

REQUEST FOR INFORMATION

INTERSTATE 66 CORRIDOR IMPROVEMENTS

(From US Route 15 in Prince William County To Interstate 495 in Fairfax County)



November 25th, 2013

Contents

- a.** General
 - b.** Procurement Process
 - c.** Technical Challenges and Alternative Solutions
 - d.** Commercial and Financial Structure
 - e.** Additional Considerations
-

a) General

RESPONDENT'S POINT OF CONTACT

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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.)?

ACCIONA is a leading European company in the development and management of infrastructures, renewable energies, water and services with extensive and award-winning experience developing, designing, constructing, financing, operating, maintaining, and rehabilitating infrastructure. The Company has more than 150 years of history. Its business model and positioning as a pioneer in development and sustainability reflects the Company's ability to support society in the transition to sustainable development. ACCIONA focuses its strategy on sustainability and social wellbeing as the vectors of economic growth, ecological balance and social progress.

ACCIONA is a global leader in infrastructure, energy and water solutions with 30,000 employees worldwide and \$9 billion in revenues in 2012. ACCIONA is included in Spain's blue-chip IBEX 35 index (ANA.MC). ACCIONA's core divisions are infrastructure, renewable energy, water and services. ACCIONA is the number one in its sector in the Dow Jones Sustainability Index for the sixth year in a row.

ACCIONA Infrastructure covers all aspects of construction and makes available to its customers its experience in design, engineering, execution of all manner of works and their management and subsequent maintenance. This line of business has specialized units: ACCIONA Engineering, ACCIONA Concessions and ACCIONA Infrastructure Maintenance.

ACCIONA Concessions

ACCIONA Concessions is one of the world's leaders in the infrastructure industry with experience in 34 public-private partnerships ("PPP") projects, 15 of them are road transportation projects that amount to a total investment volume above \$7 billion. Today ACCIONA holds a portfolio of 23 PPP projects in Canada, Europe, Mexico and South America and covers a broad range of transport infrastructure (including roads, tunnels, railways, ports and irrigation systems) as well as social infrastructure, such as universities and hospitals.

ACCIONA has closed 5 projects in North America, including one of the largest greenfield PPP financing closed in the North American market to date, the A-30 Highway in Montreal which, with a total project value of \$1.95 billion, reached financial close in September 2008. The other three projects are the Windsor-Essex Parkway in Ontario (\$1.33 billion), the Southeast Stoney Trail in Calgary (total project value of \$523 million,

financial close in March 2010), the Royal Jubilee Hospital, which achieved financial close in 2008 at the worst of the financial crisis, with a total project value of \$287 million and the Fort St. John Hospital with a total project value of \$250 million. All of them are examples of ACCIONA's experience and capability to raise financing in the North American market even in the most adverse financial environment.

ACCIONA Infrastructure

ACCIONA Infrastructure designs and builds roads, highways, tunnels, bridges, buildings, dams, ports, industrial facilities, water treatment plants and all other types of civil works. Additionally, ACCIONA Infrastructure has several specialized supporting units, such as mechanical structure shops, a machinery service and maintenance areas,

ACCIONA Infrastructure has the latest technologies and applies the most advanced materials to develop the most sustainable building processes. This is possible thanks to the intense, ongoing research activity that has placed the company in the vanguard of innovation and made it a European leader in technology application. ACCIONA Infrastructure's technological R&D and Innovation center is one of the best centers in terms of resources and implementation of European, Latin American and Spanish R&D programs.

Civil Engineering Works

Since its foundation ACCIONA Infrastructure has collaborated in the development of a wide network of highways, bridges and railway lines. It has constructed hundreds of projects that have contributed to improving major national and international transport links building highways, bridges, motorways, roads, viaducts, rail and underground railroads, and airports where the most advanced and innovative construction systems have been implemented.

Technology Differentiation Through R&D

Innovation is ACCIONA's key lever for sustainable growth. In 2010, the Company underlined its commitment to R&D and Innovation with 88.1 million euros' worth of investment. The year also saw the launch of the Business Accelerator Model which helps take ACCIONA's technologies to market and opens up new horizons for turning the Company's technological products and business initiatives into practice. Among ACCIONA's current lines of research, the following stand out in particular: technologies applied to renewable energies; sustainable construction, where important progress has been made in new construction materials and processes, and, finally; water technologies, in which ACCIONA has patented a low-consumption desalination technology.

ACCIONA Engineering

ACCIONA Engineering (ACCIONA Ingeniería, S.A.) is an international company at the forefront of civil, industrial and environmental engineering, since its incorporation in 1960. The company, fully owned by ACCIONA Infraestructuras, S.A., has its headquarters in Spain and a network of permanent offices in 19 countries, having delivered over 6,000 projects in 51 different countries. Belonging to ACCIONA Group, ACCIONA Engineering adheres to the vision that characterizes the Group focus on Sustainability. ACCIONA has created the Sustainability Committee whose functions are to guide and monitor the objectives and programs for sustainability and social responsibility of the Company, evaluating their implementation and periodically reviewing their compliance. It is also worth to highlight the presence of

ACCIONA in various Sustainability indexes such as the Dow Jones Sustainability and STOXX®, among others.

ACCIONA is member of the World Business Council for Sustainable Development (WBCSD), an international coalition of more than 200 companies united by a commitment to sustainable development through innovation (www.wbcsd.org). ACCIONA is also a member of the United Nations Global Compact since 2005, having participated in several initiatives: Caring for Climate sponsored by UNEP, Seal the deal (Copenhagen 2009) and Education for Sustainable Development (ESD) 2005-2015 (UNESCO).



Location of firm: ACCIONA's North American presence includes offices in Chicago, Toronto, Vancouver, Calgary, and Montreal.

ACCIONA's potential interest in the Project is to participate as design/engineering firm, construction firm, operations and maintenance firm and equity investor.

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.

We don't have any big particular concerns in respect of the information that has been provided in the RFI, the Detail-Level Project Screening Report and the DEIS.

One of the main challenges of implementing a successful procurement process is the lack of the required legislative framework and approvals. Complex decision making and approvals obtaining (Federal, State and Local permits) with a large number of entities involved at the moment: CTB, DRPT, FHWA, VDOT, OTP3, FTA can put the Project at higher risk of delay or cancellation due to a public protest or lawsuit.

We understand that the necessary approvals for this Project are still under development and it is important that all approvals are in place before issuing the RFP in order to keep a high interest within the bidding teams. It is important to unify, streamline and ease the process; this will accelerate the successful delivery 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?

Transferring operations, maintenance and lifecycle responsibility to the private sector will add significant advantages to the project from a cost and risk perspectives including:

Greater efficiency and reduced costs

Under a DBFOM model, maintenance team is involved in the project from the start to allow early communications and coordination between the different team members. This will result in an effective design that takes the maintenance requirements into consideration from the onset and will ensure that the

best long-term alternatives are selected in order to optimize the whole life costing of the project. For example, in a traditional delivery method, an economical component with a design life of 10 years might be selected for its acceptable technical characteristics and low-cost. In an alternative procurement model, the same component with a design life of 30 years but with a marginally higher cost might be selected because it provides the best value to the authority over the entire life of the concession. In addition, having the maintenance cost and lifecycle responsibility as part of the net present value (“NPV”) used to determine the preferred proponent under a DBFOM procurement model, will generate higher competitive pressure to reduce that element than under a scenario where the maintenance contract was procured on its own.

Assessing beforehand specific cost reduction values due to the transference of operations, maintenance and lifecycle risk to the private sector is difficult. Some *Value for Money Reports* developed after bid processes show important savings, usually ranging from 10% to 20% of the total cost of the project depending of the contract framework, the type of asset, the situation of the financial markets and bidders risk management plans. From our point of view, there is no doubt that a proper allocation of risk during the operations and maintenance stage could raise savings for VDOT that could easily reach the order of magnitude mentioned in those reports.

Reduced overall risk for the Project

An important advantage for having the maintenance component as part of the concession agreement is that it provides for a single point of responsibility for the Project. This will create synergies in the planning and design of the Project and will reduce the interface issues between the design builder and the maintenance contractor. In addition, having a single point of responsibility for the Virginia Department of Transportation will provide the assurance that deficiencies or failing components will be corrected promptly leading to better performance over time.

Project risk is also reduced due to the strict performance standards inherent to any DBFOM agreement and the corresponding payment penalties for non-compliance that ensure that the corridor is designed, built, and maintained properly. Careful development of the long-term maintenance and life-cycle plans and the processes to deal with unexpected events during operations significantly reduces the risk of performance failures. Strict quality control measures and performance indicators included in the agreement between the concessionaire and the maintenance contractor ensure early warning for issues with the performance of the delivery of services. Another advantage of this type of procurement model is that it provides VDOT with price certainty for 35-40 years. In traditional procurement, VDOT has to go to market approximately every 3 to 5 years to find a new maintenance contractor, which exposes it to the risk of price fluctuations.

More holistic approach to Project design

The DBFOM model integrates construction, maintenance, and lifecycle into the design team, providing for a holistic approach to design. The operations, maintenance and rehabilitation (“OM&R”) team is involved from the beginning of the conceptual design providing inputs for materials, maintainability, lifecycle costs, as well as emerging and innovative technologies and techniques. This integration of the OM&R team during the development phase of the project ensures that once awarded, the team is already working together with the same long-term performance objectives in mind. This approach balances the lifecycle and maintenance

costs with the initial construction costs. The trade-off between capital cost and lifecycle and maintenance costs is thoroughly evaluated throughout the process in an iterative fashion, with the intent to find a solution that will minimize the NPV of the Project and maximize the quality and longevity of the Project.

The decision of whether to allocate lifecycle responsibility to the private sector or to retain those obligations at the public sector level is critical. In any procurement model where O&M is the responsibility of the private sector, lifecycle strategy will have a significant impact on the O&M plan and costs. Having the lifecycle rehabilitation as part of the concession agreement will have significant benefits on the overall Project. Furthermore, including the O&M works in the concession agreement while allocating responsibilities for the lifecycle works to a third party will create significant interface issues because the two activities are closely inter-related. It would therefore be very difficult to structure a concession where the O&M works are transferred to the concessionaire and the lifecycle works transferred to a third party.

Schedule Certainty

The transfer of maintenance, operations and lifecycle responsibilities to the private sector will result in the facility being available to the public much earlier than currently anticipated. The schedule reduction, in particular, can be achieved through:

- The single procurement for all phases of the project in one step (development, financing, design, construction and operations and maintenance), rather than multiple procurements and multiple execution phases;
- Fewer changes orders and claims that demand (and may result in) schedule increases. Since the contractor is at risk for both design & construction and maintenance it has a very strong incentive to deliver on time. Such fewer change orders will be achieved as a result of having the design team, construction team and maintenance team working together since the early stages allowing the consortium to find the most efficient and correct solution from the very beginning.

We don't see many benefits in the Commonwealth transferring traffic/revenue risk to the private sector. It is our view that public sector can better manage, control or influence aspects that might have a great impact on the future traffic, such as competing infrastructure or land development. Even though there could be some efficiency in transferring this risk to the private sector, the disadvantages of doing so outweigh the advantages. Given the great number of externalities affecting traffic (gas price, population growth, new infrastructures, land development, etc.) we believe the authority is more capable to control or absorb any deviations from a traffic base case. If traffic is transferred to the private sector and forecasted traffic happens to be underestimated, there may be high benefits to the private sector and this might not be seen very favourably by the public. There is some experience in North America where these profits have been identified as "unfair profits". On the contrary, if traffic is overestimated at bid stage the private sector may run into great losses up to the point of bankruptcy, an event that could trigger a bailout with taxpayer money as experience has shown.

In case the delivery method chosen by VDOT was a toll concession agreement, with traffic and revenue risk transferred to the private sector we would suggest that in order to improve the feasibility of the Project and improve the financing conditions, a minimum traffic revenue be guaranteed by VDOT. Accordingly, if VDOT establishes a minimum revenue amount (i.e. 70% of base case scenario), limiting the downside for

the private party, it would be fair and reasonable to also request a sharing of the revenues if traffic is above some minimum threshold (i.e. 130% of a base case scenario). Overall, we believe this structure would be more efficient to VDOT in terms of Net Present Value and presents more benefits for the Commonwealth.

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?

From our past experience a duration of only two months from the date of issuance of RFQ documents to shortlist announcement could be a little bit short for the elaboration of a good and relevant SoQ document. In fact we would say that it would normally take around 3 months, including a one month comprehensive evaluation from the client.

On a project of this size and complexity, the time to take the bid from the preliminary design stage to submission is at least in the 5 to 6 months range. The variability usually depends on the complexity of the innovations developed by the bidders and how open VDOT is to accept these ideas.

Typically, the client needs several weeks to evaluate innovations (including meetings with bidders to present those ideas) and give bidders feedback on whether they can incorporate the proposed innovations in their bids. Based on the preliminary milestone schedule and depending on the date the RFP is published, we would recommend a period of 6 months or longer for the preparation of proposals. It normally takes 6 months for the preparation of a strong, accurate, relevant and innovation-based proposal, plus 2 to 3 months for the evaluation and financial close.

One important milestone is the completion of EIS prior to commencement of works.

Finally, time consumption for land acquisitions has to be considered as well.

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

As stated in the RFI document, since Interstate 66 is an existing highway corridor, we would expect that most of the Right of Way (ROW) necessary to complete the Project is already owned by VDOT. However it is very likely that some additional land is needed in specific spots of stretches, some of which may be critical for construction progress. Acquisitions of these lands should be completed before RFP submission date to avoid that they become a delay risk.

In case the acquisition is not completed by that date, this process should remain with VDOT since it is better positioned not only to acquire the lands, but also to manage the procurement schedule in accordance with the land acquisition process.

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, we would be interested in submitting a committed proposal for the development of the Project. Moreover, at this moment of the procurement process we do not have special concerns other than those common to many projects at this early stage.

However, looking ahead in the process some concerns could become so serious so as to prevent our firm from getting engaged in the project development. Those could be:

- DEIS: The competitive interest of our team in the Project has not been impacted by the ongoing DEIS process but we have concerns about the phasing of the procurement and how it is sequenced relative to completing the DEIS and achieving a supplemental ROD. We would be willing to make a significant effort in advance of final clearance; we would be willing, for instance, to respond to an RFQ and engage with VDOT after shortlisting in an industry review of documents in advance of environmental clearance. However, the size of investment required and the risk of the Project being significantly modified, delayed, or cancelled altogether would prevent us from starting development activities and preliminary engineering prior to environmental clearance. Because of the time required to complete the financing due diligence and the preliminary engineering required to complete a lump-sum bid and guaranteed schedule, this effectively indicates that the environmental clearance would need to be completed prior to the release of the RFP. To avoid delaying the Project, VDOT could convince bidders to participate in the RFP process while the DEIS is still ongoing by offering full compensation of all work done in the event the procurement was stopped or cancelled or the design significantly changed as a result of the DEIS process. Notwithstanding the foregoing, it should be noted that financial close will not be possible until the DEIS process is fully completed.
- Evaluation Criteria: Having clear and fair evaluation criteria is critical. Bidders will expend enormous efforts in producing their submissions and require a clear understanding of how VDOT will select the preferred bidder.
- Existence of honorarium: A project of this size requires a lot of resources during bid stage that result in a very costly proposal. This cost at risk should be mitigated by way of a stipend for those respondent teams that are short-listed, that submit compliant bids but that are not preferred bidder. In our point of view, a stipend favors competition and ensures that all the main players in the industry are participating in this Project. In addition, the inclusion of a reasonable stipend would allow players to put more efforts into the project by providing more efficient, innovative and competitive solutions that will be translated in significant benefits for VDOT.

The inclusion or not of a stipend will be a factor in our decision whether to submit a committed proposal in response to an RFP. The amount of the stipend usually depends on the level of complexity of the project, but we suggest introducing a large stipend to cover most of the bidders' development costs, at least 70% of it. This amount should also be directly tied to the number of shortlisted teams (larger the shortlist, larger the stipend needs to be for a proper business decision by private sector). Finally, we also suggest that VDOT includes some kind of reimbursable fee to cover the possibility of cancellation of the Project prior to the submission of the bids. We suggest this fee should be paid to all the bidders that after being shortlisted have actually performed bid work up to the cancellation of the bid. The inclusion of this protection to the bidders would also favor competition since it would mitigate the uncertainty of the outcome of the procurement process.

- Allocation of risks between VDOT and private parties: a proper allocation of risks between the parties will be crucial to ensure a successful delivery of the Project. The allocation of risks should be based on which party is in the best position to handle the risk. The public party should take over some risks

such as geotechnical risks, force majeure events, change in law, contamination and expropriation, which are out of the control of the private party, while this later one should take over design, construction, O&M and rehabilitation risks. A fair contract would favor competition as well as cost effective proposals.

- Data Room administration: In a Project of this nature a document management and process administration tool should be facilitated through the use of a SharePoint technology based site, Data Room, or similar. For the sake of privacy we suggest adding passwords to the client files to preserve confidentiality between proponents.

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?

On a project of this size and complexity, the time to take the bid from the preliminary design stage to submission is at least in the 4 to 6 months range. The variability usually depends on the complexity of the innovations developed by the bidders and how open VDOT is to accept these ideas.

Typically, the client needs several weeks to evaluate innovations (including meetings with bidders to present those ideas) and give bidders feedback on whether they can incorporate the proposed innovations in their bids. In a DBFOM procurement, much of the financial due diligence can be performed while this preliminary design is being developed, and the bidders will typically only need 8 to 10 weeks to reach financial close after the technical submission (design, price, and schedule).

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.**

ML and BRT facilities are both viable but some important challenges will have to be addressed. Some examples are:

- Traffic management during construction
- Impacts of ML & BRT solutions on accesses, interchanges, overpasses and interaction with existing transit services
- Expansion of existing structures (overpasses and underpasses) and their technical solutions
- Widening of interchanges (traffic management, traffic diversions, cut of lanes, priority turns...)

Another challenge that could occur is the current median width not being sufficient in some areas. In that case outer widening could be the only solution. In the case this is not possible either, a more complex alternative solution might have to be considered like separated grade levels; an elevated BRT lane on viaduct or an underpass BRT (cut n' cover option?) would both be expensive solutions and have a higher visual impact but they might be safer and have potential good connectivity with other transport modes.

Finally, widening of the existing platform using integrated embankments adjacent to the existing ones present potential geotechnical risks like settlements, running water, leaks, etc... In order to avoid cracks appearing in the pavement surface layer, when constructing the foundations of the new embankments topsoil would have to be properly cleaned and the union with the existing embankment would have to be handled with special care (placing geogrids for example). Otherwise repaving may be needed in the short term.

- 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.**

A bifurcated highway system could of course be technically feasible. This system could consist, for example, of a full new tolled greenfield road (like our Radial 2 in Madrid), a new ML facility, or a solution that combines BRT and Managed Lanes in one single facility. Nevertheless, although any solution can be technically feasible, usually only a few are economically viable or even sensible. In fact, for the proposed bifurcated highway system solution interchanges and interfaces as well as connectivity issues should be studied in great detail and costs arising from the solution of these issues could eventually increase up to amounts that may make it non-feasible.

Furthermore, such solution would not fully align with the goals of developing and financing highway and transit improvements associated with the Project (Preserving the potential for Rail Extension and Focusing improvements within existing Right of Way to minimize impact to residents along the I-66 corridor) because it would require a large amount of RoW.

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?

In a scenario where ML and BRT concepts are implemented trying to maximize the use of existing ROW, a project of such nature would probably have concrete works for structures (access ramps and retaining walls), pavements and auxiliary works to maintain existing traffic as its main development cost drivers. Should ROW acquisition be included in the contract scope, then ROW acquisition costs would obviously have to be added to this list, but we would strongly suggest avoiding such scope inclusion.

With regards to cost drivers for operations, these would surely include pavement type, average daily traffic and traffic composition, and total deck surface. We are not including here BRT operating costs other than guideway management and civil maintenance because it is our understanding that transferring BRT operations 'per se' would not provide value for money for the authority given the existing operating synergies with the rest of the metropolitan bus network.

Looking at the overall costs (development plus operation and maintenance) it has to be noted that typically the most efficient solution is a facility that combines the BRT and the ML concept. This is so because it is not easy for BRT or tolled facilities to maximize the capacity of their lanes on a stand-alone basis; bus frequencies would have to be very high and traffic demand very inelastic to price respectively. However, we could certainly combine both concepts together and implement toll policies that ensured comfortable levels of service for both cars and buses. This combined option poses the additional challenge of how to design BRT stations that do not interfere with car traffic within the existing right of way, but solutions might be found when studying the different on-off ramps required to access the facility (whether this be located in the median or on one side of the existing roadway) locating the stops outside and adjacent to the existing facility.

Since the combination of the BRT and ML concepts is definitely helping to save right of way, such idea is also a way to preserve the potential for rail extension. In our view potential for rail extension should never mean that certain right of way is saved unused for the future rail facility. Instead we believe that the logical transition would be that the BRT concept turns into a rail system progressively and depending on passenger numbers. Given that the existing rail system runs along the median of the I-66 this would be a conditioning factor for the BRT or BRT+ML to be designed along the interstate median. The construction of the rail line 'on top of' of the BRT lanes would definitely mean 'erasing' the ML lanes and loosing their additional capacity but, since we would not expect the BRT/ML facility to exhaust its capacity in less than 30 years, the facility would be fully amortized by that time. Even more, such expansion could be undertaken by a new concession term following this contract.

Finally we note that the rail system that would be best placed to offer larger capacities once BRT capacity is exhausted is a metro rail rather than an LRT system. Metro rail usually requires wider footprints than

LRTs and two-lane BRTs so the BRT guideway would have to be wider than strictly required. This would also point at the direction of our BRT/ML combined concept suggestion

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

The I-495 Express Lanes has implemented E-ZPASS®. VDOT runs E-ZPASS® Virginia for toll facilities in the commonwealth. The system is used in other toll roads across another 13 states. This is the system currently used between the Dulles Toll Road and the I-495 and they operate with no interoperability issues. Since this tolling system should also be used in the I-66 Project, we don't foresee any interoperability issue with the current tolling system. We also foresee a similar approach for the I-66 Project in terms of interchanger coordination with the I-495.

VDOT must ensure that the E-ZPASS® will be available for the new concessionaire in the I-66 Project. VDOT should as well include the E-ZPASS® as part of the requirements during the RFP to avoid bidders using different systems. From a user perspective it will not be cost-effective to use different EZ Tag systems because it supposes an investment for the user to use toll roads and the current EZ Tag system implemented in Virginia is standardized and updated to the latest technology.

We are comfortable with the contract scheme implemented by VDOT in other projects. The concessionaire will use the E-ZPASS® to collect the tolls and the concessionaire will set the tolls rates and collect violations. We don't foresee to collect cash tolls in the I-66 Project.

Another technology that is also common in the State is Video Tolling. This system has the advantage that the user is not required to hold a Tag, therefore it reduces the private partner initial investment. On the contrary transaction operating costs are higher with video tolling. Video Tolling reliability is lower than radio Tag system so it implies extra costs at the Back Office infrastructure. The solution to this lack of reliability comprises software cross validation, human plate validation, extra OCR software and some extra control processes. Even considering all these implementations, the Video tolling reliability is lower than the usual radio Tag system and this will require a mass digital images management. When trying to choose of the two options, it is necessary to analyze if the initial investment savings overweight the superior costs of video tolling on a net present value. A lot of factors such as number of transactions, reliability on the plate registry, or number of violators will also need to be considered. In our experience the Video tolling does not have to be more efficient than Radio tag but still the toll facility could offer the user both options for its comfort.

Finally, we note that our experience in free flow systems includes both video tolling and Radio Tag solutions; Americo Vespucio South Highway (Chile) is an all included system while "Via T" non-stop payment in R-2 Highway (Spain) is a Radio Tag system where all the payment management is made by an external partner.

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?

Our main suggestion would be to reduce interfaces at a minimum.

The interface between projects currently under design or construction and this Project should be kept to a minimum. Preferably, those projects should be completed before financial close and before the mobilization of the main construction contractor for this Project. The potential issues due to the interface could be grouped in two categories:

- **Schedule Impact:** Interface issues with the projects under design or construction could put the Project in delay from the start so the concessionaire and its construction contractor would be looking to VDOT for relief. Clear coordination with the authorities for those upcoming major projects and a compensation event scheme in case one of these projects affected the Project would both be very useful measures to avoid this situation.
- **Quality Impact:** If there is a close interface between the Project and other projects, the main construction contractor might not have control over the work of the projects currently under construction and that could impact the quality of the Project.

Other suggestions could be provision of a unified and updated traffic study and forecast and Implementation of same and unified systems (traffic signalling, ITS, traffic management systems...). With regards to the former, major projects along the construction of the I-66 could impact future traffic positively or negatively during the concession term. Traffic data is a major concern for concessionaires so all coordination efforts are welcome to ensure that these projects are taken into account during the traffic studies and that traffic forecast figures are as accurate as possible.

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?

In long-term concessions, it is often difficult for the concessionaire to forecast lifecycle costs for the whole life of the operations period. Nevertheless a lifecycle management plan during the bid phase as well as including measures during the design stage to reduce the lifecycle cost do help to mitigate the lifecycle risk. As an example we can assess different options for the pavement that will mitigate the lifecycle costs in the future.

We also recommend benchmarking and market testing of O&M services over the term of the concession. Fixing the price of O&M services over a 30 year period is difficult. Contractors will include contingencies in pricing to cover the pricing risk of some of the maintenance services. To avoid these contingencies that don't provide value for money, a process that has been successfully used in other jurisdictions is benchmarking and market testing. After 5 years of operations and every 4 years thereafter, the developer will get updated market pricing (the process to get market pricing is included in the concession agreement) for the performance of certain maintenance services (the maintenance services to be included in this

exercise are agreed to in the concession agreement). Based on the market pricing, the maintenance price will be adjusted (higher or lower) which ensures that the authority is always paying a fair price for these services.

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?

Sequencing the project might be an option to reduce upfront capital. An example of sequencing could be: Building the ML facility initially, tolling it and then continue with the BRT facility in a second stage. The disadvantage of this option is that it would be more difficult to finance.

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.

Some technical alternatives were explained in bullet point no. 8 (Elevating and/or lowering the alignment if necessary).

Finally, another option could be a Park N' Ride facility which would be closely linked to an extension of the metro network (Vienna/Fairfax station). Park N' Ride plus the Managed Lanes option could be a good solution for Washington commuters.

d) Commercial and Financial Structure

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

As a global player in the infrastructure industry, ACCIONA has a lot of experience within the transportation market. The Tier 1DEIS reveals that none of the improvement concepts could meet the needs of the corridor as a stand-alone improvement concept. In order to find the best approach for the financing solution the general purpose lanes and managed lanes solutions combined with the BRT solution (excluding BRT operation) seems a financeable and proven-track solution in the current capital markets. Other solutions such as combining the LRT, Metrorail extension or VRE Extension with managed lanes, although financeable, could present bigger challenges in terms of finding competitive financing because there are not many examples tested by the markets.

With regards to the financing approach, at this early stage of the process it is very difficult to know which might be the best. Nonetheless we have summarized below our most common financing approach as recently followed by ACCIONA in other projects of this kind.

First, for all the proposed improvements concepts, we will analyze the best solution in terms of equity and private funding in order to obtain the most efficient financing structure and in order to provide the Best Value for Money solution, which means the cheapest solution for VDOT and the public interest. As ACCIONA has done in the past, we will analyze potential bond and commercial bank solutions, as well as any potential hybrid solution, and will choose the most efficient of these. ACCIONA has a very good understanding of, and recent experience in, structuring the inter-creditor agreement to minimize any potential conflict between the different lending groups. Competition among various financial institutions and different financing solutions will optimize the project's capital cost and consequently reduce the NPV.

Specific U.S. infrastructure financing products, like PABs and TIFIA loans, may provide a cost-effective long-term debt solution. Direct loans under the TIFIA program offer the lowest financing costs in the market. In principle we believe the following financial tools should be considered to structure the most efficient financing:

- TIFIA funds. In order to lower capital cost a TIFIA direct loan should be analyzed.
- Senior debt. Banking solution, bond capital markets and hybrids structures should be analyzed.
- Equity from the private developers.
- Private Activity Bonds (PABs) provide flexibility to the financing structure as they can be issued as either short-term or long-term debt. Access to tax-exempt interest rates would also lower the cost of capital of the Project significantly.
- Public funds during construction. As discuss later on we believe that this source of funds would make the deal more robust.

Second, ACCIONA will use innovative financing solutions and implement lessons learned from recent projects in order to ensure the competitiveness of the Project. ACCIONA has demonstrated its ability to develop innovative financing solutions to achieve financial close in uncertain markets. ACCIONA will:

- Survey the use of alternative credit enhancement solutions to backstop LCs;
- Pursue parallel financing solutions to ensure price tension and funding redundancy;
- Explore bond funding ladders - layering on bond tranches of various tenors to achieve sufficient capacity; and
- Explore multi-currency options, if applicable and practicable based on the RFP language.

17. Please discuss your firm's interest in:

a) Accepting traffic and revenue risk in a toll concession

Our interest in accepting traffic and revenue risk is relatively low. It should be noted that public sector clients who look to share in the upside (better than expected revenue) should conversely provide downside protection to concessionaires for lower than anticipated revenue. If traffic/revenue risk is born by the private sector, companies will have to conduct their own Investment Grade Traffic & Revenue Study something that they don't always do as objectively as desired due to commercial pressures or business appetite at that point in time.

b) Accepting performance risk in an availability structure

Yes, this is the best option to achieve best value for money; the payment during the concession period should be availability-based. Certainty on the revenue stream will be essential to achieve the most effective financing for the project. Allocating users risk on the private side would complicate structuring the deal and would probably make it more expensive.

Availability payment structure for toll roads would allow the private parties to access less expensive, simplified financing with the public sector, likely including higher debt/equity. Overall, availability projects, even if the new infrastructure is tolled by the public owner, are typically more positively received by the public than toll roads where the private partner is responsible for demand driven toll income.

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

A reasonable concession term for a ML or a BRT concept under an availability payment structure would be between 30-40 years. However, it will depend on the final decision on transferring the traffic risk to the concessionaire. In case the traffic risk is transferred, the concessionaire might need more time to recover the investment requiring a term as long as 50 years or even longer. This approach is not cost affective and doesn't deliver the best value for money because for those terms over 40 years, the long term financing capacity of the market, the lifecycle risk assessment and other risks are difficult to be assessed and can add contingencies to the NPV and decrease the value for money of the project.

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.

Not applicable to our company.

A list of prequalified SWaM companies to work with as subcontractors could be an idea to help them integrate and team-up in the tender process as “Nominated Subcontractors”.

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.

In HOV lanes a vehicle has traditionally qualified as a high-occupant vehicle if it moves two people. We are concerned about the type and the amount of traffic expected in the I-66 Project and we would need further traffic studies to give a more accurate number for a high-occupant vehicle.

In the I-495 the number of people required to qualify as a HOV is three. We understand that the concessionaire has adjusted this number after a careful study of the user’s profile of the express lanes and we would use a similar approach for the I-66. If the traffic studies are positive we would be willing to reduce the number of persons to two for the benefit of the public interest.

We understand as well that commuters who responsibly use the infrastructure *on a daily basis* with two or more occupants might enjoy some advantage versus those who don’t. So the final number of people to qualify for a HOV commuter could be reduced to two instead of three in order to incentivize responsible more frequent use of the infrastructure.

It is very important to bear in mind that the final approach adopted will have to take into account the expected return of the investment. Thus the number of persons may vary throughout the concession term depending on traffic demand progress.

Finally in order to comply with the federal Clean Air Act, we might use alternative approaches for vehicles to qualify as HOV depending on the carbon emissions of the vehicle model. For example we can limit vehicles to qualify as HOV to those whose emissions are over a threshold.

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.?

Project Scope

If VDOT is anticipating early works packages before the start of the Project, it is our opinion that those must be limited and discrete. Public authorities often use the early works package to start the construction of significant portions of the project instead of limiting the scope of work to specific activities that will reduce

the overall construction schedule without affecting the work of the main construction contractor. Some of the activities that make good examples for the early works package include demolition of existing structures, certain preliminary earth work such as pre-loading of soil or soil improvement if required, environmental decontamination if required and other similar scope that can be easily completed before the main construction contract begins and that, once completed, will not have an impact on the overall quality of the Project and on the future activities of the main contractor.

It is also very important that the scope does not change during the process. It undoubtedly extends the procurement process and sets extraordinary challenges to consortium members and the lender community. Therefore, the Project Scope must be 100% defined for the Project Agreement.

Procurement Process

Interconnectivity: if VDOT plans to implement design and construction of other projects that might interface with the construction of the I-66 Project, there are some challenges that in our view may negatively affect our ability to finance the Project. If there is a high degree of interconnection between the design and construction of these projects and the I-66 Project, any delays or issues affecting these projects may, and will likely, impact the I-66 Project. To the extent that any delays or other issues are beyond our control, we must be protected in respect of the Project. Some of the issues this gives rise to include the following:

- **Supervening Events**: There would need to be adequate protection of Project Co such that the impact of any Delay Event, Compensation Event, Relief Event or event of Force Majeure affecting one these projects would result in similar relief or compensation under the I-66 Project.
- **Events of Default**: The occurrence of an Event of Default in one of these projects leading to termination could produce anomalous results under the I-66 Project Agreement that can impact our capability to achieve substantial completion without any possibility of obtaining termination compensation under the Project Agreement.

Similarly anomalous results could occur if VDOT was in default under one of this projects leading to termination rendering it impossible for Project Co to achieve substantial completion under the I-66 Project Agreement but leaving Project Co without the possibility of obtaining termination compensation under the I-66 Project Agreement.

- **Variations**: There would need to be adequate protection of Project Co such that the impact of any Variation affecting one of these projects would need to take into consideration and resolve any impact that Variation may have on the I-66 Project.

Reliance on factual data: clients typically spends tremendous time and dollars obtaining the factual data behind the project – geotechnical, utility info, hazardous materials, etc. Since bid periods are short, and it would cost substantial dollars even if the bidders had enough time to review and confirm all factual data, the most efficient approach is to allow the private sector to rely on this factual information.

This can either be done via statements in the contract allowing the bidders to rely on the factual information, or clearly spelling out Relief Events where a site condition (utility, geotechnical, cultural, etc.) is different than the factual information provided.

Permitting Process: the complexity of a Project of this nature requires strong coordination with several local and federal agencies. Securing approvals for the environmental and construction permits is the first and primary challenge to meet timely commencement of every construction work activity. The processes for obtaining the necessary permits must be rigorously tracked. The permitting processes, required for the various types of work, including permit preparation and agency review and approval, must be incorporated into the detailed work schedule.

During the permitting process, the private sector will meet with regulatory agencies to ensure compliance with all requirements and to obtain approval for the necessary permits.

Technical and financial feasibility

Given the current uncertainty in the financial markets, lenders have more appetite for projects with secured streams of payments guaranteed by a high rated public institution or availability payments. If a toll concession was selected, a minimum revenue guarantee from VDOT to the private party, based on baseline toll revenue estimate, would facilitate the financing of the Project. Under a toll revenue concession structure, the developer takes partial or full risk for the volume of traffic on the road throughout the life of the concession. The developer and lenders go through a complicated exercise to model traffic over the life of the concession as this is the most unpredictable risk under this delivery method.

In addition, projects where the concessionaire has to bear the ridership risk are less bankable, reduce the attractiveness of the Project to lenders and private parties (thus reducing competition), and consequently make the project more expensive.

Payments from VDOT to the Respondent should be made periodically according to a payment schedule agreed upon by the design-builder and VDOT. Performance security should be similar to that requested by the lenders following P3 market standards. It is important to highlight that providing flexibility to the design-builder to either provide letters of credit (or liquid security) or surety bonding, or a combination of both, at the discretion of the design-builder, would allow the private sector to be more cost efficient and consequently would provide value to VDOT. There should be a guideline for the expected amount of security to be required but the final amount should be negotiable.

If VDOT anticipates transferring the traffic revenue risk to the private sector, in order to make the project financially viable and achieve investment grade, the concessionaire must be able to have a reasonable degree of certainty of the potential revenue of the Project. Any future improvements in the corridor or in parallel routes (that takes traffic away from concessionaire's investment) should be treated as compensation event.

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?

It is important for the Respondents to be able to meet with VDOT to discuss the Project and VDOT is willing to accept and encourage the participation of international construction firms on an equal basis. Those topic meetings with VDOT prior to RFP submission are extremely helpful for both VDOT and private parties as they ensure proponents develop a bid that is not only compliant but aligned with the public interest. Further,

these meetings may bring important doubts or problems of the procurement, that when exposed by several teams, may enhance the definition of the PA responsibilities and the risk allocation

It is also important to understand how the Project will be funded both for construction and O&M stage, and what VDOT expects the private partner to provide in terms of financing.

Other information that would help our firm to make the business decision to engage in the development of the Project is the following:

- Geotechnical Report
- As-Built drawings for the existing structures (For those needed to be expanded)
- Traffic study (average daily traffic (ADT))
- Proposed Form of Contract & particular conditions
- Risk profile / matrix.