

REQUEST FOR INFORMATION (RFI) RESPOSNE

To: Maryland Department of Transportation (MDOT) (l495_l270_P3@sha.state.md)

From: IMG Rebel Team

Date: December 20, 2017

Subject: I-495/I-95 (Capital Beltway) Congestion Relief Improvements from the American Legion Bridge to the Woodrow Wilson Bridge; I-270 Congestion Relief Improvements from I-495 to I-70

To Whom It May Concern:

We are pleased to respond to the Request for Information for Maryland’s Congestion Relief Improvements. IMG Rebel has more than 120 finance and management experts, who provide specialized advice in innovative funding and financing, transaction advisory, capacity building, project finance, fund management, and P3s. We have worked with the major federal and several state programs—including the US DOT’s TIFIA and RRIF programs, and similar programs in Florida and Virginia. In North Carolina, IMG Rebel advised on the ground-breaking I-77 Managed Lanes which used a “Developer Ratio Adjustment Mechanism,” (DRAM) provided by North Carolina DOT (NC DOT) to make that highly innovative P3 financial feasible. Our innovative finance work also includes developing effective value capture techniques, including the Transit Cooperative Research Program Value Capture Guidebook to Public Transportation Financing that has just recently been published. The figure below shows our relevant practice areas in advising on alternative delivery expressway projects.

1. Policy development	2. Procurement strategy	3. Transaction	4. Contract implementation	5. Evaluation
<p><u>Public side</u></p> <p>Develop policy framework, including evaluating strategic aims and undertaking stakeholder analysis</p> <p>Provide implementation advice</p>	<p><u>Public side</u></p> <p>Identify pilot projects</p> <p>Conduct Value for Money (VfM) analysis</p> <p>Develop market approach strategy</p>	<p><u>Public side</u></p> <p>Develop contract structure and incentive mechanisms</p> <p><u>Private side</u></p> <p>Develop bid strategy</p> <p>Provide financial advisory services</p> <p>PFI/P3/DBFOM financial modeling</p>	<p><u>Public side</u></p> <p>Monitor contract performance</p> <p><u>Private side</u></p> <p>Ensure incentive mechanisms function</p> <p>Conduct negotiations with banks (e.g. refinancing)</p>	<p><u>Public side</u></p> <p>Calculate actual project VfM</p> <p>Analyze need to change policies and regulations</p>

In the table below, we provide a brief response to 12 questions raised in the RFI that are relevant to our global experience. We would welcome the opportunity to discuss these answers in more detail with MDOT in an in-person meeting at your convenience.

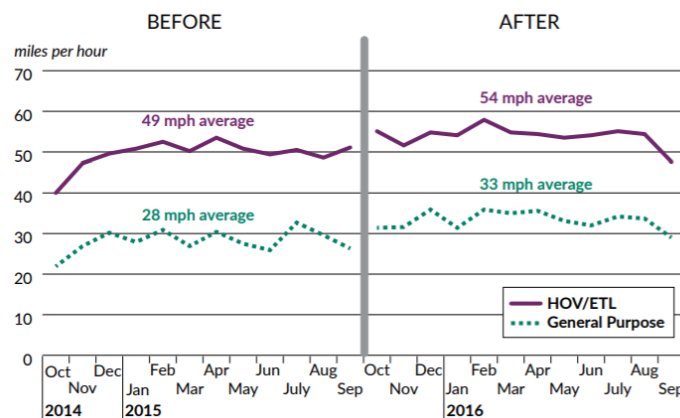
Question	Response
a. General	
<p>1. Please describe your firm, its experience in relation to P3 projects, and its potential interest in relation to these potential congestion relief improvements.</p>	<ul style="list-style-type: none"> • IMG Rebel specializes in improving the finance, management, and operation of transportation, utility, and social infrastructure assets • Our finance and management specialists mobilize expertise in public-private partnerships, innovative funding and finance, transaction advisory, and capacity building (www.imgrebel.com) • With US headquarters in Washington, DC and worldwide headquarters in Rotterdam, the Netherlands, we have had assignments in more than 80 countries
<p>2. What would be the benefits and risks to MDOT entering a P3 agreement for congestion relief improvements? What risks do you believe would best be retained by MDOT and what risks would be best transferred to the private sector? Please explain your reasoning.</p>	<p>IMG Rebel are the authors of the Model Public-Private Partnerships Core Toll Concessions Contract Guide for the Federal Highway Administration (FHWA).¹ As such, we are well placed to advise on the optimal risk allocation between public and private sectors in a P3 contract.</p> <p>The exact risk allocation can be determined through detailed Value for Money (VFM) analysis, and is dependent on which party in a transaction is best placed to manage and control a risk. Risks have costs whether they sit with the public or private sector, and so allocating a risk to the party best able to manage it will reduce overall costs.</p> <p>Risks that should sit with the private sector include design and construction risk and long-term delivery (O&M) risk. Integration of these risks in a P3 contract leads to better whole-of-life costing and efficient management. Some level of private finance is required to ensure that the performance management incentives have “teeth,” but finance risk can also be shared with the public sector to take advantage of tax-free borrowing rates.</p> <p>It makes sense for traffic and revenue risk to be shared. There are a wide variety of models currently in use for traffic and revenue risk allocation. In Florida, P3 roads are tolled, with FDOT collecting revenues and operators paid a fixed availability payment. In Virginia, P3 operators generally take all traffic and revenue risk. We believe an appropriate sharing mechanism for traffic and revenue risk (described below) would deliver maximum economic value for the congestion relief investments.</p>
<p>3. What, if any, advantages will MDOT potentially gain by entering an agreement in which operations and maintenance</p>	<p>The key question what is: to what extent would transferring revenue risk create value for the users/funders of the road?</p>

¹ https://www.fhwa.dot.gov/ipd/pdfs/p3/model_p3_core_toll_concessions.pdf

and lifecycle responsibility and/or traffic and revenue risk are transferred to the private section? How do you assess the likely magnitude of such advantages? What are the potential offsetting disadvantages?

Under a P3 structure where the operator has full freedom to set tolls on the express lanes, it will set the revenue maximizing toll. The revenue-maximizing toll is the one for which traffic throughput times average toll is the highest (considering the dynamic effects of the toll level on demand). Instead, we believe the operator should be incentivized to set a toll that maximizes the total economic benefit of the road of the entire expressway, including both the express and general-purpose lanes.

The existence of express lanes creates positive economic externalities for the users of the general-purpose lanes: for each driver that chooses to use the express lanes, there is one fewer car on the general-purpose lanes, freeing up capacity there. The objective, therefore, should be to set a toll rate that maximizes this benefit for the total corridor, and therefore maximizes the uptake of the express lanes. In our experience this “economic value maximizing” toll is below the revenue-maximizing toll that would be set by the private sector. Washington State DOT uses the “economic value maximizing” toll-setting concept for its I-405 express lanes, resulting in substantial time savings on the general-purpose lanes as well, shown in the graph below.²



A PPP contract can be structured that incentivizes the operator to set economically – rather than revenue – maximizing tolls. Such a contract would achieve the same benefits of a revenue-risk PPP in terms of value for money and professional management, with greater benefit to the driving public in terms of travel time savings. Such a PPP may include a payment mechanism such as:

- 1) Availability payment, with bonus payments linked to KPIs on maximizing throughput of the overall asset. Traffic and revenue risk taken by the MDOT;
- 2) PPP operator collects ‘shadow tolls’ based on the throughput of both express and general purpose lanes. The shadow toll is lower than the express lane toll, but operator has the freedom to set express tolls at a level that maximizes the shadow toll revenue received. For example, the

² https://www.wsdot.wa.gov/sites/default/files/2015/11/12/I-405_ETL_12MonthUpdate.pdf

shadow toll may be \$0.50 and the express toll set by the private operator at \$1 to maximize shadow toll revenue.

Investors (sponsors and lenders) generally demand a large premium in order to take traffic and revenue risk (for lenders in the form of high expected DSCR and lending margin, and for equity investors in the form of high expected equity IRR). Under option 1 above, by taking traffic and revenue risk and paying annuity returns, MDOT can reduce the expected return demanded by investors. Also under option 2, investors will demand a lower return than for the greenfield express lanes, as a shadow toll on an existing expressway will be deemed 'brownfield risk' and investors will take more comfort in the operating history of the asset.

4. Would it be advantageous for MDOT to transfer the operations and maintenance and lifecycle responsibility for the entire freeway or just the added congestion relief improvements? What would be the advantages and disadvantages of transferring the operations and maintenance and lifecycle responsibility for the entire freeway?

Our preference is to transfer control of the entire freeway rather than just the express lanes.

Our objective, as described above, would be to use tolled express lanes to maximize the economic value of the entire corridor in terms of travel time savings for all users. As such, the operator's KPIs will be set in terms of performance of the full corridor and so it would need control of the full corridor to accomplish this.

There are technical interfaces which enhance the value for money proposition for transferring control of the entire corridor. For example, during off-peak resurfacing, the operator would be able to utilize the express lanes as additional capacity to accommodate diverted traffic. Performance-based O&M and functions such as snow removal also benefit from the increased scale of taking on the full corridor rather than the redundancy of having the express and general-purpose lanes handled by different parties.

5. Would it be feasible to have a single solicitation for both corridors? If not, would you recommend any specific phasing for the solicitations including the corridor(s) and limits and why? What would your recommendation be for staggering multiple solicitations and why?

Determining the optimal size of the project requires balancing a number of factors. The project size needs to be large enough to attract major bidders but not so large it deters competition. In our experience, contract packages of \$1-3 billion are optimal, meaning that the \$9 billion congestion relief plan would need to be divided into a minimum of three packages.

In addition to size, the other factors determining the optimal number of packages are:

- **Functioning of the system:** The technical interfaces, identified during the feasibility phase, would determine whether there are strong design, construction or operational reasons not to split certain sections.
- **Coordination of construction:** A bigger project gives you better coordination if part of the same system.
- **Payment mechanism:** Availability payment projects can support higher levels of financing than revenue risk projects. Including a milestone payment as part of the payment mechanism would

	<p>reduce the overall financing requirement, meaning contract packages could be larger.</p>
<p>b. Project Development</p>	
<p>2. <i>At what stage of the NEPA and project development process would it be most beneficial to issue a RFQ: after establishment of the purpose and need, after determination of alternatives retained for detailed study, after selection of an MDOT preferred alternative, or after approval of the environmental document? At what stage would it be most beneficial to issue a RFP? Please discuss your reasoning.</i></p>	<p>It is preferable for most project development and NEPA approval to take place before issuance of an RFQ. This lowers the risk perceived by the private sector, and enables higher competition because it is easier to make 'apples to apples' comparisons of bidders.</p> <p>By allowing alternative technical concepts for discrete sections, bidders can still be rewarded for innovation, in cases where the benefits of accepting the alternative concept outweigh the costs of re-design and re-approval.</p>
<p>3. <i>What are the critical path items for the solicitation for these improvements and why?</i></p>	<p>As much as possible of project documentation should be developed before the issuance of an RFQ. This means the project is fully-defined up-front, and there are lower risks of changes after RFQ and RFP issuance which reduce competition. Developing a full RFP in advance of an RFQ means that the RFQ terms will 'fall out' of the RFP which results in lower duplication of work lower overall cost for advisors.</p> <p>At a minimum, at the RFQ stage we would expect to see a Draft Project Agreement, Draft Revenue Sharing Agreement, and a Draft RFP. For the RFP stage, we would expect to see the Final Project Agreement, Final Revenue Sharing Agreement, and finalized Technical / Output Specifications.</p>
<p>7. <i>What would you consider a reasonable stipend payment for unsuccessful proposers responding to a potential RFP? Please discuss how the stage of project development (purpose and need, alternatives retained for detailed study, preferred alternative, final environmental document, etc.) completed prior to RFP issuance would impact the stipend payment amount.</i></p>	<p>Reasonable stipend payments are in the range of 10-30% of actual bid cost, with the actual cost depending on the level of detail requested in the submission. A fixed payment should be determined on the basis of an estimate of what the reasonable preparation costs could be, and the fixed payment would apply to all compliant bids.</p>
<p>8. <i>Would it be more beneficial for right-of-way acquisition activities to be transferred to the developer or should MDOT retain that risk? Please discuss your reasoning.</i></p>	<p>MDOT should retain right-of-way acquisition risk, since the public sector is best placed to manage this risk. Incentive mechanisms can be included in the procurement documentation which reduce the need for ROW acquisition.</p>

d. Contract Structure	
<p>1. <i>What is your recommended approach for financing the capital cost of potential congestion relief improvements?</i></p>	<p>Our preferred financing structure is private project finance on the basis of availability payment revenue, or on the basis of a revenue-sharing mechanism which creates stable revenue for the operator.</p> <p>A milestone payment can be used to reduce the overall quantum of private finance required, while maintaining enough private finance to keep the operator incentivized to meet the performance standards. A milestone payment on the order of 40-60% of the construction cost would generally accomplish this. The actual level of the milestone payment can be determined by detailed VFM analysis.</p>
<p>2. <i>Should MDOT set a concession term or allow proposers to establish a concession term as part of the response to a potential RFP? If MDOT were to set the concession term, what is a reasonable concession term and why?</i></p>	<p>The concession term should be set and fixed in advance, and should be no longer than required for financing purposes (no longer than 30 years). Setting a concession term that is too long would give away too much of the project's upside in the out-years, where revenue is also more valuable to the public sector.³</p> <p>Not fixing the concession term in the procurement documents would lead to a situation where it is difficult to make apples-to-apples comparisons between bids.</p> <p>Some jurisdictions have discussed "variable-term" concession structures, but these are not acceptable to debt providers.</p>
<p>3. <i>Are there any contract terms you would recommend, such as Alternative Technical Concepts, Alternative Financial Concepts, contract balancing, predevelopment agreements or progressive agreements, etc. to minimize risk to proposers, maximize opportunities for innovation, maximize a concession payment to MDOT, or are key to obtaining competition? Please discuss the benefit and risks of the recommended contract terms.</i></p>	<p>Alternative Technical Concepts (ATCs) and Alternative Financial Concepts (AFCs) create difficulties in evaluation because scope and terms are not comparable therefore there is not a level playing field. Experience shows that if the specifications are output-based, then alternative concepts can be accommodated by making generic changes to specifications. Experience with AFCs shows that these create even more severe playing field issues than ATCs.</p> <p>Predevelopment agreements and progressive agreements lead to poor value for the public. They do not transfer all the risk that is transferrable. Without taking full advantage of the possibilities of risk transfer, the public will over-pay and be under-served by the project.</p>

³ Some US jurisdictions have opted for very long term, revenue risk concessions. The concession on the Pocahontas Parkway was for 99 years, the Indiana Toll Road for 75 years, and the Virginia HOT Lanes for 76 years. These very long concession terms create low value for the public. In general, cash flows in the 'far-out' years are less valuable in the hands of the private sector than the public sector, given the public sector's lower discount rate.