

Maryland

Request for Information

December 21, 2017

Information Requested

A. General

1. Please describe your firm, its experience in relation to P3 projects, and its potential interest in relation to these potential congestion relief improvements.

Description of Firm:

The name of the responding party is Abertis Infraestructuras, S.A (“Abertis”). Abertis is the holding company of an international toll road group with its headquarters in Madrid, Spain.

Abertis is listed on the Spanish Stock Exchange, and it is in the IBEX35 and in the international FTSEurofirst 300 and Standard & Poor’s Europe 350 indexes. Abertis obtained EUR 4.9 Bn in revenues in 2016.

Abertis is the largest toll road concession owner and operator in the world, with more than 8,300 km of toll road assets under management, and it is present in 14 countries in Europe, the Americas and Asia.

Abertis has almost 50 years of management and maintenance experience relating to some of the most important toll road networks in Europe (France and Spain), as well as more recent management experience with some of the most vital highway networks in Brazil, Chile, Argentina and Puerto Rico. In 2016 and 2017, Abertis continued to expand its international presence by entering into the Italian and Indian markets. Abertis’ experience includes the acquisition of toll road concessions and extends to both routine maintenance and major capital investments in all highway project aspects, including pavements, structures, tunnels, tolling systems, landscaping, and buildings.

Abertis has also experience in the electronic toll collection system industry through its subsidiary Emovis, a leading company in this sector providing tailor-made tolling solutions to its clients all over the world, and through its participation in Bip&Go SAS and Bip&Drive S.A., a French and a Spanish company respectively which commercialize “on board equipment” (OBEs). Abertis is also the main shareholder of Autopista Central, one of the major urban motorways in Chile, with 61 km operating under a distance-based free-flow system in the City of Santiago, holding circa 43% of the country’s population.

Abertis is also the main shareholder in Cellnex Telecom and Hispasat, both leading companies in the telecom and satellite businesses.

Experience in relation to P3 projects:

Abertis has almost 50 years of P3 related project experience. This includes experience in the following markets:

- Puerto Rico: Abertis is the main private toll roads operator in Puerto Rico via Metropistas, a concessionaire that operates the island's busiest toll road PR-22 San Juan-Hatillo and the PR-5, which crosses San Juan metropolitan area to the business centre of Bayamón. Abertis also owns 100% of Autopistas de Puerto Rico (APR), which manages the two-kilometres Teodoro Moscoso Bridge upon the San José Lagoon, connecting San Juan to Isla Verde since 1994. Both concessions total 90 kilometres of toll roads in the US associated state.



- Brazil: Abertis has a presence in Brazil through its subsidiary Arteris, the country's largest toll road operator, which manages nine toll road concessions totalling 3,250 kilometres. Arteris has a balanced concession portfolio: four toll roads dependent on the State of Sao Paulo (Autovias, Centrovias, Intervias and Vianorte) and other five dependents on the Federal network (Autopista Fernão Dias, Regis Bittencourt, Autopista Litoral Sul, Autopista Planalto Sul and Fluminense). It means a 17% market share of Brazil's toll roads network.



- France: Abertis has a presence in France through Sanef Group, holding a 100% stake. Sanef runs over 1,760 km of toll roads in the northwest of France, Normandie and Aquitaine, representing 22% of the country's total toll roads network. Sanef manages five of the seven access routes to Ile-de-France (Paris region) and therefore the traffic routes connecting Germany, Belgium and Luxembourg to the north of France and the United Kingdom. France is Abertis' biggest market. The business in France generated 34% of the Group's revenues and EBITDA in 2016.



- Spain: Through its subsidiary Autopistas, Abertis is the first operator of high quality and capacity roads in Spain by kilometres managed: 1,559 kilometres representing over 60% of the country's toll roads network. Abertis also has a minority stake in other toll roads concessions.



- Chile: Abertis is the largest toll road operator by traffic volume in Chile, where it directly or indirectly manages more than 770 kilometres through its subsidiary VíasChile. VíasChile, has been present in Chile over the past decade and manages five interurban roads, three of which connect Santiago with the Fifth Region and with the main ports of the country, and Autopista Central, the urban motorway with the highest traffic in Chile.



- Italy: Abertis controls 85.36% of the industrial Italian group A4 Holding, its main assets are the A4 and A31 toll roads. A4 Holding operates 235 kilometres of toll roads in the region of Veneto, one of the most prosperous of Italy, with one of the major levels of GDP and per capita income of the country. It is a geographical strategic zone as it is located in the corridor connecting the industrial North of Italy to the economic center of Europe. The 146 kilometres A4 toll road, known as "La Serenissima", joins the cities of Brescia and Padova. With three lanes for each direction, it is one of the toll road with the major density of traffic of the country. The 89 kilometers A31 (Austrostrada della Valdadastico) connects Piovene Rocchette with Badia Polesine.



- Argentina: In Argentina, Abertis manages two of the most important roads leading into Buenos Aires. Grupo Concesionario del Oeste (GCO) is the holder of the concession of Autopista del Oeste, which links the country's capital with the town of Luján, on the western route into the city. While Ausol holds the concession of the city's northern access route, known as Autopista Panamericana and the maintenance of Autopista General Paz, a major beltway in the city.



- India: Abertis controls 100% of the concessionaire Trichy Tollway Private Limited (TTPL), which manages the NH-45, and 74% of Jadcherla Expressways Private Limited (JEPL), which holds the concession for the NH-44. The assets are located in Tamil Nadu and Telangana, both states with economic growth rates above the national average for India and with GDP levels that are amongst the highest in the country.



Interest related to congestion relief projects:

Abertis has pioneered a number of innovative approaches across our network to enhance mobility. For example Metropistas, Abertis' subsidiary in Puerto Rico, has applied the following:

- Dynamic Toll Lanes - adjusting pricing in real time to enable congestion-free travel
- 100% free-flow - meaning less congestion, less accidents and less emissions
- Reversible lanes - to increase capacity in peak hours

Additionally, Abertis' technology and services branch Emovis is an expert in the design and operations of free-flow solutions through electronic tolling. It handled more than 300 million transactions in 2016, at cutting-edge assets like the Dartford Crossing in the UK, and at sites in Canada (British Columbia) and Puerto Rico.

Emovis is currently leading the Mersey Gateway free-flow tolling project, which incorporates an innovative mixed technology solution for first time in Europe. Emovis is also a leading player in the implementation of Road Use Charge programs, including a pay-per-mile pilot in Oregon, USA.

Other partnerships and projects that Abertis and its subsidiaries are undertaking related to Road tech, with many focused on relieving congestion, include, among others:

- Smart Roads & Integrated Mobility
 - Collaboration with Waze: Abertis has signed a worldwide agreement to join the Connected Citizens Program through Waze, the community-based traffic and navigation app. This two-way data sharing partnership will allow to combine the real-time traffic information from Waze with the data collected at Abertis' operations centres in seven countries; Spain, France, Brazil, Chile, Puerto Rico, Italy and Argentina. The aim is to ease congestion and improve road safety
 - Lab City Project: Abertis' subsidiary in Chile is using smart road tech to enhance safety including LED panels and laser signalling with real-time traffic information
- Autonomous & Connected Vehicles
 - SCOOP@F project: Sanef is a key partner in developing a 'Cooperative Intelligent Transport System', which allows vehicles and roads to exchange information about traffic conditions
 - Inframix project: Partnership between Autopistas (Spain) and the European Commission to define the role of infrastructure in the transition to autonomous vehicles

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.**

Benefits and risks to MDOT from entering a P3 agreement:

A P3 agreement would procure an efficient method that aligns the interest of both the private and the public party, by allocating specific risks to the party that is better able to handle them. More precisely/specifically, some of the benefits for the MDOT would include:

- Cost savings over the concession life (i.e. construction, financing, and Operations and Maintenance costs during the concession's life)
- Protection for its taxpayers, as major risks will be shifted away from them
- A shorter delivery period, for the project would benefit from accelerated funding of private partners, and
- Minimization of capital requirements

Furthermore, due to its long-term nature, a P3 model would also enhance the private partner to provide a high quality asset, which always performs at or above the standards set by the MDOT. The concessionaire would be incentivized to develop a successful, long-term, relationship from which both parties can benefit in a sustainable way that builds upon the satisfaction of all relevant stakeholders, i.e. ensuring traffic congestion is improved.

Risk allocation:

Subject to further analysis of the specific variables, we believe that a full transfer of revenue risk to the operator can be greatly beneficial, as long as there is enough traffic demand, social support and a reasonable risk-adjusted profit can be achieved. A revenue sharing mechanism can also be an efficient incentive mechanism to ensure interests alignment between the MDOT and the private partner.

Operations and maintenance costs during the lifecycle can, in our view, be better managed by the private entity, in order to make sure the assets are managed in an efficient way. Finally, a private partner would ideally also bear the risk of changes in industry standards.

On the other hand, the MDOT should bear the risk of hidden defects in existing infrastructures, changes in law, technical regulations, and force majeure events.

From Abertis experience, we can easily identify more than 100 risks in a regular project, some of them allocated with the public sector, but mainly allocated to the concessionaire and in some cases then transferred to the contractor/s. We are willing to discuss in a one-to-one meeting the optimal risk allocation.

3. **What, if any, advantages will MDOT potentially gain by entering an agreement in which operations and maintenance 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?**

Operations, maintenance and lifecycle responsibility:

During the lifetime of a Concession, the maintenance and operational costs of the infrastructure typically amount to five times that of construction. Having an experienced, well incentivized private partner, like Abertis, would be the best way to ensure the efficient

management of these costs. Furthermore, transferring the risk to the private sector, would incentivize bidders to design with these costs in mind.

Traffic and revenue risk:

If traffic and revenue risks are transferred, the parties will be further aligned in their common objective of alleviating congestion, while protecting tax payers from risks that largely depend on traffic forecasts, which are difficult to predict and should be managed by experienced investors. The option to put in place a revenue sharing mechanism, also offers the MDOT the opportunity to share in the financial success, but limiting its risk should the project not deliver the expected returns.

Potential disadvantages for the Contracting Authority that have been experienced by Governments in similar P3 models are mainly related to a deficient interest alignment mechanism. Examples of these disadvantages include:

- Delivery of a “cheaper” asset that disregards quality.
- Unrealistic business plans that trigger default of the private party, or
- Operational challenges at transition

Therefore, a good allocation of risks between both parties, and a clear legal framework provided by the concession agreement are key items for a successful partnership.

Abertis is currently not in a position to deliver an answer regarding the magnitude of these potential impacts, but would be happy to discuss these and other items in a one-on-one meeting at later stage.

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?

Both the efficiency gains of the private operator and the additional costs that the responsibility for the entire freeway would imply, should be analysed carefully, in order to assess whether or not it would be beneficial/advantageous to take this approach. At this stage, Abertis is not in a position to deliver an answer, but we are willing to discuss this in person at a later point in time.

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?

Due to the project size, consideration should be given to splitting it into two or three segments, not only would this reduce the upfront capital costs but it also could optimize resources and will reduce the total project delivery time.

B. Project Development

- 1. Do you believe your firm would be interested in submitting a detailed proposal for the development of any of the congestion relief improvements? Are there any particular concerns that may prevent your firm from getting engaged in the project development? How might these concerns be resolved?**

Our company could be interested in submitting a detailed proposal. Among others, the decision to proceed would depend on timing, availability of resources and contract terms.

- 2. 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.**

Ideally the RFQ would be issued after the Draft Environmental Impact Statement (EIS) had been approved and closer to the time of the final EIS. At the very least, however, we would prefer that MDOT has additional clarity around the preferred alternative as well as a definitive calendar for the environmental clearance process before issuing the RFQ.

We would likewise recommend that the Draft Environmental Impact Statement (EIS) had been issued prior to the RFP issuance and would definitely anticipate requiring a preferred alternative at this stage. Regarding approval of the environmental document, we would anticipate limited steps still required for completion of this process at the point the draft RFP is released.

- 3. What are the critical path items for the solicitation for these improvements and why?**

Critical path items that we would anticipate in a project of this nature include:

- Clear legislative approvals at all government levels, if required, as well as support from relevant stakeholders
- Selection of Project Advisors
- Decision on procurement, funding method (e.g. real tolls), and technical solution
- Environmental approvals, (i.e. Completion of Tier 2 NEPA)
- Finalization of process calendar and transaction documents (RFQ and later RFP)
- Acquisition of required ROW by Public Entity
- Availability of traffic information and completion of an independent investment grade traffic & revenue forecast
- Assistance in financing, as required (application for PABs and TIFIA)

- 4. What is the minimum amount of time that your firm would require to develop and submit a response after the issuance of a potential RFQ?**

Following issuance of the RFQ we would anticipate needing around two months to develop and submit our response.

- 5. What is the minimum amount of time that your firm would require to develop and submit a detailed proposal after the issuance of a potential RFP?**

With regards to the development and submission of a detailed proposal, the timing required shall depend upon the necessary level of design and engineering required, as well as the detail around the overall scope of the RFP. Assuming a sufficient level of detail, with relevant information available early in the process, we would anticipate a timeframe of at least nine

months, but more likely 12 months considering the size and complexity of the project, following the issuance of the RFP.

To the above we view the timeframe provided in the Industry Forum presentation as reasonable considering the issuance of a draft RFP towards the back end of 2018, a final RFP in mid-2019 with technical and financial proposals due later in the year, and the selection of a preferred bidder as well as commercial and financial close all coming in 2020.

6. What information would your firm need in order to prepare a response to a potential RFP? What information should MDOT, the offeror, or others provide?

For preparing a response to a RFP we would need the following information:

- Clear list of technical/operational requirements for the bidders
- Draft Concession Agreement
- Draft technical requirements
- Information/documentation related to the environmental process and clearance and other key reports (i.e. right of way, utilities, etc.)
- Other relevant engineering and/or technical reports
- Information and forecast around traffic & revenue anticipated from managed lanes

7. 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.

In general, we view a higher stipend as positive, not only from the perspective of project participants but also MDOT, as we see it driving additional competition to the process, increasing competitive tension, and therefore providing greater value. Following the aforementioned, the more uncertain the process, due to various reasons including stage of environmental clearance, the larger the stipend should be in order to ensure the maximum competitive tension around the process. We also think that it is reasonable for the stipend to be provided in the case the process is cancelled, during the RFP phase, by the Contracting Authority due to non-commercially related reasons.

8. 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.

We strongly believe that MDOT should retain the risk associated with right-of-way (ROW) activities. Regarding project risk allocation, ROW acquisition is an activity generally allocated to the public partner, as it is in a better position to manage this process without building in significant contingencies to cover this risk, and therefore keep the project's cost as low as possible.

C. Technical Challenges

1. Based on your experience in the development of similar projects and characteristics of the I-495/I-95 and I-270 corridors, please explain the technical challenges, including minimization of right-of-way impacts, to providing congestion relief improvements. Please provide any recommendations for mitigating or overcoming those challenges that you would be willing to share.

Abertis has pioneered a number of innovative approaches across our network to enhance mobility, many of these we believe are relevant considering the characteristics of the potential I-495/I-95 and I-270 project. For example:

Metropistas (Puerto Rico): here Abertis operates the concession for PR-22 and PR-5. PR-22 is one of the busiest highways in the US with an AADT of over 200 kilometres vehicles in certain sections. In Metropistas Abertis has helped develop the following solutions to manage traffic:

- **Dynamic Toll Lanes** adjusting pricing in real time to enable congestion-free travel. This strategy allowed up to 30 minutes of time savings for the users and about 15 minutes for non-users since it also brought decongestion to conventional lanes. The algorithms are based on congestion and/or time savings
- **100% free-flow** meaning less congestion, less accidents and less emissions since cars do not have to stop. Furthermore, this allowed lower maintenance and operations costs for the operator. The free-flow strategy is aligned with Best Practices (US States are following the same approach – Mass DOT for example)
- **Reversible lanes** to increase capacity in peak hours
- **Mono-gantries:** in Puerto Rico, there was a spatial limitation to have toll plazas both ways in some sections of the toll network. Tolling plazas limited the number of cars that could be processed in an urban/semi urban environment. Thanks to the installation of Mono-gantries capacity constraints were overcome, right-of-way impacts were minimized and the footprint of the roadside installation was reduced

UNAE (Spain): Abertis is a leading toll road operator in Spain where it controls the accesses to the city of Barcelona. Here Abertis developed the following solution to minimize congestion:

- **Detection Systems for High occupancy vehicles:** the measure, pioneered in Europe and implemented in 2010, distinguishes between cars with three or more occupants in order to charge them a discounted toll. This tolling strategy has proved to effectively reduce road congestion in the city accesses and the metropolitan area by enhancing car sharing.

2. Are there recommendations that you may be willing to share concerning the project scope or development strategies to reduce the upfront capital costs and/or the lifecycle costs of potential corridor congestion relief improvements?

While we would be able to provide additional recommendations during the one-on-one meetings, a few issues that should be considered in order to minimize the overall project cost include:

- Utilization of existing lane shoulders and ROW as much as possible
- With the I-270 project, which we understand is likely to have higher am/pm origin and destination commuter traffic, reversible express lanes as present on I-95 VA and PR-22 in Puerto Rico can be an effective solution, so should be considered
- Due to the project size consideration should be given to splitting it into 2 or 3 segments, not only would this reduce the upfront capital costs but it could also optimize resources and will reduce the total project delivery time

3. Please explain any technical solutions that you may be willing to share that may enhance the development of the potential congestion relief improvements. Identify risks associated with the solutions and, if possible, discuss estimated cost of the solutions.

- **Implementation of Ramp metering systems at road accesses.** Ramp metering reduces overall freeway congestion by managing the amount of traffic entering the freeway and by

breaking up platoons that make it difficult to merge onto the freeway. By managing queues of vehicles, ramp meters also provide for safer merging of vehicles and mitigate potential collisions. The risk of implementing this solution in semi urban areas is that the congestion of the ramps may quickly reach surrounding arterials.

- **Toll setting approach taking into account speed and conditions in both managed lanes and free lanes** to better react to traffic changes. This solution allows instant reaction to traffic conditions based on real time and historical data which permits traffic flow optimization as Abertis has been able to ascertain in Puerto Rico. Furthermore, the measure does not require large infrastructure investments and it is based on algorithms that are constantly updated. The risk around this strategy is the public acceptance to toll changes which may require information campaigns.

D. Contract Structure

1. What is your recommended approach for financing the capital cost of potential congestion relief improvements?

The financing approach should consider certain objectives including:

- Utilization of the most cost effective financing considering the different available instruments
- Minimizing public subsidy requirements
- Maximizing certainty of reaching financial close

To meet such objectives, it will be important to study available sources of capital and utilize a mixed approach considering the following:

- Maximizing use of PABs and/or TIFIA
- Bank debt
- Equity from project sponsors

2. 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?

In projects of this nature, we generally would see the public authority establish a concession term for the project, particularly if a goal is to have the project bid on a highest upfront payment/lowest subsidy basis.

From our experience concession term should be determined once the characteristics of the project are defined. The setting of the term should take into account the amount of investment required, the expected traffic and revenues, the availability, if necessary, of subsidies and the changes in technology that could require a redefinition of the contract terms. It should allow private sector to benefit from refinancing during the course of the concession and maximize concession value. We would be happy to discuss this point with you in person during the one on one meetings.

3. Are there any contract terms you would recommend, such as Alternative Technical Concepts, Alternative Financial Concepts, contract balancing, pre-development 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.

From our experience with concessions globally, we have developed a number of ideas around best practices in this area. We would be happy to discuss these ideas with you in person during the one-on-one meetings.

E. Miscellaneous

- 1. Are there any particular concerns with the information provided in this RFI? Please explain any concerns and provide any proposed solutions or mitigation to address those concerns.**

N/A

- 2. Please provide any suggestion or comments on how MDOT can encourage participation by Minority Business Enterprise/Disadvantaged Business**

We understand this is an important point for this project and for MDOT in general and are open to discussing ways to involve these types of enterprises/businesses in the process.

- 3. What opportunities would you like to see for industry outreach related to these potential P3 opportunities?**

We are happy to participate in the one-on-one meetings as we think this is a good forum for sharing of ideas on the project.

- 4. Please provide any additional comments or questions you may have related to the information in this RFI.**

N/A