



# Interstate 66 Corridor Improvements Request for Information

November 19, 2013



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Mr. Morteza Farajian  
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Dear Mr. Farajian,

Macquarie Capital (USA) Inc. ("Macquarie" or "Macquarie Capital") is pleased to submit this response to the Request for Information ("RFI") related to the proposed development of the Interstate 66 Corridor Improvements from US Route 15 in Prince William County to Interstate 495 in Fairfax County (the "Project"). Macquarie regards the Project as a very attractive development and investment opportunity.

Regionally headquartered in New York City, Macquarie has a well-established presence in the Americas with more than 3,250 employees across 4 countries. Macquarie's experience with infrastructure projects is unique and unparalleled in its scale and diversity. Macquarie has experience across multiple asset categories, acting as a bidder, developer and advisor to companies and to governments in public private partnerships ("PPPs" or "P3s"). Macquarie is a world leader in PPPs with over 50 infrastructure advisory professionals in the Americas and has been involved in eight of the last twelve U.S. transportation infrastructure PPP projects that have reached financial close in the last four years. Transactions that highlight Macquarie's PPP experience include:

- Financial Advisor and Developer for the Goethals Bridge Replacement Project;
- Co-Developer and Financial Advisor for the Downtown Tunnel / Midtown Tunnel / MLK Extension project, the first immersed-tube tunnel PPP in the U.S.;
- Financial Advisor and Developer for the Denver FasTracks Eagle P3, the first Transit PPP in the U.S.;
- Financial Advisor to Puerto Rico's Public-Private Partnerships Authority and the Puerto Rico Highways and Transportation Authority on the privatization of the PR-22/PR-5 toll roads;
- Financial Advisor for the North Tarrant Expressway Managed Lanes Project and the IH-635 LBJ Managed Lanes Project, the first two managed lanes PPP projects closed in the U.S. since the global financial crisis; and
- Financial Advisor for the I-595 Corridor Roadway Improvements Project, the first Availability Payment PPP.

Macquarie has a deep understanding of the U.S. PPP market and looks forward to working with the Office of Transportation Public Private Partnerships ("OTPP3") and the Virginia Department of Transportation ("VDOT") in developing and successfully delivering the Project.

Yours faithfully,  
Macquarie Capital (USA) Inc.



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Yours faithfully,  
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## A. General

### 1. Please describe your firm and its experience in relation to public-private partnership projects, and its potential interest in relation to the Project (e.g. design/engineering firm, construction firm, operations and maintenance firm, lender, equity investor, etc.)?

Macquarie develops, invests in and manages infrastructure and infrastructure-like businesses globally, and has extensive existing infrastructure holdings including roads, rail, tunnels, bridges, airports, buses, parking, hospitals, marine terminals, utilities, and other essential infrastructure. Macquarie manages over US\$101 billion of investments located in 25 countries around the globe as of March 31, 2013. Of these investments, approximately \$29 billion, or 29%, are located in North America. Those investments are managed by a global team of 400 asset professionals with deep expertise in the infrastructure sector.

Macquarie has recent and relevant experience with U.S. PPPs having worked as developer and financial advisor on several projects listed below, and as government advisor on PR-22 and PR-5 in Puerto Rico. Macquarie has experience in financing complex PPP projects with a diverse range of financing structures, having been involved in eight of the last twelve PPP projects that have closed in the U.S. over the last four years.

Macquarie has extensive experience in developing and financing transportation infrastructure projects. One of our core business areas is to act as the Developer and Financier for Design-Build-Finance-Operate-Maintain (“DBFOM”) transactions.

**Table 1: Recent Macquarie Roads PPP Financing Experience**

Project	Location	Description
<b>Goethals Bridge Replacement Project</b>	Staten Island, New York	Developer and financial advisor for the ~40-year concession of the \$1.5 billion Goethals Bridge Replacement Project (DBFOM)
<b>Midtown Tunnel Project</b>	Norfolk and Portsmouth, Virginia	Developer and Exclusive Financial Advisor for the 58-year concession of \$2.1 billion Midtown Tunnel Greenfield/Brownfield toll road and tunnel project
<b>I-70 East Corridor</b>	Denver, CO	Currently acting as procurement and financial advisor to the Colorado Department of Transportation on the development and procurement of the I-70 East Corridor project
<b>PR-22 and PR-5</b>	San Juan, Puerto Rico	Sell side advisor for 40-year concession of \$1.1bn Brownfield toll road
<b>IH-635 (LBJ) Managed Lanes</b>	Dallas, TX	Financial advisor for 52-year concession of the \$2.8bn LBJ managed lanes toll road project
<b>North Tarrant Express</b>	Dallas, TX	Financial advisor for 52-year concession of the \$2.1bn North Tarrant Express managed lanes toll road project
<b>Port of Miami Tunnel</b>	Miami, FL	Financial advisor for 35-year concession of the \$903m Port of Miami Tunnel project financed against availability payments from FDOT
<b>I-595 Corridor Roadway Improvement Project</b>	Fort Lauderdale, FL	Financial advisor for managed lanes project financed against availability payments from FDOT
<b>A-25</b>	Quebec, Canada	Financial advisor, project manager, and sole equity provider for the 7km long C\$597m Autoroute A25
<b>407 ETR</b>	Ontario, Canada	Financial advisor for 99-year lease of public-to-private transaction for

		407 ETR roadway
<b>Dulles Greenway</b>	Northern Virginia	Financial advisor for the acquisition of \$1.5bn Dulles Greenway toll road and concession
<b>South Bay Expressway</b>	San Diego, CA	Financial advisor for the \$635m revenue risk South Bay Expressway
<b>Indiana Toll Road</b>	Northern Indiana	Financial advisor and arranger for the \$3.8bn 75-year concession for the Indiana Toll Road
<b>Chicago Skyway</b>	Chicago, IL	Financial advisor and arranger for the \$1.9bn 99-year concession for the Chicago Skyway

In addition, we understand that OTP3 is interested in exploring an option for a light rail extension. Macquarie has significant global experience working on rail and transit projects, as demonstrated in the table below.

**Table 2: Commuter Rail and Transit Experience**

<b>Project</b>	<b>Location</b>	<b>Description</b>
<b>Denver FasTracks Eagle P3</b>	Denver, CO	Financial Advisor and developer for the \$2bn commuter rail PPP project
<b>XpressWest</b>	Los Angeles, CA and Las Vegas, NV	Currently acting as financial advisor for \$6.5bn high speed rail project
<b>Tren Liviano Project</b>	San Juan, Puerto Rico	Currently acting as financial advisor to the City of San Juan, Puerto Rico on the P3 development of a 5.3 mile light rail system
<b>Canada Line</b>	Vancouver, Canada	Advisor to TransLink on a PPP for the C\$2bn commuter and airport rail link
<b>Arlanda Bahn</b>	Stockholm, Sweden	Financial advisor to Macquarie European Infrastructure Fund on the acquisition of the Arlanda Link
<b>London Underground Tubelines</b>	London, UK	Financial advisor to consortium including Bechtel for 30 year concession for the refurbishment and maintenance of the Jubilee Northern and Piccadilly Lines of the London Underground Network
<b>Bondi Beach Railway</b>	Sydney, Australia	Financial advisor to Transfield/Bouygues on heavy rail line linking Sydney metropolitan railway with Sydney Airport, Australia
<b>Sydney Metro</b>	Sydney, Australia	Financial advisor to Transfield/Bouygues on heavy rail line linking Sydney metropolitan railway with Sydney Airport, Australia
<b>Yongyin Light Rail</b>	Seoul, Korea	Financial advisor to Bombardier on the financing of Yongyin Light Rail Transit system
<b>Hong Kong West Rail Line</b>	Hong Kong	Financial advisor to KCRC on the construction of US\$10bn West Rail Commuter Rail Project, Hong Kong
<b>Brisbane Airport Rail Link</b>	Brisbane and Gold Coast, Australia	Financial advisor and founding shareholder in the A\$220m Brisbane Airport Rail Link 8.3 km heavy rail line linking the Brisbane Airport, the City of Brisbane and the Gold Coast

Macquarie's financial strength and stability of its capital structure support its ability to make substantial investments in infrastructure assets and ensure its ability to build, finance, operate and maintain the Project in accordance with OTP3's expectations. Macquarie is a leading global asset manager and financial advisor specializing in the infrastructure sector and in infrastructure and real asset funds and customized accounts. Macquarie is a full-service asset manager, offering a diverse range of capabilities and products including infrastructure and real asset management, securities investment management and structured access to funds, equity-based products and alternative assets. The funds management group has a team of approximately 1,400 experienced professionals located in 28 countries with nearly \$350 billion of assets under management. Macquarie's in-depth operational expertise working with infrastructure assets in PPP frameworks provides a unique competitive advantage.

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Based on the information included in the RFI, we understand that the Project will provide critical improvements to the transportation needs along the Interstate 66 Corridor from U.S. Route 15 to Interstate 495. On completion, the Project will deliver a multi-modal facility, guided by industry best practices and innovative approaches. We think that VDOT's objectives of significantly reducing major points of congestion, addressing transportation capacity deficiencies, providing additional transportation choices, establishing transportation predictability and creating a safer transportation corridor would best be achieved under a PPP framework.

Macquarie has a long history of participating in PPP projects in a number of different capacities including:

- **Developer & Equity Investor:** Macquarie has participated in PPP procurement processes through being a consortium member and committing equity, either directly or via a managed fund (in support of its bid for the Goethals Bridge Replacement project, Downtown Tunnel / Midtown Tunnel / MLK Extension project, Denver FasTracks, Chicago Skyway and Indiana Toll Road). This role typically involves overseeing the formation of the consortium itself, negotiating the project documentation amongst the consortium members, procuring the committed financing and coordinating the bid to the procuring agency. Should its consortium be nominated the preferred bidder and the project achieve financial close, the developer role will evolve into the asset manager role as described below.
- **Asset Manager:** Macquarie currently holds equity interests in, and plays an active role in managing, many PPP projects across the world including the Goethals Bridge, Downtown Tunnel / Midtown Tunnel / MLK Extension project, Chicago Skyway, Indiana Toll Road and Autoroute 25. Through Macquarie's listed and unlisted infrastructure funds globally, Macquarie currently manages interests in dozens of PPP assets globally.
- **Financial Advisor:** Over the past decade, Macquarie has acted as the financial advisor to numerous consortia participating in PPP procurement processes throughout the U.S. (Goethals Bridge Replacement project, Downtown Tunnel / Midtown Tunnel / MLK Extension project, Denver FasTracks, North Tarrant Expressway, IH-635 Managed Lanes, I-595 and Port of Miami Tunnel) and international jurisdictions. In its capacity as financial advisor, Macquarie aids a consortium by raising committed financing (both debt and/or equity) in support of its bid and is involved in structuring transactions with an overall aim of minimizing execution risk while providing value for money to the procuring agency.

## 2. Are there any particular concerns with any of the information that has been provided in this RFI, the Detail-Level Project Screening Report or the DEIS? Please explain any concerns and provide any proposed solutions or mitigations to address those concerns.

While we do not have any major concerns regarding the information provided, there are certain aspects of the project we would like further clarity on, as listed below:

- **Traffic & Revenue and tolling forecasts:** It has been projected that overall corridor traffic will increase substantially over the concession term of the Project. If VDOT were to pursue a tolled or Managed Lanes facility, what percentage of overall traffic does VDOT estimate it will capture on the tolled lanes?
- **Project configuration:** If VDOT were to pursue a tolled or Managed Lanes facility, what would the lane configuration between General Purpose and Managed Lanes be? Additionally, what is the scope of the Project relating to the existing shoulder travel lanes?
- **Project Scope:** We would like more information about the project scope in general, specifically on the key design features, construction aspects and operations and maintenance ("O&M") requirements. We would also like some clarity on what the O&M expectations would be of a Developer under a BRT structure.
- **BRT Concept:** We are not clear what role a BRT would have in a PPP concession. Please clarify VDOT's ideas on this concept.

Any information that VDOT or OTP3 would be able to provide to address our questions above would be greatly appreciated and enable us to develop a better understanding of the Project.



### 3. What, if any, advantages will the Commonwealth potentially gain by entering into an agreement in which operations and maintenance, lifecycle 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?

#### Benefits of PPPs

A PPP can result in several benefits to OTP3 including:

**Table 3: Benefits of a PPP**

Risk Transfer	<p>PPPs often require construction be completed within defined costs helping shield taxpayers from cost overruns.</p> <p>Further, operating and maintenance costs will be better borne by the private sector as they will apply whole of life cost management to the building and maintenance standards they use and the availability of funding will never be subject to appropriations.</p> <p>The private sector would also have the opportunity to offer innovative ideas and concepts to meet VDOT's specifications for the Project, which could in turn result in substantial cost savings. The Florida I-595 project, for example, saved almost \$300 million by utilizing an Alternative Technical Concept that utilized more existing structures and shifted additional risks to the private sector.</p> <p>Private partners have a financial incentive to provide consistent and high quality service to the public, especially the case in an availability payment structure where payments can be decreased for failing to meet O&amp;M performance goals.</p> <p>In both Australia and the UK, more than half of all traditional projects surveyed had cost overruns, compared with less than a quarter of PPP projects<sup>1</sup>.</p>
Lifecycle Responsibility	<p>Transferring the responsibility for lifecycle costs to the private sector will incentivize bidders to design with future O&amp;M work (and costs) in mind. A concessionaire with responsibility for future O&amp;M work will focus during construction to deliver an asset which requires the minimum level of future maintenance work. Additionally, a transfer of lifecycle responsibility will provide the public sector with a greater guarantee of the asset's quality.</p>
Traffic and Revenue Risk	<p>In the event that traffic and revenue risk is transferred, this further aligns the interest of the public and private sectors, thereby helping achieve OTP3 and VDOT's goals of alleviating congestion, providing additional transportation services and maintaining a safe traffic corridor.</p>
Timing	<p>With accelerated funding from private partners, projects can be put in place years ahead of when they might otherwise be, providing needed transportation improvements sooner and reducing inflationary costs.</p> <p>Studies of PPPs vs. traditional public delivery in Australia and the UK show that 25% and 70% (respectively) of public sector projects finished behind time, whereas only 1.4% and 24% of PPP projects finished experienced time overruns<sup>2</sup>.</p>
Budget Certainty	<p>Under a PPP structure, OTP3's funding requirements would be minimized, and in the case of an Availability Payment PPP, OTP3 would have a high degree of budget certainty since OTP3's contributions would not exceed the maximum Availability Payments.</p>
Changing Industry Standards	<p>Costs associated with changes to industry standards (e.g. AASHTO implements new guardrail specifications) will be borne by the private sector.</p>
Development & job creation	<p>A World Bank study estimates that under the right conditions, a 1% increase in a country's infrastructure stock is associated with a 1% increase in the level of GDP<sup>3</sup>.</p> <p>USDOT believes US\$1 billion in road construction spending generates 34,000 new jobs<sup>4</sup>.</p> <p>Independent studies in Nevada show an economic gain of approximately \$1.50 for every \$1 invested in transportation<sup>4</sup>.</p>

Sources: 1. Allen Consulting Group, University of Melbourne 2. University of Melbourne, UK National Audit Office 3. Building America's 21st Century Infrastructure, Progressive Policy Institute 4. Nevada DOT, About PPPs

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## Potential offsetting disadvantages

Governments may experience challenges when using a PPP delivery model. The table below highlights some of the key issues and common problems that public sector sponsors have encountered when procuring PPP projects. Note that these key issues do not impact each PPP project and should be evaluated on a case by case basis.

**Table 4: Key issues and Common Problems for PPPs**

<b>Key Issue</b>	<b>Common Problem</b>
Cost overruns	The possibility that project costs are not adequately anticipated and will require additional funding.
Lifecycle cost responsibility	If VDOT or OTP3 decides to retain responsibility for lifecycle costs, the private sector might provide a “cheaper” asset which may not provide the same longevity. It is important to align the incentives of the public and private sector in a way that will deliver the highest-quality asset to the public while minimizing long-term costs. Procurements that provide the private sector with only short-term responsibilities will create assets that are built for the short term.
Traffic and Revenue Projections	It is critical that VDOT and OTP3 assess the feasibility and acceptance of Managed Lanes before proceeding down this route.
Business case development	Unrealistic assumptions, inappropriate commercial structure or risk transfer.
PPP accounting	Issues left too late, unexpected outcomes.
Closing	Delays to commercial and/or financial close, a common example of which is delays in securing TIFIA financing approval.
Operational challenges	Providing a smooth transition from government operator to private entity.

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## B. Procurement Process

### 4. 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?

The current milestone schedule provided targets RFQ issuance in March 2014, and final RFP issuance in February 2015. In our experience, having a lengthy gap of almost 1 year between the RFQ and RFP can prove problematic as there could be significant changes in market conditions that may be difficult to adequately account for at an early stage.

Our preferred approach would be to issue the RFQ and commence the process once VDOT and OTP3 have reached an advanced stage of readiness, closer to the completion of the Tier 2 NEPA and ROD. We believe that a first draft RFP should be issued 1 month after bidders are shortlisted, allowing teams to initiate the proposal development process.

Please see our response to Question 7 for further detail regarding the procurement timeline.

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

Some of the critical path items we foresee are listed below, and described in more detail in other parts of the proposal.

- Completion of Tier 2 NEPA and ROD (see Question 4)
- Submission of an application for a PABs allocation for the Project and a TIFIA Loan application to the United States Department of Transportation by OTP3 (see Questions 16 and 21)
- Availability of detailed traffic forecasts used to determine final Project delivery method (see Question 2)
- Determination of risk transfer mechanism (toll revenue concession vs. availability payment)
- Obtaining any legislative amendments or approvals required to deliver the Project under the chosen risk transfer mechanism

### 6. 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?

The Project is consistent with our investment model and is well suited to our skills and expertise. As such, it is a Project that we are very interested in pursuing. Macquarie will evaluate the underlying commercial terms and financial logic for the proposed transaction. We will carry out a detailed analysis of the project corridor, identifying the key aspects of the transaction where we can provide significant value based on our prior experience and comprehensive track record. Additionally, we will look for strong political support for the transaction and a procurement process which is clear, transparent and effective.

## 7. 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?

We have found the timeline below (which contemplates a Bond Debt and TIFIA Loan financing structure) to provide bidders with adequate time to prepare aggressive bids. Invariably circumstances will arise requiring a delay in the process. We would recommend proposing this schedule and then being prepared for it to slide 1-2 months due to unforeseen circumstances. We have also inserted some recommended courses of action to take to help prevent TIFIA from being a significant drag on the process.

**Table 5A: Detailed Procurement Timetable without TIFIA financing**

<b>Month 1</b>	Release RFQ and start rating agency process
	Receive RFQ responses
<b>Month 2</b>	Shortlist bidders if necessary and release draft concession agreement and draft RFP, including baseline technical/operations requirements and key reports (geotechnical, right of way, and utilities)
<b>Months 3-8</b>	Hold multiple meetings with short-listed bidders to refine RFP and concession agreement and release final RFP and concession agreement
<b>Month 9</b>	Release final RFP and concession agreement to short-listed bidders
<b>Month 10</b>	Final bids due
<b>Month 11</b>	Select preferred bidder
	Execute contract with preferred bidder
<b>Month 13</b>	Target date for financial close
<b>Month 17</b>	Longstop date for reaching financial close

**Table 5B: Detailed Procurement Timetable with TIFIA financing**

<b>Month 1</b>	Release RFQ, submit letter to TIFIA, and start rating agency process
	Receive RFQ responses
<b>Month 2</b>	Shortlist bidders if necessary and release draft concession agreement and draft RFP, including baseline technical/operations requirements and key reports (geotechnical, right of way, and utilities)
	Share financial capability of short-listed bidders with TIFIA so they can get comfortable with the financial strength of all short-listed bidders
	Submit formal TIFIA application with indicative rating agency report
<b>Months 3-8</b>	Hold multiple meetings with short-listed bidders to refine RFP and concession agreement and release final RFP and concession agreement
	Once the broad parameters of the of the agreement are in place, request that TIFIA hire financial and legal advisors
	Month 6 – First Credit Council meeting
	Month 8 – Receive TIFIA term sheet (they will not agree to a formal term sheet, but need something to give bidders assurance of terms)
	Obtain indicative amount of TIFIA financing
<b>Month 9</b>	Release final RFP and concession agreement to short-listed bidders
<b>Month 10</b>	Final bids due
<b>Month 11</b>	Select preferred bidder
	Request TIFIA have second credit council meeting
	Execute contract with preferred bidder
	Preferred bidder steps into TIFIA negotiations

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<b>Month 16</b>	Target date for financial close
<b>Month 17</b>	Longstop date for reaching financial close

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## C. Technical Challenges and Alternative Solutions

8. 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.

One of the most significant technical challenges encountered in projects such as this is the management of traffic (“MOT”) during construction. The I-66 corridor experiences substantial traffic volumes that will need to be maintained while the Project is built.

As described in Section 1, Macquarie has extensive experience in delivering projects of this nature. Our strategy typically involves teaming with established contractors and local partners who have the relevant expertise, knowledge and understanding of MOT requirements during construction.

9. 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.

Macquarie is not in a position to provide a response to this question based on the available information.

10. What are the most significant cost drivers in the development and operation of the ML and BRT concepts along the I-66 corridor? How can these concepts be implemented in such a way as to preserve the potential for rail extension?

Macquarie is not in a position to provide a response to this question based on the available information.

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

Macquarie has direct experience operating projects that involve interoperability with the current E-ZPass system throughout Virginia, and we don’t anticipate any major problems in this regard.

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

Macquarie is not in a position to provide a response to this question based on the available information.

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

Macquarie is very experienced with managing lifecycle costs on similar projects, and we don't anticipate any major problems in this regard.

14. 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 lifecycle costs of the overall project costs?

Macquarie is not in a position to provide a response to this question based on the available information.

15. Please explain in detail any alternative technical solutions that may enhance the development of the Project. Identify the risks associated with the alternative technical solutions and discuss the potential cost of each technical solution.

Macquarie is not in a position to provide a response to this question based on the available information.

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## D. Commercial and Financial Structure

### 16. 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?

#### Procurement Approach

Macquarie understands that OTP3 is considering a Design Build ("DB"), Design Bid Build ("DBB") or a Design Build Finance Operate Maintain, as either an availability payment or toll revenue concession, for the Project. While we acknowledge that all the procurement structures under consideration by OTP3 will accomplish the goals of relieving congestion throughout the Project corridor, we think that a DBFOM procurement would result in optimal risk transfer between the public and private sector, resulting in greater value for OTP3 and delivering a higher quality Project for the region.

Macquarie is interested in pursuing the Project as a DBFOM project and willing to consider both a toll revenue concession and an availability payment transaction. Since Macquarie is a financial advisor, developer and equity investor, if the Project is procured as a DBB or a DB we would have no role and therefore would not participate.

#### Financing Approach

The Project's financing approach should seek to achieve certain key objectives:

- Make most efficient use of private finance to maximize value from revenues; and
- Maximize certainty of financial close.

As is typical in all P3s, the concessionaire should raise the bulk of the financing from the debt markets, with recourse only to its assets and not to those of OTP3. We would run a multi-track financing process, including competing capital markets and bank financing options, to achieve the most efficient financing for the Project.

Based on current market conditions, we believe likely sources of capital for the Project will include some combination of:

- Private Activity bonds;
- Bank debt
- TIFIA Loan (if available); and
- Equity.

Macquarie has significant experience with all of these, and has helped raise approximately \$3.5 billion in TIFIA Loans, \$2.7 billion in Private Activity Bonds and \$1.4 billion in Bank Debt for PPP projects since 2007.

Examples: Goethals Bridge - \$479 million of TIFIA and \$457 million of PABs Midtown Tunnel - \$465 million of TIFIA and \$675 million of PABs, IH-635 Managed Lanes - \$850 million of TIFIA and \$615 million of PABs.

### 17. 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

Macquarie has experience working on both availability payment and revenue-risk projects. Typically, revenue in the form of availability payments tends to be more stable since it does not depend on the credit quality of end users, the unpredictability of the consumption of the service, the inability to predict pricing points, and other considerations common to volume deals. Therefore, availability payments deals will result in much higher leverage and lower credit spreads for the debt than volume deals.



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However, Macquarie is open to considering revenue-risk deals based on the terms and characteristics of the transaction; namely whether an asset is able to demonstrate robust traffic volumes and revenue generation potential to sustain project financing.

## 18. What is a reasonable concession term for a ML or a BRT concept? Why?

For a Managed Lanes project, the ideal concession length will be linked to the anticipated useful life of the Project assets. We anticipate this will mean a concession in the 30-40 year range under an availability payment concession or 40-60 years for a toll revenue concession.

As mentioned in Question 2, Macquarie would like to seek additional clarification on what a BRT concept entails as part of the concession before making a further assessment.

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## E. Additional Considerations

19. 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.

All the projects that we work on include DBE and SWaM requirements that we consistently adhere to. As such, we are open to discuss and develop teaming arrangements with these enterprises.

20. Based on characteristics of the I-66 corridor, suggest the number of persons per vehicle that should be required to qualify as a high-occupant vehicle. Explain why selecting this number may be in public interest and beneficial to comply with the federal Clean Air Act of 1990? Please provide quantitative and qualitative evidence to supports your arguments.

Macquarie is not in a position to provide a response to this question based on the available information.

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

OTP3 and VDOT should select its preferred Project delivery method prior to initiating a procurement process. As mentioned in our responses above, Macquarie would be interested in pursuing the Project under a DBFOM structure. We believe that more detailed information on traffic statistics and estimated tolling capture rates will provide a clearer picture as to the most effective and feasible delivery method.

The financing process would require support from OTP3, for example, OTP3 should be responsible for submitting an application for a PABs allocation for the Project and a TIFIA Loan application to the United States Department of Transportation. OTP3 should incorporate these key milestones into its procurement timeline and work with bidders to obtain the most efficient sources of capital for the Project.

22. Other than the answers that you have already provided, what information would help your firm to make the business decision to engage in the development of the Project?

Through our experience advising on and developing PPP projects globally, we have found that the following factors contribute to the attractiveness of a project, leading to increased competition and value for OTP3:

- **Clear Risk Identification and Allocation** – OTP3 should ensure that the project agreement clearly identifies all major risks in the Project and assumes a reasonable starting position with relation to risk transfer and retention. It is important to note that the benefits of a PPP are not achieved through maximizing risk transfer to the private sector but through an optimal allocation of risks based on what each partner is able to manage effectively.

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We believe that OTP3 should share in project risks, such as hazardous materials, archaeological, paleontological, geotechnical, and force majeure in order to optimize the costs of the Project. The concessionaire would typically bear initial responsibility for managing issues and bearing costs with OTP3 sharing in cost variations as a result of specific non-foreseeable events.

- **Clearly Defined Payment Mechanism** – Payment mechanism should be carefully designed to incentivize the private sector partner to achieve the objectives and outcomes desired by OTP3. An attractive PPP project is one that has a clearly defined payment mechanism which is transparent and verifiable, and exhibits a consistent alignment between private sector risks and incentives.