PORT AUTHORITY NY NJ

AIR LAND RAIL SEA

REQUEST FOR INDUSTRY FEEDBACK

PORT AUTHORITY BUS TERMINAL REPLACEMENT PROGRAM

October 18, 2021

Dear Respondent:

The Port Authority of New York and New Jersey is issuing this Request for Industry Feedback ("RFIF") to continue our dialogue with our region's architecture, design, engineering, and construction industry regarding the Port Authority Bus Terminal Replacement ("PABTR") Project, and to garner responses from our industry partners regarding on specific issues related to the PABTR.

The questions in this RFIF are focused on various topic areas. We encourage Respondents to consider and respond to those questions they feel best placed to respond to. Our expectation is that there will be few firms that are qualified to respond to all questions in this RFIF, and that there will be differing perspectives from different industry participants. We encourage this diversity of perspective. We ask that responses to the RFIF questions be candid, concise, informative, and to the extent possible, based on current and past projects or observations of related industry best practices. Respondents may certainly, however, proffer new and innovative approaches. Respondents should use the RFIF response template below to provide their responses to this RFIF.

The Port Authority has transitioned to an entirely digital submission process for the receipt of RFIF responses using the Bonfire platform, located at the link below.

Respondents must register and create a free Bonfire account at the provided link in order to log in and download the RFIF and associated information, and in order to upload responses. Registration on the Bonfire platform requires a registration that is separate and distinct from all other Authority software platforms.

The Authority shall accept only those responses in electronic format for which the submission or modification is completed at the time of the RFIF Response Due Date. **Responses will be accepted by upload only, at https://panynj.bonfirehub.com/portal/?tab=login and must be uploaded and received by the Authority no later than 2:00 p.m. Eastern Standard Time (EST) on Thursday, December 2, 2021.** Emailed submissions, hand deliveries and mailed deliveries (e.g., UPS, USPS) will not be accepted.

Responses must be uploaded, submitted, and finalized prior to the RFIF Response Due Date. Respondents are strongly urged to allow sufficient time of at least one (1) day prior to the RFIF Response Due Date to begin the uploading process and finalizing the Response submission. Respondents will receive an email confirmation receipt with a unique confirmation number once a Response submission is finalized.

Respondents will be permitted to submit modifications to Responses or withdraw previously submitted Responses electronically up to, but not after, the time of the RFIF Response Due Date.

Firms that have questions regarding the RFIF or how to access Bonfire may contact Megan Connors via email at meconnors@panynj.gov.

Respondents should note we may also hold one-on-one meetings or host an open forum with our industry partners to solicit additional open feedback.

We thank you for responding to this RFIF.

Response to Request for Industry Feedback

Port Authority Bus Terminal Replacement Program

Submitted by: [FIRM]

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RESPONDENT PROFILE	
Firm Name:	
Industry or Specialty:	
Firm URL:	
Address:	
City, State, Zip:	
Respondent's Representative and Contact Information:	
Description of the Firm:	

1. PROJECT DELIVERY MODEL

The Port Authority recognizes that there are many potential project delivery methods (e.g., Design Build (DB), Public-Private-Partnerships (P-3), Bid-Build (BB), Integrated Project Delivery (IPD), and any combination or variation thereof) to delivery elements of the Port Authority Bus Terminal Replacement (PABTR) Project (the Project). The Project Components or potential sequences for the Project include Dyer Deck-Over C & D, Intercity & Storage and Staging Facility (West Adjunct) and Ramp Structure, Main Terminal and Intercity & Storage and Staging Facility (West Adjunct) Conversion, and Complete Towers Construction. As such, the Port Authority is currently considering the following the project delivery methods for different Project Components:

- DB for Dyer Deck-Over C & D,
- DB for Intercity & Storage and Staging Facility (West Adjunct) and Ramp structure,
- DB for Main Terminal, and Intercity & Storage and Staging Facility (West Adjunct) Conversion,
- Developer Agreement to design and build Towers 1 & 2, Main Terminal and Intercity & Storage and Staging Facility (West Adjunct) Conversion. This agreement may include the ground lease(s) for private development of the mixed-use towers above the terminal. Bus Terminal operations will remain with the Port Authority during and after the construction.
- Or other combination of agreements to complete the Project Components.

Q1. Project Delivery Methods

Based on the Project Briefing Book, please provide your opinion on the applicability of various delivery methods for the Project Components. Suggest alternative project delivery methods for the Project Components that would provide the optimum level of risk sharing between the Port Authority and the contractor.

[Response]

Q2. Project Packages

As described in *Section 1.2 – Project Summary* and *Section 7 – Project Sequencing* in the Briefing Book, the Port Authority is considering dividing the Project into multiple packages.

a) Based on your experiences, lessons learned, or case studies, what would be the most efficient way to package the multiple components of this Project?
b) If this Project is segmented into multiple component packages, please describe the priority objectives in determining the size and scope of contract packages, including: (1) geographically; (2) lead construction trade; (3) construction staging; (4) construction sequencing; (5) trade interfaces; (6) system integration; (7) credit support capacity availability; or (8) other priority.
c) Should segmenting the Project into multiple component packages be a consideration? Please provide an explanation for your response.

[Response]

2. BONDING AND INSURANCE

The Port Authority is anticipating receiving Federal Funds for certain elements of the Project Components (excluding the private developments), as such bonding may be required.

Q3. Financial security

In lieu of 100% payment and performance bonds, what other forms of financial security could be available to the contractor for the different Project Components?

[Response]

3. EARLY WORKS

As described in Section 7.1 – Proposed Components/Elements Sequencing in the Briefing Book, the entire construction (i.e., Dyer Deck-Over C & D, Intercity & Storage and Staging Facility (West Adjunct), Ramp Structure, and Main Terminal) will be phased over an eight-year period to minimize impacts to bus operations, passengers, and the local community. The Port Authority is considering the possibility of expediting parts of the Project (Early Work) to mitigate construction impacts and minimize the schedule. As an example, the Port Authority is currently considering delivery of an early work package to construct Dyer Deck-Over C & D.

Q4. Early work packages

What early work packages do you recommend that will monitor all nearby surface modes of transportation (e.g., cars, buses, pedestrians, bicycles), mitigate traffic congestion during construction, and ensure that customer disruptions are minimized? Please describe of the benefits associated with any proposed early work packages.

a) Are there early work innovations or transportation technologies that should be leveraged as part of a monitoring and transportation management program?

b) What metrics are suggested for determining what additional early work packages to pursue (e.g., impacts to pedestrians, impacts to traffic, cost)?

[Response]

Q5. Construction staging methods for the Dyer Deck-Over C & D

In 2019 (pre-Covid), more than 18 million vehicles passed through the Lincoln Tunnel in the eastbound direction. All of these vehicles use either the South (eastbound only) or Center (bi-directional) tubes of the Lincoln Tunnel and followed a route that will pass under the proposed Dyer Deck-Overs. (The North tube is dedicated to Westbound traffic.) Given the high traffic volumes, the South and Center tubes can never be closed at the same time; one tube must always be open to accommodate eastbound traffic. Additionally, the work hours which will be provided to construct the Dyer Deck-Overs are expected to be very restrictive due to the high traffic volumes. Based on these constraints, please provide recommendations for the most efficient methods of construction for the Dyer Deck-Over C & D.

[Response]

4. DEVELOPMENT PLOTS

The Port Authority proposes to utilize private development on Port Authority properties in the vicinity of the Project, consistent with present as-of-right zoning to support the Project. The sites include approximately eight million square feet of development rights. The Port Authority currently envisions the private developments being constructed as four towers; however, industry input on other possible scenarios for constructing these developments will be considered

A description of the currently envisioned private developments can be found in *Section 4.4 – Private Development* of the Briefing Book. The Port Authority would like input on:

- Private development building locations, massing, and design based on market conditions and development feasibility
- Integrating construction and operations into that of the public improvements at the Main Terminal, Intercity & Storage and Staging Facility, and Ramp Structure
- Optimal deal structure

Q6. Development sizes and combination

Currently, the Port Authority is envisioning four (4) co-located hi-rise buildings amounting to approximately eight million square feet (SF).

- Tower 1: Up to 3 million SF, +/- 90 floors, commercial
- Tower 2: Up to 2.0 million SF, +/- 50 floors, commercial
- Tower 3: Up to 900 thousand SF, +/- 65 floors, mixed-use
- Tower 4: Up to 2.3 million SF, +/- 80 floors, commercial

Based on market demand, construction feasibility, and the necessity to coordinate construction, operations, and access of the private developments with the public improvements (without accounting for the need for Project funding), are the development sizes and combinations indicated above appropriate? Please provide an explanation for your response.

[Response]

Q7. Development Contract Alternatives

The Port Authority is currently considering the process and structure for awarding contracts for Ramp Structure, Intercity & Storage and Staging Facility (West Adjunct), and Main Terminal. These contracts may also include the construction of foundations for any towers that top the facilities. The contracts may also bundle the ground leases for the towers with the development contracts.

a) Would you consider it appropriate for the developer to design and build the proposed towers along with facility buildings? Why or why not? How might you envision structuring bundling development agreement and long-term ground lease(s) for the towers?

b) The Port Authority is anticipating tower podiums to be integrated into the construction of the Main Terminal, which is expected to take four (4) years. How would a developer best integrate the design and construction of the tower foundations into the Main Terminal without adverse schedule or operational impact?

[Response]

Q8. Development Staging

Section 1.2 – Project Summary and *Section 11 – Preliminary Timeline* in Briefing Book describe proposed Project Components and timing, respectively.

a) What is the optimal timing for developer involvement in the design process of the Project Components of the Project?

[Response]

Q9. Main Terminal and Towers 1 & 2 interface

As a result of bus terminal operations, Towers 1 and 2 will have building access on the ground floor but will not have public access on floors two through five. What, if any, are the impacts of this arrangement?

[Response]

5. REVENUE SOURCES

As described in *Section 4.4 - Private Development* in the Briefing Book, the Port Authority is interested in innovative opportunities to generate and/or capture additional revenue to support construction and/or long-term maintenance and operation costs.

Q10. Revenue sources

In addition to the development revenue, which revenue sources below would be attractive? Please provide an explanation for your response.

a) Naming rights
b) Interior advertisement (e.g., static and digital signage, activations)
c) Exterior signage (e.g., static and digital billboards)
d) Bus Terminal retail (e.g., kiosk, storefront, concession)
e) Sponsorship
f) Other

[Response]

6. GEOTECHNICAL INFORMATION – SUBSURFACE GEOTECHNICAL CONDITION

The Port Authority recognizes that due diligence and risk allocation regarding geotechnical conditions are important factors in the successful procurement and construction of the Project. The Industry Information Session will describe geotechnical due diligence work undertaken so far.

Q11. Subsurface Conditions

The Port Authority will provide as Available Documents all Port Authority historic soil boring information for the current PABT. The information will be provided in the form of AutoCAD boring location plans and Port Authority Soil-Log Drawings (SL-Dwgs.). SL-Dwgs. present boring logs for each boring that show ground surface and water level elevations, soil classifications, sample blow counts, water content, and rock core data.

a) What, if any, additional information, or steps are required for interested respondents to accept unknown ground condition risks different from the available Port Authority historic information. Please provide recommendations on the approach to ground conditions, including recommendations for a scope of work for a subsurface investigation and in situ and lab testing program to determine soil profiles, water levels, bedrock profile and quality, and parameters required for seismic design. Provide your experiences and recommendations relative to subsurface BIM modeling as part of a bid package.

[Response]

7. MANAGEMENT AND DESIGN

The construction Program Management Information Solution (PMIS) for capital projects currently utilized by the Port Authority is E-Builder.

Q12. Management

The construction Program Management Information Solution (PMIS) for capital projects currently utilized by the Port Authority is E-Builder.

a) What advantages and disadvantages do you see using this particular PMIS? What alternate PMIS would you recommend and why?

[Response]

Design-Technology

The Project would incorporate state-of-the-art technology with predictive analytics in its design to deliver a world-class facility. State-of-the-art infrastructure technologies monitoring vertical circulation of people and elevators/escalators, HVAC, bus locations, bus operations, bathroom cleanliness, pedestrian circulation, and other metrics would feed data into system for the purposes of using Artificial Intelligence (AI) to optimize the health, operational efficiency of the infrastructure, and deliver a world-class customer experience in the future bus terminal. The Port Authority is interested in building AI capability during construction in order to deliver capabilities such as: forecast future demands, optimize on-time-arrivals and gate assignments, provide virtual customer journeys and improved pedestrian routing, deploy autonomous services within the facility, and implement virtual customer service such as chatbots. The AI system would contribute to the management of the facility by minimizing life cycle costs and maximizing operational efficiencies to provide best-in-class customer experience. More details on AI can be found in *Section 6 – Artificial Intelligence Technology* in the Briefing Book.

Q13. Technology innovations

Describe technology innovations and programs that would provide value to the Project. (e.g., bus staging operations density, signage, wayfinding, improved customer experience for all customers including persons with disabilities, electric vehicle charging). How can technology be leveraged to deliver exceptional customer experiences both during construction and in the future state?

[Response]

Q14. Enhanced demand management

Provide examples of how technology might be used to enhance demand management for bus riders during construction (e.g., providing travel time information by alternative commute modes).

[Response]

Q15. Systems Engineering Describe your experiences with systems engineering and implementing complex technology deployments?
[Response]
Q16. Experience Deploying AI Technology Describe your experience deploying AI technology to maintain construction schedules while optimizing safety and facility operations, and/or minimizing environmental impacts such as air quality, noise, and congestion.
[Response]

Q17. Design and Construction Innovation

What areas of design and construction innovation (e.g., use off-site construction techniques, integrated BIM, Enterprise asset management) might the Port Authority expect to see on the development for the Project? provide examples based on the Qualified Respondent's experience, and other relevant market examples, if possible.

[Response]

Q18. Potential future autonomous vehicles

How do you envision incorporating potential future Autonomous Vehicles (AV) in a large mega transportation project?

a) How would your firm "future proof" the Project to accommodate AV's and other emerging or future technologies? How would you include incorporating AV's into design and construction? Please provide example(s) and if possible key lessons learned from any projects, you have been involved with to date.

[Response]

8. SUSTAINBILITY

The Project will incorporate state-of-the-art technology that will contribute to its overall sustainability in the design and operation of all Project Components: the vision for the Project is “net zero,” defined by the US Department of Energy as “an energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy.” Standards such as Leadership in Energy and Environmental Design (LEED) Zero Carbon, LEED Zero Energy, LEED Zero Water, and LEED Zero Waste can be referenced. This approach is consistent with Port Authority policies at its facilities; for example, the Port Authority has set ambitious greenhouse gas reduction targets aligned to U.S. and global goals and is implementing an all-electric bus fleet (unrelated to the PABT) for regular shuttle service at its airports. Further, the Port Authority is also implementing a Clean Construction Program at all facilities, one of the most ambitious programs of its kind among U.S. transportation agencies, that will reduce carbon emissions throughout the design and construction processes. More details can be found in *Section 5 – Sustainability* in the Briefing Book.

Q19. Emerging Technology

What electric vehicle charging infrastructure would support the all-electric fleet vision of this Project? How might the rapid change in technology impact the design of the building?

[Response]

Q20. Alternative Energy

Describe how we might implement on-site alternative energy generation/capture (e.g., wind, solar, geothermal, hydro, electric, energy harvesting, energy storage)?

a) How have alternative energy generation solutions or energy harvesting methods been used on comparable projects?
b) Are you aware of any projects located in close proximity to the PABT that have successfully implemented geothermal, or are there other planned proximate developments that, along with PABT, could be off-takers for district-scale geothermal?
c) What other alternative energy technologies or solutions would you consider for this Project?
d) What Internet of Things and AI opportunities do you see related to building systems and operations like lighting, waste management, heating/cooling, and air quality monitoring?
e) What technologies have you deployed to ensure that building systems and equipment have the lowest possible overall energy consumption?
f) Are you familiar with local/regional building standards and requirements related to sustainability, such as New York City Local Laws 92-97; what experience do you have demonstrating how buildings can meet these standards?

[Response]

Q21. Repurposing Existing Materials

What opportunities do you see for repurposing existing materials (e.g., concrete, steel) or portions of the current structures to improve cost/schedule or for sustainability? Please describe what the benefits would be.

[Response]

Q22. Emission Reduction

What opportunities do you see for reducing emissions related to construction equipment, transportation of construction materials, and use of low-carbon materials? What are the relative costs and savings of these opportunities?

[Response]

9. CONSTRUCTION

As described in *Section 4 – Major Project Elements*, *Section 7 – Project Sequencing*, and *Section 8 – Project Constraints* in the Briefing Book, the Port Authority has identified five top areas of focus during construction:

i. Management and control of delivery and support vehicles approaching and crossing the site perimeter. Parking, waiting to access the site, and temporary use will be limited without prior arrangement.
ii. Phasing/staging between construction work areas and operational spaces.
iii. Management and control of pedestrian movements near work areas and controlled/restricted areas.
iv. Management and control of workers and contractors in staging areas and the worksite.
v. Effective use of cranes or other method of material lifts in congested areas with limited staging area outside the perimeter of the established worksite.

Q23. Constructability Feedback

Provide constructability feedback on the proposed schematic design concept of phasing Dyer Deck-Over structures, utilizing the Intercity & Storage and Staging Facility (West Adjunct) for construction period bus operations, the Main Terminal, and the future high-rise developments.

[Response]

Q24. Alternative construction operation strategies

The Project is located in a densely populated and congested urban area with limited access to street for delivery, staging and closure.

a) What alternative strategies or equipment for moving materials (e.g., gantry cranes, temporary elevated walkways, barging operations, laydown/staging areas) should be considered due to the constraints of the site and the need to maintain bus operations during construction?

[Response]

Q25. Innovative Solutions and Digital Technology

What innovative solutions and digital technology for schedule improvement could be applied to construction techniques such as modular?

[Response]

Q26. Foreseeable constraints

Discuss foreseeable constraints (and possible solutions) arising from additional active mega projects located in the vicinity, such as:

a) Penn Station South Expansion
b) Gateway Hudson River Tunnel Program
c) Expansion of High Line
d) Expansion of riverfront parkland within Hudson River Park
e) Related – Hudson Yard City Center Development
f) Any other mega project in this area

[Response]

10. COMMUNITY IMPACT

The Port Authority anticipates that prospective bidders will need to demonstrate the ability to deliver projects in design, construction, operations, and maintenance with a culture of embracing community and environmentally responsible behavior. As described in *Section 3.1.b – Operations* in the Briefing Book, the Port Authority has identified a phased approach to the construction of the Project that will minimize disruption to the host community and commuters. As described in *Section 5 – Sustainability* in the Briefing Book, the Port Authority will seek to maximize the use of electric-powered buses (i.e., low or zero-emission buses) to reduce emissions in the Replacement Facility and the community.

Q27. Mitigate community impact

What alternative construction strategies can help to mitigate community impacts?

[Response]

Q28. Community Service Interaction Opportunities Based on past experience and lessons learned, what are some community service interaction opportunities that can benefit the Project?
[Response]
Q29. Engage community opportunities What job engagement opportunities are anticipated to be available for the community?
[Response]

11. CUSTOMER EXPERIENCE

As described in *Section 14 – Customer Experience* in the Briefing book, the entities must focus on the customer journey and customer experience (CX) in all planning, design, construction, fabrication, installation, testing and commissioning of the Project. The Project should be a complete and integrated system that enables customers to consistently have world-class experiences in a world-class facility.

Q30. Experience in large public transit facilities

What customer experience public transit facility best practices do you recommend? Please share any best practices associated with designing, constructing, operating, and maintaining a transit facility that prioritizes CX as an enabler of exceptional customer experience.

[Response]

Q31. Tech-Enabled Wayfinding

Describe how a seamless tech-enabled wayfinding can be utilized and implemented across all customer touchpoints:

a) Within the facility
b) Area surrounding the PABT
c) During construction and transition phases of the Project
d) Other modes of micro-mobility

[Response]

Q32. Real-time Communications How can seamless real-time communications with customers throughout the journey be enabled?
[Response]