Virginia’s 495 and 95 Express Lanes: Funding, Construction and Operations

Presentation to:
The Council of State Governments
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
Successful P3 Program

Keys to Virginia’s Public-Private Partnership Success

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

Capital Beltway Express LLC

Comprehensive Agreement

Design-Build Contractor

Subcontractor

Operations & Maintenance

Subcontractors

ETC Maintenance
Roadway Maintenance

VDOT

Design-Build Contract

O&SS Contract
Innovative Funding

- Project funded through 4 sources:

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
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<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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<td>Private equity</td>
<td>$350M</td>
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<td>Virginia grant</td>
<td>$409M</td>
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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

- 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 two years
- New bus service and revised bus schedules since opening
- High Occupancy Vehicles (HOV 3+) and exempt vehicles make up approximately 9% of customers*
- Average dynamic toll charged was $2.83 for the July 2014 quarter*
- 43,325: number of average workday trips during the July 2014 quarter*

*For the period ending June 30, 2014
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”

• Maintaining SAFETEA-LU requirements

• Dynamic Pricing System working well
Customer Feedback

- September 2013 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
• $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
Work Activities

- Building nine new bridges, including four flyovers
- Adding a new HOV lane
- Noise and retaining wall installation
- Drainage
- Roadway widening/pavement rehab
- Installation of sign structures and arterial signs
- Installation of toll facilities/overhead gantries/technology
- Dayshift Work
- Single lane closures during non-peak travel times
- Nightshift Work
- Multiple lane closures during overnight hours – all lanes reopen before morning rush hour
- Intermittent stoppages of all lanes for 30-minute periods after Midnight
- Nightly closures of HOV Lanes
- Extended Weekend hours 9:30 p.m. to 9 a.m.
Construction Update

• Construction is 85% complete
• Design is 100% complete
• Building 9 new bridges, including four flyovers
• Overnight steel placement completed; placed more than 170 steel beams
• 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
Civil Rights

• In The Field 95 Express Lanes Project has committed $192.5 million to DBE/SWaM contractors
  • Exceeds DBE/SWaM goal of $189 M
  • 127 DBE/SWaM firms working on the job
  • Good-faith efforts to further exceed goal

VDOT Support Services
• Marketing, outreach and certification support
• Robust database of qualified small and minority businesses
• Compliance support and enforcement
• Strong field assistance/work evaluation & individualized support to subcontractors
Congestion Relief Strategies

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
HOW THE LANES WORK

- Pricing signage in advance of all entrances
- Toll rates will adjust to keep lanes free flowing
- Toll equipment will identify vehicle’s total trip distance
- Sensors monitor traffic 24/7 and system adjusts toll prices as necessary
- All-electronic -- no toll booths
- Average rush hour trip $6 to $8 for a distance of 10 to 12 miles
- Low of 20 cents to a mile to about 80 cents during rush
HOV-3 TRAVEL

- HOV-3 qualifies for toll-free travel
- Carpools and vanpools will need the switchable E-ZPass Flex
- Now available through Virginia and Maryland’s E-ZPass offices, retail locations in Northern Virginia and online
- E-ZPass Flex works on all other E-ZPass facilities
- In Virginia, E-ZPass is $35.00
ENFORCEMENT OF THE LANES

User drives under toll gantry at speed limit

Tag transmitter checks for presence of E-ZPass

No E-ZPass? License plate video detection system captures license plate number and generates a toll invoice

HOV-3+? E-ZPass Flex and technology indicates HOV usage and alerts law enforcement

Law enforcement officer makes visual assessment and takes appropriate action
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 – 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 or 95ExpressLanes.com
THANK YOU