

# Phase II Report

Presented to:

The Special Committee of the Board of Commissioners of  
**THE PORT AUTHORITY** OF NY & NJ

September 2012

Presented by:

**NAVIGANT**

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## I. EXECUTIVE SUMMARY

- ✧ *With revitalized Agency leadership, the establishment of a foundation of Key Operating Principles, thoughtful corporate governance and organizational design modifications, meaningful operating improvements are underway*

The Port Authority is in the midst of a significant transformation. The Board of Commissioners, including the recently appointed Chairman and Vice Chairman, the Executive Director, and the Deputy Executive Director, are individually and collectively taking a proactive approach and are evidencing the resolve to drive change at all levels within the organization. If properly implemented, this change will help the Agency rid itself of years of inefficiency. Nevertheless, the challenges and opportunities of the Port Authority over the next 10 years are enormous, including:

- Prioritizing, funding, and effectively executing over \$11.4 billion in deferred capital projects that are not presently included in the \$26.9 billion preliminary 2011 – 2020 Capital Plan but are necessary for the cost effective operation of the Agency's assets;
  - Funding, without direct return, the public benefit of continued investment in commuter rail and maritime transportation systems (*i.e.*, PATH and Port Commerce), that are central to the movement of people and goods, yet, absent federal or state subsidies commonly received by sector peers, represent business models with projected ongoing materially negative cash flows;
  - Completing the WTC Program, a project of national significance and regional economic vitality, within its estimated cost and maximizing cost recovery; and,
  - Seizing the momentum of recent governance changes and organizational design improvements to successfully implement a variety of performance improvement initiatives.
- ✧ *Over the past five years, the Aviation line department has been the only positive free cash flow contributor to the Port Authority but now has some of the largest upcoming capital expenditure needs. In addition, the Interstate Transportation Network's (Tunnels, Bridges and Terminals, PATH and the Ferry Service), ("ITN"), operating cash flow is insufficient to cover its own capital expenditure needs*

Aviation and ITN combined with Port Commerce and expenditures for economic and regional development produced approximately \$700 million in free cash flow over a five year period ending in 2011, which amounts to an average of approximately \$140 million per year. This figure is well below the sums required to fund critical line department capital projects that have been deferred or limited because of capital constraints of the Agency.

- ✧ *The toll increases scheduled to go into effect over the next three years are necessary to meet the funding requirements of the Port Authority's Preliminary 2011 – 2020 Capital Plan presented below, and combined with the pursuit of further non-toll, non-fare, revenue enhancements, as well as Agency-wide cost structure improvements, will be critical to maintain ongoing transportation infrastructure in a "State of Good Repair"*

Table 1 – Preliminary 2011 – 2020 Capital Plan, by Year

| (\$ billions)                                   | 2011   | 2012     | 2013     | 2014     | 2015     | 2016     | 2017     | 2018     | 2019     | 2020     | Total    |
|---|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Capital Plan + Incremental WTC Costs (\$27.8B): | \$ 2.9 | \$ 4.0   | \$ 4.6   | \$ 4.3   | \$ 3.0   | \$ 2.3   | \$ 2.2   | \$ 1.7   | \$ 1.4   | \$ 1.5   | \$ 27.8  |
| <b>Base Case:</b>                               |        |          |          |          |          |          |          |          |          |          |          |
| Capital Capacity:                               | \$ 2.9 | \$ 4.0   | \$ 4.6   | \$ 4.3   | \$ 3.4   | \$ 2.7   | \$ 2.7   | \$ 2.1   | \$ 1.9   | \$ 2.0   | \$ 30.4  |
| Excess / (Shortfall):                           | \$ -   | \$ (0.0) | \$ (0.0) | \$ (0.0) | \$ 0.4   | \$ 0.4   | \$ 0.5   | \$ 0.4   | \$ 0.5   | \$ 0.5   | \$ 2.6   |
| <b>Cumulative:</b>                              | \$ -   | \$ (0.0) | \$ (0.0) | \$ (0.1) | \$ 0.3   | \$ 0.7   | \$ 1.2   | \$ 1.6   | \$ 2.1   | \$ 2.6   |          |
| <b>Downside Case:</b>                           |        |          |          |          |          |          |          |          |          |          |          |
| Capital Capacity:                               | \$ 2.9 | \$ 3.9   | \$ 3.4   | \$ 3.3   | \$ 2.4   | \$ 1.3   | \$ 1.8   | \$ 1.7   | \$ 1.4   | \$ 3.5   | \$ 25.6  |
| Excess / (Shortfall):                           | \$ -   | \$ (0.1) | \$ (1.1) | \$ (1.0) | \$ (0.6) | \$ (1.0) | \$ (0.4) | \$ -     | \$ -     | \$ 2.0   | \$ (2.2) |
| <b>Cumulative:</b>                              | \$ -   | \$ (0.1) | \$ (1.2) | \$ (2.2) | \$ (2.8) | \$ (3.8) | \$ (4.2) | \$ (4.2) | \$ (4.2) | \$ (2.2) |          |

The Port Authority's preliminary 2011 – 2020 Capital Plan of \$26.9 billion grows to approximately \$27.8 billion once the incremental WTC costs (EAC of \$14.8 billion) are added to the Preliminary 2011 – 2020 Capital Plan. **Table 1** examines two scenarios, including the Base Case and Downside Case. The Base Case is the current Port Authority forecast. The Downside Case is the Port Authority Base Case modified in coordination with the Agency's Finance staff to include considerations for volume declines and softening of the economic environment. In these situations, the Base Case shows capital capacity availability to fund a portion of the deferred projects mentioned in the Report. In the Downside Case, however, capital capacity is constrained. In either case, however, even with the toll increases enacted, the Port Authority will require careful prioritizing of spending, and implementation of the identified performance improvement initiatives, to ensure the region's infrastructure needs are met. Further emphasis on financial forecast sensitivities are necessary to properly evaluate effective contingency planning under various scenarios, such as a longer than expected regional economic recovery leading to revenues lower than forecast.

- ✧ *Absent the recent and scheduled toll increases, the Port Authority would need to significantly reduce its Preliminary 2011 – 2020 Capital Plan, compromising the ability to maintain infrastructure assets in a "State-of-Good-Repair"*

Table 2 – Preliminary 2011 – 2020 Capital Plan, by Year, without Toll or Fare Increases

| (\$ billions)                                   | 2011   | 2012     | 2013     | 2014     | 2015     | 2016     | 2017     | 2018     | 2019     | 2020     | Total    |
|---|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Capital Plan + Incremental WTC Costs (\$27.8B): | \$ 2.9 | \$ 4.0   | \$ 4.6   | \$ 4.3   | \$ 3.0   | \$ 2.3   | \$ 2.2   | \$ 1.7   | \$ 1.4   | \$ 1.5   | \$ 27.8  |
| <b>Base Case:</b>                               |        |          |          |          |          |          |          |          |          |          |          |
| Capital Capacity:                               | \$ 2.9 | \$ 4.0   | \$ 2.9   | \$ 2.9   | \$ 2.4   | \$ 1.0   | \$ 0.8   | \$ 0.7   | \$ 2.2   | \$ 2.3   | \$ 22.0  |
| Excess / (Shortfall):                           | \$ -   | \$ (0.0) | \$ (1.7) | \$ (1.4) | \$ (0.6) | \$ (1.3) | \$ (1.4) | \$ (1.0) | \$ 0.8   | \$ 0.8   | \$ (5.8) |
| <b>Cumulative:</b>                              | \$ -   | \$ (0.0) | \$ (1.7) | \$ (3.1) | \$ (3.7) | \$ (5.0) | \$ (6.4) | \$ (7.4) | \$ (6.6) | \$ (5.8) |          |

The Port Authority has estimated that it would have to reduce its capital plan by nearly \$6 billion if the planned toll increases are not enacted. This would result in necessary projects being deferred, delayed, or cancelled altogether, many of which are required to maintain key facilities in a state of good repair.

✧ While the Port Authority's preliminary 2011 – 2020 Capital Plan totaled \$26.9 billion in capital expenditures, there is an additional \$17 billion of known projects

\$26.9 billion is included in the preliminary Capital Plan for 2011 – 2020 and an additional \$6.0 billion is expected beyond the 2020 budget period to complete projects initiated during the period. Table 3 lists the key projects associated with the preliminary Capital Plan for 2011 – 2020.

**Table 3 - Preliminary Capital Plan for 2011 – 2020 Key Projects**

| Project Title  | Line Department      | Mandatory       | Security        | PANYNJ Capital Needs |                           |                           |                            | Total            |
|--|----------------------|-----------------|-----------------|----------------------|---------------------------|---------------------------|----------------------------|------------------|
|  |                      |                 |                 | State of Good Repair | System Enhancing Projects | State & Regional Projects | Revenue Producing Projects |                  |
| LGA Redevelopment <sup>(1)</sup>                                 | Aviation             | -               | -               | 175                  | 300                       | -                         | 605                        | 1,080            |
| EWR Terminal A Redevelopment <sup>(1)</sup>                      | Aviation             | -               | -               | -                    | -                         | -                         | 817                        | 817              |
| JFK Rehabilitation of Runway 4L-22R                              | Aviation             | -               | -               | 440                  | -                         | -                         | -                          | 440              |
| Runway Safety Area (RSA) Improvements                            | Aviation             | 269             | -               | -                    | -                         | -                         | -                          | 269              |
| JFK Delta Terminals 3 & 4 Redevelopment                          | Aviation             | -               | -               | -                    | -                         | -                         | 215                        | 215              |
| AirTrain (Primarily EWR)   | Aviation             | 39              | 11              | 67                   | 64                        | -                         | 20                         | 201              |
| SWF Rehabilitation of Runways 9-27 and 16-34                     | Aviation             | -               | -               | 148                  | -                         | -                         | -                          | 148              |
| EWR Rehabilitation of Runways 4-22                               | Aviation             | -               | -               | 48                   | -                         | -                         | -                          | 48               |
| <b>Subtotal</b>  | <b>Aviation</b>      | <b>308</b>      | <b>11</b>       | <b>878</b>           | <b>365</b>                | <b>-</b>                  | <b>1,657</b>               | <b>3,219</b>     |
| Bayonne Bridge Navigational Clearance Program                    | TB&T                 | -               | -               | -                    | 1,246                     | -                         | -                          | 1,246            |
| Lincoln Tunnel Access Project                                    | TB&T                 | -               | -               | 1,800                | -                         | -                         | -                          | 1,800            |
| George Washington Bridge Suspender Cable Replacement             | TB&T                 | -               | -               | 715                  | -                         | -                         | -                          | 715              |
| Lincoln Tunnel Helix Project                                     | TB&T                 | -               | -               | 395                  | -                         | -                         | -                          | 395              |
| Goethals Design-Build-Finance-Maintain Program <sup>(2)</sup>    | TB&T                 | -               | -               | 176                  | -                         | -                         | -                          | 176              |
| <b>Subtotal</b>  | <b>TB&amp;T</b>      | <b>-</b>        | <b>-</b>        | <b>3,086</b>         | <b>1,246</b>              | <b>-</b>                  | <b>-</b>                   | <b>4,332</b>     |
| Signal Replacement Program                                       | PATH                 | -               | -               | 498                  | -                         | -                         | -                          | 498              |
| Tunnel Mitigation  | PATH                 | -               | 254             | -                    | -                         | -                         | -                          | 254              |
| Purchase of Railcars   | PATH                 | -               | -               | 238                  | -                         | -                         | -                          | 238              |
| Harrison Station Platform Elongation                             | PATH                 | -               | -               | -                    | 206                       | -                         | -                          | 206              |
| Ductbank Tunnels Under-River                                     | PATH                 | -               | 189             | -                    | -                         | -                         | -                          | 189              |
| Grove St. Station Modernization                                  | PATH                 | 160             | -               | -                    | -                         | -                         | -                          | 160              |
| Substation - Washington St.                                      | PATH                 | -               | -               | 156                  | -                         | -                         | -                          | 156              |
| New Railcars for 10-Car Operations                               | PATH                 | -               | -               | -                    | 147                       | -                         | -                          | 147              |
| Tunnel Floodgate   | PATH                 | -               | 119             | -                    | -                         | -                         | -                          | 119              |
| Railcar Overhaul Program   | PATH                 | -               | -               | 111                  | -                         | -                         | -                          | 111              |
| <b>Subtotal</b>  | <b>PATH</b>          | <b>160</b>      | <b>562</b>      | <b>1,004</b>         | <b>353</b>                | <b>-</b>                  | <b>-</b>                   | <b>2,078</b>     |
| Port Jersey Marine Terminal Global Terminal Development          | Port Commerce        | -               | -               | -                    | -                         | -                         | 159                        | 159              |
| Cross Harbor Development   | Port Commerce        | -               | -               | -                    | -                         | -                         | 124                        | 124              |
| Port Newark Port Street Capacity and Corbin St. Ramp Improvement | Port Commerce        | -               | -               | -                    | 108                       | -                         | -                          | 108              |
| Port Jersey Marine Terminal ExpressRail Intermodal Facility      | Port Commerce        | -               | -               | -                    | -                         | -                         | 102                        | 102              |
| Elizabeth North Ave Corridor Improvements                        | Port Commerce        | -               | -               | -                    | 66                        | -                         | -                          | 66               |
| Port Jersey Marine Terminal Access Improvements                  | Port Commerce        | -               | -               | -                    | 53                        | -                         | -                          | 53               |
| <b>Subtotal</b>  | <b>Port Commerce</b> | <b>-</b>        | <b>-</b>        | <b>-</b>             | <b>226</b>                | <b>-</b>                  | <b>384</b>                 | <b>611</b>       |
| <b>Subtotal - Line Department Main Projects</b>                  | <b>All</b>           | <b>469</b>      | <b>573</b>      | <b>4,968</b>         | <b>2,190</b>              | <b>-</b>                  | <b>2,041</b>               | <b>10,240</b>    |
| Remaining 378 Smaller Projects                                   | Aviation             | 282             | 423             | 1,897                | 484                       | -                         | 206                        | 3,292            |
| Remaining 226 Smaller Projects                                   | TB&T                 | 10              | 90              | 1,864                | 274                       | -                         | 140                        | 2,378            |
| Remaining 119 Smaller Projects                                   | PATH                 | 8               | 88              | 759                  | 122                       | -                         | -                          | 978              |
| Remaining 95 Smaller Projects                                    | Port Commerce        | 240             | 10              | 460                  | 184                       | -                         | 186                        | 1,079            |
| <b>Subtotal - Remaining Line Dept. Smaller Projects</b>          | <b>All</b>           | <b>541</b>      | <b>611</b>      | <b>4,980</b>         | <b>1,064</b>              | <b>-</b>                  | <b>531</b>                 | <b>7,728</b>     |
| World Trade Center Program                                       | WTC                  | 3,350           | 500             | -                    | 40                        | 140                       | 2,870                      | 6,900            |
| Capital Infrastructure Fund                                      | CFI                  | -               | -               | -                    | -                         | 990                       | -                          | 990              |
| Regional Programs  | SRP                  | -               | -               | -                    | -                         | 950                       | -                          | 950              |
| Development  | Development          | -               | -               | 10                   | 20                        | -                         | -                          | 30               |
| <b>Subtotal - Other Capital Programs</b>                         | <b>All Other</b>     | <b>3,350</b>    | <b>500</b>      | <b>10</b>            | <b>60</b>                 | <b>2,080</b>              | <b>2,870</b>               | <b>8,870</b>     |
| <b>Total Value of Projects in 2011 Capital Plan</b>              |                      | <b>\$ 4,359</b> | <b>\$ 1,684</b> | <b>\$ 9,958</b>      | <b>\$ 3,314</b>           | <b>\$ 2,080</b>           | <b>\$ 5,442</b>            | <b>\$ 26,838</b> |
| <b>Subtotal - Value of Projects Funded Beyond 2020</b>           | <b>All</b>           | <b>310</b>      | <b>40</b>       | <b>3,460</b>         | <b>1,320</b>              | <b>140</b>                | <b>770</b>                 | <b>6,040</b>     |
| <b>Total Value of Funded Projects</b>                            | <b>All</b>           | <b>\$ 4,669</b> | <b>\$ 1,724</b> | <b>\$ 13,418</b>     | <b>\$ 4,634</b>           | <b>\$ 2,220</b>           | <b>\$ 6,212</b>            | <b>\$ 32,878</b> |

Notes:

- 1) Includes only the PFC funded portion of the project
- 2) Includes only land acquisition

Unmet needs of \$11.4 billion have been identified, of which over 50 percent are required to maintain facilities in a State of Good Repair.

✧ *Significant change at the Port Authority is already underway*

To date, the Port Authority completed or has underway over 50 distinct reform initiatives that range from addressing appropriate compensation and benefits structures, to the more profound measures of adopting Key Operating Principles and revamping of its organizational design.

Numerous key findings and resulting recommendations have been identified that primarily relate to revenue enhancements, monetization of asset value, and cost savings opportunities. One-time benefits identified are preliminarily estimated to be in the hundreds of millions of dollars, mainly from evaluation of strategic alternatives from certain real estate assets as well as the review of air right developments over certain Port Authority infrastructure assets. Recurring annual benefits associated with these recommendations, which require significant further diligence and execution planning, range between \$159.7 million and \$339.8 million (the sum of Non-Toll/Non-Fare Revenue Enhancement Initiatives), **Table 4**, and Cost Containment Initiatives. Some of these initiatives have been suggested under previous leadership but failed to materialize for various reasons. Yet the significant opportunity and focus of current leadership warrants further exploration of these opportunities (see **Table 5**).

**Table 4 – Non-Toll / Non-Fare Revenue Enhancement Impact**

| \$ in Millions<br>Non-Toll Revenue Enhancement Initiatives | One Time (\$)                     |      | Annually (\$) |                | Investment (\$)     | Annually (\$)     |
|--|-----------------------------------|------|---------------|----------------|---------------------|-------------------|
|  | Low                               | High | Low           | High           | Capex<br>(One-Time) | Opex<br>(Ongoing) |
| <b><i>Summary, by Line Department</i></b>                  |                                   |      |               |                |                     |                   |
| Aviation   |                                   |      | \$15.8        | \$25.7         | \$90.0              | \$0.0             |
| TB&T   |                                   |      | \$23.0        | \$101.0        | \$0.0               | \$0.4             |
| Port Commerce  |                                   |      | \$19.0        | \$24.3         | \$21.0              | \$8.0             |
| PATH   |                                   |      | \$6.1         | \$13.8         | \$37.5              | \$0.0             |
| <b>Grand Total - 4 Line Segments</b>                       |                                   |      | <b>\$63.9</b> | <b>\$164.8</b> | <b>\$148.5</b>      | <b>\$8.4</b>      |
| Real Estate & Development <sup>(1),(2)</sup>               | Estimates in excess<br>of \$100MM |      | \$0.0         | \$0.0          | \$0.0               | \$0.0             |
| <b>Total Revenue Enhancement Initiatives</b>               |                                   |      | <b>\$63.9</b> | <b>\$164.8</b> | <b>\$148.5</b>      | <b>\$8.4</b>      |

Notes:

- 1) *Real Estate & Development initiatives include strategic evaluation of air rights over Dyer St as well as the North Wing of the Port Authority Bus Terminal; The current value of the potential development of these air rights is speculative at best as significant cost considerations must be included to support infrastructure necessary for project completion; Air right valuation is currently under review by Port Authority management*
- 2) *The Executive Director announced that the Port Authority will explore the strategic alternatives for the Newark Legal Center as well as the Teleport*

Table 5 – Cost Containment Initiatives

| (\$ in millions)<br>Cost Containment Initiatives                  | Savings Annually (\$) |                | Investment (\$)     | Annually (\$)     |
|---|-----------------------|----------------|---------------------|-------------------|
|   | Expected              | High End       | Capex<br>(One-Time) | Opex<br>(Ongoing) |
| <b><u>Summary, by Line Department</u></b>                         |                       |                |                     |                   |
| Aviation  | \$2.2                 | \$2.2          | \$5.0               | \$0.0             |
| TB&T  | \$0.0                 | \$0.0          | \$0.0               | \$0.0             |
| Port Commerce   | \$9.6                 | \$12.0         | \$45.0              | \$0.3             |
| PATH  | \$0.7                 | \$0.7          | \$0.3               | \$0.2             |
| <b>Grand Total - 4 Line Segments</b>                              | <b>\$12.4</b>         | <b>\$14.9</b>  | <b>\$50.3</b>       | <b>\$0.4</b>      |
| <b><u>Other</u></b>   |                       |                |                     |                   |
| Procurement (1)   | \$9.7                 | \$20.5         | \$3.0               | \$0.1             |
| Capital Planning & Execution (2)                                  | \$28.0                | \$84.0         | \$0.0               | \$0.0             |
| Employee Benefits   | \$35.8                | \$35.8         | \$0.0               | \$0.0             |
| Work Rules for Represented Employees (3)                          | \$9.9                 | \$19.8         | \$0.0               | \$0.0             |
| <b>Total Cost Containment Initiatives</b>                         | <b>\$95.8</b>         | <b>\$175.0</b> | <b>\$53.3</b>       | <b>\$0.4</b>      |
| <b>Grand Total: Revenue Enhancement plus Cost Containment (4)</b> | <b>\$159.7</b>        | <b>\$339.8</b> | <b>\$201.8</b>      | <b>\$8.8</b>      |

## Notes:

- 1) Further studies need to be performed to determine the cost savings impact of Procurement Department recommendations
- 2) Potential cost savings from reductions in soft costs for the preliminary 2011 Capital Plan (not creditable to net income)
- 3) Work rule changes or modifications will likely yield significant cost savings; However, they will require unilateral actions in some cases and new collective bargaining agreements in others; A significant amount of the savings would likely come from a reduction in overtime; In 2011, \$64 million of the \$99 million in overtime came from Public Safety and PATH; Targeting a 10 percent to 20 percent reduction in overtime would yield the Port Authority \$9.9 million to \$19.8 million in savings
- 4) Total savings of \$159.7 million and \$339.8 million represents 6.2% and 13.3%, respectively of 2012 budgeted expenses

✧ *Even with the revenue from the planned toll increases, the Port Authority is potentially at risk of not satisfying certain Ratings Agency metrics as early as mid-2014. Furthermore, to the extent that a near to intermediate term recession occurs, or the economic recovery underway stalls, the point at which these metrics may not be satisfied could be accelerated. Prompt and successful implementation of the performance improvement initiatives is therefore critical*

Given tight credit metrics and an ambitious capital plan with many critical projects, the revenue and cost containment initiatives identified above should be prioritized and plans put in place with a level of urgency. In addition, the Port Authority should conduct revised sensitivity analyses utilizing most recent economic trend data and develop contingency plans accordingly. Contingency plans should include accelerated performance improvement initiatives, potential re-prioritization of capital spending as well as pursuit of alternative sources of capital to support its infrastructure investment.

- ✧ *The Port Authority has a unique opportunity to recruit and select key management leadership positions (e.g., Chief Operating Officer, (“COO”), Chief Financial Officer, (“CFO”), Chief of Capital Planning, Execution and Asset Management, and other senior management positions) to support the Board of Commissioners, Executive Director and Deputy Executive Director that will be vital to the successful transformation of the Agency*

In pursuing the placement of these positions, strong consideration should be given to providing competitive compensation relative to the private sector and Agency peers, with strong incentive based components for achieving the specific and documented targeted performance improvement initiatives. Competitive compensation with aligned incentives will be key to attracting the best talent and reinvigorating the Agency's performance profile.

- ✧ *Significant work remains, and the continued absolute resolve of the Agency's leadership will be required to ensure timely implementation*

Leadership recognizes difficult decisions are required to prioritize and allocate resources. The Port Authority's "roadmap to transformation" is driven by key initiatives that are detailed in this report including:

- Full implementation of the recently approved restructuring of the Board of Commissioners' Corporate Governance;
- Adoption, throughout the Agency, of the Key Operating Principles established by the Special Committee;
- Incorporation of the organizational design changes that will facilitate cross-functional communication and break-down existing silos within the agency;
- Centralization of command and control under a Chief Security Officer with careful consideration and thoughtful pursuit of the Chertoff Group's recommendations for enhancements to the security apparatus;
- Relentless focus with designated oversight, requisite resources, and accountability standards to ensure successful implementation of revenue enhancement and cost containment initiatives across all line and staff departments; and,
- More effective and efficient delivery of capital projects, including leveraging third-party expertise and capital when it results in more efficient execution, to meet the current and future needs of the Agency.

## II. OVERVIEW

### BACKGROUND

- ✧ *The Port Authority region is one of the most diversified areas of the nation and serves as one of the world's major economic hubs*

The Port Authority region is a center of international banking and commerce as well as entertainment, news media and manufacturing. Known as the Port District, the region includes the five New York boroughs of Manhattan, Brooklyn, Queens, Staten Island and the Bronx; the New York counties of Nassau and Westchester; and parts of nine northern New Jersey counties of Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset and Union. This region can be further defined by the following statistics:

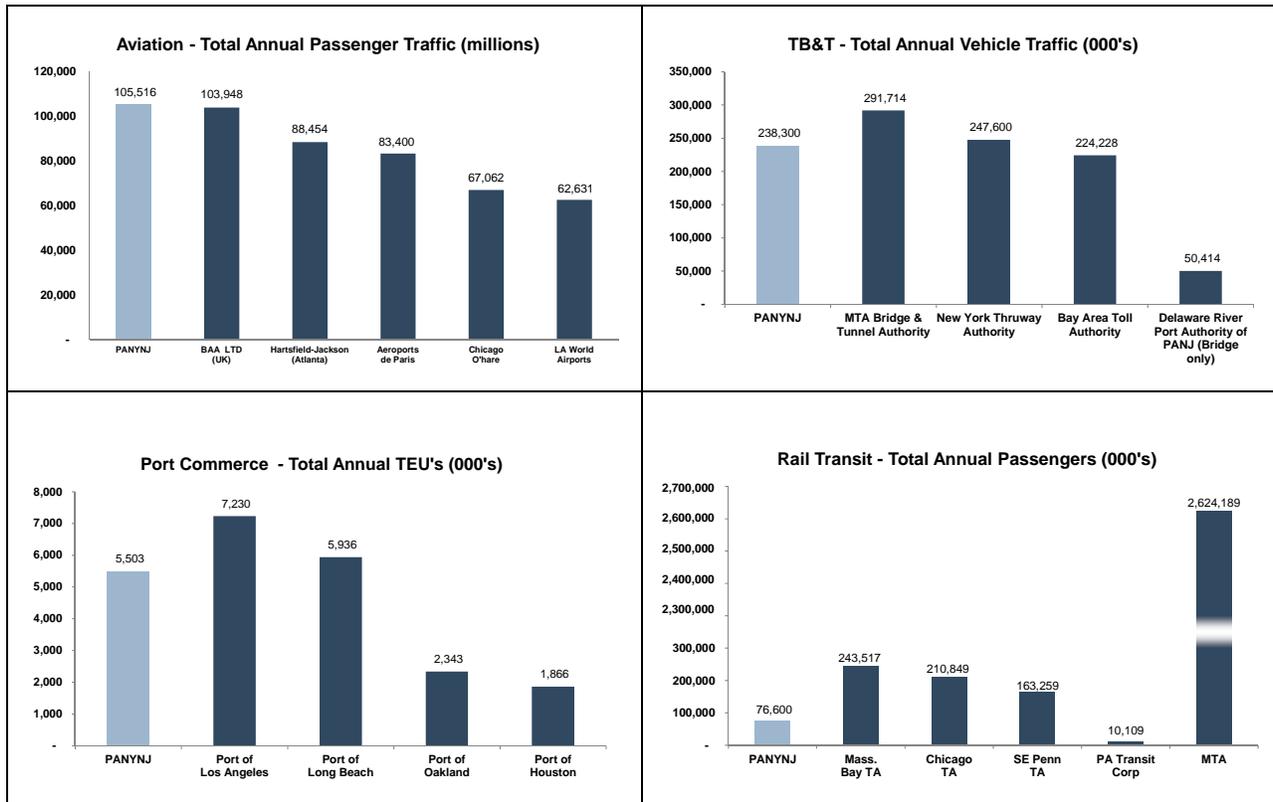
- 3,900 square miles;
- Population of 18 million;
- 8.6 million jobs;
- Gross regional product of more than \$1.0 trillion, which would rank 15<sup>th</sup> among world-wide economies, and is the single largest metropolitan region in the U.S.; and,
- 27 Fortune Global 500 companies are headquartered in New York and New Jersey generating in excess of \$1.5 trillion in global revenues.

- ✧ *Since the Agency's beginnings in 1921, the Port Authority has undergone remarkable evolution, expanding dramatically in scope and breadth*

The Port Authority was originally created to address traffic congestion in the New York harbor during World War I that challenged both the private and public sector. Authorized by legislation, today the Agency's portfolio of infrastructure assets is vast, including airports, tunnels, bridges, bus terminals, rail services, and port commerce facilities that serve a crucial role in bi-state commerce and regional economic growth. These assets serve a central role in enabling employment and generating revenue for the New York-New Jersey Metropolitan Region and beyond.

**Figure 1** benchmarks the Port Authority's operating departments, as compared to other similar transportation infrastructure related agencies.

Figure 1 – Port Authority - Key Asset Benchmarking 2011



✧ *The Port Authority's mission statement represents the vital role and economic contribution the Agency makes in support of the economies of New York and New Jersey*

*“To identify and meet the critical transportation infrastructure needs of the bi-state region’s businesses, residents, and visitors; providing the highest quality, most efficient transportation, and port commerce facilities and services that move people and goods within the region, providing access to the rest of the nation and to the world, while strengthening the economic competitiveness of the New York-New Jersey Metropolitan Region.”*

According to a Port Authority study, as recently as 2009, air passengers and cargo generated \$16.8 billion in wages and \$48.6 billion in sales to the region and supported nearly 415,000 jobs; while Port Commerce activity supported over 269,000 jobs in the region, \$11.2 billion in wages, and over \$36 billion in sales. Nearly 240 million vehicles passed through and over Port Authority tunnels and bridges in 2011, and, over the same period, more than 150 million passengers traveled by way of PATH and Port Authority Bus Terminals across the bi-state region.

## CURRENT LANDSCAPE

- ✧ *The Port Authority faced unprecedented challenges in the first decade of the 21<sup>st</sup> century. Change in its core transportation businesses is challenging the operating margins of the Line Departments just as the Agency nears the later stages of the useful life for many of its core assets. This tension of weak to modest economic growth and declining operating margins in the face of growing capital needs is a central challenge*

A majority of the Port Authority assets have been in operation for more than half a century. Many facilities such as the airports, tunnels, bridges and terminals are capacity constrained and nearing the end of their useful lives. A focus on ensuring the State of Good Repair (“SGR”) of existing infrastructure assets, combined with the demand for disciplined capital spending, is an absolute necessity to advance safety, security and quality service to a diverse group of stakeholders. The Port Authority’s organizational structures must be better aligned to meet this challenge.

Over the next 10 years (*i.e.*, during the preliminary 2011 – 2020 Capital Plan budget period), the Agency’s needs are significantly greater when compared to the prior 10 years, in large part attributable to deferred maintenance capital expenditures. **Table 6** below presents the average age of each of the Port Authority’s core infrastructure assets.

**Table 6 – Average Age of Facilities, Historical Capital Spend and Anticipated Investment**

| (\$ in millions)                     | Aviation  | TB&T      | PATH      | Port<br>Commerce |
|--------------------------------------|-----------|-----------|-----------|------------------|
| <b>Average Age of Facilities</b>     | <b>52</b> | <b>75</b> | <b>72</b> | <b>57</b>        |
| Capital Spend 2001 - 2010            | \$ 6,077  | \$ 2,071  | \$ 1,345  | \$ 2,334         |
| Unconstrained 2011-2020 Capital Plan | \$ 11,910 | \$ 14,520 | \$ 5,330  | \$ 3,290         |

- ✧ *While the Port Authority has generated operating cash flow from 2007 – 2011 of approximately \$5.4 billion, the Agency was laden with over \$7.8 billion in net capital requirements creating a cumulative free cash flow shortfall of approximately \$2.5 billion*

**Table 7** depicts historical operating cash flows and free cash flow from 2007 – 2011 segmented by Line Department and by Facility.

Table 7 – Cumulative Cash Flows by Facility 2007 – 2011

| (\$ in Millions)  | Cumulative 2007 - 2011 |                      |                                    |                      |                      |                               |
|---|------------------------|----------------------|------------------------------------|----------------------|----------------------|-------------------------------|
|   | Gross Revenue          | Expenses             | Operating Cash Flow <sup>(1)</sup> | PFCs, Grants & Other | CAPEX                | Free Cash Flow <sup>(2)</sup> |
| <b>Aviation</b>   |                        |                      |                                    |                      |                      |                               |
| LGA   | \$ 1,559.7             | \$ (1,160.2)         | \$ 399.5                           | \$ 368.5             | \$ (495.1)           | \$ 272.9                      |
| JFK   | 4,876.8                | (3,232.8)            | 1,644.0                            | 629.0                | (1,283.5)            | 989.5                         |
| New ark   | 3,681.3                | (2,036.5)            | 1,644.8                            | 419.2                | (732.8)              | 1,331.2                       |
| Teterboro   | 171.2                  | (94.1)               | 77.1                               | 48.5                 | (129.0)              | (3.4)                         |
| Stew art  | 36.5                   | (71.0)               | (34.5)                             | 16.4                 | (58.3)               | (76.5)                        |
| Heliports   | 7.6                    | (5.9)                | 1.7                                | 0.1                  | 14.5                 | 16.3                          |
| <b>Total Aviation</b>                                     | <b>10,333.1</b>        | <b>(6,600.6)</b>     | <b>3,732.5</b>                     | <b>1,481.7</b>       | <b>(2,684.2)</b>     | <b>2,530.0</b>                |
| <b>INTERSTATE TRANSPORTATION NETWORK:</b>                 |                        |                      |                                    |                      |                      |                               |
| <b>TB&amp;T</b>   |                        |                      |                                    |                      |                      |                               |
| Holland tunnel  | 580.4                  | (346.8)              | 233.7                              | 2.4                  | (95.0)               | 141.1                         |
| Lincoln Tunnel  | 742.9                  | (452.5)              | 290.4                              | 5.2                  | (129.1)              | 166.5                         |
| GW Bridge   | 2,110.2                | (531.9)              | 1,578.2                            | 2.9                  | (242.1)              | 1,339.0                       |
| Bayonne Bridge  | 136.0                  | (112.4)              | 23.6                               | 0.7                  | (52.8)               | (28.4)                        |
| Goethals Bridge   | 577.9                  | (123.1)              | 454.8                              | 0.7                  | (79.5)               | 376.0                         |
| Outerbridge Crossing                                      | 519.0                  | (116.7)              | 402.3                              | 0.7                  | (13.1)               | 389.9                         |
| GW Bus Station  | 6.6                    | (38.2)               | (31.6)                             | 0.2                  | (12.1)               | (43.6)                        |
| PA Bus Terminal   | 167.2                  | (486.4)              | (319.1)                            | 36.3                 | (196.6)              | (479.4)                       |
| <b>Total TB&amp;T</b>                                     | <b>4,840.2</b>         | <b>(2,207.9)</b>     | <b>2,632.2</b>                     | <b>49.1</b>          | <b>(820.3)</b>       | <b>1,861.1</b>                |
| <b>PATH</b>   | <b>547.4</b>           | <b>(1,565.9)</b>     | <b>(1,018.5)</b>                   | <b>69.3</b>          | <b>(1,360.8)</b>     | <b>(2,310.0)</b>              |
| <b>Ferry Service</b>                                      | <b>0.9</b>             | <b>(13.5)</b>        | <b>(12.6)</b>                      | <b>4.2</b>           | <b>(79.7)</b>        | <b>(88.1)</b>                 |
| <b>Total Interstate Transportation Network</b>            | <b>5,388.4</b>         | <b>(3,787.3)</b>     | <b>1,601.1</b>                     | <b>122.7</b>         | <b>(2,260.8)</b>     | <b>(537.0)</b>                |
| <b>Port Commerce</b>                                      |                        |                      |                                    |                      |                      |                               |
| Port New ark  | 408.3                  | (347.6)              | 60.7                               | 10.9                 | (388.5)              | (316.9)                       |
| Port Elizabeth  | 516.0                  | (139.3)              | 376.7                              | 3.2                  | (411.0)              | (31.2)                        |
| Brooklyn Marine Terminal                                  | 25.9                   | (56.2)               | (30.3)                             | (0.2)                | 4.1                  | (26.5)                        |
| Red Hook  | 15.8                   | (30.0)               | (14.3)                             | 0.0                  | (1.0)                | (15.3)                        |
| How land Hook   | 80.1                   | (49.5)               | 30.6                               | 0.3                  | (190.8)              | (159.8)                       |
| NYNJ Rail   | 3.7                    | (14.6)               | (10.9)                             | 5.1                  | (15.5)               | (21.3)                        |
| Port Jersey   | 52.9                   | (94.6)               | (41.7)                             | -                    | (141.9)              | (183.6)                       |
| <b>Total Port Commerce</b>                                | <b>1,102.7</b>         | <b>(731.8)</b>       | <b>370.8</b>                       | <b>19.2</b>          | <b>(1,144.6)</b>     | <b>(754.5)</b>                |
| <b>World Trade Center</b>                                 | <b>380.6</b>           | <b>(614.6)</b>       | <b>(234.0)</b>                     | <b>3,252.6</b>       | <b>(6,181.1)</b>     | <b>(3,162.5)</b>              |
| <b>Other</b>  |                        |                      |                                    |                      |                      |                               |
| Total Regional & Economic Development: <sup>(3),(4)</sup> | 501.1                  | (566.5)              | (65.5)                             | 2.3                  | (422.8)              | (486.0)                       |
| Port Authority Captive Insurance Entity                   | 0.0                    | (12.5)               | (12.4)                             | -                    | (29.6)               | (42.0)                        |
| <b>Total Other</b>  | <b>501.1</b>           | <b>(579.0)</b>       | <b>(77.9)</b>                      | <b>2.3</b>           | <b>(452.4)</b>       | <b>(527.9)</b>                |
| <b>Grand Total</b>  | <b>\$ 17,706.0</b>     | <b>\$ (12,325.8)</b> | <b>\$ 5,380.1</b>                  | <b>\$ 4,878.5</b>    | <b>\$ (12,752.6)</b> | <b>\$ (2,494.0)</b>           |

Notes:

- 1) Operating cash flow is defined as gross revenues less operating & maintenance expenses and allocations
- 2) Free cash flow is defined as operating cash plus PFCs, grants & other, less capital expenditures
- 3) Includes Essex County Resource Recovery Facility, Newark Legal Recovery Center, Teleport and other real estate development projects
- 4) Amount includes state and regional programs and funds for the Capital Infrastructure Fund

With the exception of the WTC, which has been funded mainly through the issuance of debt and third-party reimbursements, such as insurance and FTA grants, Aviation was the only positive free cash flow contributor to the organization over the past five years. It is important to note, however, that Aviation is embarking upon significant capital projects in the next few years to revitalize its asset base.

**Table 8** below shows the relative free cash flow, per Line Department, for every \$1.00 of revenue received (including Passenger Facility Charges “PFCs”, Grants & Other).

**Table 8 – Key Metrics by Line Department: 2007 - 2011**

|                  | Aviation<br>Per<br>Passenger | TB&T<br>Per<br>Vehicle | PATH<br>Per<br>Passenger | Port<br>Commerce<br>Per<br>Container | Cumulative<br>Per<br>Unit |
|------------------|------------------------------|------------------------|--------------------------|--------------------------------------|---------------------------|
| Revenue:         | \$ 22.46                     | \$ 7.96                | \$ 1.48                  | \$ 42.57                             | \$ 74.47                  |
| Free Cash Flow : | \$ 4.47                      | \$ 3.00                | \$ (3.11)                | \$ (28.33)                           | \$ (23.97)                |
| Margin %         | 19.9%                        | 37.7%                  | -210.1%                  | -66.5%                               | -32.2%                    |

Aviation operations generated, on average, over \$20.00 in revenue per passenger and over \$4.00 in free cash flow per passenger from 2007 – 2011. Tunnels, Bridges & Terminals (“TB&T”) on average generated over \$7.50 of revenue per vehicle, with free cash flow of approximately \$3.00 after accounting for its capital expenditures. PATH alone produced a loss of \$3.11 for every passenger carried. It should be noted that losses at mass transit systems like PATH in the United States are typical. For example, the MTA, Chicago Transit Authority, Massachusetts Bay Transit Authority, SE Penn Transportation Authority, Bay Area Rapid Transit (San Francisco) are all systems that operate in a significant deficit position. In addition, the Port Authority receives no Federal or State subsidies, while MTA, NJ Transit and most other major systems in the United States receive substantial external financial support.

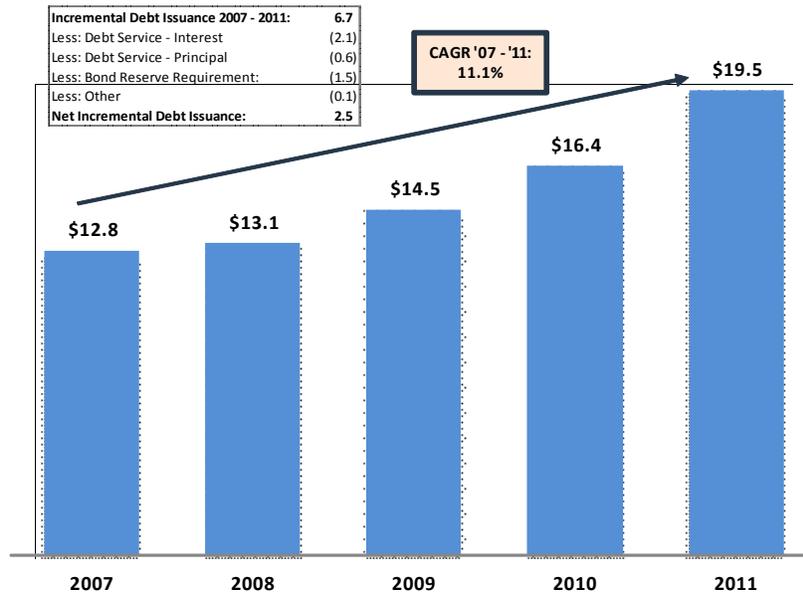
Given the integrated nature of the cross state transportation solutions, TB&T, PATH, and the Ferry service are reported with the Port Authority on a consolidated basis as the ITN. For the five year period, ITN combined had negative free cash flow of approximately \$537 million. In addition, ITN is facing enormous near-term capital needs.

Port Commerce produced a loss in excess of \$28.00 per container given that its income revenue stream from tenant rentals is insufficient to offset large, recurring capital projects, such as dredging, that are required to support operations.

✧ *In order to finance capital needs, the Port Authority has relied on debt issuance to bridge the funding gap*

From 2007 – 2011, debt balances have grown significantly at a Compounded Annual Growth Rate (“CAGR”) of 11.1 percent (see **Figure 2**).

Figure 2 – Total Outstanding Debt 2007 – 2011 (\$ billions)



## ACHIEVEMENTS AND INITIATIVES UNDERWAY

The recently appointed Chairman, Vice Chairman, Executive Director, Deputy Executive Director as well as the other Commissioners acknowledge the adversities that face the Port Authority and have taken action to address them.

- ✧ *Over the course of the last year, the Board of Commissioners and senior management has taken a proactive approach to reinvigorate the agency*

Over 50 initiatives have commenced in this key period of transition in areas such as:

- Corporate Governance
- Organizational Design
- Employee Benefits
- Capital Planning & Execution
- Operational Performance Improvements within Line and Staff Departments
- Public Safety and Security

Highlights of recent achievements and initiatives that have commenced in this key period of transition are detailed in **Appendix – D: Achievements & Initiatives Underway**.

These initiatives, and the spirit of collaboration and cooperation from the Port Authority's employees in the preparation of this report, evidence the organization's focus and commitment to drive performance improvement.

To reinforce this determination, the Chairman, Vice Chairman and Special Committee, in collaboration with the Executive Director and Deputy Executive Director, have defined a set of

key operating principles to guide and define the conduct of the Agency in the execution of its responsibilities and mission:

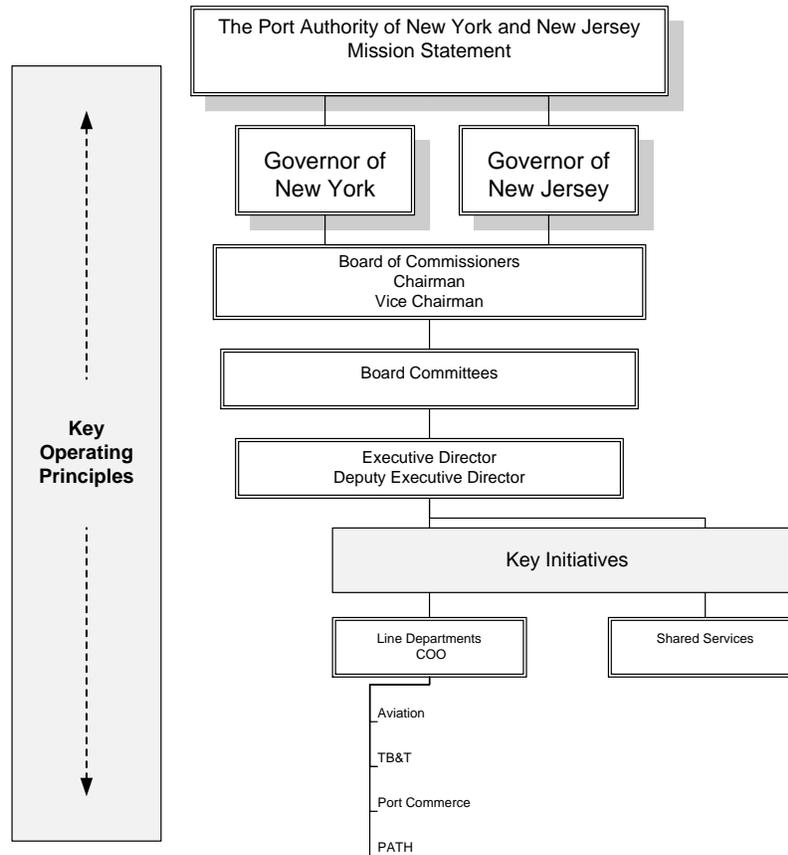
**KEY OPERATING PRINCIPLES**

**Table 9 – Key Operating Principles**

| Key Operating Principles of The Port Authority of New York & New Jersey   |
|---|
| <i>The Agency must pro-actively communicate, be transparent in its decision making, and set clear expectations with the New York and New Jersey state governments, local municipalities, related agencies and the public it serves;</i>   |
| <i>The Agency must make protecting the assets and constituents the highest of priorities throughout all of its operations;</i>  |
| <i>The Agency must develop an operating structure to enable its talented professionals to execute and maximize performance;</i>   |
| <i>The Agency must strive to align incentives amongst all its employees, management and labor, to achieve its mission;</i>  |
| <i>The Agency must continually evaluate opportunities for revenue enhancement from non-toll sources, improved productivity, better collection efforts and cost effective execution in delivery of its services to minimize the monetary burden on its constituents;</i>                             |
| <i>The Agency must continue to provide timely, relevant, reliable and succinct analysis, including historical and expected performance metrics, to ensure the Board of Commissioners, in exercising its oversight responsibilities, can make fully informed decisions and drive accountability;</i> |
| <i>The Agency must review and continuously refine each of its business unit’s strategic and capital plans, with emphasis on actionable and measureable goals and objectives;</i>  |
| <i>The Agency must continually evaluate and utilize innovative and creative ways to efficiently deploy its capital, effectively manage the assets that it is entrusted to develop and support, and hold itself accountable for delivering measured performance;</i>                                 |
| <i>The Agency must collaborate to capture the value of its employees’ collective knowledge and experience, and optimize the use of its resources to provide shared services support to the line functions; and,</i>   |
| <i>The Agency must manage enterprise risk through consistent identification, education, and execution of mitigation strategies, while measuring its performance against its goals.</i>  |

A set of operating principles can only provide guidance to the organization and meaningful change will require a level of support and cooperation throughout the chain of command in the Agency. The chart below shows a representative view of all the interdependencies inherent throughout the Port Authority organization (see **Figure 3**).

Figure 3 – Key Operating Principles Chart of Interdependencies



Port Authority leadership and Line Departments have identified, evaluated, and provided further recommendations that serve to enhance corporate governance and organizational design. Key initiatives that drive measurable change are presented in greater detail herein.

### III. APPROACH & METHODOLOGY

Navigant met with appropriate management personnel, issued various information requests, and conducted structured interviews with all levels of Port Authority staff, often involving personnel across multiple departments on a particular topic area. Various documents reviewed have been considered in the development of this report. In addition, review sessions and discussions were conducted with members of the Board of Commissioners and the Special Committee. Site visits were conducted as appropriate. Navigant summarized its findings and recommendations in this report (subject to the limitations set forth in **Appendix – E: Report Qualifications & Disclaimer**), referred to hereinafter as the Phase II Report.

#### ORGANIZATIONAL DESIGN & EFFECTIVENESS

To evaluate corporate governance and organizational design structures and practices, Navigant reviewed the existing Port Authority By-Laws as well as board minutes and actions undertaken during board sessions. In addition, Navigant conducted multiple meetings with the Chairman, Vice-Chairman and members of the Special Committee as well as held numerous discussions with the Executive Director and Deputy Executive Director. Navigant also considered industry best practices to provide a perspective of the appropriate balance between the structures utilized by public versus private enterprises.

#### OPERATIONAL ASSESSMENT

Navigant facilitated meetings with the heads of each Line Department, including selected key personnel, as well as critical support services departments, including Procurement, Law, and Engineering. Subsequent to such meetings, further information requests were made with the purpose of understanding key issues and opportunities as it related to revenue enhancement, cost containment, and operational efficiency. Additionally, follow-up meetings were held to probe specific areas for improvement through collaborative work sessions with each department. Where appropriate, Navigant toured the Line Department facilities to establish first-hand knowledge of the respective operations and related issues.

#### WTC COST REVIEW

To finalize the WTC Program Estimate at Completion (“EAC”), initiated in Phase I, Navigant facilitated working sessions with World Trade Center Construction (“WTCC”), World Trade Center Redevelopment (“WTCRD”), Finance, and key private sector partners to reach consensus on the baseline cost budget. Formal risk modeling efforts were employed to achieve increased levels of confidence in the total EAC presented in the Interim Report. These calculations are bolstered by project specific risk registers that allow for probability assessments to be made on identified exposures. Finally, a series of collaborative meetings of all project participants resulted in a qualitative validation of the technical analyses.

## CAPITAL PLANNING ASSESSMENT

Navigant interviewed Capital Planning executives, Project Directors, Project Managers within Line Departments, Engineering department management, senior personnel in Management and Budget Department, (“MBD”) and various professionals that report directly to the CFO, to better understand the evolution of the Capital Planning function within the Port Authority and determine current roles and responsibilities as it relates to the development and execution of the capital plan. Subsequently, Navigant reviewed the “Unconstrained Needs” analysis that formed the foundation of the preliminary 2011 – 2020 Capital Plan and identified “Unmet Needs” by asset type and business line. Navigant personnel toured various facilities, including the WTC site, to have direct knowledge of intended improvements and planned investments. Additionally, Navigant worked collaboratively with MBD and individual Line Departments to develop an integrated forecast model to assess the impact on the capital capacity of the Agency of performance under various financial and operational scenarios. In addition, Navigant evaluated the targeted benefits of revenue enhancements, cost reductions and alternative financing strategies in mitigating funding shortfalls.

## IV. CORPORATE GOVERNANCE

### OVERVIEW

As the Governors of New York and New Jersey have mandated an enterprise-wide review of the Agency to drive transformational change and achieve material productivity and efficiency enhancements, the Board of Commissioners is leading by example and has examined its own effectiveness in its stewardship of the Agency.

The Port Authority was created out of the premise that neither federal, state and local governments nor the private sector could address the long standing harbor congestion in the late 1800's and early 1900's. Both states of New York and New Jersey became convinced that a regional focus was the only real solution. What was born was a proud, public agency that extends across geopolitical boundaries. The formative legislation envisioned that there will always be a need for effective collaboration and consensus to lead this organization through the challenges encountered in pursuit of the Agency's mission.

The Port Authority essentially is a public "joint-venture" between the two states, both with common, yet also potentially disparate, interests. By tradition, and acts of legislation, the Chairman and Deputy Executive Director are each appointed by the Governor of New Jersey, and the Vice Chairman and Executive Director are each appointed by the Governor of New York. Each respective Governor appoints six members of the Board of Commissioners. The Governors each retain veto rights of the minutes of the Board of Commissioners by which all major decisions of the Agency are approved. While this veto right exists, it has not been exercised in recent history. The relationship between the Executive Director and Deputy Executive Director lacks definition; yet by virtue of their presence in the same box of the formal organization charts, it suggests an equality of authority. In the absence of collaborative communication, concerted efforts to build bi-state consensus, and reasoned approaches to resolution of conflicted interests, this duality of control can readily lead to challenges. Given this structural reality, the current Executive Director and Deputy Executive Director conscientiously demonstrate a mutual commitment to effective, coordinated management that is vital to the overall success of the organization.

Thus, the focus from an organizational design and effectiveness perspective should be to ensure that rules of engagement and the appointed professionals' relationships are devoted to the success of the joint venture and the mission it was created to execute. Indeed, it can be argued that it is this duality of control, inherent in the design of the executive leadership and Board of Commissioners that allows the Agency to be effective by making consensus necessary in operations and governance. A portion of this Report focuses on providing recommendations to establish rules of engagement to further facilitate effective consensus and decision making, while efficiently utilizing the resources available to the Agency in the furtherance of its mission.

As previously reported, several factors, including responses to the crisis of September 11, 2001, the subsequent rapid turnover of multiple Executive Directors, and lack of confidence in the prior Executive Director, has led the Board of Commissioners to necessarily insert itself into

many aspects of the Port Authority operations. That landscape has changed dramatically, and the relationship between the Chairman/Vice-Chairman and Executive Director/Deputy Executive Director is serving to provide a crucial supporting foundation to the desired transformation of the organization. The committee composition of the Board of Commissioners provides an important element in that effort. It should be noted that the appointments to the Board of Commissioners of the Port Authority are unpaid, highly accomplished public servants who dedicate considerable time on a regular basis to provide insight, private sector expertise, analytical thought, and oversight to Port Authority matters.

The Board of Commissioners at its most recent meeting approved a wide-ranging restructuring of the board committees to underscore and reinforce the change underway at the Agency. These changes will allow for more active committees with regular meetings that have clear, focused charters to better align the Board of Commissioners with the needs of the Agency for the foreseeable future.

**CURRENT COMMITTEE CONFIGURATION**

The Port Authority has seven “By-Law” committees, (*i.e.*, those that were established under the By-Laws of the Port Authority) and two “ad-hoc” committees that were created in 2007 to address discreet issues of Agency interest.

The committees met an average of five times in 2011, with a majority of meetings taking place in public session. The Operations Committee was the most active with 10 meetings. On the other hand, the ad-hoc Labor Committee has not met since fulfilling its principal objective in 2007 and 2008 to address wage and benefits policy for non-trade unskilled labor service. Overall, the Committees were assigned approximately 132 items from the Board of Commissioners in 2011 (see **Table 10**).

**Table 10 – Summary of “By Law” Committee Responsibilities**

| Committee                      | Current Responsibilities   |
|--------------------------------|--|
| <b>Governance &amp; Ethics</b> | Oversight over Governance / Ethics Activities<br>Develop and Maintain Agency Code of Ethics<br>Review Independence and Objectivity of the Board of Commissioners<br>Monitoring of Committees<br>Legal / Compliance Oversight<br>Executive Director Performance Reviews |
| <b>Audit</b>                   | Establish Accounting Policies & Procedures / Oversee Compliance<br>Selection / Review / Monitoring of Auditors<br>Oversight over Annual Audit<br>Review Annual Financial Statements<br>Review / Establish Procedures for Inspector General Report Review               |

| Committee                                   | Current Responsibilities   |
|---|--|
| <b>Capital Programs and Agency Planning</b> | Lead Development of Capital / Strategic Plan<br>Review Long-Term Planning for the Development of New Facilities Including Related Studies<br>Continual Review of Line Department Maintenance and Capital Needs<br>Supervision Over Preparation of Economic Development Studies |
| <b>Operations</b>                           | Oversight Over All Operation / Maintenance of Facilities<br>Procurement Related to Operational Aspects of the Agency<br>Direct Sale of Port Authority Owned Property<br>Oversight of Personnel Related Matters   |
| <b>Finance</b>                              | Approve Selection of Depositories<br>Approve Investments and Reinvestments thereof<br>Approve Insurance Policies and Surety Bonds<br>Oversight of Financial Affairs of the Port Authority  |
| <b>Construction</b>                         | Oversight of All Port Authority Construction Matters<br>Oversight of Agreements / Contracts for Property Acquisition<br>Oversight of Agreements / Contracts for Construction Materials   |
| <b>Security</b>                             | Oversight of Security Requirements<br>Oversight of Security Recommendations  |

To evaluate the current corporate governance structure and evaluate its effectiveness, Navigant conducted a series of discussions with members of the Special Committee and the Executive Director, Deputy Executive Director and Secretary of the Board. Navigant also reviewed the By-Laws of the Agency to understand the historical basis of the committee configurations as well as documentation detailing board activities. Finally, Navigant compared the Agency to prevailing board governance strategies in both public agencies and in the private sector.

## OBSERVATIONS & FINDINGS

- ✧ *By necessity, the Board of Commissioners have become increasingly active in the day-to-day operations of the Agency*

The rapid turnover of Executive Directors over the last decade as well as the Board of Commissioners' lack of confidence in the prior Executive Director compelled the commissioners to become increasingly involved in the day-to-day operations of the Agency. In 2011, the Board committees had over 132 assigned action items, much that was transactional in nature. Now, the Board of Commissioners' challenge as the governing body is to ensure keen focus on the strategic priorities of the Agency, and to provide well informed guidance, insights and direction to management, and hold the Agency ultimately accountable for its measured results.

- ✧ *Priorities have evolved. Focused committees drive transformational change and require reliable, relevant, and timely information to fulfill their fiduciary duties*

The Port Authority operates in a unique context. The Board of Commissioners is ultimately accountable to the Governors, who appoint the Commissioners, while the respective state legislatures may make changes at the Port Authority if identical legislation is passed by both

states. Further, each of the Governors also possesses an effective veto right over the actions of the Board.

In recent years, boards of directors in the private and public sector have evolved significantly from being reactive advisors, often serving the specific interests of the Chief Executive Officer or elected executive branch official, to providing proactive oversight requiring timely, reliable, and relevant information to support decision making and ensure accountability. Private sector corporate governance, and its public counterpart, has trended toward greater transparency and candor with outside stakeholders. This market environment provides a unique opportunity for the Board of Commissioners to adopt private and public sector best practices in its effort to enhance the execution of its oversight responsibilities and fiduciary obligations, and the Board of Commissioners has already made tremendous progress. A number of the initiatives recently championed by the Board of Commissioners can be found in **Appendix – D: Achievements & Initiatives Underway**.

❖ *At its most recent board meeting, the Board of Commissioners reorganized its Committee structures to better align with the Agency's long term objectives. The restructuring maintains certain existing committee functionalities while consolidating related duties to more effectively manage the continuum of oversight responsibilities*

The consolidation of certain committees is based on functionalities, priorities and goals. Committees with clear charters will better harness the expertise of the Commissioners, direct the efforts of staff, create a more focused environment for decision making, and allow more effective oversight and accountability. Several changes implemented are highlighted in **Table 11** below.

**Table 11 – Highlights of Approved Committee Changes**

| Committee Changes  | Description   |
|--|---|
| Consolidate/repurpose the “Capital Programs and Agency Planning”, and the “Construction” committees, into a new “Capital Planning, Execution and Asset Management Committee” (“CPEAM”) | Capital planning, execution and asset management are a continuum of responsibilities that are inclusive of engineering and project management. This new committee is designed to ensure a level of cohesive oversight and accountability for components of capital projects delivery and the ongoing maintenance of the agency’s diverse infrastructure and real estate asset base. |
| Existing stand-alone WTC subcommittee (with its current responsibilities) to be subsumed into the newly formed CPEAM committees a separate sub-committee                               | Construction of the downtown redevelopment project is moving toward completion. Thus, asset management, versus development and construction, is the evolving priority of focus for the success of this endeavor.  |
| Expand focus of the Finance Committee  | In collaboration with the CPEAM, the Finance Committee will include evaluation of innovative debt and other alternative financing strategies, as well as review of related insurance matters. The current insurance working group becomes a standing sub-committee.   |
| Eliminate other inactive subcommittees   | Integration of remaining functionality into appropriate primary By-Law Committee (e.g. Labor into Operations).  |
| Broaden the defined responsibilities of certain By-Law committees  | Examples include moving compensation and employment agreement discussions into Operations; Enterprise Risk Management into Audit, etc.  |

| Committee Changes  | Description  |
|--|--|
| Create sub-committee under the Operations Committee to address Regulatory, Government, Inter-Agency, and Community Relations | Create new sub-committee under the Operations Committee to address communications with regards to regulatory, federal, state and local issues as well as community relations. Enables a comprehensive, Agency-wide approach to these issues and better transparency with various governmental and sister agencies. |
| Enhance Security Committee   | Priority given as a result of recommendations from the Chertoff report, that were subsequently approved by Board of Commissioners creating the Chief Security Office function.   |

In addition to the revised structure of the Board Committees, the following actions will be implemented:

- **The Board of Commissioners will schedule and conduct a full annual strategic planning session** to provide dedicated focus on long term agency mission, goals and objectives, and development and review of strategic plan for achieving same.
- **The Board of Commissioners will develop charters** for each committee articulating the guidelines for meetings, revised responsibilities, authorities, and objectives to align with priorities and needs of the Agency.
- **The Board of Commissioners will work with the Port Authority senior management to establish and/or revitalize performance dashboards** designed to monitor performance and progress on Agency key initiatives. Dashboards will be tracked by each relevant Committee and consolidated for regular review by the full Board of Commissioners.
- **The Board committees will create structured points of connectivity** between certain committees to ensure effective communication and coordination (*e.g.*, CPEAM quarterly meeting with Finance Committee, and/or make reciprocal appointments of each Chair as member of the reciprocal committee).
- **The Board of Commissioners will evaluate sequenced scheduling** to allow for more frequent committee meetings as well as effective and informed reporting to full Board (*e.g.*, monthly committee and then quarterly full Board meetings).
- **The Board of Commissioners will make critical success factors** a priority for governance effectiveness. These include:
  - Developing and articulating a clear strategic plan;
  - Ensuring committees are relevant, focused and disciplined;
  - Maintaining transparency, conducting ongoing measured performance monitoring, and driving accountability;
  - Continuing to appoint committee chairs and members with requisite expertise and experience;
  - Identifying committee chair and member responsibilities with clarity;
  - Providing designated senior management staff participation and appropriate analytical support; and,
  - Facilitating well informed decision making.

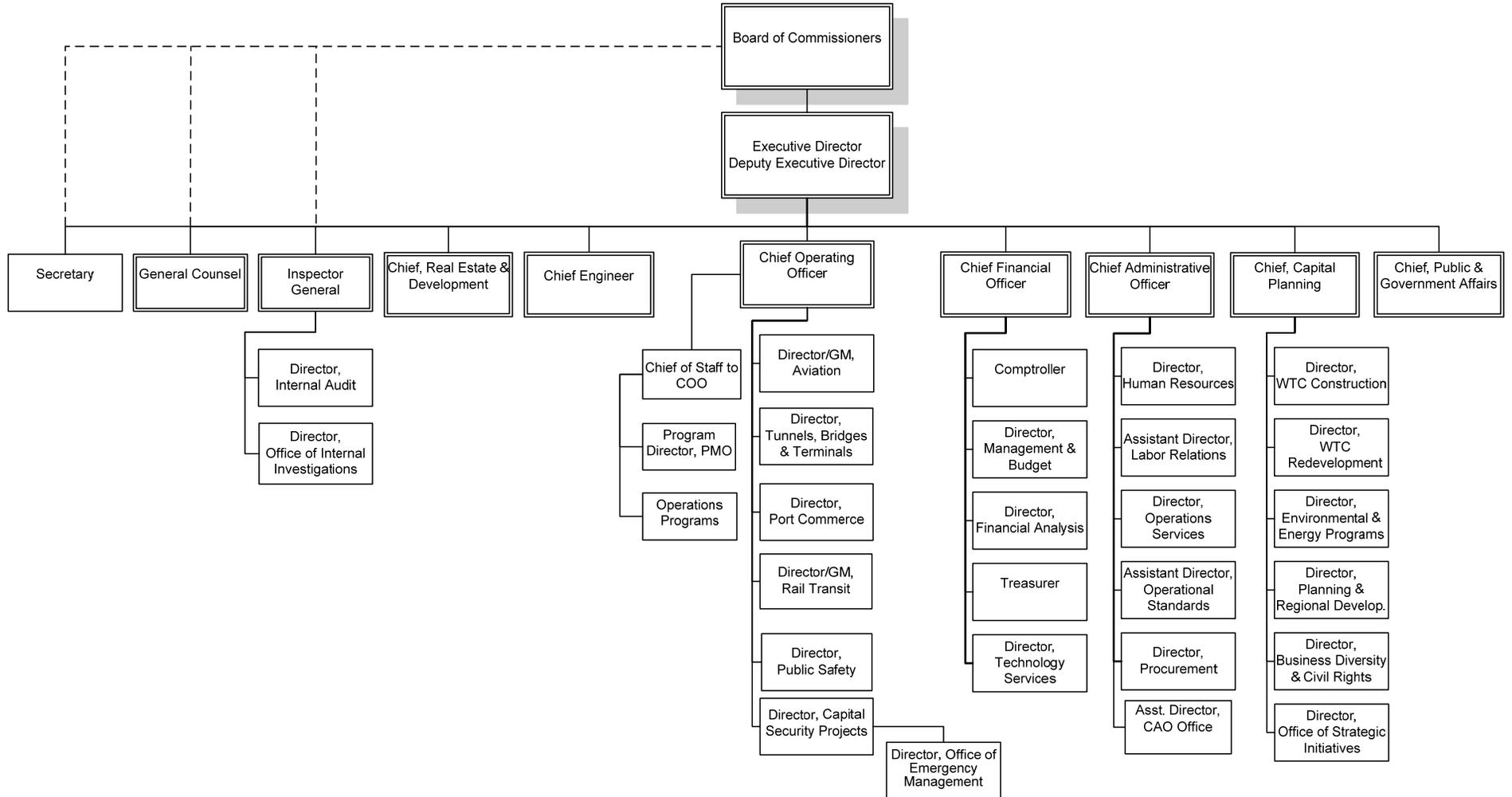
## V. ORGANIZATIONAL DESIGN & EFFECTIVENESS

### CURRENT ORGANIZATIONAL STRUCTURE OVERVIEW

With key operating principles and a more efficient structure of corporate governance, the alignment of the Agency organizational structure to these constructs is required to fulfill the expectations of the Board of Commissioners.

The Interim Report contained a number of observations related to the Port Authority's current organizational structure (see **Figure 4**). The Port Authority's culture has traditionally fostered strong loyalty among its employees with a high level of dedication and commitment to the Port Authority's mission. It has produced strong line and staff department leaders with a deep knowledge base and skills. However, a significant number of appointed leadership changes resulted in a lack of continuity necessary to drive collaboration and accountability. As a result, in the past the organization had elements of a siloed culture where department chiefs' and directors' priorities seemed to have shifted to protecting their functional areas of responsibility. In addition, core functions such as capital planning had been restructured and reorganized multiple times without follow through on critical implementation of functionality, fostering instability in the organization. Historically, all of these factors have inhibited communication and effective collaboration between Line Departments and the staff departments required to support them (*i.e.*, the shared services functions).

Figure 4 – Current Organizational Structure



## OBSERVATIONS & FINDINGS

- ✧ *Line Departments would benefit from shared service functions that are better aligned to achieve efficiency and cross-functional communication, as well as to eliminate redundant structures within the organization*

The Port Authority's organizational structure currently utilizes a combination of divisional (*i.e.*, Line areas: Aviation, Port Commerce, TB&T, PATH) and centralized, staff/functional (*i.e.*, staff areas: Finance, Human Resources, Engineering, Public Relations/Marketing, Legal, Procurement, Capital Planning, etc.) departments. The Agency's Line Departments are semi-autonomous units with certain shared services being provided by the staff/functional departments. A staff/functional department structure for shared services allows a relatively efficient specialization of labor, reduction in duplication of work, and economies of scale. The Port Authority would benefit from an improved staff/functional department relationship with the Line Departments that are the core of the Agency.

The Agency's existing organizational model is an early stage matrix management structure that combines divisional and functional departmentalization to gain the advantage of both sources of input. A matrix structure, if properly executed, is a flatter model and should allow for quicker response times because information is exchanged more rapidly under this rubric than a hierarchical organization. To avoid potential role ambiguity and conflicts, the positions with dual reporting structures should have a direct reporting relationship to Line Departments with an indirect reporting relationship to staff/functional departments. However, to date, these expected benefits have not been fully realized at the Port Authority, so further refinement (with enhanced clarity of roles, responsibilities, and reporting relationships) should yield marked improvements.

- ✧ *The Port Authority would benefit both from an Agency-wide strategy document to focus and align all Line Departments and shared service functions as well as a key initiative plan with necessary specificity for implementation*

The last strategic plan prepared by the Port Authority dates back to 2006, well prior to the profound recession of 2008-2009. There have been multiple new appointments since then including: Chairman, Vice-Chairman, a majority of the Commissioners, as well as the Executive Director and Deputy Executive Director. Additionally, the recent retirements of the Chief Operating Officer and Chief Administrative Officer, and announced retirement of the Chief Financial Officer provide a unique window to shape the organization and properly position it for its future.

- ✧ *The Port Authority has made great strides at initial development of operational and financial scorecards/dashboards, but should enhance them to include specific quantifiable objectives to ensure accountability for their achievement at all levels of the organization*

The office of the Acting COO has been in the process of developing dashboards for use by Line Departments in measuring their performance. These dashboards must be expanded to capture the status of key initiatives and be tailored with appropriate levels of supporting detail for each of Agency's constituencies including the Board of Commissioners, Executive Director and Deputy Executive Director as well as Line Departments and staff support functions.

The Agency is proficient in producing enormous amounts of data with respect to its businesses and operations. However, the data could be better organized to quickly view the status of operations. Accordingly, reports reviewed by directors and executive staff should be succinct and focus the recipient on the relevant information necessary to make business decisions efficiently, address problems, and exploit opportunities.

- ✧ *The opportunity exists for current compensation to be better aligned with the objectives of enhanced productivity and efficiency, while differentiating between merit and tenure*

The current classification strategy for employee and compensation policies was implemented in the late 1980's. Incentives were historically non-monetary rewards (e.g., enhanced vacation allowances, generous health benefits, and post-retirement medical, among others). Historically, over 70 percent of Port Authority management employees have been rated excellent or exceptional through internal performance reviews, defying conventional performance rating distribution guidelines. This general practice led to promoting employees based on seniority and an organizational structure with very broad middle and upper management ranks.

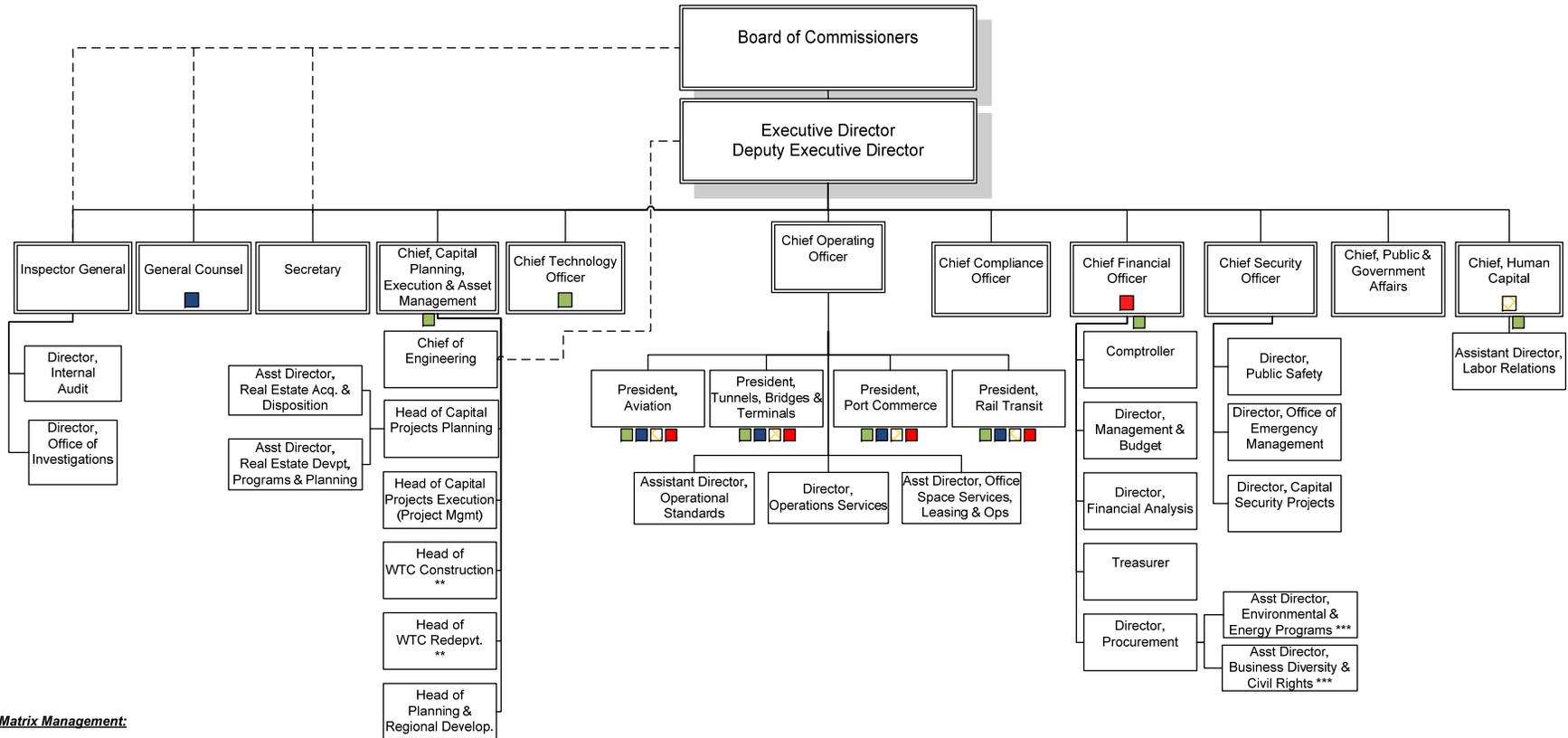
- ✧ *Employee mobility is critical to provide clear paths to alternative career opportunities across both the Line Departments and shared service functions*

Given the headcount reductions and limited hiring since 1995, there has been more of a focus on financial incentives to support vertical movement rather than career enhancing lateral growth. As a result, the Port Authority must identify business-driven programs that can attract, retain, and motivate a world-class workforce, given the expected higher rates of retirement and attrition in the next several years.

## RECOMMENDATIONS

**Figure 5** is a preliminary organizational design proposed to improve accountability, enhance capital delivery efficiency, and facilitate coordination among Line and Staff Departments.

Figure 5 – Preliminary Draft Organizational Chart



**Matrix Management:**

- A dedicated legal resource, within each Line Department, will report directly to the Line Department head with a dotted line reporting to General Counsel
- ☐ A dedicated HR resource for each Line Department, centralized within HR, will report the Director of HR with a dotted line reporting to the Line Departments
- Each Line Department currently has a dedicated financial resource with oversight provided by the CFO and Management & Budget Department
- The reconstituted Chief Technology Officer role will have dedicated IT representatives to be identified in the functional areas marked with a green box. These representatives will consist of existing staff in those areas who currently function in IT related roles. These individuals will assist in the better use and efficiency of IT systems currently being used throughout the agency

\*\* WTC Construction and WTC Redevelopment will become separate line department once project is in service  
 \*\*\* Would contain only procurement related function. Remaining functions would be centralized under Chief Compliance Officer

Proposed organizational changes are as follows:

- Enhance the role of **COO** to allow for full authority and power to lead and direct Line Departments, and maintain continuity in the face of inevitable turnover of the politically appointed Executive Director and Deputy Executive Director.
- **Elevate Line Director titles** (Aviation, TB&T, Port Commerce, and Rail Transit) to President to reflect the true nature of their profit and loss responsibility, and accountability for the deployment of capital. Agencies such as the MTA have Presidents over their key operating organizations.
- **Fully implement Chief Security Officer** organization as recommended by the Chertoff Group, to serve as a centralized point of command and control of the security apparatus of the Agency.
- **Eliminate the Chief Administrative Officer** role and reassign Procurement to CFO and Operational Services & Operational Standards to office of COO to provide critical analytical support and conduct “deep dives” at the Line Departments, as necessary.
- **Elevate Director of Human Resources to Chief of Human Capital** and expand responsibilities to include Labor Relations. Given the significant importance of human resources to the Port Authority, especially in light of the significant succession planning issues that exist, it is critical that the Human Resource Department have a direct line to the Executive Director and Deputy Executive Director. In addition, given the complex nature of the existing union relationships, work rules and necessity for consistent compliance over all line departments, it is logical to include Labor Relations within the Human Resources department. Lack of centralized compliance has led to many of the existing work rule issues. The Port Authority should also retain outside counsel to assist in the ongoing collective bargaining negotiations.
- **Create a centralized Chief of Capital Planning, Execution and Asset Management** who would have authority, responsibility and accountability for the continuum of capital deployment – from planning and engineering design through execution – to drive accountability for on-time / on-budget delivery. The department would consist of the following direct reports:
  - **Head of Capital Projects Planning** that would lead the “planning” function by guiding the development of the capital plan during the fiscal year as well as periodic updates. He/she would have the following direct reports, which are portions of responsibility that currently exist within the Chief of Real Estate and Development:
    - **Assistant Director, Real Estate Acquisition & Disposition** – Guides all capital project related acquisition or disposition of Port Authority real estate.
    - **Assistant Director, Real Estate Development Programs & Planning** – Currently serves as a liaison with certain key projects such as Moynihan Station, redevelopment of the George Washington Bridge terminal, and the Port Authority Bus Terminal, with particular emphasis on real estate matters.
  - **Chief Engineer** would serve as construction manager for all of the related capital projects but fall under centralized accountability with an indirect, dotted-line reporting relationship to the Executive Director/Deputy Executive Director.

- **Head of Capital Projects Execution** – This individual would serve as the project management arm and coordinate all project management activities inside and outside the various line departments. Personnel would likely be sourced from the existing COO organization that includes a Program Director, Project Management Office, and Operations Programs.
- **Director, WTC Construction and Director of WTC Redevelopment** would remain under Office of Capital Projects until construction is complete, at that time the two areas would become a single line department under the Chief Operating Officer.
- **Create a Chief Technology Officer** position to better define technology strategy given the growing importance of technology for enhanced productivity and efficiency within the Agency. The need to migrate the Agency’s technology environment toward current and future industry standards and best practices requires a significant allocation of time and resources. The Port Authority currently has a myriad of systems with varying degrees of functionality. It is critical those systems be inventoried and managed centrally.
- **Assimilate roles and responsibilities of the existing Real Estate department** to the specific functional areas within the COO support staff and to the Capital Planning, Engineering & Execution function. Eliminate existing Chief role, splitting remaining roles and responsibilities as follows:
  - **Office Space Services & Property Management** is recommended to move under the COO.
  - **Leasing & Operations** is recommended to move under the COO.
  - **Real Estate Asset Acquisition and Disposition** is recommended to move under CPEAM.
  - **Development, Programs and Planning** is recommended to move under the Office of Capital Projects Planning, Execution & Asset Management.
- **Further centralize procurement** by assimilating relevant aspects of the existing Department of Environmental and Energy Programs, and Department of Business Diversity and Civil Rights into the procurement function.
- **Eliminate the Office of Strategic Initiatives**, rationalizing redundancies between Planning and Regional Development and departments within the CFO organization. Functionality would be absorbed by Planning and Regional Development.
- **Establish a Chief Compliance Officer** that would have the responsibility to lead and coordinate the Port Authority’s compliance efforts. This would include the design and implementation of internal controls, policies and procedures to assure compliance with applicable local, state and federal laws, regulations and third party guidelines. Responsibilities would also include managing audits and investigations into regulatory and compliance issues, and responding to requests for information from regulatory bodies. It is expected that this position would create a centralized repository for all compliance related issues.
- **Assimilate the Office of Environmental & Energy Programs and the Office of Business Diversity & Civil Rights** into the Chief Compliance Officer, Procurement, and CFO as follows:

- Office of Environmental & Energy Programs
  - Energy Procurement (Procurement);
  - Energy Management (CFO);
  - Compliance and Due Diligence (Chief Compliance Officer);
  - External Environmental Programs (Chief Compliance Officer); and,
  - Sustainability Initiatives (Chief Compliance Officer).
- Office of Business Diversity & Civil Rights
  - Maintenance of minority, women-owned, small and disadvantaged business enterprise program (Procurement);
  - Policy Development & Reporting (Chief Compliance Officer); and,
  - Civil Rights / Title VI Compliance (Chief Compliance Officer).
- **Create matrix management hubs** around certain shared service functions including finance, human resources, legal and information technology to encourage cross-collaboration, operating efficiencies and enhanced client service levels. This would entail having representatives from each of the aforementioned areas have dotted line relationships with Line Departments and certain other staff functions.
- **Support and accelerate changes in compensation structures** to allow for greater ease of movement for employees between and across Line Departments and staff functions for both promotions and lateral movements.
- **Complete development of dashboards** throughout the organization to regularly monitor and measure progress, timely identify negative variances, and quickly institute corrective actions.
  - The office of the Acting COO is in process of developing dashboards in collaboration with the Line and Staff Departments of the Agency. The critical aspect for dashboard development includes achieving agreement on the relevant and reliable metrics at a summary level as well as the constructs of supporting detail for each Line and Staff Department.
  - **Dashboards must address** user needs and have the following attributes:
    - Customized to respective levels within the Port Authority;
    - Timely distribution in order to take proactive remedial actions;
    - Ability to review supporting details to enhance diagnosis of issues;
    - Visibility and tracking of historical trends;
    - Data relevance and flow in support of objectives; and,
    - Focus on metrics that can be impacted by operating interventions.
- **Create leadership committees** at the Chief and Line Director level to focus on proactive problem solving and resolving impediments to Agency objectives.
  - As the de-facto Office of the CEO of the Port Authority, the Executive Director and Deputy Executive Director should oversee three related committees: **the Operating Management Committee, the Executive Committee, and the Capital Planning Council (the “CPC”)**, to direct and lead the organization to accomplish its goals and objectives. Effective councils invite full expression from respective members and unify their efforts in responding to organizational needs and objectives.

- As the aforementioned senior positions are filled, strong consideration should be given to providing competitive compensation relative to the private sector and Agency peers, with strong incentive based components for achieving the targeted performance improvement initiatives. Competitive compensation with aligned incentives will be key to attracting the best talent and reinvigorating the Agency's performance profile.
- **The Port Authority would benefit from establishment of a Key Initiatives Implementation Plan** to develop and monitor specific Agency objectives, the respective status, assigned responsibility, due dates, and next steps. An illustrative Key Initiatives Implementation Plan can be found in **Appendix – A: Key Initiatives Implementation Plan**

## VI. LINE DEPARTMENT REVIEW – AVIATION

### OVERVIEW

On the basis of system-wide passenger traffic, the Port Authority airports are collectively the busiest in the world. The New York Metropolitan Region's population density, industry activity, link to global markets, and wealth of cultural and entertainment venues, make it a priority market for regional, domestic, and international airlines. As a critical gateway for passengers and cargo, the Port Authority airports handled 1.2 million flights, 106 million passengers, and 2.3 million tons of cargo in 2011. Also in 2011, traffic in and out of the Port Authority's three major airports supported over 435,000 jobs, representing approximately \$20 billion in annual wages, and contributed to over \$55 billion in sales revenue for enterprises in the region. The Aviation Department's core functions include:

- Providing general management oversight for the region's five airports;
- Developing, managing, and maintaining passenger terminals, runways, and cargo facilities in compliance with FAA regulatory standards;
- Negotiating agreements and handling tenant relationships with airlines that rent passenger terminal gates and cargo space, as well as retail merchants and concession providers;
- Supervising outsourced contract services for various operational and maintenance activities; and,
- Managing security (including police and emergency response) and coordinating with the Transportation Security Administration ("TSA").

The Aviation Department derives revenue from four major sources: (i) leasing terminal and gate space to airlines, (ii) leasing cargo, retail, and restaurant facilities, (iii) charging flight fees to recover the cost to the Aviation Department of common elements of the airports used by all airlines, and (iv) parking, utility pass through, and other fees.

Airline passenger traffic through the region has increased 30 fold since the 1940s when the Port Authority gained jurisdiction over its three major airports: JFK, Newark & LaGuardia. In addition, increasingly stringent regulatory requirements under Part 139 of Title 14 of the Code of Federal Regulations ("Part 139") have added to the Aviation Department's workload, while at the same time the workforce has remained generally flat over the past five years. In addition to FAA compliance matters, regular operations, and maintaining a state of good repair (approximately 49 percent of the preliminary 2011 – 2020 Capital Plan, as shown in **Table 12** below), the Aviation Department is currently focused on a number of revenue producing capital projects. Approximately 39 percent of the Department's \$6.5 billion preliminary 2011 – 2020 Capital Plan is devoted to such initiatives. The two largest of these initiatives are the redevelopment of the Central Terminal Building at La Guardia (LGA) and Terminal A at Newark (EWR), which on a combined basis, account for 30 percent of the preliminary 2011 – 2020 Capital Plan.

**Table 12 – Aviation Preliminary 2011 – 2020 Capital Plan**

| <i>\$ in millions</i>  |                   | Aviation Capital Plan Needs |               |                      |                           |                            |                  |             |  |
|--|-------------------|-----------------------------|---------------|----------------------|---------------------------|----------------------------|------------------|-------------|--|
| Project Grouping   | # of Sub-Projects | Mandatory                   | Security      | State of Good Repair | System Enhancing Projects | Revenue Producing Projects | Totals           | %           |  |
| LGA Redevelopment <sup>(1)</sup>                             | 9                 | \$ -                        | \$ -          | \$ 175               | \$ 300                    | \$ 605                     | \$ 1,080         | 17%         |  |
| EWR Terminal A Redevelopment <sup>(1)</sup>                  | 9                 | -                           | -             | -                    | -                         | 817                        | 817              | 13%         |  |
| JFK Rehabilitation of Runway 4L-22R                          | 1                 | -                           | -             | 440                  | -                         | -                          | 440              | 7%          |  |
| Runway Safety Area (RSA) Improvements                        | 6                 | 269                         | -             | -                    | -                         | -                          | 269              | 4%          |  |
| JFK Delta Terminals 3 & 4 Redevelopment                      | 1                 | -                           | -             | -                    | -                         | 215                        | 215              | 3%          |  |
| AirTrain (Primarily EWR)                                     | 15                | 39                          | 11            | 67                   | 64                        | 20                         | 201              | 3%          |  |
| SWF Rehabilitation of Runways 9-27 and 16-34                 | 1                 | -                           | -             | 148                  | -                         | -                          | 148              | 2%          |  |
| EWR Rehabilitation of Runways 4-22                           | 2                 | -                           | -             | 48                   | -                         | -                          | 48               | 1%          |  |
| Subtotal - 44 Projects                                       | 44                | 308                         | 11            | 878                  | 365                       | 1,657                      | 3,219            | 49%         |  |
| Remaining 378 Projects                                       | 378               | 282                         | 423           | 1,897                | 484                       | 206                        | 3,292            | 51%         |  |
| <b>Total Value of Aviation Projects in 2011 Capital Plan</b> | <b>422</b>        | <b>\$ 591</b>               | <b>\$ 434</b> | <b>\$ 2,775</b>      | <b>\$ 849</b>             | <b>\$ 1,862</b>            | <b>\$ 6,511</b>  | <b>100%</b> |  |
| Value of Projects Funded Beyond 2020                         |                   | 60                          | -             | 220                  | 410                       | 310                        | 1,000            |             |  |
| <b>Total Value of Funded Projects</b>                        |                   | <b>\$ 651</b>               | <b>\$ 434</b> | <b>\$ 2,995</b>      | <b>\$ 1,259</b>           | <b>\$ 2,172</b>            | <b>\$ 7,511</b>  |             |  |
| Value of Unfunded Projects                                   |                   | 30                          | 260           | 1,980                | 2,110                     | 10                         | 4,390            |             |  |
| <b>Unconstrained Aviation Capital Projects</b>               |                   | <b>\$ 681</b>               | <b>\$ 694</b> | <b>\$ 4,975</b>      | <b>\$ 3,369</b>           | <b>\$ 2,182</b>            | <b>\$ 11,901</b> |             |  |

Notes:

- 1) The preliminary 2011 – 2020 Capital Plan has only the PFC related components associated with the Central Terminal Building at LGA and Terminal A at EWR. Total project costs for the two approximate \$5.4 billion

Several projects are funded in whole or in part by PFCs. PFCs were first authorized by Congress in 1990, and originally allowed commercial airports controlled by public agencies to collect fees up to \$3.00 for every enplaned passenger. Currently, airports can charge up to \$4.50 per enplaned passenger. Since the rate ceiling is not indexed to inflation, the real value of this funding source has eroded significantly during the past 22 years. Airports use these fees to fund FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier competition. The Airports Council International has approached Congress to recalibrate PFC rates, among other PFC reforms. PFCs are included below Net Operating Revenue in **Table 13**.

## FINANCIAL RESULTS

Aviation is the largest line segment in terms of revenue and total operating cash flow (\$2.2 billion and \$1.1 billion, respectively, in 2011) and is second largest based on headcount (with 964 personnel). **Table 13** is a summary of cash flow generated by the Department after considering both inflows from grants and outflows from capital projects. Growth in revenue has outpaced growth in expenses while amounts invested in facilities have decreased. As a result, free cash flow has more than doubled since 2007 (refer to **Table 13** below), which has positioned the Department for its next cycle of major capital projects.

**Table 13 – Aviation Annual Financial Trend**

| Aviation<br>Financial Summary (\$ in millions) | Actual         |                |                |                |                | Budget         | CAGR         |
|--|----------------|----------------|----------------|----------------|----------------|----------------|--------------|
|  | 2007           | 2008           | 2009           | 2010           | 2011           | 2012           | '07 to '12   |
| Revenue  | \$1,918.0      | \$2,025.9      | \$2,043.1      | \$2,125.0      | \$2,221.2      | \$2,219.9      | 3.0%         |
| Expenses                                       | (1,245.0)      | (1,346.2)      | (1,306.1)      | (1,317.7)      | (1,385.6)      | (1,396.1)      | 2.3%         |
| Net Operating Revenues                         | 673.0          | 679.7          | 737.0          | 807.3          | 835.6          | 823.8          | 4.1%         |
| % of Gross Revenue                             | 35.1%          | 33.5%          | 36.1%          | 38.0%          | 37.6%          | 37.1%          |              |
| Grants, Contributions, AIP & PFCs              | 304.1          | 313.3          | 287.4          | 303.4          | 273.5          | 287.4          | -1.1%        |
| Operating Cash Flow                            | 977.1          | 993.0          | 1,024.4        | 1,110.7        | 1,109.1        | 1,111.2        | 2.6%         |
| Invested in Facilities                         | (673.0)        | (631.2)        | (658.1)        | (504.7)        | (217.3)        | (452.4)        | -7.6%        |
| <b>Free Cash Flow</b>                          | <b>\$304.1</b> | <b>\$361.8</b> | <b>\$366.3</b> | <b>\$606.0</b> | <b>\$891.8</b> | <b>\$658.8</b> | <b>16.7%</b> |
| % of Gross Revenue                             | 15.9%          | 17.9%          | 17.9%          | 28.5%          | 40.1%          | 29.7%          |              |
| Annual Change                                  |                | 19.0%          | 1.3%           | 65.4%          | 47.1%          | (26.1%)        |              |
| Non Represented Employees                      | 201            | 243            | 245            | 239            | 228            | 263            |              |
| Represented Employees                          | 765            | 763            | 801            | 775            | 736            | 779            |              |
| Total Employees                                | 966            | 1,006          | 1,046          | 1,014          | 964            | 1,042          |              |

As shown in **Table 14** below, the primary source of revenue is rental fees charged for commercial use of airport space and services (e.g., airlines' use of terminals, cargo handling services, restaurant and retailer space, advertising space). Rental revenue is largely fixed, based on multi-year contracts with airlines and other tenants. The 4.1 percent annual rental revenue increase since 2007, despite the decline and rebound of passenger traffic, is the result of escalation clauses in existing agreements, and the market based rental rate increases previously negotiated with airlines that reflects the attractiveness of the New York market.

**Table 14 – Aviation Revenue Trend & Components**

| Aviation<br>Financial Summary (\$ in millions)  | Actual            |                   |                   |                   |                   | Budget            | CAGR        |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------|
|   | 2007              | 2008              | 2009              | 2010              | 2011              | 2012              | '07 to '12  |
| Rentals: Terminal/Cargo, Concession & Other (1) | \$841.3           | \$916.3           | \$936.3           | \$980.8           | \$1,047.6         | \$1,030.0         | 4.1%        |
| Flight Fees (2)                                 | 547.0             | 569.8             | 597.7             | 615.2             | 633.9             | 645.4             | 3.4%        |
| Parking, Utilities & Other Fees (3)             | 529.7             | 539.8             | 509.5             | 529.0             | 539.7             | 544.5             | 0.6%        |
| <b>Total Revenues</b>                           | <b>\$ 1,918.0</b> | <b>\$ 2,025.9</b> | <b>\$ 2,043.5</b> | <b>\$ 2,125.0</b> | <b>\$ 2,221.2</b> | <b>\$ 2,219.9</b> | <b>3.0%</b> |
| Annual change                                   |                   | 5.6%              | 0.9%              | 4.0%              | 4.5%              | -0.1%             |             |
| Total PA Gross Revenue (from FRAP report)       | 3,191.6           | 3,527.6           | 3,552.2           | 3,634.0           | 3,815.0           | 4,131.6           |             |
| Percent of Total PANYNJ Revenue                 | 60.1%             | 57.4%             | 57.5%             | 58.5%             | 58.2%             | 53.7%             |             |
| <b>Key Operating Statistics (000)</b>           |                   |                   |                   |                   |                   |                   |             |
| Passengers (4)                                  | 109,069           | 106,214           | 101,482           | 103,691           | 105,518           | 108,385           | -0.1%       |
| Total Cargo-tons (4)                            | 2,620             | 2,343             | 1,921             | 2,207             | 2,261             | 2,451             | -1.3%       |
| Total Plane Movements (4)                       | 1,271             | 1,249             | 1,181             | 1,168             | 1,185             | 1,274             | 0.0%        |

Notes:

- 1) Terminal, Cargo & Other Rental includes revenue from the lease of space for advertising, retail and restaurant activities. It also includes revenue from Special Project Bonds ("SPB") associated with terminals at LGA and JFK. Revenue from SPBs is expensed for debt service on a dollar-for-dollar basis
- 2) Flight Fee reflects reimbursements from airlines that cover airport operating and capital expenses used to maintain and improve the Public Aircraft Facilities (common airside areas used by all airlines) and an allocation of Agency expenses
- 3) The New York airports sell electricity, water, and chilled and hot water for temperature control at terminals. These are reflected as utility revenue
- 4) Passenger traffic has rebounded to near peak, pre-recession levels, but plane movements are down, in part because airlines have been using fewer aircraft to optimize utilization. Cargo volume remains suppressed since the recession, but shows evidence of slow recovery

The Port Authority airports also charge flight fees to airlines (*i.e.*, “landing fees” or “take off fees”) that reimburse the airports for the expense of building and maintaining common airside areas used by the airlines. The flight fee level of approximately \$7.00 per thousand pounds landed reflects old airport facilities, the cost of labor and supplies in the New York Metropolitan area, and current traffic demand.

## OBSERVATIONS & FINDINGS

- ✧ *Maintaining compliance with regulatory standards is crucial. Meeting progressively stringent requirements without adding headcount is increasingly difficult and expensive*

The FAA mandates that airports meet an exhaustive list of operational and safety standards to maintain their certification under Part 139. Non-compliance with this certification could result in serious financial and operational consequences. Although the airport facilities have received improved Part 139 inspection reports, they have historically struggled to fix violations in a timely manner, primarily as a result of budgetary constraints leading to insufficient maintenance staff, and a lack of inventory of the necessary parts, such as lights and signs. To properly align the workload associated with Part 139, the Department estimates that it needs additional personnel for enhanced oversight, training, wildlife management and safety management compliance. The net incremental cost would be mostly absorbed in flight fees paid by airlines, and may generate savings from overtime, with further efficiencies from avoiding redeployment of labor.

Part 139 also requires runway safety areas (“RSAs”) at both ends of every runway. RSAs are an incremental stretch of pavement or an Engineered Materials Arrestor System (“EMAS”) that provides additional room in the unlikely event an aircraft overruns or undershoots a runway. Ten of the Port Authority airports’ 26 runway ends still must be made compliant. The Aviation Department expects to invest nearly \$500 million system-wide to meet Part 139 criteria for RSAs by the FAA’s 2015 deadline.

Beyond Part 139 initiatives, the Aviation Department has been limited in areas of preventive maintenance and major works projects due to the capital constraints of the Agency. As a result, emergency and corrective work on critical assets primarily consumes staff and budget resources.

- ✧ *Airport infrastructure is significantly aged (averaging 52 years old). Budgeted upgrades and replacement projects require \$6.5 billion of additional capital through 2020*

Signs of age at older terminals are obvious, and cause the airports to rank among the worst in the country in terms of customer satisfaction.<sup>1</sup> Buildings are nearing obsolescence, infrastructure is deteriorating, and maintenance needs are mounting. The worsening condition

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<sup>1</sup> 2010 surveys by Zagat & JD Power & Associates.

of assets translates to escalating operating costs. Critical projects at the main airports include Delta's expansion of Terminal 4 at JFK to replace Terminal 3, the Central Terminal Building at LGA, and Terminal A at EWR. These modernization efforts will significantly improve traveler service levels.

- ✧ *The Port Authority airports are already operating at or near capacity due to FAA-imposed caps on the number of hourly take-off and landing combinations, or "slot control." To grow further will require technological innovation, regulatory modifications, and/or physical expansion*

Slot control is designed to limit delays by reducing the volume of aircraft using the region's airspace and airports. Even though the Aviation Department has invested heavily in delay reduction technology (both ground and airspace management systems) and has improved on-time performance at its airports, the caps remain in place. Adding back just one slot per hour per airport would translate into approximately \$6 million in additional Agency revenue and 1.3 million incremental passengers annually. The estimated economic impact to the region would be approximately \$680 million in sales, 5,300 jobs, and \$250 million in wages.<sup>2</sup>

The FAA's NextGen program is an initiative of new technologies and operational and procedural changes that provides precision and flexibility to remove many of the airspace constraints imposed by the geographic proximity of the region's airports. Phase I of NextGen is being deployed by the FAA over the coming years through 2018, and could add the capacity for approximately 20 flights per hour (system-wide, cumulatively across EWR, LGA and JFK), that could amount to an estimated 26 million more passengers and \$125 million of incremental revenue annually.<sup>2</sup>

## REVENUE ENHANCEMENT OPPORTUNITIES

Between aviation-specific and ancillary operations, the Aviation Department has potential for a variety of income streams. With some incremental investment to activate underutilized assets, the Department could generate approximately \$15 million to \$25 million annually in revenue from new access fees and rentals that are in various early stages of planning and analysis.

- ✧ *Incremental rental revenues could be derived from redeveloped cargo and hotel facilities at JFK*

Aviation's JFK cargo redevelopment initiative seeks to provide strategic replacement of its aging asset base, and increase cargo capacity in a modernized environment. Due to successive years of constrained expense budgets, the Aviation Department has not had the resources to actively market its cargo facilities, many of which are old, obsolete, or vacant. In June 2011, the Aviation Department conducted a study of the current level of demand and market trends

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<sup>2</sup> Based on data provided by the Aviation Department and third party commercial aviation consultancy firm Landrum & Brown.

affecting cargo at JFK, and developed a strategic plan to address cargo challenges facing the airport. While the study did not include specific dollar amounts of cost and benefit to the initiative, it outlined a number of issues, identified major categories of cost and benefit, and highlighted the need to initiate and accelerate marketing efforts to promote existing and redeveloped cargo facilities.

The planned redevelopment would begin on the north side of the airport and spread to the other three cargo areas, each a mini “campus” on JFK grounds. Revenue would be derived from multi-year ground rents or leases, for which preliminary estimates are used to project the potential revenues noted in this report.

Aviation has selected developers for two hotels at JFK, one on the former Ramada hotel site, and another on the site of the existing TWA Terminal site (where a lease is currently being negotiated with the selected developer). Capital to construct each hotel is expected to be approximately \$100 million to \$115 million, and would be provided by the tenant. Revenue from each site would be generated from a minimum lease payment and percentage share of gross hotel revenue. The start dates for development are uncertain pending agreement among the City of New York and various labor unions. Construction is expected to take up to 30 months in each case.

- ✧ *The Agency incurs significant costs to support third-party commercial beneficiaries that access its airports (i.e., off-airport parking operators, etc.). Similar to other airports nationally, the Agency should recoup a portion of its costs through market-based access fees charged to these third-party commercial beneficiaries*

Off-airport parking operators use airport infrastructure (i.e., roads), and benefit from access to the airport and travelers without making any current contributions to the support costs. This creates an unfair advantage over the on-site operators who pay fees designed to assist the airports recover a portion of their costs.

Since early 2010, Aviation has discussed various revenue sharing arrangements with off-airport parking operators. Contemplated structures would involve either a percentage share of revenue or a per-parking-space fee at lots near EWR. The fee would offset erosion of the Agency’s revenue from on-airport parking. Currently, 11 out of 17 off-airport parking operators have added \$4.00 to \$6.00 surcharges to their rates, but are not yet forwarding proceeds on to the Port Authority. This is an area of controversy due to perceived inequity in the situation.

The Aviation Department should consider increasing the AirTrain fare at JFK to garner additional annual revenue from existing ridership volumes, net of revenue sharing arrangements with the airlines. AirTrain fares are only charged to travelers connecting from the airport to rail-based public transportation off-airport, such as MTA or Long Island Railroad. The revenue increase would contribute to the expenditures associated with anticipated AirTrain component upgrades, and ultimate replacement given the system is approaching the second half of its useful life.

## COST CONTAINMENT OPPORTUNITIES

Given budgetary constraints, the Aviation Department has successfully limited spending by refining the procurement of contract services, mothballing and/or demolishing old buildings and reducing electricity use. As a result, total contribution, or productivity, per employee has steadily increased (*i.e.*, 2.6 percent per year, on average).

- ✧ *Aviation could further reduce costs by: (i) better managing maintenance routines, and (ii) outsourcing more landside electrical work*

In order to enhance productivity, the Aviation Department could replace its Maintenance Management Information System (“MMIS”) with one of several systems currently available “off the shelf,” and update its maintenance routines at each airport to achieve overtime savings, workload optimization, and better asset tracking that could reduce operating expenses by an estimated \$2 million per year. Assuming an initial capital outlay of \$5 million for the system (like those currently used by the third-party EWR and JFK AirTrain operators), return on investment over 10 years would be approximately 35 percent. Improved tracking of airfield electrical repairs could also shorten electrical outages and further facilitate compliance with FAA regulations (Part 139). This type of asset management should be carefully coordinated with a reconfigured CPEAM.

Aviation could reduce labor costs by outsourcing more landside electrical work (*i.e.*, re-lamping and other low-tech tasks). Cost savings would come in the form of reduced overtime costs, savings from not having to pay fully burdened payroll expenses, and reduced delays because Aviation Department electricians will be able to focus on airside needs. This recommendation pertains primarily to electricians due to their relative contribution in meeting FAA compliance requirements.

## RECOMMENDATIONS

- Increase department headcount as appropriate to ensure compliance with FAA regulations, provided that the incremental costs are recoverable through flight fees
- The Port Authority should appropriately evaluate and prioritize Aviation’s capital needs given its major relative contribution but deteriorating asset base
- Collaborate with other major airports to petition the FAA to recalibrate PFCs to an inflation-adjusted level that would appropriately support critical, non-revenue producing infrastructure projects to the benefit of the region
- Actively support industry efforts to engage in slot control reform, and move forward on technological innovations such as NextGen
- Similar to other major airports, the Port Authority should evaluate increases to commercial access fees
- Advance plans to both enhance cargo capacity at JFK and promote existing facilities at JFK for additional revenues
- As part of an Agency-wide effort, implement new asset management system to better track and improve the cost to maintain the Aviation Department’s \$14 billion in assets

## VII. LINE DEPARTMENT REVIEW – TUNNELS, BRIDGES & TERMINALS

### OVERVIEW

TB&T manages and maintains six interstate vehicular crossings and two interstate bus terminals that are at the foundation of the transportation network that drives the economic engine of the New York-New Jersey region. These facilities serve as the critical links, combined with PATH, in the Interstate Transportation Network that unifies the economies of the two states into a single world-class economic center, and fosters a quality of life and competitive cost of doing business that sets the region apart. Annually, 460 million passengers and \$326 billion of freight traverse these facilities, making them some of the nation’s busiest and most efficient transportation assets.

Statistics on age, revenue and volume for TB&T facilities are summarized in **Table 15** below:

**Table 15 – TB&T Summary Statistics**

| <i>(millions)</i>                       |                              |                            |                               |  |
|---|------------------------------|----------------------------|-------------------------------|--|
| <b>Tunnels, Bridges &amp; Terminals</b> |                              |                            |                               |  |
| <b><i>Facilities</i></b>                | <b><i>Year opened</i></b>    | <b><i>2011 Revenue</i></b> | <b><i>2011 Volume (1)</i></b> |  |
| Bayonne Bridge                          | 1931                         | \$ 30.0                    | 3.5                           |  |
| Goethals Bridge                         | 1928                         | 131.8                      | 13.1                          |  |
| George Washington Bridge                | 1931                         | 468.8                      | 52.4                          |  |
| Holland Tunnel                          | 1927                         | 132.0                      | 16.8                          |  |
| Lincoln Tunnel                          | 1937/1945/1957 (three tubes) | 164.0                      | 20.6                          |  |
| Outerbridge Crossing                    | 1928                         | 115.6                      | 14.9                          |  |
| Port Authority Bus Terminal             | 1957                         | 35.5                       | 2.3                           |  |
| George Washington Bus Station           | 1963                         | 1.1                        | 0.3                           |  |
|   |                              | \$ 1,079.0                 | 124.0                         |  |

Notes:

- 1) Volume for bridges and tunnels measured by eastbound vehicle traffic and for bus terminals by bus movements (bus passengers at the PABT and at the GW Bus Station are 64.6 million and 4.6 million, respectively)

Many of the facilities were hailed as engineering marvels when constructed, however, the majority are now over 80 years old and require significant capital to safely operate and keep pace with demand. There is a significant backlog of projects due to past deferral of maintenance capital expenditures. Over \$14.6 billion of capital projects have been identified for TB&T: \$6.7 billion are accounted for in the preliminary 2011 – 2020 Capital Plan, \$3.6 billion are funded for the period beyond 2020, and \$4.3 billion are unfunded (see **Table 16** below).

**Table 16 – TB&T preliminary 2011 – 2020 Capital Plan**

| Project:  | TB&T Capital Needs |               |                  |                           |                            |  | Total            |
|---|--------------------|---------------|------------------|---------------------------|----------------------------|--|------------------|
|   | Mandatory          | Security      | SGR              | System Enhancing Projects | Revenue Producing Projects |  |                  |
| Bayonne Bridge Navigational Clearance Program <sup>(1)</sup>  | -                  | -             | -                | 1,246                     | -                          |  | \$ 1,246         |
| Lincoln Tunnel Access Project                                 | -                  | -             | 1,800            | -                         | -                          |  | 1,800            |
| George Washington Bridge suspender cable replacement          | -                  | -             | 715              | -                         | -                          |  | 715              |
| Lincoln Tunnel Helix Project                                  | -                  | -             | 395              | -                         | -                          |  | 395              |
| Goethals Design-Build-Finance-Maintain Program <sup>(2)</sup> | -                  | -             | 176              | -                         | -                          |  | 176              |
| <i>Subtotal</i>   | \$ -               | \$ -          | \$ 3,086         | \$ 1,246                  | \$ -                       |  | \$ 4,332         |
| Remaining 226 smaller projects                                | 10                 | 90            | 1,864            | 274                       | 140                        |  | 2,378            |
| <b>Total value of TB&amp;T Projects in 2011 Capital Plan</b>  | <b>\$ 10</b>       | <b>\$ 90</b>  | <b>\$ 4,950</b>  | <b>\$ 1,520</b>           | <b>\$ 140</b>              |  | <b>\$ 6,710</b>  |
| Value of projects funded beyond 2020                          | -                  | -             | 2,830            | 730                       | -                          |  | 3,560            |
| <b>Total value of funded projects</b>                         | <b>\$ 10</b>       | <b>\$ 90</b>  | <b>\$ 7,780</b>  | <b>\$ 2,250</b>           | <b>\$ 140</b>              |  | <b>\$ 10,270</b> |
| Value of unfunded projects                                    | 10                 | 120           | 2,630            | 1,490                     | -                          |  | 4,250            |
| <b>Unconstrained TB&amp;T Capital Projects</b>                | <b>\$ 20</b>       | <b>\$ 210</b> | <b>\$ 10,410</b> | <b>\$ 3,740</b>           | <b>\$ 140</b>              |  | <b>\$ 14,520</b> |

Notes

- 1) Raising the Bayonne bridge is for the benefit of Port Commerce
- 2) The expenditures are for land acquisition funds. The PA plans to attract private sector capital to fund the rest of the project

To fund, in part, the capital needs of the Port Authority assets, tolls were increased in September 2011, the first increase since 2008, and only the third since 2001. For automobiles, E-Z Pass tolls in peak hours increased from \$8.00 to \$9.50 (approximately 80% of drivers); cash tolls increased further, from \$8.00 to \$12.00 (approximately 20% of drivers). E-Z Pass tolls are scheduled to increase by \$0.75 in each December from 2012 – 2015, with the cash tolls increasing by a dollar in each instance.

## FINANCIAL RESULTS

**Table 17 – TB&T Revenue Elements & Key Operating Statistics**

| Tunnels Bridges and Terminals<br>Revenue Summary (\$ in millions) | Actual          |                 |                   |                   |                   | Budget            |
|---|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|
|   | 2007            | 2008            | 2009              | 2010              | 2011              | 2012              |
| <b>Revenue</b>  |                 |                 |                   |                   |                   |                   |
| Tolls   | 707.6           | 948.8           | 966.8             | 964.7             | 1,033.0           | 1,340.2           |
| Bus Related   | 13.9            | 14.7            | 14.7              | 14.4              | 16.3              | 16.0              |
| Parking   | 9.2             | 9.5             | 9.8               | 10.8              | 10.3              | 10.5              |
| Other   | 19.9            | 18.3            | 18.0              | 19.9              | 19.4              | 19.0              |
| <b>Total Revenues</b>   | <b>\$ 750.6</b> | <b>\$ 991.4</b> | <b>\$ 1,009.3</b> | <b>\$ 1,009.9</b> | <b>\$ 1,079.0</b> | <b>\$ 1,385.7</b> |
| <i>Annual change</i>  |                 | 32.1%           | 1.8%              | 0.1%              | 6.8%              | 28.4%             |
| <b>Key Operating Statistics (000)</b>                             |                 |                 |                   |                   |                   |                   |
| # of Vehicles in Tunnels  | 39,191          | 37,808          | 36,857            | 37,251            | 36,419            | 37,466            |
| # Vehicles in Bridges   | 87,813          | 85,917          | 84,643            | 83,955            | 82,731            | 84,049            |
| <b>Total Vehicles in Bridges &amp; Tunnels</b>                    | <b>127,004</b>  | <b>123,725</b>  | <b>121,500</b>    | <b>121,206</b>    | <b>119,150</b>    | <b>121,515</b>    |
| <i>Annual change</i>  |                 | -2.6%           | -1.8%             | -0.2%             | -1.7%             | 2.0%              |
| Bus Movements at PABT   | 2,169           | 2,225           | 2,240             | 2,220             | 2,264             | 2,309             |
| Bus Movements at GWBBS  | 305             | 324             | 295               | 300               | 307               | 313               |
| <b>Total Bus Movements</b>  | <b>2,474</b>    | <b>2,549</b>    | <b>2,535</b>      | <b>2,520</b>      | <b>2,571</b>      | <b>2,622</b>      |
| <i>Annual change</i>  |                 | 3.0%            | -0.5%             | -0.6%             | 2.0%              | 2.0%              |

The vast majority of TB&T's revenue comes from tolls (97 percent of the 2012 budget). Bus related revenues are modest and parking and other miscellaneous revenue account for the remainder. As shown in **Table 18** below, revenue increased significantly when the tolls increased: March 2008 and again in September 2011, and is forecast to further increase in 2012 when the full year impact is felt. Otherwise revenue has been relatively flat, slightly above the modest negative growth in vehicle volume in tunnels and bridges that was reflective of uncontrollable factors including the recession and the related decrease in employment. Vehicle traffic is budgeted to increase by 2.0% in 2012, however through the first six months, actual traffic was down 2.3% versus 2011 due to the elastic effects of the September 2011 toll increase and sluggish economic recovery in the sectors that are important to travel demand at the bridges and tunnels.

**Table 18 – TB&T Components of Free Cash Flow at TB&T**

| Tunnels Bridges and Terminals<br>Cash Flow Summary (millions) | Actual          |                 |                 |                 |                 | Budget          |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|   | 2007            | 2008            | 2009            | 2010            | 2011            | 2012            |
| Revenues  | \$ 750.6        | \$ 991.4        | \$ 1,009.3      | \$ 1,009.9      | \$ 1,079.0      | \$ 1,385.7      |
| Expenses  | 435.8           | 436.6           | 436.8           | 437.8           | 461.0           | 459.5           |
| <b>Net Operating Revenues</b>                                 | <b>314.8</b>    | <b>554.8</b>    | <b>572.5</b>    | <b>572.1</b>    | <b>618.0</b>    | <b>926.2</b>    |
| <i>Net Operating Revenue margin</i>                           | <b>41.9%</b>    | 56.0%           | 56.7%           | 56.7%           | 57.3%           | <b>66.8%</b>    |
| Grants, Contributions   | 13.2            | 6.8             | 2.4             | 20.5            | 6.2             | 1.7             |
| <b>Operating Cash Flow</b>                                    | <b>328.0</b>    | <b>561.6</b>    | <b>574.9</b>    | <b>592.6</b>    | <b>624.2</b>    | <b>928.0</b>    |
| Invested in Facilities:                                       | 154.5           | 178.9           | 175.1           | 140.6           | 171.3           | 627.5           |
| <b>Free Cash Flow</b>   | <b>\$ 173.5</b> | <b>\$ 382.7</b> | <b>\$ 399.9</b> | <b>\$ 452.1</b> | <b>\$ 452.9</b> | <b>\$ 300.4</b> |

TB&T is the second largest Line Department in terms of revenue and operating cash flow (\$1.1 billion and \$624 million, respectively, in 2011). As shown in the table above, TB&T has been able to keep expenses relatively steady despite increasing revenues, and as a result its net

operating revenue margin has increased meaningfully over the last five years, from 41.9 percent in 2007 to a budget of 66.8 percent in 2012. TB&T generates a significant and growing amount of operating cash flow: \$328 million in 2007 increasing to \$928.0 million budgeted in 2012. Despite this growth, the capital invested in TB&T facilities remained in the range of \$140 million to \$180 million for 2007 through 2011; in 2012 investment in facilities is budgeted to increase to \$627.5 million principally due to access projects underway at the Lincoln Tunnel.

It is logical to consider TB&T and PATH together, as they form the nucleus of the Port Authority's NY-NJ ITN.

**Table 19 – Interstate Transportation Network Cash Flow**

| Interstate Transportation Network (1)<br>Financial Summary (\$ in millions) | Actual           |                 |                  |                  |                 | Budget           | CAGR         |
|---|------------------|-----------------|------------------|------------------|-----------------|------------------|--------------|
|   | 2007             | 2008            | 2009             | 2010             | 2011            | 2012             | '07 to '12   |
| Revenue   | \$850.2          | \$1,102.6       | \$1,115.5        | \$1,119.8        | \$1,200.2       | \$1,526.9        | 12.4%        |
| Expenses  | (708.3)          | (731.3)         | (738.7)          | (825.0)          | (783.6)         | (797.6)          | 2.4%         |
| Net Operating Revenues  | 142.0            | 371.4           | 376.9            | 294.8            | 416.6           | 729.3            | 38.7%        |
| % of Gross Revenue  | 16.7%            | 33.7%           | 33.8%            | 26.3%            | 34.7%           | 47.8%            |              |
| Grants & Contributions  | 15.2             | 12.1            | 8.9              | 52.8             | 41.8            | 36.4             | 19.1%        |
| Operating Cash Flow   | 157.2            | 383.4           | 385.7            | 347.6            | 458.4           | 765.7            | 37.3%        |
| Invested in Facilities  | (344.7)          | (420.8)         | (508.8)          | (468.1)          | (538.4)         | (1,102.5)        | 26.2%        |
| <b>Free Cash Flow</b>   | <b>(\$187.5)</b> | <b>(\$37.4)</b> | <b>(\$123.1)</b> | <b>(\$120.4)</b> | <b>(\$80.0)</b> | <b>(\$336.7)</b> | <b>12.4%</b> |

Notes:

- 1) ITN includes TB&T, PATH and the Trans-Hudson Ferry; These numbers do not include the ARC project which was discontinued in October 2011 or items related to the World Trade Center HUB, both of which are items that have been included in past Port Authority ITN documentation

The tunnels and bridges, bus terminals, PATH trains and Ferry service are all related as they operate to provide access between New York and New Jersey. On a consolidated basis, they generate positive net operating revenue, but negative free cash flow due to the required investments in facilities to meet demand and maintain State of Good Repair. Net operating revenue is budgeted to increase from \$416.6 million in 2011 to \$729.3 million in 2012 largely due to the toll increase. However, free cash flow is still budgeted to be negative \$336.7 million due to the high capital costs required to maintain and secure the network's infrastructure.

## OBSERVATIONS & FINDINGS

- ✧ *\$6.7 billion of projects are included in the preliminary 2011 – 2020 Capital Plan to renovate TB&T's assets and maintain SGR*

The majority of the TB&T assets were built in the 1920s and 1930s. Significant investment is now required to renovate these structures, extend their useful lives, and maintain SGR. In response, the Port Authority has included \$6.7 billion in its preliminary 2011 – 2020 Capital Plan as shown in **Table 20**:

**Table 20 – Projected Investments in TB&T Facilities & Projected Cash Flow**

|                              | FY 2011  | FY 2012  | FY 2013    | FY 2014    | FY 2015    | FY 2016    | FY 2017    | FY 2018    | FY 2019    | FY 2020    | 10 year     |
|------------------------------|----------|----------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| (\$MM)                       | Actual   | Proj.    | Proj.      | Proj.      | Proj.      | Proj.      | Proj.      | Proj.      | Proj.      | Proj.      | Total       |
| Operating Cash Flow          | \$ 624.2 | \$ 916.0 | \$ 1,035.8 | \$ 1,161.1 | \$ 1,315.4 | \$ 1,460.6 | \$ 1,464.7 | \$ 1,444.1 | \$ 1,481.6 | \$ 1,618.6 | \$ 12,522.1 |
| Total Invested in Facilities | 171.3    | 625.5    | 755.7      | 922.8      | 945.2      | 1023.4     | 712.9      | 574.4      | 459.4      | 505.8      | 6,696.4     |
| Free Cash Flow               | \$ 452.9 | \$ 290.4 | \$ 280.1   | \$ 238.3   | \$ 370.2   | \$ 437.2   | \$ 751.8   | \$ 869.7   | \$ 1,022.1 | \$ 1,112.9 | \$ 5,825.6  |
| <i>Cummulative cash flow</i> |          | \$ 743.3 | \$ 1,023.5 | \$ 1,261.8 | \$ 1,632.0 | \$ 2,069.2 | \$ 2,821.0 | \$ 3,690.6 | \$ 4,712.8 | \$ 5,825.6 | n/a         |

In the 10 years ending 2020, TB&T is projected to generate approximately \$12.5 billion of operating cash flow: \$6.7 billion will be invested in its facilities which will leave \$5.8 billion in free cash flow before interest expense. This cash flow, along with the execution of various non-toll non-fare revenue enhancements, and operating cost reductions, will be necessary to fund the \$3.6 billion of projects identified for beyond 2020 and the \$4.3 billion of projects that are currently unfunded.

✧ *Due to cost cutting efforts, for over eight years TB&T has not met its target of preventative maintenance routines, and this could be expected to ultimately lead to more costly emergency repairs*

One consequence of keeping expenses flat over the last several years is that routine preventative maintenance has been cut back to offset other contractual expense increases, such as material and labor: in 2011, only 64 percent of all preventative routines were completed and only 76 percent of all “**priority**” preventative routines were completed. The cumulative effect of performing less than 80 percent of the routines is the increased risk of costly emergency repairs. In 2012, TB&T has \$88 million budgeted for these routine maintenance expenses. Management currently estimates that it would likely cost an incremental \$5 million to reach the Port Authority’s 80 percent target.

✧ *Continued effort is required to address transportation capacity limitations and optimize trans-Hudson travel. Solutions include: differentiated toll structures, further adoption of technologies, and improved bus network efficiency*

TB&T’s crossings and terminals are at capacity during peak hours and will not be able to accommodate growth in traffic demand that will accompany economic growth in the region. Resulting congestion costs billions of dollars annually in lost productivity. Given that the bridges and tunnels are physically constrained, limited options exist to expand capacity. Solutions will require:

- Increased throughput achieved by coordinating transportation modes;
- Enhanced roadway management (signing, striping, coning, construction coordination etc.);
- Adopting new technologies (e.g. intelligent transportation systems such as traffic monitoring and incidence response capacities); and,
- Instituting pricing incentives to spread demand.

Improvements to the trans-Hudson bus systems include:

- Renovations to the Port Authority Bus Terminal (“PABT”);
- Additional staging and bus loading capacity in New York City; and,

- Improvements to the network west of the Hudson River.
- ✧ *Over the next three years, the Port Authority must implement the scheduled annual toll increases at the bridges and tunnels to ensure adequate funding of critical ITN and specific TB &T capital projects. At the end of the three year phase-in, the proposed toll increases will generate approximately \$300 million of necessary incremental revenue annually*

The press and many elected officials were apparently critical of the magnitude of the September 2011 toll increases. However, as seen in **Table 21**, when comparing the cost of a roundtrip crossing, TB&T’s tolls are in-line or lower than the tolls charged on the MTA New York bridges.

**Table 21 – TB&T Comparative Tolls**

| Roundtrip Crossing | Automobile          |          | Five-axle Truck |          |
|--------------------|---------------------|----------|-----------------|----------|
|                    | Cash Toll           | EZ-Pass  | Cash Toll       | EZ-Pass  |
|                    | Port Authority TB&T | \$ 12.00 | \$ 9.50         | \$ 65.00 |
| New York MTA (1)   | \$ 13.00            | \$ 9.60  | \$ 70.00        | \$ 47.26 |

*Notes*

- 1) *Robert F. Kennedy Bridge, Verrazano Bridge, Bronx-Whitestone Bridge, Throgs Neck Bridge, Brooklyn-Battery Tunnel and the Queens Midtown Tunnel*

The Port Authority needs to better educate the public that its tolls are comparable with the tolls for the major MTA crossings. These users also need to be informed of the cost to modernize TB&T’s facilities and that the proceeds of increases are vital to fund Port Authority infrastructure projects. Informed public opinion and proactive addressing of misperceptions are necessary to mitigate the risk of the rescissions of scheduled future toll increases.

**NON-TOLL/NON-FARE REVENUE OPPORTUNITIES**

Initial revenue opportunities identified for TB&T range from approximately \$20 million to \$100 million annually.

- ✧ *TB&T property could be used to generate an estimated \$1 million to \$2 million in additional annual advertising revenue*

In June, 2011, the PABT’s façade was transformed by a massive, state-of-the-art digital screen that projects high-resolution graphics, animated text and video at the corner of 8<sup>th</sup> Avenue and 42<sup>nd</sup> Street. The Port Authority receives approximately \$400,000 per year plus a percentage of revenue over certain thresholds for this screen. There are numerous other areas where advertising can be displayed without risking motorist distraction and related safety concerns. The Port Authority has an exclusive contract with the outdoor advertising company JC Decaux (“Decaux”), who could help the Port Authority advance a series of outdoor advertising displays on buildings, billboards, banners, light poles and other surfaces, and could potentially underwrite the capital cost of the projects.

- ✧ *Toll violation recovery efforts should be strengthened through increased staffing and supportive legislative actions to enhance enforcement, in order to generate an estimated \$2 million to \$4 million of additional revenue annually*

**Figure 6 – TB&T: Toll Violations (2011)**



In 2011, the agency experienced over 2.6 million toll violations, or approximately 2 percent of total traffic. This represented approximately \$20.7 million of unpaid tolls, as shown in **Figure 6** above. Utilizing TB&T’s existing multi-step collections approach, they collected approximately \$4.8 million of the \$20.7 million (and collected an additional \$7.2 million in administrative fees). However, a significant portion remained: approximately \$15.9 million in unpaid tolls and additional associated fees. A material share of the uncollected tolls and fees could likely be captured with two additional full-time staff positions (in addition to the 1.5 full-time equivalents managing the process now), costing approximately \$350,000. More analysis is required to calculate expected additional recoveries but a range of \$2 million to \$4 million annually appears reasonable, which would far outweigh the additional cost. The success in collecting violations should also be bolstered by legislative support in New York and New Jersey to strengthen penalties and to secure interagency agreements for reciprocity across state lines. The agency promoted its collection efforts through its “wall of shame” earlier this year.

- ✧ *The Port Authority should evaluate alternative plans to help fund further investments in the bus terminals, which have significant capital needs*

Commuter bus carriers are charged a \$2.40 departure fee per bus. This compares to \$43.90 charged to long-distance bus carriers. As a result of the unequal rates, while commuter bus carriers represent 85 percent of the traffic, they only represent 15 percent of the revenue. In 2001, the Board approved a plan that initiated a five-year schedule to increase rates charged to commuter carriers to achieve parity. The rates were calculated such that at the end of the five-year period they would cover the bus terminal’s operating costs (net of public safety costs and interest costs). However, in an effort to encourage the general economic growth of the region, the increases were subsequently suspended. As a result, in 2011 the bus terminal lost \$62 million of net operating revenue.

## RECOMMENDATIONS

- Review all options to achieve the Port Authority's targeted completion rate of preventative maintenance routines
- Develop a marketing campaign to educate the public on the costs to modernize TB&T's assets and engender public support for critical infrastructure revitalization efforts
- Initiate discussions and set goals to capture incremental revenue from additional advertising
- Enhance personnel to pursue toll violators and toll revenue recovery
- Initiate discussions with appropriate legislative bodies and government agencies to create tools to enforce toll violations
- Review fees charged to bus carriers and develop a plan of action to reduce the loss at the bus terminals

## VIII. LINE DEPARTMENT REVIEW – PATH

### OVERVIEW

The Port Authority Trans Hudson Corporation (“PATH”) became a wholly owned subsidiary of the Port Authority in 1962 as a result of legislation passed by New York and New Jersey that authorized the development and operation of the original World Trade Center, and acquisition of the Hudson and Manhattan Railroad (“H&M”).

PATH’s core function is to manage the 24/7/365 operation of trains, passenger services, rail yards, signal systems, and the related safety and security programs in support of over 250,000 passenger trips every day. In 2009, PATH ranked 20<sup>th</sup> and 24<sup>th</sup> out of the top 50 largest transit agencies in the United States based on passenger trips and passenger miles, respectively.<sup>3</sup> PATH is an important alternate and complementary mode of transportation that relieves congestion for commuters that drive across the Agency’s bridges and tunnels. PATH’s revenue is primarily based on flat fares with numerous quantity purchase discount options. PATH also derives a small amount of revenue from advertising and retail leases primarily at the Journal Square Transportation Center in Jersey City, New Jersey. Unlike other transit systems, PATH receives no federal or state subsidies.

PATH is currently focused on increasing capacity in anticipation of rising passenger volumes associated with the opening and further build out of the WTC and development around the Harrison and Exchange Place stations. Ongoing capacity-related projects include station platform extensions to allow 10 railcar trains (vs. currently eight railcar trains) and signal system modernization. In addition, PATH recently replaced 350 railcars for its entire fleet of trains. PATH’s preliminary 2011 – 2020 Capital Plan includes \$3.1 billion for continued investment in its facilities. The key items are shown in **Table 22** below:

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<sup>3</sup> Source: American Public Transportation Association 2011 Fact Book

**Table 22 – PATH Preliminary 2011 – 2020 Capital Plan**

| Project  | PATH Capital Needs |               |                      |                           |                            | Total           | %           |
|--|--------------------|---------------|----------------------|---------------------------|----------------------------|-----------------|-------------|
|  | Mandatory          | Security      | State of Good Repair | System Enhancing Projects | Revenue Producing Projects |                 |             |
| Signal Replacement Program                               | -                  | -             | 498                  | -                         | -                          | 498             | 16%         |
| Tunnel Mitigation  | -                  | 254           | -                    | -                         | -                          | 254             | 8%          |
| Purchase of Railcars                                     | -                  | -             | 238                  | -                         | -                          | 238             | 8%          |
| Harrison Station Platform Elongation                     | -                  | -             | -                    | 206                       | -                          | 206             | 7%          |
| Ductbank Tunnels Under-River                             | -                  | 189           | -                    | -                         | -                          | 189             | 6%          |
| Grove St. Station Modernization                          | 160                | -             | -                    | -                         | -                          | 160             | 5%          |
| Substation - Washington St.                              | -                  | -             | 156                  | -                         | -                          | 156             | 5%          |
| New Railcars for 10-Car Operations                       | -                  | -             | -                    | 147                       | -                          | 147             | 5%          |
| Tunnel Floodgate   | -                  | 119           | -                    | -                         | -                          | 119             | 4%          |
| Railcar Overhaul Program                                 | -                  | -             | 111                  | -                         | -                          | 111             | 4%          |
| Subtotal   | 160                | 562           | 1,004                | 353                       | -                          | 2,078           | 68%         |
| Remaining 119 Smaller Projects                           | 8                  | 88            | 759                  | 122                       | -                          | 978             | 32%         |
| <b>Total value of PATH Projects in 2011 Capital Plan</b> | <b>\$ 169</b>      | <b>\$ 650</b> | <b>\$ 1,763</b>      | <b>\$ 475</b>             | <b>\$ -</b>                | <b>\$ 3,057</b> | <b>100%</b> |
| Value of projects funded beyond 2020                     | -                  | 20            | 110                  | 30                        | -                          | 160             |             |
| <b>Total value of funded projects</b>                    | <b>\$ 169</b>      | <b>\$ 670</b> | <b>\$ 1,873</b>      | <b>\$ 505</b>             | <b>\$ -</b>                | <b>\$ 3,217</b> |             |
| Value of unfunded projects                               | -                  | 20            | 1,560                | 530                       | -                          | 2,110           |             |
| <b>Unconstrained PATH Capital Projects</b>               | <b>\$ 169</b>      | <b>\$ 690</b> | <b>\$ 3,433</b>      | <b>\$ 1,035</b>           | <b>\$ -</b>                | <b>\$ 5,327</b> |             |

## FINANCIAL RESULTS

Compared with the three other major Line Departments, PATH is the smallest in terms of revenue (\$121 million in 2011). However, PATH is largest based on headcount (1,220 in 2011) primarily because of an emphasis on using in-house staff to complete PATH’s highly technical maintenance and capital projects during the few, short windows of time (approximately four hours a day) permitted during continuous train operations. Other than AirTrain feeder service to public transit at JFK and EWR, PATH is the only Port Authority Line Department that provides rapid transit public transportation. Consistent with numerous other rapid transit rail systems in the United States (all of which have high fixed costs), PATH operates at a loss (Net Operating Revenue in **Table 23** below). Over the past five years, modest fare increases with relatively flat operating expenses and growing grants and contributions have reduced PATH losses to approximately \$129 million of negative operating cash flow, or (\$1.65) per passenger, by 2012.

**Table 23 – PATH Annual Financial Trend**

| PATH<br>Financial Summary (\$ in millions) | Actual           |                  |                  |                  |                  | Budget           | CAGR        |
|--|------------------|------------------|------------------|------------------|------------------|------------------|-------------|
|  | 2007             | 2008             | 2009             | 2010             | 2011             | 2012             | '07 to '12  |
| Revenue                                    | \$99.4           | \$111.1          | \$106.1          | \$109.7          | \$121.1          | \$141.0          | 7.2%        |
| Expenses (1)                               | (266.9)          | (290.3)          | (300.9)          | (385.7)          | (322.1)          | (303.1)          | 2.6%        |
| Net Operating Revenues                     | (167.5)          | (179.2)          | (194.8)          | (276.0)          | (201.0)          | (162.1)          | -0.6%       |
| % of Gross Revenue                         | (168.5%)         | (161.3%)         | (183.6%)         | (251.6%)         | (165.9%)         | (115.0%)         |             |
| Grants & Contributions (2)                 | 2.0              | 2.7              | 5.3              | 32.3             | 35.1             | 32.9             | 75.0%       |
| Operating Cash Flow                        | (165.5)          | (176.6)          | (189.5)          | (243.7)          | (165.9)          | (129.3)          | -4.8%       |
| Invested in Facilities (2)                 | (158.2)          | (227.8)          | (326.3)          | (307.4)          | (341.0)          | (351.5)          | 17.3%       |
| <b>Free Cash Flow</b>                      | <b>(\$323.7)</b> | <b>(\$404.4)</b> | <b>(\$515.8)</b> | <b>(\$551.2)</b> | <b>(\$506.9)</b> | <b>(\$480.7)</b> | <b>8.2%</b> |
| % of Gross Revenue                         | (325.7%)         | (364.0%)         | (486.1%)         | (502.4%)         | (418.5%)         | (340.9%)         |             |
| Annual Change                              |                  | 24.9%            | 27.5%            | 6.9%             | (8.0%)           | (5.2%)           |             |
| Non Represented Employees                  | 163              | 164              | 172              | 171              | 173              | 173              |             |
| Represented Employees                      | 934              | 925              | 1,014            | 1,050            | 1,047            | 1,042            |             |
| Total Employees                            | 1,097            | 1,089            | 1,186            | 1,221            | 1,220            | 1,215            |             |

Notes:

- 1) 2010 expenses include \$88 million associated with certain WTC Transportation Hub design write-offs
- 2) Invested in Facilities and Grants & Contributions figures in the table above exclude amounts for WTC Transportation Hub

Unlike PATH, most other public transportation providers around the country are subsidized (e.g., MTA, NJ Transit, Chicago's RTA, and San Francisco's BART). PATH is supported by surplus cash flow generated mainly by TB&T, its sister Line Department in the ITN.

Approximately 95 percent of PATH revenue is derived from train fares, as shown in **Table 24** below. Most passengers take advantage of discounted fares, as illustrated by an average fare of \$1.50 in 2011 despite a full fare of \$2.00 (before the September 2011 \$0.25 fare hike). Fare increases are reflected in 2008, 2011 and 2012, driving the 7.7 percent growth rate in fare revenue. Other revenues have remained relatively flat.

**Table 24 – PATH Revenue Trend & Components**

| PATH<br>Financial Summary                | Actual        |                |                |                |                | Budget         | CAGR        |
|--|---------------|----------------|----------------|----------------|----------------|----------------|-------------|
|  | 2007          | 2008           | 2009           | 2010           | 2011           | 2012           | '07 to '12  |
| Farebox                                  | \$92.6        | \$105.5        | \$100.9        | \$104.7        | \$114.7        | \$134.3        | 7.7%        |
| Advertising                              | 1.8           | 1.8            | 1.2            | 1.5            | 1.5            | 2.2            | 4.1%        |
| Retail                                   | 1.4           | 1.3            | 1.4            | 1.2            | 1.7            | 1.6            | 2.7%        |
| Other (Parking, Bus & Intercompany Rent) | 3.6           | 2.5            | 2.6            | 2.3            | 3.2            | 2.9            | -4.2%       |
| <b>Total Revenue</b>                     | <b>\$99.4</b> | <b>\$111.1</b> | <b>\$106.1</b> | <b>\$109.7</b> | <b>\$121.1</b> | <b>\$141.0</b> | <b>7.2%</b> |
| Annual Change                            |               | 11.8%          | -4.5%          | 3.4%           | 10.4%          | 16.4%          |             |
| Percent of Total PANYNJ Revenue          | 3.1%          | 3.1%           | 3.0%           | 3.0%           | 3.2%           | 3.4%           |             |
| <b>Key Operating Statistics</b>          |               |                |                |                |                |                |             |
| Total Passengers (000s)                  | 71,594        | 74,956         | 72,281         | 73,912         | 76,556         | 78,400         | 1.8%        |
| Passenger Weekly Average (000s)          | 242           | 253            | 243            | 247            | 256            | 265            | 1.9%        |
| Average Fare                             | \$1.29        | \$1.41         | \$1.40         | \$1.42         | \$1.50         | \$1.71         | 5.8%        |
| 24-Hour On-time Performance              | 97.6%         | 96.5%          | 96.7%          | 97.0%          | 98.0%          | 98.0%          | NA          |

PATH is on pace to set a new record for ridership for the second consecutive year. Through June 2012, passenger volume of 39 million trips was approximately four percent favorable to 2011 results. Year to date results put PATH on pace to meet or exceed budgeted 2012 volume of 78.4 million passenger trips, up from the record 76.6 million logged in 2011.

PATH has kept expense increases (2.6 percent annual growth, **Table 23**) to a minimum relative to overall revenue increases (7.2 percent annual growth, **Table 24**), but has gradually increased represented headcount to support capital programs since 2007 (2.2 percent annual growth, from 934 in 2007 to 1,042 in 2012).

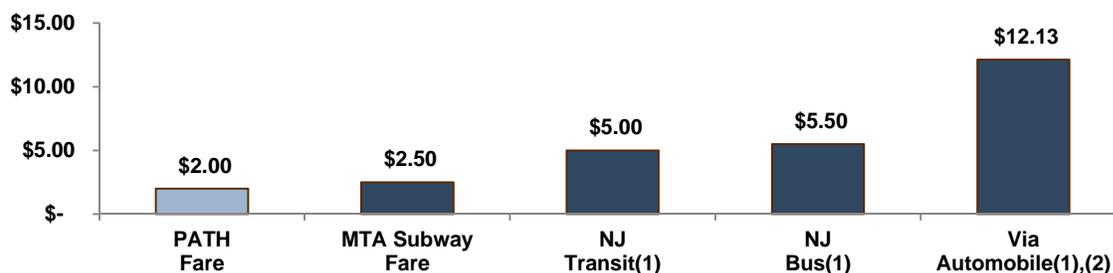
## OBSERVATIONS & FINDINGS

- ✧ *PATH offers its passengers a high standard of on-time performance for a relatively low flat fare, one that is far below the level necessary to cover operating expenses*

Since transit pricing is not market based, PATH operates at a significant loss. Breakeven performance is not feasible under the currently contemplated fare structure and total expenses aligned with maintaining 98 percent on-time performance. As an indication of the futility of breaking even, in 2011 the \$128 million labor expense alone exceeded total revenue of \$121 million. To break even in 2011, the average blended fare price would have needed to be \$4.12 (versus \$1.50 actual), or passenger traffic would have needed to be nearly triple (210.7 million versus 76.6 million actual), neither of which appears realistic in the current environment.

PATH is attempting to reduce its losses with scheduled annual fare increases of \$0.25 for the next three years that will bring the undiscounted full fare to \$2.75 by October 2014. **Figure 7** below provides a comparison of PATH fares to other forms of transportation in the area.

**Figure 7 – PATH vs. Other Modes of Transportation**



Notes:

- 1) Estimated cost per 15-mile trip from Newark, NJ to Manhattan
- 2) Automobile cost is comprised of \$9.50 E-ZPass toll plus \$2.63 in fuel; daily parking is not included

Though PATH has analyzed certain distance-based and on/off-peak pricing strategies in the past, the Agency currently does not have plans to implement such policies. Despite certain drawbacks, alternative fare structures remain potentially important and may need to be explored again in the future to balance the need for revenue growth with policies PATH's public ridership will support. Express service and zone premiums could also be implemented. However, each has offsetting complexities such as track capacity management, and relatively narrow zone demarcations as compared with distance-based systems in other cities that have more track miles than PATH.

- ❖ *PATH is adding capacity because of anticipated demographic changes that are expected to increase passenger volume in lower Manhattan and New Jersey by approximately 3 percent per year on average through 2020*

Growth of approximately 3 percent annually through 2020 is expected due to the opening and remaining build out of WTC facilities as well as development around the Harrison and Exchange Place stations. An enhanced signaling system will increase capacity by allowing trains to run at closer intervals. Upgrading PATH's antiquated signaling system is also a matter of maintaining a State of Good Repair, and is required by federal regulations. PATH is also in the midst of a project to lengthen train platforms at the six stations on the Newark to WTC line to accommodate 10-railcar trains up from eight (a 25 percent increase in capacity). PATH recently replaced its entire fleet of railcars (the last of 350 new railcars was delivered in early 2012). The new fleet will increase capacity by reducing outages to help PATH uphold its on-time performance standards while continuing to meet strict maintenance requirements.

Spending of \$1.1 billion is budgeted in the preliminary 2011 – 2020 Capital Plan for signal and platform modifications that will increase system capacity. Anticipated increases in passenger volume and scheduled fare increases will contribute a cumulative incremental \$1.1 billion in revenue by 2023, plus approximately \$130 million annually thereafter.

#### **NON-FARE REVENUE ENHANCEMENT OPPORTUNITIES**

Given PATH already has scheduled fare increases planned through 2014, ancillary revenue generation opportunities remain important. The identified advertising and real estate development opportunities could yield \$6 million to \$14 million in incremental revenue after approximately \$38 million in one-time capital expenditures.

- ❖ *Potential exists for PATH to generate additional recurring revenue by leveraging railcar and train station property for appropriate display advertising*

The PATH rapid transit system consists of 13 stations across 13.8 miles of rail both above ground and underground. Across that span, brand marketers could achieve impressions from more than 250,000 passenger trips every weekday that provide a captive audience for various advertising messages. Although PATH derived approximately \$1.5 million, or 1.5 percent of its revenues, in 2011 from advertising, and is on pace to reach \$2.2 million in 2012, the opportunity exists to expand this revenue source.

PATH's locations are attractive to advertisers due to commuter traffic volume and the length of time commuters spend during each trip. Incremental initiatives like themed advertising dedicated to one advertiser prominently displayed at a single PATH station for a defined period of time, adding advertisements to schedules and other printed material, or railcar wrapping could generate additional advertising revenue at minimal incremental cost to PATH.

- ❖ *PATH stations in New Jersey along the corridor between Newark and both Exchange Place and Hoboken are in attractive areas that offer retail, residential, and parking development opportunities*

Weekday commuter ridership growth at the PATH Harrison Station, coupled with significant new development in the area around the station, is expected to increase public parking demand in the vicinity over the next 10 years. In early 2012, PATH conducted a study that found an existing 100 parking space shortfall will worsen to over 2,000 spaces in the next 10 years. The Agency's Real Estate Development group is in the process of discussing parking development with the City of Harrison and private, third party developers. Alternative deal structures include a possible public-private partnership or selling the land outright contingent upon the buyer developing more parking infrastructure.

## RECOMMENDATIONS

- Pursue railcar wrapping and short-term, themed advertising by station to boost revenue
- Implement already scheduled annual fare increases to offset operating losses and funding of critical capital projects
- Move forward with evaluating parking options for the Harrison station
- Conduct further economic analysis to drive operating efficiencies and consider raising fares via palatable pricing strategies related to distance traveled or on/off-peak hour travel
- In support of PATH's planned demand growth and related capacity expansion, further due diligence and analysis is required to understand and validate non-elective capital spending, and evaluate potential alternative financing scenarios
- Consider alternative methods and other subsidies to offset ongoing operating losses

## IX. LINE DEPARTMENT REVIEW – PORT COMMERCE

### OVERVIEW

The Port of New York and New Jersey (“Port”), operated by the Agency’s Port Commerce Department, is the third largest port facility by volume in the United States, exceeded only by the port facilities in Los Angeles and Long Beach, California. It is a major component of, and contributor to, the regional economy: in 2010, over 269,000 jobs representing nearly \$11.2 billion in annual wages were supported by enterprises related to the Port. These same enterprises paid nearly \$5.2 billion in federal, state and local taxes.

Port Commerce’s business is highly competitive, distinguishing it from the other three Line Departments in the Port Authority. Commercial users of port services are very sensitive to price, speed and reliability. However, the Port’s locations provide a significant advantage due to their proximity to the high population density in the surrounding areas. Shippers are able to reach 20 percent of the U.S. population within eight hours and 30 percent within 48 hours.

Port Commerce does not directly handle cargo itself. Rather, as a landlord port, it leases space to terminal operators that handle cargo and it provides the infrastructure necessary for port operations. More specifically, its responsibilities include:

- All operations, marketing, security, environmental compliance, and infrastructure asset management at the Port facilities;
- The leasing and administration of all Port Commerce Department property;
- The planning, development, management and delivery of the department’s major capital programs. This includes project support and technical assistance for marine terminal development and Port-wide rail operations; and,
- The development and implementation of environmental policy and initiatives.

Port Commerce has seven facilities in New York and New Jersey listed in **Table 25**. The facilities are almost fully leased, with scarce unused acreage.

**Table 25 – Port Commerce Facilities, Locations & 2011 Revenue**

| (\$ in millions)            |                           |                     |
|-----------------------------|---------------------------|---------------------|
| Port Commerce               |                           |                     |
| <u>Facilities</u>           | <u>Location</u>           | <u>2011 Revenue</u> |
| Elizabeth                   | Elizabeth, NJ             | \$119.8             |
| Port New ark                | New ark, NJ               | 73.0                |
| How land Hook               | Staten Island, NY         | 15.0                |
| Port Jersey Marine Terminal | Bayonne & Jersey City, NJ | 14.9                |
| Brooklyn Marine Terminals   | Brooklyn, NY              | 6.4                 |
| Red Hook                    | Brooklyn, NY              | 5.4                 |
| NYNJ Rail LLC               | Jersey City, NJ           | 1.8                 |
|                             |                           | \$236.5             |

Approximately \$3.3 billion of capital projects have been identified for Port Commerce: \$1.7 billion are in the preliminary 2011 – 2020 Capital Plan, \$1.0 billion are expected to be funded for the period beyond 2020, and \$0.6 billion are currently unfunded. The components of the capital plan are shown in **Table 26** below.

**Table 26 – Port Commerce Preliminary 2011 – 2020 Capital Plan**

| <i>(millions)</i>   |                  |                 |                 |                  |                  |                 |
|---|------------------|-----------------|-----------------|------------------|------------------|-----------------|
| Port Capital Needs  |                  |                 |                 |                  |                  |                 |
| <i>Project</i>  | <i>Mandatory</i> | <i>Security</i> | <i>SGR</i>      | <i>System</i>    | <i>Revenue</i>   | <i>Total</i>    |
|   |                  |                 |                 | <i>Enhancing</i> | <i>Producing</i> |                 |
|   |                  |                 |                 | <i>Projects</i>  | <i>Projects</i>  |                 |
| Port Jersey Marine Terminal Global Terminal Development           | -                | -               | -               | -                | \$ 159           | \$ 159          |
| Cross Harbor Development  | -                | -               | -               | -                | 124              | 124             |
| Port Newark Port Street Capacity and Corbin St ramp improvement   | -                | -               | -               | 108              | -                | 108             |
| Port Jersey Marine Terminal ExpressRail Intermodal Facility       | -                | -               | -               | -                | 102              | 102             |
| Elizabeth North Ave Corridor improvements                         | -                | -               | -               | 66               | -                | 66              |
| Port Jersey Marine Terminal Access improvements                   | -                | -               | -               | 53               | -                | 53              |
| <i>Subtotal</i>   | 0                | 0               | 0               | 226              | 384              | 611             |
| Remaining 96 smaller projects                                     | 240              | 10              | 460             | 184              | 186              | 1,077           |
| <b>Total value of Port Commerce Projects in 2011 Capital Plan</b> | <b>240</b>       | <b>10</b>       | <b>460</b>      | <b>410</b>       | <b>570</b>       | <b>1,688</b>    |
| Value of projects funded beyond 2020                              | 180              | 0               | 300             | 210              | 350              | 1,040           |
| <b>Total value of funded projects</b>                             | <b>420</b>       | <b>10</b>       | <b>760</b>      | <b>620</b>       | <b>920</b>       | <b>2,728</b>    |
| Value of unfunded projects  | 20               | 50              | 340             | 150              | -                | 560             |
| <b>Unconstrained Port Capital Projects</b>                        | <b>\$ 440</b>    | <b>\$ 60</b>    | <b>\$ 1,100</b> | <b>\$ 770</b>    | <b>\$ 920</b>    | <b>\$ 3,288</b> |

**FINANCIAL RESULTS**

The majority of Port Commerce’s revenue (approximately 70 percent) comes from lease income generated from marine terminal tenants (see Table 27). These are primarily fixed rate contracts, with relatively small but growing volume-based components that are reflected in the “Container Throughput” line item.

**Table 27 – Port Commerce: Revenue Trend & Key Operating Statistics**

| Port Commerce<br>Revenue Summary (\$ in millions)      | Actual          |                 |                 |                 |                 | Budget          |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|  | 2007            | 2008            | 2009            | 2010            | 2011            | 2012            |
| <b>Revenues</b>  |                 |                 |                 |                 |                 |                 |
| Marine Terminals Tenants                               | 146.9           | 157.2           | 161.3           | 168.7           | 164.9           | 180.7           |
| Container Throughput                                   | 4.5             | 3.9             | 9.9             | 16.0            | 26.6            | 30.5            |
| ExpressRail Lift Charges                               | 15.3            | 18.1            | 15.8            | 20.1            | 4.4             | -               |
| Cargo Facility Charge                                  | -               | -               | -               | -               | 22.9            | 30.3            |
| Other  | 69.2            | 22.1            | 18.9            | 18.4            | 17.7            | 0.0             |
| <b>Total Revenues</b>                                  | <b>\$ 236.0</b> | <b>\$ 201.3</b> | <b>\$ 205.9</b> | <b>\$ 223.1</b> | <b>\$ 236.5</b> | <b>\$ 241.5</b> |
| <i>Percentage change</i>                               |                 | -14.7%          | 2.3%            | 8.4%            | 6.0%            | 2.1%            |
| <b>Key Operating Statistics (000)</b>                  |                 |                 |                 |                 |                 |                 |
| Containers TEU ( <i>twenty foot equivalent units</i> ) | 5,298           | 5,249           | 4,562           | 5,292           | 5,503           | 5,918           |
| <i>Percentage change</i>                               |                 | -0.9%           | -13.1%          | 16.0%           | 4.0%            | 7.5%            |
| International waterborne vehicles                      | 790             | 724             | 440             | 493             | 388             | 502             |
| <i>Percentage change</i>                               |                 | -8.4%           | -39.2%          | 12.0%           | -21.4%          | 29.5%           |
| Waterborne bulk commodities ( <i>in metric tons</i> )  | 4,396           | 4,556           | 4,470           | 3,133           | 3,767           | 3,473           |
| <i>Percentage change</i>                               |                 | 3.6%            | -1.9%           | -29.9%          | 20.2%           | -7.8%           |

In 2011 Port Commerce instituted a Cargo Facility Charge (“CFC”) which is a cost recovery fee that, over time, funds rail and roadway infrastructure investments, and 25 percent of security operating costs. In 2012 it amounts to \$4.95 per container and it is expected to generate approximately \$30 million. The rationale behind the charge is that user beneficiaries should contribute to fund port improvements. Port Commerce is the only port in the country with this fee. The Department is actively working at the federal level to encourage legislation for this fee to be adopted at other ports to level the competitive field.

As shown in **Table 28**, total revenue decreased in 2008 as a result of the general economic slowdown that caused cargo volume to decline. As revealed in **Table 27** the number of international waterborne vehicles (*i.e.*, new automobile shipments) declined sharply in 2009 and again in 2011. The initial decline was due to the dramatic recessionary impact on the auto industry, and was further aggravated by a combination of the Japanese tsunami, and Hyundai and Kia Motors' relocation of operations to the port of Philadelphia, in itself a reduction of 85,000 units.

**Table 28 – Port Commerce: Components of Free Cash Flow**

| Port Commerce<br>Cash Flow Summary (\$ in millions) | Actual            |                   |                  |                   |                   | Budget            | Actual            |
|---|-------------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|
|   | 2007              | 2008              | 2009             | 2010              | 2011              | 2012              | 2007-2011         |
| Total Revenues                                      | \$ 236.0          | \$ 201.3          | \$ 205.9         | \$ 223.1          | \$ 236.5          | \$ 241.5          | \$ 1,102.7        |
| Total Expenses                                      | 112.6             | 143.5             | 127.2            | 163.4             | 185.1             | 178.8             | 731.8             |
| <b>Net Operating Revenues</b>                       | <b>123.4</b>      | <b>57.7</b>       | <b>78.6</b>      | <b>59.7</b>       | <b>51.4</b>       | <b>62.7</b>       | <b>\$ 370.8</b>   |
| Grants, Contributions                               | 3.7               | 0.4               | 2.3              | 4.2               | 8.6               | 50.2              | 19.2              |
| <b>Operating Cash Flow</b>                          | <b>127.1</b>      | <b>58.1</b>       | <b>80.9</b>      | <b>63.8</b>       | <b>60.0</b>       | <b>112.9</b>      | <b>\$ 390.1</b>   |
| Invested in Facilities                              | 285.5             | 184.1             | 156.1            | 302.9             | 216.0             | 345.9             | 1,144.6           |
| <b>Free Cash Flow</b>                               | <b>\$ (158.3)</b> | <b>\$ (126.0)</b> | <b>\$ (75.2)</b> | <b>\$ (239.1)</b> | <b>\$ (156.0)</b> | <b>\$ (233.0)</b> | <b>\$ (754.5)</b> |

Port Commerce is the third largest Line Department in terms of revenue and operating cash flow (\$236.5 million and \$60.0 million respectively, in 2011). Port Commerce generates positive operating cash flow, but has substantial negative free cash flow after accounting for its capital expenditures. For the five year period ended 2011, operating cash flow was \$390.1 million and investments in facilities totaled \$1.1 billion; therefore free cash flow was negative \$754 million.

## OBSERVATIONS & FINDINGS

- ✧ *Port Commerce faces fundamental challenges: (i) it operates a primarily fixed rental model with limited ability to recapture the majority of its capital expenditures; (ii) it is not subsidized by federal or state dollars, but yet it is tasked with making capital investments without prospects for direct returns that otherwise benefit the region; and (iii) it has to comply with certain federal laws, which makes a true market based approach to pricing difficult*

Due to the major infrastructure investments required to maintain a competitive, modern port, it will be difficult for Port Commerce to ever generate free cash flow after capital expenditures under its current business model. While it does collect a CFC that over time will recover costs related to rail and road infrastructure, it does not recover other major critical capital project costs, such as dredging and raising the Bayonne Bridge. In the current environment, it is not possible to charge for those costs and remain a competitively priced East Coast port. Other ports that it competes with face the same challenge but most receive government subsidies to fund major capital projects, as shown in **Table 29**. The ports of Los Angeles and Long Beach, California are exceptions to this. They operate without continuing programmatic subsidies. Two principal reasons they are able to do this are:

- Higher volume (these two ports are contiguous and on a combined basis handled 150 percent more total equivalent unit volume than Port Commerce did in 2011)

- Higher per acre lease rates driven by:
  - Proximity to active Far East exporters; and,
  - A different business model where they own more of the port infrastructure such as cranes and transport equipment, which allows them to command higher rates.

Despite these differences, Port Commerce should carefully review and evaluate market alignment of the tenant leases as they come up for renewal in future years.

**Table 29 – Government Funding at Comparable Ports (update)**

| <b>Comparable Ports</b>                    | <b>Examples of Government funding</b>  |
|--|--|
| <b>Georgia Ports Authority</b>             | State recently committed \$250 million to finance dredging the Savannah River and the Port of Savannah Harbors and Channels are maintained at a depth of 55 feet by the federal government due to the presence of a US Navy base<br>Various tax incentive programs, including one which offers a \$25 tax credit per TEU |
| <b>Port of Houston Authority</b>           | Approximately \$50 - \$60 million annually as part of an ad valorem tax from Harris County taxpayers.  |
| <b>Port of Miami</b>                       | State and City recently committed \$450 million to finance a new tunnel connecting the Port of Miami with the roadway network<br>State recently committed \$77 million to finance dredging the Port of Miami harbor  |
| <b>Port of Seattle</b>                     | Approximately \$70 million annually from a surcharge that is part of Kings County real estate taxes  |
| <b>South Carolina State Port Authority</b> | State recently committed \$300 million to finance dredging the Port of Charleston  |
| <b>Virginia Port Authority</b>             | \$30 - \$35 million annually from the State Commonwealth Port Fund which derives its money from a 4.2% allocation of the State of Virginia Transportation Fund   |

#### REVENUE ENHANCEMENT OPPORTUNITIES

Identified revenue opportunities for Port Commerce range from approximately \$20 million to \$25 million annually.

- ❖ *New business initiatives that would reduce as many as 360,000 waste trucks annually from the trans-Hudson crossings and New Jersey roads, as well as preventing considerable wear and tear on these infrastructure assets by barging containerized municipal solid waste to the Howland Hook intermodal rail facility (“Howland Hook”) and to the Greenville Yard (“Greenville”) to be in turn transported by rail to landfill facilities, would present more cost effective transport for the City, a revenue opportunity for Port Commerce*

The waste in question is currently being trucked from New York City through New Jersey to landfills outside the region. In the alternative it will be sent by barge from waste transfer stations in New York City to Howland Hook and Greenville where it will be transported to its final destination by rail. The initiatives are scheduled to commence in 2014. This will be more economical for the City of New York and eliminate wear and tear to road infrastructure associated with as many as 360,000 municipal waste trucks annually. As much as \$4 million of related toll revenue will be lost, but congestion and maintenance capital expenditures associated with road repair will also be reduced.

- ❖ *Continued efforts are needed to increase Port cargo volume. A 10 percent increase in container volume would generate approximately \$15 million in additional revenue*

The majority of Port Commerce’s land is already leased and therefore there is only a modest opportunity to generate additional revenue from adding tenants. However, the tenants have

significant unused capacity, and therefore revenue can be generated by increasing their cargo volume. Port Commerce currently receives approximately \$27.00 per container that travels through the port (\$21.95 per container under the tenant lease and \$4.95 from the CFC). In 2011 container volume was 5.5 million. Therefore, a 10 percent increase would equate to 550,000 additional containers and approximately \$15 million of revenue.

A position should be added as an economic development specialist for warehouses and distribution facilities in close proximity to Port Commerce's ports. This strategy has been executed successfully in Savannah, Georgia, where the port has attracted nearby warehouses and supply chain infrastructure for companies such as Home Depot and Bed Bath & Beyond which in turn increases volume at its port. This position should coordinate efforts with the relevant Economic Development offices in New York and New Jersey and evaluate and implement successful marketing strategies to attract greater user volume.

In addition, an in-depth analysis currently underway should be completed to determine whether to institute a monetary incentive for new cargo. For example, the port at Long Beach, California recently instituted a \$20.00 per container incentive to mitigate the risk that some ships will use the expanded Panama Canal to bypass it for East Coast ports. Though this incentive reduces profitability, the offsetting volume induced is still accretive given the fixed cost nature of the business.

Since 2009, Port has lost a significant amount of auto processing business, with international waterborne vehicles declining from 724,000 in 2008 to 388,000 in 2011. Rebuilding this business segment should be a top priority.

#### **COST CONTAINMENT OPPORTUNITIES**

- ❖ *Develop an aggressive plan to staunch the losses at the Red Hook Container Terminal ("Red Hook") in Brooklyn, that absent intervention is currently projected to lose over \$100 million over the next 10 years*

Red Hook could lose over \$100 million over the next 10 years largely because most inbound containers it receives need to be barged across to New Jersey where there are rail connections, and that cost is borne by Port Commerce. Port Commerce needs to attract more customers with cargo that will be consumed in Brooklyn and other areas east of the Hudson River and therefore not need to be barged across to New Jersey. A recent success has been the addition of Phoenix Beverage, a large beverage distributor whose products stay in New York. If the losses at Red Hook are not curtailed, consideration should be given to attempting to transfer the operation of the facility to a third party with potential for operating efficiencies, or closing it due to its financially unsustainable losses.

- ❖ *Evaluate upgrading the utilities at the marine terminals to drive further operating efficiencies and save up to \$1 million per year*

Port Commerce should evaluate the most cost effective ways to upgrade the utilities at its facilities in order to reduce operating costs (*i.e.*, save leakage from water distribution systems,

upgrade electrical distribution system to turn back over to the local utility, and improve fire protection systems). Initial estimates suggest that upgrading the water distribution systems could save over \$700,000 per year, upgrading the electrical distribution system at Port Jersey to include meters could save over \$200,000 per year, and upgrading the fire protection systems at piers 9B and 11 in Brooklyn could save \$20,000 to \$100,000 per year.

- ✧ *Consider retaining an in-house attorney with a specialty in maritime law to save up to \$1 million per year*

Hiring an attorney in-house with a specialty in maritime law would be cost effective, allow for quicker response times, and provide consistent legal interpretations. Over the last five years, the Port Authority has paid outside counsel an average of \$10 million per annum. Initial estimates suggest an in-house maritime attorney could reduce outside legal expenses by up to \$1 million per year. The attorney's primary focus would be on lease issues and other routine items; litigation support would continue to be outsourced to outside counsel.

## RECOMMENDATIONS

- Aggressively work to align lease rates with market when tenant agreements expire
- Continue to pursue the opportunities to barge containerized waste, including securing the necessary leases
- Add an economic development specialist to attract warehouses and supply chain infrastructure in proximity to facilities and drive volume growth of containers shipped
- Provide further support of an in-depth analysis to determine the profitability and risks of instituting a monetary incentive for new cargo through the Port
- Continue to aggressively market new tenants for the Red Hook facility to drive down the operating losses and evaluate the feasibility of a commercially viable business plan, or alternatively consider divestiture or shuttering of the facilities
- Selectively upgrade utility infrastructure where it will provide a positive return on investment
- Evaluate feasibility of obtaining appropriate federal and or state tax subsidies to contribute to the significant infrastructure development costs that will benefit the entire economic region
- Hire an in-house attorney with expertise in maritime law to reduce annual legal expense

## X. WORLD TRADE CENTER PROGRAM

### OVERVIEW

The World Trade Center program (“WTC”) is a highly complex development of inter-related, capital projects managed by the Port Authority, including the following:

- One World Trade Center Tower (“1 WTC”);
- Vehicular Security Center (“VSC”);
- streets and utilities surrounding and traversing the site;
- commercial and retail development; and,
- Transportation Hub, in part, a Federal Transit Administration (“FTA”) funded project.

The integration of the site requires numerous other projects associated with common infrastructure supporting appurtenant facilities, building systems, operations and parking. In addition, the Port Authority is managing the execution of work on behalf of other stakeholders, such as, the National September 11 Memorial and Museum (“Memorial”) for a private foundation, the Performing Arts Center (“PAC”) for a private foundation, and the No. 1 Subway Line, Cortlandt Station, for the MTA (together the entirety of these projects is the “Program”).

The Interim Report prepared an Estimates at Completion (“EAC”) through a review of project cost reports, documented change orders and allowances for known exposures represented in the records of the Port Authority (the “Current Estimate”). In addition, the Current Estimate was subjected to qualitative risk analysis to develop a range of potential incremental financial exposure to the Current Estimate. As reported in the facts, figures and tables in the Interim Report, the EAC was estimated to be approximately \$14.8 billion with approximately \$1 billion of identified potential exposures (see Table 30). Importantly in the Interim Report, Navigant identified the net cost to the Port Authority, at approximately \$7.7 billion, with potential additional exposures of approximately \$0.8 billion. As reported by the Port Authority, there have been no authorized, material scope changes to the Program since the release of the Phase I Interim Report dated January 31, 2012 by Navigant (the “Interim Report”). Detailed analyses re-affirm the gross Program estimate at completion and net cost to the Port Authority as provided in the Interim Report.

**Table 30 – WTC Estimate and Potential Exposure (per Phase I Interim Report)**

| <i>January 31, 2012 Interim Report<br/>(\$ Billion)</i> | <b>Program<br/>Estimate</b> | <b>Potential<br/>Exposures</b> |
|---|-----------------------------|--------------------------------|
| <b>Project Titles:</b>                                  |                             |                                |
| WTC Transportation Hub                                  | \$ 3.74                     | \$ 0.21 <sup>(1)(4)</sup>      |
| 1 World Trade Center                                    | 3.95                        | 0.01 <sup>(4)</sup>            |
| Vehicular Security Center 1                             | 0.70                        | 0.01 <sup>(2)</sup>            |
| Site Infrastructure                                     | 2.17                        | 0.22 <sup>(3)</sup>            |
| WTC Retail  | 1.72                        | 0.45 <sup>(3)(5)</sup>         |
| Streets and Utilities                                   | 0.33                        | 0.03 <sup>(5)</sup>            |
| Cortlandt St. #1 Station                                | 0.15                        | 0.05 <sup>(5)</sup>            |
| 9/11 Memorial   |                             |                                |
| 9/11 Memorial (PA)                                      | 0.20                        |                                |
| 9/11 Memorial (3rd Party)                               | 0.83                        |                                |
| Campus Security Plan                                    | 0.30                        |                                |
| Program Contingency                                     | 0.35                        |                                |
| Additional Financial Expense                            | 0.35                        | 0.05                           |
| <b>WTC TOTAL</b>  | <b>\$ 14.79</b>             | <b>\$ 1.03</b>                 |
| Reimbursements / Funding                                | (7.08)                      | (0.21)                         |
| <b>NET PROGRAM COST TO PA</b>                           | <b>\$ 7.71</b>              | <b>\$ 0.82</b>                 |

Notes:

- 1) Potential for underfunded contingency
- 2) Potential acceleration costs
- 3) Potential scope changes for Chiller Plant, VSC and Security
- 4) Potential exposure to contractor non-performance
- 5) Potential cost growth for Streets, Cortlandt Station and PAC

As part of its Phase II work, Navigant was asked by the Special Committee to affirm the findings included in the Interim report. To confirm the findings of the Interim Report, significant efforts have been made by the Port Authority to complete a comprehensive and collaborative risk assessment of the Program. Prudent, and industry standard, risk modeling efforts were employed to achieve increased levels of confidence in the total EAC, that is, the total cost of the development of the site under the current program. These calculations are bolstered by project specific risk registers that allow for qualitative probability assessments on identified exposures. In addition, Navigant reviewed numerous documents and conducted multiple interviews with members of the WTC construction staff, select management of the Port Authority and other persons with direct knowledge of the history of construction at the site. The collectability of expected reimbursements from third parties is based on interviews and representations by Port Authority personnel. The entirety of this work now forms the basis of standardized monthly reporting protocol and reflects the Agency's ongoing efforts to ensure consistent monitoring of the cost of the Program (see **Table 31**).

**Table 31 – WTC EAC and Potential Exposure  
(Current Risk Modeled Estimate with noted Variance to Interim Report)**

| <i>Current Risk Modeled Estimate<br/>(\$ Billion)</i> | <b>Program<br/>Estimate</b> | <b>Potential<br/>Exposures</b> |
|---|-----------------------------|--------------------------------|
| <b>Project Titles:</b>                                |                             |                                |
| WTC Transportation Hub                                | \$ 3.74                     | \$ 0.26 <sup>(1)(2)</sup>      |
| 1 World Trade Center                                  | 3.95                        | (0.11) <sup>(2)(3)</sup>       |
| Vehicular Security Center 1                           | 0.70                        | 0.02 <sup>(2)</sup>            |
| Site Infrastructure                                   | 2.17                        | 0.41 <sup>(2)(4)</sup>         |
| WTC Retail  | 1.72                        | 0.39 <sup>(3)</sup>            |
| Streets and Utilities                                 | 0.33                        | (0.08) <sup>(3)(4)</sup>       |
| Cortlandt St. #1 Station                              | 0.15                        | 0.14 <sup>(2)</sup>            |
| 9/11 Memorial   |                             |                                |
| 9/11 Memorial (PA)                                    | 0.20                        |                                |
| 9/11 Memorial (3rd Party)                             | 0.83                        | 0.02 <sup>(2)</sup>            |
| Campus Security Plan                                  | 0.30                        |                                |
| Program Contingency                                   | 0.35                        |                                |
| Additional Financial Expense                          | 0.35                        | 0.05                           |
| <b>WTC TOTAL</b>                                      | <b>\$ 14.79</b>             | <b>\$ 1.09</b>                 |
| Reimbursements / Funding <sup>(5)</sup>               | (7.38)                      | -                              |
| <b>NET PROGRAM COST TO PA</b>                         | <b>\$ 7.41</b>              | <b>\$ 1.09</b>                 |

Exposure Variances from Interim Report:

- 1) Program Estimate includes approximately \$200 million of soft, hard and acceleration costs identified by, and incurred by, the Port Authority associated with the deck over and landscaping changes related to the Memorial; these costs have been carried in the Program Estimate since 2008
- 2) Potential exposures driven largely by a change in estimating methodology that required an increase in contingency to achieve a greater than 70% certainty of completing the identified project at the Program Estimate after use of no more than the available contingency amount
- 3) Decreased or mitigated exposures resulting in reduced contingency reserves that were included in the Interim Report.
- 4) Scope transfer between projects (i.e., transfer of Church Street from “Streets and Utilities” to “Site Infrastructure”).
- 5) Additional Net Reimbursements / Funding related to increased recognition of insurance proceeds offset by reductions in anticipated third party reimbursements

## SUMMARY OF KEY FINDINGS

- These detailed analyses re-affirm the gross Program estimate at completion as provided in the Interim Report of approximately \$14.8 billion with potential additional exposures of up to approximately \$1.1 billion (see **Table 31**);
- The net cost to the Port Authority is \$7.4 billion to \$8.5 billion. Net cost represents the gross cost after funding of insurance proceeds and reimbursement by third parties, occasioned by work performed on their behalf (see **Table 31** and **Table 32**);
- The Port Authority has identified, or is in the process of identifying, substantive actions that will deliver the Program within the expected range of the EAC;
- The Port Authority has instituted greater transparency and consistency in the reporting of the EAC that has resulted in the reliable identification of proposed scope additions and budget increases. The improvements in reporting and the

existing controls environment allow for orderly analysis, acceptance, modification or denial of the proposed scope changes; and,

- The certainty of reimbursement by third parties continues to improve with nearly 90 percent of anticipated funds received or committed as of this Report. The Port Authority reports that active negotiations are in process to recover remaining amounts due from third parties.

## OBSERVATIONS & FINDINGS

- ✧ *The Port Authority has taken actions vastly improving the transparency and frequency of EAC reporting including a collaborative, cross-disciplinary process for identifying and validating costs and potential impacts*

In light of focus of senior management and the Board of Commissioners on cost growth at the WTC, Navigant notes meaningful change in the Agency's certainty, transparency and consistency in the reporting of the EAC since the Interim Report:

- Agency communication on WTC costs is vastly improved. The WTC Construction ("WTCC") and WTC Redevelopment ("WTCRD") departments, in conjunction with the applicable departments within Finance at the Port Authority, have integrated the components of the WTC into a single comprehensive estimate of gross costs that together create the EAC. This process necessarily involved frequent, interactive working sessions of all project stakeholders, including insights of private sector partners, to vet the accuracy of estimates and avoid errors of duplication or omission;
- A Port Authority working group comprised of member of the WTCC, WTCRD and Finance departments, has formulated and adopted a standard method of reporting cost estimates to the Board of Commissioners. This leading practice approach creates a consistent means of documenting change and identifying areas of risk for all interested parties related to this complex endeavor; and,
- The Port Authority has completed a thorough and collaborative risk assessment of the WTC. The EAC has been prudently evaluated through the utilization of industry leading modeling techniques to assess the probability of delivering the WTC within the range identified in the Interim Report and this Report.

Quantitative probability and sensitivity analysis performed on the identified risks and exposures to the EAC allow for an assessment of the adequacy of available contingency. Formal risk modeling tools were employed to achieve conventional levels of confidence (e.g., minimum of 70 percent statistical probability in achieving the current estimate together with potential exposures) to each project within the WTC and associated adjustments were made to project-level contingency budgets.

These analyses affirm the WTC's range of gross cost and net cost as presented in the Interim Report. Specifically, as indicated in **Table 31**, the potential exposures increased by less than \$60 million, or less than 0.4 percent, from the findings of the Interim Report.

✧ *The Port Authority has implemented numerous initiatives that have enhanced the internal controls environment and the reliability of gross and net cost forecasts*

In the Interim Report, Navigant was critical of the documentation quality, accuracy of estimates, and transparency of communication surrounding the EAC. The summary below lists certain recommendations and actions that stemmed from the Interim Report and a brief description of the constructive response by the Port Authority to each:

**Table 32 – Port Authority Response to Phase I Recommendations**

| Phase I Interim Report Recommendation  | Port Authority Response  |
|--|--|
| Perform a comprehensive forensic construction cost audit of the entire WTC program to validate the costs expended, the Current Estimate and to identify any additional exposure items.   | <i>The Port Authority has directed a review of select larger contracts as a component of continuous risk management.</i>   |
| Conduct a focused review of the development budget associated with asset management and the future operations of the 1 WTC and the Retail project that involves all constituents.        | <i>The Port Authority has analyzed the commercialization aspects of the 1WTC and Retail projects in order to validate the capital investment required to execute commercialization strategies leveraging the expertise of commercial partners.</i>   |
| Pursue reimbursement from third parties for completed work and any pending commitments for work product conducted in good faith.   | <i>The Port Authority has entered into structured negotiations to ensure that firm commitments are in place with each third-party stakeholder.</i>   |
| Prior to committing to or initiating any additional work requests from other agencies and parties, secure adequate evidence of funding or reimbursement capacity.                        | <i>The Port Authority has restricted any further commitments to perform work on behalf of third-parties absent a specific scope of work and subject to firm and clearly documented funding obligations.</i>  |
| Assess the contingent liabilities of the Port Authority and risk-assess same in the EAC for the Program.   | <i>The Port Authority has evaluated the potential impact of contingent liabilities in the EAC of the Program, as discussed in more detail in this Report.</i>  |
| Unless intended to create construction efficiencies or produce direct cost reduction, freeze design to the extent possible.  | <i>The Port Authority has not implemented any unplanned scope changes since the Interim Report. The recently adopted cost reporting format for the WTC includes a section for the consistent reporting of any new scope making necessary transparent and constructive dialogue in the ultimate disposition of a specific item.</i> |
| Prepare a comprehensive risk register, probability assess beneficial or adverse outcomes on a continuous basis to increase the accuracy of the EAC based on contemporaneous information. | <i>The Port Authority has developed risk registers for each project and performed an industry recognized risk probability assessment of the EAC that affirmed the findings presented in the Interim Report.</i>  |
| Perform sensitivity analysis on best, worse and likely scenarios to understand related cost impacts on the EAC and in particular whether or not adequate contingencies are available.    | <i>Through the performance of the risk assessment, the Port Authority confirmed the adequacy of the contingency levels incorporated in the Interim Report EAC at a minimum of 70 percent probability level for the major projects comprising over 85 percent of the Program's EAC.</i>   |

| Phase I Interim Report Recommendation   | Port Authority Response  |
|---|--|
| Integrate development and construction budgets and a holistic reporting of the Program in a standardized format on a monthly basis to the Executive Director who shall take ultimate responsibility to the Board of Commissioners for Capital Plan performance. | <i>At the Agency's direction, Navigant worked with the WTCC, WTCRD and Finance Departments to develop monthly EAC reporting protocols to increase transparency and allow for early determination and, where feasible, corrective actions for negative EAC variances. Distribution of these reports to the Executive Director and Board of Commissioners has begun.</i> |

❖ *Certainty of third-party reimbursement has shown improvement with nearly 90 percent of anticipated funding now received or committed through substantive documentation*

As indicated in **Table 33**, the certainty of reimbursement by third parties, and the implications on the net cost of the WTC for the Port Authority, continues to improve. Assuming that reimbursements from third parties are secured consistent with Port Authority expectations, the net cost to the Port Authority will be approximately \$7.4 billion.

Approximately \$2.7 billion of insurance proceeds and approximately \$2.6 billion of federal government grants that have been received by, or are under the terms of specific contracts with, the Port Authority. Together, these two sources represent approximately \$5.3 billion, or just over 70 percent, of the total expected reimbursement. An additional \$1.4 billion of funding from various agencies has been received, or confirmed through contractual agreement, bringing the balance of verified third-party funding to \$6.7 billion, or approximately 90 percent of anticipated reimbursements as represented by the Port Authority. The remainder, or \$0.7 billion, is being closely monitored by the Port Authority with active negotiations in process to recover these amounts.

The following table presents the current status of the WTC Program and depicts the gross costs and net obligations of the Port Authority through the anticipated completion of the Program. Of note, just over 60 percent of third party reimbursements have been collected and applied to the Program. As a result, approximately \$5.0 to \$6.0 billion (*i.e.*, accounting for the range of EAC exposure) of remaining funds to be applied to the Program is the direct responsibility of the Port Authority.

**Table 33 – WTC Incurred and Forecast Costs (Gross and Net)**

| <i>Current Risk Modeled Estimate (\$ billion)</i> | Program Estimate | Expended thru 2011 | Remaining Baseline | Potential Exposures | Remaining w/ Exposures |
|---|------------------|--------------------|--------------------|---------------------|------------------------|
| <b>WTC Total Program Estimate</b>                 | <b>14.79</b>     | <b>7.13</b>        | <b>7.66</b>        | <b>1.09</b>         | <b>8.74</b>            |
| Reimbursements / Funding                          | (7.38)           | (4.75)             | (2.63)             | -                   | (2.63)                 |
| <b>NET PROGRAM COST TO PA</b>                     | <b>7.41</b>      | <b>2.38</b>        | <b>5.03</b>        | <b>1.09</b>         | <b>6.11</b>            |

**Table 34** conservatively presents the capital needs over time including potential exposures. These amounts will be reflected and accounted for in the future capital planning of the Agency.

**Table 34 – WTC Funding Requirements to Date and Through Completion (Annually)**

| <i>Current Risk Modeled Estimate (\$ Billion)</i> | <b>Expended thru 2011</b> | <b>Remaining w/ Exposures</b> | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016+</b> |
|---|---------------------------|-------------------------------|-------------|-------------|-------------|-------------|--------------|
| <b>WTC Total Program Estimate</b>                 | <b>7.13</b>               | <b>8.74</b>                   | <b>2.94</b> | <b>2.85</b> | <b>1.87</b> | <b>0.63</b> | <b>0.46</b>  |
| Reimbursements / Funding                          | (4.75)                    | (2.63)                        | (0.53)      | (0.75)      | (0.70)      | (0.45)      | (0.20)       |
| <b>NET PROGRAM COST TO PA</b>                     | <b>2.38</b>               | <b>6.11</b>                   | <b>2.41</b> | <b>2.10</b> | <b>1.17</b> | <b>0.18</b> | <b>0.25</b>  |

❖ *Agreements related to the development of Towers 4 and 3 create potential liabilities for the Port Authority; continued monitoring is recommended*

Under the terms of a municipal financing structure, the Port Authority has agreed to provide credit support on Liberty Bonds issued for the development of Tower 4 at the WTC. The Port Authority provides this credit support, in large part, through deferral of lease income allowing the property developer to focus on operating expense deficits, certain capital expenditures, and limited construction and leasing overruns, as well as interest payments on debt. Because these subsidized amounts would remain due from the property developer and have an accrued interest feature, the exposure to the Port Authority is in the form of timing differences through the deferral cited above. Above all, this structure motivates the continued development of the site that is in the interests of all constituents.

The construction of the office portion of Tower 3 is conditioned upon realizing certain private-market triggers. In order to encourage continued restoration of the site, the achievement of these hurdles triggers an investment by the Port Authority for the construction of the tower. The State of New York and City of New York have also agreed to participate in this prospective venture. Repayment to the Port Authority is made from future tower cash flows, prior to the property developer receiving any profit from building operations or capital events/investments. Taken together, given that the development of Tower 3 is contingent upon achievement of hurdles that signal market health and investment viability and because of the priority position the Port Authority holds for repayment of any invested funds, the contingent liabilities associated with Tower 3 are unlikely to result in material risk.

**RECOMMENDATIONS**

- Given the significant remaining Program work to be committed and funded (i.e., approximately 30 percent and 50 percent against the current EAC of \$14.8 million, respectively), the Port Authority should continue the monthly practice of the rigorous risk assessment, probability and sensitivity analysis, and prudent modeling methods substantially similar to those recently completed. This methodology should be applied across all Program elements
- The Port Authority has worked collaboratively to develop a comprehensive reporting package to track the progress of the EAC and status of various potential risk exposures. The Port Authority should continue this practice on a monthly basis until project completion to ensure all relevant stakeholders are informed on the progress of the Program, and early corrective interventions can be pursued if variances from expectations begin to emerge

- Given the numerous integrated projects with various stakeholders, the Port Authority should continue to assess, as well as consistently, reliably and timely document, the methodology and impact of cost allocations on the cost performance of specific projects within the Program
- The Port Authority must continue to closely monitor the final negotiation and ultimate resolution of any current disputed or undocumented amounts related to recoupment of WTC costs from third-parties. Once finalized, the Port Authority should report any negative variances from expectations and actively track full compliance with these obligations

## XI. SHARED SERVICE REVIEW – PROCUREMENT

### OVERVIEW

The Procurement Department (“Procurement”) is a crucial hub for sourcing products and services that support Port Authority operations and capital projects. In 2011 alone, the department was responsible for awarding 2,225 contracts with total value of \$2.4 billion.

As a public agency, the Procurement Department’s core values have been to ensure competition, integrity, transparency, and cost control. However, over the years, Procurement’s role has become increasingly more complex, in terms of number and dollar value of awards, in types of solicitations, and in related processes, with fewer employees to handle the increasing workload. As the Agency desires to move quicker in capital deployment and to enhance services levels achieved for client departments, an opportunity exists to reengineer existing controls, processes, policies and authority levels to improve outcomes for both the Procurement Department and its internal clients.

As part of its analysis, Navigant reviewed Procurement award data from 2009 to 2011, totaling over 6,500 awards with a value of approximately \$8.0 billion. In order to identify opportunities for increased efficiency in the department’s activities, the following factors were analyzed: buying group, solicitation type, origin of request, dollar amount of the award, and number of days from client requisition to contract award.

### OBSERVATIONS & FINDINGS

- ❖ *Current approval levels and policies contribute to more lengthy processes that burden Procurement and internal clients. Although less than 10 percent of contracts required approval from the Board of Commissioners, a limited board cycle coupled with multiple approval processes (i.e., checks and balances during the review period), contribute to the contracts approved by the board having the longest time to award and ultimately create added burden on the staff*

**Table 35** below details the awards made at various authorization levels, demonstrating that Director Approval is by far the shortest, at an average 26 days from client requisition to award of contract, compared to 96 days at the Board level.

**Table 35 – Procurement Awards by Authorization Level (2011)**

| (\$ in 000's)               | 2011         |                     |             |             |                 | Avg # of Days |
|-----------------------------|--------------|---------------------|-------------|-------------|-----------------|---------------|
|                             | # of Awards  | \$ Amount           | % Total     | % of \$     | \$ per Award    |               |
| Board Approval              | 135          | \$ 1,823,437        | 6.1%        | 76.3%       | \$ 13,507       | 96.0          |
| Executive Director Approval | 59           | 138,281             | 2.7%        | 5.8%        | 2,344           | 71.4          |
| Director Approval           | 2,031        | 427,611             | 91.3%       | 17.9%       | 211             | 26.2          |
| <b>Total Procurement</b>    | <b>2,225</b> | <b>\$ 2,389,329</b> | <b>100%</b> | <b>100%</b> | <b>\$ 1,074</b> | <b>26.8</b>   |

Currently, authorization is based solely on the value of a contract, with no consideration for type of commodity or service required. This often leads to the Board of Commissioners approving standard, low-risk contracts (*i.e.*, cleaning and landscaping services, auto parts, software renewals) that could safely be awarded at a lower authorization level reducing cycle time and resource commitments to the approval process. If such responsibility were delegated to the Executive Director, Procurement clients and internal support departments would realize time efficiencies. Effecting this change will require amendments to the Port Authority's Policies and Procedures, as well as collaboration with the Office of the Secretary ("OSEC"), Law, and senior staff.

**Table 36 – Construction Contracts Approved by Director (2011)**

| (Whole \$)              | # of Awards | 2011                 |               |
|-------------------------|-------------|----------------------|---------------|
|                         |             | Total \$ Amount      | Avg # of Days |
| Publicly Advertised Bid | 21          | \$ 18,551,428        | 32.1          |
| Set Aside               | 6           | 2,270,883            | 37.0          |
| Pre-Qualified           | 11          | 16,358,562           | 36.0          |
| Other                   | 4           | 10,568,878           | 54.0          |
| <b>Total</b>            | <b>42</b>   | <b>\$ 47,749,751</b> | <b>37.0</b>   |

Construction contracts related awards (up to \$1.5 million), extensions, and supplements require Agency-wide review and Department Director written approval via a Memorandum of Authorization ("MA") that can range from several weeks to 2 months. Procurement is collaborating with Engineering, Line Departments, and OSEC to streamline approval documentation and delegate approval authority to the program manager, and related dollar thresholds; trends in identified issues were consistent across all departments. Such improvements could shorten delivery time by 30 - 60 days for construction related awards and up to two to three weeks for contract supplements. Further detail regarding such approval recommendations, not directly related to the procurement process, can be found in **Appendix – C: Procurement Dept. Recommendations**.

❖ *Procurement buying group efficiency is tied directly to the number and average value of contracts awarded by each group*

**Table 37** below details the number of contracts and associated dollar value awarded by each of the buying groups in 2011. See **Appendix – B: Procurement Buying Groups (Defined)** for descriptions and responsibilities of each buying group.

**Table 37 – Procurement Awards Made by Buying Group (2011)**

| (\$ in 000's)                    | # of Awards  | \$ Amount           | 2011        |             | \$ per Award        | Avg # of Days |
|----------------------------------|--------------|---------------------|-------------|-------------|---------------------|---------------|
|                                  |              |                     | % Total     | % of \$     |                     |               |
| Professional Tech. & Advisory    | 1,158        | \$ 191,911          | 52.0%       | 8.0%        | \$ 165,726          | 15.1          |
| Commodities & Services           | 724          | 484,220             | 32.5%       | 20.3%       | 668,812             | 49.2          |
| Technology Services              | 192          | 219,596             | 8.6%        | 9.2%        | 1,143,730           | 39.5          |
| Construction                     | 85           | 413,786             | 3.8%        | 17.3%       | 4,868,072           | 42.0          |
| World Trade Center/Federal Proc. | 66           | 1,079,816           | 3.0%        | 45.2%       | 16,360,848          | 99.6          |
| <b>Total Procurement</b>         | <b>2,225</b> | <b>\$ 2,389,329</b> | <b>100%</b> | <b>100%</b> | <b>\$ 1,073,856</b> | <b>26.8</b>   |

While the Professional, Technical and Advisory (“PTA”) has the shortest timeline to contract an award (15 days), largely due to the pre-approval of the form of contract and viable candidates, even small improvements to process can yield a large savings given volume of agreements issued (1,158 in 2011). A vast majority (88 percent) of PTA awards use a “Call-in Consultant” list. Call-in Engineering agreements are typically awarded on a four-year basis; however, each contract is required to be written, reviewed, and authorized annually. Consideration should be given to allow for contracts to be renewed once over the four year period.

In Commodities & Services, where purchases account for 33 percent of all awards, opportunities for improvement exist as it is the second lengthiest process to award a contract (49 days). Factors influencing these purchases include inadequate client scope delineation, advertising thresholds, and the delegation of authority limits. The Commodities and Services division principally uses the “Lowest Qualified Bid” and “Government Contract” methods of procurement.

- ❖ *Policies that require use of a publicly advertised solicitation process should be revised to allow for discretionary purchases of lower value commodities and services that would accelerate delivery, and lower costs to execute, while maintaining transparency*

**Table 38 – Procurement Awards by Process (2011)**

| (\$ in 000's)            | # of Awards  | 2011                |             |             |                     |               |  |
|--------------------------|--------------|---------------------|-------------|-------------|---------------------|---------------|--|
|                          |              | \$ Amount           | % Total     | % of \$     | \$ per Award        | Avg # of Days |  |
| Call-in Consultant       | 1,024        | \$ 104,029          | 46.0%       | 4.4%        | \$ 101,591          | 14.8          |  |
| Other Procurements       | 103          | 394,222             | 4.6%        | 16.5%       | 3,827,400           | 22.0          |  |
| Government Contracts     | 288          | 103,764             | 12.9%       | 4.3%        | 360,292             | 34.7          |  |
| Sole Source              | 245          | 42,145              | 11.0%       | 1.8%        | 172,022             | 46.5          |  |
| RFP                      | 117          | 1,053,009           | 5.3%        | 44.1%       | 9,000,076           | 53.1          |  |
| Pre-Qualified            | 22           | 157,043             | 1.0%        | 6.6%        | 7,138,340           | 57.5          |  |
| Low est Qualified Bidder | 426          | 535,116             | 19.1%       | 22.4%       | 1,256,140           | 61.4          |  |
| <b>Total Procurement</b> | <b>2,225</b> | <b>\$ 2,389,329</b> | <b>100%</b> | <b>100%</b> | <b>\$ 1,073,856</b> | <b>26.8</b>   |  |

A majority of solicitations using the lowest qualified bidder method (nearly 20 percent of awards) typically use a public advertising process, despite the fact that these processes are the least efficient, requiring 61 days to award a contract. With the exception of government contracts, under current policy, the defined nature of certain purchases makes a publicly advertised solicitation the only authorized means to award a contract for commodities and services, regardless of the relative inefficiency. The current \$25,000 threshold (unadjusted for over 20 years), should be re-examined as raising the advertising threshold reduces the number of publicly advertised solicitations, saving commodities and services two to three weeks per solicitation and eliminating related advertising costs. To facilitate this change, the Agency would also need to create more robust vendor lists to more effectively, directly solicit vendors based on type of service or good provided.

For awards that continue to require a publicly advertised process, various improvements such as a shift in the advertising window and use of media will save both time and dollars. Currently, an advertisement is not made until the scope is finalized, and is made both online, as

well as print media, such as newspapers and trade magazines. By advertising prior to the finalization of scope, the Agency may save two to three weeks without compromising the communication of the need to the vendor.

- ❖ *Operating in a “zero expense growth” environment has limited Procurement’s ability to implement new, interactive procurement systems technology that would improve efficiency*

Historically, the Agency has been slow to adopt new technologies due to upfront cost, regardless of the long-term benefits. In the future, technology investments should be considered from a cost/benefit and return on investment rather than a solely cost perspective.

Implementation of a fully integrated E-Procurement system is crucial for the department to complete standardization of documents, process and information across all divisions, as well as enhance communication between Procurement, potential vendors, consultants, contractors, and Agency clients. Procurement has already identified several potential system solutions and the Technology Services Department estimated the potential cost to be up to \$2.5 million, with additional staff required to implement. Additionally, the e-commerce initiative will link to the warehouses through mobile applications at an estimate of \$500,000 in one-time costs for equipment. Benefits to a fully electronic procurement process include reductions in total procurement cycle, administrative costs per purchase, sourcing cycles, and data errors during bid submission and evaluation.

## **COST CONTAINMENT OPPORTUNITIES**

- ❖ *Efficient delivery of capital projects is one of the largest opportunities for cost containment at the Port Authority, and the Procurement Department plays a vital role*

Procurement plays an important upfront role in the efficient delivery of capital projects (and ultimately impacts total soft costs included in capital expenditure outlays) through the project authorization process. If the Agency is able to reduce its capital delivery time, resulting in reduced soft costs, the potential cost savings are likely to be substantial (please see additional information regarding capital delivery savings in **Section XV – Capital Plan Assessment & Forecast Review**).

- ❖ *Improved vendor interaction with the Port Authority will likely reduce overall costs of goods and services procured by the Agency*

The Agency has a reputation for rigorous procurement processes and terms and conditions (insurance requirements, indemnification, liability, etc.) that are perceived to be onerous (not market practices) and difficult to negotiate. Because of this, vendors are anecdotally known to factor in a “Port Authority Premium.” While, it is difficult to quantify exactly what the “Port Authority Premium” might be, experience would suggest that it could be 0.5% to 1.0% of annual purchases, excluding Commodities. Eliminating vendors’ use of a “Port Authority Premium” could yield potential annual savings of \$8.5 million to \$19.0 million.

- ✧ *If identified initiatives are fully implemented, the Procurement Department expects greater efficiency in its ability to provide services to its client departments*

The Procurement Department has been handling a large and growing volume of solicitations with fewer employees and is in the process of implementing more efficient and streamlined processes to increase its capacity (FTE) utilization and to be more responsive to the needs of its client departments. That said, if the identified initiatives are fully implemented, the Procurement Department believes that five (5) FTE reductions in Procurement staff may be feasible. This could mean potential savings of approximately \$600,000 in annual salary and benefits.

- ✧ *Streamlined processes and reduction in average number of days to award contracts should have an associated derivative impact on improving client departments productivity, as expedited delivery of required goods and services will accelerate execution of duties and projects*

Analysis should be performed to further refine quantification of the associated derivative impact on client departments. However, at a minimum, approximately 20 FTEs are dedicated by Line Departments to facilitate procurement processes (i.e. interfacing with Procurement Department, scope development, contract management, board approval process, etc.). The total compensation and benefit costs of 20 FTEs are approximately \$3.0 million. If procurement efficiency gains by Line Departments are estimated at 20 percent to 30 percent, the implied potential annual cost savings would be \$0.6 million to \$0.9 million per annum.

## RECOMMENDATIONS

Procurement has identified more than 20 initiatives, and associated recommendations, that, if fully implemented, would markedly improve vendor interaction with the Port Authority, shorten the approval process, eliminate unnecessary administrative tasks, and expedite delivery of products and services to the line and staff departments. After diligent prioritization, based on a combination of factors (i.e., cost to implement, potential cost savings, implementation timeframe), these initiatives should be adopted. A complete list of recommendations is detailed in **Appendix – C: Procurement Dept. Recommendations**. Key recommendations are noted below:

### *Increase Authority over Standard Contracts & Processes*

- Raise the advertising thresholds and develop more vendor category lists for enhanced direct solicitations for appropriate commodities and services contracts
- Delegate authority to the Executive Director for routine, low-risk agreements, regardless of the value of the contract

### *Streamline Processes and Eliminate Redundancy*

- Eliminate annual renewals for Call-in Engineering agreements and require approvals once per contract term (i.e., four years)

- Allow an expedited advertising process during scope finalization and eliminate print advertising to reduce costs
- For value-add procurements, such as bankers, consultants, and other advisors, allow the individual most closely tied to the selected assignment to lead the procurement process (*i.e.*, selection of an aviation consultant should be led by a member of Aviation Department involved in oversight of the assignment)

***Implement Latest Procurement Technology to Enhance Processes***

- Prepare a phased “Electronic Procurement Management System” plan for a fully integrated approach to electronic document creation; online bid distribution and submission; enhanced vendor, contractor, and consultant communication; integration with SAP and other Port Authority software systems; and utilization of metrics to track Agency procurement efficiencies, and contractor, consultant, and vendor performance

## XII. SHARED SERVICE REVIEW – ENGINEERING

### OVERVIEW

With over 500 employees, the Port Authority’s Engineering Department is responsible for the delivery of architectural, engineering, and construction management services to the Line Departments, as well as ensuring the continued structural safety and compliance of the various Port Authority facilities. Due to the department’s expertise and institutional knowledge of the asset base, Engineering is a central participant in developing and delivering the capital plan. As stewards of the capital delivery process, the Department can and should play an important role in reducing soft costs in construction projects.

Despite efforts made by Engineering, COO, and the Capital Planning Oversight Committee, (“CPOC”) since 2005 to create a centralized Project Management Department (“PMD”) that would eliminate duplication and provide coordinated Agency-wide leadership in project delivery, the critical function never fully developed and the PMD was dissolved with project managers decentralized and dispersed amongst the line departments. This left Engineering fully responsible for Engineering, Architectural Design, and Construction delivery, without the requisite support. Further detail and recommendations are discussed in **Section XV – Capital Plan Assessment & Forecast Review**. Due to the numerous projects in progress or at-hand, current Agency project delivery processes need to be re-examined to facilitate appropriate prioritization, timing, and delivery.

To facilitate review, meetings were held with the Engineering Department, including the Chief Engineer and select management, in order to obtain insight into the current roles and responsibilities the department plays in the delivery of capital projects, and to determine if efficiencies in the process may be realized. Prior to the meetings, Engineering collaborated through various work sessions with the COO, Management & Budget Department, and Line Departments (including security) to perform a critical review of 50 select projects. The result was the identification of several key initiatives that, if enacted, would allow for enhanced facilitation in the execution of Port Authority projects. These considerations were thoroughly reviewed with the department and select, key initiatives are detailed below.

### OBSERVATIONS & FINDINGS

✧ *An Agency-wide asset management process should be further developed*

An Agency asset management process will enhance the ability to aggregate and prioritize the numerous capital and operating projects across the Port Authority’s facilities. With many Port Authority assets past their useful life, the ability to determine which projects require immediate attention will be a crucial task going forward to ensure the safety and reliability of these assets. In the past few years, the COO’s Office has led the preliminary effort to develop an Agency-wide asset management process. It would behoove the Port Authority to re-evaluate who is best suited to oversee the asset management process, as well as dedicate appropriate staff and

funding to Agency-wide asset management that will identify current conditions and forecast the long term investment necessary to improve the state of each facility, inclusive of engineering's programs and industry best practices.

- ✧ *The speed of delivery for capital projects is dependent on project delivery processes, including board authorization, procurement and careful coordination among Engineering, Line Departments, and Construction, to optimize workflow and drive accountability*

Several departments across the agency have met to discuss ideas to improve the speed of delivery for capital projects by allowing for higher delegation of authority at the Executive Director and Director levels. Current capital authorization policies require all projects to pass through a three-step process (*i.e.*, planning authorization, project authorization, and contract authorization), with specific exceptions for State-of-Good-Repair, Mandatory, and Security projects.

While delays in project delivery are certainly attributable to time consuming Board approval, consideration for the full project life-cycle should be given to further identify inefficiencies and drive enhancements to the capital delivery process.

- ✧ *Increased clarity in project definition and scope development, between Line Departments and Engineering, specifically during the project planning phase, will improve project delivery and reduce costs*

There are five defined stages in a project life-cycle: initiation ("pre-stage 1"), conceptual design ("stage 1"), preliminary design ("stage 2"), final design ("stage 3"), and construction and commissioning of the project ("stage 4"). When taking all stages into consideration, there are several points of inefficiency that could be resolved to enhance project delivery.

It is imperative that a robust project initiation process occur, including Engineering's input on project schedules and estimates prior to their inclusion in the Capital Plan. A clearly defined scope outlining financial and operational constraints needs to be established with the consensus of all key stakeholders. An exception would be made for small routine projects being implemented via a streamlined process. In addition, a set list of stage 1 deliverables including an executive summary, conceptual estimate, life cycle cost analysis, preliminary operational staging plans, preliminary hours of work, and a preliminary schedule highlighting project stages and significant milestones, must be delivered with rigor so that a commitment to proceed with the selected alternative can be made at the end of stage 1. Without such, these deliverables become "guesstimates" at best and projects are held to a standard that is not fully grounded in reality, resulting in a lack of appropriate funding and, ultimately, cost overruns.

To better assure projects are delivered within the authorized budget and schedule, there needs to be an understanding and agreement of project risks, and associated financial impacts, between the Line Departments and Engineering before items go before the Board for planning and project authorization. The framework for this is currently in place with the risk assessment program; however, more rigors should be placed in defining risks and providing upfront transparency in items moving forward to the Board.

Another relative point of inefficiency is drawn out during the multiple design reviews throughout stages 1-3 of a project. Currently, designs are sent out for Agency-wide review at 50 percent, 90 percent and 100 percent completion. An all-inclusive review process can add a month to the review and, if the 50 percent and 90 percent stages were reviewed strictly on an “on-board” basis, meaning only those individuals intimately involved in the project participate, more efficient allocation of company resources and expedited delivery of projects could be realized. To date, Engineering has eliminated the 90 percent submission in an effort to expedite project delivery.

- ✧ *Delays in project delivery and execution have led to cost overruns. The Agency would benefit from a revamping of project delivery processes to ensure completion of capital and operating projects on time and on budget*

The timing of project delivery, execution, and, ultimately, costs incurred, can be improved through enhanced schedule management in Engineering. The majority of Port Authority managed construction projects have tight restrictions on contractor hours of work, related to the operational requirements of each facility (*i.e.*, work on tunnels or bridges can only be done in off-peak hours) to minimize the inconvenience to the public. These set hours need to be re-evaluated to determine if hours can be extended without compromising facility operations.

Further efficiency in project delivery can be obtained by mitigating, if not eliminating, scope changes during stages 2-4 of a project. Even when minimal changes are made, a new scope submittal and approval process is required, causing delays in project delivery. This leads to projects completed outside of the authorized budget and schedule. A recent study was conducted comparing hard-costs (*i.e.*, construction, facility forces, and insurance) versus soft-costs (*i.e.*, site acquisition, planning and engineering, project contingencies, general and administrative, and financing expenses) for all projects since 2000; **Table 39** below summarizes the findings.

**Table 39 – Construction Costs: Hard vs. Soft (2000 – 2011)**

| (\$ in 000s)         | < \$1.0m        | \$1.0mm - \$4.9mm | \$5.0mm - \$9.9mm | \$10.0mm - \$24.9mm | \$25.0mm - \$49.9mm | \$50.0mm - \$99.9mm | \$100.0mm - \$500.0mm | Total              |
|----------------------|-----------------|-------------------|-------------------|---------------------|---------------------|---------------------|-----------------------|--------------------|
| <b># of Projects</b> | <b>111</b>      | <b>217</b>        | <b>102</b>        | <b>81</b>           | <b>34</b>           | <b>13</b>           | <b>14</b>             | <b>572</b>         |
| Hard Costs           | \$38,197        | \$344,237         | \$492,787         | \$924,444           | \$895,261           | \$654,571           | \$1,979,759           | \$5,329,256        |
| Soft Costs           | 25,021          | 199,289           | 227,834           | 365,564             | 258,390             | 242,659             | 443,237               | 1,761,994          |
| <b>Total Costs</b>   | <b>\$63,218</b> | <b>\$543,526</b>  | <b>\$720,621</b>  | <b>\$1,290,008</b>  | <b>\$1,153,651</b>  | <b>\$897,230</b>    | <b>\$2,422,996</b>    | <b>\$7,091,250</b> |
| Percent Hard Costs   | 60%             | 63%               | 68%               | 72%                 | 78%                 | 73%                 | 82%                   | 75%                |
| Percent Soft Costs   | 40%             | 37%               | 32%               | 28%                 | 22%                 | 27%                 | 18%                   | 25%                |

The soft cost percentage for projects with a total project value less than \$10 million ranged from 32 percent to 40 percent of total project costs, versus 25 percent for larger, more complex projects. While more attention should certainly be given to larger, more complex construction projects, the smaller, simpler projects should have a more efficient process in design, authorization, and delivery, thereby reducing the soft cost percentage. Working with the Line Departments, Engineering has implemented the following recommendations for small scale project delivery to keep soft costs at a minimum and increase efficiency in the project planning

and delivery process: increased use of unit cost contracts, expanded budget and scope for immediate repair contracts, structural integrity program streamlining, expedited Agency authorization processes, and procurement process improvements.

## RECOMMENDATIONS

To facilitate and supplement the other recommendations relating to the enhancement of capital project delivery, the following initiatives are recommended. While these recommendations would save significant time in project delivery and costs, total quantification of savings is difficult to determine given that such impact would be realized across multiple Port Authority departments.

- Reorganize the Engineering Department to fall under the purview of the new, centralized Chief of Capital Planning, Execution, and Asset Management Office (refer to **Section V – Organizational Design & Effectiveness** for further detail)

### *Project Authorization Thresholds*

- Increase current authorization thresholds to be managed by the Executive Director to allow projects to advance directly to contract award by increasing limits for the various project categories (State-of-Good-Repair, Mandatory, System Enhancing, and Security), Capital and Operating Major Works Programs (planning related expenditures), discretionary projects, and new initiative.

### *Project Planning*

- Develop rigorous Stage 1 scoping document with key project stakeholders prior to moving forward to next stage by (with the exception of small routine projects) clearly defining financial and operational constraints; limiting design alternatives and review; include preliminary operational staging plans, preliminary hours of work; and assuring project charge codes and funding is available prior to the start of design.

Continue the development of an Agency Asset Management process to better enable decisions as to projects; asset readiness/need to move into capital plan, including evaluation of the best suited department to manage the asset management process; agency vision with clarified roles established for key stakeholders; asset life-cycle expectancy, condition, and rehabilitation analysis; and enhanced methods to incorporate areas such as mechanical and electrical system analysis, roofing and underground utilities into an Agency-wide asset management.

### *Project Delivery and Execution*

- Improve schedule management by allowing for greater flexibility for hours of work whenever possible; limiting and in some cases eliminating scope changes; implementing efficiencies to reduce soft costs for small scale projects; clarifying roles and responsibilities of the key stakeholders in the project delivery.
  - Implement Agency-wide project tracking system; performing risk assessments on all projects in the Capital Plan; and continuing of the Engineering/Procurement initiative to streamline the procurement process as it relates to project delivery.

### XIII. SHARED SERVICE REVIEW – LAW

#### OVERVIEW

The Port Authority’s Law Department, managed by the General Counsel, provides centralized legal services for the entirety of the Port Authority, including selection (subject to the approval of the Executive Director) and management of any outside counsel. Within the Law Department are two practice areas: Corporate and Litigation, Risk Management & Corporate Security. In 2011, the Law Department was responsible for processing over 12,000 claims and matters divided evenly between the two practice areas (Table 40 below shows the number of claims and matters handled by each division).

**Table 40 – Claims & Matters Handled by Law Department (2011)**

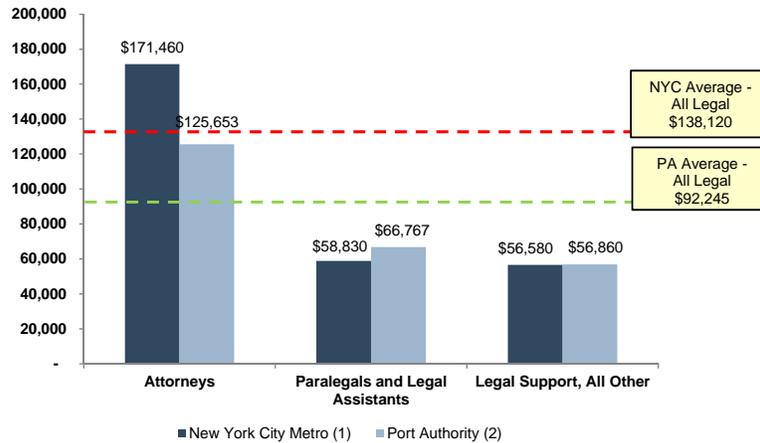
| Legal Division  | Open         | Closed       | Total         | % Total       |
|---|--------------|--------------|---------------|---------------|
| <b>Corporate Law</b>  |              |              |               |               |
| <i>Business Transactions &amp; Regulatory Compliance</i>    | 2,633        | 561          | 3,194         | 25.9%         |
| <i>Employment Relations</i>                                 | 1,366        | 397          | 1,763         | 14.3%         |
| <i>Finance</i>  | 838          | 193          | 1,031         | 8.4%          |
| <b>Totals</b>   | <b>4,837</b> | <b>1,151</b> | <b>5,988</b>  | <b>48.6%</b>  |
| <b>Litigation, Risk Management &amp; Corporate Security</b> |              |              |               |               |
| <i>Claims</i>   | 2,200        | 765          | 2,965         | 24.1%         |
| <i>Corporate Security</i>                                   | 123          | 3            | 126           | 1.0%          |
| <i>Litigation</i>   | 1,509        | 180          | 1,689         | 13.7%         |
| <i>Worker's Compensation</i>                                | 1,196        | 273          | 1,469         | 11.9%         |
| <b>Totals</b>   | <b>5,028</b> | <b>1,221</b> | <b>6,249</b>  | <b>50.7%</b>  |
| <b>Outside Counsel (Directly Retained)</b>                  | 87           | 4            | 91            | 0.7%          |
| <b>Total Claims Handled in 2011</b>                         | <b>9,952</b> | <b>2,376</b> | <b>12,328</b> | <b>100.0%</b> |

The Law Department utilizes “Law Manager,” a legal database, to track its activity, including the types of claims, client origination, and legal division responsible; however, it does not cover all legal matters and claims, nor was it designed to track the data required to determine the cost efficiency of the Law Department’s work. For example, while the Law Department processed nearly 6,000 matters, the database fails to track several large-scale accomplishments of the Law Department, including:

- Providing bond, disclosure, and tax counsel in connection with the \$2.6 billion in Port Authority Consolidated Bonds and \$1.0 billion in commercial paper;
- Providing legal and bond counsel supporting the issuance of \$1.3 billion in Liberty Revenue Bonds for 1 WTC;
- Led negotiation, document preparation, and closing for the lease of one-million square feet at 1 WTC; and,
- Led the negotiation, document preparation, and closing of the joint venture between the Durst Organization and the Port Authority relating to 1 WTC.

There are 132 employees at the Law Department, including 63 attorneys and 69 supporting staff. An average attorney’s cash compensation represents approximately \$125,000 with additional \$47,000 in benefits for a total compensation of \$172,000. Shown in **Figure 8** below, this is low relative to average attorney salaries at the New York City Metro area, suggesting that handling legal matters in-house is likely more cost effective than outsourcing the work (will require some level of profit), provided that the appropriate expertise exists in-house and attorneys are sufficiently utilized.

**Figure 8 – Law Department vs. New York City Metro 2011 Compensation**



Notes:

- 1) *New York State Department of Labor Statistics*
- 2) *Port Authority payroll – 2011; includes base salary and add-on compensation, excludes health, pension, and OPEB benefits*

To facilitate review, meetings were held with the Law Department to review the roles and responsibilities of the Law Department and determine the nature of the various litigation matters and non-litigation (transactional, document preparation, negotiation, regulatory, advisory, compliance) functions handled by each division. Data was also reviewed that detailed all legal matters currently open, as well as those closed over the period of 2009-2011, to develop a more complete picture of the allocation of various activities within the Law Department. A total of nearly 15,000 claims and matters, excluding those related to September 11 inhalation claims, were reviewed and classified by law division, sub-division and claims types (see **Section XIII – Shared Service Review – Law** for more detail).

**OBSERVATIONS AND FINDINGS**

❖ *The Law Department must continue to balance enabling business objectives of client departments while protecting the Agency’s interests and reducing exposure to future litigation*

Consistent with other public agencies, the Port Authority’s Law Department has traditionally served to control risk. While a public-sector framework serves this purpose effectively, it can be

limited in its ability to balance risk vs. opportunity to determine alternative risk-mitigating solutions.

From 2007 to 2008, the Law Department underwent organizational redesign in efforts to streamline the department to better serve its clients, including the appropriate use of outside counsel. However, the client departments still have some perception that the Law Department could do more to provide alternative solutions to business problems rather than reasons not to pursue the goal.

✧ *The mix of in-house versus out-of-house services needs to be objectively, quantitatively, and qualitatively evaluated for opportunities to improve efficiency and effectiveness*

The Port Authority at present utilizes a blended model where the organization’s in-house Law Department has primary responsibility for handling the legal issues that arise, but the Law Department will retain outside counsel on specific matters that extend beyond its expertise or when the volume of cases (*i.e.*, personal/property injury litigation claims) require different capabilities. The department proactively manages outside counsel with an in-house attorney overseeing the respective work to ensure that performance is consistent with expectations. **Table 41** below details the various matters handled by outside counsel in 2011.

**Table 41 – Outside Counsel Retained in 2011 (\$ in 000’s)**

| Area of Concentration                        | No. of Firms | No. of Cases | % Total Cases | 2011 \$'s          | % Total \$'s |
|--|--------------|--------------|---------------|--------------------|--------------|
| Public Liability                             | 9            | 28           | 32%           | \$ 5,761.9         | 15%          |
| Transportation                               | 4            | 7            | 8%            | 935.5              | 2%           |
| Leases/Business Agreements/Terminal Matters  | 4            | 34           | 39%           | 18,606.8           | 49%          |
| Audit Committee/Bankruptcy/Captive Insurance | 3            | 3            | 3%            | 508.1              | 1%           |
| Employment and Labor Law                     | 1            | 7            | 8%            | 802.8              | 2%           |
| Intellectual Property                        | 1            | 5            | 6%            | 297.7              | 1%           |
| World Trade Center Issues                    | 1            | 3            | 3%            | 11,303.5           | 30%          |
| <b>Totals</b>                                | <b>23</b>    | <b>87</b>    | <b>100%</b>   | <b>\$ 38,216.3</b> | <b>100%</b>  |

With the organizational reform in 2007 and 2008, noted prior, the Law Department issued a Memorandum to provide new guidelines for the appropriate use, selection, and management of outside counsel, with the goal of “achieving a balance of internal and external legal resources to effectively and efficiently advance the Port Authority’s business objectives.” In addition, the Memorandum indicated whether there are “in-house and outside resources that would produce a more cost-efficient result” and whether “the work may be accomplished less expensively by outside counsel.” The Law Department anticipates that, in time, up to half of transactional matters handled by the Law Department may involve retention of outside counsel.

In 2011 the Law Department retained outside counsel for less than 1.0 percent of total volume of work in 2011, and nearly \$38.0 million dollars were spent, with approximately 50.0 percent relating to leases, business agreements, and terminal matters. As the Law Department considers increased use of outside counsel, it will be necessary to track both time and cost associated with each case or matter to determine which cases or matters would be more effectively served by outside counsel.

- ✧ *The Law Department is a major shared service expense and currently lacks readily attainable key performance indicators and metrics to reliably evaluate its current service performance*

There is currently insufficient data available to track and measure the internal hours spent working on a case, attorney utilization and their overall productivity. Without having performance metrics, it is difficult to: (i) know whether the Law Department is succeeding at its objectives; (ii) demonstrate the value of the legal function to executive management; (iii) manage internal resources to ensure the Law Department is focusing on the right things; (iv) institute proper “make-versus-buy” decisions; (v) effectively manage external law firms to control costs, (vi) develop useful information about matters and fee arrangements; and (vii) benchmark against past performance as well as other legal departments.

Some of the useful metrics to quantitatively measure performance and efficiency are:

- Overall caseload, matters per lawyer, time spent on matters by type, and trends in types of matters;
- Total and average exposure facing the company per matter, and by type of matter;
- Tracking of total costs (employee and overhead) per matter, and by type of matter; and,
- Average blended rates in total and by matter (use in benchmarking).

Another tool commonly used by in-house legal departments is client satisfaction surveys. This can serve as a communication tool between the client departments and the Law Department, allowing for more direct feedback about service and performance levels. Utilizing a combination of both quantitative and qualitative metrics will ensure the Law Department a higher probability of achieving its objectives.

## RECOMMENDATIONS

To ensure that the Law Department is achieving appropriate and efficient outcomes for its client departments, as well as managing risks for the Port Authority, the following should be considered:

- Identify and implement new technology to establish, monitor, and measure performance metrics for the Law Department and communicate to its stakeholders:
  - Determine business objectives and executive management and client department needs;
  - Get buy-in from internal legal team to rigorously collect information and measure performance;
  - Put in place proper information sources and systems to capture required data; and,
  - Continuously improve the accuracy and usability of the information and the processes for sharing information over time.

## XIV. SHARED SERVICE REVIEW – REAL ESTATE & DEVELOPMENT

### OVERVIEW

Real Estate and Development (“RED”) manages a portfolio of the Port Authority’s real estate associated with Line Department activities, the Agency-wide Capital Plan, and economic development for the good of the wider region. The group exists to optimize the value of the Agency’s assets by performing a wide array of real estate functions in-house including, but not limited to:

- Transit oriented development;
- Arranging for property acquisitions and dispositions;
- Promoting regional economic development;
- Negotiating retail and commercial lease and sales agreements;
- Developing and managing joint ventures and other public and private partnerships;
- Managing retail, industrial and office space; and,
- Coordinating strategy and execution of advertising initiatives.

RED’s functions are managed in three broad categories: office space services and property management, asset acquisition and disposition, and leasing and operations. As noted in **Table 42** below, RED is involved in a wide cross section of Agency activities. Accordingly, the portfolio of real estate assets and in-process projects is wide-ranging and complex. RED’s interests currently include both transit and non-transit related assets and projects.

**Table 42 – Portfolio of Real Estate & In-Process Developments (update table)**

| NON-TRANSIT OWNED REAL ESTATE  | IN-PROCESS DEVELOPMENT PROJECTS  |   |  |
|--|--|---|--|
| <ul style="list-style-type: none"> <li>• New ark Legal &amp; Comm Center</li> <li>• Teleport</li> <li>• Essex County Resource Recovery Facility</li> <li>• Bathgate Industrial Park</li> <li>• Industrial Park at Elizabeth</li> <li>• 2 Montgomery Street Office Building</li> </ul>  | <table border="1"> <thead> <tr> <th>Real Estate Initiatives In Support of Transit</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• Port Authority Bus Terminal (PABT)</li> <li>• George Washington Bridge Bus Station</li> <li>• PATH Harrison Station Redevelopment</li> <li>• Journal Square Redevelopment</li> <li>• Washington Street Pow erhouse</li> <li>• Goethals Bridge (Right of Way)</li> <li>• Bayonne Bridge (Air Rights Deal)</li> <li>• West Midtow n Properties Air Rights</li> <li>• Portfields Initiative</li> <li>• PATH Substations</li> </ul> </td> </tr> </tbody> </table> | Real Estate Initiatives In Support of Transit | <ul style="list-style-type: none"> <li>• Port Authority Bus Terminal (PABT)</li> <li>• George Washington Bridge Bus Station</li> <li>• PATH Harrison Station Redevelopment</li> <li>• Journal Square Redevelopment</li> <li>• Washington Street Pow erhouse</li> <li>• Goethals Bridge (Right of Way)</li> <li>• Bayonne Bridge (Air Rights Deal)</li> <li>• West Midtow n Properties Air Rights</li> <li>• Portfields Initiative</li> <li>• PATH Substations</li> </ul> |
| Real Estate Initiatives In Support of Transit  |  |   |  |
| <ul style="list-style-type: none"> <li>• Port Authority Bus Terminal (PABT)</li> <li>• George Washington Bridge Bus Station</li> <li>• PATH Harrison Station Redevelopment</li> <li>• Journal Square Redevelopment</li> <li>• Washington Street Pow erhouse</li> <li>• Goethals Bridge (Right of Way)</li> <li>• Bayonne Bridge (Air Rights Deal)</li> <li>• West Midtow n Properties Air Rights</li> <li>• Portfields Initiative</li> <li>• PATH Substations</li> </ul> |  |   |  |
|  | <table border="1"> <thead> <tr> <th>Non-Transit Economic Development Initiatives</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• Hoboken South Waterfront Development</li> <li>• Queens West Waterfront Development</li> <li>• Railroad Property Transactions</li> </ul> </td> </tr> </tbody> </table>  | Non-Transit Economic Development Initiatives  | <ul style="list-style-type: none"> <li>• Hoboken South Waterfront Development</li> <li>• Queens West Waterfront Development</li> <li>• Railroad Property Transactions</li> </ul>   |
| Non-Transit Economic Development Initiatives   |  |   |  |
| <ul style="list-style-type: none"> <li>• Hoboken South Waterfront Development</li> <li>• Queens West Waterfront Development</li> <li>• Railroad Property Transactions</li> </ul>   |  |   |  |

Since the events of September 11<sup>th</sup> that destroyed the main location for Agency office operations, headquarters and support functions have been housed in 12 separate locations, as shown in **Table 43**. RED coordinates space in these locations as well as personnel mobility among locations, which has been administratively cumbersome.

**Table 43 – Portfolio of Port Authority Owned and Leased Employee Office Space**

| <b>NEW YORK LEASED PROPERTIES</b> |                                       |                |                 |
|-----------------------------------|---------------------------------------|----------------|-----------------|
| <b>Leased Property</b>            | <b>Landlord</b>                       | <b>RSF</b>     | <b>Exp Date</b> |
| 100 Broadw ay                     | MM100 Broadw ay LLC                   | 55,547         | 12/31/2015      |
| 115 Broadw ay (5,6,7 & 10)        | Trinity Centre LLC                    | 76,448         | 12/31/2016      |
| 115 Broadw ay (8, 9 & 19)         | Trinity Centre LLC                    | 61,180         | 7/31/2015       |
| 115 Broadw ay (14)                | Trinity Centre LLC                    | 19,575         | 3/31/2012       |
| 116 Nassau St                     | Abacus Federal Savings Bank           | 9,990          | 1/31/2016       |
| 225 Park Ave. S.                  | 225 Fourth, LLC c/o Orda Mgt          | 224,728        | 10/31/2016      |
| 225 Park Ave. S. (17th Fl)        | International Master Publishers, Inc. | 9,381          | 8/11/2016       |
| 233 Park Ave. S.                  | 225 Fourt, LLC                        | 80,898         | 10/31/2016      |
| JFK / KAL                         | Korean Air Lines Co., Ltd.            | 2,648          | 2/24/2012       |
| JFK / KAL (8/11/2003)             | Korean Air Lines Co., Ltd.            | 840            | 1/2/2012        |
| JFK / KAL (2/1/2009)              | Korean Air Lines Co., Ltd.            | 4,863          | 1/31/2019       |
| <b>NY Total</b>                   |                                       | <b>546,098</b> |                 |

| <b>NEW JERSEY LEASED PROPERTIES</b> |                                     |                |                 |
|-------------------------------------|-------------------------------------|----------------|-----------------|
| <b>Leased Property</b>              | <b>Landlord</b>                     | <b>RSF</b>     | <b>Exp Date</b> |
| 5 Marine View                       | Hoboken Associates, L.P.            | 10,608         | 12/31/2014      |
| Gatew ay I                          | Gatew ay I New ark LLC              | 1,135          | 8/31/2016       |
| Gatew ay Plaza II                   | Gatew ay Associates LLC             | 157,863        | 8/31/2015       |
| Gatew ay Plaza III                  | Prudential Insurance Co. of America | 38,354         | 12/20/2014      |
| 777 Jersey Ave                      | JHR Realty Co. LLC                  | 80,027         | 12/19/2013      |
| PA Technical Center                 | Trends Urban Renew al Assn Ltd      | 305,546        | 2/29/2020       |
| <b>NJ Total</b>                     |                                     | <b>593,533</b> |                 |

| <b>PORT AUTHORITY OWNED PROPERTIES</b> |               |
|--|---------------|
| <b>Property</b>                        | <b>SF</b>     |
| 2 Montgomery                           | 83,000        |
| <b>PA Total Owned Properties</b>       | <b>83,000</b> |

In addition to asset-specific activities, the Port Authority works with outdoor media company Decaux on advertising campaigns in support of various Port Authority assets. Advertising requires internal Agency coordination among the RED group and Line Departments. In addition, the Government and Community Relations (“GoCor”) group weighs in on advertising content.

As evident from its portfolio of properties, project activities, and core functions, it is clear RED deals with a wide breadth of real estate types and issues with varying levels of complexity. The nature of the Agency encourages RED’s scope to go beyond transit-oriented assets and to drive revenue enhancement from existing assets. Often this involves relationships with constituencies having disparate interests including municipalities, special interest groups, private developers, contractors, and other commercial parties. There is a view that RED activities should be streamlined to focus on transit oriented activities.

## OBSERVATIONS & FINDINGS

- ✧ *The Agency has non-core assets that are not strategic to the Line Departments and consume capital and management resources*

Over the years, the Port Authority has accumulated a portfolio of diverse, non-core assets (*i.e.*, buildings, leaseholds, lands, etc.). The Port Authority has already taken action recently announcing the restructuring of its interest in the Essex County Resource Recovery facility and is in process of reviewing strategic alternative with regards to Newark Legal Center and Teleport. Many of these assets are not strategic to the business and are immaterial in value relative to core assets, while consuming capital and management resources. The PA has started a review of these non-core assets to analyze the potential for sale.

- ✧ *Consideration should be paid to decentralizing the Office Space Services & Property Management and Leasing & Operations functions within COO/line direct support and Real Estate Acquisition & Disposition and Real Estate Development functions into Capital Planning, Execution and Asset Management*

With reduced emphasis on non-core regional economic development projects and managing economic development facilities; continued divestitures of non-core assets; and currently decentralized leasing and acquisition staff for the Aviation and Port Commerce Departments, the planning and development elements of the RED function may be best served by being incorporated into the new CPEAM function.

The Agency's leasing function (*i.e.*, terminals, retail, advertising, parking, etc.) for the Line Departments has been decentralized since the mid 1970's. In 1999, RED expanded its role to include the management of commercial leasing for TB&T and PATH. Unlike Aviation and Port Commerce departments, leasing is not a core operation for TB&T and PATH.

- ✧ *The Agency has certain adjacent real estate holdings that have value that may potentially be unlocked or monetized via public-private partnerships*

The Port Authority has properties around the PABT and terminus of the Lincoln Tunnel as well as properties around the Journal Square station in Jersey City that offer opportunity for value-added real estate development.

## REVENUE ENHANCEMENT OPPORTUNITIES

- ✧ *TB&T property around the PABT in Midtown Manhattan and terminus of the Lincoln Tunnel ("Dyer Avenue") offers the potential opportunity for value-added real estate development that could generate hundreds of millions of dollars over a 10 to 15 year period*

The Port Authority should conduct a thorough market appraisal for the Dyer Avenue corridor air rights. This value is before substantial infrastructure costs that could potentially include building platforms on which to construct the buildings, and expenses to accommodate complex engineering requirements related to issues such as ventilation and security and building over

active roadways and bus facilities. These costs could be significant depending on the type of development pursued and its precise location. A recently contemplated deal for 650,000 square feet of air rights was for \$115/square foot after taking into consideration the infrastructure required. This deal fell through in early 2012 due to financing difficulties by the developer. Not all of the air rights may be developed due to complicating factors including zoning approvals and open space requirements. Alternative monetization opportunities may arise to sell the air rights to adjacent property owners that could use these assets to increase the height and density of their buildings.

The air rights above the PABT North Wing also present a development opportunity. When the North Wing was constructed in the late 1970's, it was designed to support an overbuild structure. There is an estimated 1.3 million square feet that has been envisioned to be developed into high-end mixed use property that could generate potential one-time transaction proceeds of hundreds of millions of dollars plus potential ongoing annual revenue. The development may require improvements before a third party real estate developer is able to work with the area. An anchor tenant may also be crucial to advancing the design and construction of the area. An agreement with a developer for the site recently expired and the Port Authority is exploring other alternatives.

- ❖ *PATH property around the Journal Square station in Jersey City offers a potential opportunity for real estate development to take advantage of the rising property values in the area*

A prominent developer in Jersey City has advanced plans for a seven to ten year Journal Square revitalization project based on development of three 40-50 story mixed use buildings with 800 new apartments. Recent Jersey City zoning and tax increment financing incentives mitigate some of the risk and make the project attractive. PATH would benefit from increased passenger traffic and retail activity. Even longer term, in a "phase II" Journal Square renaissance, PATH could engage in a public-private partnership to tear down and rebuild the office space above the transportation center.

## RECOMMENDATIONS

- Continue the program of non-core asset divestitures
- Provide oversight and consultative guidance related to major real estate transactions (leases and fee interest acquisition/disposition, and easements, condemnation, etc.)
- Appoint a focused, cross-functional working group within the Port Authority, including Board of Commissioner involvement, for appropriate master planning of the Bus Terminal for purposes of revenue enhancement. Opportunities for enhancement will include:
  - Assessment of the value of Port Authority air rights along Dyer Avenue and the Lincoln Tunnel Expressway (between 9th and 10th Avenues from 30th to 42nd Streets) in today's market. Recommend strategies to maximize value, while enhancing current and future transportation operations; and,

- Execute a renewed solicitation process to secure feasible alternatives to develop the estimated 1.0 million square feet of air rights above the PABT North Wing.
- Investigate the real estate development opportunities around the Journal Square PATH station in Jersey City

## XV. CAPITAL PLAN ASSESSMENT & FORECAST REVIEW

### OVERVIEW

The preliminary 2011 – 2020 Capital Plan of the Port Authority of New York and New Jersey is a 10-year, approximately \$26.9 billion<sup>4</sup> commitment to the maintenance and enhancement of select transportation and other infrastructure in the New York and New Jersey region. The preliminary 2011 – 2020 Capital Plan is the second edition of such an effort by the Port Authority. The first, substantially similar effort to produce a 10-year capital plan for the Agency was released in 2007 (“2007 Capital Plan”) for the period 2007 - 2016 that was subsequently revised in 2008 (“2008 Updated Capital Plan”).

The preliminary 2011 – 2020 Capital Plan was developed after collection, review, and analysis of the Port Authority’s identified “unconstrained” needs of \$44.3 billion; that is, initially without regard for the limitations that capital availability would put on a portfolio of projects. A subset of projects totaling \$26.9 billion or 61 percent of the Agency’s identified, unconstrained needs was selected for inclusion in the preliminary 2011 – 2020 Capital Plan given that the capital capacity of the Port Authority was forecasted to be approximately \$2.5 billion per annum.

The preliminary 2011 – 2020 Capital Plan comprises 923 projects<sup>5</sup> that are classified in six descriptive categories:

- “MAND” or Mandatory projects that are required by law, governmental rule or regulation, or by a policy of the Board of Commissioners;
- “SEC” or Security projects that through technical assessment are designed to meet the Agency’s Security Plan to reduce the opportunity for and mitigate the impact of terrorist acts against infrastructure assets;
- “SGR” or State of Good Repair projects that are identified through engineering and life cycle assessments to maintain the continuing operation of Port Authority assets ranging from parking lot pavements repair at LaGuardia airport to the suspender ropes replacement at the George Washington Bridge; and,
- “RPP” or Revenue Producing Projects where an investment hypothesis with a positive financial return has been offered by the sponsoring entity to provide system enhancements, improved customer service and/or regional benefits;

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<sup>4</sup> Although referred to as the \$25.1 billion Capital Plan, the preliminary 2011-2020 Capital Plan is actually a \$26.9 billion Capital Plan since the Authority included a \$1.8 billion adjustment titled “lag.” This adjustment factor represents the estimated amount of funds that will not be expended within the horizon of the Capital Plan. Because “lag” is a timing adjustment and not a discount on estimated project costs, this adjustment has been excluded in the analyses of the portfolio of unconstrained needs.

<sup>5</sup> The 923 projects had a total estimated cost of \$32.9 billion, of which \$26.9 billion was planned to be deployed between 2011 and 2020.

- “SEP” or System Enhancing Projects involve a beneficial impact on the operations of the Port Authority, improved customer service levels, and/or regional benefits but do not yield a positive financial return to the Agency; and,
- “SRP” or State and Regional Projects that advance the objectives of the Port Authority, but may not directly contribute to assets operated by the Agency. Such projects are initiated at the request of one of the two states.

In addition, the Port Authority utilizes a numerical sequence to designate the status of a capital project, as follows:

- Stages 1 and stage 2 represent projects in the planning, feasibility and early design phases of the capital investment lifecycle; and,
- Stage 3 and stage 4 are projects in final design and under construction.

The 2011 Capital Plan includes the World Trade Center program (for more see **Section X – World Trade Center Program** of the report).

In order to further refine the process and relevance of capital planning, the Port Authority is updating its 10-year Capital Plan (“2013 Capital Plan”) and establishing a 5-year Capital Program (“2013 Capital Program”), that will serve as a rolling tactical plan, subject to annual performance measurement and verification.

A key element of the formulation of the 2013 Capital Plan and 2013 Capital Program is an enhanced scoring and ranking protocol to establish priorities in capital deployment. This ongoing effort has significantly enhanced the discipline and transparency of the capital planning process, and is a priority for the Agency. The progress of the Port Authority on this key initiative in the short time since the Interim Report is laudable.

In addition to the prioritization of capital projects, the Special Committee has focused on the capacity of the organization to fund known needs under a fiscally-responsible plan. Accordingly, an integrated, dynamic, long-range financial model was prepared that captures the key economic and operating requirements of each Line Department and stress tests capital plan funding capacity (the “Model”).

The Model includes GAAP financial statements at a consolidated level as well as individual Line Department and facility-level income statements. The Model serves to provide relevant and timely output for the Agency on revenue, expense and capital funding capacity, financing alternatives, debt service requirements, and provides output on:

- Net revenues;
- Capital needs;
- Debt issuance;
- Debt capacity;
- The ability to comply with statutory bond covenant and ratings agency requirements; and,
- The funding capacity of the Agency.

## SUMMARY OF KEY FINDINGS

- Projects related to and classified as SGR are the largest area of exposure for the Port Authority, totaling nearly 40 percent, or approximately 100 projects, of the total unfunded projects and 55 percent, or \$6.2 billion, of unfunded costs for the preliminary 2011 – 2020 Capital Plan;
- The Port Authority must integrate the Capital Plan and develop annual budgets in support thereof, allowing appropriate contingency and flexibility for necessary change;
- Meaningful opportunities for cost savings may be realized through scrutiny of the drivers of a capital project’s life cycle; and,
- By continuing to develop the capital planning organizational structure and improving upon the existing financial forecast process, the Port Authority is creating a more robust decision-making process for capital project prioritization, execution and implementation.

## OBSERVATIONS & FINDINGS

- ✧ *The Agency identified over \$44.3 billion of known investment needs, of which, \$26.9 billion is included in the preliminary 2011 – 2020 Capital Plan; of the remaining unmet needs of \$11.4 billion, \$6.2 billion is related to SGR and must be addressed in future capital plans*

The preliminary 2011 – 2020 Capital Plan represented the first time that the Port Authority identified projects unconstrained by capital availability or capacity. The Agency identified, through a systematic process, capital needs totaling \$44.3 billion. The \$44.3 billion of capital needs is comprised of:

- 923 projects totaling \$26.9 billion related to spending during the 2011 - 2020 Capital Plan;
- \$6.0 billion related spend on these projects that extends beyond the 2011 - 2020 time horizon; and,
- \$11.4 billion of known, unmet needs across a range of project classifications, which represent projects in excess of existing capital capacity.

In light of the historical capital limitations of the Port Authority, the development of the preliminary 2011 – 2020 Capital Plan included an independent assessment via a scoring process of each identified unconstrained need, and a subsequent evaluation by the Line Department managers, engineering, the office of the COO, and CPOC..

In summary, capital capacity constraints resulted in the preliminary 2011 – 2020 Capital Plan that included 61 percent of the identified, unconstrained needs of the Agency.

**Table 44 – Unconstrained Capital Needs by Category (\$ in billions)**

| Category <sup>1</sup> | Met Needs  |                             |             |              |                     | Unmet Needs |                     |             | Unconstrained Capital Needs |                     |                       |               |
|-----------------------|------------|-----------------------------|-------------|--------------|---------------------|-------------|---------------------|-------------|-----------------------------|---------------------|-----------------------|---------------|
|                       | # Projects | 2011-2020 Plan <sup>2</sup> | % of Plan   | Beyond 2020  | Total Project Costs | # Projects  | Total Project Costs | % of Unmet  | # Projects                  | Total Project Costs | Unfunded <sup>3</sup> | % of Unfunded |
| WTC                   | 22         | \$6.90                      | 26%         | \$0.15       | \$7.05              | 2           | \$0.07              | 1%          | 24                          | \$7.12              | \$0.22                | 1%            |
| Stages 3&4            | 380        | \$4.88                      | 18%         | \$0.37       | \$5.25              |             |                     |             | 380                         | \$5.24              | \$0.37                | 2%            |
| MAND                  | 26         | \$0.49                      | 2%          | \$0.06       | \$0.55              | 2           | \$0.04              | 0%          | 28                          | \$0.59              | \$0.09                | 1%            |
| SEC                   | 45         | \$0.38                      | 1%          | \$0.02       | \$0.40              | 53          | \$0.42              | 4%          | 98                          | \$0.82              | \$0.44                | 3%            |
| SGR                   | 323        | \$7.40                      | 28%         | \$3.37       | \$10.77             | 108         | \$6.23              | 55%         | 431                         | \$17.01             | \$9.60                | 55%           |
| SEP                   | 79         | \$3.08                      | 11%         | \$1.39       | \$4.47              | 109         | \$4.46              | 39%         | 188                         | \$8.93              | \$5.85                | 34%           |
| RPP                   | 36         | \$1.77                      | 7%          | \$0.56       | \$2.33              | 4           | \$0.16              | 1%          | 40                          | \$2.50              | \$0.72                | 4%            |
| SRP                   | 12         | \$1.95                      | 7%          | \$0.13       | \$2.08              |             |                     |             | 12                          | \$2.08              | \$0.13                | 1%            |
| <b>All Needs</b>      | <b>923</b> | <b>\$26.9</b>               | <b>100%</b> | <b>\$6.0</b> | <b>\$32.9</b>       | <b>278</b>  | <b>\$11.4</b>       | <b>100%</b> | <b>1,201</b>                | <b>\$44.3</b>       | <b>\$17.4</b>         | <b>100%</b>   |

Notes:

- 1) Category acronyms abbreviate WTC - World Trade Center, Stages 3&4, MAND - Mandatory, SEC – Security, SGR - State of Good Repair, SEP - System Enhancing, RPP - Revenue Producing, and SRP - State and Regional projects, respectively
- 2) Excludes preliminary 2011 – 2020 Capital Plan (Version #3E) Lag Factor: \$1.8 billion
- 3) Includes unmet needs (total of \$11.4 billion) and the costs of met needs beyond 2020 (total of \$6.0 billion)

Sources:

Preliminary 2011 – 2020 Capital Plan (Version #3E)

Preliminary 2011 – 2020 Capital Plan TPC to Navigant December 22, 2011

Unmet Needs – Version #3E

SGR projects represent a significant portion of required investment and future Capital Plans and Programs of the Port Authority and must accommodate this need. In fact, most prevalent among the \$11.4 billion in known and unmet needs were SGR projects that comprise 39 percent of total projects and 55 percent of total unmet costs (see **Table 44**). In light of the aging and critical nature of the Agency infrastructure, the magnitude of known demands, those identified needs over the next decade, and the likely constraints on the capacity of the organization for the foreseeable future, the need to prioritize the use of capital and source the necessary funding is paramount to maintain the assets and achieve the objectives of the organization.

A review of the unmet needs by Line Department (see **Table 45**) reveals that the greatest requirements are associated with Aviation, \$4.4 billion, and TB&T, \$4.3 billion.

**Table 45 – Unconstrained Capital Needs by Line Department (\$ in billions)**

| Line Department             | Met Needs  |                             |             |              |                     | Unmet Needs |                     |             | Unconstrained Capital Needs |                     |                       |               |
|-----------------------------|------------|-----------------------------|-------------|--------------|---------------------|-------------|---------------------|-------------|-----------------------------|---------------------|-----------------------|---------------|
|                             | # Projects | 2011-2020 Plan <sup>1</sup> | % of Plan   | Beyond 2020  | Total Project Costs | # Projects  | Total Project Costs | % of Unmet  | # Projects                  | Total Project Costs | Unfunded <sup>2</sup> | % of Unfunded |
| WTC                         | 22         | \$6.90                      | 26%         | \$0.15       | \$7.05              | 2           | \$0.07              | 1%          | 24                          | \$7.12              | \$0.22                | 1%            |
| Aviation                    | 422        | \$6.51                      | 24%         | \$1.00       | \$7.51              | 125         | \$4.39              | 39%         | 547                         | \$11.90             | \$5.39                | 31%           |
| TB&T                        | 232        | \$6.72                      | 25%         | \$3.56       | \$10.28             | 55          | \$4.25              | 37%         | 287                         | \$14.53             | \$7.81                | 45%           |
| PATH                        | 129        | \$3.06                      | 11%         | \$0.16       | \$3.22              | 71          | \$2.11              | 19%         | 200                         | \$5.33              | \$2.27                | 13%           |
| Port Commerce               | 101        | \$1.69                      | 6%          | \$1.03       | \$2.72              | 25          | \$0.56              | 5%          | 126                         | \$3.28              | \$1.59                | 9%            |
| Regional                    | 11         | \$0.95                      | 4%          | \$0.00       | \$0.95              |             |                     |             | 11                          | \$0.95              | \$0.00                |               |
| Development                 | 5          | \$0.03                      | 0%          | \$0.00       | \$0.03              |             |                     |             | 5                           | \$0.03              | \$0.00                |               |
| Capital Infrastructure Fund | 1          | \$0.99                      | 4%          | \$0.13       | \$1.12              |             |                     |             | 1                           | \$1.12              | \$0.13                | 1%            |
| <b>All Needs</b>            | <b>923</b> | <b>\$26.9</b>               | <b>100%</b> | <b>\$6.0</b> | <b>\$32.9</b>       | <b>278</b>  | <b>\$11.4</b>       | <b>100%</b> | <b>1,201</b>                | <b>\$44.3</b>       | <b>\$17.4</b>         | <b>100%</b>   |

Notes:

- 1) Excludes 2011 – 2020 Capital Plan 3E Lag Factor: \$1.8 billion
- 2) Includes unmet needs (total of \$11.4 billion) and the costs of met needs beyond 2020 (total of \$6.0 billion)

Sources:

2011 – 2020 Capital Plan Version #3E

2011 – 2020 Capital Plan TPC to Navigant December 22, 2011

Unmet Needs – Version #3E

✧ *The Port Authority must embrace its capital plans and develop supporting annual budgets that consider appropriate contingencies. The 2008 Updated Capital Plan and supporting annual budgets showed 24 percent of planned projects were under-budgeted and 7 percent of total budgeted dollars were related to projects not anticipated in the plan*

A historical review of the 2008 Updated Capital Plan and associated budgets for FY2009-FY2011 revealed the following (see **Table 46**):

- The Port Authority under-budgeted capital expenditures by \$3.4 billion or 24 percent (all planned projects per 2008 Updated Capital Plan less all budgeted projects);
- Only 383 projects of the 545 identified in the 2008 Updated Capital Plan were actually included in the budget and, in total, the 2008 Updated Capital Plan identified projects were under budgeted by 33 percent; and,
- 284 projects that were not included in the 2008 Updated Capital Plan were allocated 7 percent of the budget, or \$0.8 billion, during this period, most of which pertain to Aviation.

While there is no clear pattern to these 284 budgeted and unplanned projects it is notable that half of the projects and approximately one-quarter of spend is associated with the Aviation Line Department. While it is not uncommon to realize unidentified and emergent needs in a budget cycle, the amount of originally unplanned needs in the budget reiterates the need to carefully identify, communicate and prioritize the most crucial needs in its capital plan (see **Table 46**).

**Table 46 – 2009 - 2011 Budgeted Spend against Capital Plan (\$ in billions)**

|  | # Projects | Capital Plan Spend | Budget         | % Budget | Capital Plan - Budget | Underbudget Against the Plan |
|--|------------|--------------------|----------------|----------|-----------------------|------------------------------|
| <b>All Planned Projects (per Capital Plan)</b> | <b>545</b> | <b>\$14.06</b>     |                |          |                       |                              |
| - Not Budgeted, Planned Projects               | 162        | \$2.69             |                |          |                       |                              |
| Budgeted and Planned Projects                  | <b>383</b> | <b>\$11.37</b>     | \$7.64         | 71%      | \$3.73                | 33%                          |
| + Budgeted & Unplanned WTC                     | 11         |                    | \$0.57         | 5%       |                       |                              |
| + Budgeted & Unplanned ARC Tunnel              | 1          |                    | \$1.44         | 13%      |                       |                              |
| + Budgeted & Unplanned for 2009-2011           | 79         |                    | \$0.26         | 2%       |                       |                              |
| + Budgeted & Unplanned in Capital Cycle        | 284        |                    | \$0.78         | 7%       |                       |                              |
| <b>All Budgeted Projects</b>                   | <b>758</b> |                    | <b>\$10.69</b> |          | <b>\$3.37</b>         | <b>24%</b>                   |

Notes:

- 1) Excludes 37 planned projects identified as “Lag Factor”
- 2) Excludes All Facilities Provision for Projects in Development; (category CXXX-001)
- 3) Excludes 2008 and 2012 metrics as the preceding years were planning years: the budgets match the respective plans

Sources:

2007-2016 Updated Capital Plan

2008-2011 Actual Spending

2011 Actuals by Project

The Agency expended significant capital on projects that were unaccounted for during the planning and budgeting cycles for the period 2008 – 2011 (see **Table 47**). While allotting for certain contingencies, the Agency expended a total of nearly \$350 million more than was planned through these reserves. The majority of the spend in this period was on 360 different projects, excluding those at the World Trade Center and Capital Major Works Projects (“CMWP”), that were not included in the 2008 Updated Capital Plan. Again, Aviation represents nearly half of this investment with rehabilitation projects on runways, lighting and support systems predominating the mix; enhanced asset management plans would allow the Agency to better anticipate these demands.

**Table 47 – 2008-2011 Unplanned Projects with Actual Spend (\$ in billions)**

|                                       | 2008-2011 per 2007-2016 Updated Capital Plan |               |               |               | 2011-2020 Capital Plan Version #3E |                               |
|---------------------------------------|--|---------------|---------------|---------------|------------------------------------|-------------------------------|
|                                       | # Projects                                   | Plan          | Spend         | Spend - Plan  | # Projects                         | Total Remaining Project Costs |
| Provision for Projects in Development |  | \$0.12        |               |               |                                    |                               |
| CMWP Contingency                      |  | \$0.24        |               |               |                                    |                               |
| Unallocated, Planned Spend            |  | \$0.36        |               |               |                                    |                               |
| Unplanned CMWP with Spend             | 240  | \$0           | \$0.10        |               | 240                                | \$0.15                        |
| Closed Projects with Adjustments      | 145  | \$0           | (\$0.18)      |               | 145                                | \$0.02                        |
| Unplanned Projects with Spend         | 360  | \$0           | \$0.79        |               | 360                                | \$4.48                        |
| <b>Unplanned Projects with Spend</b>  | <b>745</b>                                   | <b>\$0.36</b> | <b>\$0.71</b> | <b>\$0.35</b> | <b>745</b>                         | <b>\$4.65</b>                 |

Notes:

- 1) Excludes World Trade Center
- 2) Excludes Project #CF92-001 formerly known as ARC Tunnel, which was cancelled in October 2011. Commitments now reassigned to represent the Capital Infrastructure Fund

Sources:

- 2007 – 2016 Updated Capital Plan
- 2008 – 2011 Actual Spending
- 2011 Actuals by Project
- Preliminary 2011 – 2020 Capital Plan Version #3E
- Unmet Needs – Version #3E
- Preliminary 2011 – 2020 Capital Plan TPC to Navigant December 22, 2011

While the identification of new needs, referred to by the Agency as “added starters” to a more limited extent is understandable, the lack of proper identification of needs during the previous planning and programming cycles is evident when an analysis of those unplanned projects that consumed \$0.7 billion from 2008 – 2011 include \$4.7 billion in total remaining project costs. The impact of needs unidentified during the planning process but included as “added starters” clearly exacerbates the Agency’s ability to execute those projects previously included in the Capital Plans.

❖ *Execution and delivery of capital projects is equally as important. If the Agency is able to reduce its capital delivery time, resulting in reduction of soft costs, the potential cost savings are likely to be substantial*

Soft costs represent all costs not directly attributable to the construction contract governing a project. Industry sources would suggest that the Port Authority may be able to realize up to a 5 percent improvement on certain types of capital projects from the current level of 25 percent. At these levels, the Port Authority would be exceeding leading practice. By way of illustration, every one-percentage point reduction in soft costs (historically 25 percent of total project costs) represents approximately \$348.9 million in savings (from a combination of capital outlay, as well as cost of capital) over a 10 year period, representing approximately \$34.8 million of potential savings per annum.

The magnitude of cost savings is a compelling motivation for the Port Authority to focus on optimizing the Capital Planning, Engineering and Execution Office to ensure effective coordination and execution among the departments to achieve a well-functioning complete project life-cycle (*i.e.*, Procurement, Engineering, Construction, and Project Management) (See Table 48).

**Table 48 – Illustrative Example of Soft Cost Savings (\$ in Millions)**

| (\$ in Millions)                              | 2011 - 2020 Proposed Capital Plan | Avg. Annual Savings in Capital Outlay <sup>3,4</sup> | Total Savings in Capital Outlay | Avg. Annual Savings on Cost of Capital <sup>3,4</sup> | Total Savings on Cost of Capital | Average Annual Savings | Total Savings |
|---|-----------------------------------|--|---------------------------------|---|----------------------------------|------------------------|---------------|
| Capital Expenditures <sup>1</sup>             | \$ 26,900.0                       |  |                                 |   |                                  |                        |               |
| Hard Costs (Historically at 75%) <sup>2</sup> | \$ 20,175.0                       |  |                                 |   |                                  |                        |               |
| Soft Costs (Historically at 25%) <sup>2</sup> | \$ 6,725.0                        |  |                                 |   |                                  |                        |               |
| <b>Potential Savings on Soft Costs:</b>       |                                   |  |                                 |   |                                  |                        |               |
| Soft Costs at 24%                             | \$ 6,456.0                        | \$ 26.9  | \$ 269.0                        | \$ 8.0  | \$ 79.9                          | \$ 34.9                | \$ 348.9      |
| Soft Costs at 23%                             | \$ 6,187.0                        | \$ 53.8  | \$ 538.0                        | \$ 16.0   | \$ 159.8                         | \$ 69.8                | \$ 697.8      |
| Soft Costs at 22%                             | \$ 5,918.0                        | \$ 80.7  | \$ 807.0                        | \$ 24.0   | \$ 239.7                         | \$ 104.7               | \$ 1,046.7    |
| Soft Costs at 21%                             | \$ 5,649.0                        | \$ 107.6   | \$ 1,076.0                      | \$ 32.0   | \$ 319.6                         | \$ 139.6               | \$ 1,395.6    |
| Soft Costs at 20%                             | \$ 5,380.0                        | \$ 134.5   | \$ 1,345.0                      | \$ 39.9   | \$ 399.5                         | \$ 174.4               | \$ 1,744.5    |

Notes:

- 1) Preliminary 2011 10-year capital plan of \$26.9 billion (excludes 6.0 billion for amounts beyond 2020 and 9.0 billion for WTC and Regional Transportation projects)
- 2) Per study of completed projects from 2000 – 2011
- 3) Assumes capital is deployed evenly over 10 years
- 4) Assumes cost of capital of 5.4%.

❖ ***Process improvements that have been introduced and embraced by the Agency have led to significant enhancements in the Capital Planning process, particularly in the critical area of project prioritization***

In response to these shortcomings and challenges, the preliminary 2011 – 2020 Capital Plan involved a much higher level of collaboration of various stakeholders and shared service functions within the Agency.

Process improvement suggestions have been adopted to expand the depth and breadth of the scoring, ranking and prioritization process utilized by the Agency in development of the preliminary 2011 – 2010 Capital Plan in 2011, allowing input from all levels of the Port Authority. Lead among these has been increased emphasis on the independent assessment and proper balance of key evaluative criteria, including: (i) asset condition, (ii) operational impact, (iii) implementation readiness, and (iv) execution constraints.

These modifications are well underway. The Agency’s planning effort for 2013 has commenced and is utilizing the enhanced scoring and prioritization process for the development of the 2013 Capital Plan and 2013 Capital Program.

- ✧ *The Port Authority has committed to and initiated ongoing improvements in the development and execution of the Capital Plan and Program by evaluating its existing organizational structure and improving upon the existing financial forecast, which helps guide capital planning capacity decisions*

The Port Authority has acknowledged these challenges and, in an effort motivated by the Interim Report, is actively evaluating the Capital Planning organizational structure, reporting metrics and project controls. **Section V – Organizational Design & Effectiveness** provides a more detailed discussion regarding modifications in the organization of the Capital Planning function.

Finally, the recent decision by the Agency to continue the development and periodic revision of a 10-year capital plan on a three-year cycle and to establish within that plan a more detailed 5-year program that will be revisited every year is consistent with leading industry practice. This vigilance will set the foundation for performance monitoring and give the Agency a more active posture in the management of its asset base.

Key areas for improvement in the Port Authority’s existing financial model were identified and remedied through the development of an enhanced forecasting tool that allows for more reliable decision-making on capital capacity and contingency planning under a variety of scenarios.

Upon review of the Port Authority’s existing model utilized by the Management & Budget Department (“MBD”) to produce the budget and long-range forecast, key areas for improvement and accompanying enhancements were identified that guided the development of the Model including (see **Table 49**):

**Table 49 – MBD Model Observations vs. Navigant Model Enhancements**

| Area for Improvement   | Enhancement   |
|--|---|
| <ul style="list-style-type: none"> <li>No centralized assumptions tab driving model output</li> </ul>  | <ul style="list-style-type: none"> <li>Clear and identifiable assumptions "command center" to drive model output</li> </ul>   |
| <ul style="list-style-type: none"> <li>Inability to run sensitivities in integrated model - different scenarios maintained in separate model versions</li> </ul>   | <ul style="list-style-type: none"> <li>Full functionality to toggle multiple sensitivities within one centralized model</li> </ul>  |
| <ul style="list-style-type: none"> <li>Consolidating model only - line departments kept in separate models</li> </ul>  | <ul style="list-style-type: none"> <li>Centralization of individual line departments and associated facilities and consolidating model into one place</li> </ul>  |
| <ul style="list-style-type: none"> <li>No long-range balance sheet</li> </ul>  | <ul style="list-style-type: none"> <li>Detailed long-range balance sheet linked up to cash flow and income statement</li> </ul>   |
| <ul style="list-style-type: none"> <li>No consolidating cash flow statement for three cash / investment funds (Reserve Fund, Capital Fund, and Operating Fund); inability to forecast operating cash fund</li> </ul> | <ul style="list-style-type: none"> <li>Consolidated long-term cash flow statement capturing all cash funds, inflows and outflows, as well as working capital movements</li> </ul>                                 |
| <ul style="list-style-type: none"> <li>Passive calculation of financial income</li> </ul>  | <ul style="list-style-type: none"> <li>Fully linked and automated calculation of financial income</li> </ul>  |
| <ul style="list-style-type: none"> <li>Standard covenant / rating agency testing disclosure</li> </ul>   | <ul style="list-style-type: none"> <li>Defined tab for comprehensive covenant / rating agency calculations and compliance</li> </ul>  |
| <ul style="list-style-type: none"> <li>No supporting capital plan details incorporated in the model</li> </ul>   | <ul style="list-style-type: none"> <li>Detailed build-up of all 923 existing proposed capital projects by line department and by facility with ability to run sensitivities on different project mixes</li> </ul> |
| <ul style="list-style-type: none"> <li>No tabs summarizing model output</li> </ul>   | <ul style="list-style-type: none"> <li>Color coded output tabs summarizing key model output and financial information</li> </ul>  |

Model enhancements include a greater level of integration of key components at the corporate level and Line Department levels allowing for capital plan capacity assessments under a variety of scenarios. This is evident by the inclusion of integrated financial statements; incorporation of Line Department forecasts into a single, centralized Model; build-up of individual capital

projects by facility-level with the associated flexibility to include or exclude individual projects; and prompt turnaround of produced output driven by various scenarios on an automated basis.

- ❖ *The Port Authority would benefit from more robust sensitivity analysis of the Agency's financial forecasts that project disruptive impacts such as economic recessions.*

Continuous “stress testing of” the Port Authority’s business model allows for appropriate contingency plans to be identified that include (i) re-prioritization of capital spending, (ii) revenue enhancement and cost containment initiatives to realign financial performance in a changing environment, and (iii) use of alternative sources of capital to support infrastructure investment.

## RECOMMENDATIONS

- The Port Authority must shift focus in the near term to the integrity of its portfolio of assets. The volume of SGR projects that face the Agency for the coming decade and beyond require diligent prioritization of SGR and a cessation of all discretionary projects. The Agency is making meaningful, near-term progress in this regard;
- The capital planning process must acknowledge challenges in historical performance in the Agency’s ability to develop and execute a capital plan. The 2013 Capital Plan and Program must account for an overall contingency for emergency projects previously unidentified, other strategic initiatives, or unknown needs on projects already in construction. The status of progress of the 2013 Capital Plan and Program should be comprehensively, reliably, and consistently reported to senior management and the Board of Commissioners;
- The inclusion of a specific project in the 2013 Capital Plan and Program should be consistent with the Agency’s ranking and its overall strategy and less dependent on the financial performance of particular Line Departments;
- The Agency must determine to what extent the historical run rate of \$1.3 billion in capital delivery per annum is limited by capital capacity, engineering, project management, facility management, and/or operating limitations to maximize capital deployment and reduce soft costs;
- The Agency must enhance its focus on the implementation of capital projects and the establishment of associated governance to monitor and drive execution, effectiveness, and efficiency;
- Financial forecast evaluation should include a range of stress tests and incorporate recessionary impacts as well as support the assessment of revenue enhancements, cost savings opportunities, and financing strategies and ultimate impact on the Capital Plan; and,
- Adopt the Model, including training of key personnel, and utilize this tool to anticipate funding risks.

## XVI. IMPLEMENTATION PLAN & NEXT STEPS

Crucial to any restructuring or reorganization is a concise implementation plan to ensure all efforts are targeted at getting to measurable results. It is appropriate for the implementation plan to be shared throughout the organization and existing dashboards be modified to encapsulate each initiative. The implementation plan should be organized to include:

- Action steps;
- Responsible parties;
- Target date;
- Status; and,
- Next steps

Each initiative should be tracked and as many action steps detailed as necessary to complete the task included so that responsible parties are clear on the actions expected and associated timing. The senior management team must oversee and ensure execution of the Key Initiatives Implementation Plan, which includes the following major items:

- Implement effective corporate governance
- Implement organizational redesign
- Create dynamic capital planning, execution and asset management functionality that is fiscally responsible with appropriate prioritization of capital and accountability for return on assets and capital the Port Authority deploys
- Create culture of accountability, meritocracy and transparency
- Complete renegotiation of major collective bargaining agreements
- Reorient financial performance around continual identification of non-toll / non-fare revenue enhancement and cost savings initiatives
- Complete analysis and divestiture of selected non-core assets
- Implement effective Enterprise Risk Management System that is quantifiable and measureable
- Create and implement a marketing and communication plan to effectively connect with all Port Authority constituents
- Development of Agency-wide strategic plan

A detailed work plan associated with initiatives can be found in **Appendix – A: Key Initiatives Implementation Plan**.

**XVII. APPENDIX – A: KEY INITIATIVES IMPLEMENTATION PLAN**

| Action Steps:   | Responsible Party | Due Date | Status |
|---|-------------------|----------|--------|
| <b>1. Implement effective corporate governance</b>  |                   |          |        |
| A. Finalize key operating principles for board ratification   |                   |          |        |
| B. Conduct board survey through designated questionnaire  |                   |          |        |
| C. Realign committee structures along key agency functionalities  |                   |          |        |
| D. Establish committee charters   |                   |          |        |
| E. Establish committee / board meeting schedule dates   |                   |          |        |
| F. Designate senior management participation and provide appropriate analytical support   |                   |          |        |
| G. Create performance dashboards, w hich embody key tenets of the strategic plan and can be effectively deployed throughout the organization  |                   |          |        |
| <b>2. Development of Agency-wide strategic plan</b>   |                   |          |        |
| A. Commence and agree upon strategic planning process   |                   |          |        |
| B. Identify all related mandates to the organization ("musts") that the organization needs to address   |                   |          |        |
| C. Development or reaffirmation of mission statement  |                   |          |        |
| D. Perform external assessment of Strengths, Weaknesses, Opportunites & Threats ("SWOT")  |                   |          |        |
| E. Perform internal assessment of SWOT  |                   |          |        |
| F. Combine external and internal assesment into SWOT analysis   |                   |          |        |
| G. Identification of strategic issues (fundamental policy questions affecting Agency's mandates, mission, value, stakeholders, revenues, costs, financing requirements, management or organizational design                 |                   |          |        |
| H. Develop ment of action plans/solutions to address strategic issues   |                   |          |        |
| I. Creation of strategic planning document  |                   |          |        |
| J. Bi-state agency review   |                   |          |        |
| K. Internal management review and discussion  |                   |          |        |
| L. Finalization of strategic planning document  |                   |          |        |
| M. Board of Commissioner approval   |                   |          |        |
| N. Creation of performance dashboards, w hich embody key tenets of strategic plan and objective performance measures, w hich can be deployed through the organization, from Board level to Line Department / Shared Service |                   |          |        |

| Action Steps:  | Responsible Party | Due Date | Status |
|--|-------------------|----------|--------|
| <b>3. Implement organizational redesign</b>  |                   |          |        |
| <b>A.</b> Create organizational transformation working group to establish key priorities of the planned changes, as well as timing, including appropriate Board of Commissioner participants           |                   |          |        |
| <b>B.</b> CSO - Implementation of recommendations from Chertoff Group in support of creation of centralized Chief Security function  |                   |          |        |
| <b>C.</b> COO - Establish clear roles and responsibilities.  |                   |          |        |
| <b>D.</b> COO - Develop a recruitment plan including evaluation of existing COO  |                   |          |        |
| <b>E.</b> COO - Realignment of Public Safety to Chief Security Officer and PMO to Capital Planning   |                   |          |        |
| <b>F.</b> COO - Assimilation of Operational Standards and Operations Services  |                   |          |        |
| <b>G.</b> Change Line Department Titles to President   |                   |          |        |
| <b>H.</b> Elimination of CAO role and consolidation of Procurement and Operational Services  |                   |          |        |
| <b>I.</b> Elevate Director of Human Resources to Chief of Human Capital and expand responsibilities to include Labor Relations   |                   |          |        |
| <b>J.</b> Integrate parts of the Office of Environmental & Energy Programs and Office of Business Diversity & Civil Rights into the Chief Compliance Officer, Procurement, and Chief Financial Officer |                   |          |        |
| <b>K.</b> Creation of centralized Chief of Capital Planning, Execution & Asset Management  |                   |          |        |
| <b>L.</b> Creation of Chief Technology Officer role  |                   |          |        |
| <b>M.</b> Assimilation of Real Estate department into Line Department and Shared Service functions   |                   |          |        |
| <b>N.</b> Elimination of Office of Strategic Initiatives   |                   |          |        |
| <b>O.</b> Establishment of Chief Compliance Officer role   |                   |          |        |
| <b>P.</b> Implementation of Matrix Management with Line Departments with focus on Human Resources, Finance & Legal   |                   |          |        |
| <b>Q.</b> Development of outsourcing analysis framework around Operational Services and Legal Department   |                   |          |        |
| <b>R.</b> Creation of centralized Chief of Capital Planning, Execution & Asset Management to incorporate planning, engineering, execution and asset management functionalities                         |                   |          |        |

| Action Steps:   |  |  |  |
|---|--|--|--|
| <b>4. Create dynamic capital planning, execution &amp; asset management functionality that is fiscally responsible with appropriate prioritization of capital with accountability for return on assets and capital we deploy</b>  |  |  |  |
| <b>A.</b> Complete evaluation of capital planning organizational redesign to include planning, execution and asset management functions   |  |  |  |
| <b>B.</b> Develop processes and procedures with clear roles and responsibilities as well as accountability measure through key performance metrics<br>i. Redefine capital planning calendar<br>a. Establish parameters for 10-year capital plan and 5-year capital program<br>ii. Review and revise documentation requirements for each step in the capital planning process and redefine critical success factors<br>iii. Redefine scoring templates for SEP / RP projects |  |  |  |
| <b>C.</b> Creation of baseline timetables for delivery with a focus on speed to market  |  |  |  |
| <b>D.</b> Determine critical path processes to ensure on-budget execution of capital plan dollars   |  |  |  |
| <b>5. Create culture of meritocracy, accountability, and transparency</b>   |  |  |  |
| <b>A.</b> Implement new compensation philosophy and culture that fosters meritocracy and transparency rather than tenure and entitlement  |  |  |  |
| <b>B.</b> Flatten the compensation bands from 12 to 7 broad bands, to make the organization less hierarchical and allow greater flexibility and mobility for career growth and cross functional competency development  |  |  |  |
| <b>C.</b> Benchmark and re-price positions based on current market compensation for similar positions (both public and private sectors) to set new base lines.  |  |  |  |
| <b>D.</b> Promote career lattice concept and encourage multi-directional movement as a method of career growth, enrichment, and diversification.  |  |  |  |
| <b>E.</b> Implement a merit base pay for the top performers through relative rating of Port Authority non-represented employees.  |  |  |  |
| <b>F.</b> Educate, empower and support managers to use new compensation philosophy and performance management to differentiate performance among employees (force a normalized distribution)  |  |  |  |
| <b>G.</b> Create functioning "Councils" which drive cross-functional problem solving:<br>- Executive Council - Executive Director and "Chiefs" that report to Executive Director<br>- Operating Council - Executive Director, line presidents, and COO<br>- Capital Projects Council - Drive capital plan oversight and implementation led by Chief of Capital Planning, Execution, and Asset Management  |  |  |  |

| <b>Action Steps:</b>   |  |  |  |
|--|--|--|--|
| <b>6. Complete renegotiation of major collective bargaining agreements</b>   |  |  |  |
| A. Develop working team to establish strategy and base analysis parameters   |  |  |  |
| B. Retain outside counsel to assist in evaluation / negotiation process  |  |  |  |
| C. Schedule introductory meetings with existing labor relations staff  |  |  |  |
| D. Identify key goals out of planned negotiation sessions  |  |  |  |
| E. Develop comprehensive inventory of compensation and benefits by contract  |  |  |  |
| F. Develop comprehensive inventory of work rules and understand application by key facility and key collective bargaining agreement  |  |  |  |
| G. Understand grievance process and conduct relevant benchmarks  |  |  |  |
| H. Identification of negotiation strategies  |  |  |  |
| <b>7. Reorient financial performance around continual identification of non-toll / fare revenue enhancement and cost savings initiatives</b>                                   |  |  |  |
| A. Create revenue enhancement and cost containment team to prioritize, evaluate, and implement key initiatives   |  |  |  |
| B. Develop key initiatives list by Line Department   |  |  |  |
| C. Prioritize and group between revenue enhancement and cost containment   |  |  |  |
| F. Segment by line department / shared service organization  |  |  |  |
| G. Determine strategies for implementation including: (i) timeline, (ii) costs, (iii) ease of implementation, (iv) external and internal constituency impact, (v) total impact |  |  |  |
| H. Develop detailed work plan for each initiative  |  |  |  |
| I. Develop key mileposts, critical success factors, and performance metrics  |  |  |  |
| J. Begin implementation of initiative  |  |  |  |
| K. Track progress through incorporation on individual strategic dashboards   |  |  |  |
| L. Take corrective actions, where necessary  |  |  |  |
| M. Complete initiative   |  |  |  |
| O. Post-completion tracking to ensure progress is maintained   |  |  |  |

| Action Steps:  |  |  |  |
|--|--|--|--|
| <b>8. Complete analysis and divestiture of selected non-core assets</b>  |  |  |  |
| A.   | Identification of non-core assets for evaluation of strategic alternatives                       |  |  |
| B.   | Develop individual asset profiles  |  |  |
| C.   | From profile analysis develop list of strategic alternatives                                     |  |  |
| D.   | Develop sensitivity analyses to determine best outcome   |  |  |
| E.   | Prepare write-up and summary depicting divestiture strategy and expected outcome                 |  |  |
| F.   | Obtain board approval for disposition strategy   |  |  |
| G.   | Implementation of disposition strategy   |  |  |
| <b>9. Implement effective Enterprise Risk Management System that is quantifiable and metric based</b>                        |  |  |  |
| A.   | Create ERM cross-functional team   |  |  |
| B.   | Establish ERM planning process   |  |  |
| C.   | Completion of internal insurance review  |  |  |
| D.   | Study existing risk practices (self-assessment, comprehensive survey of existing risk practices) |  |  |
| E.   | Establish context (both internal and external environmental factors)                             |  |  |
| F.   | Identify risks by category and / or function with the organization                               |  |  |
| G.   | Quantify existing goals and targets for achievement  |  |  |
| H.   | Identify specific risk events  |  |  |
| I.   | Perform Risk Assessments   |  |  |
| J.   | Evaluate risk response through determined dashboard  |  |  |
| K.   | Implementation of control activities   |  |  |
| L.   | Provide information and communication monitoring on a real-time basis                            |  |  |
| M.   | React and provide assessment / outcome of risk events  |  |  |
| <b>10. Create and implement marketing and communication plan to effectively connect with all Port Authority constituents</b> |  |  |  |
| A.   | From board committee, create standing working group to provide direction                         |  |  |
| B.   | Evaluate / inventory existing media plans by line department, Agency focus                       |  |  |
| C.   | Develop constituency list and identify key areas of focus  |  |  |
| D.   | Identify key messaging targets   |  |  |
| E.   | Work with outside advertising agency to identify key implementation plan                         |  |  |
| F.   | Identify Line Department messaging   |  |  |
| G.   | Coordinate economic development efforts and communication with adjacent communities and states   |  |  |
| H.   | Create consortium of sister agencies to target issues that share commonality                     |  |  |
| I.   | Implement plan   |  |  |

## XVIII. APPENDIX – B: PROCUREMENT BUYING GROUPS (DEFINED)

| Buying Group |  | Description / Responsibilities  |
|--------------|--|---|
| 1            | <b>Construction Procurements &amp; Integrity Programs Division</b> | Promotes a competitive bidding environment to ensure the best price for construction work and manages the bidding and award processes (including minority participation, financial and bonding issues). Outreach efforts with the contracting community have been enhanced to encourage submission of bids and qualify bidders. The Division manages the vendor integrity process for all agency contracts and protests filed by vendors. Staff works with the Office of the Secretary, Law Department and Office of Inspector General on matters relating to integrity, conflicts of interest, and release of FOI information and provides support to the other Divisions in the Department on matters relating to construction.   |
| 2            | <b>WTC Site / Federal Programs Compliance Division</b>             | <p>Ensures that all Federally-funded procurement actions, including post-award contract changes, are conducted in compliance with all requisite agency and grant administration guidelines. In furtherance of its mission, the WTC Site/ Federal Programs Compliance Division supports various line departments by providing overall procurement process support and management for Port Authority solicitations and third party solicitations on behalf of the Port Authority. In addition, the Division provides (a) guidance on solicitation package development to ensure that grant compliant terms and conditions are contained within; (b) support during negotiations with contractors/firms on pricing and terms and conditions; (c) management of the change order process for changes to Federally-funded professional services and construction contracts; and (d) compliance audit support.</p> <p>While the Federal Programs Compliance Division is primarily involved with the Federal Transit Administration-funded reconstruction of the World Trade Center Site and all procurements at the site, the division assists other line departments with grants from Federal agencies such as EPA, FEMA, FHWA, FRA, FAA, and HUD.</p> |
| 3            | <b>Technology Services Division</b>                                | Handles complex and high dollar Agency-wide and departmental technology procurements, such as access control systems and support, CCTV, hardware/software selection, service level based ongoing application maintenance in addition to state of the art technologies such as biometrics and situational awareness solutions. The group manages technology based procurements for enterprise services handled centrally through Technology Services, individual client department business specific solutions and hybrid procurements that span both technology and other procurement divisions' services. Staff ensures conformance with requisite agency goals in key areas such as Intellectual Property, Information Security, grant management and treatment of confidential and privileged documents. Because of the rapidly changing advances in technology, the security sensitive issues, and its pertinence to all departments, the function is contained in the Director's Office.   |

| Buying Group |   | Description / Responsibilities  |
|--------------|---|---|
| 4            | <b>Professional, Technical &amp; Advisory Procurements Division</b> | Manages the procurement of professional, technical, and advisory services, including procurement methodology, document development, solicitation management, negotiation of contract terms and compensation, proposer debriefings, authorization of consultant expenditures, attends outreach functions as required to familiarize target firms with agency needs, and develops agency guidelines for procurement of consultants on either a project or call-in basis.  |
| 5            | <b>The Commodities and Services Division</b>                        | Manages commodity procurements and operations, maintenance, customer service, transportation, security guard, janitorial, seasonal, and energy service procurements. The Division implements key initiatives to achieve Minority/Women/Small Business Enterprise (“MWSBE”) goals such as set aside and price preference programs and ensures compliance with labor/harmony requirements. The Division reviews solicitation and authorization documents, prepares contract renewal plans, identifies opportunities to buy from government contracts, holds vendor forums and mediates contract disputes. |

## XIX. APPENDIX – C: PROCUREMENT DEPT. RECOMMENDATIONS

| Item or Rank | Title of Proposal   | Current Practice   | Recommendation<br><i>(Description of Proposed Change)</i>  | Benefit<br><i>(Note Key Facts and Quantifiable Results: Time Saved, \$ Saved, etc.)</i>  | *Subject to Approvals<br>Anticipated Timeline & Cost to Implement<br><i>(Capital Investment \$, FTEs, etc.)</i> |
|--------------|---|--|--|--|---|
| 1            | Revise Advertisement Thresholds and Create Vendor List for Direct Solicitations | <ul style="list-style-type: none"> <li>Advertising is required for public solicitations valued at \$25,000 or more</li> </ul>        | <ul style="list-style-type: none"> <li>For opportunities valued at less than \$250,000, no longer publicly advertise. Competition for such opportunities will ensue from the following steps:                             <ol style="list-style-type: none"> <li>Create a vendor list, categorized by type of service and goods with references to previous publicly advertised solicitations from the Authority, and send email notification to those registered within selected commodity &amp; service codes; and,</li> <li>Directly solicit firms on the vendor list for opportunities that were publicly advertised and competitively procured in the recent past.</li> </ol> </li> </ul> <p><i>Note: The above steps ensure that firms will not be disadvantaged by the recommendation and provide vendors with an incentive to register in the vendor database.</i></p> | <ul style="list-style-type: none"> <li>Reduces the number of publicly advertised bids by 13.5%</li> <li>Reduces the procurement process by 2-3 weeks for competitive opportunities within threshold</li> </ul>       | <ul style="list-style-type: none"> <li>Timeline – Short</li> <li>No costs anticipated</li> </ul>                |
| 2            | Shift Timing of Advertisement   | <ul style="list-style-type: none"> <li>Opportunities are publicly advertised after finalization of solicitation documents</li> </ul> | <ul style="list-style-type: none"> <li>Publicly advertise an abstract of the scope of work before finalization of solicitation document</li> </ul>   | <ul style="list-style-type: none"> <li>Saves between 2-3 weeks in the post-solicitation procurement process</li> <li>Develop bidder’s list with accurate contact information to facilitate communications</li> </ul> | <ul style="list-style-type: none"> <li>Immediate implementation</li> <li>No cost anticipated</li> </ul>         |

| Item or Rank | Title of Proposal  | Current Practice  | Recommendation<br><i>(Description of Proposed Change)</i>   | Benefit<br><i>(Note Key Facts and Quantifiable Results: Time Saved, \$ Saved, etc.)</i>  | *Subject to Approvals<br>Anticipated Timeline & Cost to Implement<br><i>(Capital Investment \$, FTEs, etc.)</i>                         |
|--------------|--|---|---|--|---|
| 3            | Eliminate Print Advertising for Most Solicitations                                 | <ul style="list-style-type: none"> <li>• Procurements are advertised in newspapers and other media</li> </ul>   | <ul style="list-style-type: none"> <li>• Rely solely on advertising on the Authority's web site</li> <li>• Professional journals and other media used as necessary for unique solicitations</li> </ul>  | <ul style="list-style-type: none"> <li>• Saves up to three days per solicitation</li> <li>• Reduce advertising costs by approximately \$400,000 annually</li> </ul>  | <ul style="list-style-type: none"> <li>• Immediate implementation</li> <li>• No costs anticipated</li> </ul>                            |
| 4            | Streamlined Approvals Required for Sole-Source Procurements                        | <ul style="list-style-type: none"> <li>• Multiple layers of approval are required for all sole source procurements based on value, which can take 2 to 3 weeks, including justification, validation and approval</li> </ul>                           | <ul style="list-style-type: none"> <li>• Utilize website for planned procurements on a sole source basis</li> <li>• Marketplace to Affirm of sole source nature of product / services</li> <li>• Cumulative online listing of validated sole source acquisitions</li> </ul> | <ul style="list-style-type: none"> <li>• Transfers sole sources validation to the marketplace</li> <li>• Based on the value of the services for commodities, could reduce time of procurement by two to three weeks</li> <li>• Provides transparency</li> <li>• Eliminates the need to re-advertise renewals of validated sole source acquisitions, saving up to two to three weeks</li> </ul> | <ul style="list-style-type: none"> <li>• Timeline: Short</li> <li>• No costs anticipated</li> </ul>                                     |
| 5            | Approved Alternate Product List<br><i>(Currently Underway)</i>                     | <ul style="list-style-type: none"> <li>• Current practice is a multi-layered, paper burdened process to review and approve proposed alternate products before the expiration of an existing contract</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Establish and maintain an Approved Alternate Products list with the potential alternate products evaluated on an ongoing basis</li> </ul>  | <ul style="list-style-type: none"> <li>• Timely award of new contracts with approved alternates.</li> <li>• Increasing the likelihood of approved alternate product.</li> <li>• Increased likelihood for price certainty.</li> <li>• Contract award timeframe anticipated to be reduced by a minimum of one month.</li> </ul>  | <ul style="list-style-type: none"> <li>• Phased implementation beginning within three months</li> <li>• No costs anticipated</li> </ul> |
| 6            | Increased Delegation of Authority to the Executive Director for standard purchases | <ul style="list-style-type: none"> <li>• Authorization is currently based on value and procurement method</li> <li>• Purchases for standard, low-risk commodities and operational services have the same approval as atypical procurements</li> </ul> | <ul style="list-style-type: none"> <li>• Delegate all authorization to the Executive Director for routine services and commodities</li> </ul>   | <ul style="list-style-type: none"> <li>• Anticipated to save approximately one month</li> </ul>  | <ul style="list-style-type: none"> <li>• Timeline: Short</li> <li>• No costs anticipated</li> </ul>                                     |

| Item or Rank | Title of Proposal   | Current Practice  | Recommendation<br><i>(Description of Proposed Change)</i>   | Benefit<br><i>(Note Key Facts and Quantifiable Results: Time Saved, \$ Saved, etc.)</i>   | *Subject to Approvals<br>Anticipated Timeline & Cost to Implement<br><i>(Capital Investment \$, FTEs, etc.)</i>   |
|--------------|---|---|---|---|---|
| 7            | Streamlined approval process  | <ul style="list-style-type: none"> <li>Construction contract related awards, extensions and supplements require Agency-wide review and Department Director written approval, usually a 2-month process</li> </ul> | <ul style="list-style-type: none"> <li>Streamline approval documentation and delegate authority to Program Manager</li> <li>Reduce necessary reviews</li> </ul>   | <ul style="list-style-type: none"> <li>Savings of up to 1-2 months for construction related awards</li> <li>Savings of up to two to three weeks for contract supplements of increases authorized within staff authority</li> </ul>  | <ul style="list-style-type: none"> <li>Timeline: Immediate / Short</li> <li>No costs anticipated</li> </ul>   |
| 8            | Extending Contracts with high-performing vendors                        | <ul style="list-style-type: none"> <li>Public solicitation prior to expiration of a contract</li> </ul>   | <ul style="list-style-type: none"> <li>In cases of documented exceptional contractor performance, negotiate a one-time extension with the incumbent</li> <li>Develop standard language for new solicitations that will permit such one-time extensions</li> </ul> | <ul style="list-style-type: none"> <li>Extends relationships with high performing vendors, and favorable pricing previously negotiated</li> <li>Savings of up to 3 to 6 months by eliminating the typical procurement process</li> <li>Promotes operational stability and eliminates transitioning and start-up costs</li> <li>Fosters predictability in operational budgeting</li> <li>Encourages optimal performance from contracted vendors</li> </ul> | <ul style="list-style-type: none"> <li>Timeline: Short, three to four months</li> <li>No costs anticipated</li> </ul>   |
| 9            | Mobility solution for warehouse operation                               | <ul style="list-style-type: none"> <li>Labor intensive, paper laden procedures and non-automated warehouse operation for the receipt of return of goods</li> </ul>  | <ul style="list-style-type: none"> <li>Automate the process through the use of handheld devices linked to Agency's computerized inventory management system</li> </ul>  | <ul style="list-style-type: none"> <li>Streamlined, more efficient operations</li> <li>Increases inventory accuracy</li> </ul>  | <ul style="list-style-type: none"> <li>Estimated time to implement is four to six months</li> <li>Estimated cost is approximately \$500K for equipment</li> </ul> |
| 10           | Eliminate the need for Annual Renewals of Consultant Call-In Agreements | <ul style="list-style-type: none"> <li>Call-In programs are typically solicited for a 4-year term but require annual contract renewals</li> </ul>   | <ul style="list-style-type: none"> <li>Allow agreements to be awarded for the full programs term</li> </ul>   | <ul style="list-style-type: none"> <li>More efficient administration of Call-In program</li> <li>Time savings (for Procurement Department only)</li> <li>Cost Savings (for Procurement Department only: \$130,000)</li> </ul>   | <ul style="list-style-type: none"> <li>Immediate implementation</li> <li>No costs anticipated</li> </ul>  |

| Item or Rank | Title of Proposal   | Current Practice  | Recommendation<br><i>(Description of Proposed Change)</i>  | Benefit<br><i>(Note Key Facts and Quantifiable Results: Time Saved, \$ Saved, etc.)</i>   | *Subject to Approvals<br>Anticipated Timeline & Cost to Implement<br><i>(Capital Investment \$, FTEs, etc.)</i> |
|--------------|---|---|--|---|---|
| 11           | Online Professional Service Firm Questionnaire<br><br><i>(Currently Underway)</i> | <ul style="list-style-type: none"> <li>Ten-step process utilized in reviewing and validating vendors for pre-qualification</li> </ul>   | <ul style="list-style-type: none"> <li>Allow vendor firms to enter their own information into a web based system</li> </ul>  | <ul style="list-style-type: none"> <li>Savings of 300 to 500 hours annually</li> <li>Savings of \$50,000 annually</li> </ul>  | <ul style="list-style-type: none"> <li>Completed BETA testing. Full rollout underway</li> </ul>                 |
| 12           | Utilize Lump Sum Structure for Certain Call-in Programs                           | <ul style="list-style-type: none"> <li>The standard, time-intensive process is used for contracts of minimal cost</li> </ul>  | <ul style="list-style-type: none"> <li>Provide for a negotiated, one-time lump sum payment upon completion of the services</li> </ul>  | <ul style="list-style-type: none"> <li>Reduces administrative burden</li> <li>Incentivizes consultants to assign most qualified staff in an effort to expedite project completion</li> <li>Expedites invoice review and payment process</li> <li>Expedites completion of design services</li> </ul> | <ul style="list-style-type: none"> <li>Immediate implementation</li> <li>No costs anticipated</li> </ul>        |
| 13           | Centralized Electronic Repository Of Government Contracts                         | <ul style="list-style-type: none"> <li>For each solicitation, Agency buyer conducts research to identify available government contracts</li> <li>If a government contract is not identified, other lengthier procurement methods are pursued</li> </ul> | <ul style="list-style-type: none"> <li>Create a full-time Research Associate positions to:               <ol style="list-style-type: none"> <li>Identify applicable government contracts, then create and maintain an electronic repository; and,</li> <li>Research the solicitation library to determine appropriate standards for future solicitations.</li> </ol> </li> </ul> | <ul style="list-style-type: none"> <li>Reduces time to research and identify government contracts</li> <li>Potentially expands the use of government contracts</li> <li>Saves time in document generation</li> <li>Promotes standardization</li> </ul>  | <ul style="list-style-type: none"> <li>Timeline: Short</li> <li>Cost: Estimated at two FTEs</li> </ul>          |

| Item or Rank | Title of Proposal  | Current Practice   | Recommendation<br><i>(Description of Proposed Change)</i>   | Benefit<br><i>(Note Key Facts and Quantifiable Results: Time Saved, \$ Saved, etc.)</i>   | *Subject to Approvals<br>Anticipated Timeline & Cost to Implement<br><i>(Capital Investment \$, FTEs, etc.)</i>  |
|--------------|--|--|---|---|--|
| 14           | Document Management System For Document Integration        | <ul style="list-style-type: none"> <li>Entire procure-to-pay process is managed by SAP</li> <li>Accompanying or supporting documents are submitted independently and not through SAP</li> </ul>  | <ul style="list-style-type: none"> <li>Use document management solution(s) to facilitate document attachments in SAP</li> </ul>   | <ul style="list-style-type: none"> <li>Provides secured access control of documents/folders, templates etc.</li> <li>Provides increased efficiency</li> <li>Facilitates review by incorporating supporting documents with other materials being reviewed</li> </ul>   | <ul style="list-style-type: none"> <li>Time line - at least six months</li> <li>Estimated cost: \$750K system &amp; implementation and 1 additional part-time procurement FTE</li> </ul>   |
| 15           | Leverage Competition amongst active Government Contracts   | <ul style="list-style-type: none"> <li>Buyer identifies firms that have government contracts for the desired goods/services, and solicits proposals</li> <li>Similar to the evaluation process for RFPs, proposals are reviewed and evaluated through multiple steps</li> </ul>  | <ul style="list-style-type: none"> <li>Accelerated procurement from qualified firms holding government contracts</li> <li>Pricing only solicited from best qualified firms</li> </ul>   | <ul style="list-style-type: none"> <li>Savings of up to two months</li> </ul>   | <ul style="list-style-type: none"> <li>Immediate implementation – already piloted on two procurements successfully.</li> <li>No costs anticipated</li> </ul>   |
| 16           | Remove constraints in piggybacking on Government Contracts | <ul style="list-style-type: none"> <li>Procurement can piggyback only on contracts between vendors and other public entities. Procurement cannot piggyback on its own contracts</li> </ul>   | <ul style="list-style-type: none"> <li>Permit “piggybacking” on the Authority’s active contracts on a limited basis according to specifically defined guidelines and criteria</li> </ul>  | <ul style="list-style-type: none"> <li>Use of commonly known Standardized Terms &amp; Conditions will save considerable time</li> </ul>   | <ul style="list-style-type: none"> <li>Immediate implementation</li> <li>No costs anticipated</li> </ul>   |
| 17           | Electronic Procurement                                     | <ul style="list-style-type: none"> <li>On-line vendor registration system requires nightly interfaces</li> <li>Public Solicitations are posted on-line and received via paper mail</li> <li>Public Bid openings are in person</li> <li>Bid results are posted on the PA website</li> <li>This multi-step process involves emails and data entry to produce solicitation documents</li> </ul> | <ul style="list-style-type: none"> <li>Develop of a comprehensive e-commerce strategy for the Authority</li> </ul> <ol style="list-style-type: none"> <li>Identify &amp; implement a comprehensive, interactive online bidding solution addressing key procurement areas; and,</li> <li>Implement Electronic Solicitation Document Formation. Leverage proven technology to develop and store electronic documents including workflow, version management and SAP integration.</li> </ol> | <ul style="list-style-type: none"> <li>Significant improvements in efficiency &amp; procurement cycle time, enhanced transparency and flexibility to quickly adapt procurement processes to changing business environments</li> <li>Seamless integration with the Agency’s existing financial &amp; document management systems, where appropriate and practical, will also support obtaining optimal results from these tools</li> </ul> | <ul style="list-style-type: none"> <li><i>This is a major undertaking in breath and complexity</i></li> <li>Time line-anticipated is between 6 months and 1 year depending upon solution</li> <li>Cost to be determined but anticipated up to \$ 2.5 million. Cost will vary depending on scope/phase &amp; product; from cost incurred by vendors</li> <li>Dedicated staff and services will be required to detail requirements and implement comprehensive solutions to address the various procurement types and processes</li> </ul> |

| Item or Rank | Title of Proposal   | Current Practice   | Recommendation<br><i>(Description of Proposed Change)</i>  | Benefit<br><i>(Note Key Facts and Quantifiable Results: Time Saved, \$ Saved, etc.)</i>  | *Subject to Approvals<br>Anticipated Timeline & Cost to Implement<br><i>(Capital Investment \$, FTEs, etc.)</i>  |
|--------------|---|--|--|--|--|
| 18           | RFP Management – Distribution<br><br>Proposal Submission /Receipt and Evaluation process                        | <ul style="list-style-type: none"> <li>Proposals of varying lengths are received via mail and disseminated via mail to stakeholders in the PA.</li> <li>Multi-step, multi-participant paper-based RFP response and evaluation process.</li> <li>Distribution process is partially electronic with documents posted on line.</li> </ul> | <p><b>Interim -</b></p> <ul style="list-style-type: none"> <li>Require electronic copies of proposals.</li> <li>Disseminate to participants electronically.</li> <li>Where possible, restrict the length of proposals.</li> </ul> <p><b>Longer Term -</b></p> <ul style="list-style-type: none"> <li>Select a flexible web based RFP management system with both external and internal components.</li> <li>Implement in a phased approach.</li> </ul> | <ul style="list-style-type: none"> <li>Time savings of approximately 1 week in processing the distribution of proposals.</li> <li>Contributes to the PA’s environmental goals (less paper), and provides proposers with time and materials savings.</li> <li>Page limitations will reduce the review time.</li> <li>Easier access &amp; collection of internal and external documents.</li> <li>Faster submission and review time.</li> <li>Cost reductions achieved through collaboration &amp; maintenance of a single source of all relevant project data.</li> </ul> | <p>Phased Implementation:<br/>Anticipated for Phase 1</p> <ul style="list-style-type: none"> <li>Short -3-6 months to implement.</li> <li>Cost: Approximately \$200K for standalone system and resources.</li> </ul>             |
| 19           | Distributing Construction Contracts Documents (Drawings & Bid books)<br><br><i>(Pilot Programs are Ongoing)</i> | <ul style="list-style-type: none"> <li>Drawings are printed (per contract) and distributed manually via mail and/or picked up after payment is submitted.</li> </ul>   | <ul style="list-style-type: none"> <li>Use third party reprographer with secure on-line web portal allowing contractors to view &amp; order, and pay directly for documents online.</li> <li>Allow electronic takeoffs of construction documents eliminating the need for paper distribution.</li> </ul>   | <ul style="list-style-type: none"> <li>Time savings in the distribution and printing process.</li> <li>Security features can be incorporated.</li> <li>Actual printing cost assigned to the potential contractors.</li> </ul>  | <ul style="list-style-type: none"> <li>Timeline – Short.</li> <li>No costs anticipated.</li> <li>Pilot projects have been carried out in last few years, and will continue</li> </ul>  |
| 20           | Reverse Auctions Underway   | <ul style="list-style-type: none"> <li>Reverse auctions were first used in 2010 for to procure electricity. This was done through a specific third party specializing in reverse auctions for energy.</li> </ul>   | <ul style="list-style-type: none"> <li>Use a web based service for reverse auctions.</li> <li>For industry specific areas i.e., utility (electric/gas/fuel), use 3rd party auctioneer.</li> <li>For any other one time, large, purchase of commodities (i.e., IT equipment etc.) use a reverse auction process.</li> </ul>   | <ul style="list-style-type: none"> <li>1-2 % savings on estimated electricity usage for NJ facilities.</li> <li>Increased process efficiencies &amp; time savings.</li> <li>Real time market pricing &amp; increased competition.</li> </ul>   | <ul style="list-style-type: none"> <li>Anticipated timeline – Short.</li> <li>Reverse auction could be either fee-based, or an in-house solution can be developed.</li> <li>Estimate \$100K for system and resources.</li> </ul> |

| Item or Rank | Title of Proposal   | Current Practice  | Recommendation<br><i>(Description of Proposed Change)</i>   | Benefit<br><i>(Note Key Facts and Quantifiable Results: Time Saved, \$ Saved, etc.)</i>   | *Subject to Approvals<br>Anticipated Timeline & Cost to Implement<br><i>(Capital Investment \$, FTEs, etc.)</i>  |
|--------------|---|---|---|---|--|
| 21           | Fleet Vehicle Auctions<br><i>(Currently Underway)</i>                       | <ul style="list-style-type: none"> <li>• Currently fleet vehicles &amp; equipment for auction are staged &amp; then transferred to third party auctioneer's lot.</li> <li>• Auctions occur 2-3 times a year.</li> <li>• The process &amp; contract administration is manual &amp; paper based.</li> </ul> | <ul style="list-style-type: none"> <li>• Use third party auctioneers who will pick up vehicles from PA, prepare them for sale, and sell them using an online platform.</li> <li>• Perform a pilot project for fleet vehicle auctions &amp; potentially extend to abandoned vehicles based on pilot results. Pilot agreement expected to be in effect September 2012.</li> </ul> | <ul style="list-style-type: none"> <li>• Reduced time spent by PA staff to stage vehicles.</li> <li>• Vehicles can be sold as they become available, potentially saving up to 6 months.</li> <li>• Provides more transparency &amp; participation from the general public potentially increasing the sale value.</li> </ul> | <ul style="list-style-type: none"> <li>• Expected to pay a higher commission--- however this can be offset by potential higher sale value and efficiencies in time.</li> <li>• No setup cost.</li> <li>• Timeline – Short term, one-time.</li> </ul> |
| 21           | Expand Internal Departmental Review Authority                               | <ul style="list-style-type: none"> <li>• Typically Law Department review and approval is obtained for items such as solicitation documents, addenda, name changes, government contracts, sole source contracts, and determinations on non-responsive vendors.</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Allow Procurement Contract Review Staff to determine Law Department involvement based on the nature of the transaction.</li> </ul>   | <ul style="list-style-type: none"> <li>• Reduced approval timeline.</li> </ul>  | <ul style="list-style-type: none"> <li>• Timeline: Short term.</li> <li>• No costs anticipated.</li> </ul>   |
| 22           | Realign Responsibility for Producing Freedom of Information (FOI) Responses | <ul style="list-style-type: none"> <li>• The Office of the Secretary sends FOI requests to Procurement seeking documents.</li> <li>• Procurement staff assembles documents and drafts response.</li> </ul>  | <ul style="list-style-type: none"> <li>• Allow departments to directly submit responses to OSEC.</li> <li>• Procurement Dept. would provide procurement-related information only.</li> </ul>  | <ul style="list-style-type: none"> <li>• Time savings in Procurement.</li> </ul>  | <ul style="list-style-type: none"> <li>• Timeline: Immediate to Short term.</li> <li>• No costs anticipated.</li> </ul>  |
| 23           | Administrative Purchase Orders  | <ul style="list-style-type: none"> <li>• Procurement Dept. processes administrative purchase orders involving no procurement action.</li> </ul>   | <ul style="list-style-type: none"> <li>• Allow line/staff departments to directly process administrative purchase orders.</li> </ul>  | <ul style="list-style-type: none"> <li>• Time savings in Procurement.</li> </ul>  | <ul style="list-style-type: none"> <li>• Timeline: Short term.</li> <li>• No costs anticipated.</li> </ul>   |

## XX. APPENDIX – D: ACHIEVEMENTS & INITIATIVES UNDERWAY

| Item                  | Description   |
|-----------------------|---|
| <b>Agency-wide</b>    |   |
| Corporate Governance  | <ul style="list-style-type: none"> <li>• Chairman and Vice-Chairman have undertaken a review resulting in changes to the current committee structures, approved during the most recent Board meeting, to drive enhanced focus on key initiatives and oversight of the organization</li> <li>• Staff meetings with vendors pre-cleared with procurement</li> <li>• Established monthly updates to BOC on WTC expenditures &amp; schedules</li> <li>• Approval of new corporate governance structure</li> </ul> <p><i>Audit Committee:</i></p> <ul style="list-style-type: none"> <li>• Formal review of leasing functions</li> <li>• Adoption of financial statements</li> <li>• Change in external Auditors for first time in 31 years</li> <li>• Posted tens of thousands of documents for public review</li> <li>• Revised Freedom of Information Act policies and procedures</li> </ul>  |
| Travel Policy         | <ul style="list-style-type: none"> <li>• Implementation of new travel policy restrictions</li> </ul>  |
| Organizational Design | <ul style="list-style-type: none"> <li>• Reviewing and modifying the organizational design to allow it to operate more effectively and efficiently</li> <li>• Conducting, under the direction of the Special Committee, an Agency-wide review to identify potential areas for performance improvement in the organization</li> <li>• Hiring of Navigant, Rothschild and Chertoff to conduct independent reviews</li> <li>• Insurance group to streamline Risk Management and Insurance Costs</li> </ul>   |
| Employee Benefits     | <ul style="list-style-type: none"> <li>• Reduced employee headcount by 243 and payroll by \$10.5 million in 2010 and 2011 from employee buyouts</li> <li>• Board declaration of its expectation that all future labor agreements for represented employees will include a contribution to healthcare</li> <li>• Elimination of free E-ZPass for most non-represented employees</li> <li>• Elimination of PATH passes for non-represented employees</li> <li>• Enforcement of PANYNJ policy on political activity</li> <li>• Changes to community contributions budget</li> <li>• Sale of helicopters ending use by executives</li> <li>• Elimination of first class / business travel</li> <li>• Reduction in executive assigned vehicles</li> <li>• Instituted quarterly overtime reports to Commissioners &amp; NY State Comptroller</li> <li>• Eliminated vacation exchange and extra allowances for cashing in vacation days upon separation, expected to generate approximately \$7.8 million of savings in 2013.</li> <li>• Implemented revised vacation schedule, eliminated certain excess positions as well as certain add-on compensation programs (<i>i.e.</i>, FICA, contractual death, management excused days, longevity programs, and death gamble benefits) expected to generate approximately \$13.3 million of savings in 2012</li> <li>• Implemented enhanced web-based total compensation disclosure for all PA employees, evidencing its commitment to transparency</li> </ul> |

| Item   | Description  |
|--|--|
|  | <ul style="list-style-type: none"> <li>Instituted multiple health care plan choices, expected to generate approximately \$3 million of savings in 2013</li> <li>Implemented healthcare contribution for Non-represented employees and retirees, expected to generate approximately \$4.6 million in savings in 2012</li> </ul> |
| Capital Projects Prioritization  | <ul style="list-style-type: none"> <li>Implemented new scoring process for capital projects, to establish enhanced determination of priorities in the deployment of its capital</li> </ul>   |
| Operational Improvements   | <ul style="list-style-type: none"> <li>Flat operating budget</li> <li>Salary freeze / no-raise budgets</li> </ul>  |
| <b>Public Safety</b>   |  |
| Establish Chief Security Officer function                                      | Consolidated the security function under a Chief of Security and commissioned the Chertoff Group to conduct a thorough review, develop and assist in an implementation plan to drive enhanced security and accountability of the personnel entrusted to protect the infrastructure assets and public that rely upon them       |
| Leadership Changes   | Restructured senior leadership to provide better accountability  |
| Organizational Changes   | Moved Internal Affairs out of Public Safety to Inspector General's office to provide better transparency and accountability  |
| <b>Aviation</b>  |  |
| Completed US Airways gate swap with Delta                                      | Gate swap to allow Delta to build-out larger hub presence at LGA and accommodate additional passenger volumes and associated economic stimulus for the region resulting in a \$100 million investment in terminals   |
| Delta Expansion  | Delta expansion at JFK of approximately \$1.0 billion  |
| Approved Jet Blue expansion at JFK   | Allows for additional international traffic and associated economic benefit of approximately \$150 - \$200 million   |
| Request for Information regarding replacement of LGA Central Terminal Building | Pursuing outside expertise to assist in the ultimate replacement of Central Terminal Building and explore alternative financing arrangements; estimated value of the CTB building project is \$3.6 billion   |
| Request for Information regarding replacement of Terminal A at Newark          | Pursuing outside expertise to assist in the ultimate replacement of Terminal A building at Newark Airport and explore alternative financing arrangements; estimated value of the Terminal A building project is \$1.7 billion  |
| <b>TB&amp;T</b>  |  |
| Implemented toll-collection "wall of shame"                                    | Allows for publication of toll-violators to encourage repayment and enhance collections  |
| Began Lincoln Tunnel Helix Project   | Helix repair to tunnel structure that is over 70 years old   |
| George Washington Bridge Suspender Cable Replacement Project                   | Initiated major project to replace support cables on entire George Washington Bridge   |

| Item  | Description   |
|---|---|
| Completed RFP for Goethals bridge replacement   | Completed RFP to evaluate alternatives for replacing existing Goethals bridge with new structure  |
| Raising Bayonne Bridge  | Implementing accelerated schedule to raise Bayonne Bridge deck in support of increased clearance for taller ships                             |
| <b>PATH</b>   |   |
| Completion of new car acquisition   | Completed purchase of 340 new PATH railcars to support additional capacity growth and aging assets  |
| Implementation of Automatic Train Control (ATC) Signal System & 10-car Platform Expansion | In process of implementing new signal system, allowing for additional capacity, efficiency and reliability                                    |
| <b>Port Commerce</b>  |   |
| Panama Canal expansion planning   | Acceleration of raising of Bayonne Bridge and supplemental dredging to support larger ships   |
| Comprehensive dredging program  | 50 foot Harbor Deeping Project will address competitive issues with regards to Port Commerce being able to handle ever larger container ships |
| Intermodal rail program   | Planning for connectivity of all port operations through rail system to allow for significantly enhanced efficiency                           |
| <b>Real Estate Development</b>  |   |
| Non-core assets   | Announced strategic alternative evaluation of Teleport and Newport Legal Center   |
| Bus Terminals   | Redevelopment of Port Authority and GWB Bus Terminals   |
| Essex County Resource Facility  | Contractual renegotiation of Essex County Resource Facility to eliminate future capital obligations to Port Authority                         |
| <b>World Trade Center Program</b>   |   |
| Financial Controls  | Implemented significantly more stringent financial and operational controls to ensure appropriate accountability and transparency             |
| Retail venture with commercial partner Westfield  | Announced \$625 million investment by Westfield to support retail venture at 1 WTC  |
| Communications facility at 1WTC   | Joint venture with the Durst Organization to build and operate state-of-the-art broadcast facilities at 1 WTC.                                |
| Observation deck  | Initiated RFP for 1WTC observation deck, which is expected to have significant revenue generation opportunities for 1 WTC                     |

## **XXI. APPENDIX – E: REPORT QUALIFICATIONS & DISCLAIMER**

*THIS CONFIDENTIAL REPORT HAS BEEN PREPARED FOR THE SPECIAL COMMITTEE OF THE BOARD OF COMMISSIONERS OF THE PORT AUTHORITY IN CONNECTION WITH NAVIGANT'S PHASE II REPORT PURSUANT TO THE AGREEMENT, DATED AS OF NOVEMBER 23, 2011, BY AND BETWEEN NAVIGANT AND THE PORT AUTHORITY. THIS REPORT CONTAINS INFORMATION RELATED TO THE PORT AUTHORITY AND IS BEING PROVIDED ON A STRICTLY CONFIDENTIAL BASIS. THE CONTENT OF THIS REPORT IS NOT TO BE USED FOR ANY OTHER PURPOSE AND, EXCEPT AS MAY BE REQUIRED BY LAW OR ANY OTHER REGULATORY OR GOVERNMENTAL AUTHORITY HAVING JURISDICTION OVER THE PORT AUTHORITY, CANNOT BE DISTRIBUTED WITHOUT THE WRITTEN CONSENT OF NAVIGANT AND MAY NOT, IN ANY CASE, BE RELIED UPON BY ANY THIRD PARTIES WITHOUT NAVIGANT'S PRIOR WRITTEN CONSENT.*

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# Final Report

Presented to the Special Committee of the Board of Commissioners  
Port Authority of New York and New Jersey

## Disclaimer

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## Introduction

This report is provided to the Special Committee of the Board of Commissioners of the Port Authority of New York and New Jersey in order to assist the Special Committee in its comprehensive review of the Port Authority's operational and financial structure. The primary focus of Rothschild's work product is the Port Authority's financing strategy and considerations related to the long-term funding of the capital investment needs identified by Port Authority staff.

This report is divided into four sections:

- Review of the primary components of the Port Authority's long-term financial forecast (the "Long Range Forecast")
- Analysis of the Port Authority's existing capital structure and corresponding outlook for liquidity and credit profile
- Comparative capital structure analysis of industry peers and implications for the Port Authority's financing strategy
- Discussion of considerations regarding potential Public Private Partnerships ("PPPs")

## Executive Summary

Rothschild's scope of work involves assessing the Port Authority's Long Range Forecast and accompanying capital expenditure plan in order to analyze the organization's financing strategy and capability. The assessment involves both a specific review of the Port Authority's financing strategy and a cross-category comparison with peer benchmarks for financial leverage and cost of financing. Preliminary conclusions are provided below:

**(1) Based on achieving the Long Range Forecast, the Port Authority has sufficient debt capacity to fund the capital expenditures plan while satisfying the principal credit metrics included in its financing obligations and those analyzed by the credit rating agencies**

The Long Range Forecast is premised on numerous underlying assumptions including continued economic recovery in the region, improvement in realized pricing (including the effect of the scheduled toll and fare increases) and estimates for the operating cost structure of the Port Authority. Successful achievement of the key financial targets is important both (i) for the ability to issue new Consolidated Bonds and (ii) maintaining the Port Authority's strong AA- credit rating. As detailed herein, the Long Range Forecast satisfies the identified credit ratio targets with the level of cushion varying principally based on timing of capital expenditures and ramp of revenues. As a result, the financial analysis indicates the Port Authority has adequate debt capacity to support the significant capital expenditures forecast through 2020. However, the level of cushion in the early years of the forecast period is relatively limited. Without the schedule toll and fare increase (or other financial underperformance versus the forecast), the analysis indicates a shortfall versus target credit metrics and thereby risk to the stability of the credit rating and financing terms.

The chart below delineates the financial metrics analyzed in this report based on successful achievement of the Long Range Forecast.

| Table 1 – Overview of Financial Tests          |   |                  |
|--|---|------------------|
| Financial Metric                               | Type  | Estimated Result |
| General Reserve Requirement                    | Statutory requirement                             | ✓                |
| Net Revenues Test – Consolidated Bond Issuance | Test for permitted issuance of Consolidated Bonds | ✓                |
| Net Revenues Test – VSO Issuance               | Test for permitted issuance of VSO debt           | ✓                |
| Maximum VSO Debt                               | Test for permitted issuance of VSO debt           | ✓                |
| Debt Service Coverage                          | Credit rating agency metric                       | ✓                |
| Total Obligations / Gross Revenues             | Credit rating agency metric                       | ✓                |
| Coverage of Next 2 Years Debt Service          | Credit rating agency metric                       | ✓                |
| Consolidated Bond Reserve Minimum              | Credit rating agency metric                       | ✓                |

**(2) The Port Authority’s financing strategy, principally conducted through the Consolidated Bond program, has effectively sourced capital at a competitive and relatively stable cost.**

Market data indicates the Port Authority has successfully achieved a relatively stable cost of financing amidst the volatility of the past decade with the cost comparing favorably to similarly rated municipal debt and public market issuances from other transportation infrastructure operators. This favorable cost is additionally noteworthy since the municipal benchmarks are primarily tax exempt debt and therefore expected to register lower cost versus the overall Port Authority issuances which represent a mixture of taxable and tax exempt obligations. The Port Authority’s stable financing cost is due, at least in part, to the stability of the credit rating and the demonstrated managerial focus on satisfying the primary financial metrics necessary to maintain the AA- rating.

**(3) Public Private Partnerships (“PPPs”) may represent an opportunity for the Port Authority to execute certain of its significant capital projects but need to be evaluated in context with other available alternatives.**

The Port Authority has demonstrated success in PPP structures with recent examples including the retail development at the World Trade Center and the Terminal 4 redevelopment at JFK. Given the availability of the successful Consolidated Bond program, PPP proposals should be considered based on the benefits and issues including both the financial considerations (e.g. impact on net cashflows, debt capacity, credit scoring, etc.) and non-financial items (e.g. particular operational considerations or risk transfer).

## Long Range Forecast Review

For purposes of evaluating the Port Authority's capitalization and long-term financing needs, Rothschild conducted a due diligence review of the Port Authority's Long Range Forecast and supporting Capital Plan. Rothschild's review is based on in-person sessions with operating and finance staff from each of the Authority's principal operating divisions as well as a review of supporting documentation provided by the Port Authority. Rothschild's analysis is based on the consolidated Long Range Forecast as summarized in Table 2 and the corresponding capital plan as presented in Table 3.

**Table 2 – Summary of Long Range Forecast (\$m)**

|                                | 2012           | 2013           | 2014           | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         | CAGR %    |
|--------------------------------|----------------|----------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------|
| <b>Revenues</b>                |                |                |                |              |              |              |              |              |              |           |
| Aviation                       | \$2,220        | \$2,294        | \$2,365        | \$2,477      | \$2,581      | \$2,630      | \$2,659      | \$2,749      | \$2,794      | 3%        |
| PATH                           | 141            | 161            | 182            | 200          | 220          | 236          | 253          | 269          | 285          | 9%        |
| Ports                          | 241            | 249            | 271            | 289          | 305          | 315          | 329          | 353          | 372          | 6%        |
| TB&T                           | 1,373          | 1,496          | 1,625          | 1,779        | 1,939        | 1,950        | 1,932        | 2,131        | 2,162        | 6%        |
| WTC                            | 48             | 39             | 121            | 217          | 286          | 323          | 347          | 380          | 397          | 30%       |
| Development                    | 95             | 95             | 97             | 99           | 100          | 103          | 105          | 107          | 108          | 2%        |
| <b>Gross Revenues</b>          | <b>4,119</b>   | <b>4,335</b>   | <b>4,662</b>   | <b>5,061</b> | <b>5,431</b> | <b>5,557</b> | <b>5,626</b> | <b>5,989</b> | <b>6,119</b> | <b>5%</b> |
| Total O&M Expenses             | (2,333)        | (2,417)        | (2,529)        | (2,636)      | (2,695)      | (2,788)      | (2,873)      | (2,936)      | (3,003)      | 3%        |
| Other adjustments              | (228)          | (230)          | (229)          | (237)        | (234)        | (216)        | (221)        | (221)        | (222)        | –         |
| <b>Net Operating Revenues</b>  | <b>1,558</b>   | <b>1,688</b>   | <b>1,904</b>   | <b>2,188</b> | <b>2,502</b> | <b>2,553</b> | <b>2,532</b> | <b>2,832</b> | <b>2,894</b> | <b>8%</b> |
| Margin %                       | 38%            | 39%            | 41%            | 43%          | 46%          | 46%          | 45%          | 47%          | 47%          |           |
| Financial Income               | 40             | 55             | 58             | 79           | 110          | 138          | 161          | 161          | 167          |           |
| Passenger Facility Charge      | 215            | 221            | 226            | 231          | 236          | 241          | 246          | 251          | 257          |           |
| WTC - Non-operating            | 179            | 347            | 296            | 188          | 168          | 141          | 65           | 65           | 65           |           |
| Other                          | 529            | 438            | 374            | 359          | 129          | 39           | 39           | 39           | 39           |           |
| <b>Net Revenues</b>            | <b>2,521</b>   | <b>2,750</b>   | <b>2,859</b>   | <b>3,046</b> | <b>3,144</b> | <b>3,111</b> | <b>3,042</b> | <b>3,347</b> | <b>3,422</b> |           |
| Capital Expenditures           | (3,827)        | (4,532)        | (4,430)        | (3,041)      | (2,255)      | (2,189)      | (1,619)      | (1,461)      | (1,526)      |           |
| <b>Net Revenues less Capex</b> | <b>(1,305)</b> | <b>(1,782)</b> | <b>(1,570)</b> | <b>4</b>     | <b>889</b>   | <b>922</b>   | <b>1,423</b> | <b>1,886</b> | <b>1,895</b> |           |

Source: Port Authority

The capital plan incorporated into the analyses herein includes both the Port Authority's base \$25.1 billion plan (covering the period 2011 – 2020) and additional expenditures for the World Trade Center based on updated cost estimates (\$2.7 billion). The resulting total of \$27.8 billion is analyzed for the future period of 2012 – 2020 (excluding 2011) with a total expenditure of \$24.9 billion as summarized below.

**Table 3 – Summary of Capital Plan by Project Category (\$m)**

| Category               | Projects   | 2012           | 2013           | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | TOTAL           |
|------------------------|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| MAND                   | 83         | \$1,118        | \$1,588        | \$1,773        | \$918          | \$220          | \$304          | \$72           | \$140          | \$137          | \$6,271         |
| RPP                    | 55         | 1,197          | 1,056          | 587            | 349            | 299            | 268            | 215            | 133            | 272            | 4,378           |
| SEC                    | 84         | 360            | 347            | 222            | 90             | 52             | 47             | 39             | 42             | 10             | 1,209           |
| SEP                    | 106        | 153            | 231            | 366            | 430            | 517            | 591            | 529            | 259            | 180            | 3,256           |
| SRP                    | 16         | 505            | 566            | 576            | 536            | 568            | 336            | 236            | 236            | 229            | 3,790           |
| SGR                    | 485        | 738            | 1,186          | 1,401          | 911            | 761            | 776            | 631            | 650            | 697            | 7,751           |
| <b>Subtotal</b>        | <b>829</b> | <b>4,073</b>   | <b>4,975</b>   | <b>4,924</b>   | <b>3,233</b>   | <b>2,417</b>   | <b>2,322</b>   | <b>1,723</b>   | <b>1,461</b>   | <b>1,526</b>   | <b>26,654</b>   |
| Efficiency and Phasing |            | (246)          | (444)          | (494)          | (192)          | (162)          | (133)          | (104)          | --             | --             | (1,775)         |
| <b>Total</b>           |            | <b>\$3,827</b> | <b>\$4,532</b> | <b>\$4,430</b> | <b>\$3,041</b> | <b>\$2,255</b> | <b>\$2,189</b> | <b>\$1,619</b> | <b>\$1,461</b> | <b>\$1,526</b> | <b>\$24,880</b> |

Source: Port Authority

**Table 4 – Description of Project Categorization**

| <b>Project Category</b> | <b>Identifier</b> | <b>Description</b>   |
|-------------------------|-------------------|--|
| Mandatory               | MAND              | <ul style="list-style-type: none"> <li>Projects required by law, governmental rule or regulation</li> </ul>  |
| Revenue Producing       | RPP               | <ul style="list-style-type: none"> <li>Projects which provide system enhancements, improved customer service levels, and/or regional benefits and which yield a positive financial return on invested capital to the Port Authority</li> </ul>   |
| Security                | SEC               | <ul style="list-style-type: none"> <li>Projects that are necessary to meet the agency’s security plan</li> </ul>   |
| System Enhancing        | SEP               | <ul style="list-style-type: none"> <li>Projects that provide system enhancements, improved customer service levels, and/or regional benefits but do not yield a positive financial return to the Port Authority</li> </ul>   |
| Regional                | SRP               | <ul style="list-style-type: none"> <li>Projects undertaken by the Port Authority which advance the objectives of the Port Authority but are not operated by the Port Authority</li> </ul>  |
| State of Good Repair    | SGR               | <ul style="list-style-type: none"> <li>Projects that are necessary to maintain the continued functioning of the Port Authority’s assets consistent with the agency’s business objectives, especially those necessary to maintain critical structural integrity and operational capability of facilities</li> </ul> |

Source: Port Authority

Although Rothschild’s analysis relies on the Long Range Forecast in a consolidated context, the diverse nature of the Port Authority’s operations requires a distinct due diligence review by operating division. Rothschild’s due diligence for each operating division incorporated a review of forecasting methodology and underlying assumption drivers. While Rothschild’s scope of work does not include a critical assessment of the Long Range Forecast, the material included herein is an important informational foundation for the capital structure and financing analysis. Rothschild’s analysis and conclusions are premised on the achievement of the Long Range Forecast; actual results may vary and the impact of such variations may be material.

## **Operating Division: Aviation Department**

### *Forecasting Methodology*

The Aviation Department forecasts revenue streams in four primary categories: cost recovery, activity related, fixed rentals and other. Cost recovery revenues represent the largest source of income for the Aviation Department and include flight fees, monorail fees, sale of electricity and water, security and fuel fees. These revenues are realized based on long-term cost recovery agreements with airlines and other third parties and are subject to an annual audit. The cost recovery agreements provide a forecastable return on investment for capital and operating expenses and help to reduce execution risk of the Aviation Department forecast. Activity related revenue is forecasted based on estimates of passenger activity for each of the airports operated by the Aviation Department. The additional primary source of revenue for the Aviation Department is fixed rental agreements. The forecast relies on the

contractually set rents and is adjusted for staff estimates for rent increases related to terminals that are currently in planning / development stage. Other revenue, which represents approximately 2% of 2012 revenue, is estimated to remain relatively flat during the forecast period.

Principal categories of forecasted operating expenses include labor, city rent, utilities, contract services (e.g. security, customer care, snow removal, etc.), engineering and allocations. These items are forecasted to increase based on CPI projections and/or contractually known terms.

| <b>Table 5 – Aviation Department Forecast (\$m)</b> |              |              |              |              |              |              |              |              |              |               |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|   | <b>2012</b>  | <b>2013</b>  | <b>2014</b>  | <b>2015</b>  | <b>2016</b>  | <b>2017</b>  | <b>2018</b>  | <b>2019</b>  | <b>2020</b>  | <b>CAGR %</b> |
| <b>Revenues</b>                                     |              |              |              |              |              |              |              |              |              |               |
| Flight fees   | \$639        | \$653        | \$661        | \$671        | \$678        | \$687        | \$692        | \$691        | \$694        | 1%            |
| Other Activity                                      | 791          | 821          | 840          | 855          | 892          | 903          | 919          | 961          | 981          | 3%            |
| Fixed Rentals                                       | 682          | 694          | 684          | 703          | 736          | 752          | 750          | 794          | 815          | 2%            |
| Other   | 108          | 125          | 180          | 249          | 274          | 288          | 299          | 303          | 303          | 14%           |
| <b>Total Revenues</b>                               | <b>2,220</b> | <b>2,294</b> | <b>2,365</b> | <b>2,477</b> | <b>2,581</b> | <b>2,630</b> | <b>2,659</b> | <b>2,749</b> | <b>2,794</b> | <b>3%</b>     |
| <b>O&amp;M Expenses</b>                             |              |              |              |              |              |              |              |              |              |               |
| Labor   | 313          | 327          | 341          | 351          | 361          | 372          | 383          | 395          | 406          | 3%            |
| M&S costs   | 701          | 716          | 716          | 726          | 740          | 755          | 770          | 786          | 801          | 2%            |
| City Rent   | 225          | 225          | 225          | 224          | 227          | 255          | 255          | 255          | 255          | 2%            |
| Overhead  | 72           | 85           | 89           | 88           | 90           | 92           | 94           | 96           | 99           | 4%            |
| <b>Total O&amp;M Expenses</b>                       | <b>1,311</b> | <b>1,353</b> | <b>1,370</b> | <b>1,389</b> | <b>1,418</b> | <b>1,474</b> | <b>1,503</b> | <b>1,532</b> | <b>1,562</b> | <b>2%</b>     |
| <b>Net Revenues</b>                                 | <b>909</b>   | <b>941</b>   | <b>995</b>   | <b>1,088</b> | <b>1,163</b> | <b>1,156</b> | <b>1,156</b> | <b>1,217</b> | <b>1,233</b> | <b>4%</b>     |
| <i>Margin %</i>                                     | <i>41%</i>   | <i>41%</i>   | <i>42%</i>   | <i>44%</i>   | <i>45%</i>   | <i>44%</i>   | <i>43%</i>   | <i>44%</i>   | <i>44%</i>   |               |
| Capital Expenditures                                | (452)        | (1,103)      | (1,396)      | (853)        | (571)        | (601)        | (489)        | (291)        | (449)        |               |
| <b>Net Revenues less Capex</b>                      | <b>457</b>   | <b>(162)</b> | <b>(401)</b> | <b>236</b>   | <b>592</b>   | <b>555</b>   | <b>667</b>   | <b>926</b>   | <b>784</b>   |               |

Source: Port Authority

### *Capital Projects*

The Aviation Department capital plan includes significant, high-profile investments during the forecast period with total investment estimated at approximately \$6.2 billion. The large-scale development and modernization of the region's airports includes terminal redevelopment and runway expansion / rehabilitation at all three of the region's primary airports. In particular, the capital plan for the project at LaGuardia Airport Central Terminal is limited to costs recoverable via passenger facility charges. This capital plan is anticipated to provide additional revenue streams and system capabilities, in addition to maintaining the essential operating condition of the facilities. A summary of the capital program is outlined below.

| <b>Table 6 – Aviation Department Capital Plan (\$m)</b> |                 |              |                |                |              |              |              |              |              |              |                |
|---|-----------------|--------------|----------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| <b>Category</b>   | <b>Projects</b> | <b>2012</b>  | <b>2013</b>    | <b>2014</b>    | <b>2015</b>  | <b>2016</b>  | <b>2017</b>  | <b>2018</b>  | <b>2019</b>  | <b>2020</b>  | <b>TOTAL</b>   |
| MAND  | 44              | \$65         | \$131          | \$99           | \$64         | \$65         | \$91         | \$9          | \$5          | \$2          | \$531          |
| RPP   | 26              | 72           | 128            | 206            | 262          | 265          | 243          | 193          | 122          | 265          | 1,755          |
| SEC   | 40              | 35           | 141            | 156            | 56           | 16           | 4            | --           | --           | --           | 407            |
| SEP   | 63              | 59           | 127            | 179            | 94           | 49           | 74           | 99           | 59           | 117          | 855            |
| SGR   | 210             | 221          | 577            | 757            | 377          | 175          | 190          | 188          | 106          | 66           | 2,657          |
| <b>Total</b>  | <b>383</b>      | <b>\$452</b> | <b>\$1,103</b> | <b>\$1,396</b> | <b>\$853</b> | <b>\$571</b> | <b>\$601</b> | <b>\$489</b> | <b>\$291</b> | <b>\$449</b> | <b>\$6,205</b> |

Source: Port Authority

Note: Categories include Mandatory, Revenue Producing, Security, System Enhancing and State of Good Repair

## Operating Division Forecast: Port Commerce Department

### Forecasting Methodology

The Port Commerce Department (“PCD”) revenues are largely divided between fixed rents for land and building usage (69% of 2012 forecasted revenue) and variable revenue based on cargo throughput, cargo facility charges and fees for dockage and wharfage. In developing the Long Range Forecast, PCD staff utilized an independent container volume projection developed by forecasting firm Global Insight. The Global Insight forecast provides volume outlook by cargo type and both import and export levels by foreign country. PCD staff made certain adjustments to the Global Insight forecast to aggregate forecasted traffic by region and also align the volume outlook with observed trends. The resulting volumes were incorporated into PCD’s forecasting model based on four types of volume: container, rail, auto and bulk / general cargo. These volumes determine the variable revenue outlook for PCD along with estimates for wharfage fees and dockage fees. Fixed revenue rents were forecast based on CPI estimates. Additionally PCD forecasts revenue related to cargo facility charges (based on contractual provisions) and containerized municipal solid waste. Forecasted operating expenses are developed based on guidance from the Budget Department and influenced by existing trendlines and known parameter restrictions such as the zero growth headcount policy.

**Table 7 – Port Commerce Department Forecast (\$m)**

|                                | 2012         | 2013         | 2014        | 2015        | 2016       | 2017       | 2018       | 2019       | 2020       | CAGR       |
|--------------------------------|--------------|--------------|-------------|-------------|------------|------------|------------|------------|------------|------------|
| <b>Revenues</b>                |              |              |             |             |            |            |            |            |            |            |
| Variable Rentals               | \$13         | \$14         | \$14        | \$15        | \$17       | \$18       | \$19       | \$20       | \$21       | 6%         |
| Percentage Rentals             | 30           | 34           | 42          | 44          | 47         | 50         | 55         | 60         | 66         | 10%        |
| Other                          | 32           | 35           | 39          | 45          | 51         | 56         | 61         | 75         | 87         | 13%        |
| Fixed Rentals                  | 166          | 167          | 177         | 185         | 190        | 191        | 194        | 198        | 198        | 2%         |
| <b>Total Revenues</b>          | <b>241</b>   | <b>249</b>   | <b>271</b>  | <b>289</b>  | <b>305</b> | <b>315</b> | <b>329</b> | <b>353</b> | <b>372</b> | <b>6%</b>  |
| <b>O&amp;M Expenses</b>        |              |              |             |             |            |            |            |            |            |            |
| Labor                          | 31           | 33           | 34          | 35          | 36         | 37         | 38         | 39         | 41         | 3%         |
| M&S costs                      | 103          | 86           | 82          | 79          | 80         | 82         | 84         | 86         | 88         | (2%)       |
| City Rent                      | 19           | 19           | 19          | 16          | 16         | 17         | 17         | 17         | 17         | (1%)       |
| Overhead                       | 16           | 20           | 18          | 19          | 18         | 19         | 19         | 20         | 20         | 3%         |
| <b>Total O&amp;M Expenses</b>  | <b>170</b>   | <b>159</b>   | <b>153</b>  | <b>149</b>  | <b>151</b> | <b>155</b> | <b>159</b> | <b>162</b> | <b>166</b> | <b>--</b>  |
| <b>Net Revenues</b>            | <b>71</b>    | <b>91</b>    | <b>119</b>  | <b>141</b>  | <b>154</b> | <b>160</b> | <b>171</b> | <b>191</b> | <b>206</b> | <b>14%</b> |
| <i>Margin %</i>                | <i>29%</i>   | <i>36%</i>   | <i>44%</i>  | <i>49%</i>  | <i>51%</i> | <i>51%</i> | <i>52%</i> | <i>54%</i> | <i>55%</i> |            |
| Capital Expenditures           | (346)        | (301)        | (177)       | (157)       | (113)      | (126)      | (113)      | (83)       | (87)       |            |
| <b>Net Revenues less Capex</b> | <b>(275)</b> | <b>(210)</b> | <b>(58)</b> | <b>(17)</b> | <b>41</b>  | <b>34</b>  | <b>57</b>  | <b>108</b> | <b>119</b> |            |

Source: Port Authority

### Capital Projects

The PCD capital plan is estimated at approximately \$1.5 billion total cost with over 100 projects identified. Of this overall capital plan, over 60% is targeted for revenue producing and/or system enhancing projects (approximately \$928 million estimated cost). The capital plan also includes significant investment state of good repair work (\$432 million) and projects categorized as mandatory (\$130 million). A summary of identified projects is presented below based on project category.

**Table 8 – Port Commerce Department Capital Plan (\$m)**

| Category     | Projects  | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2019        | 2020        | TOTAL          |
|--------------|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|----------------|
| MAND         | 13        | \$76         | \$14         | \$13         | \$21         | \$3          | \$1          | \$1          | \$1         | \$1         | \$130          |
| RPP          | 23        | 167          | 177          | 73           | 49           | 18           | 17           | 21           | 12          | 8           | 541            |
| SEC          | 5         | 3            | 8            | --           | --           | --           | --           | --           | --          | --          | 11             |
| SEP          | 14        | 49           | 47           | 28           | 44           | 53           | 63           | 45           | 25          | 33          | 387            |
| SGR          | 32        | 50           | 55           | 63           | 43           | 40           | 45           | 46           | 45          | 45          | 432            |
| <b>Total</b> | <b>87</b> | <b>\$346</b> | <b>\$301</b> | <b>\$177</b> | <b>\$157</b> | <b>\$113</b> | <b>\$126</b> | <b>\$113</b> | <b>\$83</b> | <b>\$87</b> | <b>\$1,502</b> |

Source: Port Authority

Note: Categories include Mandatory, Revenue Producing, Security, System Enhancing and State of Good Repair

## Operating Division: Tunnels, Bridges and Terminals Department

The Port Authority operates three services which together form the Interstate Transportation Network (“ITN”). The first of these departments is the Tunnels, Bridges and Terminals Department (“TB&T”). The long-term forecast for TB&T relies principally on estimated traffic volumes for the department assets and secondarily on macroeconomic variables including office employment, fuel prices, consumer spending. Estimates for these factors, along with particular explanatory variables including snowfall patterns and toll levels, are input into an econometric model in order to develop TB&T forecasts for traffic volumes. This forecast is separately developed for the four primary types of traffic: auto, bus, light truck and heavy truck. These volume forecasts drive the revenue outlook for TB&T which also includes staff estimates for EZ Pass adoption rates. Given the pricing difference between cash payment and EZ Pass, this assumption may meaningfully influence the realized revenues. A key driver of the anticipated improvement in revenues is the toll and fare increase implemented in 2011 (with increases scheduled for each year through 2015.)

Principal categories of forecasted expense include labor, overheads, maintenance/service, EZ Pass fees, engineering and insurance. These items are generally forecasted based on CPI estimates with certain items such as EZ Pass fees adjusted based on contractual estimates.

**Table 9 – TB&T Department Forecast (\$m)**

|                                | 2012       | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         | CAGR |
|--------------------------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------|
| <b>Revenue</b>                 |            |              |              |              |              |              |              |              |              |      |
| Toll and Fare                  | \$1,329    | \$1,449      | \$1,574      | \$1,727      | \$1,886      | \$1,896      | \$1,877      | \$2,075      | \$2,105      | 6%   |
| Other Activity                 | 25         | 26           | 26           | 27           | 27           | 28           | 28           | 29           | 30           | 2%   |
| Fixed Rentals                  | 19         | 21           | 25           | 25           | 25           | 26           | 27           | 27           | 28           | 5%   |
| Total Revenues                 | 1,373      | 1,496        | 1,625        | 1,779        | 1,939        | 1,950        | 1,932        | 2,131        | 2,162        | 6%   |
| <b>O&amp;M Expenses</b>        |            |              |              |              |              |              |              |              |              |      |
| Labor                          | \$191      | \$200        | \$205        | \$210        | \$216        | \$221        | \$226        | \$232        | \$238        | 3%   |
| M&S costs                      | 145        | 156          | 153          | 155          | 160          | 164          | 169          | 174          | 180          | 3%   |
| Overhead                       | 58         | 61           | 72           | 74           | 76           | 77           | 79           | 81           | 83           | 5%   |
| Other                          | 8          | 9            | 9            | 9            | 9            | 9            | 22           | 22           | 22           | 13%  |
| Total O&M Expenses             | 402        | 426          | 439          | 448          | 460          | 472          | 496          | 509          | 523          | 3%   |
| <b>Net Revenues</b>            | <b>972</b> | <b>1,071</b> | <b>1,185</b> | <b>1,331</b> | <b>1,479</b> | <b>1,479</b> | <b>1,435</b> | <b>1,622</b> | <b>1,638</b> | 7%   |
| Margin %                       | 71%        | 72%          | 73%          | 75%          | 76%          | 76%          | 74%          | 76%          | 76%          |      |
| Capital Expenditures           | (626)      | (756)        | (923)        | (945)        | (1,023)      | (713)        | (574)        | (459)        | (506)        |      |
| <b>Net Revenues less Capex</b> | <b>346</b> | <b>315</b>   | <b>262</b>   | <b>386</b>   | <b>455</b>   | <b>766</b>   | <b>861</b>   | <b>1,162</b> | <b>1,132</b> |      |

Source: Port Authority

### *TB&T Capital Plan*

The capital investment plan for the TB&T Department includes over 200 identified projects including several multi-year state of good repair projects designed to renew the critical infrastructure assets managed by TB&T. Significant projects include (i) structural modifications to the Bayonne Bridge, (ii) infrastructure projects at the Lincoln Tunnel to accommodate increasing traffic volumes and reduce congestion and (iii) state of good repair work with the George Washington Bridge required due to the useful life of the bridge infrastructure. The TB&T capital investment plan also incorporates anticipated capital savings from a contemplated PPP structure for the Goethals Bridge modernization project. A summary of the TB&T capital plan is presented below.

**Table 10 – TB&T Department Capital Plan (\$m)**

| Category     | Projects   | 2012         | 2013         | 2014         | 2015         | 2016           | 2017         | 2018         | 2019         | 2020         | TOTAL          |
|--------------|------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------|--------------|--------------|----------------|
| MAND         | 9          | \$4          | \$2          | \$1          | --           | --             | --           | --           | --           | --           | \$8            |
| RPP          | 2          | 35           | 38           | 25           | 22           | 5              | --           | --           | --           | --           | 126            |
| SEC          | 21         | 11           | 29           | 29           | 7            | 4              | --           | --           | --           | --           | 80             |
| SEP          | 14         | 14           | 21           | 119          | 233          | 330            | 384          | 303          | 92           | 14           | 1,511          |
| SRP          | 3          | 343          | 353          | 376          | 375          | 353            | --           | --           | --           | --           | 1,800          |
| SGR          | 157        | 217          | 313          | 372          | 308          | 331            | 329          | 272          | 367          | 492          | 3,001          |
| <b>Total</b> | <b>206</b> | <b>\$626</b> | <b>\$756</b> | <b>\$923</b> | <b>\$945</b> | <b>\$1,023</b> | <b>\$713</b> | <b>\$574</b> | <b>\$459</b> | <b>\$506</b> | <b>\$6,525</b> |

Source: Port Authority

Note: Categories include Mandatory, Revenue Producing, Security, System Enhancing and State of Good Repair

## **Operating Division: PATH Department**

In addition to the TB&T Department, the ITN includes the PATH Department which provides rail service between Hoboken / Jersey City / Newark, New Jersey and Manhattan. The PATH long-term forecast relies on ridership forecasts to estimate revenues and gauge customer service and capital investment needs. Beginning in 2009, PATH developed a detailed statistical forecasting model for estimating ridership based on economic development, demographic trends, observed travel patterns and key Port

Authority infrastructure projects including the completion of One WTC and development / growth of the areas in the immediate vicinity of PATH stations.

The PATH operation is forecasted to continue generating operating losses throughout the forecast period with costs substantially exceeding revenues despite record ridership in recent years. Difficulty with increasing fares as well as an underlying infrastructure with maintenance requirements determined by federal regulation contribute to the profitability challenges experienced by PATH. Total funding requirements are further compounded by ongoing capital investment needs principally related to State of Good Repair projects. PATH's forecasted deficit is consistent with financial performance of other mass transit rail operators as indicated herein on page 31.

**Table 11 – PATH Department Forecast (\$m)**

|                                | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         | CAGR         |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <u>Revenues</u>                |              |              |              |              |              |              |              |              |              |              |
| Tolls and Fares                | \$136        | \$156        | \$177        | \$195        | \$215        | \$230        | \$247        | \$264        | \$280        | 9%           |
| Percentage Rentals             | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 2%           |
| Fixed Rentals                  | 1            | 1            | 1            | 1            | 1            | 1            | 2            | 2            | 2            | 3%           |
| Other                          | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | --           |
| Total Revenues                 | 141          | 161          | 182          | 200          | 220          | 236          | 253          | 269          | 285          | 9%           |
| <u>O&amp;M Expenses</u>        |              |              |              |              |              |              |              |              |              |              |
| Labor                          | 169          | 177          | 184          | 189          | 194          | 198          | 203          | 208          | 214          | 3%           |
| M&S costs                      | 71           | 77           | 77           | 79           | 81           | 83           | 85           | 87           | 89           | 3%           |
| Overhead                       | 19           | 19           | 20           | 21           | 21           | 22           | 22           | 23           | 23           | 3%           |
| Total O&M Expenses             | 259          | 272          | 281          | 288          | 295          | 303          | 310          | 318          | 326          | 3%           |
| <b>Net Revenues</b>            | <b>(118)</b> | <b>(111)</b> | <b>(100)</b> | <b>(89)</b>  | <b>(76)</b>  | <b>(67)</b>  | <b>(57)</b>  | <b>(49)</b>  | <b>(40)</b>  | <b>(13%)</b> |
| Margin %                       | (84%)        | (69%)        | (55%)        | (44%)        | (34%)        | (28%)        | (23%)        | (18%)        | (14%)        |              |
| Capital Expenditures           | (351)        | (327)        | (289)        | (299)        | (375)        | (357)        | (278)        | (257)        | (121)        |              |
| <b>Net Revenues less Capex</b> | <b>(470)</b> | <b>(439)</b> | <b>(388)</b> | <b>(387)</b> | <b>(450)</b> | <b>(424)</b> | <b>(336)</b> | <b>(305)</b> | <b>(161)</b> |              |

Source: Port Authority

### *PATH Capital Plan*

**Table 12 – PATH Department Capital Plan (\$m)**

| Category     | Projects   | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2019         | 2020         | TOTAL          |
|--------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| MAND         | 3          | \$5          | \$7          | \$9          | \$36         | \$45         | \$31         | \$33         | --           | --           | \$165          |
| RPP          | 0          | --           | --           | --           | --           | --           | --           | --           | --           | --           | --             |
| SEC          | 16         | 85           | 51           | 37           | 27           | 32           | 43           | 39           | 42           | 10           | 367            |
| SEP          | 13         | 13           | 28           | 36           | 55           | 82           | 71           | 82           | 82           | 17           | 467            |
| SGR          | 84         | 249          | 241          | 207          | 180          | 215          | 213          | 124          | 132          | 94           | 1,655          |
| <b>Total</b> | <b>116</b> | <b>\$351</b> | <b>\$327</b> | <b>\$289</b> | <b>\$299</b> | <b>\$375</b> | <b>\$357</b> | <b>\$278</b> | <b>\$257</b> | <b>\$121</b> | <b>\$2,654</b> |

Source: Port Authority

Note: Categories include Mandatory, Revenue Producing, Security, System Enhancing and State of Good Repair

A summary of the long-term forecast for the ITN (including the TB&T Department, the PATH Department and the Ferry operation) is presented below for reference purposes.

| <b>Table 13 – ITN Forecast (\$m)</b> |                |                |                |                |                |                |                |                |                |             |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------|
|                                      | <b>2012</b>    | <b>2013</b>    | <b>2014</b>    | <b>2015</b>    | <b>2016</b>    | <b>2017</b>    | <b>2018</b>    | <b>2019</b>    | <b>2020</b>    | <b>CAGR</b> |
| <b>Revenues</b>                      |                |                |                |                |                |                |                |                |                |             |
| Tolls and Fares                      | \$1,465        | \$1,605        | \$1,751        | \$1,922        | \$2,101        | \$2,127        | \$2,124        | \$2,339        | \$2,384        | 6%          |
| Other Activity                       | 25             | 26             | 26             | 27             | 27             | 28             | 28             | 29             | 30             | 2%          |
| Percentage Rentals                   | 3              | 3              | 3              | 3              | 3              | 3              | 3              | 3              | 3              | 2%          |
| Fixed Rentals                        | 20             | 23             | 26             | 26             | 27             | 27             | 28             | 29             | 29             | 5%          |
| Other                                | <u>1</u>       | (2%)        |
| <b>Total Revenues</b>                | <b>\$1,514</b> | <b>\$1,657</b> | <b>\$1,806</b> | <b>\$1,979</b> | <b>\$2,159</b> | <b>\$2,186</b> | <b>\$2,185</b> | <b>\$2,400</b> | <b>\$2,447</b> | <b>6%</b>   |
| <b>O&amp;M Expenses</b>              |                |                |                |                |                |                |                |                |                |             |
| Labor                                | \$361          | \$377          | \$389          | \$399          | \$409          | \$419          | \$430          | \$441          | \$452          | 3%          |
| M&S costs                            | 216            | 232            | 230            | 233            | 241            | 247            | 254            | 261            | 269            | 3%          |
| Overhead                             | 77             | 81             | 92             | 95             | 97             | 99             | 101            | 104            | 106            | 4%          |
| Other                                | <u>8</u>       | <u>9</u>       | <u>9</u>       | <u>9</u>       | <u>9</u>       | <u>9</u>       | <u>22</u>      | <u>22</u>      | <u>22</u>      | 13%         |
| <b>Total O&amp;M Expenses</b>        | <b>661</b>     | <b>698</b>     | <b>721</b>     | <b>736</b>     | <b>756</b>     | <b>774</b>     | <b>807</b>     | <b>827</b>     | <b>849</b>     | <b>3%</b>   |
| <b>Net Revenues</b>                  | <b>853</b>     | <b>959</b>     | <b>1,086</b>   | <b>1,243</b>   | <b>1,403</b>   | <b>1,412</b>   | <b>1,378</b>   | <b>1,573</b>   | <b>1,598</b>   | <b>8%</b>   |
| <i>Margin %</i>                      | <i>56%</i>     | <i>58%</i>     | <i>60%</i>     | <i>63%</i>     | <i>65%</i>     | <i>65%</i>     | <i>63%</i>     | <i>66%</i>     | <i>65%</i>     |             |
| Capital Expenditures                 | (977)          | (1,083)        | (1,211)        | (1,244)        | (1,398)        | (1,070)        | (853)          | (716)          | (627)          |             |
| <b>Net Revenues less Capex</b>       | <b>(124)</b>   | <b>(124)</b>   | <b>(126)</b>   | <b>(1)</b>     | <b>5</b>       | <b>342</b>     | <b>525</b>     | <b>857</b>     | <b>971</b>     |             |

### Operating Division: World Trade Center Department (“WTC”)

The long-term forecast for the WTC exhibits a ramp up in revenue generation due to the current state of the redevelopment project. Rental revenue first reaches the long-term level in 2017. This rental forecast is developed by WTC staff with input from private sector market participants to gauge the reasonability of the estimated rental rates. Additionally, the WTC forecast incorporates a financial overlay for the retail joint venture with Westfield and 1 World Trade Center joint venture with Durst. In developing the long-term forecast, WTC staff have identified upside and downside sensitivities, with the primary distinction being the timetable for occupancy and therefore ramp up in revenue collections. Given the ongoing construction during the forecast period, the WTC financial outlook includes near-term operating losses as the site comes online with operating profits projected for the 2016 and onward period and cashflow profitability beginning in 2017.

**Table 14 – WTC Department Forecast (\$m)**

|                                | 2012           | 2013           | 2014           | 2015         | 2016         | 2017        | 2018       | 2019        | 2020        | CAGR %     |
|--------------------------------|----------------|----------------|----------------|--------------|--------------|-------------|------------|-------------|-------------|------------|
| <b>Revenues</b>                |                |                |                |              |              |             |            |             |             |            |
| Variable rentals               | \$5            | \$5            | \$7            | \$21         | \$25         | \$27        | \$29       | \$30        | \$31        | 26%        |
| Fixed rentals                  | 10             | 11             | 16             | 17           | 17           | 18          | 19         | 21          | 20          | 8%         |
| Intercompany rent              | 4              | --             | 61             | 144          | 219          | 282         | 302        | 309         | 319         | 74%        |
| WT / NLC Net Leases            | 29             | 23             | 37             | 35           | 25           | (4)         | (2)        | 20          | 28          | (1%)       |
| <b>Total Revenues</b>          | <b>48</b>      | <b>39</b>      | <b>121</b>     | <b>217</b>   | <b>286</b>   | <b>323</b>  | <b>347</b> | <b>380</b>  | <b>397</b>  | <b>30%</b> |
| <b>O&amp;M Expenses</b>        |                |                |                |              |              |             |            |             |             |            |
| Labor                          | 15             | 16             | 17             | 17           | 18           | 18          | 18         | 19          | 19          | 3%         |
| M&S Costs                      | 38             | 53             | 72             | 74           | 76           | 78          | 80         | 82          | 84          | 11%        |
| Rent                           | 6              | 2              | 23             | 5            | 6            | 7           | 8          | 9           | 9           | 5%         |
| PILOTS                         | 10             | 21             | 36             | 78           | 94           | 96          | 98         | 101         | 103         | 34%        |
| Overhead                       | 3              | 3              | 3              | 3            | 3            | 3           | 4          | 4           | 4           | 3%         |
| Other                          | 0              | 15             | 38             | 90           | 76           | 82          | 95         | 97          | 101         | 238%       |
| <b>Total O&amp;M Expenses</b>  | <b>72</b>      | <b>111</b>     | <b>190</b>     | <b>267</b>   | <b>273</b>   | <b>284</b>  | <b>303</b> | <b>311</b>  | <b>320</b>  | <b>21%</b> |
| <b>Net Revenues</b>            | <b>(23)</b>    | <b>(71)</b>    | <b>(69)</b>    | <b>(50)</b>  | <b>13</b>    | <b>38</b>   | <b>45</b>  | <b>69</b>   | <b>77</b>   | <b>NM</b>  |
| <i>Margin %</i>                | <i>(48%)</i>   | <i>NM</i>      | <i>(57%)</i>   | <i>(23%)</i> | <i>5%</i>    | <i>12%</i>  | <i>13%</i> | <i>18%</i>  | <i>19%</i>  |            |
| Capital Expenditures           | (2,431)        | (2,453)        | (1,803)        | (586)        | (203)        | (100)       | (31)       | (135)       | (135)       |            |
| <b>Net Revenues less Capex</b> | <b>(2,454)</b> | <b>(2,524)</b> | <b>(1,872)</b> | <b>(636)</b> | <b>(190)</b> | <b>(62)</b> | <b>14</b>  | <b>(66)</b> | <b>(57)</b> |            |

Source: Port Authority

**Table 15 – WTC Department Capital Plan (\$m)**

| Category     | Projects  | 2012           | 2013           | 2014           | 2015         | 2016         | 2017         | 2018        | 2019         | 2020         | TOTAL          |
|--------------|-----------|----------------|----------------|----------------|--------------|--------------|--------------|-------------|--------------|--------------|----------------|
| MAND         | 17        | \$1,224        | \$1,575        | \$1,483        | \$570        | \$193        | \$93         | \$29        | \$135        | \$135        | \$5,437        |
| RPP          | 4         | 923            | 714            | 284            | 16           | 10           | 7            | 2           | --           | --           | 1,956          |
| SEC          | 1         | 226            | 117            | --             | --           | --           | --           | --          | --           | --           | 343            |
| SEP          | 1         | 17             | 5              | --             | --           | --           | --           | --          | --           | --           | 22             |
| SRP          | 1         | 41             | 41             | 36             | --           | --           | --           | --          | --           | --           | 119            |
| SGR          | --        | --             | --             | --             | --           | --           | --           | --          | --           | --           | --             |
| <b>Total</b> | <b>24</b> | <b>\$2,431</b> | <b>\$2,453</b> | <b>\$1,803</b> | <b>\$586</b> | <b>\$203</b> | <b>\$100</b> | <b>\$31</b> | <b>\$135</b> | <b>\$135</b> | <b>\$7,876</b> |

Source: Port Authority

Note: Categories include Mandatory, Revenue Producing, Security, System Enhancing, Regional and State of Good Repair

## Consolidated Bond Structure: Background and description

The roots of the Port Authority's existing capital structure date to 1925 when the Port Authority issued its first series of bonds. In 1931, the General Reserve Fund was established to coordinate and combine revenue flow from the various assets operated by the Port Authority. In 1935, the General and Refunding Bond Program was established which built upon the organization of the General Reserve Fund with the Lincoln Tunnel being the first project financed thereunder.

The Consolidated Bond program was instituted in 1952 and since that time has served as the primary method of general financing for the Port Authority. As outlined in the Consolidated Bond Resolution, the Port Authority may issue Consolidated Bonds for broad purposes<sup>1</sup> subject to the satisfaction of the Net Revenues Test (as referenced above). Additionally, issuance of Consolidated Bonds in connection with additional facilities requires multiple certifications stating that such issuance will not (i) adversely impact the sound credit standing of the Port Authority, (ii) adversely impact the investment status of the Consolidated Bonds, (iii) materially impair the ability of the Port Authority to fulfill its commitments (whether statutory or contractual) including its obligations to holders of previously existing Consolidated Bonds.

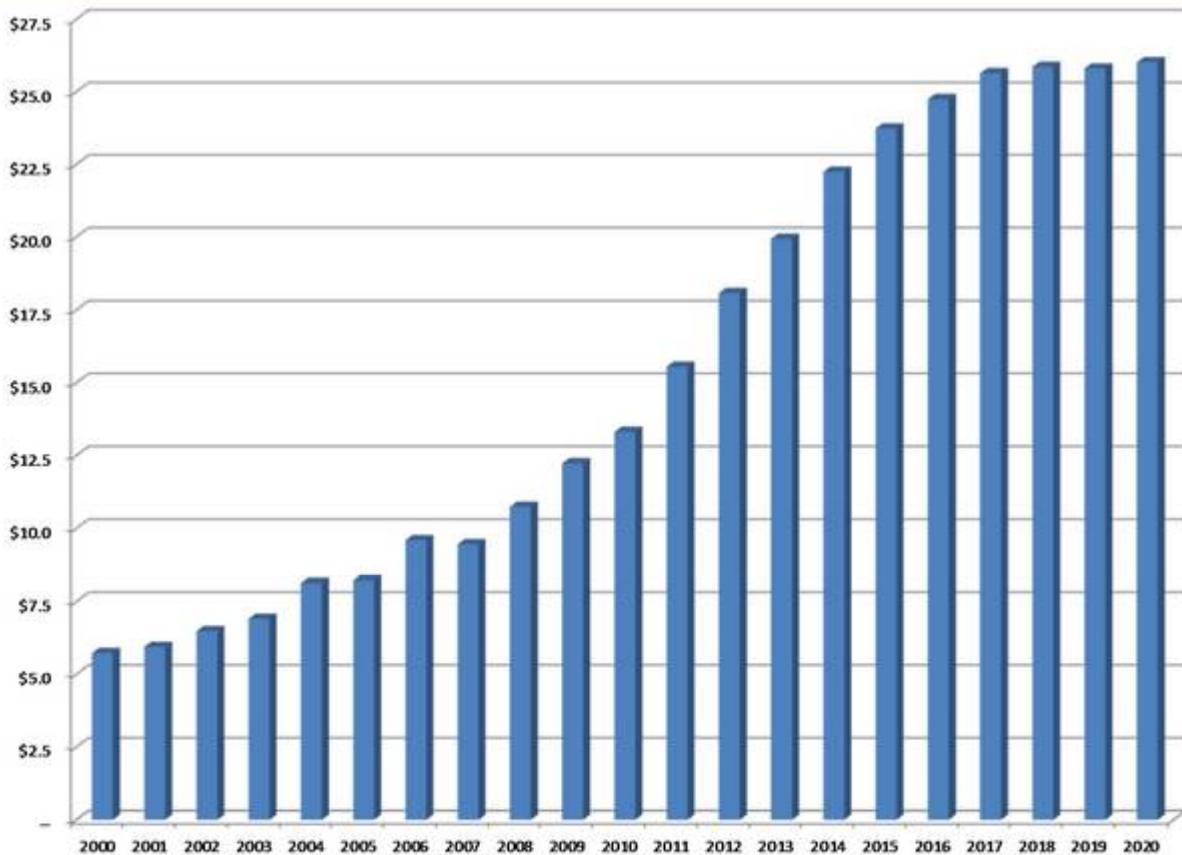
Consolidated Bonds are equally and ratably secured by a pledge of the net revenues of all existing facilities of the Port Authority and any additional facility which may be financed in whole or in part by Consolidated Bonds in the future. Consolidated Bonds are further secured by a pledge of the Consolidated Bond Reserve Fund and by a pledge of the General Reserve Fund, in that case such pledge is *pari passu* with other obligations which have a pledge of the General Reserve Fund.

As the primary source of debt funding, the Consolidated Bond Program has grown meaningfully in recent years as the level of Port Authority capital investment has substantially increased in connection with the redevelopment of the World Trade Center site and other large scale Port Authority infrastructure projects. Indebtedness under the program has risen from approximately \$5.7 billion in 2000 to a current level of \$15.5 billion (as of December 31, 2011). The Long Range Forecast anticipates additional issuance with total outstanding Consolidated Bonds reaching \$26 billion in 2020 (see next page Figure 1).

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<sup>1</sup> Authorized purposes defined as purposes for which pledges of the General Reserve Fund are permitted.

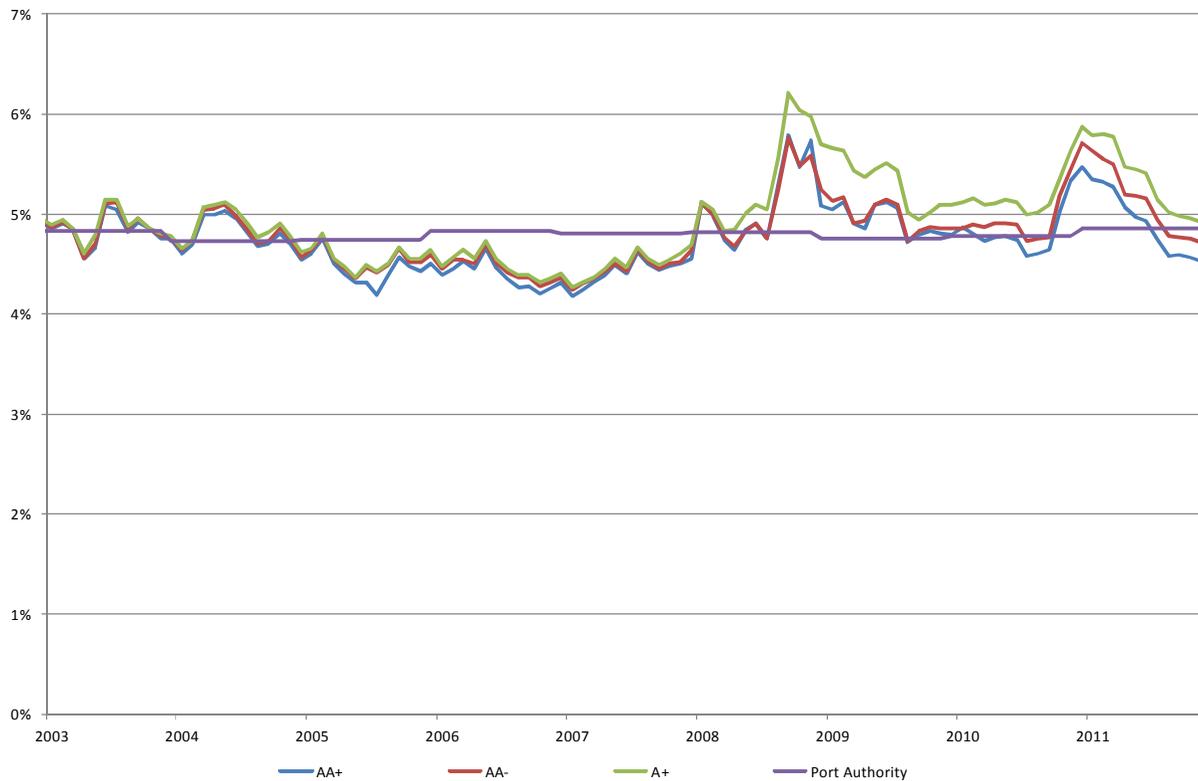
Figure 1 – Consolidated Bonds Outstanding: 2000 – 2020 (\$bn)



Source: Port Authority

Despite the increase in outstanding debt obligations, the Port Authority has been successful in maintaining its credit rating and as a result maintaining a relatively consistent cost of debt. Benchmarked against municipal bond indices for A and AA ratings, the Port Authority's overall interest cost has registered a high degree of stability with average borrowing costs lower than the overall market during the volatile period since 2008 (see Figure 2 on following page). This attractive financing cost has been achieved with a combination of taxable and tax-exempt issuances even as the municipal index comparison is composed of predominantly tax-exempt issuances.

**Figure 2 – Municipal Yields vs. Port Authority Cost of Debt: 2003 – 2011**



Source: Bloomberg, Port Authority

Note: Municipal bond yields based on 30 year Transportation Industry Revenue Obligation bonds

Commentary from credit rating agencies provides insight into the Port Authority’s attractive cost of debt versus market benchmarks. Recent reports emphasize the credit strength from the consolidated nature of the financing underpinned by a “stable revenue base” from “an expansive, diverse portfolio of transportation and commerce related assets”.

**Table 16 – Credit Rating Considerations**

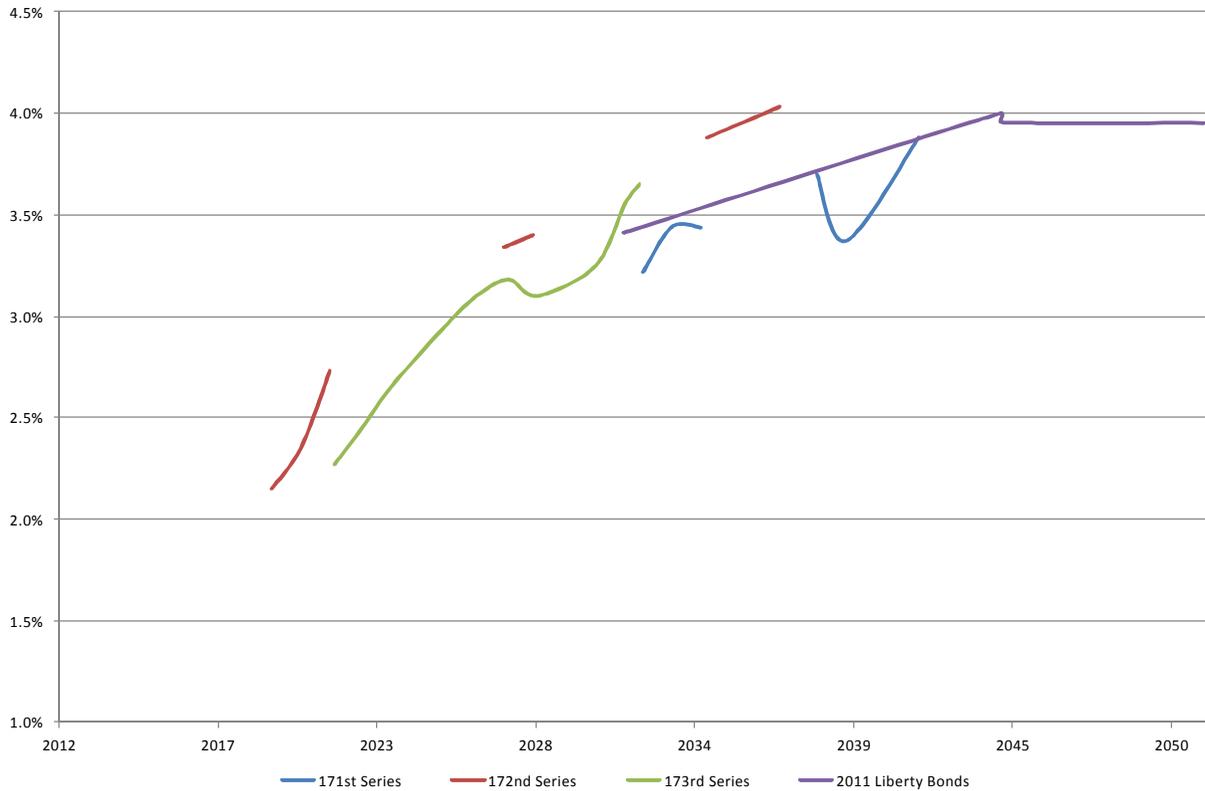
| Rating Drivers – Strengths               | Fitch | Moody’s | S&P |
|--|-------|---------|-----|
| Critical nature of infrastructure assets | ✓     | ✓       | ✓   |
| Stable revenue base                      | ✓     | ✓       | ✓   |
| Rate-setting flexibility                 | ✓     | ✓       |     |
| Leverage levels and coverage ratios      | ✓     |         | ✓   |
| Fixed rate capital structure             | ✓     |         |     |
| Large reserve balance                    |       | ✓       | ✓   |
| Strong financial performance             |       | ✓       | ✓   |

Source: Fitch Ratings credit report (June 8, 2012); Moody’s credit report (June 11, 2012) and Standard and Poor’s credit report (June 12, 2012)

This “diverse portfolio” credit strength contrasts with the credit rating methodology of the 2011 Liberty Bonds. Based on the subordinated position of the Liberty Bonds, the issuance is notched below the current rating of the Port Authority and the New York City General Obligation (“GO”) rating. Moody’s notes “we based the rating on the credit characteristics of the revenues available for debt service. . .

According to our criteria, should either the consolidated bond or GO bond rating change, the rating on the 2011 bonds will continue to be a notch below the lower of the two ratings.<sup>2</sup> Despite the lower notch credit rating, the current market yield for 2011 series Liberty Bonds is not meaningfully more costly than recent consolidated bond issuances of similar term.

**Figure 3 – Comparison of Implied Yield Curve: Recent Consolidated Bond Issues vs. Liberty Bonds**



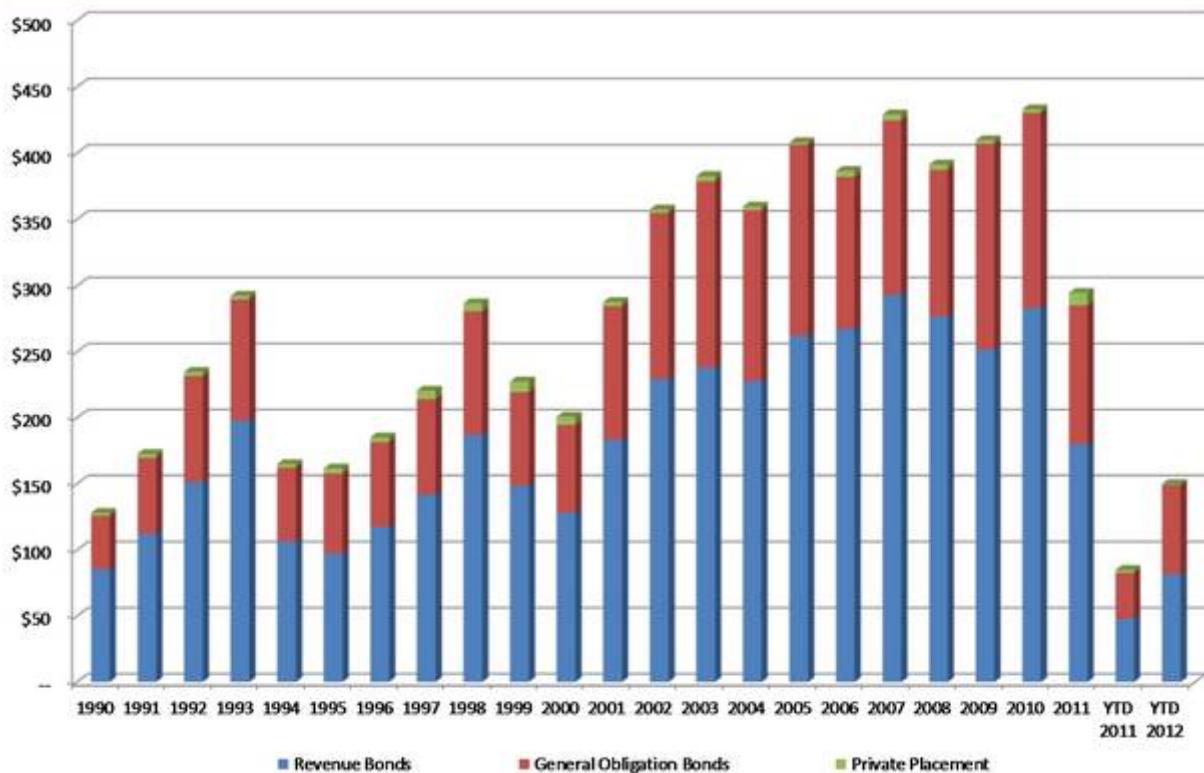
Source: Bloomberg

<sup>2</sup> Source: Standard and Poor's. "Port Authority of New York & New Jersey; Appropriations; CP; Note; Ports/Port Authorities", June 12, 2012.

## Municipal market trends

Municipal bond issuance in 2012 has resumed strongly after relatively lower volume activity in 2011. Year to date issuance volume for Revenue bonds was \$82.1 billion, an increase of 71% versus the year ago period. Similarly, year to date General Obligation bond volume of \$67.1 billion represents an increase of 94% versus prior year. Issuance for new capital continues to grow the market, representing \$55.2 billion of year-to-date issuance. The cessation of the Build America Bond program has reduced volume of taxable issuance markedly versus the expanded levels seen in 2008-2009. Long-term issuance trends are illustrated below; notably 2011 represented the lowest total issuance volume since 2001.

**Figure 4 – Municipal Bond Issuance: 1990 – Current (\$bn)**



Source: Securities Industry and Financial Markets Association

Investor flow into the municipal market has also returned to positive net inflows during the last nine months after registering sizeable outflows in 2010 and early 2011.

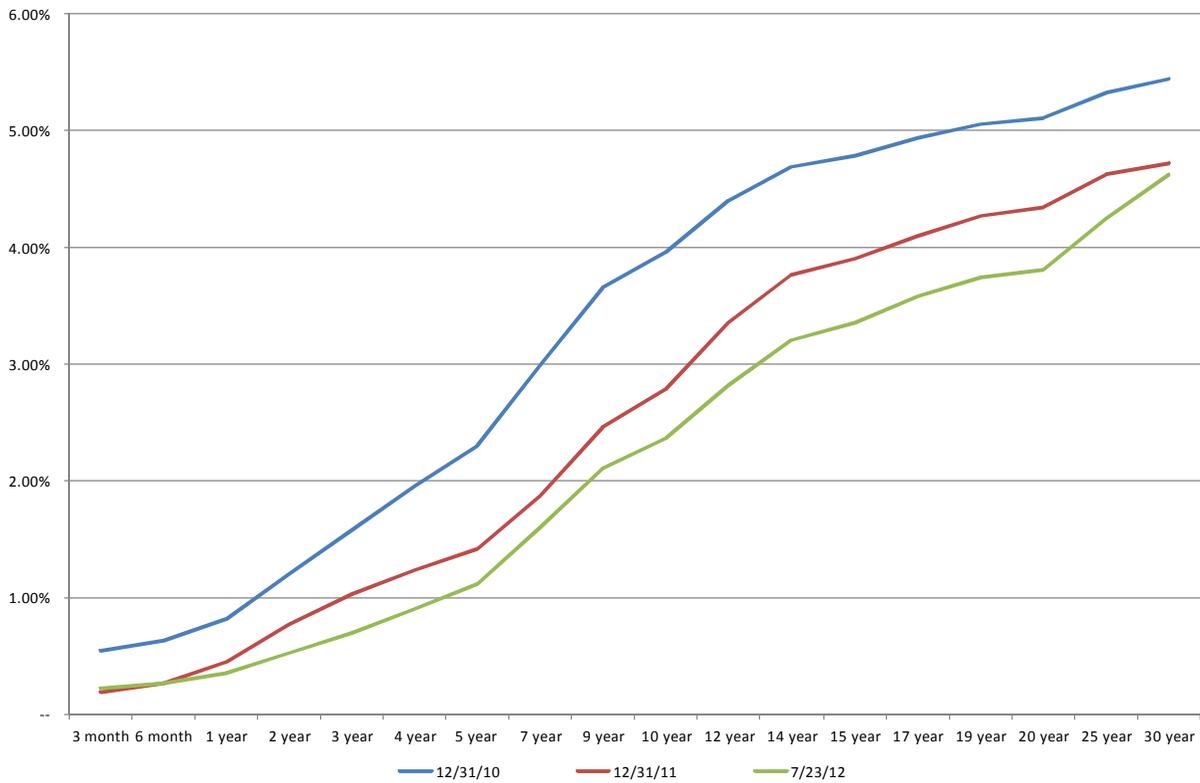
Figure 5 – Municipal Bond Market: Net Inflow / (Outflow) (\$bn)



Source: Investment Company Institute

These net flow dynamics have pushed the market to an effective net demand position and therefore provided downward pressure on market yields. The chart below illustrates the tightening yield curve for representative Transportation Industry Revenue Bonds with rating AA-; yields have tightened by 0.33% at the shortest term with the most contraction occurring at the 10 year mark by 1.60%.

Figure 6 – Municipal Bond Yield Curve: AA- Transportation Revenue Bonds



Source: Bloomberg

Although current market dynamics are relatively strong, market sentiment continues to be impacted by uncertainty regarding federal and state policy. The Obama Administration's fiscal 2013 included several provisions potentially impacting municipal debt including (i) limiting tax exemption for individual filers to 28% and (ii) the extension and expansion of the Build America Bond program. These potential policy changes, among other less significant items, continue to occupy the municipal bond headlines with as of yet little visibility on potential resolution.

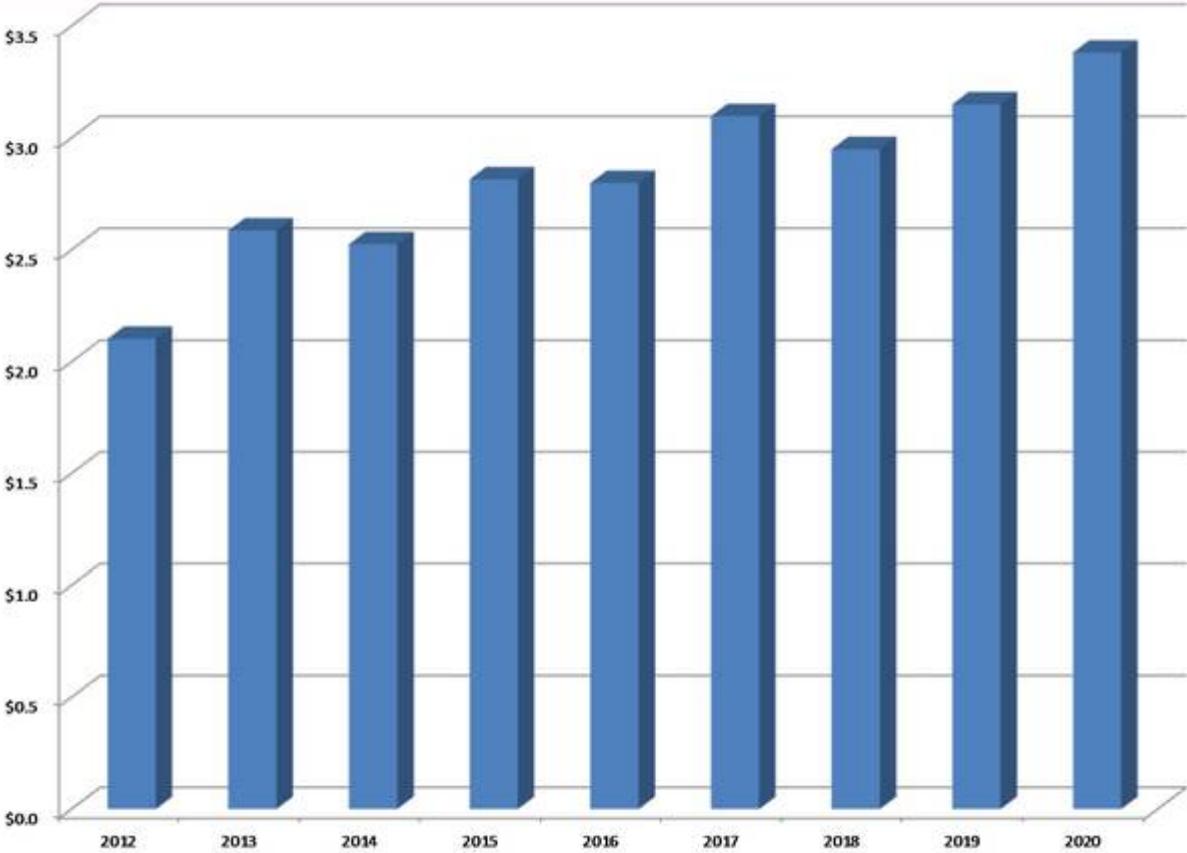
In addition to ongoing tax policy uncertainty, several recent municipal bankruptcies in California have sparked discussion regarding the perceived low risk nature of municipal investments. Despite this recent uptick, the strong technical fundamentals in the market have not been meaningfully offset due to (i) the relatively small debt implicated in the bankruptcies, (ii) widespread anticipation of the larger defaults (e.g. Jefferson County) and (iii) expectation of minimal creditor impairment.

# Capitalization Forecast

The Long Range Forecast incorporates Port Authority staff estimates for financing of capital investment from a variety of sources including issuances of Consolidated Bonds (primary capital source), proceeds from passenger facility charges, grants and capital inflows from joint venture agreements. Rothschild evaluated this forecast from both the perspective of forecasted liquidity as well as achievement of financial covenant compliance, in particular, compliance with the terms of the Consolidated Bond Structure. The analysis herein assumes successful achievement of the Long Range Forecast; actual results may vary and the impact of such variations may be material.

The Port Authority liquidity outlook is a multi-stage calculation including (i) forecasted net revenues, (ii) reserves in excess of the General Reserve Fund requirement, (iii) anticipated debt service, (iv) capital investment and (v) forecasted capital raising. As illustrated in Figure 7 below, the Long Range Forecast anticipates maintaining \$2 billion or greater liquidity throughout the projection period.

**Figure 7 – Liquidity Forecast (\$bn)**



Source: Port Authority

In terms of covenant compliance, the Port Authority is subject to four primary financial tests based on terms of the Consolidated Bond Structure, provisions of the Versatile Structure Obligations (“VSOs”) program and applicable statutes. These include:

| <b>Financial Test</b>                          | <b>Type</b>                                   | <b>Description</b>  |
|--|---|---|
| General Reserve Requirement                    | Statutory requirement                         | General Reserve Fund balance of at least 10% of applicable debt   |
| Net Revenues Test – Consolidated Bond Issuance | Test for permitted Consolidated Bond issuance | Net Revenues <sup>(1)</sup> of at least 1.30x future maximum debt service for the Consolidated Bonds then outstanding |
| Net Revenues Test – VSO Issuance               | Test for permitted VSO issuance               | Net Revenues of at least 1.15x future maximum debt service for total debt <sup>(2)</sup>                              |
| Maximum VSO Debt                               | Test for permitted VSO issuance               | VSO Debt of no more than 25% of total debt <sup>(3)</sup>   |

Notes:

- (1) Net Revenues measured as peak 12 month level during prior 3 year period.
- (2) For purposes of calculation, Total Debt excludes commercial paper.
- (3) Excludes Special Project Bonds, Commercial Paper and Port Authority Equipment Notes.

## General Reserve Requirement

Based on applicable statute, the Port Authority is required to maintain a General Reserve Fund in the amount of 10% of the par value of applicable debt outstanding. Based on the Long Range Forecast, the Port Authority continues to satisfy this requirement throughout the forecast period, as illustrated below.

|                           | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Projected applicable debt | \$20,283    | \$22,090    | \$24,333    | \$25,739    | \$26,714    | \$27,538    | \$27,681    | \$27,531    | \$27,672    |
| Reserve level             | 10%         | 10%         | 10%         | 10%         | 10%         | 10%         | 10%         | 10%         | 10%         |
| Implied General Reserve   | \$2,028     | \$2,209     | \$2,433     | \$2,574     | \$2,671     | \$2,754     | \$2,768     | \$2,753     | \$2,767     |
| Forecasted total reserves | \$3,545     | \$3,831     | \$3,817     | \$3,946     | \$4,358     | \$4,486     | \$4,445     | \$4,457     | \$4,645     |
| Cushion - \$              | \$1,516     | \$1,622     | \$1,384     | \$1,372     | \$1,687     | \$1,732     | \$1,676     | \$1,704     | \$1,878     |

Source: Port Authority

Notes:

- (1) Long Range Forecast adjusted as necessary in order to optimize mix of debt and equity used to finance the Port Authority’s capital program. Current forecast based on 60% appropriated reserves / 40% cash

## Net Revenues Test – Consolidated Bond Issuance

Based on the originating statute establishing the Consolidated Bond Structure, the Port Authority is limited in its ability to issue additional Consolidated Bonds based on a test of (i) net revenues from projects subject to the Consolidated Bonds versus (ii) estimated maximum debt service cost for the

Consolidated Bonds outstanding following the proposed issuance. The level of the test is set at a 1.30x requirement which provides a 30% extra coverage above the forecasted need. The effect of the test is to require sufficient historical financial performance to satisfy future financing obligations. This may be operationally limiting in a circumstance of needed capital investment to drive long-term development as the benefit to financial performance is primarily in the future period and may not be captured in the calculation of the covenant ratio. Additionally, to the extent the capital investment is not anticipated to generate additional revenue (e.g. maintenance, certain state of good repair projects), the ability to maintain the 1.30x ratio may be impacted.

With recent capital investment levels for the Port Authority significantly in excess of “normal” levels, the Long Range Forecast demonstrates both of these dynamics. As a result, the projected ratio is moderately strained in the early years of the projection period as incremental revenue projects are starting to come online. Given the importance of the Consolidated Bond Structure, the maintenance of this issuance covenant functions as a key component of financing strategy for the Port Authority and sets an “upper limit” on its traditional financing source.

| <b>Table 19 – Forecasted Consolidated Bond Net Revenues Test (\$m)</b> |             |             |             |             |             |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|  | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> |
| Net revenues <sup>(1)</sup>  | \$2,270     | \$2,521     | \$2,750     | \$2,859     | \$3,046     | \$3,144     | \$3,144     | \$3,144     | \$3,347     |
| Future max debt service <sup>(2)</sup>                                 | 1,399       | 1,518       | 1,667       | 1,780       | 1,858       | 1,930       | 1,971       | 2,010       | 2,062       |
| Implied service multiple   | 1.62 x      | 1.66 x      | 1.65 x      | 1.61 x      | 1.64 x      | 1.63 x      | 1.60 x      | 1.56 x      | 1.62 x      |
| Level for Issuance Test  | 1.30 x      |
| Cushion - Net Revenues \$  | \$452       | \$547       | \$582       | \$546       | \$631       | \$636       | \$582       | \$531       | \$666       |
| Cushion - % of Net Revenues  | 20%         | 22%         | 21%         | 19%         | 21%         | 20%         | 19%         | 17%         | 20%         |

Source: Port Authority

Notes

- (1) For purposes of this calculation, net revenues is based on peak 12 month net revenues during the prior 3 year period.
- (2) Future maximum debt service is limited to debt service of the Consolidated Bonds for purposes of the ratio.

## Net Revenues Test – VSO Issuance

In addition to the Consolidated Bond Program, the Port Authority established an issue of special obligations known as Port Authority Versatile Structure Obligations in 1992. The resolution establishing the VSO program includes a Net Revenues Test similar in construct to the Net Revenues Test contained in the Consolidated Bond Program. In order to issue additional VSOs, the Port Authority must satisfy a test of 1.15x based on the ratio of (a) net revenues versus (b) maximum future debt service for all debt which is secured by net revenues excluding commercial paper. The broader scope of the debt service, as compared to the Consolidated Bond Net Revenue Test, results in lower projected metrics. However, the lower 1.15x threshold results in substantial capacity to satisfy the test as illustrated below. Nonetheless, the Long Range Forecast does not indicate further issuance of VSOs, with the most recent issue having been fully repaid in 2011.

**Table 20 – Forecasted VSO Net Revenues Test**

|                             | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Net revenues <sup>(1)</sup> | \$2,270 | \$2,521 | \$2,750 | \$2,859 | \$3,046 | \$3,144 | \$3,144 | \$3,144 | \$3,347 |
| Debt service <sup>(2)</sup> | 1,478   | 1,610   | 1,768   | 1,897   | 1,994   | 2,105   | 2,155   | 2,194   | 2,247   |
| Implied service multiple    | 1.54 x  | 1.57 x  | 1.55 x  | 1.51 x  | 1.53 x  | 1.49 x  | 1.46 x  | 1.43 x  | 1.49 x  |
| Level for Issuance Test     | 1.15 x  |
| Cushion - Net Revenues \$   | \$570   | \$670   | \$716   | \$678   | \$753   | \$724   | \$666   | \$621   | \$764   |
| Cushion - % of Net Revenues | 25%     | 27%     | 26%     | 24%     | 25%     | 23%     | 21%     | 20%     | 23%     |

Source: Port Authority

Notes

- (1) For purposes of this calculation, net revenues is based on peak 12 month net revenues during the prior 3 year period.  
(2) Future maximum debt service excludes debt service related to Commercial Paper.

### Maximum Variable Rate Debt

In addition to the Net Revenues Test described above, the VSO program also requires issuance be limited such that total variable rate debt does not exceed 25% of total Port Authority debt. Although a contractual requirement, this test does not present a practical limitation due to the tighter restriction imposed by the Net Revenues Test.

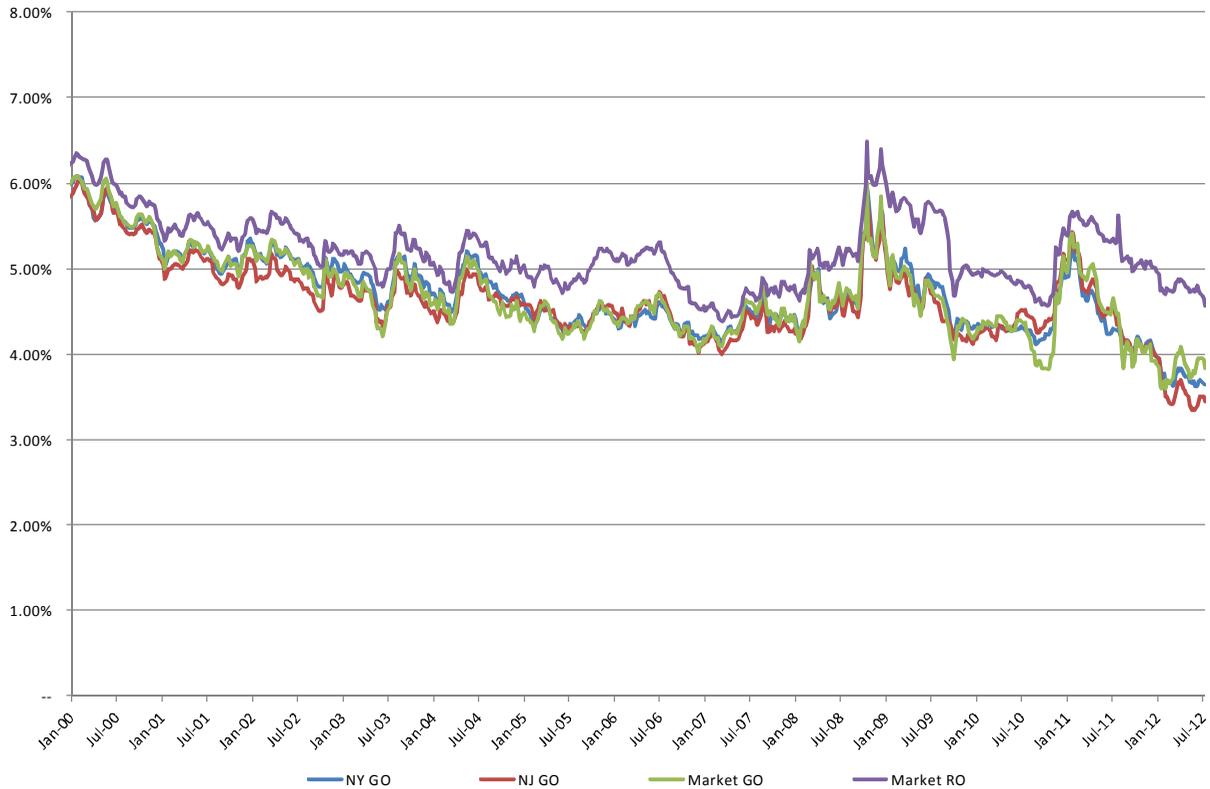
**Table 21 – Forecasted Variable Rate Debt % (\$m)**

|                    | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Variable Rate Debt | \$451  | \$451  | \$451  | \$451  | \$451  | \$451  | \$451  | \$451  | \$451  |
| Total Debt         | 20,283 | 22,090 | 24,333 | 25,739 | 26,714 | 27,538 | 27,681 | 27,531 | 27,672 |
| % of Total Debt    | 2%     | 2%     | 2%     | 2%     | 2%     | 2%     | 2%     | 2%     | 2%     |
| Maximum %          | 25%    | 25%    | 25%    | 25%    | 25%    | 25%    | 25%    | 25%    | 25%    |

Source: Port Authority

Although the Port Authority has wide latitude for variable rate issuance under the VSO test, the current market environment favors fixed rate issuance in order to lock-in historically low borrowing costs. Consistent with the broader fixed income market, municipal bond yields are at or near all-time lows across a variety of indices (see Figure 8 on following page).

**Figure 8 – Municipal Bond Yields: 2000 to Present**



Although the current long-term rate environment is highly favorable, shorter term, variable rate financing may be considered within the overall financing strategy of the Port Authority:

**Table 22 – Variable Rate Financing: Benefits and Considerations**

| <b>Benefits</b>   | <b>Considerations</b>   |
|---|---|
| <ul style="list-style-type: none"> <li>▪ Lowest current cost of borrowing in the short-term variable rate market</li> <li>▪ Balanced risk exposure to municipal market yield curve</li> </ul> | <ul style="list-style-type: none"> <li>▪ Short-term variable and fixed rate yield curves have approximately converged</li> <li>▪ Ability to refinance cost effectively is essential to avoid adverse rate spike (e.g. auction rate securities market risk)</li> <li>▪ Port Authority capital investment and returns are inherently geared toward long-term horizon</li> </ul> |

## Credit Rating Agency Considerations

In addition to managing the statutory and contractual financial tests, the Port Authority's financing strategy is operated to maintain its strong AA- credit rating which involves additional debt ratios based on credit rating agency input. Primary credit ratio benchmarks are identified below. These ratios, along with the financial covenant tests, are instructive in assessing the Port Authority's theoretical debt capacity. A multi-ratio benchmarking analysis is included at the end of this section.

**Table 23 – Overview of Credit Rating Agency Metrics**

| Financial Metric                      | Description   |
|---------------------------------------|---|
| Debt Service Coverage                 | <ul style="list-style-type: none"> <li>Ratio of Net Operating Revenues and Financial Income versus Bonded Debt Service. Targeted level of 1.8x or greater</li> </ul>  |
| Total Obligations / Gross Revenues    | <ul style="list-style-type: none"> <li>Ratio of Total Obligations <sup>(1)</sup> versus Gross Revenues. Targeted level of 5.0x or less</li> </ul>   |
| Coverage of Next 2 Years Debt Service | <ul style="list-style-type: none"> <li>Sum of the General Reserve Fund and Consolidated Bond Reserve Fund to be in excess of the currently outstanding Consolidated Bonds' projected interest and principal payments for the coming 2 year period <sup>(2)</sup></li> </ul> |
| Consolidated Bond Reserve Minimum     | <ul style="list-style-type: none"> <li>Minimum balance of \$750 million</li> </ul>  |

### Notes

(1) Excludes Special Project Bonds

(2) Debt service measurement limited to Consolidated Bonds

## Credit Rating Metric: Debt Service Coverage

The Debt Service Coverage metric assesses the Port Authority's ability to fund debt service as measured by current year interest (excluding capitalized interest and interest paid from reserves) and principal payments based on inflows from net revenues and financial income. As illustrated below, the Long-Term Forecast indicates an ability to satisfy this ratio at the 1.8x level.

**Table 24 – Forecasted Debt Service Coverage (\$m)**

|                        | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Net Operating Revenues | \$1,558 | \$1,688 | \$1,904 | \$2,188 | \$2,502 | \$2,553 | \$2,532 | \$2,832 | \$2,894 |
| Financial Income       | 40      | 55      | 58      | 79      | 110     | 138     | 161     | 161     | 167     |
| Subtotal               | 1,598   | 1,743   | 1,963   | 2,267   | 2,612   | 2,691   | 2,693   | 2,993   | 3,061   |
| Bonded Debt Service    | 725     | 748     | 932     | 1,124   | 1,269   | 1,368   | 1,460   | 1,638   | 1,550   |
| Forecasted Ratio       | 2.2 x   | 2.3 x   | 2.1 x   | 2.0 x   | 2.1 x   | 2.0 x   | 1.8 x   | 1.8 x   | 2.0 x   |
| Target Level           | 1.8 x   |
| Cushion \$             | \$163   | \$220   | \$158   | \$135   | \$182   | \$127   | \$35    | \$25    | \$150   |
| Cushion %              | 10.2%   | 12.6%   | 8.1%    | 6.0%    | 7.0%    | 4.7%    | 1.3%    | 0.8%    | 4.9%    |

## Credit Rating Metric: Total Obligations / Gross Revenues

The credit rating agencies also examine overall relative indebtedness via the Total Obligations / Gross Revenues metric. For purposes of this calculation, Total Obligations is broadly defined including (i) Consolidated Bonds, (ii) Consolidated Notes, (iii) VSOs, (iv) Variable Rate Master Notes, (v) Commercial Paper and (vi) the Port Authority Equipment Notes. The Long-Term Forecast manages the debt balance below the 5.0x target level. As discussed in the review of the Long-Term Forecast, the early years of the projection period are impacted by above long-term levels of capital investment and do not yet benefit from the full ramp up level of revenues at critical redevelopment projects including the World Trade Center site. As a result, the Total Obligations / Gross Revenues metric has less cushion in the early part of the projection.

|                   | 2012     | 2013     | 2014     | 2015     | 2016     | 2017     | 2018     | 2019     | 2020     |
|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Total Obligations | \$18,607 | \$20,485 | \$22,803 | \$24,288 | \$25,323 | \$26,210 | \$26,435 | \$26,380 | \$26,593 |
| Gross Revenue     | 4,119    | 4,335    | 4,662    | 5,061    | 5,431    | 5,557    | 5,626    | 5,989    | 6,119    |
| Forecasted Ratio  | 4.5 x    | 4.7 x    | 4.9 x    | 4.8 x    | 4.7 x    | 4.7 x    | 4.7 x    | 4.4 x    | 4.3 x    |
| Target Level      | 5.0 x    |
| Cushion \$        | \$1,989  | \$1,188  | \$507    | \$1,019  | \$1,834  | \$1,577  | \$1,692  | \$3,565  | \$4,000  |
| Cushion %         | 10.7%    | 5.8%     | 2.2%     | 4.2%     | 7.2%     | 6.0%     | 6.4%     | 13.5%    | 15.0%    |

## Credit Rating Metric: Coverage of Next 2 Years Debt Service

The Port Authority's strong credit rating is supported by its substantial capital reserves. The relative strength of the reserves is measured versus the forecasted Consolidated Bond debt service for the forward-looking 2 year period. The Long-Term Forecast projects the Port Authority will maintain this level of reserves with the cushion reaching a low point in 2014. This metric improves steadily thereafter due in part to the ramp up in revenues from the World Trade Center.

|                      | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Forecasted Reserve   | \$3,545 | \$3,831 | \$3,817 | \$3,946 | \$4,358 | \$4,486 | \$4,445 | \$4,457 | \$4,645 |
| 2 Years Debt Service | 2,232   | 2,500   | 2,823   | 3,072   | 3,263   | 3,566   | 3,625   | 3,539   | 3,609   |
| Cushion \$           | \$1,313 | \$1,331 | \$994   | \$874   | \$1,096 | \$920   | \$820   | \$918   | \$1,036 |
| Cushion %            | 37.0%   | 34.8%   | 26.0%   | 22.1%   | 25.1%   | 20.5%   | 18.4%   | 20.6%   | 22.3%   |

## Credit Rating Metric: Consolidated Bond Reserve Minimum

In addition to the metrics discussed above, the Port Authority targets a Consolidated Bond Reserve Fund (the "CBRF") of at least \$750 million due in part to support the organization's \$500 million commercial paper program which thereby avoids the expense of a third-party liquidity facility. The Long-Term Forecast estimates the CBRF in excess of the \$750 million level in each year of the projection.

|                 | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Forecasted CBRF | \$1,516 | \$1,622 | \$1,384 | \$1,372 | \$1,687 | \$1,732 | \$1,676 | \$1,704 | \$1,878 |
| Target Level    | 750     | 750     | 750     | 750     | 750     | 750     | 750     | 750     | 750     |
| Cushion \$      | \$766   | \$872   | \$634   | \$622   | \$937   | \$982   | \$926   | \$954   | \$1,128 |
| Cushion %       | 50.5%   | 53.8%   | 45.8%   | 45.3%   | 55.5%   | 56.7%   | 55.3%   | 56.0%   | 60.1%   |

## Ratio Analysis: Implied Debt Capacity

Analyzed in a coordinated context, the applicable financial covenants and credit rating metrics provide insight into the achievable debt capacity of the Port Authority. As summarized below, the Long-Term Forecast indicates debt capacity is predominantly most restricted based on the Total Obligations / Gross Revenues ratio (credit rating agency metric). The analysis indicates debt capacity modestly above the projection funding level with the smallest cushion in 2014 at approximately \$500 million (equivalent to \$100 million revenue based on the 5x metric). An important consideration related to this test is the benefit the Port Authority receives from the toll and fare increase implemented in 2011. Absent the revenues from the toll and fare increase, the Long-Term Forecast indicates a shortfall versus the target credit tests (in particular the Total Obligations / Gross Revenues metric) which may in turn risk the stability of the Port Authority's credit rating and cost of financing.

**Table 28 – Implied Debt Capacity Based on Credit Tests (\$bn)**

|                                    | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Credit Tests</b>                |        |        |        |        |        |        |        |        |        |
| General Fund Requirement           | \$36.6 | \$39.5 | \$39.2 | \$40.5 | \$44.7 | \$46.1 | \$46.3 | \$46.4 | \$48.3 |
| Debt Service Coverage              | 19.3   | 21.1   | 23.7   | 27.4   | 31.5   | 32.5   | 32.5   | 36.1   | 37.0   |
| Total Obligations / Gross Revenues | 20.6   | 21.7   | 23.3   | 25.3   | 27.2   | 27.8   | 28.1   | 29.9   | 30.6   |
| Minimum                            | \$19.3 | \$21.1 | \$23.3 | \$25.3 | \$27.2 | \$27.8 | \$28.1 | \$29.9 | \$30.6 |
| Forecasted Total Debt              | \$18.6 | \$20.5 | \$22.8 | \$24.3 | \$25.3 | \$26.2 | \$26.4 | \$26.4 | \$26.6 |
| Cushion - \$                       | 0.7    | 0.6    | 0.5    | 1.0    | 1.8    | 1.6    | 1.7    | 3.6    | 4.0    |

## Debt Capacity Assessment

Rothschild’s assessment of the Port Authority’s potential debt capacity incorporates a review of selected comparable “peer group” organizations in order to benchmark the Port Authority’s capital structure and credit profile. In order to compile the peer group, Rothschild targeted public and private organizations, both domestic and foreign, that operate in four primary categories: (i) Airports, (ii) Ports, (iii) Rail / Toll Roads and (iv) Infrastructure Conglomerates.

**Table 29 – Selected Peer Group**

| <b>Airports</b>   | <b>Ports</b>   | <b>Rail / Toll Roads</b>  | <b>Conglomerates</b>   |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>▪ Atlanta Hartsfield-Jackson International Airport</li> <li>▪ Aeroports de Paris</li> <li>▪ BAA</li> <li>▪ Greater Toronto Airports Authority</li> <li>▪ Los Angeles World Airports</li> <li>▪ Sydney Airport Corporation Limited</li> </ul> | <ul style="list-style-type: none"> <li>▪ DP World Limited</li> <li>▪ Port of Corpus Christie</li> <li>▪ Port of Long Beach</li> <li>▪ Port of Los Angeles</li> <li>▪ Port of Rotterdam</li> <li>▪ Port of Tauranga</li> <li>▪ Virginia Port Authority</li> </ul> | <ul style="list-style-type: none"> <li>▪ Chicago Transit Authority</li> <li>▪ Delaware River Port Authority</li> <li>▪ Massachusetts Bay Transit Authority</li> <li>▪ Metropolitan Transportation Authority</li> <li>▪ Metropolitan Transportation Commission</li> <li>▪ New Jersey Transit Corporation</li> <li>▪ New Jersey Turnpike Authority</li> <li>▪ New York Thruway Authority</li> <li>▪ Pennsylvania Turnpike Commission</li> <li>▪ Southeastern Pennsylvania Transportation Authority</li> </ul> | <ul style="list-style-type: none"> <li>▪ Abertis</li> <li>▪ ACS</li> <li>▪ Atlantia</li> <li>▪ Ecorodovias</li> <li>▪ Eiffage</li> <li>▪ Ferrovial</li> <li>▪ Groupe Eurotunnel</li> <li>▪ Macquarie Atlas</li> <li>▪ Transurban</li> <li>▪ Vinci</li> </ul> |

## Peer Group Analysis: Airports

In determining the comparable group of airport operators, Rothschild focused on companies which operate major international airports and that control many, if not all, of the airports in a single market.

| <b>Table 30 – Airport Peer Group</b>             |   |                                |             |             |
|--|---|--------------------------------|-------------|-------------|
| <b>Peer Company</b>                              | <b>Description</b>  | <b>Financial Summary (\$m)</b> |             |             |
| Atlanta Hartsfield-Jackson International Airport | <ul style="list-style-type: none"> <li>Operates Hartsfield-Jackson, the primary Atlanta, GA airport</li> <li>Total assets: \$6.7bn</li> </ul>   |                                | <b>2009</b> | <b>2010</b> |
|  |   | Revenue                        | \$390       | \$401       |
|  |   | Operating Costs                | 179         | 210         |
|  |   | Net Profit                     | 211         | 191         |
|  |   | % margin                       | 54%         | 48%         |
| Aeroports de Paris                               | <ul style="list-style-type: none"> <li>Owns and operates the 3 major airports in Paris, including Charles de Gaulle, as well as 10 airfields in France</li> <li>Total assets: \$11.5bn</li> </ul> |                                | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                        | \$3,326     | \$3,250     |
|  |   | Operating Costs                | 2,089       | 1,988       |
|  |   | Net Profit                     | 1,236       | 1,263       |
|  |   | % margin                       | 37%         | 39%         |
| BAA  | <ul style="list-style-type: none"> <li>Owns and operates airports in the UK including Heathrow, Stansted and 4 other smaller regional airports</li> <li>Total assets: \$20.3bn</li> </ul>         |                                | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                        | \$3,239     | \$3,549     |
|  |   | Operating Costs                | 1,729       | 1,787       |
|  |   | Net Profit                     | 1,510       | 1,762       |
|  |   | % margin                       | 47%         | 50%         |
| Greater Toronto Airports Authority               | <ul style="list-style-type: none"> <li>Owns and operates airports in the Toronto metropolitan area</li> <li>Total assets: \$7.1bn</li> </ul>  |                                | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                        | \$1,118     | \$1,119     |
|  |   | Operating Costs                | 459         | 451         |
|  |   | Net Profit                     | 659         | 668         |
|  |   | % Margin                       | 59%         | 60%         |
| Los Angeles World Airports                       | <ul style="list-style-type: none"> <li>Owns and operates all 5 airports in the Los Angeles metropolitan region</li> <li>Total assets: \$8.3bn</li> </ul>  |                                | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                        | \$752       | \$855       |
|  |   | Operating Costs                | 617         | 617         |
|  |   | Net Profit                     | 135         | 239         |
|  |   | % margin                       | 18%         | 28%         |
| Sydney Airport Corporation Limited               | <ul style="list-style-type: none"> <li>Owns and operates the Sydney Airport</li> <li>Total assets: \$12.1bn</li> </ul>  |                                | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                        | \$929       | \$968       |
|  |   | Operating Costs                | 155         | 178         |
|  |   | Net Profit                     | 773         | 790         |
|  |   | % margin                       | 83%         | 82%         |

A financial review of the airport peer group reveals a high level of operating profitability (Los Angeles World Airports is a clear outlier) and stable revenue base likely attributable to the broad scope of the operators' reach within the particular regions of service. The sector has undergone significant stress since the 2008 financial crisis which has led to the sector accumulating debt in order to finance capital investment needs. As a result, the sector exhibits a relatively high degree of leverage with a

mean/median leverage metric of 10.7x / 11.5x. Despite these leverage metrics, the sector's cost of debt capital is in relatively moderate with mean / median cost of debt of 5.0% / 4.8%. In terms of capitalization strategy, the peer group demonstrates a clear preference for consolidated "holdco" financing with the single exception being Atlanta Hartsfield-Jackson International Airport which has a tranche of debt issued at the operating company level and secured by PFC revenues (cost of capital was in line with existing holdco debt). The sector generally exhibits a preference for fixed rate debt with the exception of BAA which is relatively balanced in the distribution of fixed versus floating rate debt. Relatedly, Atlanta Hartsfield has recently indicated its intention to retire its floating rate debt in order to limit exposure to interest rate risk.

**Table 31 – Airport Peer Group: Credit Analysis**

| Peer Company                                     | Total Debt            | Leverage | Credit Rating |         |     | Interest Rate | % Floating |
|--|-----------------------|----------|---------------|---------|-----|---------------|------------|
|  |                       |          | Fitch         | Moody's | S&P |               |            |
| Atlanta Hartsfield-Jackson International Airport | \$2,236               | 11.7x    | NR            | NR      | NR  | 4.5%          | 23.4%      |
| Aeroports de Paris                               | 4,496                 | 3.6x     | AA-           | NR      | A+  | 3.4%          | 16.6%      |
| BAA  | 23,711                | 13.5x    | A-            | NR      | A-  | 5.1%          | 41.1%      |
| Greater Toronto Airports Authority               | 7,585                 | 11.3x    | NR            | A1      | A   | 5.6%          | --         |
| Los Angeles World Airports                       | 3,741                 | 15.7x    | NR            | NR      | AA  | 4.3%          | 3.1%       |
| Sydney Airport Corporation Limited               | 6,911                 | 8.8x     | BBB           | Baa2    | BBB | 7.1%          | 69.8%      |
| Port Authority                                   | 19,524 <sup>(1)</sup> | 10.1x    | AA-           | Aa2     | AA- | 4.9%          | 2.4%       |
| Mean   |                       | 10.7x    |               |         |     | 5.0%          | 25.7%      |
| Median   |                       | 11.5x    |               |         |     | 4.8%          | 20.0%      |

Note:

- (1) Of this amount, \$3.54B for commercial paper obligations, variable rate master notes, versatile structure obligations, MOTBY obligation, Tower 4 liberty bonds, and special project bonds are not secured by or payable from the General Reserve Fund. All debt balances are calculated at par value.

## Peer Group Analysis: Ports

In determining the comparable group of port operators, Rothschild selected the operators of major ports globally. The companies below are each pure port operators, as distinguished from the infrastructure conglomerates that have non-port operating activities.

**Table 32 – Ports Peer Group**

| Peer Company            | Description   | Financial Summary (\$m) |             |         |
|-------------------------|---|-------------------------|-------------|---------|
|                         |   | 2010                    | 2011        |         |
| DP World Limited        | <ul style="list-style-type: none"> <li>Develops and operates marine terminals and related services worldwide</li> <li>Total assets: \$13.9bn</li> </ul> | Revenue                 | \$3,189     | \$2,978 |
|                         |   | Operating Costs         | 1,948       | 1,670   |
|                         |   | Net Profit              | 1,240       | 1,307   |
|                         |   | % margin                | 39%         | 44%     |
| Port of Corpus Christie | Operates the Port of  | <b>2010</b>             | <b>2011</b> |         |

|                         |  |                 |             |             |
|-------------------------|--|-----------------|-------------|-------------|
|                         | Corpus Christie, Texas   | Revenue         | \$52        | \$59        |
|                         | ▪ Total assets: \$400m   | Operating Costs | 35          | 37          |
|                         |  | Net Profit      | 17          | 22          |
|                         |  | % margin        | 33%         | 37%         |
| Port of Long Beach      | ▪ Operates the Port of Long Beach, California  |                 | <b>2010</b> | <b>2011</b> |
|                         | ▪ Total assets: \$3.5bn  | Revenue         | \$322       | \$345       |
|                         |  | Operating Costs | 98          | 81          |
|                         |  | Net Profit      | 224         | 264         |
|                         |  | % margin        | 70%         | 77%         |
| Port of Los Angeles     | ▪ Operates the Port of Los Angeles, California   |                 | <b>2010</b> | <b>2011</b> |
|                         | ▪ Total assets: \$3.9bn  | Revenue         | \$407       | \$401       |
|                         |  | Operating Costs | 246         | 209         |
|                         |  | Net Profit      | 161         | 191         |
|                         |  | % margin        | 40%         | 48%         |
| Port of Rotterdam       | ▪ Operates the Port of Rotterdam, Netherlands  |                 | <b>2010</b> | <b>2011</b> |
|                         | ▪ Total assets: \$4.2bn  | Revenue         | \$739       | \$764       |
|                         |  | Operating Costs | 297         | 297         |
|                         |  | Net Profit      | 443         | 467         |
|                         |  | % margin        | 60%         | 61%         |
| Port of Tauranga        | ▪ Operates the major port in New Zealand   |                 | <b>2010</b> | <b>2011</b> |
|                         | ▪ Total assets: \$773m   | Revenue         | \$136       | \$155       |
|                         |  | Operating Costs | 65          | 76          |
|                         |  | Net Profit      | 70          | 79          |
|                         |  | % margin        | 51%         | 51%         |
| Virginia Port Authority | ▪ Owns and operates marine terminals in the state of Virginia including the Norfolk Port |                 | <b>2010</b> | <b>2011</b> |
|                         | ▪ Total assets: \$1.1bn  | Revenue         | \$208       | \$284       |
|                         |  | Operating Costs | 179         | 257         |
|                         |  | Net Profit      | 29          | 27          |
|                         |  | % margin        | 14%         | 9%          |

Rothschild's financial review of the port peer group indicates a consistent financing construct across the sample set. Profitability metrics for the port peer group are relatively strong an average margin of 47%. In terms of capitalization, the Port Group is the least indebted with mean/median leverage metrics of 3.0x / 2.4x<sup>3</sup>. This relatively low debt burden is accompanied by a cost of debt which stratifies between the US ports in the 4.5% - 5.7% range versus the foreign ports with interest costs of 4.9% - 12.4%. Additionally the US port operators are each capitalized with similar guidelines: financing is via fixed rate bonds issued at the consolidated "holdco" level and secured by port revenue.

<sup>3</sup> Mean / median calculation excludes Virginia Port Authority as an outlier.

**Table 33 – Ports Peer Group: Credit Analysis**

| Peer Company            | Total Debt | Leverage | Credit Rating |         |      | Interest Rate | % Floating |
|-------------------------|------------|----------|---------------|---------|------|---------------|------------|
|                         |            |          | Fitch         | Moody's | S&P  |               |            |
| DP World                | \$7,707    | 5.9x     | BBB-          | Baa3    | NR   | 4.9%          | 56.6%      |
| Port of Corpus Christie | \$7        | 0.3x     | NR            | A1      | A+   | 5.7%          | --         |
| Port of Long Beach      | 723        | 2.7x     | AA            | NR      | NR   | 4.6%          | --         |
| Port of Los Angeles     | 982        | 5.1x     | NR            | NR      | AA+  | 4.5%          | --         |
| Port of Rotterdam       | 990        | 2.1x     | NR            | NR      | NR   | 12.4%         | 54.4%      |
| Port of Tauranga        | 161        | 2.0x     | NR            | NR      | BBB+ | 6.9%          | 99.7%      |
| Virginia Port Authority | 474        | 17.6x    | AA+           | A1      | AA+  | 5.3%          | --         |
| Port Authority          | 19,524     | 10.1x    | AA-           | Aa2     | AA-  | 4.9%          | 2.4%       |
| Mean                    |            | 3.0x     |               |         |      | 6.3%          | 30.1%      |
| Median                  |            | 2.4x     |               |         |      | 5.3%          | --         |

### Peer Group Analysis: Rail / Toll Roads

The analysis group for the Rail / Toll Roads sector includes a broad mix of organizations that operate public transit and/or toll-funded infrastructure assets in major metropolitan areas throughout the United States. The selected organizations are detailed below, segmented between rail operators and operators of toll roads and/or bridges.

**Table 34 – Rail / Toll Roads Peer Group: Rail Operators**

| Peer Company                          | Description  | Financial Summary (\$m) |             |             |
|---------------------------------------|--|-------------------------|-------------|-------------|
| Chicago Transit Authority             | <ul style="list-style-type: none"> <li>Operates the public transportation system for the City of Chicago</li> <li>Total assets: \$6.9bn</li> </ul>   |                         | <b>2009</b> | <b>2010</b> |
|                                       |  | Revenue                 | \$565       | \$548       |
|                                       |  | Operating Costs         | 1,649       | 1,165       |
|                                       |  | Net Profit              | (1,085)     | (617)       |
|                                       | % margin   | NM                      | NM          |             |
| Massachusetts Bay Transit Authority   | <ul style="list-style-type: none"> <li>Operates public transportation in the Massachusetts Bay area</li> <li>Total assets: \$9.6bn</li> </ul>        |                         | <b>2010</b> | <b>2011</b> |
|                                       |  | Revenue                 | \$500       | \$511       |
|                                       |  | Operating Costs         | 1,298       | 1,321       |
|                                       |  | Net Profit              | (798)       | (809)       |
|                                       | % margin   | NM                      | NM          |             |
| Metropolitan Transportation Authority | <ul style="list-style-type: none"> <li>Operates the public transportation system for the City of New York</li> <li>Total assets: \$62.5bn</li> </ul> |                         | <b>2010</b> | <b>2011</b> |
|                                       |  | Revenue                 | \$6,419     | \$6,939     |
|                                       |  | Operating Costs         | 10,709      | 11,690      |
|                                       |  | Net Profit              | (4,290)     | (4,751)     |
|                                       | % margin   | NM                      | NM          |             |
| New Jersey Transit Corporation        | <ul style="list-style-type: none"> <li>Operates public transit in New Jersey</li> <li>Total assets: \$9.8bn</li> </ul>                               |                         | <b>2010</b> | <b>2011</b> |
|                                       |  | Revenue                 | \$839       | \$943       |
|                                       |  | Operating Costs         | 1,820       | 1,876       |
|                                       |  | Net Profit              | (981)       | (934)       |
|                                       | % margin   | NM                      | NM          |             |
| Southeastern                          | Operates the public  |                         | <b>2010</b> | <b>2011</b> |

|  |   |                 |         |         |
|--|---|-----------------|---------|---------|
| Pennsylvania<br>Transportation Authority | transit for the<br>Philadelphia region<br>▪ Total assets: \$4.3bn | Revenue         | \$426   | \$470   |
|  |   | Operating Costs | 1,514   | 1,581   |
|  |   | Net Profit      | (1,089) | (1,110) |
|  |   | % margin        | NM      | NM      |
|  |   |                 |         |         |

**Table 35 – Rail / Toll Roads Peer Group: Toll Road / Bridge Operators**

| Peer Company                                 | Description   | Financial Summary (\$m) |             |             |
|--|---|-------------------------|-------------|-------------|
| Delaware River Port<br>Authority             | ▪ Operates the bridges and<br>ferries that cross the<br>Delaware River in the<br>Philadelphia region<br>▪ Total assets: \$1.8bn |                         | <b>2009</b> | <b>2010</b> |
|  |   | Revenue                 | \$273       | \$275       |
|  |   | Operating Costs         | 140         | 154         |
|  |   | Net Profit              | 133         | 120         |
|  |   | % margin                | 49%         | 44%         |
| Metropolitan<br>Transportation<br>Commission | ▪ Transportation planning<br>and financing agency for<br>the San Francisco Bay<br>area<br>▪ Total assets: \$4.5bn               |                         | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                 | \$487       | \$623       |
|  |   | Operating Costs         | 118         | 151         |
|  |   | Net Profit              | 369         | 472         |
|  |   | % margin                | 76%         | 76%         |
| New Jersey Turnpike<br>Authority             | ▪ Operates the turnpikes<br>and roadways in New<br>Jersey<br>▪ Total assets: \$9.4bn  |                         | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                 | \$1,034     | \$1,033     |
|  |   | Operating Costs         | 565         | 553         |
|  |   | Net Profit              | 469         | 480         |
|  |   | % margin                | 45%         | 46%         |
| New York Thruway<br>Authority                | ▪ Operates toll road in New<br>York state<br>▪ Total assets: \$5.6bn  |                         | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                 | \$672       | \$665       |
|  |   | Operating Costs         | 457         | 478         |
|  |   | Net Profit              | 215         | 187         |
|  |   | % margin                | 32%         | 28%         |
| Pennsylvania Turnpike<br>Commission          | ▪ Owns and operates toll<br>roads in Pennsylvania<br>▪ Total assets: \$6.7bn  |                         | <b>2010</b> | <b>2011</b> |
|  |   | Revenue                 | \$710       | \$759       |
|  |   | Operating Costs         | 378         | 360         |
|  |   | Net Profit              | 332         | 399         |
|  |   | % margin                | 47%         | 53%         |

As distinguished from other sectors analyzed, the Rail / Toll Road peer group diverges with rail operators exhibiting operating losses whereas the toll road / bridge operators generate net profits. Additionally, many of these operators benefit from government funding (local, state and/or federal) in order to meet operating costs and capital investment. Despite the profit performance, the essential nature of the service and governmental backing enable the operators to attract private debt financing at a cost of capital in line with the other infrastructure sectors reviewed. Mean/median metrics for cost of debt for the selected operators are 4.8% / 4.8% amidst highly leveraged credit metrics for the group overall. The sector also exhibits a preference for fixed rate borrowings with Delaware River Port Authority and SEPTA being the only operators with a meaningful level of floating rate indebtedness. Debt financing is almost exclusively via revenue bonds at the consolidated operator level.

**Table 36 – Rail / Toll Roads Peer Group: Credit Analysis**

| Peer Company                                       | Total Debt | Leverage | Credit Rating |         |     | Interest Rate | % Floating |
|--|------------|----------|---------------|---------|-----|---------------|------------|
|  |            |          | Fitch         | Moody's | S&P |               |            |
| Chicago Transit Authority                          | \$3,418    | NM       | NR            | A1      | AA  | 5.9%          | --         |
| Delaware River Port Authority                      | 1,393      | 11.6x    | NR            | A3      | A   | 5.2%          | 50.0%      |
| Massachusetts Bay Transit Authority                | 5,587      | 6.9x     | NR            | Aa1     | AAA | 5.1%          | 5.2%       |
| Metropolitan Transportation Authority              | 32,179     | NM       | A             | A2      | A   | 4.6%          | 2.8%       |
| Metropolitan Transportation Commission             | 9,379      | 19.9x    | NR            | NR      | NR  | 3.8%          | --         |
| New Jersey Transit Corporation                     | 1,971      | NM       | A+            | NR      | NR  | 5.1%          | --         |
| New Jersey Turnpike Authority                      | 8,322      | 17.3x    | A+            | A1      | A+  | 5.7%          | 18.0%      |
| New York Thruway Authority                         | 3,085      | 16.5x    | AA            | NR      | AA  | 3.3%          | --         |
| Pennsylvania Turnpike Commission                   | 7,720      | 19.4x    | A+            | Aa3     | A+  | 4.5%          | 17.4%      |
| Southeastern Pennsylvania Transportation Authority | 353        | NM       | AA            | A1      | A+  | 4.5%          | 33.5%      |
| Port Authority                                     | 19,524     | 10.1x    | AA-           | Aa2     | AA- | 4.9%          | 2.4%       |
| Mean   |            | 15.3x    |               |         |     | 4.8%          | 12.7%      |
| Median   |            | 16.9x    |               |         |     | 4.8%          | 4.0%       |

### Peer Group Analysis: Infrastructure Conglomerates

In addition to operators which focus on a specific type of infrastructure assets, Rothschild analyzed a selection of large publicly-traded infrastructure conglomerates which are more diverse in scope, similar to the Port Authority itself. Although the identified companies are exclusively European or Australian headquartered corporations, the operating activities are global in reach.

**Table 37 – Infrastructure Conglomerates Peer Group**

| Peer Company                  | Description   | Financial Summary (\$m) |       |         |
|-------------------------------|---|-------------------------|-------|---------|
|                               |   | 2010                    | 2011  |         |
| Abertis Infraestructuras S.A. | <ul style="list-style-type: none"> <li>Owns, operates and constructs toll roads, parking lots, logistics centers and transport centers. Abertis also owns interests in 29 airports</li> </ul> | Revenue                 | \$957 | \$1,359 |
|                               |   | Operating Costs         | 85    | 99      |
|                               |   | Net Profit              | 872   | 1,261   |
|                               |   | % margin                | 91%   | 93%     |

|   |   |                 |             |             |
|---|---|-----------------|-------------|-------------|
|   | <ul style="list-style-type: none"> <li>Total assets: \$17.2bn</li> </ul>  |                 | <b>2010</b> | <b>2011</b> |
| Actividades de Construcción y Servicios, S.A. ("ACS") | <ul style="list-style-type: none"> <li>Owns, operates and constructs toll roads, railways, airports and port infrastructure</li> </ul>  | Revenue         | \$19,214    | \$36,989    |
|   |   | Operating Costs | 17,294      | 33,977      |
|   |   | Net Profit      | 1,920       | 3,011       |
|   | <ul style="list-style-type: none"> <li>Total assets: \$62.3bn</li> </ul>  | % margin        | 10%         | 8%          |
| Atlantia  | <ul style="list-style-type: none"> <li>Owns, operates and constructs toll roads worldwide with predominant focus in Italy</li> </ul>  |                 | <b>2010</b> | <b>2011</b> |
|   |   | Revenue         | \$4,990     | \$5,166     |
|   |   | Operating Costs | 1,948       | 2,067       |
|   |   | Net Profit      | 3,042       | 3,099       |
|   | <ul style="list-style-type: none"> <li>Total assets: \$30.1bn</li> </ul>  | % margin        | 61%         | 60%         |
| Ecorodovias   | <ul style="list-style-type: none"> <li>Integrated operation of highway concessions and logistics assets in Brazil</li> </ul>  |                 | <b>2010</b> | <b>2011</b> |
|   |   | Revenue         | \$920       | \$1,065     |
|   |   | Operating Costs | 402         | 508         |
|   | <ul style="list-style-type: none"> <li>Total assets: \$2.2bn</li> </ul>   | Net Profit      | 518         | 557         |
|   |   | % margin        | 56%         | 52%         |
| Eiffage S.A.  | <ul style="list-style-type: none"> <li>Owns, operates and constructs toll roads, railways and buildings. Also provides engineering services</li> </ul>  |                 | <b>2010</b> | <b>2011</b> |
|   |   | Revenue         | \$18,174    | \$17,930    |
|   |   | Operating Costs | 15,736      | 15,489      |
|   |   | Net Profit      | 2,438       | 2,441       |
|   | <ul style="list-style-type: none"> <li>Total assets: \$33.1bn</li> </ul>  | % margin        | 13%         | 14%         |
| Ferrovial, S.A.                                       | <ul style="list-style-type: none"> <li>Owns, operates and constructs airports, toll roads, railways, parking lots, port infrastructure and buildings. Also provides engineering services</li> </ul> |                 | <b>2010</b> | <b>2011</b> |
|   |   | Revenue         | \$12,606    | \$9,693     |
|   |   | Operating Costs | 10,934      | 8,629       |
|   |   | Net Profit      | 1,672       | 1,064       |
|   | <ul style="list-style-type: none"> <li>Total assets: \$29.8bn</li> </ul>  | % margin        | 13%         | 11%         |
| Groupe Eurotunnel, S.A.                               | <ul style="list-style-type: none"> <li>Operates the channel tunnel infrastructure and rail networks between France and the UK</li> </ul>  |                 | <b>2010</b> | <b>2011</b> |
|   |   | Revenue         | \$988       | \$1,110     |
|   |   | Operating Costs | 537         | 586         |
|   |   | Net Profit      | 451         | 524         |
|   | <ul style="list-style-type: none"> <li>Total assets: \$9.4bn</li> </ul>   | % margin        | 46%         | 47%         |
| Macquarie Atlas Roads Group                           | <ul style="list-style-type: none"> <li>Develops and operates toll roads, bridges and tunnels</li> </ul>   |                 | <b>2010</b> | <b>2011</b> |
|   |   | Revenue         | \$103       | \$92        |
|   |   | Operating Costs | 70          | 176         |
|   | <ul style="list-style-type: none"> <li>Total assets: \$1.6bn</li> </ul>   | Net Profit      | 33          | (84)        |
|   |   | % margin        | 32%         | NM          |
| Transurban Group                                      | <ul style="list-style-type: none"> <li>Develops, operates and maintains toll roads in Australia</li> </ul>  |                 | <b>2010</b> | <b>2011</b> |
|   |   | Revenue         | \$817       | \$1,037     |
|   |   | Operating Costs | 290         | 433         |
|   | <ul style="list-style-type: none"> <li>Total assets: \$10.4bn</li> </ul>  | Net Profit      | 527         | 604         |
|   |   | % margin        | 65%         | 58%         |
| Vinci S.A.  | <ul style="list-style-type: none"> <li>Owns, operates and</li> </ul>  |                 | <b>2010</b> | <b>2011</b> |

|   |                 |          |          |
|---|-----------------|----------|----------|
| constructs toll roads,<br>railways, airports,<br>buildings and parking lots | Revenue         | \$45,595 | \$48,907 |
|   | Operating Costs | 38,893   | 42,066   |
|   | Net Profit      | 6,703    | 6,841    |
| ▪ Total assets: \$78.7bn  | % margin        | 15%      | 14%      |

From a capital structure benchmarking perspective, the infrastructure conglomerate peer group exhibits certain notable differences versus the single category operators analyzed previously. Leverage metrics generally fall in between the range created by the lower leverage ports and the higher leverage airports / rail / toll roads. This result is consistent with the operations of the conglomerates which include each of the different infrastructure asset categories. Cost of financing for the group registers a mean / median level of 6.5% / 5.8% which most closely approximates the interest cost of the Ports category. Apart from these similarities, the capital structure trends of the Conglomerates peer group diverge with respect to frequency of floating rate debt (mean metric of 48%) and the usage of asset-specific financing structures rather than consolidated “holdco” financing. Additionally relevant is the lack of a municipal bond market in the applicable jurisdictions which constrain financing options for the Infrastructure Conglomerates.

**Table 38 – Infrastructure Conglomerates Peer Group: Credit Analysis**

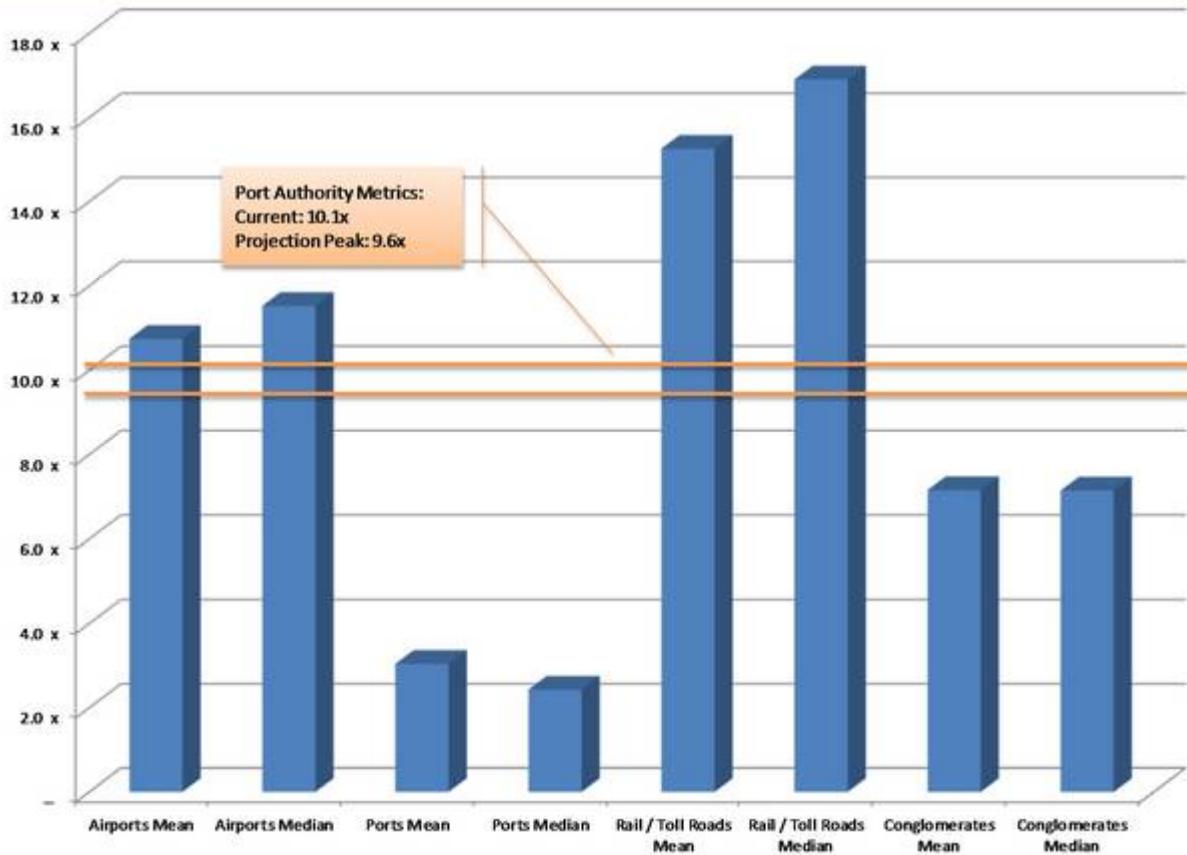
| Peer Company                | Total Debt | Leverage | Credit Rating |         |      | Interest Rate | % Floating |
|-----------------------------|------------|----------|---------------|---------|------|---------------|------------|
|                             |            |          | Fitch         | Moody's | S&P  |               |            |
| Abertis Infraestructuras    | \$14,283   | 11.3x    | A-            | NR      | BBB  | 4.7%          | 13.4%      |
| ACS                         | 21,430     | 7.1x     | NR            | NR      | NR   | 7.4%          | NA         |
| Atlantia                    | 13,585     | 4.4x     | A-            | Baa1    | BBB+ | 5.1%          | 14.4%      |
| Ecorodovias                 | 899        | 1.6x     | NR            | NR      | AA+  | 11.2%         | 100.0%     |
| Eiffage                     | 17,441     | 7.1x     | NR            | Baa3    | BBB- | 5.0%          | NA         |
| Ferrovial                   | 10,276     | 9.7x     | BBB-          | BBB-    | NR   | 6.9%          | 37.7%      |
| Groupe Eurotunnel           | 5,030      | 9.6x     | NR            | Baa2    | NR   | 5.8%          | 35.4%      |
| Macquarie Atlas Roads Group | 1,765      | NM       | NR            | NR      | NR   | 5.8%          | 85.8%      |
| Transurban Group            | 5,862      | 9.7x     | A-            | Baa1    | A-   | 8.6%          | 61.3%      |
| Vinci S.A.                  | 26,399     | 3.9x     | BBB+          | Baa1    | BBB+ | 4.2%          | 33.0%      |
| Port Authority              | 19,524     | 10.1x    | AA-           | Aa2     | AA-  | 4.9%          | 2.4%       |
| Mean                        |            | 7.2x     |               |         |      | 6.5%          | 47.6%      |
| Median                      |            | 7.1x     |               |         |      | 5.8%          | 36.6%      |

## Peer Group Assessment

Comparison analysis of the identified peer group versus current and projected metrics of the Port Authority places the Port Authority moderately less leveraged than the Airport peer group and moderately higher debt than the Infrastructure Conglomerates. This comparison extends to cost of debt where the analysis indicates the Port Authority enjoys a comparable cost of debt to that of the Airport group and lower cost than both the Ports peer group and the Infrastructure Conglomerates. Based on

2011 reported financial results, the Port Authority's overall cost of debt was approximately 4.85% versus the mean/median rates of the peer group of 5.7% / 5.1%.

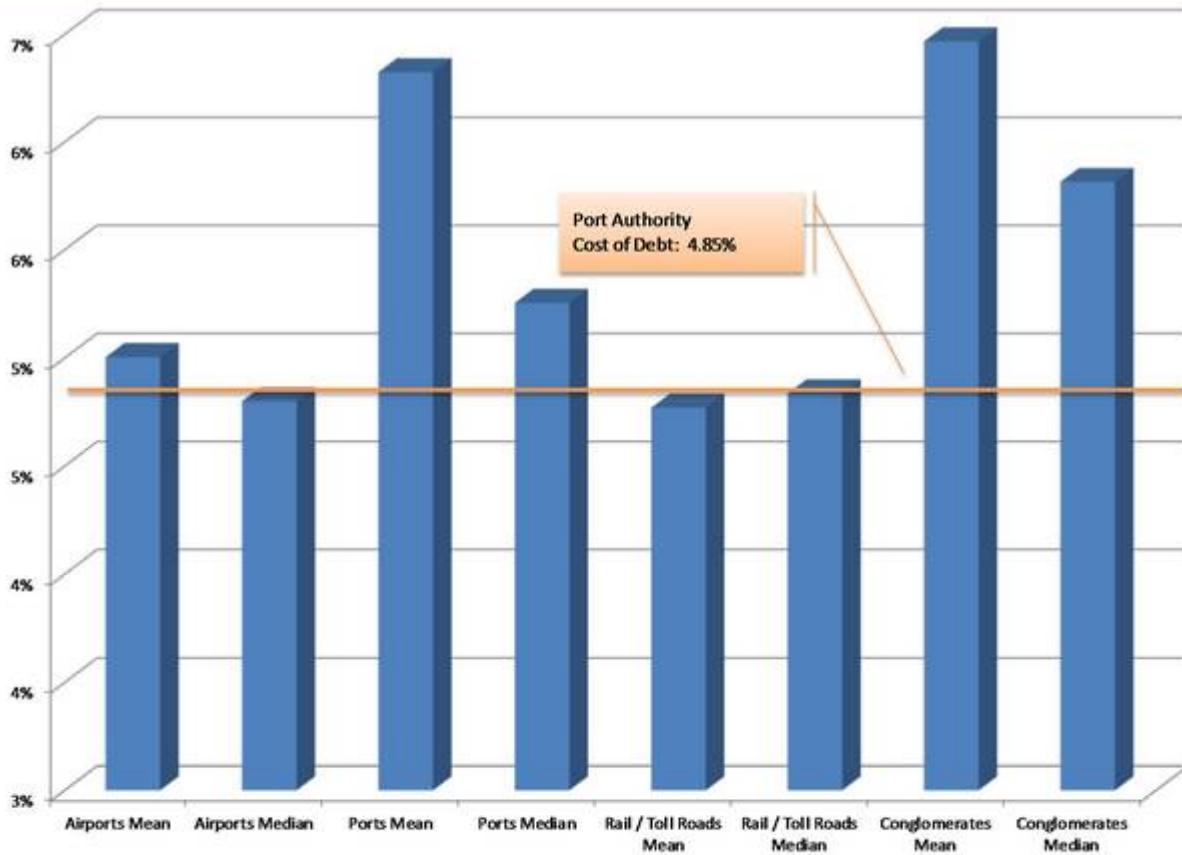
**Figure 9 – Leverage Metric Analysis: Peer Group vs. Port Authority**



Source: Public filings; Port Authority

Note: Port Authority Current metric based on 2011 reported financials. Projected Peak represents the maximum leverage level during the Long Range Forecast.

**Figure 10 – Cost of Debt Analysis: Peer Group vs. Port Authority**



Source: Public filings; Port Authority

Note: Port Authority Cost of Debt metric based on weighted average interest cost of debt outstanding as of December 31, 2011

### Credit Rating Considerations

The Port Authority has enjoyed a stable credit rating history with current ratings in the upper tier of investment grade. In providing their rating outlooks, the credit rating agencies delineate possible factors for a ratings change; recent commentary is provided below. In terms of downgrade action, the agencies highlight risk related to (i) revenue underperforming expectations, (ii) worsening of leverage and/or debt coverage ratios and (iii) ongoing development of the World Trade Center site and potential for cost overruns.

**Table 39 – Credit Rating Agency Guidance**

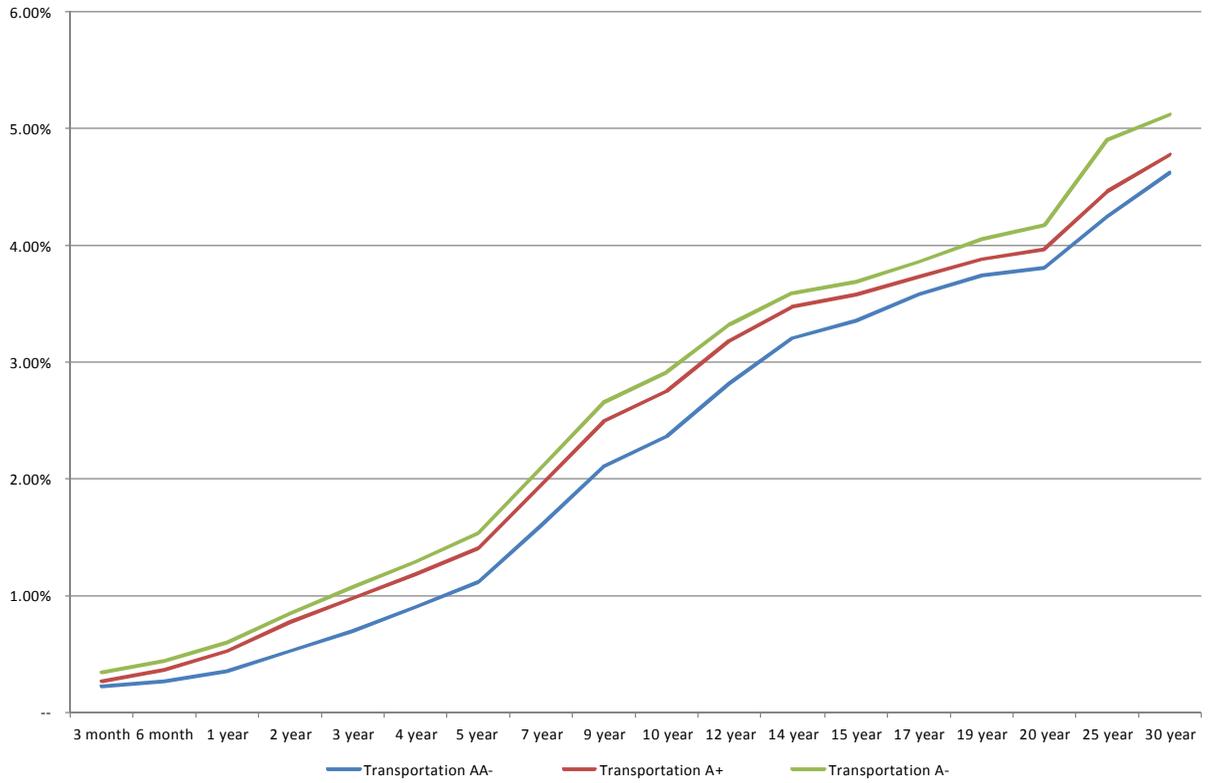
| Rating Agency   | Outlook Commentary  |
|---|---|
| Fitch<br><i>Current rating: AA-</i><br><i>Outlook: Stable</i> | <p>What could trigger a rating action:</p> <ul style="list-style-type: none"> <li>▪ Weaker financial margins due to slow revenue growth and/or higher rates of growth in operating expenses</li> <li>▪ Additional leveraging beyond the current plan to debt finance approximately 40%-50% of capital expenditures over the next 10 years not supported by commensurate revenue increases to maintain DSCRs at or above 1.8-2.0x</li> </ul> |

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>Actions by either the State of New York or New Jersey to limit the authority's ability to raise tolls to cover growing debt service obligations</li> </ul>  |
| <p>Moody's<br/>Current rating: Aa2<br/>Outlook Negative</p>              | <p>What could change the rating – UP</p> <ul style="list-style-type: none"> <li>Accelerated growth in the regional economy that results in significantly higher facility utilization and revenues, as well as the continued implementation of rate adjustments as planned to ensure self-sufficient operations for component enterprises, DSCRs consistently well above 2.0 times; continued successful delivery of WTC site components on schedule and within current budget and more clarity regarding the not yet adopted 10-year CIP could stabilize the rating outlook and exert positive credit pressure</li> </ul> <p>What could change the rating – DOWN</p> <ul style="list-style-type: none"> <li>A significant increase in debt without a commensurate increase in revenues that results in DSCRs of less than 1.75 times on a bond ordinance basis or less than 1.4 times on a net revenue basis; debt to operating revenues above 5 times, or reduced liquidity below historic levels could place downward pressure on the rating. A protracted downturn of the regional economy, or the assumption of greater financial responsibility for non revenue-producing projects including significant cost escalations in the development of the WTC site, also could negatively pressure the rating.</li> </ul> |
| <p>Standard &amp; Poor's<br/>Current rating: AA-<br/>Outlook: Stable</p> | <p>The stable outlook reflects our view of the strong regional essentiality of the authority's facilities and management's ability to adjust revenues, expenses, and capital spending accordingly to protect sound financial operations. We could lower the ratings if PANYNJ's liquidity and financial margins erode considerably. We do not expect to raise the ratings during the next two years due to the authority's significant additional debt needs.</p>  |

Source: Fitch Ratings credit report (June 8, 2012); Moody's credit report (June 11, 2012) and Standard and Poor's credit report (June 12, 2012)

Although the potential impact to cost of capital of a credit downgrade is inherently speculative, the current forward yield curve for transportation revenue bonds of differing ratings provides a market perspective. Based on similar maturities, the spread between the yield of AA- revenue bonds (which corresponds to the Port Authority's current credit rating) and the yield of A- revenue bonds (2 credit rating notches down) is at its maximum at 25 year term with a variance of 0.66% (4.25% yield versus 4.91%). Overall, the yield is 0.39% higher for the lower rated securities as illustrated in Figure 12. As observed above, recent Port Authority debt issuances have outperformed these sector metrics, both based on yield at issuance and current market trading levels. As a result, the indexed yield cost of A+ and A- transportation revenue bonds may exceed a similarly rated Port Authority issuance.

Figure 11 – Forward Curve of Transportation Revenue Bonds: Impact of Credit Rating



Source: Bloomberg

# Public Private Partnership Considerations

In recent years as municipal and state organizations have faced challenging budgets, PPPs have been widely evaluated and implemented. Primary sectors of PPP activity include healthcare facilities, transit facilities, roads, waste management facilities, correctional facilities and social housing. PPP activity is difficult to measure given the variety of definitions employed across countries and sectors. Public Works Financing maintains a database of PPP projects with 377 PPP infrastructure projects funded in the United States between 1985 and 2011; 104 of which were transportation projects. The majority of transportation PPP projects (81%) were highways, bridges and tunnels with the balance predominantly rail related.<sup>4</sup>

Industry analysts often cite the stability of revenues as a primary consideration in determining the suitability of a PPP structure in transit infrastructure projects. Project development may involve independent traffic studies and demographic analysis to assess the revenue outline and develop baseline financial forecasts. Recent financial troubles for certain PPP projects have heightened the focus on revenue stability (see Table 40 below).

| Table 40 – Distressed PPP Transit Projects |      |  |
|--|------|--|
| PPP Project                                | Date | Description  |
| Dulles Greenway                            | 1995 | <ul style="list-style-type: none"> <li>▪ Faced with traffic volumes below forecast, private debt was restructured in 1999 following successive changes to toll intended to boost usage</li> <li>▪ Sold to Macquarie in 2005</li> </ul> |
| Indiana Toll Road                          | 2006 | <ul style="list-style-type: none"> <li>▪ Speculation of possible upcoming debt default</li> </ul>  |
| Las Vegas Monorail                         | 2004 | <ul style="list-style-type: none"> <li>▪ Filed for bankruptcy in 2010 as ticket revenue fell short of debt service requirements</li> </ul>   |
| South Bay Expressway                       | 2003 | <ul style="list-style-type: none"> <li>▪ Traffic revenues underperformed, leading to bankruptcy filing in 2010</li> <li>▪ Sold to consortium of San Diego area governments in 2011</li> </ul>  |

The Port Authority itself has wide-ranging experience with PPP projects including the Terminal 4 redevelopment at JFK, the World Trade Center joint ventures with the Durst Organization and Westfield, the exploratory work currently underway with respect to a PPP for the Goethals Bridge replacement project and the RFI issued for the LaGuardia Airport Central Terminal modernization. As the Port Authority reviews its capital plan for possible PPP activity, a systematic approach with defined criteria for evaluation should be utilized. Suggested evaluative criteria include: (i) size of capital investment required, (ii) stability of revenues, (iii) level of financial, technical and/or operational risk, (iv) ability to support public goals of service quality and safety. Subject to these considerations, three major projects are identified as potentially suitable for a PPP structure either in whole or in part (e.g. parking facility at Newark Airport).

<sup>4</sup> Brookings-Rockefeller Project on State and Metropolitan Innovation. *Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units*. December 2011.

**Table 41 – Major Projects for PPP Consideration**

| <b>Project</b>                               | <b>Asset</b>      | <b>Estimated Cost:<br/>2012 - 2020</b> |
|--|-------------------|--|
| CTB Modernization <sup>(1)</sup>             | LaGuardia Airport | \$1.1bn                                |
| Goethals Bridge Modernization <sup>(1)</sup> | Goethals Bridge   | \$282m                                 |
| Terminal A Redevelopment                     | Newark Airport    | \$812m                                 |

Source: Port Authority

(1) Currently under consideration for PPP structure

Given the importance of revenue stability to the Port Authority’s current financing strategies, pursuing a PPP structure for specific projects may impact the theoretical debt issuance available under the Consolidated Bond program. Analytical evaluation of this financing consideration should be undertaken as a part of the PPP candidate screening effort.

Following this selection, a competitive RFI / RFP process can be effective at creatively identifying feasible project structures within the economic framework of the proposed project. Successful PPP projects are able to distribute the financial and operational risk between the municipal authority and the PPP counterparty. For example, availability payment structures are increasingly utilized as an alternative to a long-term sale/lease. The availability payment reduces the operational risk of traffic volumes to the PPP counterparty while the municipal authority benefits by maintaining ownership of the project asset.

Ultimately the decision to execute a PPP project is dependent on the balance of benefits and issues. Primary considerations are outlined below in Table 42 and generally vary based on the level of ownership / control transferred to the private counterparty.

**Table 42 – Key Considerations for PPP Decisionmaking**

| <b>Benefits</b>  | <b>Issues</b>   |
|--|---|
| <ul style="list-style-type: none"> <li>▪ Efficient delivery: private sector expertise and discipline improve project execution / cost</li> <li>▪ Alleviate strained capital budgets – ability to address immediate infrastructure needs amidst capital constraints</li> <li>▪ Manage construction risk / cost overruns</li> <li>▪ Asset maintenance / quality of service available</li> <li>▪ Share or transfer staffing cost</li> </ul> | <ul style="list-style-type: none"> <li>▪ Cost of capital typically higher</li> <li>▪ Contractual limitations (e.g. interplay with existing financing agreements)</li> <li>▪ PPP structure / extent of risk transfer</li> <li>▪ Selection of private counterparty</li> </ul> |

# Conclusions

Rothschild’s work as presented herein supports the following observations:

| Table 43 – Observations and Conclusions   |   |
|---|---|
| <p>The Port Authority’s financing strategy, principally through the Consolidated Bond structure, has effectively sourced capital at competitive cost</p>                            | <ul style="list-style-type: none"> <li>▪ Market data indicates Port Authority bonds have registered lower cost than comparable issuances based on a variety of benchmarks including similarly rated municipal debt and public market issuances from other transportation infrastructure operators</li> </ul>  |
| <p>Although subject to ebbs and flows consistent with the overall capital markets, the municipal bond market continues to exhibit demand for new issuances</p>                      | <ul style="list-style-type: none"> <li>▪ YTD volumes are outpacing the prior year across the spectrum of bond categories</li> <li>▪ Market yields have tightened as the overall yield curve has compressed</li> <li>▪ Recent high profile bankruptcies have not dampened investor appetite</li> </ul>   |
| <p>Based on the Long Range Forecast, the Port Authority is projected to score credit metrics in line with the peer group</p>  | <ul style="list-style-type: none"> <li>▪ The Port Authority’s forecasted credit metrics exceed the levels of the relatively unlevered port operators but rank below the high leverage of airline specific and rail/toll road operators</li> <li>▪ The credit profile is estimated to be broadly in line with the diversified infrastructure conglomerates</li> <li>▪ Long-Term Forecast estimates compliance with the Port Authority’s financial metric tests and credit rating targets.</li> </ul> |
| <p>PPP structures may provide an attractive financing alternative but an evaluation needs to consider the potential impact on the Port Authority’s primary sources of financing</p> | <ul style="list-style-type: none"> <li>▪ Following a number of high profile distress situations, revenue stability has gained emphasis in PPP analysis</li> <li>▪ Segregating highly revenue stable projects for PPP consideration may limit the Port Authority’s ability to obtain financing under the existing bond program</li> </ul>  |

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