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September 28, 2015

Rebecca Harnagel  
California High-Speed Rail Authority  
770 L Street, Suite 620 MS 2

Dear Rebecca Harnagel:

**Re: Submittal of the Expressions of Interest for the Delivery of an Initial Operating Segment**

Plenary Group is pleased to submit its response to the Authority's Request for Expressions of Interest.

Contact information is as follows:

Contact Person:	Dale Bonner, Executive Chairman, Plenary Concessions
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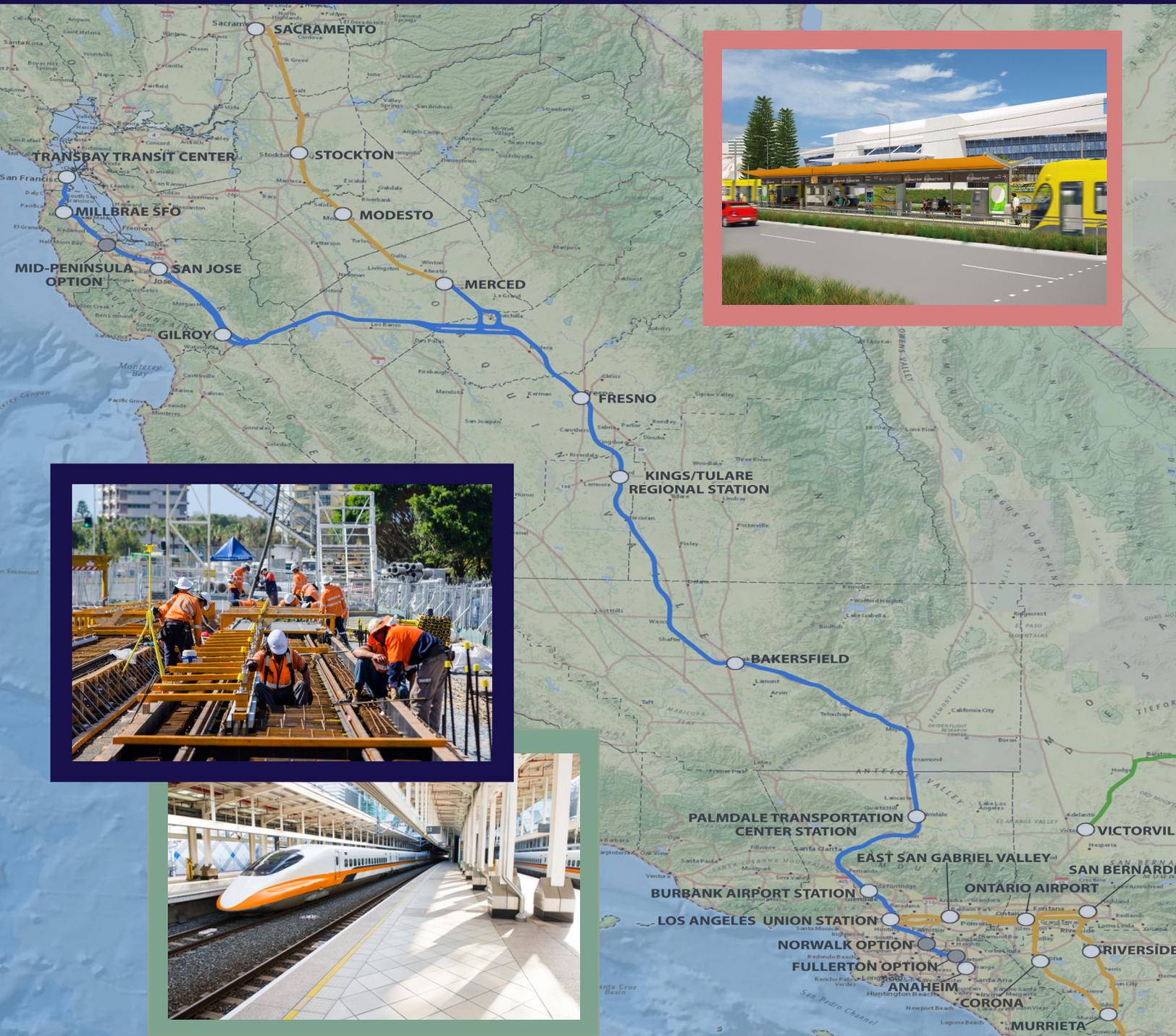
While Plenary Group is responding as an individual entity, we have more fully described our anticipated approach to teaming in our Response.

The Project provides an exciting opportunity to demonstrate California's commitment to bring the most cost-effective and technologically advanced transportation system possible to the Golden State. Plenary Group welcomes the opportunity to be part of this initiative.

Sincerely,  
**PLENARY GROUP**



Dale Bonner  
Executive Chairman, Plenary Concessions



# California High-Speed Rail Authority

Response to RFEI No. HSR15-02

September 28, 2015

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## A. CONTACT INFORMATION

The following provides contact information

Contact Person:	Dale Bonner, Executive Chairman, Plenary Concessions
Address:	Plenary Group 10100 Santa Monica Blvd., Suite 410 Los Angeles, CA 90067
Telephone Number:	(424) 278.2178 (424) 277.7107 (mobile)
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## B. FIRM EXPERIENCE AND TEAM STRUCTURE

*The EOI should include a brief statement describing the Respondent's experience with similar projects and similar services. To the extent that the Respondent is submitting an EOI as part of a joint venture or consortium, then the EOI shall include a description of the proposed team structure, including what strengths and experience each entity brings to the overall team.*

### 1) Experience

Plenary Group (“Plenary” or “Plenary Group”) is a leading international infrastructure developer with large, experienced management teams located in the Americas and the Asia Pacific region. Plenary is active in the Design, Build, Finance and Maintain (“DBFM”) procurement model also known as Public Private Partnership (“P3” or “PPP”) model for essential government infrastructure assets. Our business approach is to maintain long term involvement and oversight of our assets during the development phase, into construction and operations and through the entire term of the agreement. We are therefore the accountable entity for the duration of the DBFM for the client.

With a staff approaching 100 people across four offices in North America, including US headquarters in Los Angeles and an office in Denver, we are one of the largest dedicated, on the ground Design, Build, Finance and Maintain (“DBFM”) developers in North America. By actively managing the performance of its projects with an uncompromising focus on whole-of-lifecycle performance and reduced cost of ownership and operations, governments and public sector agencies look to Plenary as a trusted and authoritative voice for the best manner in which to deliver public infrastructure that meets the needs and aspirations of a community.

With an established track record and a portfolio of projects valued at more than \$24 billion worldwide, we have extensive experience in these roles. Our firm has 22 projects in the construction or operations and maintenance phase across North America alone (35 including Asia/Pacific), and we are positioned as preferred bidder on a number of other projects, with still more currently shortlisted in procurement. The Plenary Group model is to understand the assets in which it invests from a technical standpoint by ensuring it has in house personnel with both design/build and operations and maintenance expertise to actively manage every aspect of the project, in addition to the financial structuring of the deal.

These personnel will be accountable for the Project for the long-term and will bring together teams that represent both the best local and national talent, allowing us to deliver



infrastructure that realizes the vision of our public sector partners. We take a hands-on approach to delivering infrastructure projects and find innovative ways to overcome traditional obstacles.

Plenary has an excellent track record of developing and raising finance for significant P3 projects. Our firm has worked across a wide spectrum of owner needs and project complexity, and we have led five projects requiring financing of more than \$1 billion each. In recognition of Plenary Group's capability and success in developing and raising infrastructure capital, Project Finance Magazine recognized Plenary Group as North American Developer of the Year for 2010. We were also recently ranked as the 10th largest sponsor, globally, of project finance deals for 2011 (by deal size), behind companies such as ExxonMobil (4th) and NextEra Energy (7th). Additionally, Plenary Group was ranked as the 2nd largest global sponsor of P3's for 2011 (by deal size); Best Project Sponsor - World Finance Magazine Infrastructure Investment Awards in 2013 and Best Project Sponsor - North America World Finance, also in 2013. Finally, Plenary was recognized as the "Best Sponsor" for Canada, the US and Latin America by P3 Bulletin in October of 2014, in part for having reached "financial close on six (6) P3 projects across a range of sectors in 2013/2014." In 2015, Plenary was recognized by the P3 market with a number of significant awards, including:

- Global Developer of the Year – Infrastructure Investor;
- Global Deal of the Year – Infrastructure Investor – Northwest Rail Link;
- PPP Deal of the Year – North America – Infrastructure Investor; - Pennsylvania Rapid Bridge Replacement Project;
- PPP Deal of the Year – Asia Pacific - Infrastructure Investor – Northwest Rail Link;
- PPP Bulletin 2015 Best Transit Project (Gold) – North West Rail Link PPP, Australia;

- PPP Bulletin 2015 The Judges Award for Projects Grand Prix Winner - North West Rail Link PPP, Australia

Please refer to <http://plenarygroup.com/about-us/qualifications-and-awards.html> for a more complete listing of awards.

Experience in leading development teams on rail specific projects is evident in the following projects that Plenary Group successfully closed:

#### Gold Coast Light Rail:

The Gold Coast Light Rail consists of 14 vehicles and 16 stations servicing a 13 kilometre route between the Gold Coast University Hospital and Broadbeach; part of one of the fastest growing regions in Australia. This is Queensland's first light rail system and is considered more than just a transport project; it is also a City Building project to support sustainable development on the Gold Coast, reduce congestion and improve connectivity between major activity centers. This AU \$1B (US\$ 700M) project reached operational status in June 2014.

Role: Plenary Group is the project sponsor, including equity investor and financial arranger for the project. Detailed information can be found at:

<http://plenarygroup.com/asia-pacific/projects/gold-coast-light-rail.html>

#### Northwest Rail Link:

The AU\$8.3 (US\$5.81) billion North West Rail Link (NWRL) is Australia's largest public transport infrastructure project. The project, at 36km in length includes trains, systems and operations. It is also the first stage of the new Sydney Rapid Transit network and will be Australia's first fully-automated railway network. The AU\$3.7 (US\$2.6) billion Operations, Trains and Systems Public Private Partnership (PPP) contract – being delivered by the Northwest Rapid Transit consortium – is the largest of the three major contracts awarded by Transport for NSW to deliver the North West Rail Link. The PPP is required to interface with the two other major contracts – a tunnels contract and a viaduct contract, demonstrating experience at integrating a PPP contract within a larger public sector procurement.

Role: Plenary Group is the financial sponsor and capital arranger for the Northwest Rapid Transit consortium; and is an equity investor in the project. Detailed information can be found at:

<http://plenarygroup.com/asia-pacific/projects/north-west-rail-link-ppp.html>

### Waterloo Light Rapid Transit

Plenary Group, as part of the GrandLinq consortium, is delivering, for the Regional Municipality of Waterloo, a rapid transit system that will serve residents in Cambridge, Kitchener and Waterloo, Canada. Stage 1 of the rapid transit system includes 19 kms of tracks, 16 stations and 14 tram sets, on its route from Conestoga Mall in Waterloo to Fairview Park Mall. The Project scope, at C\$ 583M (US\$ 436M) includes 13 Traction Power Substations and the Operations and Maintenance Storage Facility.

Role: Plenary Group is the lead project sponsor, equity investor and financial arranger for the project. Detailed information can be found at:

<http://plenarygroup.com/the-americas/projects/waterloo-light-rapid-transit.html>

### Pennsylvania Rapid Bridge Replacement Project

This Project is the first DBFM / public private partnership to bundle multiple bridges in a single procurement in the U.S. and Plenary's third U.S. project to close. The project will see the accelerated replacement of 558 geographically dispersed and structurally deficient bridges across Pennsylvania in less than 3 years. While this is not a rail project, it is a large civil undertaking across a wide geography, not unlike the California High Speed Rail Project. Under the US\$ 899M PPP contract the Plenary consortium will finance and manage the bridges' design, construction and maintenance during a 28-year contract term.

Role: Plenary Group is the project sponsor, financial arranger, and 80% equity investor. Detailed information can be found at:

<http://plenarygroup.com/the-americas/projects/pennsylvania-rapid-bridge-replacement-project.html>

### Metrolinx East Rail Maintenance Facility

The Greater Toronto and Hamilton Area in Canada, continues to grow at a rapid pace, requiring ongoing expansion of the commuter rail service, operated by GO Transit. The C\$ 858M (US\$ 643M) maintenance facility includes approximately 500,000 square feet of new buildings. The project also includes tracks and storage for thirteen 12-car passenger trains; built-in capacity to store an additional nine passenger trains for future use; stations to repair, maintain, fuel, wash and power GO trains; staff and visitor parking; and sustainable design and construction features.

Role: Plenary Group is the project sponsor, equity investor and financial arranger for the project. Detailed information can be found at:

<http://plenarygroup.com/the-americas/projects/metrolinx-east-rail-maintenance-facility.html>

Additional information on Plenary's experience in DBFM, including information on projects beyond rail projects can be found in our 2015 Business Review at:

<http://plenarygroup.com/assets/publications/BusinessReview2015TheAmericas/index.html>

## 2) Proposed Structure

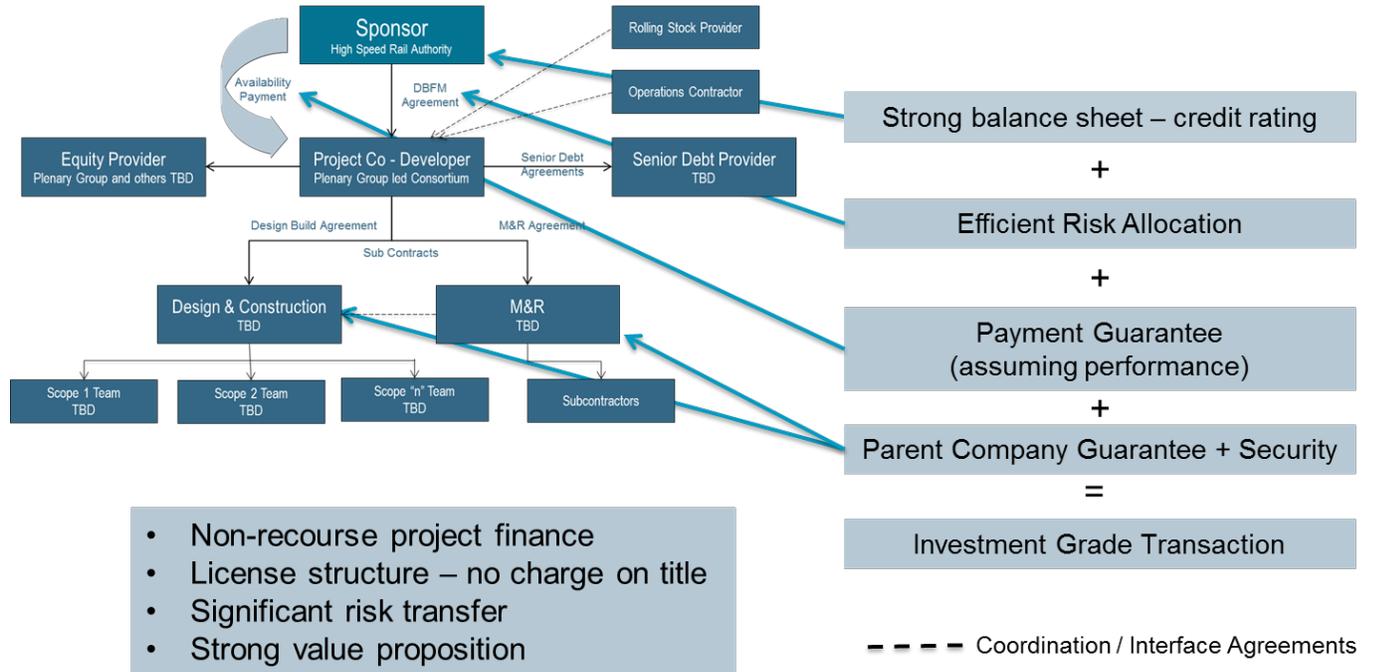
Plenary is not yet teamed with other partners for this Project. Our experience and success demonstrates that a best practice model is for us to better understand the procurement which the client intends to undertake, including scope, size, timing and anticipated risk transfer model before assembling the right team members to deliver the project effectively. Our goal is always to lead a team with a best-in-class design-build partner and to develop an operations and maintenance (O&M) plan based on the specific nature of the Project and, in this case, the requirements of the California High Speed Rail Authority (the "Authority" or the "State"), including possible self-performance by the Project Company and subcontracts for routine maintenance work under a DBFM model.

We have strong existing relationships with the major U.S. based and international civil contractors and designers, with years of teaming experience on both existing P3 projects and existing P3 pursuits in the U.S. Contractors that we have worked with (either bidding or delivery) include Kiewit, Fluor, Bechtel, Walsh, Skanska, Granite, Acciona, Ferrovial and PCL. For this Project, we have had preliminary teaming discussions with a number of potential partners and will be in a position to solidify these discussions and finalize teaming arrangements once the Project delivery method, scope, size and risk transfer models have been confirmed. To do so prematurely may not yield the best team for the Authority's Project.

Based on its best practices and successful pursuits to date, Plenary Group anticipates engaging either as the sole or lead equity investor, financial arranger and project sponsor and would anticipate being the lead developer in the Project, working closely with design builders and maintenance /service providers experienced in this asset type.

Assuming an availability model procurement and contract payment mechanism, the deal structure would likely be based on a risk transfer model that has been used many times in the P3 marketplace around the world and adapted to meet the requirements of the Project. Structurally, we expect it would be based on the following concept (description of each of the structure elements follows the graphic):

ANTICIPATED AVAILABILITY MODEL DEAL STRUCTURE



Availability Model Deal Structure Elements:

- The Sponsor would be the High Speed Rail Authority. Ultimately, the State (or other credit worthy entity) would ensure availability payments are made, subject to performance in accordance with the contract; deductions could be made for non performance;
- The Availability Payment could be structured such that it increases over time, taking into account, for example, anticipated increase in ridership, increases in Cap and Trade (“C&T”) funding, Transit Oriented Development (“TOD”) monetization from independent commercial developers or other revenue sources. However, the payment would be guaranteed by the Sponsor, subject to only performance deductions;
- The DBFM Agreement is the single agreement with the Project Company. It is anticipated that it will contain efficient risk transfer that has been determined to be “bankable” based on precedent P3 transactions;
- Project Co is a single purpose, non-recourse entity, structured specifically for this Project and is capitalized with equity capital;
- Senior Debt Agreements are arranged on the basis of the deal structure. The creditworthiness of the Sponsor, the risk transfer in the DBFM Agreement, the size and tenor of the transaction, the strength of the subcontractors and the performance criteria are all factors reviewed by Lenders (and Equity) to determine the attractiveness of the Project and its financing and associated credit rating, be it gap financing or 100% financing. The certainty of cash flows from the ridership and other funding will be analyzed. Current trends in the P3 market are away from revenue / demand risk

projects due to the cash flow uncertainty creating additional risk and higher cost of capital through lower leverage and therefore higher equity requirements, with investors unwilling to take uncertain revenue risk for some projects, particularly greenfield projects where they would have little control over project economics or issues resulting from, for example, economy, long term demographics and resultant ridership. Governments are recognizing the value of the availability model as a model that provides certainty of contract execution and performance, while incentivizing efficient whole of life decisions.

- Design Build Agreement mirrors the DBFM Agreement for all contractual terms relating to design-build. This allows efficient risk transfer to the party best able to manage DB risks, the DB Contractor. Given the size of the transaction(s), the DB Contractor is likely to be a joint venture formed by a number of contractors;
- M&R Agreement mirrors the DBFM Agreement for all contractual terms relating to maintenance and rehabilitation. This allows efficient risk transfer to the party best able to manage M&R risks, the M&R Contractor;
- Parent Company Guarantees and security provides performance security to ensure the DB and M&R subcontractors remain aligned with the Project interests. This security commits the first tier subcontracts to cost and delivery certainty, high Project quality commensurate with the requirements of the DBFM Agreement and long term operational reliability. In the event the cash flows due to these subcontractors is not timely enough or sufficient for them to meet their Project obligations, the Sponsor and lenders have comfort that the Project can be completed with insurance / sureties taking the risk of delivery;
- Investment Grade Transaction: Utilizing a structure as depicted allows the Project to achieve a credit rating that approaches the Sponsor's credit rating, assuming risks can be efficiently transferred;
- Non-recourse Project financing: While the public sponsor continues to own the entire asset; the Project Company is only entitled to the cash flow committed in the DBFM Agreement, subject to performance deductions, and has no recourse to the Authority for additional costs, commensurate with the risk transfer in the DBFM agreement;
- Coordination / Interface Agreements as depicted by the dotted lines, ensure the various parties, are in alignment to minimize the Project costs and to hold each other accountable for performance so that the Authority does not have to arbitrate differences between the parties to the DBFM arrangement below the Developer;
- Scope 1 to "n" Teams would be local contractors, minority and disadvantaged contractors and others as required to ensure Project obligations can be met. The Design & Construction DB Contractor / Joint Venture is accountable for the performance of these subcontractors, ensuring their success.

Because we have not yet finalized any teaming arrangements for the reasons stated above, we are not in a position to answer several of the technical questions posed in this Request for

Expressions of Interest (“RFEI”); typically, we would defer to our yet to be determined partners to provide that input.

### C. PROJECT APPROACH

*The Authority would like to know whether each Respondent is interested in the IOS-South scope, IOS-North scope, or both, as well as any recommendations for improvement to its delivery strategy. The EOI shall include a description of how the Respondent will approach each project scope and how each approach will meet the goals and objectives of the Authority and the hurdles to overcome to deliver the project(s) on time and on budget.*

*This section of the EOI shall also include any innovative ideas for delivering both projects.*

Developing a detailed response to how the Respondent will approach each Project scope is beyond the scope of a 25 page response to the RFEI. We assume that the Authority will be responsible for providing its concept of operations and priority of execution, given the availability model strategy. Had this been a volumetric risk / toll project, and absent political risk and priorities, clearly the Developer would take a view on the staging of the Project to ensure maximum ridership as early as possible in order to maximize cash flows and returns. For example, we would expect the Los Angeles to Palmdale and possibly to Bakersfield, is likely to have the highest traffic volume immediately. Similarly, the San Jose to Merced segment is likely high ridership volume and would be relatively straightforward to construct given the topography of the area, resulting in lower construction risk and costs. These two scopes could form the “bookends”, generating revenue while the valley development proceeds. The Developer, under the strategy proposed by the Authority, would be under an availability model procurement. Notwithstanding construction has been initiated in the valley, we suggest the Authority, which will have funding risk, may want to consider similar strategies in order to improve its business case, perhaps tying it to a toll approach as we note in the example above.

Further, without engaging a design builder or maintenance services provider, Plenary is not in a position to answer this question from a technical standpoint. However, given what we understand of the Project, having reviewed the Authority’s business plans we offer some insight into the commercial and financial aspects of this question.

On a preliminary basis, Plenary has significant interest in both segments of the Project, be it as one large Project, two scopes (ie IOS North and IOS South), or some other DBFM arrangement. A final decision on our interest in pursuing the Project will be determined once the Authority has formalized its approach.

**As you review our discussion, you will note we express our opinion, based on significant experience in the P3 market, that the Authority’s approach as currently conceived, may not provide the most value for money when compared to other approaches. In this Response to the Request for Expressions of Interest (“Response”) we suggest options for consideration. This is not to suggest that Plenary will not consider the Project if it follows the current**

**strategy outlined in the RFEI, however we believe the bankability of Phase 1 of the Project in its current form is at risk.** Major reasons for this statement, which are more fully developed in the ensuing pages include:

- Funding does not appear to be adequate to fund the entire Phase 1 of the Project, notwithstanding the point that \$500M per year of C&T funds will be available in the near term;
- There are likely to be few teams that could form and be reasonably capable of competing on the Project, given its size. Issues include contractor capacity and performance security requirements to encourage lenders to come forward;
- Potentially inefficient financing terms given the size of the financial commitment required at financial close to provide comfort to the Authority that the private sector will be able to fund the Project. While various strategies can be considered, they may introduce cost of financing risk;
- The labor resource may be constrained, given the significant number of major projects being undertaken or planned in the state, particularly the Bay area to the north and LA in the south. The Authority will be well advised to coordinate its Project schedule with the other entities planning major works

### 1) Approach to the Project

Plenary's approach will be largely determined by the RFQ/P later in the process as the Authority develops its procurement strategy. To this point, we have not determined how we will approach the Project and would only do this once we have a team in place, as the approach will be dependent on the strengths and weaknesses of the team, as well as the Authority's specified program. For example, can the program funding accept an accelerated schedule? Will the Project scope be one large Project, multiple Projects as contemplated in the RFEI, or additional "segmented" projects as we suggest in this Response.

Of critical importance to the Authority, will be the number of teams that could form and compete for the Project. Before any work is started on the Project, including a response to the RFQ/P, be it the IOS North or South, or both, or some other approach, the capacity and ability of any proposed design build team member needs to be carefully considered. The Project will be of a size that the critical factor will be the design build partner capacity. Further, given the size, we believe there will be very few contractors, if any, that will be able to undertake the project on their own, causing issues with the capital markets. A design build joint venture arrangement will most likely be required for any team. Without sufficient design builder balance sheet support, the Project financing will be in jeopardy. A very early teaming decision variable will be the ability of the design build joint venture team member to be able to demonstrate its ability to provide the requisite security and surety bond / insurance package to ensure the underwriters / lenders will be comfortable lending into the Project.

Given the State's procurement policies (e.g., Small and Disadvantaged Enterprise Program), as well as to mitigate completion risks, we will expect the design build team to engage with multiple parallel subcontractors to execute the work. Based on our experience on the Pennsylvania Rapid Bridge Replacement Program, we understand the importance of working with local contractors who have the relationships, understand the community benefit and permitting and development authority requirements. For that project our lead JV of Walsh Construction and Granite worked with many subcontractors to break the work into more manageable pieces that would increase capacity and ensure that local labor was utilized as effectively as possible.

Plans will need to be put in place to address items such as, but not limited to:

- Understanding risks and establishing mitigation plans;
- Overall quality management program. A high level quality policy is outlined in the Authority's 2014 Business Plan;
- Understanding the integration and scope requirements and interface risks between the other components of the Authority's program, such as stations, CP1-4 design builder interface, the Rolling Stock provider, the Operator;
- Understanding the performance indicators for the long term maintenance and operations, as this will impact design and construction. This will need to be an early input into the overall Project delivery, as input received too late can become very expensive to change later. Further, life cycle can be easily impacted if performance criteria are not adequately considered, driving up whole of life costs.

## 2) Other Ideas for Delivering Both Projects

It is incumbent on the Authority to structure this Project in a way that will ensure it can obtain competitive bids under an availability model and be confident that the Project can be completed on time and on budget. The availability model is proven to drive price certain, date certain execution efficiency, while transferring certain risk to the private sector in a way that will provide as much assurance as possible that the Project will not suffer from cost and schedule over runs, a common occurrence on large infrastructure projects executed under a traditional design, bid, build or even design build model.

As was noted above, the Design Build entity will be the scarce resource, and ensuring there are enough of these resources to compete will be a critical factor. An expected outcome for procurement of the entire package as DBFM Project would be:

- Multiple contractors will team up as joint venture ("JV") partners, with the result of one very strong team as the Project size will drive JV partners to ensure they have a competitive advantage. This will potentially leave a void for multiple qualified competing teams to form;

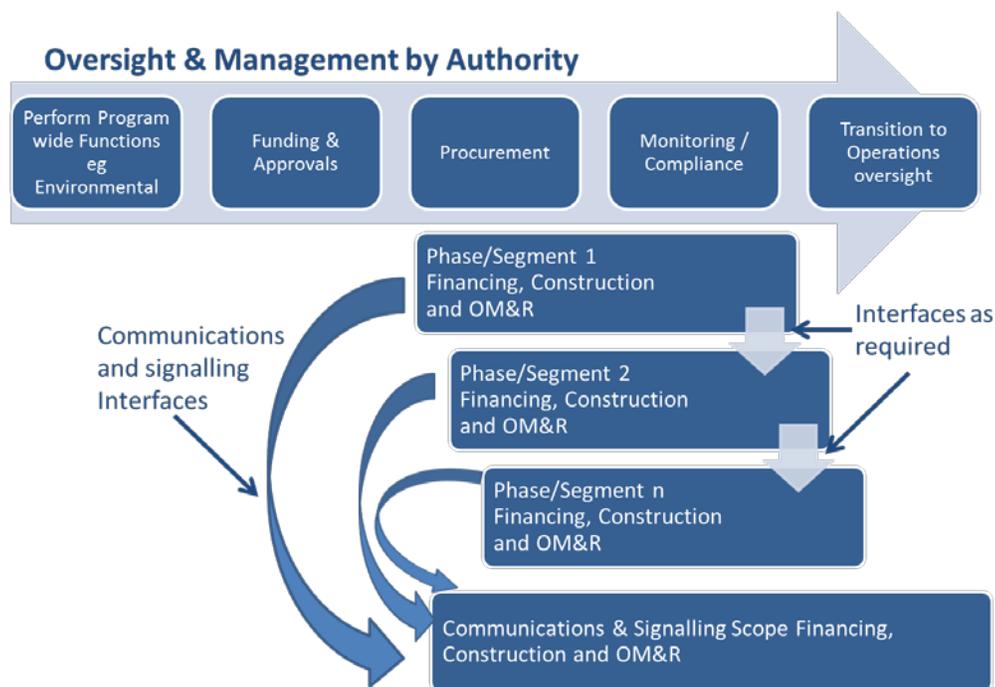
- The JV will operate on a joint and several basis with the result that each JV partner will be taking on the full risk of failure. This is likely to make the surety bond / insurance package either very expensive or not achievable.

Yet, lenders will require demonstration of a very robust contracting structure if the Project is to be financeable. The result is that there could be little competition.

In this Project, there exists a value for money dichotomy. Either:

- One, or possibly two Projects that provide the greatest opportunity for technical innovation and resultant cost savings through the use of outcome / performance based Project requirements, recognizing the lessened competition due to Project size, or;
- A segmented, multiple scope Project that allows increased opportunity for competition due to smaller scopes, process and logistics innovation through learning from best practices on multiple projects. While additional description of the approach, the following graphic lays out the procurement sequence suggested:

FIGURE 1 - MULTIPLE SEGMENT STRATEGY



## D. COMMERCIAL QUESTIONS

### 1) INNOVATION MAXIMIZATION

*Is the delivery strategy (i.e., combining civil works, track, traction power, and infrastructure) likely to yield innovation that will minimize whole-life costs and accelerate schedule? If so, please describe how. If not, please recommend changes to the delivery strategy and describe how those changes will better maximize innovation and minimize whole-life costs and schedule.*

Innovation through whole of life cost optimization during procurement and schedule acceleration will be definite benefits to a DBFM strategy. From a theoretical perspective, maximum innovation will occur when the broadest scope is included in the DBFM, and all issues included in delivery of the Project (schedule, technology, construction methodology, maintenance, operations, financing, etc) can be considered and the best value combination selected through a well coordinated program to minimize the net present cost. Given the Developer will have control over all aspects of a given segment, it will allow them to design and schedule the work to meet an optimum efficiency. It should be noted that the DBFM approach drives not only technical innovation, but process innovation as well. Our experience on the Pennsylvania Bridges project demonstrates that there can be as much or more value for money opportunity through innovative logistics planning for delivering large infrastructure projects. In that PennDOT project, each component was a relatively straightforward engineering and construction project. Yet the logistics of implementing a DBFM strategy for 588 bridges provided value for money that the client indicates is saving taxpayers 20%<sup>1</sup> over the term of the project.

Having stated the “theoretical” aspect of maximizing innovation above, there is also the practical implications. Simply put, the Project would be too large to be bankable as a single Project, be it due to financing, contractor capacity, insurance/surety, etc, or to ensure adequate competition and in that case there may be more merit in separating the different elements of the construction into discipline specific packages – i.e. civil works and electrification being in separate contracts. While this would make the discrete packages smaller and more straightforward there would be an integration risk that would need to be managed, either by the lead developer, supported by risk capital, or the client.

Plenary suggests that the Authority and its advisors study this issue closely. We expect the Authority will be well advised to seek an approach to reduce the size of the packages. We recognize that each reduction may reduce the opportunity for innovation under competitive tension, and may increase interface risk to the Authority, but the ability to obtain multiple competitive bids on smaller packages may more than offset that risk and provide additional value. A simplified overview of this approach is described in the Figure 1 Multiple Segment Strategy in the prior section.

However, regardless of the scope delineation, without the rolling stock provider and operator as part of the team, valuable input is lost and will require the Authority to develop a very robust performance based specification, with operations and train provider expert input. Consequently, we submit that the Authority will be well on its way to delineating the detailed

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<sup>1</sup> From FHWA Innovative Program Delivery website:  
[http://www.fhwa.dot.gov/ipd/project\\_profiles/pa\\_rapid\\_bridge.aspx](http://www.fhwa.dot.gov/ipd/project_profiles/pa_rapid_bridge.aspx)

requirements and from a technical perspective, it is a relatively small step to issue the Project in segments.

## 2) Transfer of Integration and Interface Risk

*Does the delivery strategy adequately transfer the integration and interface risks associated with delivering and operating a high-speed rail system? What are the key risks that will be borne by the State if such risk transfer is not affected? What are the key risks that are most appropriate to transfer to the private sector?*

Yes, the strategy delineated in the Authority's RFEI can adequately transfer integration and interface risk. It should be noted that there exists an integration risk related to the communications and signaling systems across the two IOS Projects, especially if these Projects are done as discrete scopes versus being done by one DBFM team. Further, the two systems could be different systems. There is also interface risk with the rolling stock provider. While each DBFM team will be accountable for its respective IOS, the systems will need to communicate with each other, introducing an element of integration / interface risk. For example, if the systems don't communicate adequately, the interface specification will need to clearly delineate a process for resolution. Or, as one team upgrades its system, it could impact the other system; accountability may be difficult to assess.

Plenary believes that the scenario described in its recommended Multiple Segment Strategy may still provide good accountability and risk transfer with the additional benefit of increased competitive tension. In the scenario we lay out there, which is essentially a strategy for issuing a series of DBFM procurements for segments of overall system, the communications and signaling integration and interface risk between the IOS's will be minimized, at the expense of introducing risk between the communications / signaling systems and each of the DBFM teams for each of the Phased segments described.

We are of the opinion that the multiple segment risk can be minimized, given designs would be based on a standard protocol to which each DBFM team would adhere. Given the standardization for each segment, experience will be gained and risk will be mitigated.

Additional risk that might be introduced under the Multiple Segment Strategy would be interface risk between the various DBFM teams and their respective segments. These risks could include integration and schedule risk. However, we believe these are relatively straightforward issues with minimal impact that can be mitigated through the use of developed performance based specifications that outline the desired outputs, not specific inputs and means and methods. Furthermore, an availability based DBFM provides incentives to the Developers to ensure schedules are met, as financing costs and potentially, liquidated damages ensure alignment with the Authority's objectives.

Similarly, for the maintenance scope, the maintenance services providers are accountable for their respective sections of the Project. A benefit to the multiple segments is that each

segment is a more manageable size, and in the event of performance/default issues, replacement providers are more readily available given they are working on adjacent segments, something on which a lender will want assurances.

The Authority will need to assess the benefits of these smaller, more manageable interface risks against the bankability or default risks inherent in its current strategy of one or two large Projects. The risks under the full IOS bundle strategy will, by their nature be much larger; under the multiple bundles for each IOS, they will be more numerous, but smaller.

Of course, there are other interface / integration risks, but they will be similar under either strategy. For example, interface with station provider; rolling stock integration risk.

### 3) Other Components to be included in DBFOM Scope

*Are there any other components of a high-speed rail system that should be included in the scope of work for each project (e.g., rolling stock, train operations, stations)? If so, how will this help meet the Authority's objectives as stated in this RFEI?*

Clearly, the most efficient risk transfer and technical value would be obtained if the entire procurement could be set up as one Project, as it would minimize integration and interface risk as well as provide the greatest opportunity for technical and financial innovation. We recognize a major objective of the Authority is to have as few contracts as possible, presumably for these reasons. As we point out previously, this may come at a cost, given the limited number of competitors.

Ideally, maintenance facilities and stations could be included in a DBFOM procurement; either as part of the larger scope, or on their own. The Province of Ontario provides a good example of where such component procurements are taking place under a DBFM model as part of the larger objective to provide light rail systems in the Toronto metro region. Refer to our reference projects for Waterloo Light Rapid Transit and Metrolinx East Rail Maintenance Facility in Section B (1). However, for this Project, it appears that procurement for these facilities may be too far along to set up as DBFOM.

Under the Multiple Segment Strategy approach we describe, the stations could be included with each segment, minimizing the integration risk related to the stations. We do understand there may be other reasons for excluding stations; for example, the stations are intended to fall within the purview of the local municipality. While this may make the funding more straightforward, it does raise other issues:

- Who is responsible for maintenance of the station and ensuring it is maintained to the standards expected of the overall system;
- Who is accountable if the local municipality does not perform its obligations, impacting the Developer during either the construction or maintenance phases of the Project.

#### 4) Contract Term

*What is the appropriate contract term for the potential DBFM contract? Will extending or reducing the contract term allow for more appropriate sharing of risk with the private sector? If the Respondent recommends a different delivery model, what would be the appropriate term for that/those contract(s)?*

A minimum contract term of 30 to 40 years is desirable, as that provides sufficient incentives to take a longer term perspective as the Developer makes its technical decisions. Assuming the Authority will make its selection based on the Developer that offers the best “value for money” (ie combination of lowest net present cost (“NPC”) coupled with technical performance criteria), costs will not be based solely on first cost inputs. The longer term drives innovation on two fronts:

- First cost is no longer the only consideration; therefore replacement cycles are considered;
- With maintenance included in the DBFM, the Development team uses maintainability and maintenance efficiency as an input to its decisions.

From a financing perspective, 30 years or longer provides incentive for the long capital market as it allows a favorable matching of payment streams to pension and insurance obligations. The quantum of financing available in the capital markets is not at issue. Rather, the issue is the risk during the construction phase. Once the Project is in a steady state, financing risk is significantly lower, something with which lenders have become comfortable.

We caution, however, against looking to contract terms that may include financing terms that are shorter than the actual tenor of the deal in the hopes of getting more favorable rates and expecting that a refinancing will be at similar rates. The risks associated with mandatory/planned refinancing in a DBFM arrangement include:

- In selecting the optimal financing solution for the Project, the inability to predict or manage credit spreads and margins into the future introduces risk that short-term financing cannot be refinanced potentially putting the Project Company in bankruptcy and requiring lenders and/or the Authority to step in and take over;
- A mandatory refinancing, the central assumption of any mini-perm bank financing solution, would introduce substantial new elements of risk to the Project, with an ever-greater potential for a Project default should reality drift from the assumptions (future credit spreads, etc.) made in the financial model. However, it is impossible to predict future credit spreads and this uncertainty can lead to a default situation. In the event of a default, the Authority would be exposed to a protracted period of uncertainty as all parties look to secure alternate financing or minimize losses. This would require the need to create significant contingency to mitigate this risk. Furthermore, dealing with the number of banks necessary to raise debt financing expected for this Project in the

form of a mini-perm would be challenging. It would also significantly reduce the competitiveness of the solution after taking into consideration the additional time and resources required for negotiating with a large club of financial institutions and the reality of being pushed to the lowest common denominator on terms and pricing in order to find sufficient bank capacity.

From a procurement standpoint, the cost of procuring a DBFM arrangement can be a relatively higher cost proposition compared to traditional procurements, although as the Project size goes up, this is less of a factor. Longer tenors allow these costs to be amortized over a longer term, thereby lowering annual costs.

## 5) Contract Size

*What is the appropriate contract size for this type of contract? What are the advantages and disadvantages of procuring a contract of this size and magnitude? Do you think that both project scopes should be combined into a single DBFM contract?*

We submit that the Project size should be in the range of \$4 to \$5 Billion or less; hence the suggestion for multiple segments. This is still a reasonable size for a DBFM availability model procurement to provide risk transfer and value for money to the Authority. Lenders with whom we have discussed this issue concur.

As we note in our Response above, the design build contractor resources will be the limiting factor. On the one hand, if the scopes increase up to a full IOS segment as currently conceived, or even one DBFM agreement for both IOS's, a certain, limited set of contractors may be able to bid. There will be few, if any, who will provide comfort to lenders ensuring bankability. As the Project bundle size reduces, a different set of contractors can be added to the bidding mix as prime contractors, increasing the field of bidders. This will be to the Authority's benefit as more Developer teams can be assembled, increasing competitive tension and value for money. Conversely, experience indicates that on very large contracts, such as the Port Mann Bridge in British Columbia, or the Tappan Zee Bridge, and other larger projects, a contractor's view of risks can quickly become distorted, resulting in costly contingencies being carried.

Plenary is of the opinion that multiple DBFM's using the segment strategy is a preferred procurement methodology, recognizing the additional integration and interface risks which can be mitigated, as discussed previously. While we note earlier that capital markets might be able to handle project financing of the size noted, additional difficulty will ensue if the financing needs to be completed all at once in order to lock in the rates. The underwriting will require a consortium of underwriters, often with the result that the underwriter with the most conservative requirement drives the solution. A delayed draw strategy is usually used in order to mitigate the construction financing costs. Another approach for consideration for the large Project strategy would be to have the Developers set their financing structure, with only an initial financing amount, with a commitment based on spreads that are pegged to some agreed treasury rate, allowing movement up or down. This places some financing risk with the

Authority with Project benefit of better price competition for debt, as well as reduced construction financing costs. This removes the risk of rate movement for the lenders, yet ensures the Authority has competitive rates.

Given the “all in” nature for a Project with one or two DBFM agreements and high pursuit costs typical of a DBFM, fewer teams may elect to pursue simply because of the pursuit cost risk. With multiple projects, there are more opportunities to win a project. Teams will compete and lessons learned may assist them in becoming more competitive on the next project.

Of paramount importance, the Authority needs to recognize that failure of the Developer under a one Project scenario could cause the entire Project to suffer, making recovery more difficult, particularly in the event the Authority provides significant milestone payments during the course of construction. The London Underground experience may inform the Authority in this regard.

## 6) Teaming Capabilities

*Does the scope of work for each project expand or limit the teaming capabilities? Does it increase or reduce competition?*

Plenary believes the scope of the Project as currently envisioned would limit the teaming capabilities of qualified design build contractors due to its size and resource requirements. In addition, few teams will be able to form in a manner that they can provide performance security that will ensure bankability. The expected result is that there could be very limited competition. Our response above more fully describes this issue and is not repeated here. The Multiple Segment Strategy provides much more opportunity for teaming, and more options for selection of well qualified American teams by the Authority.

## E. FUNDING AND FINANCING QUESTIONS

### 7) Financing Issues

*Given the delivery approach and available funding sources, do you foresee any issues with raising the necessary financing to fund the IOS-South project scope? IOS-North project scope? Both? What are the limiting factors to the amount of financing that could be raised?*

There are a number of concerns regarding being able to finance the entire Project as currently contemplated. If the \$500M per year of C&T funds are available for the Project, be it either the North, the South or both, the individual IOS should be reasonably well funded. However, we believe it will be difficult to finance both, given the size of Project and currently identified funds. Specific issues that will impact the amount of financing that can be raised include:

- As it relates to market capacity, we have conferred with potential lenders/underwriters on total appetite for a potential California HSR financing, inclusive of both the traditional municipal market, assuming some type of private activity bond, as well as some combination of Rule 144(A) and potential private placements. Their feedback was that

there is significant demand for California paper, as it's not unusual for the State to issue billions of dollars in a single sale. For example, the State has sold long term bonds in amounts greater than \$3 billion and short-term notes of up to as much as \$10 billion. While total appetite will depend on the specifics of the financing, such as security source, deal ratings (which will be directly dependent on the strength of the design build contractor and its security package with insurance / surety), etc., they felt comfortable that one could clear in the \$3 - \$5 billion range of Alternative Minimum Tax Private Activity Bonds ("AMT PABs") in a single issuance, depending on criteria such as the rating, security and tenor. As it relates to a taxable 144(A), they felt that the buyers in this market are likely different, and as such another \$1 - \$2 billion at any one time could be sold. The lenders did not anticipate significant cannibalization of investors between this market and a potential municipal PAB issuance, though they did think that spacing out issuances would be beneficial, clearly supporting a Multiple Segment Strategy.

- One could also structure a private placement and look to bank financing Railroad Rehabilitation and Improvement Financing ("RRIF") and Transportation Infrastructure Finance and Innovation Act ("TIFIA") which could further expand the appetite for debt and could be additive to total capacity in the municipal and 144(A) market.
- While the C&T funds have been identified, certainty of access to these funds, both from a timing and quantum perspective would be required. In the event the funds are not available for whatever reason, equity investors and lenders will need comfort that a credit worthy entity (e.g. State of California) will backstop any payment shortfalls. Further, the quantum of funds and the source are treading into unknown territory. Given the strategy of implementing a C&T program, it is unclear what the results might be. Assuming the C&T program is very successful, and carbon emissions are significantly reduced, will the available funds reduce and result in a shortfall for the Project? While we welcome the C&T program, long term (ie beyond 2020) planning on a specific volume may be problematic.
- Potential financing scenarios would include monetizing C&T revenues, which would require management of risks related to uncertainty of this relatively new revenue source. In discussions with lenders, they do think that C&T revenues, which are expected to be deposited into the Greenhouse Gas Reduction Fund ("GGRF") can be securitized, particularly given the Governor's proposal to continuously appropriate 33% of all revenues for the HSR. That said, there is uncertainty related to C&T revenues, notwithstanding the Auction Reserve Price for each allowance, as they will be dependent on both (i) the price of allowances and (ii) the number or allowances that are purchased versus allocated for free (currently 50%). In addition, while AB32 authorizes a market-based mechanism, (i.e., C&T to achieve emission reductions through December 2020), the Governor signed an Executive Order in April declaring, among other things, targets for 2030 and 2050 emissions and ordering the Air Resources Board

("ARB") to update their Scoping Plan for the 2030 target only. It is unclear at this time that C&T has been extended by virtue of the Executive Order or if an amendment to Assembly Bill 32 ("AB32") is necessary. Therefore, in addition to revenue volatility, there is some risk that C&T revenues could sunset in 2020.

- While there are a number of ways to structure a potential financing of GGRF Revenues, to mitigate these risks one alternative that could be considered is a stand-alone GGRF pledge with an appropriation back stop of the State. This appropriation back-stop is relatively rare in the State, but was used for the State's tobacco bonds (the Offering Statement for that transaction is here: <http://emma.msrb.org/IssueView/IssueDetails.aspx?id=EA357461>) There are a number of ways you could look to structure an appropriation back-stop, including a covenant by the State to annually appropriate for debt service/availability payments (essentially providing an appropriation-obligation of the State) or through a debt service reserve fund replenishment feature, whereby the State would agree to annually appropriate for any draws on a fully-funded reserve fund (essentially ensuring that sufficient monies existing each year to pay annual availability payments). While GGRF revenues could still be used as the primary repayment source, the State's appropriation pledge would still be available to cover payments, if necessary. The ability to execute the financing in this way will obviously be highly dependent on the State's willingness to provide this type of support, but a structure like this provides the most risk mitigation (albeit with the greatest impact on the State's own credit and balance sheet). We think that a stand-alone GGRF pledge could also be contemplated, though the ability to fully leverage these revenues would be more limited given future uncertainty and volatility (we would expect investors will demand higher debt service coverage ratios for a stand-alone pledge).
- We note the 2014 business plan forecasts for ridership, operations and maintenance and construction costs, including the recent use of monte-carlo simulations. While the methodology provides some comfort in the forecasts and the integrity of the business plan, there is not a lot of room for contingency.
- Economic downturns such as experienced in 2008/9 and the ensuing years could have a drastic effect on ridership and the overall success of the initiative. Not only will ridership and related revenues be impacted, but we would expect to see a downturn in available C&T funding.
- We wish to re-iterate that the current strategy of two large IOS projects will test the resource capacity of contractors to execute the design build phase of the Projects. As noted previously, the ability to obtain competitive pricing as well as to ensure the design build contractor has sufficient balance sheet and performance security capability will stress the bankability of the Project.

## 8) Changes to Funding Sources

*What changes, if any, would you recommend be made to the existing funding sources? What impact would these changes have on raising financing?*

While we would not necessarily suggest changes to the funding sources other than as noted below, there may be some approaches that would help with the bankability of the Projects, be it either or both IOS's. Consider:

- Could the Project be staged and financing arranged based on that timing, if and when the funding is available. We recognize that one of the Authority's guiding principles is *"that each phase must have independent value; specifically, it must be a usable segment and all funds required for its completion must be identified before construction begins."*<sup>2</sup> This could serve the multiple purpose of keeping the bundles to a manageable size for construction resource competitiveness, construction resource bankability, raising a more marketable amount of financing and constructing the segments in a priority sequence based on ridership and resultant revenue. An added benefit is the reduced cost of construction financing before any revenue generation;
- Regarding the constraint related to financing for a large project, could or would the Authority consider some of form of guarantees or partial guarantees to back stop a percentage of the debt in the event of a Project termination? This would assist with bankability and would reduce the cost of financing.
- What assurances can the State provide regarding availability of C&T funding to allow a reasonable cost of financing.

We note there is little if any discussion in the business plans about the opportunity for revenue from transit oriented developments ("TOD") along the alignment. While this source of revenue should not be included in the DBFM, the State is well advised to engage advisors who may be able to assist in forecasting incremental revenues and real estate values. We recognize this might create some exodus from other jurisdictions, but suggest that there will be incremental revenue from business who want to deploy along the alignment due to increased mobility and quality of life.

## 9) Appropriateness of Availability Payment Structure

*Given the delivery approach and available funding sources, is an availability payment mechanism appropriate? Could financing be raised based on future revenue and ridership (i.e., a revenue concession)? Would a revenue concession delivery strategy better achieve the Authority's objectives?*

Yes, Plenary believes the availability payment model is the most appropriate model. Certainly with the Authority having responsibility for operating the system as well as rolling stock and stations, there would be little appetite for the private sector taking on demand risk. If demand

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<sup>2</sup> Connecting California 2014 Business Plan, April 20, 2014; Section 1: Connecting California

risk was to be a consideration, the additional components of at least system operations, station design, construction and maintenance would need to be included in a DBFOM.

Having the private sector take demand / volumetric risk on a greenfield project, and especially one that is untested in North America, will see significant contingencies and higher cost of financing, if a financing is even possible, given the other resource constraints discussed previously. However, there may be a small element of demand risk (say 10%) that could be transferred to ensure that the successful team performs in a way to drive the revenues.

Further, we discourage a full demand / volumetric risk based model as the Authority should be the entity to set policy related to rates and to control usage demand in order to meet the greater social needs of the State. For example, lower rail travel fares to reduce requirements for air travel between San Francisco and Los Angeles in order to reduce pollution in the metro regions, or to alleviate capacity constraints at the airports.

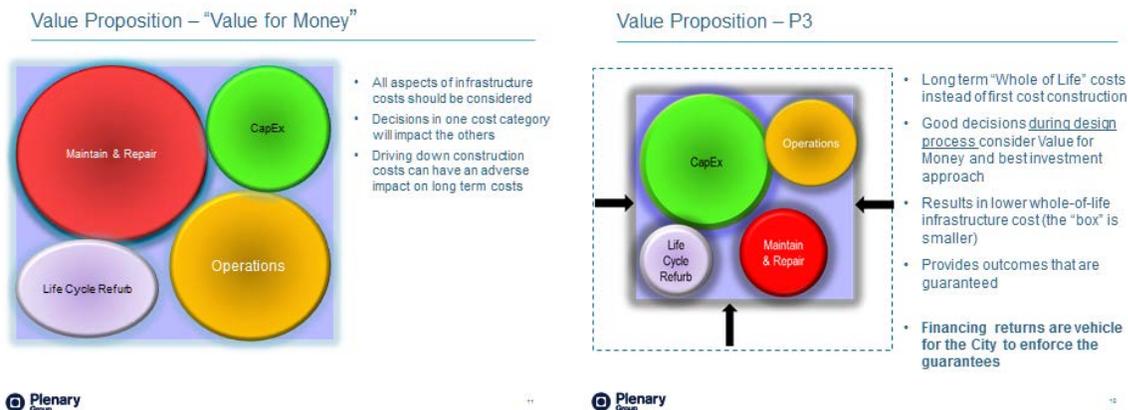
## F. TECHNICAL QUESTIONS

### 10) Reducing Costs and Schedule

*Based on the Authority's capital, operating, and lifecycle costs from its 2014 Business Plan, describe how the preferred delivery model could reduce costs, schedule, or both. Please provide examples, where possible, of analogous projects and their cost and/or schedule savings from such delivery models.*

The efficiencies of a DBFM delivery model are related to the motivation to win and to create an alignment of all members of the Developer team to “put their best foot forward” to ensure a competitive solution based, not on first cost, but on whole of life costs over the time horizon provided by the Authority. The graphics below demonstrate the concept of how an integrated team drives value. Using this graphic, consider the size of the box to be the Net Present Costs (“NPC”) of the Project, with the balloons expressing the NPC of the respective component of the Project. This is the basis on which Development teams compete for a Project. It becomes clear that a lower capital cost (“CapEx”) in and of itself may not provide the optimum solution. Similarly, without involvement of a maintenance and life cycle refurbishment provider at the design table, the design could proceed with an inefficient system that drives higher maintenance and life cycle costs. Using an availability structure, with performance deductions for non-performance according to a set of predetermined key performance indicators (“KPI’s”), the Development team will be penalized if the Project does not operate according to design, if it costs more to operate and maintain, and / or if the KPI’s are not met. This would not be the case if the Development team was not accountable for maintenance and life cycle. The specifics of where the savings are achieved will vary from project to project; it requires a collaborative effort of experienced professionals to maximize the Project value by lowering the NPC of the Project, not just the individual components without regard for the impact to the overall solution.

FIGURE 2 DBFM VALUE PROPOSITION



An example of where savings could be found are in ticketing system capacity, passenger loading and off loading systems, efficient electrical systems; track installation methods and so on. Redundant systems might be installed if they are critical systems as noted by the quantum of a deduction for unavailability. A truly integrated team works together to ensure a system is not over designed, with a resultant high first cost, or under designed resulting in performance failures and down time with resultant performance penalties. Each design element must be considered in the context of the overall Project, not in isolation as is typical in a more traditional delivery method. Another significant driver of value and lowered NPC is reduced schedule and adherence to the schedule resulting in construction cost savings, and earlier revenue streams for the Authority.

Plenary has experienced these efficiencies in each of its P3 / DBFM projects. We refer you to our project portfolio, where the Project Snapshot links to a case study describing, at a high level, how innovation reduced costs for the public sector.

<http://plenarygroup.com/about-us/projects-snapshot.html>

### 11) Unbundling Scopes by Component

*How does this compare to separately procuring each high-speed rail component (i.e., separate contracts for civil works, rail, systems, power separately)? Please discuss design/construction costs, operating/maintenance/lifecycle costs, and schedule implications.*

While we concur that the Authority should find a way to reduce each of the scopes as we note in the Multiple Segment Strategy, we believe procuring by component may add integration and interface risk that is less manageable than scope reduction by useable segment or other horizontal section. We believe a good start for consideration of the Multiple Segment Strategy would be as delineated in the section breakdown in Table 1 or Table 2 of the March 1, 2015

Project Update Report to the California State Legislature referenced previously ([http://hsr.ca.gov/docs/about/legislative\\_affairs/SB1029\\_Project\\_Update\\_Report\\_030115.pdf](http://hsr.ca.gov/docs/about/legislative_affairs/SB1029_Project_Update_Report_030115.pdf)), pages 19 and 20.

The risks that might be introduced in breaking scopes into components:

- Schedule risks due to one component being late and therefore that component's delivery impacting the schedule for other components;
- Components may not integrate well;
- Technical innovation might be stymied, as the interface by component would be predicated on the design of the other component.

In addition, the separate procurements by component will reduce the opportunity to phase the Project by segment in priority to maximize cash flows, improving the net present value of the Project.

On the assumption the Authority proceeds with the two IOS's as Phase 1 per the Authorities current strategy, our recommendation is to do a hybrid for the separate components: the electronic / software based systems that need to communicate with each other and are interdependent could benefit from a single procurement by that component. On the other hand, horizontal sections of track and traction power systems have little in the way of technical challenges relating to interfacing once the design concept has been selected, e.g. what power type, voltage and frequency should be provided for the rolling stock.

With respect to design and construction costs, when comparing this "horizontal" approach (i.e. a system wide discrete component procurement) against a DBFM that encompasses a "vertical" strategy (ie all components for a pre-determined useable segment), the Authority will be accepting the integration and interface risks between the components.

With respect to maintenance, procuring different components, of which maintenance and life cycle is one, there will be less opportunity for true innovation, as there is no commitment from a maintenance provider when another component is procured. The maintenance provider would be "bidding" on what gets built as opposed to providing best value input to lower the NPC and then guaranteeing performance. This is contrasted to the DBFM Value Proposition described in Section 10, where the ramifications for decisions made impact the development team, not the Authority.

From a high level standpoint, our conclusion would be that separately procuring various components such as tracks, or ballast, separate from maintenance of components in the DBFM procurement may not provide best value across the overall Project and will significantly increase the Project risk due to integration and interface issues between various contractors. This is the typical source of cost over runs on mega projects around the world, and is one of the

main reasons the DBFM model was born. The issue is further exacerbated over the life of the Project, with deferred maintenance as is typical on so many government assets.

## 12) Suggested Scope Changes

*For each project, are there any technical changes to the respective scope of work that would yield cost savings and/or schedule acceleration while still achieving the Authority's objectives? If so, please describe.*

As we noted previously, the technology systems (communications and signalling) could be removed from the DBFM scope for the IOS's. It could be its own DBFM. Given the Developer is not operating the system, it has no incentive to install new technology if this would generate operating savings for the Operator. Rather, the Developer is only concerned with the fact that it is meeting its performance requirements. Also, as the Developer does not have rolling stock, renewal of rolling stock by the Authority could have impacts on the Developer's communications and signalling systems; the result is that the Developer will need to be paid for these impacts due to rolling stock improvements.

Because the Project is of a size that one or two DBFM procurements may be problematic, as consideration for unbundling the Project and performing the work in segments and still using the DBFM model, innovation will come from the procurement strategies and process innovation. For example:

- Assuming a Multiple Segment strategy is a viable option, the Authority could then consider segmenting and phasing the options based on best value, including revenue generation. By definition, certain segments will have a better pro-forma than others. The Authority could start with high ridership segments as a priority, generating cash that could be used to fund other segments in the future, either when sufficient revenues are being generated, or when other funding becomes available. This may be more palatable politically as well, as the greater good and more congested areas are addressed in priority order.
- Can the technology systems be removed from both IOS North and South packages reducing the IOS packages somewhat, and bundling the technology into one scope. This would provide the Authority (and the operator) with a consistent operating system. While this may introduce some interface risk between the technology Systems developer and the IOS Developer, that risk is currently contemplated with the strategy as laid out, as both IOS North and IOS South Developers must interface to provide one system for the operator at the Operational Control Center ("OCC").
- Our understanding is that there will be a number of tunnels required along the right of way. While we understand that competing teams may have somewhat different solutions, it may still be expeditious for the Authority to contract directly for the tunnels and provide the tunnel specifications to the IOS North and South Project Respondents

for consideration as they prepare their bids for the IOS packages. Tunnels tend to be a large risk element and contingencies will be significant, with a resultant drag on the value for money. Further, tunnels are a very unique civil scope that includes contractors that may not be able, or want to pursue the balance of the civil works. Hence, separating out the tunnels may increase competition overall, and allow the Authority to make a best value decision on the tunnels and on the balance of the civil works separately. This was done on one of our reference projects, the Northwest Rail Link Project.

- If the technology systems can be procured separately, as noted in the second bullet above, does that then open the opportunity to provide DBFM packages for multiple sections along each of the North and South IOS. For example, the section breakdown in Table 1 or Table 2 of the March 1, 2015 Project Update Report to the California State Legislature ([http://hsr.ca.gov/docs/about/legislative\\_affairs/SB1029\\_Project\\_Update\\_Report\\_030115.pdf](http://hsr.ca.gov/docs/about/legislative_affairs/SB1029_Project_Update_Report_030115.pdf)), pages 19 and 20, might provide a good breakdown for consideration. While the Authority may incur some interface risk between various section providers, there are a number of advantages as outlined in the table below:

Advantages	Disadvantages & Possible Mitigation
Ability to “time” the procurement to suit funding, ridership demand, available resources, governmental policies, construction capacity	Program could change based on government policy part way through the program
Guaranteed performance over the term of the DBFM Agreement through the availability payment structure	None, provided the deal is structured appropriately and individual bundle interfaces are clear
This approach mitigates risk of the entire Project suffering from potential delays or other problems by having a “portfolio” of projects	The technology systems contractor would be required to work with multiple teams
Multiple construction contracts will generate more competitive tension. In addition, if a team is unsuccessful in its bid for a project, it will be motivated to bid more aggressively on the next opportunity	Interface between construction contractors will be complex and will need consideration. This can be mitigated with date certain delivery driven by the availability-based deal structure; the private sector will be motivated to complete on time and to the requirements set in the procurement documents

Advantages	Disadvantages & Possible Mitigation
<p>Each subsequent bidding package could become more competitive as Respondents learn from the prior experience and best practices that get shared as teams form for the different packages as opposed to for the entire Project</p>	<p>Multiple packages will increase cost of procurement. The Authority is afforded the opportunity to develop a standard set of documents, thereby mitigating the procurement costs.</p>
<p>Shrewd considerations for the packages to be procured will drive best selection for the Authority. For example, the best Technology system solution might not be part of the winning bid for an overall DBFM package because other aspects of the bid were not competitive or best value. But if the technology was procured as its own DBFM, the selection can be made on best value for that discreet component.</p>	<p>Interfaces could be complex if system wide technology is procured with the individual bundles. The Authority will require technical resources to design the interface specifications</p>
<p>With an availability based structure, there should be little impact from one project on the other. i.e. if one section is having performance issues, the non-availability impacts the Authority, not the other project. The Authority is made whole through the payment mechanism performance deductions.</p>	<p>Potential interface issues with operations as one private team blames the other for impact on its performance</p>



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