APPENDIX
Port Authority of New York and New Jersey
Proposed Capital Plan 2017-2026

New Jersey Senate Legislative Oversight Committee

January 17, 2017
Developing the Plan
Guiding Principles

The plan adheres to three guiding principles:

- To apply the agency’s financial capacity and full resources toward modernizing and expanding the region’s aging airports, seaports, mass transit facilities, and other vital trans-Hudson transportation assets;
- To continue serving our customers efficiently, focusing on maintaining our facilities in a state of good repair, while ensuring safety, security and resiliency; and,
- To allocate the agency’s affordable capital to its highest priority needs in a fiscally responsible manner so as to achieve a financially balanced plan.

This foundation for the future is built on our four (4) main funding priorities and objectives: Renew, Expand and Connect, Partner and Deliver
Spending in Proposed 2017-2026 Capital Plan of $32.2 billion includes: ($s in Billions)

- $8.8 spending for projects required to **renew**, and maintain assets in a state of good repair, and ensure operational capacity, safety and security
- $11.1 to invest in projects that **expand** capacity, improve connectivity in the region and meet growth and transportation needs
- $4.7 for projects where we **partner** with Federal and Regional stakeholders to complete Sandy restoration, improve resiliency, and build for the future*
- $7.6 in spending to complete and **deliver** projects that are currently under construction

* Includes PA support of the Gateway Development Program

Preliminary, subject to change
# Capital Spending Summary ($s in Billions)

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>PROJECTS</th>
<th>2017-2026 SPENDING</th>
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<tbody>
<tr>
<td>Renew</td>
<td>State of Good Repair (SGR)</td>
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<td></td>
<td>Other: Mandatory, Security</td>
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<tr>
<td>Expand and Connect</td>
<td>EWR Terminal A Redevelopment</td>
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<tr>
<td></td>
<td>Bus Terminal Replacement</td>
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</tr>
<tr>
<td></td>
<td>Extension of PATH to Newark Rail Station</td>
<td>1.7**</td>
</tr>
<tr>
<td></td>
<td>LGA AirTrain and JFK Redevelopment</td>
<td>2.5**</td>
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<td></td>
<td>LGA Terminal C&amp;D Redevelopment</td>
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<td>Other System Enhancing</td>
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<td>Other Partner</td>
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<td>Deliver</td>
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<td>LGA Terminal B Redevelopment</td>
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<td><strong>Total PA Direct Spending</strong></td>
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<tr>
<td>Partner</td>
<td>Port Authority Support of Gateway Program</td>
<td>$ 2.7***</td>
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</tbody>
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* Corresponds to projected spend in the period. Project assumed to receive third party funding of $500 million in the period.
** Corresponds to total project cost. Project assumed to receive third party funding of $700 million and $500 million, respectively.
*** Subject to gates review, as are all projects.

Preliminary, subject to change
Proposed $32.2 billion Capital Spending by Department ($in billions)

- AVIATION: $11.6 billion (36%)
- TB&T: $10.0 billion (31%)
- PATH: $4.4 billion (14%)
- REGIONAL: $3.2 billion (10%)
- PORT: $1.1 billion (3%)
- WTC: $1.8 billion (6%)

Preliminary, subject to change
Comprehensive Budget and Capital Planning Process

- Operational requirements for facilities
- Significant regional needs
- Customer demands
- Industry trends in each line of business
- Port Authority relies on its own credit
Port Authority Facilities and Revenue Base

Given its wide span of facilities critical and essential to the vitality and growth of the regional economy, the Port Authority benefits from a large and diverse user pool, which provides its revenue base.

Major Airports
- John F. Kennedy, LaGuardia, Newark Liberty, Stewart, Teterboro

Tunnels and Bridges
- Holland Tunnel, Lincoln Tunnel, George Washington Bridge, Bayonne Bridge, Goethals Bridge, Outerbridge Crossing

Bus Terminals

PATH Rail Transportation

Marine Terminals
- Port Newark, Elizabeth PA Marine Terminal, Greenville Yard, Port Jersey, Brooklyn, Howland Hook

Economic/Waterfront Development
- Industrial Parks, Teleport, Hoboken and Queens West Waterfront

The World Trade Center Site

Preliminary, subject to change
## Sources for the Capital Plan

<table>
<thead>
<tr>
<th>Proposed Funding Sources</th>
<th>$s in millions</th>
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<tbody>
<tr>
<td>Proposed Capital Program – Direct Port Authority Spending</td>
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<td>Port Authority Support of the Gateway Program</td>
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<tr>
<td><strong>Total Proposed Capital Program</strong></td>
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## Currently Projected Sources

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<th></th>
<th>$s in millions</th>
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<tr>
<td>Consolidated Bond Proceeds</td>
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<td>Pay-as-you-go Capital Investment</td>
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<td>Other Special Obligations</td>
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<td>Federal Funding for Storm recovery and resilience</td>
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<td>Passenger Facility Charges – Aviation</td>
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<td>Other currently awarded federal grants</td>
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<td>New federal grants or other third party funding</td>
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<td>Non-core real estate asset sales or net-leases</td>
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<tr>
<td><strong>Total Funds Projected to be Available</strong></td>
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</tbody>
</table>

Funding Gap

$0

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Preliminary, subject to change
A Rigorous "Gates Process" will be used to Manage the Plan

Gate 1 ensures: Proper Project definition, scoping and prioritization

Gate 2 ensures: Appropriate level of Project Development (cost, schedule and scope). Validation of available capacity prior to proceeding to Final Design

Gate 3 ensures: Project Compliance with existing budget & authorization Validation of available capacity prior to proceeding to Construction Phase
Monitoring and Delivering the Plan

Portfolio Status
- Review project status, prioritization and progress against plan

Capital Capacity
- Quarterly update of IFM

Gate Review
- Gate 2: Appropriate level of project development (cost, schedule & scope) and validation of available funding prior to proceeding to final design
- Gate 3: Project compliance with existing budget and authorization, and validation of available funding prior to proceeding to construction phase

Recommendations for CPOC
- Quarterly review of capital performance and recommendations for alignment with capacity

Quarterly Update to PA Board Committee on Finance

Quarterly Update to PA Board Committee on CPEAM

CPEAM: Capital Planning, Execution, and Asset Management
CPOC: Capital Planning Oversight Committee

Preliminary, subject to change
The Public Review and Comment Period has Begun

Available for Public Comment
- Proposed Plan was published on January 11, 2017 is available online at PA website www.panynj.gov

Comment Period
- Runs through February 15, 2017
- Comments to be made at: publiccomments@panynj.gov

Public Meetings (At PA offices in each state)
- **January 31, 2017** – 5pm to 8pm
  4 World Trade Center, 150 Greenwich St, New York, NY 10007
- **February 7, 2017** – 5pm to 8pm
  2 Montgomery Street, Jersey City, NJ 07302

Board Consideration of Final Plan
- Board to consider any appropriate modifications based on comments
- Consideration of final plan scheduled for February 16, 2017 Board Meeting

Preliminary, subject to change
NJ Senate Legislative Oversight Committee
January 17, 2017

Statement Steven P. Plate, Chief Major Capital Projects
The Port Authority of NY & NJ

PATH Extension of North East Corridor (NEC) Rail Link Station (RLS)

Thank you Chairman Gordon and members of the Committee,

I am happy to provide an overview of the PATH Rail Extension to Newark Liberty Rail Link Station project. The proposed ten-year capital plan allocates $1 billion towards the project with an estimated total project cost of $1.7 billion; we have made an assumption that to fill the balance the Port Authority would apply for federal funding.

Today, PATH's Newark to World Trade Center Line currently operates, and begins at Newark-Penn Station. Extending the PATH system from Newark Penn Station to the Northeast Corridor Rail Link Station would improve transit access for commuters and airport customers coming from many of the communities currently served by PATH including Lower Manhattan, Bergen, Hudson, and Essex Counties in New Jersey.

By extending the PATH Newark to World Trade Center line to NJ TRANSIT, Amtrak, and the Newark AirTrain at the Northeast Corridor Rail Link Station at EWR, this project will facilitate transit access to Newark Liberty International Airport (EWR) and Newark's South Ward. The extension would provide substantial benefits in reduced travel times, increased travel time predictability and lower costs for air travelers making use of EWR from lower Manhattan as well as commuter access from regional New Jersey suburbs and cities directly to destinations in Jersey City, Hoboken and lower Manhattan.

Part of the formal planning process will include ridership studies to determine not only the potential numbers of users, but also the origination of future riders.

The proposed program would extend the PATH rail infrastructure from Newark Penn Station at Newark-Penn Station to the Northeast Corridor Rail Link Station at Newark Liberty Airport. Included in this program is an extension of the system by 1.2 miles, a new passenger station infrastructure at the Northeast Corridor Rail Link Station and construction of a new rail yard facility.

In addition, the project would be designed to accommodate the future construction of a parking garage and multi-modal transportation facility, through a potential public-private partnership. A successful P3 would provide the potential for improving and broadening trans-Hudson transit options and access for commuters.

As with other major infrastructure projects, there is substantial planning, environmental and other regulatory review, engineering design, public outreach and participation processes to occur. As I testified earlier regarding the Bus Station, new construction progress must be balanced with the project's impacts to the quality of life of
Statement Steven P. Plate, Chief Major Capital Projects
The Port Authority of NY & NJ
the surrounding community. A robust stakeholder communications and outreach effort will be necessary to ensure the success of the overall project.

As we continue, we will seek to apply for federal grant funding and private value capture opportunities. Construction is anticipated to start in 2020 and be completed with full revenue service operations available to PATH in 2026.

I am happy to answer any questions you have.
# 2017-2026 Proposed Capital Projects - Expand and Connect

Sorted by Department, Facility and Program (in thousands)

<table>
<thead>
<tr>
<th>PROJECT ID</th>
<th>PROJECT TITLE</th>
<th>STAGE</th>
<th>ASSET CATEGORY</th>
<th>2017-2021 SPENDING</th>
<th>2022-2026 SPENDING</th>
<th>2017-2026 SPENDING</th>
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<tbody>
<tr>
<td>LINCOLN TUNNEL</td>
<td>Replacement of Route 1 and 9</td>
<td>Planning / Design</td>
<td>Paving &amp; Roadways</td>
<td>$239,000</td>
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<td>Construction of Interchange Ramps</td>
<td>Planning</td>
<td>Bridges</td>
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<td>PATH, Subtotal</td>
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<td>LAGUARDIA AIRPORT</td>
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<td>CA02-347</td>
<td>Construction of Restricted Vehicle Service Road (RVSR) and Runway Drive</td>
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<td>Paving &amp; Roadways</td>
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<td>CA02-496</td>
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<td>CA02-503</td>
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<td>Construction of Airtrain</td>
<td>Planning</td>
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<td>JFK REDEVELOPMENT &amp; LGA AIRTRAIN, Subtotal</td>
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<td>800,000</td>
<td>1,500,000</td>
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<td>CA22-006</td>
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Proposed Capital Plan 2017-2026 (Subject to Change)
## 2017-2026 Proposed Capital Projects - Expand and Connect

Sorted by Department, Facility and Program (in thousands)

<table>
<thead>
<tr>
<th>PROJECT ID</th>
<th>PROJECT TITLE</th>
<th>STAGE</th>
<th>ASSET CATEGORY</th>
<th>2017-2021 SPENDING</th>
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<td>DELTA REDEVELOPMENT PROGRAM - SUPPORTING INFRASTRUCTURE</td>
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<td>CA03-640</td>
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<td>CA03-669</td>
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<td>REHABILITATION OF FACILITY DATA ROOM</td>
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Proposed Capital Plan 2017-2026 (Subject to Change)

Port Authority of NY & NJ
Expand and Connect

PROJECTS THAT EXPAND CAPACITY, IMPROVE CONNECTIVITY, MEET THE GROWTH OF THE REGION, AND ADVANCE THE REGION'S TRANSPORTATION NEEDS

Projects that expand the capacity of the Port Authority's transportation network and systems while improving connectivity throughout the region serve as cornerstones of the proposed capital plan. They also support further regional economic growth throughout the entire Port District. This expansion enables greater use of our facilities by the region's citizens and improves the overall customer experience of using Port Authority assets.

Expand and Connect projects represent $11.1 billion (34 percent) of overall programmed spending in the proposed 2017-2026 plan. Significant projects in this category include:

<table>
<thead>
<tr>
<th>Highlights</th>
<th>2017-2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Authority Bus Terminal Replacement</td>
<td>$ 3,500</td>
</tr>
<tr>
<td>John F. Kennedy Airport Redevelopment and LaGuardia Airport AirTrain</td>
<td>$ 2,500</td>
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<tr>
<td>Newark Liberty International Airport – Terminal A Redevelopment</td>
<td>$ 2,340</td>
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<td>PATH Rail Extension to Newark Liberty Rail Link Station</td>
<td>$ 1,730</td>
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<tr>
<td>LaGuardia Airport – New Terminal C</td>
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<tr>
<td>PATH Railcar Fleet Expansion</td>
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EXPAND AND CONNECT BY BUSINESS SEGMENT

- TB&T: $3.9 / 34%
- AVIATION: $5.6 / 49%
- PORT: $1.9 / 16%
- PATH: $0.1 / 1%

Proposed Capital Plan 2017-2026 (Subject to Change)
Port Authority Bus Terminal Replacement Program

**Overview:** The existing Port Authority Bus Terminal (PABT), which opened in 1950 and was expanded in 1981, currently operates beyond its reasonable passenger carrying capacity. It therefore offers a negative experience for both daily commuters and first-time visitors. At present, PABT accommodates approximately 220,000 passenger trips and more than 7,000 bus movements per average weekday. But demand is expected to increase to as many as 270,000 daily peak-hour passengers by 2020, and as many as 337,000 daily peak-hour passengers by 2040. The existing facility is also incompatible with current bus configurations; it lacks adequate bus staging and storage, and cannot adequately accommodate customers with disabilities.

**Purpose:** The overall program will replace the existing PABT, which has neared the end of its useful life, with a state-of-the-art bus terminal in a location to be selected following robust community outreach and stakeholder engagement. Importantly, the new facility will be constructed so as to be scalable, and therefore prepared to meet the 35 to 51 percent growth in passenger traffic forecasted by 2040 while meeting all contemporary standards and code requirements.

**Scope:** The PABT Replacement Program includes funding for planning, environmental review, public outreach and participation, design and permitting, and construction. The planning, environmental review, and public outreach phases will inform the requirements, design, and construction of the new bus terminal on the West Side of Manhattan. As a result, the estimated total project cost (TPC) is expressed as a range. The agency’s goal is to complete the program at the lower end of the range. The TPC will be refined as the planning, environmental review, and public outreach phases are completed. This program also allows for construction of a bus staging/storage facility to assist in creating direct connectivity to and from the Lincoln Tunnel for buses via the XBL, and a dedicated ramp system. The Port Authority will seek federal grant funding to assist in the funding of this critical mass-transportation asset.

**Implementation Plan:** The phasing and implementation plan for construction of the new PABT depends on the results of the planning and environmental review phases, as well as a campaign of extensive public outreach and participation from the region’s stakeholders. Also, the agency will seek to secure federal grant funding. Construction will be staged to minimize disruption to existing terminal operations with the development of a master schedule that facilitates coordination with regional transportation partners and other construction programs, such as those at the Lincoln and Holland tunnels, and the George Washington Bridge.
PATH Rail Extension to Newark Liberty Rail Link Station

Overview: PATH's Newark to World Trade Center Line currently terminates at Newark-Penn Station. Extending the PATH system from its current terminus to the Northeast Corridor Rail Link Station at Newark Liberty International Airport would improve transit access for airport customers and commuters coming from many of the communities currently served by PATH including Lower Manhattan, Bergen, Hudson, and Essex Counties in New Jersey.

Purpose: To facilitate transit access to Newark Liberty International Airport (EWR) and Newark's South Ward, by extending the PATH Newark to World Trade Center line to NJ TRANSIT, Amtrak, and the Newark AirTrain at the Northeast Corridor Rail Link Station at EWR. The extension provides substantial benefits in reduced travel times, increased travel time predictability and lower costs for air travelers making use of EWR from lower Manhattan as well as commuter access from New Jersey cities to lower Manhattan.

Scope: The program will extend PATH rail infrastructure from its existing terminus at Newark-Penn Station to the Northeast Corridor Rail Link Station at Newark Liberty Airport. Included in this program is a new passenger station infrastructure at the Northeast Corridor Rail Link Station, construction of a new rail yard facility, and modification of existing platforms at Newark-Penn Station to accommodate passenger flow. While its construction is not included in the scope of this project, the new PATH station at the Northeast Corridor Rail Link Station will be designed to allow for the construction of a parking garage and multi-modal facility through a potential public-private partnership, thereby providing the potential for improved trans-Hudson transit access for commuters.

Implementation Plan: As the planning, environmental review, design, and public outreach and participation processes continue, the program will seek to secure federal grant funding and value capture opportunities. Construction is expected to start in 2020 and be completed with full revenue service operations available in 2026.
Newark Liberty International Airport – Terminal A Redevelopment Program

Overview: The existing Terminal A at Newark Liberty International Airport opened in 1973; it is the oldest terminal at the airport. It is nearing the end of its useful life. It does not support modern airline operational requirements and strains to serve more passengers than provided under its original design capacity. This program will create a new terminal building equipped to serve the forecasted increase in passengers while providing an open, modern terminal that customers find easy to access. Importantly, the new terminal will, by design, adapt to increasing demands, including evolving requirements for air travel. The accompanying improved airfield layout will increase flow and allow for larger aircraft with dual taxi-lanes serving all gates.

Purpose: This program will replace the outmoded Terminal A building with a modern facility that meets increasing passenger levels, accommodates larger aircrafts, and upgrades all supporting infrastructure while providing a configuration whose layout can adapt and expand to allow for unforeseen changes in demand.

Scope: The Terminal A Redevelopment Program includes four key elements:

- A new, 1-million-square-foot common use terminal with 33 gates that can accommodate 13.6 million annual passengers and future growth (the terminal could be expandable to 45 gates).
- Airfield paving on 140 acres contiguous to the new terminal, plus demolition of the existing Terminal A concourse.
- A new road system that connects the new terminal building to the existing Central Terminal Area, including eight new bridges and frontage roads.
- An "open," tiered, and naturally ventilated garage and surface lot featuring approximately 3,000 parking spaces.

Implementation Plan: This program is currently in the planning and design stage. A Request for Qualifications was issued at the end of 2016. A Request for Proposals will be likely issued for qualified proposals by the second quarter of 2017, with the preferred designer/builder to be selected by the end of 2017. Current estimates state that the new terminal will be partially opened for operations by the end of 2020, with the full terminal opening by the end of 2022.

For more project information, please visit: https://www.panynj.gov/airports/ewr-redevelopment/index.html
PATH Railcar Fleet Expansion

**Overview:** Completion of the new PATH Communications Based Train Control (CBTC) and Positive Train Control (PTC) Signal System (see page 56) will allow for the operation of trains with reduced headways during the peak period, thus increasing the system’s capacity. To make use of the capacity and service benefits of the CBTC/PTC signal system, approximately 50 new PA-5 railcars are required to complement the existing 350 PA-5 railcar fleet in service.

**Purpose:** This project will purchase approximately 50 new PA-5 railcars to increase train frequency and system-wide capacity. The increased frequency of trains during the peak period is estimated to increase peak hour capacity system wide by approximately 18 percent, or 7,500 passengers per hour. The expanded capacity provides the ability to relieve near-term forecasted increased trans-Hudson travel demand.

**Scope:** Purchase approximately 50 new PA-5 railcars to take full advantage of the new PATH CBTC and PTC Signal System that allows for the operation of trains with reduced headways during the peak period.

**Implementation Plan:** Railcar delivery is anticipated to commence in 2018, coincident with the completion of the new PATH PTC Signal System, and all new railcars will be in service by 2021.

<table>
<thead>
<tr>
<th>TOTAL PROJECT COST</th>
<th>$150 MILLION</th>
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<tr>
<td>2017-2026 COST</td>
<td>$150 MILLION</td>
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<tr>
<td>CURRENT STAGE</td>
<td>PLANNING</td>
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LaGuardia Airport – New Terminal C

Overview: As part of the overall redesign of LaGuardia Airport (LGA), Terminals C and D will be redeveloped by Delta Air Lines and its development partner, Empire State Terminal Group, (ESTG), in order to provide a single, structurally unified airport terminal with improved transportation access, increased airside space, and a world-class passenger experience.

Purpose: LGA’s current terminal layout is composed of multiple, fragmented terminals. This program will replace it with one main, architecturally unified terminal building that connects a new Terminal C with the new Terminal B (see page 53). Redevelopment of Terminals C and D will help provide an improved passenger experience by accommodating projected passenger increases and reducing delays.

Scope: The Port Authority’s fixed contribution to the program is capped at $600 million, which includes an amount for Port Authority costs incurred to support the project. The Port Authority’s contribution supports work on the new terminal’s related infrastructure, including roadways and utilities, the expansion of the East Garage, and concourse and ramp work, in addition to work on the terminals themselves. ESTG will perform and manage construction of the new 37-gate Terminal C and related infrastructure. As previously stated, the new Terminal will connect with the new Central Hall and Terminal B at LaGuardia.

Implementation Plan: Construction is expected to begin in 2017, with program completion anticipated for 2026. The program requires significant staging coordination with the Terminal B redevelopment projects. Timing for the full delivery of this program will require coordination with the schedule for the redevelopment of Terminal B as well as the development of a comprehensive traffic management program.
John F. Kennedy Airport Redevelopment and LaGuardia Airport AirTrain

**JFK Overview:** John F. Kennedy Airport (JFK) is the region's largest airport and the nation's busiest in terms of international passengers, receiving over 430,000 flights and accommodating 60 million passengers in 2016. JFK is expected to reach capacity by mid-2020 without expansion to its terminals and supporting infrastructure to accommodate passenger growth. The airport, which generates $15 billion in wages and supports nearly 285,000 jobs throughout the region, is routinely given poor marks by passengers due to an inconsistent, sub-par passenger experience and increasingly cramped facilities.

**Purpose:** For JFK, the program will allocate funding towards the high priority projects that provide airport-wide infrastructure enhancements to support the modernization and transformation at JFK International Airport. Port Authority funds will be used towards supporting infrastructure such as on-airport roadway improvements, utilities, and other landside and airside infrastructure necessary to support and catalyze terminal redevelopment at the airport, which is envisioned to be privately financed by airlines or private terminal operators, under public-private models such as those that are currently employed for the modernization of LaGuardia Airport.

**Scope:** The JFK program consists of infrastructure improvements to enable private-investment terminal expansion, including airside enhancements to improve efficiency and reduce delays, airport roadway improvements to address existing bottlenecks and chokepoints, and to accommodate additional vehicular traffic, utility and landside modifications, and JFK AirTrain enhancements. The JFK redevelopment program is in planning and design, with construction expected to start in 2019 or earlier. The program requires staging coordination with other projects underway at the airport as well as close coordination with the airlines and existing terminal lessees.

**LGA AirTrain Overview:** LaGuardia Airport (LGA) is the only major airport in New York City/Northern New Jersey, without direct rail transit access. Under current traffic conditions, travel time to LGA by road is unpredictable. From Manhattan, travel time can vary from 35 minutes without traffic to an hour or more with traffic. Such variability and uncertainty makes it difficult for travelers to plan, while also carrying a potential risk of missed flights. Roadway congestion is greatly intensified due to the nearly 90 percent of LGA’s passengers accessing the airport by car. The Grand Central Parkway, which provides primary road access to and from the airport, already operates at service level F for major parts of the day – which contributes to the unpredictable airport travel times and constraining further long-term passenger growth. Providing train access would relieve stress on LaGuardia’s already over-crowded roadways and terminal frontages. With the number of passengers at LaGuardia expected to grow by 25 percent and the region’s population continuing to grow, congestion to and from the airport will only get worse, increasing travel times for passengers and employees.

**Purpose:** The LaGuardia AirTrain Program is expected to reduce auto congestion and travel time delays and improve the predictability of travel time for air travelers, airport employees, and others having airport-related business. With passenger demand at LGA expected to reach 34 million passengers annually in 2030, reliable and efficient rail service to and from the airport is critical to manage on-site parking, improve drop off and pick up activities at the terminal frontages, and reduce congestion on and off the airport, including its nearby neighborhood streets. Port Authority funds will be used to support an AirTrain connection between the airport and a new intermodal station at Willets Point connecting to existing Long Island Railroad (LIRR) and NYC Transit (NYCT) subway service, together
John. F Kennedy Airport Redevelopment and LaGuardia Airport AirTrain

(continued)

with potential ancillary airport functions and other connections such as a Consolidated Rent-a-Car facility (CONRAC) and employee parking.

Scope: LaGuardia AirTrain will serve air travelers, airport employees, and others having airport-related business. The program will include convenient pedestrian connections to both the LIRR and NYCT stations, and to the airport facilities located at Willets Point. The program is inclusive of the associated facilities and infrastructure (stations, guideway, maintenance/control facility, etc.) as well as the systems (vehicles, train control, power distribution system, etc.) for the AirTrain. These improvements will significantly improve the passengers' experience, address the constrained operations and severe traffic congestion that currently exists, and support economic opportunities in the region. The CONRAC and ancillary airport facilities described above are not included in the existing scope, but are being included in the planning process as not-to-preclude elements requiring further study.

Implementation Plan for LGA AirTrain and JFK Redevelopment: After undergoing a formal planning and design process, the agency will seek to secure federal grant funding and/or identification of an equity partner for a portion of the amounts beyond the $1 billion for AirTrain LaGuardia. AirTrain LaGuardia construction is expected to start in 2019. Testing and commissioning is expected to start in 2021 with passenger service anticipated by 2023. The phasing and implementation plan for the construction of the new LGA AirTrain is dependent on the results of the planning and environmental review phases, as well as extensive public outreach and participation.

Similarly, the JFK redevelopment program is currently in planning and design, and construction is slated to start in 2019 or earlier. The program requires staging coordination with other projects underway at the airport as well as close coordination with JFK's operating airlines.

The programs are linked as part of an overall program to redevelop both LGA and JFK. Subject to prior Board approval, capital funds not needed to execute a component of this program at one airport can be redirected to high priority needs at the other airport.
NJ Senate Legislative Oversight Committee Testimony

January 17, 2017

Diannae C. Ehler
General Manager, Lincoln Tunnel and Port Authority Bus Terminal

Good morning and thank you Chairman Gordon and members of the Committee. My name is Diannae Ehler, and I am the General Manager of the Port Authority Bus Terminal (PABT) and Lincoln Tunnel; I have been with the Port Authority for 33 years and have worked within the Tunnels Bridges and Terminals, Aviation, Port Commerce and Engineering Departments. I am responsible for the operations and maintenance and together with the Port Authority Police the security of the Lincoln Tunnel and PABT in midtown Manhattan. In this role, I advocate for the resources to maintain our assets and systems, ensure the best level of customer service possible, and establish programs that recognize that our facilities operate within local communities in NY and NJ. I would like to especially thank Senator Gordon, Senator Weinberg and the members of the NJ State Legislative Oversight Committee for your support of the PABT.

Role in Interstate Mass Transit and the Transportation Network

More than a bus terminal, the PABT is one of New York City’s preeminent intermodal facilities by virtue of its location, directly connected to the Lincoln Tunnel, 11 subway lines, 5 City transit bus lines, and unparalleled pedestrian access to Manhattan. The Lincoln Tunnel, in tandem with the PABT, brings 92,000 bus commuters across the Hudson River during the morning peak period, which is more than any other trans-Hudson transit connection, including commuter rail to New York’s Penn Station. During the 6-10 a.m. weekday peak, 82% of all passenger trips through the Lincoln Tunnel are made by bus.

The interstate commuter bus system is an essential trans-Hudson transit link for commuters to Midtown, supporting a flexible and growing network of services. These services rely on interconnected infrastructure comprised of the contra-flow Exclusive Bus Lane on NJ Route 495, dedicated bus lanes in the Lincoln Tunnel, direct ramps and street-level connections between the Lincoln Tunnel and the Port Authority Bus Terminal, and configurable NY roadways for handling Lincoln Tunnel traffic. The PABT and Lincoln Tunnel function as part of a network. The performance of these facilities depends greatly on the performance of the NJ highway network to move traffic to and from the Lincoln Tunnel.

It is important to note, that the Interstate bus system and its terminals have proven to be a critical resource during severe weather and other emergency events. Buses offer a very flexible and resilient
resource when the other elements of the transportation network are unavailable. During the terrorist attacks of September 11, 2001, the 2003 blackout, and Super-storm Sandy, the PABT played an important role in moving people when other modes, particularly trains, were unavailable, and offers redundancy in the transportation network.

**Today's Operating and Terminal Management Challenges**

Not unlike much of the interstate network, the PABT suffers from the pressures of accommodating growing travel demand with aging infrastructure and systems, increasing functional and physical obsolescence of assets and facilities, and fundamental capacity shortfalls. As you know, the Bus Terminal, built in 1950 is now 66 years old. Daily operations are a delicate balance of fragile elements, and reliability is difficult to sustain.

**Inadequate Capacity for Today's Peak Demands** - Despite its critical role in interstate mass transit, the PABT operates beyond its capacity limits in the peak hours both for bus movements to and within the Terminal, as well as passenger handling capacity at the bus gates. The lack of adequate capacity presents an ongoing challenge to address traffic congestion, delays, crowding, and service reliability failures. Significant new investment is needed to adequately serve today's customers and prepare for growing interstate bus travel demand. The current state of operations presents challenges to us including:

- **Functional and Physical Obsolescence** - Bus operators are seeking to employ new motor coach designs that provide efficiency and customer amenities, but result in larger and heavier vehicles that are currently constrained from accessing portions of the Terminal and its ramp structures, due to the height, length and weight of these new bus designs.

- **Aging Building Systems** - The 66-year-old PABT requires investment in basic building systems: escalators and elevators that are functional and safe, HVAC systems that are reliable and efficient, building management systems that ensure safety and security, signing that provides customer information and effective pedestrian flows, etc. Unfortunately, investments in many of these basic building needs that are fundamental to customer satisfaction are presently underfunded due to the agency’s financial constraints. Ongoing and increased resource commitments to operating and capital maintenance are essential to sustain the current operations while a replacement terminal is planned, designed and constructed.

- **Bus Parking and Staging** - The scarcity of bus parking and staging capacity in West Midtown Manhattan requires that hundreds of buses must now park in NJ during weekday midday hours. This exacerbates eastbound evening traffic congestion at the Lincoln Tunnel by requiring hundreds of empty buses to move across the Hudson River at a time when the Lincoln Tunnel peak operation runs only two inbound tunnel lanes. PABT operations would benefit from a bus parking and staging facility. By eliminating unnecessary bus staging inside the Terminal by early arriving buses, PABT efficiency and capacity would be enhanced.
- **Amenities and Appearance** - The Port Authority Bus Terminal is perhaps the agency’s most publicly recognized facility. Yet the Terminal’s appearance, amenities and passenger environment have not kept pace with the rejuvenation of the surrounding Times Square neighborhood. The Board’s $90 million commitment in the Quality of Commute Program is addressing critical needs in building improvements, communications enhancements, and transportation and reliability advances.

- **Financial Deficits** - The PABT was originally intended by the Port Authority to be a financially self-sustaining operation, but currently runs at a net operating deficit of approximately $100 million per year.

### PABT - Quality of Commute (QoC) Improvement Program

We have heard loud and clear from customers, and stakeholders about today’s growing concern over deteriorating terminal conditions, service reliability, and terminal services.

To improve the current conditions at the Terminal, as you know in September 2014 the Port Authority’s Board of Commissioners committed $90 million. The $90 million is being used to begin immediate and short-term actions to address better communications, building improvements, and operating enhancements that will keep our passengers better informed, enhance the passenger environment and improve traffic congestion, facility access, and reliability. Some of the QoC initiatives have already paid dividends for our passengers.

### An Update on QoC Enhancements –

**Communication:** The Port Authority hosts quarterly “Commuter Chat” forums where customers have the opportunity to meet and discuss their issues and concerns with representatives from the Port Authority, NJ Transit as well as several other PABT carriers. In response to customer requests for more specific messaging the Port Authority has worked to improve the quality of e-Alerts and public address messages. Customer information kiosks were installed through the terminal to provide a convenient means for customers to get information about the terminals amenities, services and gate departure information. The agency has improved the cellular signal strength throughout the terminal and now provides Wi-Fi access on the main and second floors of the terminal. It is anticipated that Wi-Fi on the lower level, 3rd and 4th floors will be completed by the end of the year.

**Building Improvements** - The majority of the $90 million QoC Improvement Program has been allocated to improving the physical conditions of the terminal. To date, all the pull-through platforms located on the 3rd and 4th were equipped with supplemental A/C units and all sixteen public restrooms have been renovated and work was competed 9-months ahead of schedule. The rehabilitation of the pavement wearing course on the 3rd floor have dramatically reduced the ceiling leaks on the 2nd floor of the south wing. Ceiling and lighting improvements on the lower level of the south wing of the terminal are underway and will be completed by this summer. This year the 8th
Avenue doors in the north wing and the subway doors in the north and south wings will be replaced which will result in easier access to/from the terminal as well as a reduced number of doors out of service. In addition, work will commence this year to replace the visual paging and master clock system, to rehabilitate several escalators and elevators, and to improve the vertical circulation on the subway level of the south wing to both the main and lower levels.

**Operating Enhancements** - The $90 million QoC Improvement Program included several initiatives to improve the movement of buses during the AM and PM Peaks. We completed the construction of a by-pass ramp to enhance operational flexibility of the ramps serving the 3rd and 4th floors of the PABT, and also completed two bus parking and staging parking lots has helped provide much needed bus staging and storage enabling the terminal to operate more efficiently during the PM Peak. At the Lincoln Tunnel, the replacement of the Exclusive Bus Lane (XBL) signal system is underway which ensures the reliability of the lane indicators enabling the XBL to open and serve more than 1850 buses each weekday. Also underway is the installation of a bus tracking system that extends from the NJ Turnpike to the entrances/exits of the PABT. This new bus tracking system will provide the data needed to aid in the development of new network operational enhancements.

**PM Peak – Operational Improvements**

The majority of the PABT and LT management’s focus has been on reducing traffic congestion, and improving facility access and the reliability of the operation. Since June 2014, PA staff have been tirelessly working with NJ Transit and the other bus carriers to identity and implement operational changes to the Terminal’s evening peak operation.

**PM Peak Operational Changes – September 2014** - The team focused on reducing bus traffic congestion in the LT, on the neighborhood streets, on the bus ramps and in the PABT. These changes involved a close partnership with the carriers, particularly with NJ Transit. There were many moving parts to these operational changes and I’m pleased to tell you that we received great cooperation and a lot of “out of the box” thinking.

Our shared goal has been to improve the operation of the Bus Terminal. Our customer’s experience, in terms of better reliability, customer queuing/congestion has been substantially reduced for most gates. Bus riders saw shorter lines and more on-time departures. One strong indication of these improvements can be found in the On Time Performance (OTP) of NJT. Prior to the above changes, NJT’s OTP averaged 85.1% for 2014. In 2016, the OTP averaged 89.4%, including 5 months where the OTP was above 90%! OTP improvements fail to capture the true magnitude of the improvements since a bus must be less than 6 minutes late to be considered “on-time”. If a bus was routinely 15 minutes last and is not 6 minutes late, the improvement is not captured.
AM Peak - Operational Improvements

AM Peak - Operating Enhancements — The AM peak period also presents challenges to providing safe reliable service for commuters. This work included not only bus operators, but also the NJ Turnpike Authority who has assisted us with work on traffic flow and management.

PABT – Proposed 10 Year Capital Plan Improvements

The draft 2017 – 2026 Capital Plan includes $370 million for projects associated with the PABT. $28 million of the $370 million in the draft plan is allocated to work already in construction. Significant (non-QoC) projects in construction include project to upgrade the electric service and to replace the south wing HVAC units. The draft plan includes $ 60 million for QoC Improvement Program projects that will be completed in the next two years. The remaining $282 million is allocated for projects that were identified as priorities as the result of a strict vetting process that took place in 2016. A sample of the more significant interim investment projects include projects associated with fire protection systems, concrete and masonry repairs, rehabilitation of standing platforms and stationary stairs, and work associated with leak repairs.

As you know, the Bus Terminal is a 7 day a week operation which requires attention, investment and management. My work and that of a very dedicated staff is focused on providing a safe, reliable commuting experience for customers today and tomorrow. I am happy to answer any questions you may have.
NJ Senate Legislative Oversight Committee
January 17, 2017

Statement by Lou Venech, Manager of Regional Transportation Policy Development
The Port Authority of NY & NJ

Trans-Hudson Commuting Capacity Study
Summary of Findings & Recommendations
PANYNJ Board Resolution – Oct. 22, 2015

- Evaluate “Available Strategies to Meet and Manage Trans-Hudson Demand Over Next 30 Years…” Consider –
  - Rail, Ferry, and Other Modes
  - Improvements to Existing Infrastructure
  - Impact of New Technologies
  - Congestion Mitigation
  - Workplace Flexibility
  - Relative benefits of Trans-Hudson Alternatives
Study Approach

- Focus on West-of-Hudson Transit Network – All Modes
- Early Focus on Interstate Bus System:
  - Corridor Operations
  - Infrastructure Constraints
  - Technology Opportunities
- Potential Factors Affecting Benchmark PABT 2040 Forecast:
  - Bus Diversion Opportunities
  - Potential Diversion to Other Modes
  - Improved Transit Connections West-of-Hudson
  - Factors Affecting Commuter Behavior
Transit Options Shape Commuter Choices
Alternative Trans-Hudson Bus Services

- Evaluate Potential for New/Expanded Bus-Route Alternatives to PABT Service
- Develop Pilot Services With Bus Carriers to Test Commuter Market
- Collaborate With NYCDOT and MTA on Routes and Transfers
Transit Capacity/Connectivity Enhancements

- Advance short- and mid-term initiatives to enhance peak-period service capacity on West-of-Hudson network
- Step Up Coordination With Transit Operators, Localities
- Promote Commuting Alternatives Where New or Expanded Service Becomes Available
Commuting Capacity Study Findings

- Robust Demand on Overall Trans-Hudson Network
- Infrastructure and Technology Investments Needed to Upgrade Interstate Bus Network
- Potential to Reduce PABT Demand 10-20% -- Assuming Full Benefit of Gateway Expansion for NJT Rail and other Multi-Modal Improvements
- Factors Affecting Pressure on Interstate Bus Network:
  - Delays in Advancing Other Strategies
  - Changes in Commuting Patterns – Latent Demand
  - Flexibility of Bus Service to Absorb Market Changes
Summary Recommendations

- Pursue Phased Improvements to Interstate Bus Network With Partner Agencies and Carriers
  - Identify early options for bus staging and storage in NYC and NJ
  - Test and Deploy New Technologies for Bus Operations
  - Manage Network for Bus Priority Operations and Congestion Relief
- Ensure New PABT Can Serve 2040 Forecast If Needed
  - Seek “Scalable and Modular” Approaches
  - Provide flexibility to Handle Evolving mix of Bus Fleets, Sizes
- Support Demand Management Strategies
- Advance Rail Capacity Investments with Partner Agencies
Questions?

Report and Appendices Available for Download:


http://www.panynj.gov/about/pdf/Trans-Hudson_Commuting_Capacity_Study-All_Appendices_9-21-16.pdf
PATH Report to NJSLO Committee

Good morning and thank you Chairman Gordon and members of the Committee. My name is Clarelle DeGraffe and I am the Deputy Director of the PATH Rail System. In that role, I assist Director Mike Marino in daily management and operation of the PATH Rail System. I graduated the Stevens Inst of Tech with a Civil Engineer Degree and have 28 years with the Port Authority having had the opportunity to work on a variety of construction projects, including the rebuilding of the WTC.

- **Brief description of PATH**
  + 108-yr old system
  + 13.8 revenue miles
  + 4 tunnels between NY & NJ
  + Approx. 1,200 train moves per day
  + Regulated by FRA
  + Carried 78.6M in 2016, average approx. 270K per weekday
  + 7th busiest but 2nd densest rail system in America
  + Just over 1,300 PATH employees; of which, about 1,100 are represented staff

- PA’s Proposed 10-Year Capital Plan Includes spending approximately $4.4B over the 2017-2026 time frame to deliver PATH capital projects such as:
  + The Sandy Program makes up $1.2B of PATH’s capital portfolio to restore the significant damages sustained by PATH after Superstorm Sandy and to make the system more resilient for speedier recovery in the event of future storms. Such Sandy projects include new substations that were damaged during the storm, major repairs to the tracks as well as the power, communication and signal systems of tunnels E&F which lead into the WTC, new vertical circulation at impacted stations, and replacement of various electrical and mechanical systems that had been damaged.
  + Maintenance of aging infrastructure such as tracks, substations, signals and power equipment and cables inside and outside of the tunnels to ensure safe, reliable service for our riders
A new Signal System that will provide the federally mandated PTC System by December 2018. PATH just successfully completed 17 weekends of outages where both tunnels A&B that operate from Christopher Street to 33rd Street were taken out of service for the installation of infrastructure to implement PTC. PATH was able to complete more (19%) work than was planned during these outages, and work continues throughout our system. PATH continues to work closely with the FRA and is on track to meet this December 2018 schedule mandate with more than half the infrastructure and testing currently in place.

Coupled with the new Signal System of PTC/CBTC, which will enhance PATH's capacity the procurement of an additional 50 cars will facilitate this enhancement) to meet the continued growing ridership demand on PATH, especially at our Harrison, Jersey City and Hoboken Stations.

Completion of the Harrison Station upgrade.

Completion of ADA Compliance at Grove Street Station in 2017.

• Through cooperation with our partner agencies, PATH continues to serve commuters as a vital part of the region's larger transportation network.

• PATH has also engaged in an open dialog with representatives of local municipalities and the county to discuss the growing strain on PATH as a result of the growing ridership from the numerous developments in their towns. These discussions are on the ground floor and are intended to focus on initiatives that will support the need for increasing capacity on PATH.

• We believe that only through collaboration with our local host communities can we plan intelligently, make necessary improvements and achieve success in providing a safe, reliable, comfortable commute for PATH riders.

Thank you for the opportunity to appear today and I am happy to answer your questions.
Newark Liberty International Airport Terminal A Redevelopment Program
New Jersey State Senate Legislative Oversight Committee

January 17, 2017

THE PORT AUTHORITY OF NY & NJ
Existing Terminal A is a circa 1973 asset in need of major investment to meet future needs

Capacity Constrained
- Designed for ~9 MAP
- Over 10 MAP in 2015

Current Deficiencies
- Operational Issues
  - Screening
  - Airside Corridor
- State of Good Repair
  - Infrastructure
  - Building Systems
- Level of Service

Future Constraints
- Insufficient Queuing Space
- Frontage Congestion
- Limited Number of Gates
- Hold Rooms Insufficiently Sized
Daily crowd conditions occur due to legacy corridors inadequate to accommodate security screening
New Terminal will provide for ample check in, security and hold room concession space.
Program includes four main elements

Airfield
- 140 Acres paving & demo of existing blgds, concourses, satellites
- Traditional Design – Bid – Build
- Two contract packages

Landside/Roadway
- 8 new bridge structures, roadway work, pedestrian walkway and peripheral ditch work
- Traditional Design – Bid – Build
- Four contract packages

Parking Garage
- ~3,000 spaces & toll plaza
- Design - Build

Terminal
- Design – Build
- Construction of frontage N60 bridge, pedestrian bridge and ramp area
Terminal location and design optimized during the previous studies and planning

- $2.4 B Total Program Cost
- Approximate 1M sq. ft. Terminal
- 33 Gates expandable to 45 gates in future
- 13.6 MAP design year: future capacity up to 19.6 MAP
- Flexible design to accommodate future technology
- LEED Silver
- Resilient Design
Terminal A implementation plan builds off current infrastructure work to achieve full opening in 2022.
Initial construction contracts are Bridges N57, N58 & N59 with award targeted for 1st Qtr 2017

- Required DEP permitting concurrently due to impacts on Peripheral Ditch
- Bridge 58 & 59 abutments on east of ditch land in current UPS site so notice initiated for relocation
Additional activities also engaging industry to further Terminal A Redevelopment

Professional Service Contracts
- PM services
- Design services
- CM services

Industry Outreach
- RFI and RFQ documents issued for Terminal
- Industry conference – October 2016
- MBE/WBE conference planned for spring 2017
Terminal A Replacement will also serve as an economic driver for the Region

- 9,000 job-years
- $600 million in wages
- $3.3 billion in economic activity

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<tr>
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<td>480</td>
<td>640</td>
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<td>1,430</td>
<td>1,960</td>
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Newark Liberty International Airport
AirTrain
New Jersey State Senate Legislative Oversight Committee

January 17, 2017

THE PORT AUTHORITY OF NY & NJ
Provisions for EWR AirTrain were made in the 1970s. CTA development and construction began in the 1990s.

New Central Terminal Area:
- "Notches" designed into Terminals for Stations and guideway right of way

Airport Access Program:
1980/1990s
- Reduce roadway congestion
- Improve connectivity on airport
- Connect airport with Regional Rail Transit

Planning and Construction
- Planning began 1987
- DBOM Contract award December 1990
- First phase on airport
- Second phase extended to a new North East Corridor Station
EWR AirTrain serves both airline passengers and employees, easing connection to airport destinations

Opening Dates
- Base System – May 1996
- NEC Extension – October 2001

Services
- Inter-Terminal Transfers (A,B,C)
- Rental Cars (P2, P3)
- Parking (P1, P3, P4)
- Hotel courtesy shuttles (P4)
- NJT and Amtrak (NEC)

Ridership
- Average 33,000 pax daily
  - ~30% A,B,C transfers
  - ~45% P1, P2, P3 & P4
  - ~25% NEC

Frequency
- 5 am – midnight every 3-4 minutes
- Midnight – 5 am every 15 minutes
EWR AirTrain traverses 3 miles of elevated guideway with a fleet of 18 vehicles using a monorail technology

Dual tired system: guide wheel and drive wheel

6 car trains - permanently coupled

Automatic train control

Steel box beam guideway structure

Composite running surface with heating system

Rotary switches
$380 Million allocated for EWR AirTrain Interim Repairs

Vehicle Refurbishment: Bodies and Sub-components

Guideway: Switches, Structure, Running Surface & Heating Repairs

Automatic Train Control Replacement
$40 Million - Planning of an AirTrain Replacement

Goals
- Replace Age expired System
- Meet growing ridership demand
- Address changing Airport Layout

Professional Services Agreement
- Concept Alignment
- Coordinate with Terminal A Redevelopment
- Technology Assessments
- Industry Benchmarking
- Ridership Projections
- Budget Development
- Scheduling
- Environmental Documents
- Evaluation of Procurement and Project Delivery Approaches
Good afternoon. My name is Mark Lohbauer, and I am the NJ Director of the Regional Plan Association. RPA has prepared long-range strategic plans for the tri-state New York/Connecticut/New Jersey metropolitan region since 1929. I’m pleased to tell you that we will be publishing our Fourth Regional Plan in the fall of this year and it will offer recommendations to address the projected needs of our region over the next 25 years.

Thank you for this opportunity to testify about what we consider should be important goals of the Port Authority of NY & NJ regarding regional transit. We applaud this Committee for demanding enhanced public transportation for New Jerseyans, a cause that we strongly support.

In our view, not enough spending is dedicated to public transportation in our State, particularly in that part of the Northeast Corridor that falls within the jurisdiction of the Port Authority. I have brought some slides to illustrate why we believe that a significant increase in investment is justified in that area to support:

- Economic growth for NJ;
- An enhanced environment less impacted by motor vehicles;
- Better access for NJ residents to jobs in the NYC market; and
- Greater mobility for New Jerseyans throughout the region.

There are three Port Authority projects that I will discuss with you: Gateway, Port Authority Bus Terminal, and the PATH Extension to Newark.

I have three basic points to make about those projects:

1. RPA believes that the Gateway project and the Port Authority Bus Terminal projects are of paramount importance not only to NJ, but to the national economy. The PATH Extension project is also important to the regional economy.

2. We also believe that any new Port Authority bus terminal needs to be planned in an integrated way with the Gateway project, and the planning for a new Penn Station train terminal. Together, these projects will determine
virtually all access into Manhattan for NJ commuters, and they should not be planned in isolation from one another.

3. Finally, there need to be resources to make these investments. The economic multipliers make each of these good projects, and we shouldn’t accept a future where we are constrained by our current under-investing.

By public transportation, we mean both bus and rail transit. Let me show you why:

SLIDE #1:
This map illustrates the rail service lines that exist in the 31 counties of our region. 14 of those counties are in NJ. Like the spokes of a wheel, all of these rail lines radiate outward from a central hub, which is the island of Manhattan, the heart of our metropolitan region.

SLIDE #2:
This dot-density map, produced by the Port Authority, graphs the results of the most recent U.S. Census travel survey, showing the various modes of transportation used by commuters in the region. People who commute by car are shown by red dots, and you can see that those are distributed everywhere, but for Manhattan. The other colors represent public transportation choices:

- Purple dots for ferry riders;
- Green for subway riders;
- Yellow dots for bus commuters; and
- Blue for rail passengers

If you just look at the counties of NJ, you can see that the yellow of bus commuters, and the blue of rail passengers are both striking in their dominance. It’s also important to note that many of these bus riders are originating from denser parts of the state – in Hudson, Essex, Bergen and Passaic counties.

New Jerseyans clearly rely heavily upon public transit to get to Manhattan.

SLIDE #3:
Of course, Manhattan is an island, and it is necessary to cross the Hudson River from NJ to get there, or the East River and Harlem River to get there from Long Island, Connecticut, or the outer boroughs. This chart shows that by far, the least number of crossing options are available to cross the Hudson from NJ: there are only 6 crossing structures that cross the Hudson: 1 bridge (the GWB), and 5 tunnels. However, there are 15 crossing structures that cross the Harlem River, and 18 across the East River... each with about 3 times as many structures as the Hudson. Put another way, only 15% of the crossing structures that carry people
into Manhattan cross the Hudson River into NJ. Also, most of these crossings are designed for rubber-tired vehicles – autos and trucks.

SLIDE #4:
This imbalance in crossing points is exacerbated when you consider the level of traffic flowing across each of these rivers: there are over 9,300 express buses that enter downtown Manhattan every day. Over 82% of these—7,389—come from NJ and cross the Hudson. That’s quite a disparity.

SLIDE #5:
A survey completed in 2013 (HUB BOUND) shows that of all the daily transit riders who crossed the Hudson river, 47% of them traveled by bus. In fact, of all the choices available—PATH, NJ Transit, Amtrak, ferry boats, and buses—the single largest rider choice was buses across the Lincoln Tunnel (43%). Bus transit is clearly an extremely significant component for NJ transit riders.

As we know, the existing Port Authority Bus Terminal is deteriorated, and inadequate to comfortably serve current ridership demand. Nor does it connect the majority of NJ’s bus commuters to their ultimate destinations in the city. A new bus terminal and more balanced service is critical to better serve the 43% of NJ commuters that use this mode.

One of our key goals for 2017 at RPA is determine a plan and funding scheme for the new Port Authority Bus Terminal and get the environmental approvals process underway. We intend to work with public officials and business and civic groups to develop an integrated plan that meets the future travel needs across the Hudson River, including the size and location of a new bus terminal and other improvements. We recognize that the Port Authority has set aside $3.5 Billion in its current capital plan for this project, and that a design competition has produced several alternate plans for the Port Authority to consider. We respectfully suggest that further planning needs to be done before bus terminal designs are attempted or selected. We believe that any new Port Authority bus terminal needs to be planned in an integrated way with the Gateway project, and the planning for a new Penn Station train terminal. Together, these projects will determine virtually all access into Manhattan for NJ commuters, and they should not be planned in isolation from one another.

SLIDE #6:
The disparity that exists today in terms of access for NJ commuters into Manhattan is only going to get worse, if measures are not taken to improve access and provide better alternatives. This slide shows that over the past two decades (1990-2010), transit ridership to Manhattan grew slightly in Connecticut and in the Hudson
River Valley, and stayed flat in Long Island... while ridership increased by 65,000 people coming from NJ. You may wonder whether that trend will continue. We are confident that the region will see even greater growth, and while I do not have specific projections to share with you today, we can preliminarily project a growth of NJ riders of about 100,000 between now and 2040. We will have more specific projections in our Fourth Regional Plan, later this year.

SLIDE #7:
All of this growth is occurring at a time when we are facing a looming crisis in conveying transit passengers between NY and NJ. We have 2 tunnels to provide train service between Manhattan and Newark. Both are over 100 years old, and both were damaged by floodwaters during Superstorm Sandy. Salt and mineral deposits that coated the tracks and tunnel walls from the flood waters are still present, corroding the infrastructure. We need to stop that deterioration, but it will require closing each tunnel to do the work. This slide shows that closing one tunnel will reduce our rail capacity from the current 24 trains/hour, to a maximum of 6 trains/hour—one-fourth of what it should be. You can imagine what a disaster that would be to close a tunnel for one day, let alone for a year or more.

SLIDE #8:
To prevent that disaster, we need to build a new, 2-track tunnel under the Hudson, and support that new tunnel with related replacements of aging rail bridges that will increase train capacity, and avoid delays now caused by bridge openings. Once completed, the new Gateway project would allow for existing rail traffic to move through the new tunnel, while we close and repair the existing tunnels. As you know, this project is underway with the support of Governors Christie and Cuomo, the federal government, Amtrak, NJ Transit, and the NY Department of Transportation. The Port Authority has already set aside $2.7 Billion in their current Capital Plan for this project, which has been described by the federal Transportation Department\(^1\) as “the most important rail project in the United States.”

SLIDE #9: Newark PATH Extension
One other Port Authority project that features in the Capital Plan, and is important not only to enhanced trans-Hudson access, but would also provide better rail access to an underserved urban neighborhood, is the Newark PATH extension. It would continue the PATH rail line south from its current terminus at Newark Penn Station, and extend nearly 2 miles south to Newark Liberty Airport.

This slide shows the proposed line extension in pale blue.

Bringing PATH into Newark’s South Ward will provide:

- Improved access (and frequency of service) to Liberty Airport for residents across the region;
- New access to better transit for residents of Newark’s South Ward, by creating a public train station at the Airport;
- Better access to jobs around the region for all Newark residents;
- Enhanced PATH train frequency thanks to a new rail yard that would allow for storage of more PATH trains. (This, in conjunction with Automated Train Control, which is already being installed on PATH trains, will allow maximum train frequency.)

Equally important are these other consequences shown on this table that we project that the PATH extension would have for other NJ communities. As the table shows, there would be dramatic increases in development that would bring new jobs and new residents to all 5 of the NJ PATH stations along the line between Exchange Place and Newark Airport. This investment would reap real dividends.

In closing, the RPA would like to thank the Chairman and members of the Senate Legislative Oversight Committee for maintaining your vigilance in this most important area. We urge you to continue your support and scrutiny of these critical projects at the Port Authority, without which our regional economy might experience serious reversals. Thank you.
Commuter Railroads in the Region
Commuters into Manhattan, by mode

Legend
1 Dot = 1 Commuter
- Bus
- Ferry
- Rail
- Subway
- Car

Source: PANYNJ; American Community Survey 2006-2010, Special Tabulation: Census Transportation Planning
Daily Express Buses into Manhattan CBD

New Jersey 7,687

Above 60th St 589

Manhattan Central Business District

Brooklyn/Queens (across East River) 1,068
Trans-Hudson Public Transit
2013 Weekday Inbound Traffic

NJ-NY Buses
174,396 trips

NJ Transit Rail
75,305 trips

Amtrak Rail
10,564 trips

PATH Uptown
61,952 trips

NJ-NY Buses
17,592 trips

PATH Downtown
54,289 trips

NJ-NY Ferries
14,930 trips

- Lincoln Tunnel - 43%
  P.A. Bus Terminal
- Hudson River Tunnel - 21%
  N.Y. Penn Station
- Uptown PATH Tunnel - 15%
  33rd Street Station
- Holland Tunnel - 4%
  Downtown
- Downtown PATH Tunnel - 13%
  World Trade Center

Total Transit Trips
409,028 (100%)

New York Harbor
Hudson River Tunnel: Crisis Scenario

Today 100%

With **two tunnels**, peak hour capacity is **24 trains**

With **one tunnel**, peak hour capacity is **6 trains, or 25%**