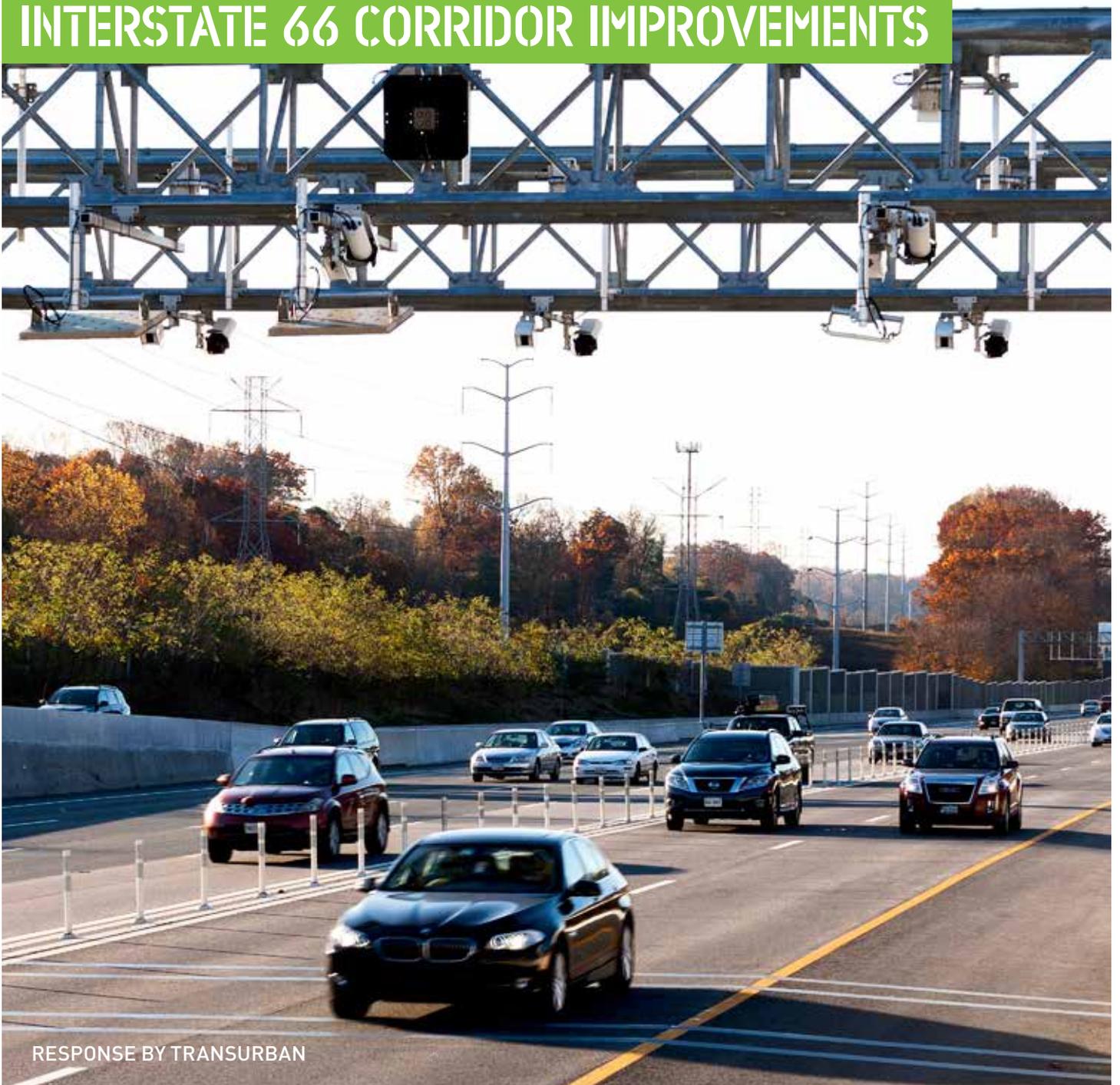


# REQUEST FOR INFORMATION

## INTERSTATE 66 CORRIDOR IMPROVEMENTS



# TABLE OF CONTENTS

## GENERAL

Please describe your firm, its experience in relation to public-private partnership projects, and its potential interest in relation to the Project?

1

What, if any, advantages will the commonwealth potentially gain by entering into an agreement in which operations and maintenance, life-cycle responsibility, and/or traffic and revenue risk are transferred to the private sector? How do you assess the likely magnitude of such advantages? What are the potentially offsetting disadvantages?

2

## PROCUREMENT PROCESS

Do you have any particular concerns with or major observations about the milestone schedule provided in this RFI? Please provide your views on proposed solutions to address these concerns?

3

What are the critical path items for the procurement of this Project and why?

3

Looking ahead over the next two to three years, do you believe your firm will be interested in submitting a committed proposal for the development of the Project (any or all of the build concepts)? Are there any particular concerns that may prevent your firm from getting engaged in the project development? How might those concerns be resolved?

4

What is the minimum amount of time that your firm requires to develop and submit a committed detailed proposal for the Project after issuance of potential RFP?

4

## TECHNICAL CHALLENGES AND ALTERNATIVE SOLUTIONS

Based on your experience in the development of similar projects and characteristics of the I-66 corridor, please explain the technical challenges that may be encountered with the highway and transit improvement concepts described in the Tier 1 DEIS. Please provide recommendations for mitigating or overcoming those challenges.

5

Do you believe a bifurcated highway system along the I-66 corridor is technically feasible? Please provide any experience and supportive information that you may be able to share from similar projects.

6

What are the most significant cost drivers in the development and operation of the managed lanes and bus rapid transit concepts along the I-66 corridor? How can these concepts be implemented in such a way as to preserve the potential for rail extension?

7

What, if any interoperability issues do you foresee with the current tolling system on I-495 Express Lanes?

7

What suggestions do you have for better coordination between this Project and other projects currently under design or construction along the I-66 corridor?

8

What challenges are associated with managing the life-cycle costs for the improvement concepts as described in the Tier 1 DEIS? What measures would you suggest to mitigate these risks?

8

What adjustments to the Project scope, or development strategies (including potential phasing of project elements) would you consider/recommend to reduce the upfront capital costs and/or the life-cycle costs of the overall project costs?

8

## COMMERCIAL AND FINANCIAL STRUCTURE

Please explain your firm's interest in the improvement concepts discussed in the Tier 1 DEIS. What is your recommended approach for financing the capital cost of each concept?

9

Please discuss your firm's interest in:

a. Accepting traffic and revenue risk in a toll concession

b. Accepting performance risk in an availability structure

10

What is a reasonable concession term for a managed lane or a bus rapid transit concept? Why?

10

## ADDITIONAL CONSIDERATIONS

If your firm is a Disadvantaged Business Enterprise ("DBE") or a Small, Women-owned, and Minority-owned Business ("SWaM"), please provide any suggestions or comments on how OTP3, VDOT or DRPT can help to develop teaming opportunities with prime contractors.

11

What additional challenges or risks should OTP3, VDOT, DRPT or CTB be aware of in regard to the Project's scope, procurement process, delivery method, term of contract, technical and financial feasibility, etc.?

11

## ABOUT TRANSURBAN

## Please describe your firm, its experience in relation to public-private partnership projects, and its potential interest in relation to the Project?

Transurban partners with governments to deliver road-based transportation solutions that meet community needs over the long term—developing sustainable, safe, innovative and efficient projects. That means working collaboratively with all stakeholders to develop strategic transportation projects that meet the policy objectives of our government partners, and having the expertise and experience to execute projects successfully.

As a long-term toll road owner and operator, with our U.S. headquarters in Virginia, Transurban manages traditionally public assets under concessions that can last for decades. Our approach is to work closely with our government partners during every stage of a project—from financing and development to construction and operation.

This unique long-term focus has enabled Transurban to grow from a \$500 million to a \$10 billion company (equity value) since its formation in 1996. The company generates in excess of \$800 million of proportional EBITDA at industry leading operating margins, and has a robust balance sheet and an A- credit rating.

Virginia's partnership with Transurban has generated significant transportation and economic outcomes for the commonwealth:

- Combined, the Express Lanes projects have generated over \$5 billion in economic activity and more than 28,000 jobs;
- Transurban and its partners have injected more than \$500 million in private equity to help fund critical transportation improvements providing congestion relief and new, reliable transit options;
- The 495 Express Lanes project was the first transportation project where private activity bonds were used, and was among the first to bring credit assistance to Virginia from the Transportation Infrastructure Finance and Innovation Act (TIFIA);
- Travelers in both the I-95 and Capital Beltway corridors overwhelmingly support the projects, as Fall 2013 surveys<sup>1</sup> show a majority believe the projects benefit the region; and

<sup>1</sup> KRC Research. "Optimizing Usage of the 495 Express Lanes." September 2013 and Povaddo. "95 Customer Segmentation Report" October 2013.



- Transurban and its partners delivered the \$2 billion 495 Express Lanes Project early, on budget and with an industry-leading safety record.
- The 495 Express Lanes project provided:
  - More contract opportunities for Virginia small businesses than any single transportation project in the history of Virginia;
  - Introduction of HOV and reliable transit options to the Virginia side of the Capital Beltway;
  - Replacement of more than \$260 million of aging infrastructure, including more than 50 bridges and overpasses;
  - Replacement of existing soundwalls and construction of new soundwalls to double existing noise reduction tools for surrounding neighborhoods;
  - Construction of carpool ramps connecting I-95 with the Capital Beltway to create a seamless HOV network; and
  - Upgrades to 12 key interchanges and new access points at Merrifield and Tysons Corner.
- The 95 Express Lanes project is providing:
  - Almost \$200 million in contract opportunities for Virginia small businesses;
  - New ramps, lanes and active management that will improve conditions for current HOV and transit users;
  - Extension of existing HOV lanes 9 miles from Dumfries to Garrisonville Road in Stafford County to alleviate the worst bottleneck in the region;
- Expansion of existing HOV lanes from two to three lanes for 14 miles between Prince William Parkway to vicinity of Edsall Road on I-395;
- Creation of a seamless connection to the 495 Express Lanes and into Tysons Corner;
- New or improved access to and from the lanes at key interchanges; and
- Technology and law enforcement to keep violators out of the lanes.
- Transurban's community grant program and "1,000 Trees in 1,000 Days" campaign have supported more than 120 local community initiatives, including programs to restore streams, improve safety on local roadways, and promote bicycling as an integral part of transportation in Northern Virginia.
- Transurban's award-winning "Orange Cones. No Phones." distracted driving awareness campaign and dedicated Express Assist service crews, which have helped more than 450 drivers in the first year, demonstrate our strong commitment to safety in both the construction and operation of managed lanes projects.



## What, if any, advantages will the commonwealth potentially gain by entering into an agreement in which operations and maintenance, life-cycle responsibility, and/or traffic and revenue risk are transferred to the private sector? How do you assess the likely magnitude of such advantages? What are the potentially offsetting disadvantages?

Transurban believes the best option for relieving congestion in the I-66 corridor is a managed lanes concept that would increase capacity, provide new travel choices, enable express bus routes and other transit improvements. Managed lanes would also improve spot locations and choke points, intermodal connectivity, safety, and communication.

Advancing a partnership for managed lanes under a demand-risk model offers the commonwealth a number of benefits:

- Provides substantial capital to help fund transportation improvements in the form of an upfront private equity investment;
- Shifts traffic and revenue risk to the private sector, and away from taxpayers;
- Manages the amount of state and federal taxpayer funds required to successfully finance the project, enabling the commonwealth to direct its resources to other critical transportation improvements;
- Accelerates the delivery of major transportation improvements in the corridor;
- Provides budget certainty for the commonwealth through a firm, fixed, design-build price;
- Shifts key construction and delivery risks to the private sector;
- Transfers long-term operations, maintenance and life-cycle costs to the private sector, and puts long-term performance standards in place to ensure effective operations and maintenance;
- Does not require the commonwealth to carry more debt on its balance sheet, or risk its strong credit rating;
- Provides the commonwealth the opportunity to share in the financial success of the project through revenue sharing, but without assuming the risk should the project not be a financial success; and
- Provides an opportunity for VDOT and DRPT to build on their internal expertise by drawing innovation from the private sector across the design, delivery and operations phases.



The inevitable complexity of construction in the I-66 corridor, substantial traffic levels, and likely willingness of travelers to pay for faster travel options make the corridor an ideal candidate for a demand-risk public-private partnership. Under this model, the commonwealth maintains ownership and oversight over all aspects of the project. It also protects Virginia taxpayers from the riskier elements of any large toll road project. An October 16, 2013, report by Fitch Ratings identifies completion, delay, cost and revenue risks as among the riskiest elements of toll road projects. Under the demand-risk model, these risks are largely shifted to the private partner and away from Virginia taxpayers.

Finally, the government has the ability to structure a demand-risk contract that does not unreasonably limit its ability to advance critical surrounding infrastructure in the future.

**A demand risk model transfers long-term operations, maintenance and life-cycle costs to the private sector, and puts long-term performance standards in place to ensure effective operations and maintenance over a long period of time.**

# PROCUREMENT PROCESS

## Do you have any particular concerns with or major observations about the milestone schedule provided in this RFI? Please provide your views on proposed solutions to address these concerns?

Transurban has significant experience in working with VDOT to successfully advance major public-private transportation projects through the necessary development milestones and approvals. We understand the level of review required for large infrastructure projects, and the processes that need to be completed prior to getting approval to proceed with construction. We are also committed to a fully transparent development process that engages the full spectrum of stakeholders through every stage.

We commend the commonwealth for outlining a preliminary schedule that seeks to strike an important balance between ensuring adequate assessment of environmental impacts and evaluation of alternatives, while moving as swiftly as possible to deliver critically needed transportation improvements to the congested I-66 corridor.

We have identified some potential challenges in the timeline outlined in the RFI, including:

- **RFQ constraints**—two months is not a sufficient time frame between the expected date of the Office of Public-Private Partnerships (OTPP) issuing the RFQ to the expected date to announce short-listed proposers, assuming that period includes both the time for potential proposers to prepare and submit the RFQ and for VDOT/OTPP to review and decide on a short list.
- **Schedule to Financial Close**—the proposed time frame shown between the potential final RFP issued by OTPP and the Expected Commercial/Financial Close is likely not sufficient. A final realistic timeline will of course depend upon the necessary level of engineering, costing and overall detail to fulfill the scope of the RFP, and the final project funding mechanism chosen.

These challenges would likely impact the projected financial close timing of Summer 2015. The commonwealth needs to ensure there is adequate time for a thorough end-to-end process. This will enable respondents to provide the necessary detail for the commonwealth to undertake the assessment against the selection criteria to enable shortlisting. Once shortlisted, the timing needs to allow for the best value solution with a committed partner to be selected, the project agreements negotiated, and the financing structure resolved.

## What are the critical path items for the procurement of this Project and why?

There are a number of issues that could impact the procurement of this project, including:

- Completion of the Tier 2 NEPA, as to not delay the submittal of the issuance of the final RFP;
  - An appropriate RFQ that clearly assesses the qualifications and ability of the proposed respondents to develop, construct and operate the project solution;
  - Sufficient time to prepare a detailed and comprehensive response to the RFP. A detailed RFP is critical to document proposer's approach and pricing for this project, which will provide VDOT the necessary information to make an informed selection;
  - Negotiation of scope and pricing of the final project prior to selection. A clearly identified and agreed to Scope of Work and corresponding pricing is critical to eliminate future claims and support a successful outcome for all parties; and
  - Sufficient time to secure the funding required to initiate the project. Transurban's previous experience with these types of projects suggests that the timing allotted is not sufficient.
- The general sequence of activities in finalizing a project of this nature include:
- Define the scope of work for the I-66 Project through detailed engineering and operational analysis;
  - Complete a detailed traffic and revenue report to assess and validate the proposed scope of work, including the proposed access points;
  - Assess potential operational impacts of the proposed project, including maintaining the operational integrity of the existing managed lanes network and the surrounding general purpose lanes along the Capital Beltway and the local road networks;
  - Analyze and define the processes required for the proposed scope of work (i.e., NEPA, regional air quality, etc.);
  - Validate the preliminary financial feasibility of the defined scope of work;
  - Identify financing sources for the defined scope of work, and assemble a detailed financing plan to fund the construction;
  - Support VDOT, as requested, in gaining approvals from the Federal Highway Administration, the regional Transportation Planning Board, and the Commonwealth Transportation Board, among others;
  - Partner with VDOT in an inclusive outreach program focused on educating the traveling public, surrounding communities and businesses, and other key stakeholders on the project and associated enhancements to communities in the area;
  - Finalize process to deliver a turnkey design-build contract with fixed price, fixed schedule features in accordance with current market terms and conditions; and
  - Negotiate terms and conditions for a concession agreement with VDOT, subject to Commonwealth Transportation Board approval.

## Looking ahead over the next two to three years, do you believe your firm will be interested in submitting a committed proposal for the development of the Project (any or all of the build concepts)? Are there any particular concerns that may prevent your firm from getting engaged in the project development? How might those concerns be resolved?

Transurban has long had a strong interest in the I-66 corridor and believes it is a good candidate for managed lanes delivered under a demand-risk public-private partnership.

To date, our team has:

- Developed a series of managed lanes concepts for the corridor;
- Conducted preliminary traffic analyses;
- Evaluated options for effective interfaces at key interchanges, such as Vienna/Nutley Street;
- Prepared conceptual cost estimates; and
- Engaged in preliminary discussions with select stakeholders in the corridor to obtain early feedback on a managed lanes solution.

Based on this review, we believe VDOT should work with the private sector to deliver a managed lanes, or Express Lanes, project that would effectively:

- Add capacity to the congested I-66 corridor;
- Provide travelers a new option for faster and more predictable travel;
- Create new, reliable express bus routes connecting rapidly growing population centers with Virginia's largest employment center;

- Support improved intermodal connectivity;
- Improve environmental outcomes;
- Minimize impacts to surrounding homes, communities, and the environment;
- Enhance safety and incident response;
- Deliver enhancements to spot locations and address major chokepoints;
- Improve HOV enforcement; and
- Enhance communications, technology and driver information.

Transurban's immediate focus is on the operations of the 495 Express Lanes and delivery of the 95 Express Lanes. If the ultimate scope of the project and procurement method align with our business model and prove to be in the best interest of our shareholders, Transurban would submit a committed proposal.



## What is the minimum amount of time that your firm requires to develop and submit a committed detailed proposal for the Project after issuance of potential RFP?

Based upon past experiences and the anticipated complexity of the I-66 project, we estimate that it will take up to nine months to develop and submit a detailed proposal after the issuance of a RFP.

While Transurban has already completed some preliminary work, there would be a number of critical steps that would have to be completed before finalizing a committed proposal, including:

- Forecasting traffic projections, evaluating proposed roadway configurations including new entry and exit points, and validating the overall financial feasibility of the project;

- Evaluating potential financing options with financial institutions;
- Developing preliminary phasing concepts and maintenance of traffic (MOT) strategies;
- Performing preliminary survey and engineering design, including the evaluation of intersections and access and exit points;
- Revising and enhancing the preliminary design to develop a final concept that addresses the major constructability issues;
- Preparing a detailed cost estimate; and
- Finalizing the full package for submittal.

# TECHNICAL CHALLENGES AND ALTERNATIVE SOLUTIONS

**Based on your experience in the development of similar projects and characteristics of the I-66 corridor, please explain the technical challenges that may be encountered with the highway and transit improvement concepts described in the Tier 1 DEIS. Please provide recommendations for mitigating or overcoming those challenges.**

Transurban has considerable experience in the development of similar projects with the characteristics of the I-66 corridor. As the project advances, a significant effort will take place to evaluate the specific technical challenges, which based on Transurban's experience may include:

Challenges	Broad Strategies for Mitigation
Optimizing the design to minimize right-of-way requirements to manage impacts to surrounding homes and businesses	<p>Advance a managed lanes concept that will maximize the footprint of the existing I-66 corridor to provide new capacity and a network for transit. Early analysis suggests managed lanes can be delivered with fewer right-of-way impacts than a traditional highway expansion, large BRT stations or a heavy rail project.</p> <p>By advancing the 495 Express Lanes as an alternative to a traditional highway expansion, Transurban and its partners reduced projected takings of more than 350 homes and businesses down to just eight homes.</p>
Ability to provide innovative solutions and new technologies that will be assessed on their merits	Timely and practical assessment of innovative solutions that may require design exceptions or design waivers, or modification to technical requirements and standards, with coordination across all stakeholders.
Understanding of any proposed improvements to areas adjacent to the corridor	Detailed information provided to support any projects identified in the CLRP or other long range planning.
Design solutions triggering reevaluations of the NEPA or further studies	Early definition of design technical requirements and scope to identify changes that may be required for the NEPA process.
Conceptual requirements for signing understood to avoid future redesign/changes	Clear and detailed guidelines documented in the technical requirements, with agreement from all stakeholders including to support the broad guidelines established as part of the MUTCD.
Transparency in relation to scope and technical requirements	Clear and detailed technical requirements to ensure that the scope is understood and all parties are in agreement as to the requirements. For example, pedestrian and cycle facilities, storm water management and retention, and lighting.
Understanding of the existing corridor conditions	<p>Provision of information related to the geotechnical conditions, known issues, including any borings to assist with the assessment of pavement, groundwater and other conditions.</p> <p>Provision of information related to any known hazardous materials locations, any remediation or containment and Level I and II assessments completed.</p>
Knowledge and understanding of existing utility locations	Provision of information related to known locations of utilities impacting the corridor, including contact details and other relevant information, conflict matrices and the requirement for agreements with utility owners.
Noise study and wall requirements	<p>Early completion of noise wall study and assessment and agreement of requirements, particularly related to specific community requirements.</p> <p>Detailed technical requirements for type of walls provided.</p>
Stakeholder and community information	Information related to stakeholder concerns and community issues, received from all public information sessions and other specific contact with community groups. For example, specific requirements for landscaping or aesthetics.
Requirements for hand-back of assets	<p>Provision of a detailed package of information related to the maintenance history, inspections and records of the condition of the existing pavement and structures, and records on as-built conditions.</p> <p>Specific requirements identified as part of the technical requirements.</p>
Permitting Requirements	Permit requirements identified including specific requirements from impacted counties, including early procurement of permits where practical and achievable.

Challenges	Broad Strategies for Mitigation
Reconstructing or adding new interchanges or access into an already congested and confined alignment	Incorporating appropriate constructability reviews as part of the design engineering process, including early and ongoing stakeholder reviews, developing practical design solutions, understanding of lane closure requirements for construction activities, early identification of allowable staging areas for construction.
Design around the physical constraints of the existing Orange Line Metrorail in the median of I-66 and/ or design of the project to provide provision for any future expansion of Metrorail in the I-66 corridor	Provision of detailed understanding of the WMATA requirements and specific design and access criteria that may need to be incorporated, including any design constraints and agreement on the future state.
Planning for effective traffic operations at managed lanes entrance and egress points	Utilize a traffic signal timing software application analysis to address technical issues related to traffic signal timings and adequately solicit and incorporate feedback from travelers.
Managing impacts to drivers in the I-66 corridor, as well as those on surrounding arterial and commuter routes during construction	Coordinate with VDOT Megaprojects to provide maintenance of traffic sequencing during construction that will minimize the impacts and provide appropriate messaging and information.
Maintain safety for travelers and workers in a crowded and congested work zone	Implementing proven controls and outreach to ensure that the messaging is delivered in a timely and thorough manner. The Express Lanes "Orange Cones. No Phones." initiative is an example of an effective safety campaign.

**Do you believe a bifurcated highway system along the I-66 corridor is technically feasible? Please provide any experience and supportive information that you may be able to share from similar projects.**

Transurban believes that a bifurcated highway system along the I-66 corridor is technically feasible and will be an important part of the strategy to maximize capacity in the congested corridor, while minimizing impacts to surrounding homes and businesses. The key advantage of the bifurcated highway system is the reduction in cross section required for the travel lanes, thereby reducing right-of-way impacts.

The Transurban team has successfully implemented such a system on the 495 Express Lanes. The 495 Express Lanes are bifurcated as follows:

- Four-foot separation between the Express and General Purpose lanes, with solid white stripes to delineate the travel streams.
- Flexible channelizing posts at eight (8) feet on center down the length of the Express Lanes corridor to prevent traffic from moving back and forth from the General Purpose lanes.

Given the corridor’s primary design features and challenges, we believe a similar solution would be well-suited to I-66.

As a long-term operator, Transurban understands that while the bifurcated design plays an important role in minimizing impacts, such a system will work only if strategies are in place to support driver safety, effective incident response, and safe and efficient maintenance over the long term.



One year into operations, the bifurcated system on Transurban’s 495 Express Lanes is working well. The channelizing posts serve as an effective wall. There have been very few instances where travelers have chosen to cross the barriers. A strong law enforcement presence, laws with reckless driving penalties, full video coverage and the risk for vehicle damage have been effective deterrents and have promoted a safe environment for travelers.

The channelizing posts provide options for improved traffic management and incident response relative to traditional jersey walls. The channelizing posts on the 495 Express Lanes can be crossed at low rates of speed

without damaging vehicles when emergency lane diversions are required (into or outside of the Express Lanes), but this is done only within proper maintenance of traffic procedures and assistance from VDOT’s Safety Service Patrol or 495 Express Assist crews.

Transurban and its partners have pioneered the use of an innovative mobile barrier in the Washington D.C. region to help support the safety of travelers and workers while performing maintenance activities in the bifurcated environment on the 495 Express Lanes.

## What are the most significant cost drivers in the development and operation of the managed lanes and bus rapid transit concepts along the I-66 corridor? How can these concepts be implemented in such a way as to preserve the potential for rail extension?

The most significant cost drivers for a managed lanes project in the I-66 corridor would likely be:

- Improvements of major interchanges along the route;
- Acquiring right-of-way; and
- Maintenance of traffic during construction.

There is a need to address congestion and mobility constraints in the I-66 corridor as quickly as possible. The Tier 1 DEIS reports more than half of the corridor in the peak direction each morning is excessively congested, with lanes nearing the point of failure at level of service E or F. During the afternoon peaks, nearly two-thirds of the travel miles fall to that level of service. As I-66 intersects the Beltway, travelers regularly face four to five hours of rush-hour congestion in each direction.

Managed lanes provide a cost-effective solution that can be realistically delivered over the next few years to provide travelers relief and new choices, as well as support an expansion of transit service in the corridor.

Within the first year of operations of the 495 Express Lanes, Fairfax County introduced new bus routes to Tysons from Lorton, Burke and Springfield. OmniRide reports it altered schedules because buses are saving 20 minutes per trip from points in Prince William County to the Tysons area.

The advancement of managed lanes in the near term will not in itself prohibit a future expansion of Metrorail in the corridor. The commonwealth can develop a strategy that adequately balances a short-term solution such as managed lanes with the long-term goal of Metrorail.

A number of state and local transportation improvements currently planned for the I-66 corridor are being advanced under the assumption that the new facilities will need to be rebuilt should Metrorail be extended. The development of the Vaden Drive Alignment for the I-66 Vienna Metrorail Accessibility and Capacity Improvements project (I-66 Bus Ramp), at a total estimated cost of approximately \$54 million, is proceeding on the basis that the ramp

**OmniRide reports it altered schedules because buses are saving 20 minutes per trip from points in Prince William County to the Tysons area.**

would be removed to clear the median in the event of a future rail extension. This is also the case for other ramps at Monument Drive and Stringfellow Road. This same approach could be used for managed lanes to significantly reduce right-of-way requirements and costs.

## What, if any interoperability issues do you foresee with the current tolling system on I-495 Express Lanes?

As the long-term operator of the 495 and future 95 Express Lanes, Transurban is uniquely positioned to ensure a seamless connection between new managed lanes on I-66 and the existing network.

A single operator across a regional Express Lanes network offers travelers, VDOT and other stakeholders significant benefits:

- Consistency in signage and toll pricing strategy;
- One-stop shopping for customer service and inquiries at ExpressLanes.com;
- Single-point communication and coordination for local transit operators;
- Consistency in approach to enforcement processes, business rules and payment options for customers;
- Single partner for VDOT and law enforcement in managing incident response across the network through an interface already in place and working between Transurban and VDOT's PSTOC;
- Single interface for VDOT in managing traffic to support construction and maintenance activities adjacent to the Express Lanes across the network;

- Consistency in region-wide marketing and communications efforts for customers;
- Synergies and reliability derived from a single tolling system and operating platform; and
- Proven and tested partnership between Transurban and VDOT in developing operations strategies and coordinating day-to-day operations.

Transurban is using a complex dynamic tolling algorithm to provide customers, transit operators and carpools a consistently faster and more reliable trip on the 495 Express Lanes. The team has gained unparalleled experience in effectively managing traffic in the region and would put this experience to work on the first day of operations on I-66.

The use of E-ZPass® and the new E-ZPass® Flex<sup>SM</sup> for carpools will also ensure interoperability for travelers across the managed lanes network and along much of the East Coast.

## What suggestions do you have for better coordination between this Project and other projects currently under design or construction along the I-66 corridor?

Coordination between projects is often a significant issue, particularly when the activities are taking place in close proximity and through the same construction seasons.

Transurban supports VDOT's "mega projects" approach in Northern Virginia, through which the agency evaluates the impact of construction activities across multiple major projects across the regional road network.

Transurban, VDOT and its partners demonstrated the effectiveness of this collaborative approach through the early and on-budget delivery of the 495 Express Lanes. The 95 Express Lanes Project—currently being delivered under the same partnership—remains on schedule at 60 percent completion.

To lay a solid framework for this kind of coordination, the documentation prepared by OTP3 should clearly identify:

- Limits and schedules of all current and planned projects that would occur during the design and construction part of this project;
- All available plans and scoping-related documents of previous, current, and planned projects that could impact this project;
- Responsibilities, access rights and restrictions, the project that has priority, and other requirements during the construction of this project; and
- Close coordination with VDOT, localities and WMATA on any planned projects and access requirements into their facilities and ROW.

Documentation should include clearly what is required as part of this coordination.

Effective coordination is not a matter of just supplying design drawings—it must clearly involve the sharing of detailed information, schedules and priorities, and working together to ensure that the work being undertaken on any project is not delayed as a result of the other.

Transurban and its partners have substantial experience in working with VDOT, WMATA, MWAA and other partners in the region to coordinate both construction and operations activities.

## What challenges are associated with managing the life-cycle costs for the improvement concepts as described in the Tier 1 DEIS? What measures would you suggest to mitigate these risks?

There are three primary challenges associated with managing life-cycle costs for any major infrastructure project:

- Rapid changes in technology that make systems obsolete in a few years;
- Accelerated major capital requirements such as early bridge or structure repairs; and
- Fluctuation in materials costs such as asphalt, concrete and steel over a number of years.

There are some key challenges that must specifically be addressed in advancing a managed lanes project:

- Pavement Management – identification, evaluation and repair options to improve the overall riding surface, life-cycle cost, and reduce future traffic impacts; mitigation by advancing a full investigation of all pavement conditions and pavement history, and recommendation of best repair options; and

- Reuse of existing bridges and structures—optimize repair options to improve the remaining structure life, reduce life-cycle costs, and reduce future traffic impacts.

The best measure to mitigate these risks is to have an overarching infrastructure asset management approach and make the following practices part of a standard life-cycle management program:

- Stay current with new technologies and make purchasing decisions based on value for money, balancing the consideration between having the current technology versus waiting a short time for newer, more efficient equipment;
- Use statutory inspections to inform short-term life-cycle planning and maintenance, as they may reveal deterioration of heavy infrastructure such as bridges; and
- Research key material costs and consider obtaining futures on items that are likely to rise significantly.

As a long-term operator, Transurban takes a comprehensive approach to life-cycle management, including:

- Alignment to business strategies and drivers;
- A life-cycle approach (whole of life and concession period);
- Cost-effective operations and maintenance management strategies;
- A defined level of performance and performance monitoring (measure, analyze, review effectiveness and implement);
- Demand management and infrastructure investment to meet growth;
- Managing residual risks;
- Sustainability;
- Continuous improvement; and
- Meeting concession, legislative and regulatory requirements.

## What adjustments to the Project scope, or development strategies (including potential phasing of project elements) would you consider/recommend to reduce the upfront capital costs and/or the life-cycle costs of the overall project costs?

There are opportunities to reduce the upfront capital costs and/or the life-cycle costs of the overall project costs, including:

- Incorporating planned projects into the Scope of Work for this project to maximize efficiency, reduce project coordination and access issues, and eliminate the potential for rework between the projects; and

- Addressing the pavement condition and appropriate repairs to be incorporated into the design and construction of this project to minimize life-cycle costs and future traffic impacts.

Phasing of a managed lanes development that incorporates other improvements may be possible but it will depend on the final

solution adopted. From the managed lanes perspective, phasing could be adopted to incorporate other options related to transit, including providing better access to Metrorail.

# COMMERCIAL AND FINANCIAL STRUCTURE

## Please explain your firm's interest in the improvement concepts discussed in the Tier 1 DEIS. What is your recommended approach for financing the capital cost of each concept?

Transurban believes a managed lanes concept that increases capacity, provides new travel choices, enables express bus routes and other transit improvements is the best option for relieving congestion in the I-66 corridor. Managed lanes would also improve spot locations and choke points, intermodal connectivity, safety, and communication.

A demand-risk partnership that injects private equity and privately backed debt would be the best financing option for the commonwealth and its taxpayers.

Transurban has a strong track record of delivering innovative financing structures and techniques that deliver maximum benefits for the community. We have a long history of working with the public sector to deliver financing packages that enable us to deliver significant infrastructure assets while minimizing the cost and risk to our government partners.

In addition, Transurban would be in the unique position to work with the commonwealth to explore potential opportunities to generate value using its existing concessions in the region, including looking at possible options to lower net funding requirements for the new projects. We believe that the use of a demand-risk model and the potential value of our existing concessions would maximize the private sector contributions and minimize the cash burden on the public sector.

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We continually monitor and participate in global finance markets to ensure that we are delivering cutting edge financing to all our projects. We have pioneered the use of Private Activity Bonds (PABs) in the U.S. for road infrastructure projects and all our projects in the U.S. have been able to access affordable subordinated debt from the USDOT under the TIFIA program. The successful implementation of these debt programs has delivered significant financial benefit to the government without increasing its risk profile. In addition to the PABs market and TIFIA program, Transurban maintains an active dialogue with prominent bank lenders and taxable bond issuers.

While Transurban would undertake a broad assessment of all financial markets, it is envisioned that the capital costs of the I-66 managed lanes would be optimally financed through a combination of private equity, senior debt raised through the PABs market and possible subordinated debt from the TIFIA program. Depending on the scope and risk allocation of the project, these instruments may or may not need to be supplemented with capital contributions from the commonwealth. Additionally, the above is contingent on the ultimate scope of the project and procurement method aligning with our business model and proving to be in the best interest of our shareholders.

## Please discuss your firm's interest in:

### a. Accepting traffic and revenue risk in a toll concession

### b. Accepting performance risk in an availability structure

#### TRAFFIC REVENUE AND RISK IN A TOLL CONCESSION

There remains appetite in the private sector—among those with a longer investment horizon—to take traffic and revenue risk on major toll road projects. Transurban, as an experienced, long-term toll road operator, is an industry leader in managing traditionally public assets under demand-risk concessions, and would be interested in accepting traffic and revenue risk for managed lanes in the I-66 corridor should the ultimate project align with our business model and be in the best interest of our shareholders.

Transurban's existing portfolio demonstrates a strong track record of partnering with governments to invest in road transport networks. The successful operations of our business and the commercial viability of the demand-risk model are reflected by strong EBITDA margins across Transurban's assets, which range between 70 percent and 90 percent for the majority of the roads we manage.

As outlined previously, the demand-risk model offers a host of benefits for Virginia taxpayers. Most notably, it provides for an injection of substantial new capital to help fund improvements and shifts key delivery, operations, traffic and revenue risks to the private sector. This would enable the commonwealth to share in the success of projects through a revenue-sharing regime, but protect taxpayers from any financial loss should toll road revenues not meet projections.

The demand-risk model protects the state budget by shifting delivery risk to the private sector through a firm, fixed-price contract. The commonwealth would not be obligated

to assume additional debt to fund the improvements—protecting Virginia's credit rating and saving debt capacity for other critical transportation projects. The private sector would operate and maintain the road to VDOT standards, and be obligated to return the asset in good working order at the end of the term.

#### PERFORMANCE RISK IN AN AVAILABILITY STRUCTURE

The availability payment model is largely a lease arrangement that requires the private operator to keep a facility open to a defined level of service. The fundamental premise of this approach is that the government assumes key elements of risk relating to the project, such as traffic and revenue risk, and engages a private-sector operator to operate and maintain the asset for an agreed periodic payment.

The availability payment model is best suited for projects where the user pays component is insufficient to make a material contribution to the cost of funding, or the operating costs over time far exceeds the capital costs, or there are significant social equity issues involved.

While an availability structure is well-suited to some transportation and social infrastructure projects, Transurban does not believe it is appropriate for a managed lanes project in the I-66 corridor for a number of important reasons.

→ The availability structure would require the commonwealth to make guaranteed payments to the private sector for a long period of time, regardless of whether or not the toll road ultimately generates sufficient revenue to cover those payments. If revenues fall short

of projections, VDOT would have to transfer funds away from other critical improvements to make guaranteed payments to the private sector;

- An availability structure would be considered debt of the commonwealth, sit on the commonwealth's balance sheet, and could ultimately limit its debt capacity to fund other critical transportation projects;
- Not yet used in Virginia, VDOT would have to secure approval from the General Assembly to use the availability structure and associated commonwealth debt capacity – necessitating potentially long and uncertain approval processes before the project could advance;
- An availability structure would not inject any new capital into the equation; the private sector would provide upfront capital for improvements, but with a guarantee the government will pay them back over time;
- The specific characteristics of the I-66 corridor suggest it could generate sufficient toll revenue to support a demand-risk model – enabling VDOT and DRPT to use the availability structure (and the balance sheet capacity required) to advance projects not financially or politically feasible as demand-risk toll roads; and
- Should toll revenues not be sufficient to cover guaranteed payments to the private sector, the responsibility to make those payments would shift from users of the road to all of the commonwealth's taxpayers – drawing from road construction or maintenance allocations and diverting funds from other projects.

## What is a reasonable concession term for a managed lane or a bus rapid transit concept? Why?

Transurban believes a long-term focus is essential for a public-private partnership to be successful in this corridor.

These types of projects require substantial upfront investment so the concession term needs to be long enough for the private entities to be able to recoup costs and pay back debt. As such, concession terms consistent with those on the existing 495 Express Lanes and the 95 Express Lanes would be anticipated.

That being said, the length of concession is one of many key elements government and the private sector must evaluate in structuring a partnership agreement. There are opportunities to reduce concession lengths by making other adjustments in financing strategies and risk allocation.

## ADDITIONAL CONSIDERATIONS

**If your firm is a Disadvantaged Business Enterprise (“DBE”) or a Small, Women-owned, and Minority-owned Business (“SWaM”), please provide any suggestions or comments on how OTP3, VDOT or DRPT can help to develop teaming opportunities with prime contractors.**

Transurban is not a DBE or SWaM firm; however, we are committed to DBE and SWaM efforts and have a proven record of significant participation of DBE and SWaM certified companies on our projects. Transurban-sponsored projects in Virginia have collectively generated more than an estimated \$659 million in contract opportunities for DBE and SWaM businesses, and put more than 450 small contractors to work. Transurban and its partners have committed to and achieved the most aggressive DBE/SWaM goals for any major transportation project in the commonwealth’s history.

From our experiences on the 495 Express Lanes and 95 Express Lanes projects, Transurban and our design-builder can draw from the many successful outreach processes implemented, including:

- Continual engagement with the DBE and SWaM community, either directly with our design-builders or with their major subcontractors and suppliers;
- Conduct DBE/SWaM opportunity sessions for specific contract elements; and
- Assist with seminar series for DBE and SWaM firms in the areas of marketing, payroll, scheduling, contracts, taxes, estimating and overhead cost.

**Transurban-sponsored projects in Virginia have collectively generated more than an estimated \$659 million in contract opportunities for DBE and SWaM businesses, and put more than 450 small contractors to work.**

**What additional challenges or risks should OTP3, VDOT, DRPT or CTB be aware of in regard to the Project’s scope, procurement process, delivery method, term of contract, technical and financial feasibility, etc.?**

The most common risks for these types of projects are:

- **Feasibility**—mitigated by engaging the correct partners and putting in place strong strategic relationships with sponsors having experience in similar projects;
- **Completion**—mitigated by having contractors under a fixed price/date certain agreement, with a robust security package, a proven track record and strong credit rating;
- **Traffic and Revenue**—mitigated by having an experienced team with knowledge of the underlying assumptions and methodology for traffic and revenue projections;
- **Financial structuring**—mitigated through utilizing an experienced team and pursuing innovation to achieve financial flexibility through public funding, federal financing and private investment; and
- **Operations**—mitigated by having a concession operations team with a long-term horizon and focus on managing through the term, not just for the construction phase.

A key element of overcoming all of these risks is having a private partner with the appropriate knowledge and capability to manage and mitigate these risks. Transurban has successfully achieved this on a number of projects and, as a long-term investor and operator, Transurban demands the highest standards of construction quality so infrastructure endures throughout the life of the concession.

Transurban also places a high priority on early and consistent stakeholder outreach and understands how critical this engagement can be to helping project partners manage risks, accelerate project delivery and improve transportation outcomes. The success of delivering the 495 Express Lanes project ahead of schedule, on budget and with an exceptional safety record is an example of our deep commitment to working closely with all stakeholders.

# ABOUT TRANSURBAN



**Transurban partners with governments to deliver roads that meet community needs over the long term.**

## **Our capabilities include:**

### **INNOVATIVE TRANSPORTATION SOLUTIONS**

Our business delivers smart and innovative solutions to urban congestion.

- CityLink—one of the world's first fully electronic toll roads;
- M1-CityLink Upgrade includes one of the most advanced freeway management systems in the world;
- 495 Express Lanes use dynamic tolling to help tackle severe congestion in the Washington D.C. region; and
- 95 Express Lanes when open will connect to the 495 Express Lanes creating a regional network of more than 40 miles of managed lanes.

### **PUBLIC PRIVATE PARTNERSHIPS**

As a long-term toll road owner and operator, Transurban manages traditionally public assets under concessions that can last for decades. We work closely with our government partners during every stage of a project—from financing and development through construction and operations.

- Experienced in managing risk associated with large-scale infrastructure projects;
- Private sector involvement allows governments to remove projects from their balance sheets and shift attention to social infrastructure or other needs; and
- Able to deliver projects which were not possible with government funds alone.

# ABOUT TRANSURBAN



## TOLLING AND CUSTOMER SERVICE

We have an interest in eight toll roads in Australia and the U.S., serving more than 5 million customers.

- 'Customer-first' ethos focusing on efficient, seamless service;
- Transparent customer service targets consistently exceeded;
- Track record of developing innovative tolling products to meet customer needs; and
- Robust customer education programs.

## ROAD SAFETY AND PERFORMANCE

We are committed to continually improving our road and tunnel safety systems and practices to ensure we have the most sophisticated measures to support safety and seamless operation.

- Regular safety audits on our roads, plus several major safety enhancement projects in recent years;
- Dedicated on-road services (including incident response) to ensure optimal traffic flow and safety; and
- Recognized at both national and state level for excellence in road safety and emergency planning.

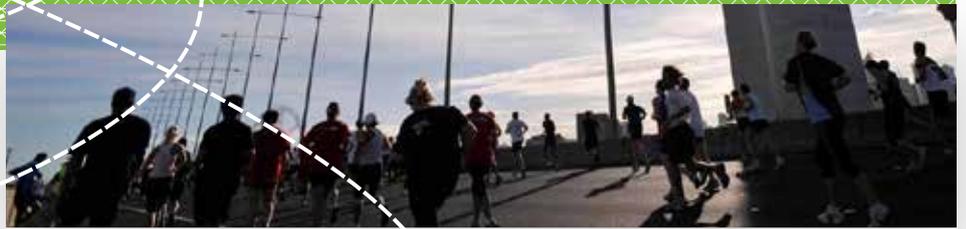
## STRONG FINANCIAL AND MANAGEMENT TRACK RECORD

We have a sound financial record and expertise in managing risk on long-term equity investments, which helps us to provide ongoing value for money to our stakeholders.

- Transurban is a business with a market capitalization of \$10 billion with a strong, investment grade credit rating (A- with S&P and Fitch, Baa1 with Moody's);
- Transurban has an established record as a successful operator with interests in six roads in Australia and one other road in Virginia, with another in development;
- The efficient operations of the business are reflected by the strong EBITDA margins across the Group, which range between 70 percent and 90 percent for the majority of the roads it manages;
- As a long-term investor, Transurban takes a market-leading approach in developing traffic forecasts with the company's dedicated in-house traffic analysts; and
- Transurban has a proven track record of partnering with governments to invest in road transport networks, with circa \$5 billion invested in Australia and North America over the past 5 years.



# ABOUT TRANSURBAN



## COMMUNITY PARTNERSHIPS

Strong community support keeps major projects on track. Transurban develops strong partnerships with local business and community groups to maximize support for projects and minimize stakeholder-related risks and delays.

- Signature grant program helps direct-impact neighbors manage impacts of construction and has awarded more than 120 grants since its inception; and
- Recipient of numerous community awards and recognitions.

## SUSTAINABILITY

At Transurban, sustainability is one of the key drivers of our corporate reputation and return to security holders.

- Board-approved Sustainability Framework formally embeds sustainability commitments in the business; and
- Listed in the DJSI World List of high-performing companies from 2006 to 2010, and in the DJSI Asia Pacific list in 2011.



## LONG-TERM COMMUNITY PARTNER

Transurban has a wide range of sustainability and community-focused programs. Some of these include:

- Sponsorship of Melbourne's biggest annual fun run, Run for the Kids, which benefits the Royal Children's Hospital.
- Our Express Lanes Community Grant Programs have given over 120 grants to support organizations that protect or enhance the local environment and neighborhoods in the project corridor.
- Reuse and recycling initiatives on some of our major projects. For example, 50,000 tons of excavated sandstone from the Hills M2 Upgrade project was reused under the new road pavement and in construction of new ramps. In addition, 85 percent of construction materials purchased for the project in FY12 contained recycled input products.
- Our 'Orange Cones. No Phones.' safety campaign with AAA Mid-Atlantic was designed to raise awareness of distracted driving in the 495 Express Lanes construction zone and is now being replicated on other projects.
- The 1,000 Trees in 1,000 Days Program on the 95 Express Lanes implemented for residents impacted by project construction to benefit from newly-planted trees.
- The 495 Express Lanes Project awarded \$450 million in contracts to small, women and minority contractors which represented the single largest contribution to DBE/SWaM contracts for a transportation project in the history of Virginia.
- Transurban executed a year-long educational program prior to the opening of the 495 Express Lanes to explain, promote and educate area drivers on how to use and benefit from the new travel option.



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