysons Corner
  • Continuing growth in vanpools to employment corridors

* 495 Express Lanes Usage Update: October 2013
Road Operations

- Seamless network coordination between Express Lanes & VDOT Traffic Operations
- Coordinated incident response between all operational partners
- Dedicated private incident response resources for Express Lanes - “Express Assist”
  - Aided more than 100 travelers in disabled vehicles during 3rd quarter of 2013; aided more than 400 travelers to date
- Maintaining SAFETEA-LU requirements
- Dynamic Pricing System working well
Customer Feedback

- September survey showed 59% of Beltway drivers see the benefit of the Express Lanes to the region
- 8 in 10 customers say they plan to use the Express Lanes again and were satisfied with their Express Lanes experience
- Top reasons travelers had used the Express Lanes:
  - 68% “needed” to reach a destination on time*
  - 46% used due to congestion on the regular Beltway lanes
  - 30% interested in a reliable trip
  - 30% wanted a less stressful trip

*Respondents asked to select all that apply

I am so loving the I-495 HOT lanes. Got from Springfield to Rockville in only 40 minutes, leaving me almost an hour to sit in Starbucks sipping a latte and playing with my spiffy new laptop.

Lori K via

Just saved 20 minutes using 495 Express Lanes.
@DeanStiles via

495 Express Lanes rule again, $0.30 to save 10 minutes of traffic Toll Road to Westpark #495ExpressLanes

@495ExpressLanes are amazing! I use them all the time now
@k8eb8e via

Two buck happiness: 495 express lanes. Cheaper than chocolate.
Judy B via
95 Express Lanes: Next Stage in Regional Network

- $1 billion, 29-mile upgrade and expansion of existing HOV facility
- Free access for HOV-3+, transit
- State contribution of $71 million combined with private sector contribution leveraged a total project valued at $925 million
- Comprehensive agreement with Transurban/Fluor executed July 31, 2012
- Began construction August 2012, completion late 2014 and open to traffic early 2015

One half of Virginia’s growth over the last decade has been along the I-95 corridor
Scope of Improvements

- Expand existing reversible HOV lanes from two to three lanes for 14 miles from just north of Edsall Road on I-395 to the Prince William Parkway
- Improve the existing two HOV lanes for six miles from Prince William Parkway to Route 234/Dumfries
- Build new nine mile reversible extension of existing HOV lanes from Dumfries to Garrisonville Rd in Stafford County
- Add new or improved access to and from HOV/HOT network at key interchanges
Construction Update

- Construction is 60% complete
- Design is 100% complete
- Building 9 new bridges, including four flyovers
- Overnight steel placement for remaining bridge in November; placed more than 100 steel beams to date
- Nearly half a million tons of asphalt placed through corridor by end of year
- Traffic shifted to new pavement more than a year before opening Express Lanes
- Construction in full swing throughout 2014
Operations

• Increased Virginia State Police presence and Safety Service Patrols – including coverage on Route 1 (major detour route)
• Increased dynamic message signs to warn drivers of trucks entering the highway
• Speed radar trailers to slow traffic in the work zone
• More PCMS & CCTV units to monitor the work zone and post safety messages
• Real-time travel-time sign comparing HOV lanes to general purpose lanes – helping commuters “Reach the Pentagon”
• Coordination between multiple contractors and VDOT districts
Commuter Solution Strategies

• Express Bus Service from Woodbridge to Tysons Corner
• Free, Saturday Bus Service along I-95 Corridor
• VRE Step-up Fare
• Commuters can use Amtrak trains with a Step-Up ticket for $3 in conjunction with their VRE ticket.
• GetAroundVa.com

GetAroundVA.com – A new website dedicated to helping commuters through construction by providing information and links to commuting alternatives.
For More Information

For construction information, please visit:

www.vamegaprojects.com

For information on how to use the Express Lanes and E-Zpass, please visit:

495ExpressLanes.com
Stay Informed about Construction

- Visit vamegaprojects.com for the latest construction activities and traffic impacts
- Sign up to receive regular emails containing lane closures and traffic advisories
- Call Megaprojects’ HOT Line number at: 1-877-9595-222 (yes, 9595…a play on I-95)
- Go to www.511virginia.org or call 511 for real-time traffic information
- Check out GetAroundVA.com for information and links to commuting alternatives in Northern Virginia
THANK YOU