

November 2013

Response to

Request for Information

for

Interstate 66 Corridor Improvements Project

to

Virginia Department of Transportation

Virginia Department of Rail and Public Transportation



FLUOR[®]

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Submitted by

FLUOR[®]

2400 Cliffs Edge Drive
Austin, Texas 78733
512.468.6298

November 2013

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Fluor Enterprises, Inc.
2400 Cliffs Edge Drive
Austin, TX 78733
USA

512.468.6298 tel
dan.stoppenhagen@fluor.com

Dan Stoppenhagen
Executive Director
Transportation

November 25, 2013

Subject: OTP3 Request for Information Response –Interstate 66

To whom it may concern:

Fluor Enterprises, Inc. (Fluor) is pleased to submit this response to your Request for Information regarding the potential project delivery and finance structure for the subject program.

Fluor (NYSE: FLR) is one of the world's largest engineering and construction companies with revenues of \$27.6 billion in 2012. For the past four years Fluor has been ranked No. 1 by *Engineering News Record (ENR)* magazine on its list of Top 100 Design-Build Firms. In addition, Fluor consistently ranks among the world's safest and most ethical companies.

As an active infrastructure developer, equity investor, builder and operator; Fluor is a pioneer in the development and delivery of surface transportation projects using the public-private partnership delivery model. We participated in many first-of-a-kind financing structures, including one of the uses of 63-20 financing; the first use of a TIFIA forward commitment; the first transportation Private Activity Bond (PAB) sale; and the first public transit project financing in the U.S.

I thank you in advance for your careful consideration of our Expression of Interest and I look forward to discussing the project with you in the future.

If you should have any questions, please do not hesitate to contact me.

Sincerely,



Dan R. Stoppenhagen
Executive Director - Transportation
Fluor Enterprises, Inc.

a. General



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1. Please describe your firm, 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.)?

Fluor is a FORTUNE 500 company that delivers engineering, procurement, construction, operations, maintenance, project management and project financing services around the world. Fluor also has been an equity member of the entities providing financing for many of North America's signature Public-Private Partnerships (P3s), including recent projects such as 495 Express Lanes and 95 Express Lanes in Northern Virginia, Eagle P3 Commuter Rail Line in Denver, and Rt. Honourable Herb Gray Parkway (formerly Windsor Essex Parkway) in Windsor, Ontario, Canada.

Fluor has been a leader and innovator in the delivery of P3s throughout North America, participating throughout the entire lifecycle of the project from development/financing through operations and maintenance. On the P3's Fluor has participated, Fluor has been involved in equity investment, design and construction, and operations and maintenance. Fluor has been and continues to be very interested in the I-66 Corridor Improvements project in all of these roles.



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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.

There are no particular concerns with the I-66 Corridor Improvements project in general, given the early stage of its development. However, in the determination of the potential successful procurement of a project using the P3 model and the determination of whether to make the significant investment of time, money, and resources required, Fluor will actively and closely monitor the following factors:

- Project that addresses a real need, and therefore is financially feasible
- Distribution of risk to the party in the partnership that is best positioned to cost-effectively manage that risk
- Public, political, and stakeholder support
- Significantly advanced permitting and environmental approval (FHWA and Army Corps of Engineers)
- Transparent, subjective procurement process that allocates sufficient time for the development of innovative solutions and the vetting of those solutions between client and Developer
- Advancement of traffic and revenue studies, Right-of-Way acquisition, and long-lead utility relocations
- Advancement of environmental approvals and permits required to near completion prior to asking bidders to invest money at risk on a P3 bid

Addressing these key result areas provides the foundation of any successful P3.



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?

The use of Public-Private Partnerships (P3s) to transfer life-cycle responsibility and traffic and revenue risk, and to enable privatized operations and maintenance services has been used extensively in Virginia and throughout North America to deliver a multitude of public benefits, including but not limited to the following:

- With the use of private investment (equity), projects are commonly delivered decades in advance of when they would have been using traditional sources resulting in early realization of public benefits and rewards.
- Facilities designed, built, and planned to deliver the optimum life-cycle costs, with a bottom line mentality for the project from planning through handback.
- Private sector debt and equity replaces public funding, which can in turn be used on other priorities.
- Risks are appropriately assessed, managed, and mitigated in a cost effective way.
- With various P3 models, the private sector is incentivized to operate the facility in the most efficient way, helping to solve congestion and other issues.

For projects that are sufficiently advanced and for which the risk distribution has been carefully thought out and assigned to deliver the greatest public benefit (i.e., not approached as a mechanism to transfer all risk), P3 projects can deliver transportation facilities for the lowest overall life-cycle costs, provide the maximum leverage of limited public funds, and deliver the facilities years earlier than they would have been delivered with public funds alone.

Fluor sees the likelihood or probability of success in using the P3 model for the I-66 Corridor Improvements as very high. Much of this is due to the extensive and successful experience that VDOT has with the P3 model of procurement and delivery. However, more importantly, the project fulfills a genuine need in the regional transportation network, and the resulting demand increases the probability of successfully delivering this project years or even decades in advance of when it could have been delivered using traditional funding mechanisms.

All delivery methods have both benefits and drawbacks. For this project, *potential* drawbacks from a P3 approach could include:

- Public resistance/skepticism to the use of private ownership/leasing of traditionally public-owned facilities
- Industry acceptance of international teams that will form to pursue the project
- Potential disruptions in the currently financial markets which could delay the project
- Depending on mechanisms of delivery and financing, additional private equity requiring higher return may increase the cost of financing and the amount of public subsidy required (as opposed to tax exempt financing by the public entity)



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- Depending on decisions regarding risk distribution, the public sector could pay a huge premium to transfer risks that cannot be effectively managed, mitigated, or insured by private sector partners
- Procurement (and consequently start of construction) can take slightly longer (but overall schedule for completion of facilities is usually shorter).

In general, this project presents good potential to deliver overall public benefits through a P3 model. In particular, if sufficient time is allocated for the procurement process, the private sector innovation should drive a much lower life-cycle cost to the state, and deliver the project at a much earlier date.



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 schedule generally looks fairly aggressive in the amount of time required to reach financial close from issuance of RFP. That being said, the milestone schedule does not indicate when the technical reference data will be available to bidders to begin their engineering, estimating, and planning activities. It is often very difficult to do this prior to receiving the Tier 2 environmental clearance without running a high risk of changes and recycle among the bidders.

The time required to reach financial close from the time bidders get all the necessary reference information is typically nine months, and is usually broken down in the following general categories of activities:

1. Preparation of the design-build bid – Preliminary engineering, planning, and construction sequencing (16-24 weeks, depending on complexity of facility)
2. Securing of committed financing (6-8 weeks)

This assumes that negotiation of commercial terms can be done in parallel during these steps. This means that the time required for submittal of proposal from receiving all reference technical data is typically 24-32 weeks (6-8 months). It also assumes that toll revenue risk is not transferred to the bidders.

Bids with committed financing are easier to evaluate and have a more expedited path to financial close. It usually takes owners 4-6 weeks after submittal to determine a preferred bidder with committed financing. After selection of preferred bidder, a committed financing can result in an expedited financial close that can be from 4-8 weeks after selection of preferred bidder.



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

There are many activities that run in parallel on these types of procurements and at any time, any one of them can become critical path. However, the following tend to be critical path activities on most P3 procurements:

- Submittal of TIFIA application (if applicable) – this process has multiple stages and can (and often has) extended the date to reach financial close. Even if it is not certain whether TIFIA will be used, the application process should be started as soon as possible.
- Release of a draft RFP and draft commercial terms – this has a tendency to generate early collaborative discussion which leads to the most efficient solutions for financing, design, construction, operations and maintenance.
- Release of technical provisions and reference data to bidders – this kicks off the preliminary engineering necessary to support the development of lump sum bids and guaranteed schedules
- Release of final RFP – in order to finalize pricing, ideally this is done at least two months prior to the submittal date for a design-build, with an additional 6-8 weeks for committed financing if it is an availability financing and 9-12 weeks if it is a concession financing.
- Approval of alternative (innovative) technical concepts – in order to be incorporated into bids, these concepts need to have ample time for review by the client and clarification (including discussion between bidders and clients in confidential one-on-one meetings and for the bidder to be able to take the approved idea and incorporate any changes in quantities into their estimate. It is best to set targets for ruling on any innovative concepts at least one month before lump sum bids for design-build bids (with an additional 6-8 weeks for committed financing if it is an availability financing and 9-12 weeks if is a concession financing)
- Environmental Clearance/Approval – it is very difficult to achieve financial close until environmental clearance is achieved.



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?

Yes, Fluor has been tracking the I-66 Corridor Improvements Project closely, and continues to be very interested in pursuing this project. We strongly believe that our P3 experience in Northern Virginia will be of tremendous benefit to the project. Fluor is in the process of finalizing a team that we believe will be in the best position to develop the most cost-effective, life-cycle solutions and bring this project to a rapid financial close and early completion.

The most impactful activities that the Commonwealth can undertake to maintain industry interest in the project are those that, when completed, provide a clear path to construction. This would include obtaining environmental clearances and permits, obtaining Right-of-Way, completing difficult and long lead utility relocations, and building public support for the project.

Fluor does not encourage our clients to develop the engineering any further than a conceptual level (approximately 10%) or the level necessary to obtain environmental clearance. There is a common misperception that solutions that are advanced further in design result in bids with less contingency or higher competition on margin, but that typically results in differences of a maximum of 1-2% of construction costs. Conversely, if engineering solutions are advanced too far, they often inadvertently prevent or eliminate potential innovative construction solutions that can cut significant (10-15%) cost and schedule savings from the project.



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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?

The answer to this question is contingent on the model of P3 used (concession vs. availability) and the Commonwealth's desire to drive innovative solutions to reduce life-cycle costs.

A project of this size and complexity would take bidders approximately 5-6 months to develop the most cost-effective solutions with fixed prices and guaranteed schedules. The public value in P3 procurements comes mostly from the development of innovative technical (engineering and construction) and financial solutions. This value through innovation, in turn, is only realized when there is sufficient time in the procurement schedule for the development of these innovations, and for sufficient interaction between public sector clients and developers to allow these solutions to be developed, priced, and implemented in the proposal.

The following is an outline of activities required for a P3 procurement and the general range of time that should be allotted to each activity from issuance of a Request For Qualifications (RFQ):

Proposers prepare and submit Statements of Qualifications (SOQ)	2 months
Client reviews SOQ's, shortlists, and issues Draft RFP and tech data	2 months
Proposers prepare design-build bids, meet with client, and get innovations approved	6 months
<u>Proposers secure committed financing after preparation of lump-sum bids</u>	<u>2 months</u>
TOTAL procurement cycle from RFQ issuance to submittal of bids	12 months

In summary, it would require eight months from the time developers receive the reference technical data/requirements and draft RFP to the time of submittal with committed financing. Please note that the above assumes an availability financing model, and that a toll revenue concession financing could take additional time, particularly given the market uncertainty of the financial performance of recent toll road concessions in the U.S.



c. Technical Challenges and Alternative Solutions²



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.

The most significant challenge associated with the highway and transit improvement concepts discussed in the Tier 1 DEIS would be the requirement to work in a heavily congested corridor and to maintain mobility during construction. VDOT has clearly demonstrated on the 495 Express Lanes and 95 Express Lane Projects that this is possible, with proper analysis and extensive coordination and maintenance of traffic operations.

Our preliminary analysis shows that the best, long-term solution would be to provide additional capacity vertically. In order to accomplish this, there are challenges with spanning new structures over existing traffic, which would require a lot off-cycle work to maintain safety and mobility. The building of foundations to support such structures will also pose challenges, as some may require temporary supports of existing modes, rerouting of traffic, and/or expedited construction methods. Again, this has been demonstrated to be possible with advanced planning and coordination.

Further detailed engineering would need to be conducted, but Fluor and our partners have engaged engineers experience in the Commonwealth to begin the identification of preliminary concepts and the challenges associated with each.



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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.

While a bifurcated highway system could be made to work, it is hard to envisage it working in this corridor with the limited Right-of-Way and the sensitive nature of the Right-of-Way that would be required to create such a system. While Fluor has not conducted extensive preliminary engineering, such a concept would logically appear to require a great deal of Right-of-Way and potentially introduce additional utility conflicts, which introduces both cost and schedule risk into the project.



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?

Based on the currently available information, we believe that the only way to implement ML and BRT Concepts and preserve the potential for rail extension is to take the ML/BRT vertical. Absent a vertical expansion with the corridor, the Right-of-Way required would be substantial, which would introduce huge costs and also introduce schedule risk. For a vertical solution (taking one or more of the modes vertical), the most significant cost drivers are going to be in the structures and in safety and maintenance of traffic (MOT). We believe there are innovative ways to implement such solutions to minimize costs, schedule, and potential traffic delays, but we would respectfully prefer to share these in an environment where the confidentiality of such solutions is protected.



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

As owner/operator of the 495 Express Lanes, we do not believe there will be interoperability issues with the 495 Express Lanes tolling system. In fact, we believe there is great opportunity to provide solutions on the project which integrate seamlessly with the 495 Express Lanes system and deliver huge efficiencies by leveraging the infrastructure and systems already established. This should not only provide the most cost-effective solution, but also help the customers realize the best service.



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?

Since I-66 is a critical commuter corridor, the suggestion would be as follows:

- Include requirements in any Commonwealth contract along the I-66 corridor that those contractors cooperate with the successful developer of this corridor.
- Conduct early partnering with the entities controlling the non-Commonwealth projects and encourage them to include contract provisions requiring their contractors to cooperate with the successful developer of this corridor.
- Carefully review the timing of those projects and see if potential schedule conflicts can be eliminated.



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?

To date, Fluor has not identified any unique life-cycle cost challenges to the improvement concepts being considered in the Tier 1 DEIS. To a large extent, the Virginia P3 model encourages personnel from the design-construction phase and the operations-maintenance phase to work together to develop innovative and cost effective solutions to life-cycle challenges, so this is not a particular concern of ours at this stage. Cost-effectively managing lifecycle risks, on the other hand, is a matter of associating risk with the party in best position to manage and mitigate them. Fluor believes the models used by the Commonwealth on P3s have demonstrated an approach that best achieves that balance.



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?

Fluor (and our partners and design consultants) have been investigating possible development and staging strategies and concepts which we think could lower the upfront capital costs and overall life cycle costs. These are at a fairly early stage of development given the early stage of environmental clearance and project scope. Obviously, Fluor considers these ideas proprietary and of a confidential nature at this stage, and given the lack of confidentiality associated with this document, would prefer to wait to share these at the appropriate time and in an environment where confidentiality is assured.



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.

Fluor (and our partners and designers) has been working on identification of alternative technical solutions to advance the project faster and more cost effectively. As in the previous question, Fluor considers these ideas proprietary and of a confidential nature at this stage, and given the lack of confidentiality associated with this document, would prefer to wait to share these at the appropriate time and in an environment where confidentiality is assured.



d. Commercial and Financial



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?

Fluor has extensive experience and an interest in P3s in all of the modes discussed in the Tier 1 DEIS. That being said, our interest will ultimately be a function of the scope of the project. The pursuit costs associated with P3s dictate that the scope of the project must be large enough to justify the expenses (third party and internal) required to develop committed detailed proposals for such jobs. For toll revenue risk concessions, our interest would largely be dependent on the numerous factors, including traffic and revenue projections, availability of public subsidy to support any gap in the financing, the availability and timing of any federal financing assistance (TIFIA and/or PABs).

While Fluor has been an equity investor and pioneer in both the toll revenue concessions (particularly for managed lanes) and availability concessions, we believe that the current market uneasiness with toll revenue concessions (because of performance problems on other toll revenue concessions) will make the availability model of financing more efficient and cost effective overall and have less risk to financial close.



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17. Please discuss your firm's interest in:

a. Accepting traffic and revenue risk in a toll concession

As a partner of the Concession Company, Fluor has accepted traffic and revenue risk on both the 495 Express Lanes and 95 Express Lanes projects, and continues to participate at the concession level of toll concessions. We carefully evaluate each project on its own individual merits. Fluor does not have access to traffic and revenue data and have not performed enough detailed T&R analysis at this point to determine the feasibility of the I-66 Corridor Improvements project as a toll concession project. A majority of our ultimate decisions would be based on the HOV policy mandated.

17. Please discuss your firm's interest in:

b. Accepting performance risk in an availability structure

Fluor is currently executing projects with performance risk in availability structures, and has been a market leader in North America in this particular structure. Fluor continues to see this as a very viable and economically attractive delivery model in the current environment.



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

A definitive answer on this would require more detailed traffic and revenue data and analysis. However, based on recent history and performance and our experience on other transactions, there would be an expectation of a 75-year term for a toll concession, and a 25-35 year term for an availability payment structure.



e. Additional Considerations



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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.

Fluor is NOT a DBE or SWaM Business. However, we have extensive experience in engaging and involving DBE and SWaM contractors from both the 495 Express Lanes and 95 Express Lanes projects. The 495 Express Lanes project achieved the largest DBE & SWaM participation for a single project in Commonwealth history (\$494 Million). The project, VDOT, and the Fluor/Lane partnership have received numerous accommodations and awards for their achievements in DBE/SWaM contracting. As a result of the success of the projects, the DBE/SWaM business community in northern Virginia is now familiar with the P3 process and requirements, and is better able to participate in future projects.

The key to achieving great results in DBE and SWaM engagements is early education and engagement on the P3 process, and flexibility of the shortlisted bidders to working with local contractors to overcome commercial barriers to entry. While Fluor and the DBE/SWaM business community are very familiar with each other now and would not really need any additional assistance to facilitate teaming opportunities, we would always be willing to participate in an industry outreach event hosted by OTP3, VDOT, and/or DRPT.



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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.

Based on our experience on the 495 Express Lanes and the 95 Express Lanes Projects, Fluor believes that ultimately a policy and approach that is congestion-based is likely to be successful from a financial, public support, and federal legislation perspective. Both of these projects, which have variable high-occupant vehicle policies depending on congestion, were able to comply with all federal requirements and statutes.



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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.?

No other challenges or risks have been identified at this point, other than the ones already mentioned in previous answers.



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?

Fluor is committed to the P3 market, and more specifically, the I-66 Corridor Improvements project. Early disclosure and engagement on commercial terms and an approach that demonstrates flexibility toward assigning risk to the party able to most cost-effectively manage and mitigate that risk will continue to build our interest.

