

APPENDIX

Senate Legislative Oversight Committee Meeting

Fair Lawn Administration Building, Fair Lawn, NJ

May 24, 2016

I appreciate this invitation to update you on several important Port Authority initiatives, as much has gone on since I last appeared before you in October.

This year marks the agency's 95th anniversary –a milestone that is significant because at this point in our history we have multiple major transportation projects either underway or in planning.

The Gateway Program is being actively pursued thanks to the leadership and agreement among Governors Christie and Cuomo and Senators Booker, Menendez and Schumer. This is a collaborative partnership among the Port Authority, Amtrak, and US Department of Transportation in close collaboration with NJ Transit. It is a monumental undertaking. Gateway may be the nation's marquee infrastructure project. It will be funded at 50 percent by the US DOT and 50 percent through a funding plan developed by the states of New York and New Jersey and the Port Authority. In March, the Port Authority Board authorized a \$35-million contribution to jumpstart preliminary planning and engineering work.

In a few minutes, we'll provide you with additional information on our progress to date and next steps as we move forward on this critical project.

The initiation of the Gateway project and the winding down of the decade-long World Trade Center rebuilding program underscore the Port Authority's renewed commitment to our agency's core transportation mission, across the region and particularly in New Jersey.

Two months ago, the Board of Commissioners authorized \$2.3 billion for replacement of Terminal A at Newark Liberty International Airport. This project will provide a world-class experience for travelers and is expected to generate \$3.3 billion in regional economic activity overall, and eventually create 9,000 jobs and provide \$600 million in wages. Terminal A is a multi-phased development initiative, comprising a new terminal building and a parking garage complex.

Our ports broke the previous record for annual cargo volumes in 2015 by more than 10 percent, building on the jobs and economic activity the port generates for the bi-state region.

The sharp increase in cargo volume enabled the port to maintain its position as the busiest on the East Coast, with nearly 30 percent of the total market share.

To retain our competitive edge as the largest port on the East Coast, we have undertaken the Bayonne Bridge Raise the Roadway Project. That project, now in full construction, continues to progress as we work towards navigational clearance for larger container vessels in 2017.

Despite such impressive cargo increases, the Port of New York and New Jersey has experienced a 33-percent reduction in port emissions pollutants since 2006 due to environmental initiatives it has implemented.

Additionally – and something I know is of great importance to the Members of this Committee – we’re making remarkable strides toward the replacement of the Bus Terminal, which the Board determined, in March, will be located on Manhattan’s West Side. This is, as you know, significant for eliminating multi-seat rides for commuters.

Certainly, this project has been the subject of considerable debate and discussion. But there is no disagreement about the need to replace

the facility and create a 21st century commuting experience for riders while not creating adverse impacts for local neighborhood residents.

Last October, the Port Authority Board authorized an international design competition to solicit conceptual designs for a new bus terminal.

We've launched the "*Port Authority Bus Terminal International Design + Deliverability Competition*," a two-stage competition seeking an inspired and qualified team that can deliver a winning conceptual design for this complex undertaking.

My colleagues will speak in a few minutes about the details of this upcoming competition. But I would be remiss if I didn't express my own enthusiasm for this innovative process and my appreciation to the many members of staff who have worked countless hours to create and perfect the competition. I should also note the consistent support for this project, on a bipartisan basis, among legislators such as yourselves and Governor Christie throughout the process of PA authorization.

In my almost two years at the Port Authority, I've been struck by the extraordinary level of professionalism displayed each day by the staff and the commitment and involvement of my fellow Board Members.

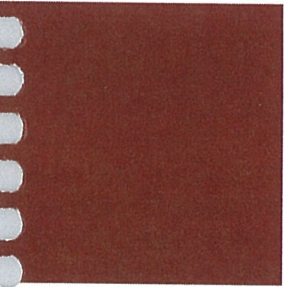
Let me introduce the members of the Port Authority staff who are with me today:

- Mark Muriello – Deputy Director, Tunnels Bridges and Terminals
- Diannae Ehler – General Manager, Port Authority Bus Terminal/Lincoln Tunnel
- Lou Venech – Manager Regional Transportation Policy, Planning and Regional Development
- Portia Henry – Executive Policy Analyst

- William Laventhal – Executive Policy Analyst

Unless you have any specific questions for me at this point, we'll turn to the project presentations you have requested and respond to your questions at your direction.

International Design + Deliverability Competition



PORT AUTHORITY BUS TERMINAL

Competition Conditions

March 11, 2016

Dear Competitor:

The Port Authority is pleased to launch this international design and deliverability competition for the conceptual design of a new Port Authority Bus Terminal ("**Bus Terminal**").

By way of background, beginning in 2013, the Port Authority initiated a Midtown Bus Terminal master planning process to address the capacity, aging infrastructure, structural, operational and financial issues at the existing Bus Terminal, with an eye towards creating a development plan for a new Bus Terminal. These issues were reviewed in the context of overall trans-Hudson transportation planning issues, including growing bus ridership.

The Port Authority's master planning process led to the creation of several alternative development proposals for a new bus terminal facility located one block west of the existing terminal, between 11th and 9th Avenue, between 38th St and 40th Street.

At its October 22, 2015 meeting, the full Port Authority Board of Commissioners endorsed the recommendations of the Working Group, and passed a resolution that established this Competition. This resolution can be viewed in its entirety on the Competition website at www.panynj.gov/BusTerminalDesign in the Downloads section.

The Port Authority was instructed to conduct an international design competition soliciting conceptual designs for a new Bus Terminal on the site recommended by the Working Group, one block west of the current structure, between Ninth and Eleventh Avenues; such designs to allow for: (i) sequential construction of key elements (including terminal facilities and bus-staging facilities) as estimates of future capacity needs are refined, (ii) scalability of the terminal complex to meet developing capacity requirements, and (iii) appropriate pedestrian connections to mass transit in the vicinity of the new terminal. It was required that participants in the Bus Terminal design competition be instructed to suggest alternative sites for a new Bus Terminal should their analysis determine that the proposed site west of Ninth Avenue is not optimal.

The resolution also directed Port Authority staff to commission a trans-Hudson commuting capacity study, concurrently with the Competition, to provide insights into long-term trans-Hudson demand and capacity across various modes of transportation, including bus, rail, and ferries. The Port Authority's prior analysis forecasts steady growth in bus ridership over the coming decades; the project concepts developed by the Agency were designed to accommodate that expected increase in demand through a larger modernized facility, but one that utilized an underlying operating concept similar in nature to the existing terminal operations. The Port Authority will provide interim findings from this ongoing capacity study to Finalists during Phase Two of the Competition to help inform their thinking and development of their conceptual designs.

The goal of the Port Authority in conducting this international design and deliverability competition is to select a design concept that can be moved forward for real-world development. The inclusion of a "deliverability" component in the Competition is intended to convey that the Port Authority does not want this to be an architecture competition that is decided solely based on aesthetic or design criteria.

Through this Competition, the Port Authority is seeking to inform its master planning efforts and select a winning deliverable design concept that recommends an optimal location for a new bus terminal facility and most fully meets the following objectives:

- (1) Meets current and projected bus passenger traffic demand with an appropriate level of service, recognizing the role of a new Bus Terminal in the interstate transportation network, addressing both the commuter and long-distance markets and compatibility with other trans-Hudson transportation operations and investments;
- (2) Advances a functional and practical transportation solution, reflecting an effective operation for the passengers and bus carriers that rely on the terminal and its services, including appropriate pedestrian connections to mass transit in the vicinity of the new terminal;
- (3) Minimizes traffic impacts to the surrounding local streets;
- (4) Provides functionality for bus parking and staging;
- (5) Considers the potential for other bus storage facilities in alternate locations;
- (6) Provides a cost effective solution that takes into account both the capital and future operating costs as an element of "deliverability," given limited financial resources and the history of significant operating losses at the existing facility;
- (7) Permits scalable and modular solutions that may be phased as needs and standards for the Bus Terminal evolve;
- (8) Takes future constructability into account;
- (9) Sustains the Port Authority's interest in safety and security in terms of design, operations, and site location;
- (10) Utilizes currently-owned Port Authority real estate where possible, minimizing the acquisition of private real estate;
- (11) Encourages attraction of private capital as an element of project "deliverability," including leveraging the Port Authority's real estate development rights associated with the Bus Terminal and surrounding area, and potential public-private partnership options as a means of delivering the future project;
- (12) Takes into account the concerns of the local community including construction impacts, requirements for non-Port Authority property, bus operation impacts, and a conceptual design that considers the fabric of the surrounding neighborhood;
- (13) Utilizes sustainable design principles; and
- (14) Embodies the excitement and dynamism of the New York and New Jersey Metropolitan area.

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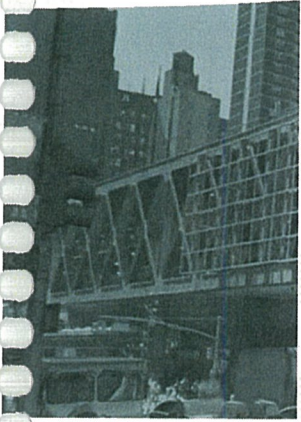
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OVERVIEW OF
THE DESIGN +
DELIVERABILITY
COMPETITION

OVERVIEW OF THE DESIGN + DELIVERABILITY COMPETITION

1.1. Invitation to Compete

The Port Authority of New York and New Jersey (the “**Port Authority**”) welcomes your participation in the Port Authority Bus Terminal International Design + Deliverability Competition (the “**Competition**”). The Port Authority is launching this Competition to inform the Port Authority’s master planning efforts and select a conceptual design that most fully meets the Design + Deliverability Objectives for a new Bus Terminal. The Port Authority anticipates awarding a one million dollar honorarium to the winning Finalist.

The Competition’s scope embraces a diverse field of expertise, including architecture and engineering, intermodal transportation operations and planning, construction, land use, and finance. Competitors should therefore assemble a multi-disciplinary design-led team, of both emerging and established talent, with the appropriate skill sets and expertise to embrace the complex challenges of designing a new Bus Terminal in the heart of New York City, and deliver a conceptual design that meets the Design + Deliverability Objectives.

The Port Authority will conduct the Competition in two phases. In Phase One of the Competition, the Port Authority seeks multi-disciplinary design-led teams (each a “**Competitor**” and collectively the “**Competitors**”) to register to compete in the Competition, and submit a Phase One Submission. The Phase One Submissions will be evaluated in accordance with the Phase One Submission Evaluation Criteria. At the conclusion of Phase One, the Port Authority will shortlist Competitors to participate in Phase Two of the Competition (the “**Finalists**”). Neither Competitors’ Phase One nor Phase Two Submissions will be anonymous.

During Phase Two, the Port Authority will issue additional materials to the Finalists. Finalists may use these materials to inform their Phase Two Submission, which must contain a fully deliverable conceptual design and a proposed methodology for delivering the conceptual design.

The Port Authority has commissioned a trans-Hudson Commuting Capacity Study of available strategies for meeting and managing the anticipated increases in trans-Hudson commuter demand over the next thirty years. While the Capacity Study is expected to be completed by June 30, 2016, interim products highlighting work in progress findings are due at the midpoint of this effort. The Port Authority anticipates providing the interim products from the capacity study to Finalists during Phase Two. In addition, the public is invited to submit comments to the Port Authority via an online survey available at www.panynj.gov/BusTerminalDesign. The online survey will be available throughout the Competition. The Agency will provide the survey results and public comments to the Competitors, the Jury that will be selected to judge the Competition, and the Port Authority’s Board of Commissioners.

1.2. Competition Conditions

This document provides pertinent details of the Competition, including the Design + Deliverability Objectives, Competitor eligibility, instructions for registration and submission, and other essential information for Competitors (the "Competition Conditions").

1.3. Summary of the Port Authority's Master Planning Efforts to Date for a New Bus Terminal

As part of this Competition, the Port Authority intends to share with Competitors the evolution of the Port Authority's master planning efforts for a new Bus Terminal, so that Competitors can contemplate these efforts when developing their conceptual designs.

To this end, Competitors should review the four (4) appendices to these Competition Conditions. Appendix A provides the Competition's emerging Design + Deliverability Brief. The purpose of the emerging Design + Deliverability Brief is twofold: (1) to provide Competitors with an overview of the Port Authority Bus Terminal (the "Bus Terminal") and the challenges the facility faces in the present and future; and (2) to describe the master planning process and efforts that the Port Authority has undertaken to date for the Bus Terminal. Competitors should review the emerging Design + Deliverability Brief to expedite their understanding of the various concepts that the Port Authority has considered to date for the design and construction of a new bus terminal. Appendix B contains presentations given to the Port Authority's Board of Commissioners relating to the master planning efforts. Appendix C highlights the ongoing deliberative process behind the Port Authority's continuing master planning efforts for the new Bus Terminal which led to the five concepts provided in Appendix A. Appendix D is a list of figures and tables that appear in Appendices A-C.

The Design + Deliverability Objectives described in these Competition Conditions should guide the Competitors' submissions. The goals or objectives described in Appendix C reflect the goals and objectives of the master planning efforts only. They are not intended to represent any final determination of the Port Authority, other than to the extent that certain items may also be present in the Design + Deliverability Objectives, and should not be addressed in Competitors' submissions.

1.4. Competition Background

At the March 19, 2015 meeting of the Port Authority's Board of Commissioners, the Board's Chairman announced the formation of a working group of the Board (the "Working Group"). The focus of the Working Group was to: (1) advance the planning process for the design and construction of a new 21st century bus terminal; (2) examine a broad range of approaches for the new bus terminal; and (3) identify the most promising alternative for consideration by the full Board prior to the end of 2015.

At its October 22, 2015 meeting, the full Board passed a resolution that established this Competition.

The resolution directed the Port Authority to conduct an international design competition soliciting conceptual designs for a new Bus Terminal on the site recommended by the Working Group, one block west of the current structure, between Ninth and Eleventh Avenues; such designs to allow for

- (i) sequential construction of key elements (including terminal facilities and bus-staging facilities) as estimates of future capacity needs are refined, (ii) scalability of the terminal complex to meet developing capacity requirements, and (iii) appropriate pedestrian connections to mass transit in the vicinity of the new terminal.

The resolution also required that participants in the bus terminal design competition be instructed to suggest alternative sites for a new Port Authority Bus Terminal should their analysis determine that the proposed site west of Ninth Avenue is not optimal.

This Competition is the next step in the Port Authority's efforts to design and construct a new 21st century bus terminal. Interim findings from the trans-Hudson network Commuting Capacity Study authorized by the Board in the same resolution will be shared with Finalists as an additional planning resource.

1.5. Design + Deliverability Objectives

The Design + Deliverability Objectives are the crux of the Competition. The goal of the Port Authority in conducting this Competition is to develop a design concept that can be moved forward for real-world development. In titling this a "design + deliverability" competition, the Port Authority is not seeking this to be an architecture competition that is decided solely on aesthetic or design criteria. Through this Competition, the Port Authority is seeking to inform its master planning efforts and select a winning deliverable design concept that recommends an optimal location for a new bus terminal facility, and most fully meets the following objectives (the "Design + Deliverability Objectives"), which are not listed in order of importance:

- (1) Meets current and projected bus passenger traffic demand with an appropriate level of service, recognizing the role of a new Bus Terminal in the interstate transportation network, addressing both the commuter and long-distance markets and compatibility with other trans-Hudson transportation operations and investments;
- (2) Advances a functional and practical transportation solution, reflecting an effective operation for the passengers and bus carriers that rely on the terminal and its services, including appropriate pedestrian connections to mass transit in the vicinity of the new terminal;
- (3) Minimizes traffic impacts to the surrounding local streets;
- (4) Provides functionality for bus parking and staging;
- (5) Considers the potential for other bus storage facilities in alternate locations;
- (6) Provides a cost effective solution that takes into account both the capital and future operating costs as an element of "deliverability," given limited financial resources and the history of significant operating losses at the existing facility;
- (7) Permits scalable and modular solutions that may be phased as needs and standards for the Bus Terminal evolve;
- (8) Takes future constructability into account;
- (9) Sustains the Port Authority's interest in safety and security in terms of design, operations, and site location;
- (10) Utilizes currently-owned Port Authority real estate where possible, minimizing the acquisition of private real estate;

- (11) Encourages attraction of private capital as an element of project "deliverability," including leveraging the Port Authority's real estate development rights associated with the Bus Terminal and surrounding area, and potential public-private partnership options as a means of delivering the future project;
- (12) Takes into account the concerns of the local community including construction impacts, requirements for non-Port Authority property, bus operation impacts, and a conceptual design that considers the fabric of the surrounding neighborhood;
- (13) Utilizes sustainable design principles; and
- (14) Embodies the excitement and dynamism of the New York and New Jersey Metropolitan area.

1.6 Deliverability

For the purposes of this Competition, "deliverable" means a design that meets the Design + Deliverability Objectives while being feasible and constructible in this urban region. This includes not only the considerations relating to the elements outlined in the Design + Deliverability Objectives above, but also other necessary considerations that will impact costs and schedule, such as completing all necessary operations, financing strategies, community reviews, and obtaining all necessary permits. In Phase Two, Finalists will be asked for a more detailed analysis of the deliverability concerns surrounding the Port Authority Bus Terminal Project and how this analysis informs their conceptual design. Finalists may be asked to consider innovative project delivery and financing strategies, such as the potential for a public-private partnership. The Port Authority anticipates providing additional information to Finalists in Phase Two that relate to real estate, transportation operations, retail operations, and technology and security considerations.

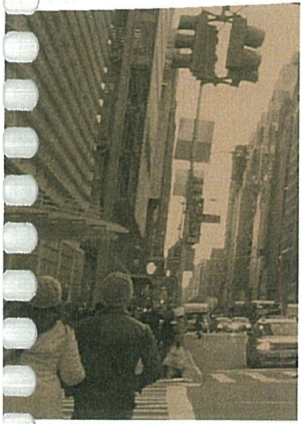
1.7 Competition Sponsor: About the Port Authority

The Port Authority of New York and New Jersey is the Competition Sponsor. The Port Authority is a municipal corporate instrumentality and political subdivision of the States of New York and New Jersey, created and existing by virtue of the Compact of April 30, 1921, made by and between the two States, and thereafter consented to by the Congress of the United States. The Port Authority is charged with providing transportation, terminals, and other facilities of trade and commerce within the Port District. The Port District comprises an area of about 1,500 square miles in both States, centering about New York Harbor. The Port District includes the Cities of New York and Yonkers in New York State, and the cities of Newark, Jersey City, Bayonne, Hoboken and Elizabeth in the State of New Jersey, and over 200 other municipalities, including all or part of seventeen counties in the two States.

The Port Authority's facilities enhance the region's competitiveness and prosperity by providing transportation services that efficiently move people and goods within the region and facilitate access to the nation and the world. The Port Authority strives to better coordinate terminal, transportation, and other facilities of commerce in the New York-New Jersey metropolitan region surrounding the Port of New York and New Jersey, and does so by identifying and meeting the critical transportation infrastructure needs that support bi-state commerce, as well as trade in both goods and services between the region and the rest of the nation and world.

The Port Authority's facilities include America's busiest airport system, the Port of New York and New Jersey, the PATH rail transit system, six tunnels and bridges connecting New York and New Jersey, and the 16-acre World Trade Center site, which is home to the iconic One World Trade Center, the tallest building in the Western Hemisphere. In addition, the Port Authority operates the Port Authority Bus Terminal in Manhattan, the largest facility of its kind in the world, and the George Washington Bridge Bus Station and Journal Square Transportation Center, serving interstate and intrastate bus services, respectively. Each of these facilities plays a key role in supporting the region's transportation infrastructure and economic livelihood.

For more information about the Port Authority, including the Port Authority's current Annual Report, please visit www.panynj.gov.



COMPETITION RULES AND REQUIREMENTS

COMPETITION RULES AND REQUIREMENTS

2.1 Eligibility

The Port Authority welcomes submissions from Competitors who can demonstrate a record of expertise and accomplishment in the design and planning of large scale, intermodal mass transportation projects within high-density urban environments, with at least one team member having experience working with publicly funded projects in the United States. Competitors may be a single firm with the appropriate expertise, or a joint venture, consortium or partnership between multiple entities (for the purposes of this Competition, the term "entity" includes, but is not limited to, firms, organizations, or individuals). Competitors must demonstrate expertise in the following fields: architecture, engineering, intermodal transportation operations and planning (the "Key Disciplines"). Further, at least one entity must be, or employ, a person who has the right to practice as an architect in the country where she or he is qualified or in the country where she or he currently resides or practices. Although not a requirement, Competitors are encouraged to engage experts in fields such as construction, community development, retail development, finance, and real estate and zoning. Furthermore, minority and women-owned firms are encouraged to participate. Port Authority staff, Board of Commissioners, Kohn Pederson Fox, Parsons Brinckerhoff, Skanska, Thornton Tomasetti, Jury members, and Jury member's respective professional practices or employees and family relations, are ineligible to compete.

2.2 How to Enter the Competition

Each Competitor wishing to enter the Competition must officially register with the Port Authority by completing the Registration Packet located on the Competition website, and sending the completed packet via email to PABTcompetition@panynj.gov. This Registration Packet will require Competitors to make certifications and agree to terms and conditions relating to the Competition. A Competitor's submission will not be reviewed until the Port Authority is in receipt of the Competitor's complete Registration Packet. Competitors may register up to and including the Phase One Submission Deadline, but are encouraged to submit their Registration Packet as soon as possible.

2.3 Competition Schedule

Competitors should be mindful of the Competition's constrained timeframe and deadlines for deliverables. The Port Authority reserves the right to modify the Competition Schedule at any time. The Port Authority will notify Competitors and the public of any changes to the Competition Schedule on the Competition's website and via addendum.

The Competition Schedule is as follows:

Competition Launch	March 11, 2016
Registration and Phase One Submission Deadline	April 12, 2016
Finalists Announced	April/May 2016
Phase Two Launch	April/May 2016
Site Visit	May 2016
Phase Two Submission Deadline	July/August 2016

2.4 Identification of Competitor Representative

Each Competitor must designate one (1) individual to be their authorized representative for contact with the Port Authority during the Competition (the “**Competitor Representative**” or “**Representative**”). Unless the Competitor notifies the Port Authority otherwise in writing, the Port Authority will deem the Representative identified by the Competitor in the Competitor’s Registration Packet to be the Competitor’s Representative. If at any time, a Competitor wishes to change their Representative, the Competitor must notify the Port Authority of the change, by email, to PABTcompetition@panynj.gov, with the name, address, and other contact information of the new Representative. Competitors are responsible for ensuring that the contact information for their Representative remains current during the Competition. If a Competitor fails to update its Representative’s contact information with the Port Authority, such failure may result in the Competitor not receiving important communications. The Port Authority will not be responsible for this failure.

2.5 Phase One Submission Requirements

For Phase One, each Competitor will be required to submit the following: (the “**Phase One Submission Requirements**”):

- (A) **Cover Letter:** The cover letter should briefly introduce the Competitor and summarize the content of its Phase One Submission.
- (B) **Copy of the Competitor’s Registration Packet**
- (C) **Organization Chart:** The Competitor must submit a graphic depiction of the Competitor’s organizational structure. The chart should identify the entities employing the personnel and their reporting relationships. The chart may be provided on 11” x 17” paper. The Competitor must submit a narrative of no more than three (3) single-sided pages (8.5” x 11”) describing all the functional relationships among the entities identified in the Organization Chart.
- (D) **Statement of Competitor Organization:** The Competitor must submit a statement signed by an authorized representative, stating whether the Competitor is a single entity or joint venture. While legal joint ventures are not required, if a Competitor is a joint venture or a consortium of entities, the Competitor must submit a copy of any written

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agreement, or understanding which exists between the Competitor's member entities. If the Competitor is a joint venture comprised of multiple entities, and the Competitor becomes a Finalist, then the Competitor as a Finalist must be composed of the entities as originally submitted in Phase One, although additional entities may be added with the prior written permission of the Port Authority. A Competitor may not substitute a member without the prior written permission of the Port Authority.

- (E) **Entity Profiles:** Each entity that comprises the Competitor must provide a general description of that entity, including, but not limited to, its legal form of organization, owners, general and limited partners, as appropriate, senior management, parent companies or subsidiaries, year established, number of employees, and office locations.
- (F) **Resumes:** Each entity that comprises the Competitor must provide the resumes of all staff that will be dedicated to developing the Competitor's Phase Two Submission. The Competitor should also depict these individuals and their roles in the Competitor's Organization Chart, noting their roles and titles. Resumes are limited to two (2) pages per person and may be double-sided.
- (G) **Competitor Composition Narrative:** Competitors must submit a written narrative that describes the Competitor's overall composition, including the names and the specific roles and responsibilities of the Competitor's members. Competitors should discuss past collaborative efforts among team members, if applicable. The narrative must present: (1) why the entities comprising the Competitor were brought together to enter this Competition; and (2) how the Competitor will leverage its composite expertise to accomplish the Design + Deliverability Objectives.

For each Key Discipline, Competitors should submit the following information:

- (1) A description of which member entities will be fulfilling each Key Discipline
- (2) Professional licenses held by member entities relating to each Key Discipline
- (3) Relevant projects (up to three (3) per member entity) or experience that demonstrate their approach to challenges similar to those surrounding the new Bus Terminal. The description of each project may be organized at the discretion of the Competitor, but should at a minimum communicate the project's design objectives, approach, results, project significance, and key features.

For each project example, the member entity must provide the following information:

- (1) Client name, email address and, contact number
- (2) Location of the project
- (3) Date of project completion, or if still under design or construction, date of projected completion
- (4) Anticipated, and final budget
- (5) Aspects of the design or design approach that are relevant or showcase equivalent challenges of redeveloping the Bus Terminal
- (6) Illustrative examples of each project, including images, illustrations, sketches, schematic design, or other explanatory information. The Competitor may submit up to three high-resolution images of the representative projects.
- (7) A list of awards, publications, notices, peer recognition, or any other documentation of design excellence for the projects.

The Competitor should submit highlights of previous work performed by each additional entity, if any (those representing fields other than the Key Disciplines).

- (H) **Statement of Design Concept Approach:** The Competitor must submit a narrative statement (no more than twenty (20) single-sided pages, exclusive of any illustrations and images) aligned with the Design + Deliverability Objectives, describing:
- (1) The Competitor’s understanding of the Design + Deliverability Objectives, and the Competitor’s approach to accomplishing these objectives through their conceptual design submitted in Phase Two;
 - (2) The Competitor’s design philosophy and how that design philosophy would be applied to the development of a robust, deliverable conceptual design in Phase Two; and
 - (3) The Competitor’s analysis of either:
 - a. the proposed site for the Bus Terminal west of Ninth Avenue, or
 - b. an alternative site
 at which the Competitor proposes designing a new Bus Terminal.

Competitors may provide illustrations and images as appropriate to communicate their design approach. Competitors may elaborate upon their approach to sustainable design and integration of technological components. Competitors’ conceptual designs should generally consider all applicable laws, rules, regulations and codes.

- (I) **Press Statement:** The Competitor should provide a 300-word description of the Competitor’s team for the Port Authority’s use for press purposes. This statement should include each Competitor team member’s website address (if one exists). The Competitor must provide a media contact person, as the Port Authority may require additional information.

2.6 Phase One Submission Format

Competitors should organize their Phase One Submission using the following tab labels and titles:

List of Phase One Submittal Requirements	
2.4 (A)	Cover Letter
2.4 (B)	Copy of Competitor’s Registration Form
2.4 (C)	Organization Chart
2.4 (D)	Statement of Competitor Organization
2.4 (E)	Entity Profiles
2.4 (F)	Resumes
2.4 (G)	Competitor Composition Narrative
2.4 (H)	Statement of Design Concept Approach
2.4 (I)	Press Statement

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The Competitor must submit its Phase One Submission in the following format:

- One (1) unbound Phase One Submission copy conspicuously marked "ORIGINAL"
- One (1) Phase One Submission electronic copy on a USB flash drive marked "ORIGINAL"
- Twenty (20) bound copies of the Phase One Submission (three-ring binders)
- Twenty (20) Phase One Submission electronic copies on USB flash drives

Electronic copies of the Competitor's Phase One Submission should be in a format that does not prevent the Port Authority from cutting and pasting content. Competitors should include the Competitor team members' corporate logos (.JPEG or similar format), up to three high-resolution images of each of the entities' representative projects, and any images provided as part of the Competitor's design approach must be included separately as high-resolution images, on the Competitors "ORIGINAL" electronic submission (USB). Hard copies of Phase One Submissions must be printed on 8" x 11" paper (unless otherwise specified herein) in 12-point font, single-spaced, and employ margins of one inch or more.

The Port Authority may disregard any materials submitted in a Competitor's Phase One Submission that is not specifically identified as a Phase One Submission Requirement in Section 2.5.

2.7 Phase Two

Phase Two of the Competition will commence after the Port Authority announces the Finalists. Finalists will be required to demonstrate compliance with Port Authority information security requirements prior to being provided access to Phase Two information. Shortly after the commencement of Phase Two, the Port Authority will release to the Finalists detailed Phase Two Submission requirements, which may include additional information, reports and documents, to be considered in the preparation of the Finalists' Phase Two Submissions.

2.8 Deadline for Phase One Submissions

The Port Authority must receive Phase One Submissions no later than 2:00 P.M. EDT on Tuesday, April 12, 2016. The Port Authority may not evaluate any Phase One Submission received after that time. The Port Authority assumes no responsibility for delays caused by any delivery services.

2.9 Delivery Instructions for Phase One Submissions

Each Competitor is responsible for the proper and timely delivery of their Phase One Submission. All Phase One Submissions must be delivered in a sealed package. The package must state in bold letters conspicuously on the cover of the package "Port Authority Bus Terminal International Design + Deliverability Competition."

Address your Phase One Submission to:

The Port Authority of New York and New Jersey
4 World Trade Center
150 Greenwich Street, 21st Floor
New York, NY 10007
Attention: Bid Custodian

Competitors must not address their submission to any other name. Please note: at this address, submissions will only be accepted via the United States Postal Service, UPS, or hand delivery. Submissions will only be accepted Monday through Friday, excluding Port Authority holidays, between the hours of 8:00 a.m. and 5:00 p.m., via (1) regular mail, (2) express delivery service (e.g. UPS), or (3) hand delivery. There is no parking available at 4 World Trade Center/150 Greenwich Street, and parking in the surrounding area is extremely limited. Express carrier deliveries by commercial vehicles will only be made via vendors approved by Silverstein Properties, the World Trade Center Property Manager, through the Vehicle Security Center (VSC). Presently, UPS is the only delivery vendor with approved recurring delivery times. UPS makes deliveries to 4 World Trade Center around 9:30 a.m. each day. Competitors should plan their submission accordingly. If a submission is to be hand-delivered, Competitors should note that the Port Authority will only permit access to those individuals who possess proper identification (e.g. photo identification). The Port Authority will turn away any individuals without proper identification and will not accept their packages. The Port Authority will not accept any submission via email or fax. The Port Authority assumes no responsibility for delays, including, but not limited to, delays caused by any delivery services, building access procedures, or security requirements.

2.10 Phase One Submission Evaluation Criteria

Phase One Submissions will be evaluated based on the following evaluation criteria, listed in their order of importance:

(1) Statement of Design Concept Approach

The Statement of Design Approach will be evaluated based on the following considerations:

- a. The Competitor's demonstrated understanding of the Design + Deliverability Objectives, and the Competitor's presentation of a clear, thorough, workable approach to meet these objectives through the Competitor's Phase Two Submission
- b. The Competitor's design philosophy, and how that design philosophy would be applied to the development of a robust, deliverable conceptual design in Phase Two
- c. The Competitor's preliminary analysis of either the site west of Ninth Avenue, or an alternate site, at which the Competitor proposes designing a new Bus Terminal

(2) Competitor Team Composition

The composition of the Competitor will be evaluated based on the following:

- a. Detailed explanation of: (1) why the firms comprising the Competitor were brought together to enter this Competition, with a particular emphasis on member entities' past experience; and (2) how the Competitor will leverage its composite expertise to accomplish the Design + Deliverability Objectives
- b. Team Experience
 - i. Demonstrated excellence in each of the Competitor team member's respective disciplines
 - ii. Relevance of Competitor's composite experience to the Competitor's proposed design concept approach and emerging design concept
 - iii. Clear demonstration of the approach and experience of the member entities, as evidenced by past projects that have presented challenges equivalent, or similar, to those that will be faced in designing a new Bus Terminal

2.11 The Jury

The Port Authority intends to convene a diverse range of esteemed experts from multiple disciplines to serve on the Competition's Jury.

2.12 Competition Results

At the conclusion of Phase One, the Port Authority will announce the names of the Finalists. It is the Port Authority's intent to shortlist up to five Competitors to participate in Phase Two of the Competition. The Port Authority will notify the Finalists, and will post the names of the Finalists on the Competition website.

At the conclusion of Phase Two, the Jury will evaluate Finalists' Phase Two Submissions, and will recommend a winning design concept to the Port Authority's Board of Commissioners.

2.13 Honorarium

The Port Authority anticipates awarding a one million dollar honorarium to the winner of the Competition. The Port Authority reserves the right, however, to award additional honoraria to Finalists whose Phase Two Submissions the Jury finds meritorious and the Port Authority Board approves. Finalist(s) must pass an integrity and responsibility review and cooperate with the Port Authority and its Office of Inspector General in order to be eligible for any honoraria.

2.14 Post-Competition Commitment

The honorarium described above is the sole compensation available through this Competition. The Port Authority may contract with the winning Finalist, including one or more of its member entities, or another Competitor, to provide services including, but not limited to, further development of their conceptual design, or participating in an advisory capacity to the Port Authority as the Port Authority refines the requirements and scope for the design and construction of a new 21st century Bus Terminal. In addition to the potential for contracted services as described herein, the winner or its member entities and all other Competitors will not be precluded from participating in a future procurement related to the design and construction of a new Bus Terminal.

2.15 Costs Assumed by the Competitor

The Port Authority is not liable for any costs incurred by a Competitor in the preparation, submittal, or presentation of its submission, or in any other aspect of the Competitor's participation in this Competition.

2.16 Return of Submissions

The Port Authority will not return Competitors' submissions, and Competitors will not have access to their submission at any time. Therefore, it is important that Competitors photograph or retain at least a copy of the submission materials. Once received, the submissions become the property of the Port Authority.

2.17 Copyright and Use

All Competitor submissions shall become the sole property of the Port Authority. The Port Authority shall own the entire copyright in all submissions, in whole or in part, for use in any way, including but not limited to the final design of the Bus Terminal. Finalists will be required to assign their copyright and other intellectual property ownership interests in their submission to the Port Authority. The assignment form is included with the Registration Packet.

2.18 Language of the Competition

English is the official language of the Competition; all materials submitted must be in English.

2.19 Rights of the Port Authority

The Port Authority reserves the right to disqualify any Competitor that the Port Authority determines, in its sole discretion, has violated these Competition Conditions, made a misrepresentation in any submission, failed to respond to or cooperate with any request, including from the Port Authority's Office of Inspector General, or otherwise participated in any action that impacts the integrity of the Competition. Note that the Port Authority's Inspector General will monitor the Competition, and (1) ensure it proceeds with integrity, (2) assist with integrity and responsibility reviews of the Competitors, and (3) ensure compliance with the Port Authority's confidential and security information guidelines.

The Port Authority reserves the right to select multiple winners, to declare a tie between Finalists, or to announce no winner. The Port Authority also retains the right to modify or cancel this Competition in its entirety at any time.

2.20 Amendments to the Competition Conditions and Addenda

The Port Authority may amend these Competition Conditions and any Competition documents, at any time prior to both the Phase One and Phase Two Submission Deadlines. The Port Authority will notify all registered Competitors of any amendments, and may post the updated documents on the Competition website. If the Port Authority issues any addenda during

Phase One or Phase Two of the Competition, these addenda will form part of the Competition Conditions. Accordingly, all Competitors will be deemed to have acknowledged these addenda when submitting their Phase One or Phase Two Submissions.

2.21 Media

Competitors, or members of the press and the public, who have media-related questions should contact the Port Authority's Media Relations Department at 212-435-7777.

2.22 Questions and Communication

All questions and communications regarding this Competition should be emailed to PABTcompetition@panynj.gov. Email is the preferred method of communication. Telephone inquiries should be addressed to the Competition's hotline: 212-435-4670. This number is staffed only during business hours (9:00 am-5:00 pm EST, Monday through Friday).

The Competitor, its employees or agents, may not contact any Port Authority staff, consultants, member of the Port Authority's Board of Commissioners or Jury member on matters pertaining to this Competition, except as provided in this document, or as may be requested by the Port Authority to facilitate the Competition. Any unauthorized communication may automatically disqualify the Competitor from the Competition. These communication protocols remain in effect throughout the Competition, from the commencement date of the Competition up to and including the date on which the Port Authority publicly announces the results of the Competition.

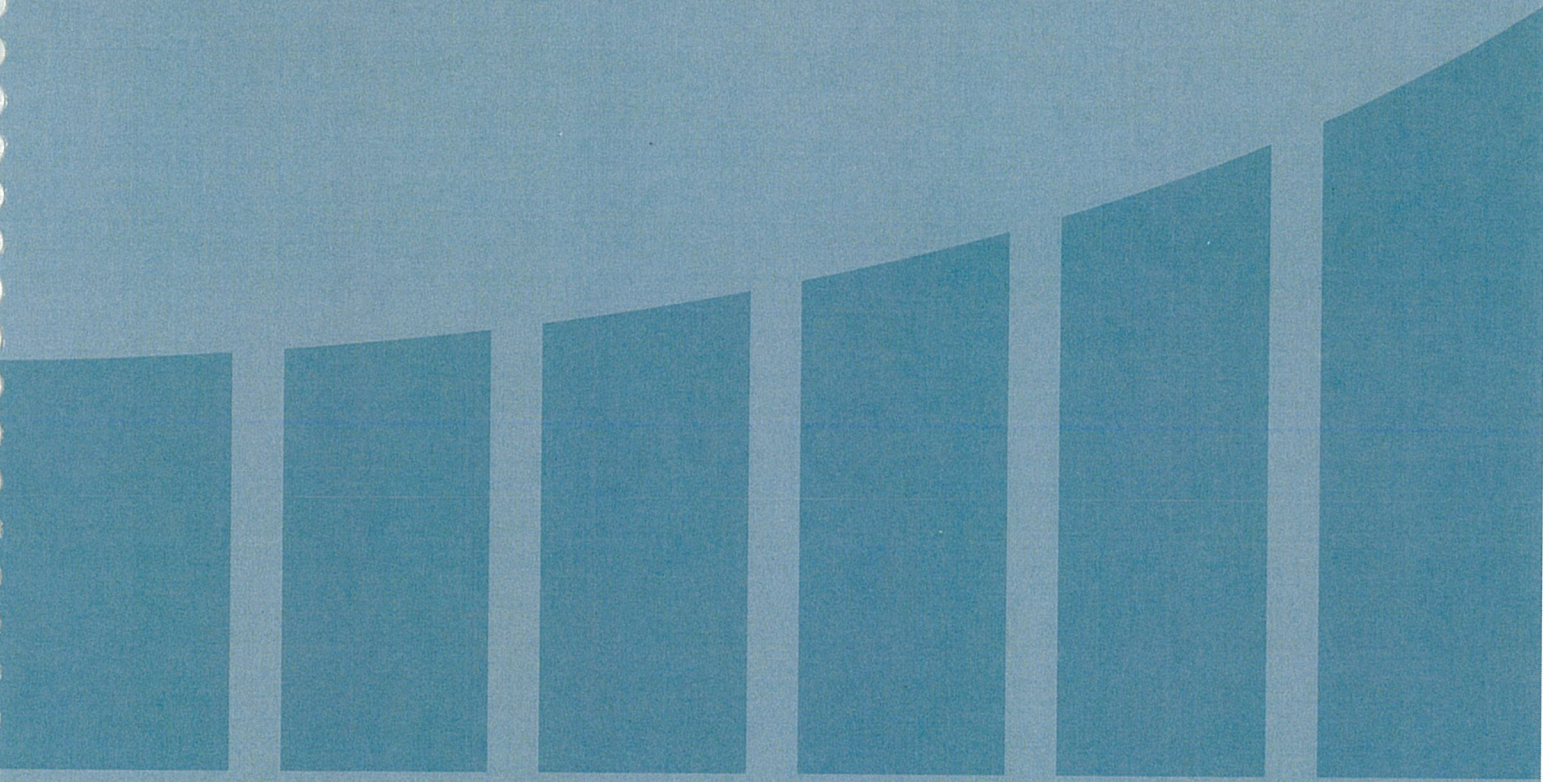
The Port Authority will respond to Competitors' questions via a Question & Answer Log. The Question & Answer Log will be updated and available for review and download on the Competition website at www.panynj.gov/BusTerminalDesign.

2.23 Port Authority Disclaimers

The purpose of the documents included as Appendices A, B, C, and D of these Competition Conditions is to provide information that is in the Port Authority's possession to Competitors in connection with this Competition. The Port Authority takes no position, and makes no representation, warranty or guarantee as to, and is not responsible for, the accuracy, completeness, or pertinence of these documents, and, in addition, will not be responsible for any conclusions drawn from these by any Competitor. Further, with respect to Appendix A and Appendix C, the information provided in these documents is intended to show the ongoing deliberative process behind the Port Authority's continuing master planning efforts for the new Bus Terminal. Nothing contained in Appendix A or Appendix C is intended to represent any final determination of the Port Authority.

In addition, neither the Commissioners of the Port Authority, nor any of them, nor any officer, agent or employee of the Port Authority may be: (i) charged personally with any liability by a Competitor or potential Competitor or another or held liable to a Competitor or another under any term or provision of this Competition; or (ii) any statements made in this Competition; or (iii) because of the submission or attempted submission of any document or response related to the Competition. Each Competitor, by submitting a submission in response to this Competition, expressly waives any right it may have to bring a claim against any Commissioner, officer, agent or employee of the Port Authority for any such liability.

In participating in this Competition, each Competitor acknowledges these disclaimers.



APPENDIX A:
THE EMERGING
DESIGN +
DELIVERABILITY
BRIEF

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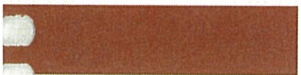
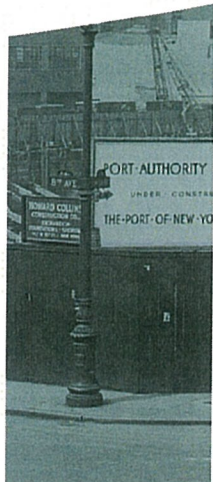
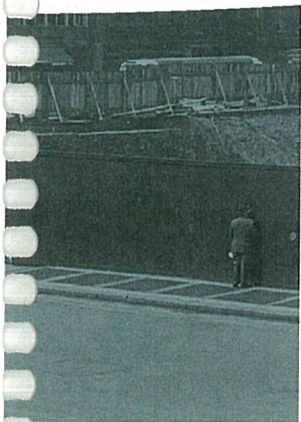
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INTRODUCTION

INTRODUCTION

Purpose of the Design + Deliverability Brief

The purpose of this emerging Design + Deliverability Brief is twofold: (1) to provide Competitors with an overview of the Port Authority Bus Terminal (the “Bus Terminal”) and the challenges the facility faces in the present and future; and (2) to describe the midtown bus master planning process (the “MBMP”) and efforts that the Port Authority has undertaken to date. Competitors should review the emerging Design + Deliverability Brief to expedite their understanding of the various concepts that the Port Authority has considered to date for the design and construction of a new bus terminal.

THE PORT AUTHORITY BUS TERMINAL

1.1. The Bus Terminal

The Bus Terminal, located in New York City (the “City”), is among the busiest intermodal transit facilities in the region. It supports daily commuter service, affordable intercity travel, and local tourism, and is a vital component of the trans-Hudson regional transportation network. The Bus Terminal is the largest and busiest facility of its kind in the world, and demand for its services is growing. On an average weekday, it serves approximately 7,800 buses and 232,000 passengers. The Lincoln Tunnel provides the NJ access route to the Bus Terminal and serves more than 93,000 peak-period weekday bus commuters, more than any other trans-Hudson transit mode, including today’s commuter rail services to New York Penn Station. In the peak morning hour, more passengers travel by bus through the Lincoln Tunnel to Manhattan’s Central Business District than on any individual NYC subway line.



FIGURE 1-1:
THE PORT AUTHORITY
BUS TERMINAL TODAY

More than just a bus facility, the Bus Terminal is one of New York City’s preeminent intermodal facilities by virtue of its location, directly connected to the Lincoln Tunnel, 11 subway lines, five City transit bus lines, and unparalleled pedestrian access to Manhattan’s densest office locations, the theater district, and shopping and entertainment centers. The existing 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 (the “XBL”) on NJ Route 495, dedicated bus lanes in the Lincoln Tunnel, and direct ramps and street-level connections between the Lincoln Tunnel and the Bus Terminal in Manhattan, and configurable New York roadways for handling Lincoln Tunnel traffic.

The Bus Terminal occupies approximately one and one-half city blocks between West 40th and West 42nd Streets and between Eighth and Ninth Avenues in midtown Manhattan, one block west of Times Square. It is approximately 800 feet long with approximately 450 feet of frontage on Eighth Avenue. The Bus Terminal’s South Wing occupies the City block between West 40th and West 41st Streets from Eighth to Ninth Avenues, and accommodates all the vehicular entrances and exits to the Bus Terminal. The North Wing occupies a half of a city block, fronting on Eighth Avenue between West 41st and West 42nd Streets. The Bus Terminal has two passenger entry and egress levels at the subway and street levels and the second floor passenger mixing and distribution level. The Bus Terminal is configured with three bus operating levels, and three automobile parking levels. The two upper bus levels have direct off-street ramp connections to the Lincoln Tunnel and the lower bus level has access to the Lincoln Tunnel via a connecting tunnel under Ninth Avenue. Each level of the North Wing, with the exception of the ground floor, extends over or under West 41st Street to connect directly with its counterpart level in the South Wing. The foundation of the North Wing, which was completed in 1981, was constructed to permit the development of a high-rise building in the air space above the North Wing.

1.2. History

The history of the Bus Terminal began in 1939, when growing interstate bus traffic was causing chaos in New York City. Buses would drive to and from eight separate bus terminals scattered throughout Midtown. Congestion was a major problem, and the City needed a good solution. Mayor Fiorello LaGuardia appointed a committee of City officials to resolve the issue. The



FIGURE 1-2:
W42ND STREET AND EIGHTH
AVENUE CIRCA 1940S

committee arrived at several solutions, which were quickly rejected by the City’s smaller bus terminals. In response, the Mayor asked The Port Authority of New York and New Jersey, established in 1921, to promote and protect the commerce of the bistate region, to evaluate the concept of consolidating all smaller bus stations into one central terminal. Late in 1946, Mayor William O’Dwyer supported legislation that prohibited the proliferation of individual bus stations in Midtown Manhattan. This resolution enabled the Port Authority to construct a Midtown bus terminal that would soon occupy an entire city block and elevate the efficiency of bus operations to a level unparalleled in the country and the world.



FIGURE 1-3:
GROUNDBREAKING OF
THE BUS TERMINAL

structure was completed in 1963 – with no interruption in daily service. This was the beginning of an expansion that would more than double the Port Authority's financial commitment, to over \$52 million.

By 1970, bus traffic volume reached record levels. To ensure bus traffic flow and reliability, the Port Authority transportation planners devised an innovative plan for a priority bus lane to serve the Bus Terminal. The Lincoln Tunnel's Exclusive Bus Lane (XBL) extends for two and one-half miles along NJ Route 495 between the NJ Turnpike and NJ Route 3, and the Lincoln Tunnel. The XBL operates as a contra-flow lane, allowing eastbound bus traffic (to New York) priority access to the Lincoln Tunnel along Route 495 in a westbound lane. The XBL is by far the busiest and most productive highway lane in the nation. The lane operates from 6-10 a.m. on weekdays, accommodating more than 1,800 buses and 65,000 bus commuters daily. The timesaving the XBL offers bus riders is the primary benefit contributing to its overwhelming popularity, and offers a one-seat ride to Midtown for many travelers.

FIGURE 1-4:
NEW JERSEY PORTALS OF
THE LINCOLN TUNNEL



On January 27, 1949, ground was broken at the site bordered by Eighth Avenue, 40th Street, Ninth Avenue and 41st Street. During the next two years, 9,000 tons of structural steel and more than two million bricks would be used—more than the amount used for the conventional Manhattan skyscraper—to build one of the greatest transportation facilities in the world. On December 15, 1950, after a construction period of close to two years—and an investment of \$24 million—the Port Authority Bus Terminal was born.

The Bus Terminal's first major expansion project was initiated in 1960. Three parking levels were added to the roof of the original structure, creating space for 1,000 cars. The vertical expansion of this 800-by-200-foot

In the late 1970s and early 1980s, the Bus Terminal was expanded by 50 percent with the addition of the Terminal's North Wing. The new expansion provided 52 new bus-loading gates and a unique weather-controlled mall with 70 shops. The new North Wing not only expanded the building north to 42nd Street, but added a new facade with the Terminal's iconic diagonal girders, changing the way the Bus Terminal was viewed by the world.

The Bus Terminal has continued to evolve with the neighborhood it shares and the growing demands of the bus travelers. In the early 1990s, as the nearby theater district saw a massive revitalization, the Port Authority dedicated significant efforts and resources to

strengthen the Bus Terminal's role as a first-class transportation center. A focus on maintaining a safe and pleasant customer environment at the terminal included the introduction of social service assistance at a time of challenges with homeless people in and around the facility, along with increased security, new retail offerings and contracts that heightened cleanliness of the terminal. The facility continues to evolve today to meet changing demands, introducing a \$90 million Quality of Commute Program in 2014 designed as a multi-year facility investment program to enhance bus operating reliability, terminal telecommunications infrastructure to support more extensive cellular and wi-fi capabilities, and improvements to key building systems and amenities.

1.3. The Bus Terminal Today: Physical and Operational Challenges

Aging infrastructure and Capacity Constraints

Not unlike much of the interstate transportation network, the Bus Terminal 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. The Bus Terminal is challenged with the high costs of maintaining aging structures and building systems, complicated by a facility operation that is beyond its capacity in peak hours today, and certainly unable to handle future demand growth. Additionally, the functional and physical obsolescence of the building and its ramps to accommodate modern heavier and taller bus designs is complicated by other operational inefficiencies in the terminal's configuration. While the system of bus facilities and services in the Midtown corridor has functioned remarkably effectively, daily operations are increasingly a delicate balance of challenging and inter-related fragile elements. Reliability will be increasingly difficult to sustain over the long-term without significant new investment.

FIGURE 1-5:
PORT AUTHORITY BUS
TERMINAL OPENED IN 1950



The Bus Terminal was designed to serve 1950s era buses. When it first opened, intercity buses were 35 feet long and 96 inches wide. Today, the typical motor coach bus is 10 feet longer and 6 inches wider, presenting operational challenges in the constrained physical environment within the Bus Terminal and on its ramps. Operations by taller buses are also an issue, with the Lincoln Tunnel capped at a 13-foot clearance and many areas of the Bus Terminal with even more limited vertical clearance. As a consequence of these physical constraints, larger capacity buses, such as double-decker buses, are unable to enter the Bus Terminal, and the use of more articulated buses is severely limited by the facility's geometry. Substantial structural modifications to the Bus Terminal would be necessary to accommodate larger buses in significant numbers.

The 2015 PABT Evaluation of Replacement Forecast for South Wing Bus Level Slabs report generally validates that the South Wing bus level floor slabs on the Lower Level above the

basement, the Third and the Fourth Levels need to be replaced within the next 25 years. Replacing the floor slabs would be an extremely disruptive construction effort, as it affects not only the floor level that is being replaced, but also impacts the occupancy of the floor below. Such a project would seriously disrupt bus and passenger capacity, service reliability, bus and tenant operations, as well as the surrounding community. Maintaining an acceptable level of service during such a construction project would require an untenably long construction schedule at a significant cost. The reconstruction of these floor slabs may also trigger compliance with applicable Americans with Disabilities Act (ADA) requirements, which would result in a loss of bus gates and terminal capacity.

Operational Constraints

The Bus Terminal currently operates at capacity during weekday peak periods with limited ability to recover from service disruptions. Traffic congestion in the Lincoln Tunnel, the eastbound and westbound approaches to the tunnel, on local streets, and within the Bus Terminal have all contributed to a history of delays, disrupting bus schedules and reliability.

The Bus Terminal is already operating at and beyond its reasonable passenger carrying capacity in the peak hours, which burdens the facility with a public reputation for delays and poor service reliability. The Bus Terminal's aging infrastructure and systems are often cited by customers as portraying a tired and decrepit passenger environment. The vertical circulation elements of the terminals (i.e., escalators, elevators, and stairways) do not adequately handle passenger flows causing frequent queuing, particularly during peak passenger surges. During the p.m. peak, the queues for many of the bus platforms extend down the stairs or on stopped escalators and well into the passenger concourses, causing further congestion and confusion for people trying to find their bus and navigate past the queues. Wayfinding and customer information systems are limited, resulting in customer surveys regularly citing improved information as a critical need. In addition, the Bus Terminal struggles to meet the needs of all customers with disabilities adequately.

A critical challenge to interstate bus operations is the scarcity of bus parking and staging capacity in West Midtown Manhattan. This capacity shortfall requires that hundreds of buses park in New Jersey 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, with four tunnel lanes dedicated to the heavy outbound commuter demand. These buses often arrive early in Manhattan, resulting in a history of routine diversions to Midtown streets to avoid gridlocking the Terminal, its ramps and the Lincoln Tunnel eastbound traffic flow. Diversions to the City streets were a common occurrence, as a result of backups on Bus Terminal access ramps thus exacerbating local traffic problems and the quality of service for bus operators and riders. While new operating practices have reduced the frequency and duration of such diversions to manage heavy inbound bus demand, the balance of p.m. capacity and demand is fragile throughout the corridor.

Financial Challenges

The Bus Terminal, as is typical of mass transit facilities, operates at a net loss, due to high fixed operating and capital costs. The Bus Terminal had an operating loss of \$97.6M in Fiscal Year 2014. While originally conceived with the intent of being a self-sustaining operation, the Bus Terminal earned a profit only between 1957 and 1975 (with the exception of 1961). The

Bus Terminal's revenues are primarily from departure fees that are assessed on each bus. Additional revenue is provided by retail, advertising, and parking.

1.4. Growing Demand: 2040 Bus and Passenger Capacity Needs

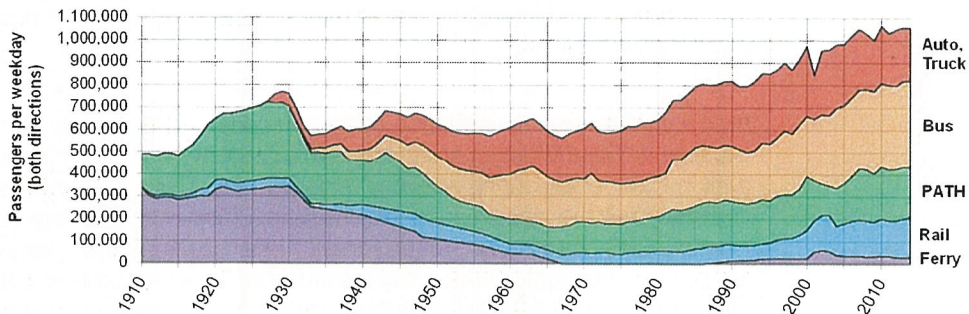
The future size and configuration of the Bus Terminal will be driven by the projected growth in bus ridership and forecasted peak demand on an average weekday, and the need for a flexible operating environment that may be scalable and able to be programmed based on future technological changes and advancements.

Today's Demand Characteristics

The past four decades have seen substantial growth in travel between Manhattan and New Jersey. Today, over one million passengers per day cross the Hudson River between 60th Street and the Battery (see Figure 1-6). Buses are the workhorses of trans-Hudson travel, carrying 37% of passengers in and out of the Central Business District across the Hudson River.

The interstate bus network also provides a vital level of resiliency in maintaining trans-Hudson connections to and from Manhattan when extreme weather, flooding, and other events assault the region's transportation infrastructure, and especially its vulnerable rail tunnels. The ability to sustain and expand trans-Hudson bus service more quickly than commuter rail or PATH service was demonstrated by the recent experience of Superstorm Sandy, underscoring the greater flexibility of the roadway network and bus transit system. Additional bus runs to and from the Bus Terminal and curbside locations provide a commuting alternative for displaced NJ Transit rail and PATH riders.

FIGURE 1-6:
HISTORIC TRENDS IN TRANS-
HUDSON TRAVEL BY MODE



Trans-Hudson buses serve many different travel markets, including local transit, commuter, intercity, tour, charter, and airport shuttle buses. The Bus Terminal plays a vital role in serving many of these markets. It hosts routes serving daily commuters throughout New Jersey, Eastern Pennsylvania, and the Lower Hudson Valley. It also hosts routes that provide frequent intercity services to and from locations such as upstate New York, Virginia, and Canada, with daily services to destinations much further afield. Overall, about 61% of bus passengers crossing the Hudson below 60th Street in Manhattan pass through the Bus Terminal, with the remainder entering or exiting their buses on city streets. The Bus Terminal serves an estimated 232,000 passengers on a typical weekday.

For the purposes of planning for a new Bus Terminal, routes that tend to have pronounced service peaks during the a.m. and p.m. rush hours have been designated "commuter routes."

x834x

Trans-Hudson jitney services are also considered commuter routes, given their service frequency and peaking patterns. Many commuter routes are also long-distance in nature, since they serve Eastern Pennsylvania and South Jersey. It is especially important for commuter routes to use gate designs that support high service frequencies (such as shallow sawtooth gates) and to access the Bus Terminal via grade-separated ramps to avoid congesting City streets. Since the customers on these routes often typically use them on a daily basis, a high value has also been placed on keeping these services located close to public transit connections.

Other long-distance routes that have service patterns spread more evenly across the day, such as those that serve Philadelphia, Boston, and beyond, are considered “intercity” routes. These services typically take much longer to load and unload passengers, and buses must be cleaned more carefully between trips. As a result, they use gates much less intensively. For intercity routes, higher-density configurations like deep sawtooth gates are often considered more efficient. Because these operations do not generate high volumes of bus traffic, it has been considered less essential to connect these terminals to off-street bus ramps. And their more occasional use by customers makes it possible to consider locations outside the core of the central business district.

The curbside intercity bus market in New York City has grown rapidly from virtual nonexistence slightly more than a decade ago. While commuter bus volumes in West Midtown still dwarf the curbside intercity bus activity, the latter has surpassed the terminal-based intercity bus activity in volume. These low cost operators, and their curbside operations, must be considered as part of any study dealing comprehensively with the intercity bus market.

Curbside buses pose a unique problem to the Port Authority, since Bus Terminal capacity constraints prevent the Port Authority from accommodating many of these carriers, and some operators use buses that are physically too large to enter the terminal. These buses compete directly with intercity carriers like Greyhound that do use the Bus Terminal, and whose intercity bus departures from the terminal bring the Port Authority significantly more revenue than commuter bus departures. Finally, curbside intercity buses benefit from the XBL lane without generating terminal revenue for the Port Authority, and actually worsen Midtown street congestion by loading, staging, parking, and circulating outside of the Bus Terminal. It would be advantageous to accommodate more of these curbside operations within terminals.

An Overview of Bus Demand in 2040¹

For long-term planning purposes, the Port Authority developed a baseline estimate of activity within the Bus Terminal. Using data from 2011 and 2012, this baseline estimate showed 615 bus departures in the PM peak hour (5-6 pm), including 592 commuter buses and 23 intercity buses. Expanding the planning target to include capacity to accommodate several intercity carriers operating at curbside locations in Midtown West would add an additional 16 departures, for a total of 39 intercity departures. In the same PM peak hour, the terminal would need to accommodate an estimated 142 commuter buses arriving with passengers and 25 intercity buses arriving with passengers.

¹ Competitor Note: The Port Authority has commissioned a trans-Hudson Commuting Capacity Study of available strategies for meeting and managing the anticipated increases in trans-Hudson commuter demand over the next thirty years. While the Capacity Study is expected to be completed by June 30, 2016, interim products highlighting work-in-progress findings are due at the midpoint of this effort. The Port Authority anticipates providing these interim products from the Capacity Study to the Finalists during Phase Two.

The Port Authority developed forecasts for the entire trans-Hudson and intercity travel market based on regional travel demand forecasts and survey data. These forecasts indicate a 51.7% increase in PM peak hour bus passenger departures by 2040. An operational analysis, including estimates of available capacity on existing bus service, concluded that a 39% increase in PM peak hour bus departures would be required to serve these passengers.

Based on this analysis, the new bus terminal should be able to accommodate 820 departing and 143 arriving commuter buses in the PM peak hour, as well as 57 departing intercity buses and 31 arriving intercity buses. These results are summarized in the following tables:

TABLE 1-1:
MBMP PLANNING FORECAST:
PM PEAK HOUR ARRIVALS,
5-6 PM

MBMP Planning Forecast: PM Peak Hour Arrivals, 5-6 pm				
	2011/12		2040	
	Buses	Passengers	Buses	Passengers
Port Authority Bus Terminal - Existing Markets	156	2,125	158	2,696
New Jersey Transit	100	1,244	101	1,399
Other W of Hudson Commuter Buses	26	325	25	414
Intercity Buses	14	437	15	750
Jitney Buses	16	119	16	133
Midtown Curbside Intercity - Major Carriers	11	540	16	928
Target for Capacity Planning - Commuter	142	1,688	143	1,945
Target for Capacity Planning - Intercity	25	977	31	1,678
Target for Capacity Planning - Total	167	2,665	174	3,624

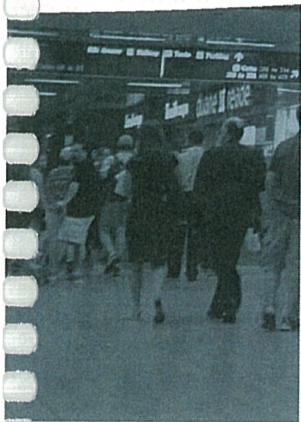
TABLE 1-2:
MBMP PLANNING FORECAST:
PEAK HOUR DEPARTURES,
5-6 PM

MBMP Planning Forecast: Peak Hour Departures, 5-6 pm				
	2011/12		2040	
	Buses	Passengers	Buses	Passengers
Port Authority Bus Terminal – Existing Markets	615	26,392	853	39,874
New Jersey Transit	390	17,445	525	24,408
Other W of Hudson Commuter Buses	171	7,201	218	11,154
Intercity Buses	23	963	33	1,653
Jitney Buses	31	783	45	1,060
Diversion from NJ Transit Rail*			31	1,599
Midtown Curbside Intercity – Major Carriers	16	855	24	1,469
Target for Capacity Planning - Commuter	592	25,429	820	38,220
Target for Capacity Planning - Intercity	39	1,818	57	3,122
Target for Capacity Planning - Total	631	27,247	877	41,342

* Additional ridership due to constraints on the rail system, if sufficient additional trans-Hudson rail capacity is not built

1.5. A New Bus Terminal for a New Century

As the Bus Terminal looks forward to an increasing demand for bus travel over the next 25 years, there is a pressing need to address today's capacity shortfalls with a substantive capacity expansion of the terminal. In addition, the aging infrastructure, high cost of maintaining old assets and systems, and the functional and physical obsolescence of much of the current Bus Terminal, require a substantive terminal modernization program. Given the relatively short timeframe of remaining useful life from the existing terminal slabs, the Port Authority and its partners face an imperative to begin planning and design for a new bus terminal.



THE COMPETITION
SITE AND ITS
CONTEXT

The Competition Site and its Context

2.1. The Site

The competition site is shown in blue in Figures 2-1 and 2-2, and includes Port Authority-owned property one block west of the current Bus Terminal, between Ninth and Eleventh Avenues (the "Competition Site"). If a Competitor's analysis determines that the Competition Site is not optimal for a new Bus Terminal, than the Competitor should suggest alternative sites. As part of their analysis, Competitors may refer to Figure 2-3, which provides the location of other Port Authority-owned properties in proximity to the existing Bus Terminal. Competitors may also choose to consider underdeveloped, privately owned properties in their submission, but as noted in the Design + Deliverability Objectives, Competitors should look to minimize costly private property acquisitions such as those improved with mid- and high-rise commercial and residential buildings, landmarks, and cultural or religious facilities. Once the new bus terminal is constructed, it is anticipated that the existing Bus Terminal will be demolished. In addition to the existing Bus Terminal site, Port Authority-owned properties in proximity to the existing Bus Terminal may be monetized through lease or sale to help offset the cost of the new facility.

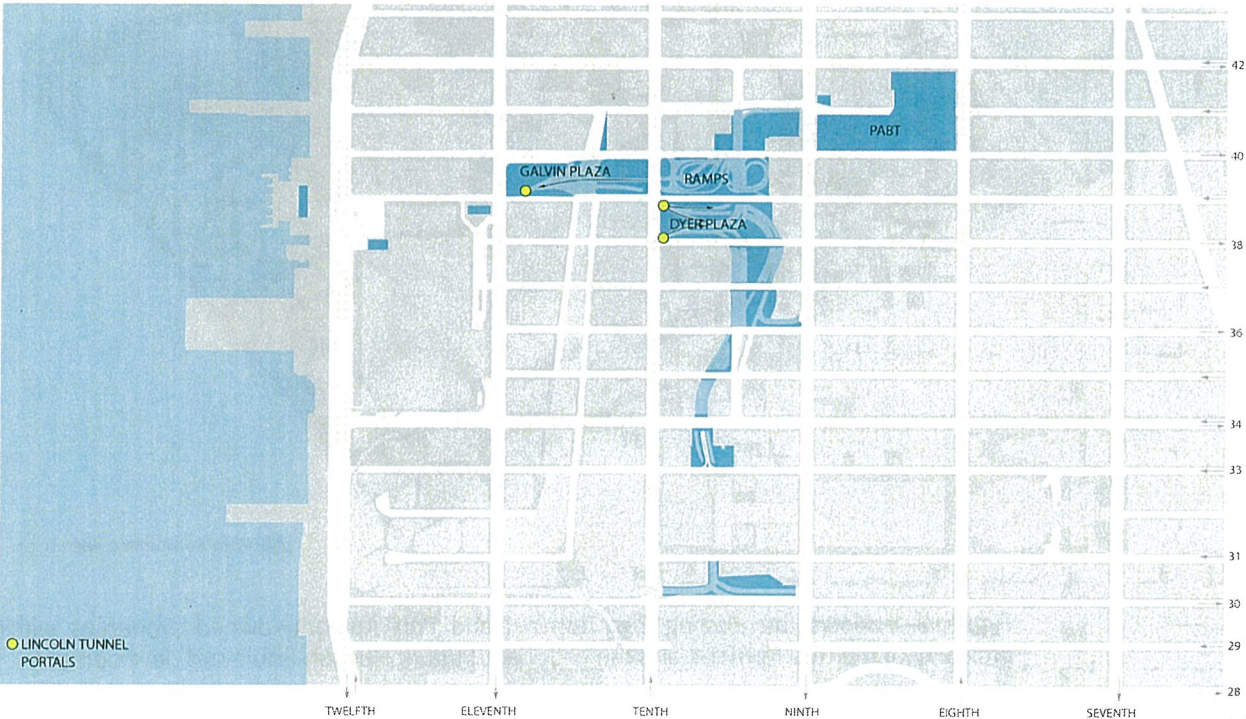


FIGURE 2-1: COMPETITION SITE

The Port Authority has commissioned a further study of the commuting capacity of the overall trans-Hudson transportation network. This analysis will review multi-modal opportunities for improving trans-Hudson service and network capacity, long-term commuter market and workplace trends, and the potential impacts of emerging technologies. While this study will not be completed until June 30, 2016, the Port Authority anticipates providing relevant interim findings to Finalists as an additional planning resource during Phase Two.

2.2 Existing Conditions with Future Hudson Boulevard Development

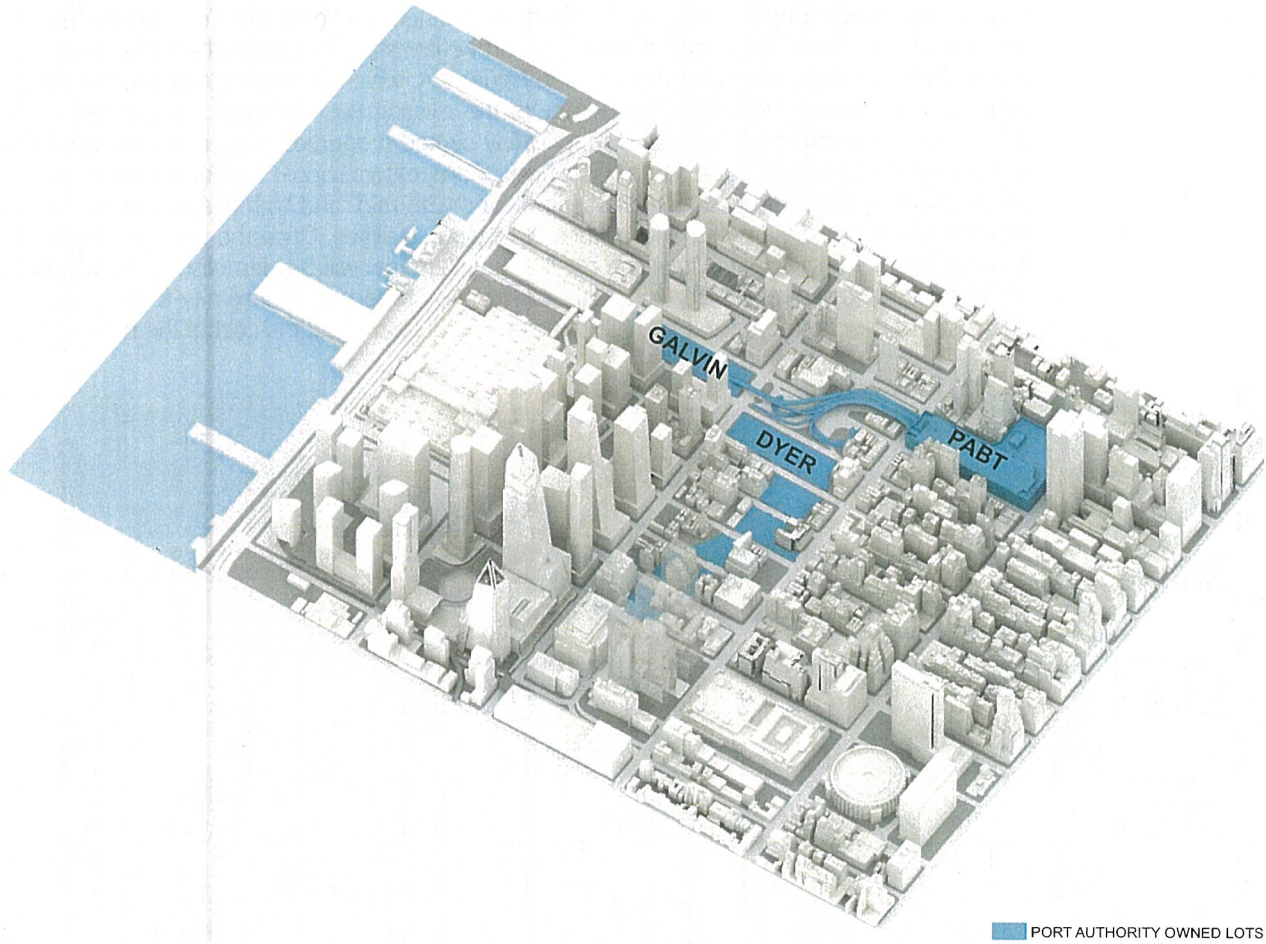
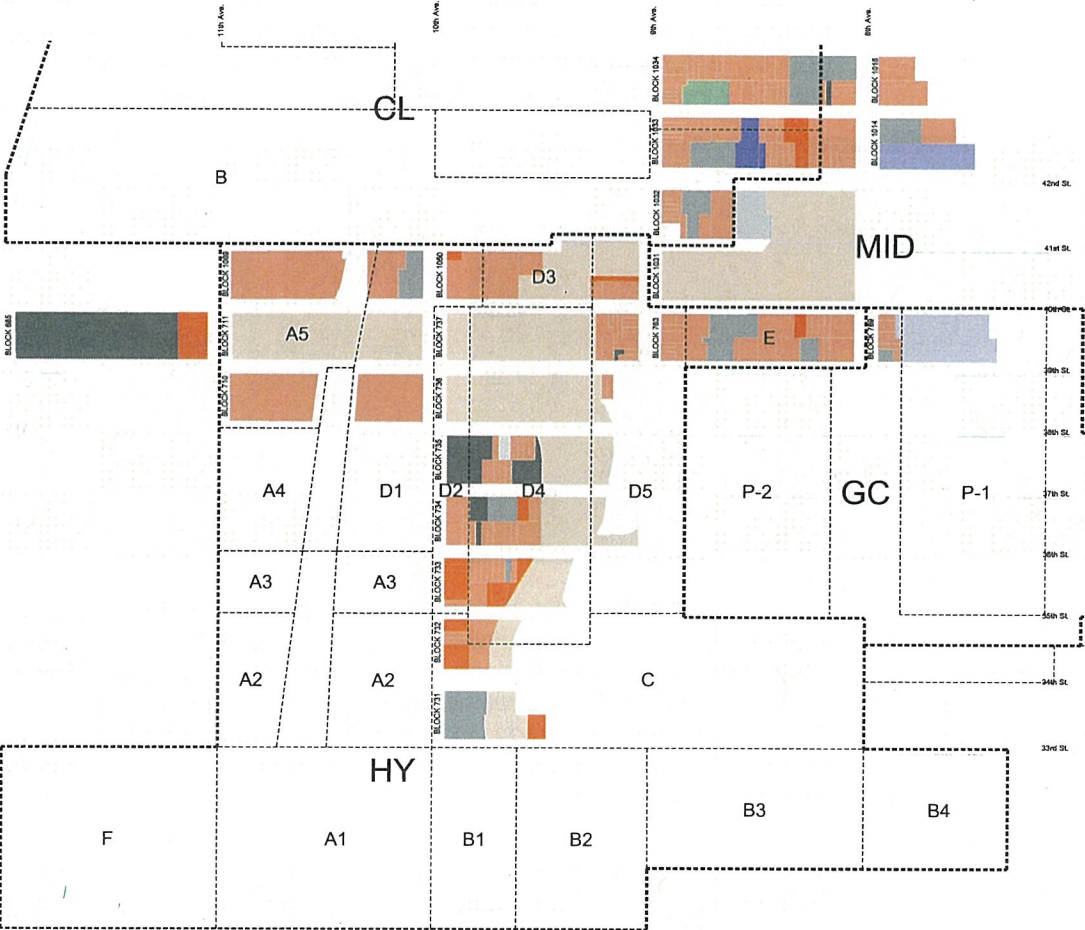


Figure 2-2 shows the existing Bus Terminal and Port Authority-owned properties within proximity of the Bus Terminal, and the anticipated future Hudson Boulevard development.

FIGURE 2-2:
COMPETITION SITE AND
EXISTING CONDITIONS
WITH FUTURE HUDSON
BOULEVARD DEVELOPMENT

2.3. Port-Authority-Owned Properties in the Vicinity of the Bus Terminal



EMPTY SITES	
BUILT BELOW AOR FAR, BUILT BEFORE 1968	
PA-OWNED PROPERTY	

PRESERVATION DISTRICT	
THEATER BONUS DISTRICT	
CHURCH	

PARK	
MUNICIPAL BUILDING	
LANDMARKED	
BUILT FAR ABOVE AOR FAR	
BUILT SINCE 2005	

FIGURE 2-3: PORT AUTHORITY PROPERTIES

2014/1x

2.4. Urban Design Conditions

The Growth of Midtown West

Midtown Manhattan is the location of major transit hubs for commuters in and out of the city. Midtown contains the Bus Terminal, Grand Central Terminal, and Penn Station (with the future planned Farley/Moynihan Station/Empire Station improvement), with critical connections to the MTA subway lines and ferries (see left image, Figure 2-4)



FIGURE 2-4:
EXISTING PABT AND
MIDTOWN AS VIEWED FROM
THE WEST SIDE AND FUTURE
HUDSON BOULEVARD

The forecasted demand for all three major transportation hubs in Midtown are all projected to grow significantly by 2040. Population growth is coupled with increased development and job growth around these terminals. Both Hudson Yards and Hudson Boulevard development on the west side and East Midtown rezoning around Grand Central Terminal and north Park Avenue are factors likely to add demand at these transportation hubs (see right image, Figure 2-4). It is also important to consider the impact the new bus terminal, and its construction, will have on this community.

FIGURE 2-5
PABT SURROUNDING
MIDTOWN AREAS



The new bus terminal presents an opportunity to bridge the areas of intense growth in Hudson Yards and Hudson Boulevard with the existing density and vitality of Times Square and the Theater District. The new terminal could provide a complementary pedestrian connection from Eighth Avenue to Eleventh Avenue, and to a new 7 subway line extension if the Tenth Avenue station is constructed.

Urban Impacts of West Side Infrastructure

The sites owned by the Port Authority contain infrastructure that connects buses and cars to the Lincoln Tunnel. Dyer Avenue, Dyer Plaza, Galvin Plaza. The bus ramps to the terminal are critical from a transportation perspective, and addressing their impact on the urban design of the neighborhood is an important issue.

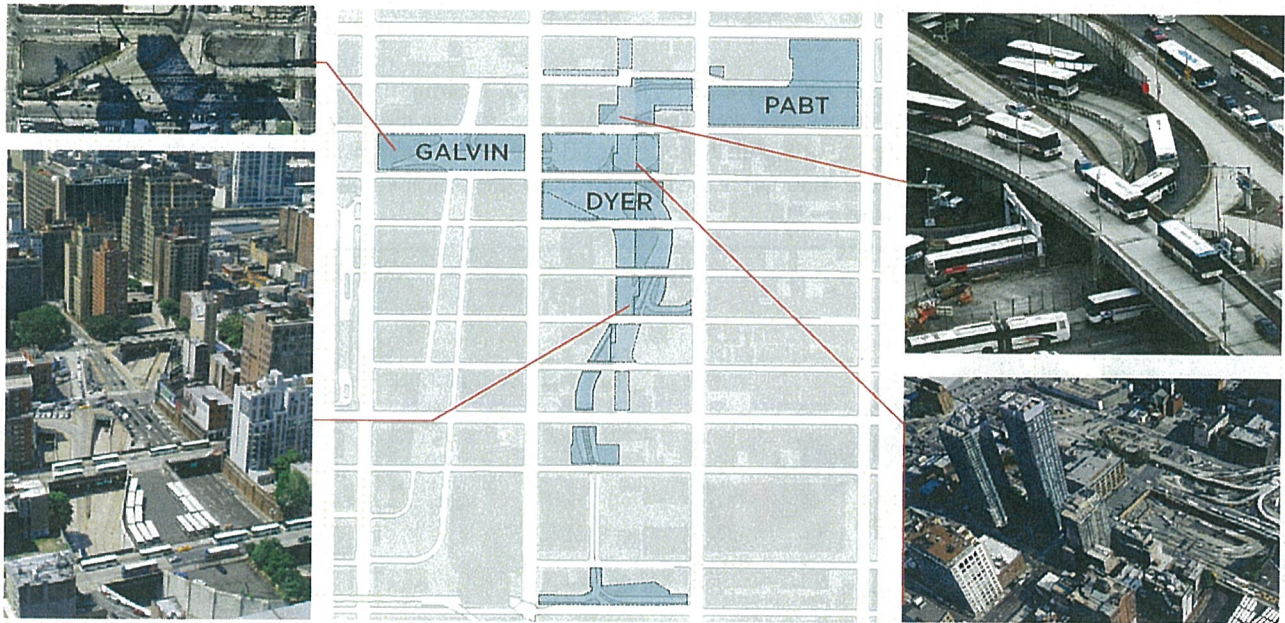
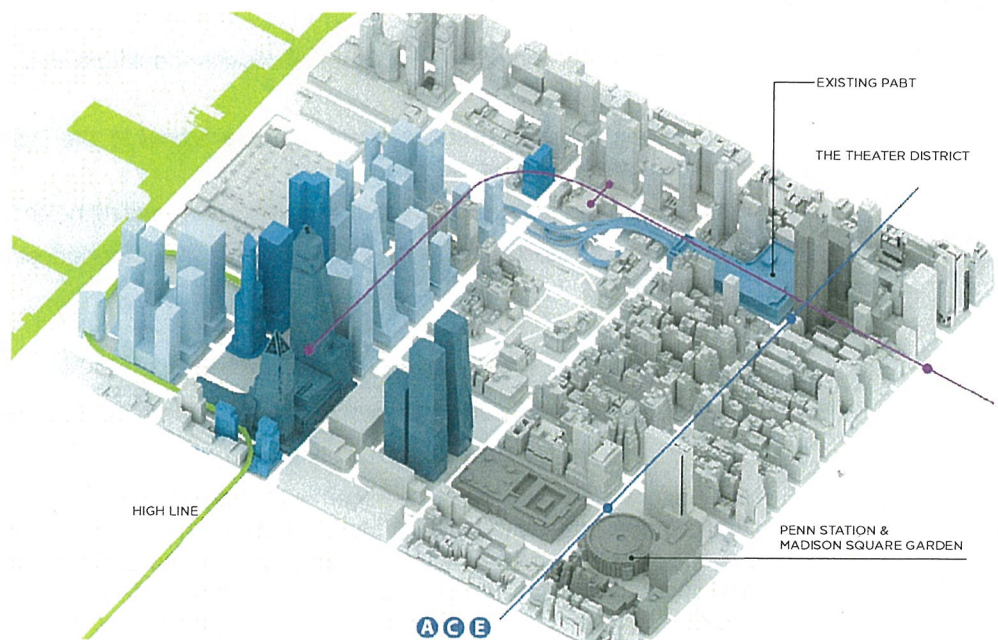


FIGURE 2-6:
PA OWNED LAND,
INCLUDING LINCOLN
TUNNEL EXPRESSWAY
SHOWN ON BOTTOM LEFT

As shown in Figure 2-6, the Port Authority-owned land creates a barrier between east and west. The Lincoln Tunnel Expressway plays an important role as a feeder into the Lincoln Tunnel and as a distributor from the tunnel to the city. Largely placed in open cut, the Lincoln Tunnel Expressway is an efficient traffic-signal-free conduit that collects tunnel-bound traffic that would otherwise have to use local streets— and during peak periods, accommodate traffic that would otherwise queue on city streets (see Figure 2-6). The transportation infrastructure in this area serves vital mobility purposes. However, this infrastructure also poses inherent challenges to development and access to and around such development (see Figure 2-7).

FIGURE 2-7: WESTSIDE
MIDTOWN POTENTIAL
FUTURE DEVELOPMENT



Civic Presence and Alignment in the City

The 42nd Street corridor is a major East-West thoroughfare across Manhattan, lined with prominent buildings and civic spaces. As an anchor at the western end of this corridor, the Port Authority site at Eighth Avenue provides an opportunity to create a new landmark which will enhance the Manhattan skyline and draw the prominence of 42nd Street towers further west (see Figure 2-8).

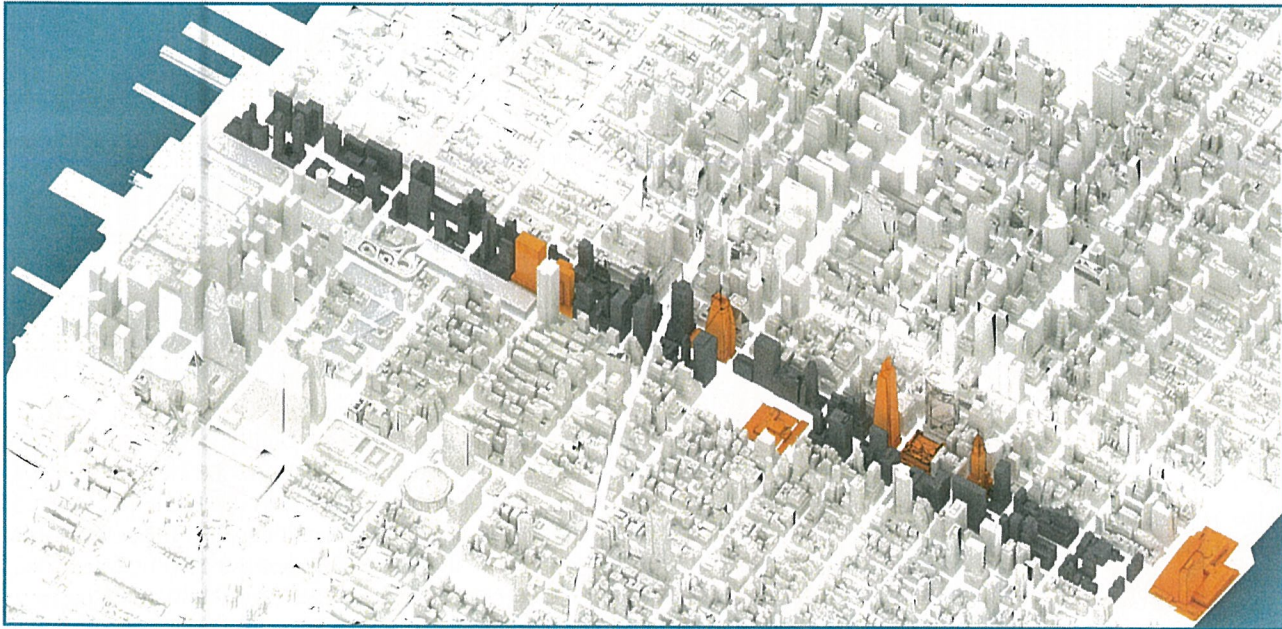


FIGURE 2-8:
42ND STREET PROMINENT
BUILDINGS AND CIVIC
SPACES

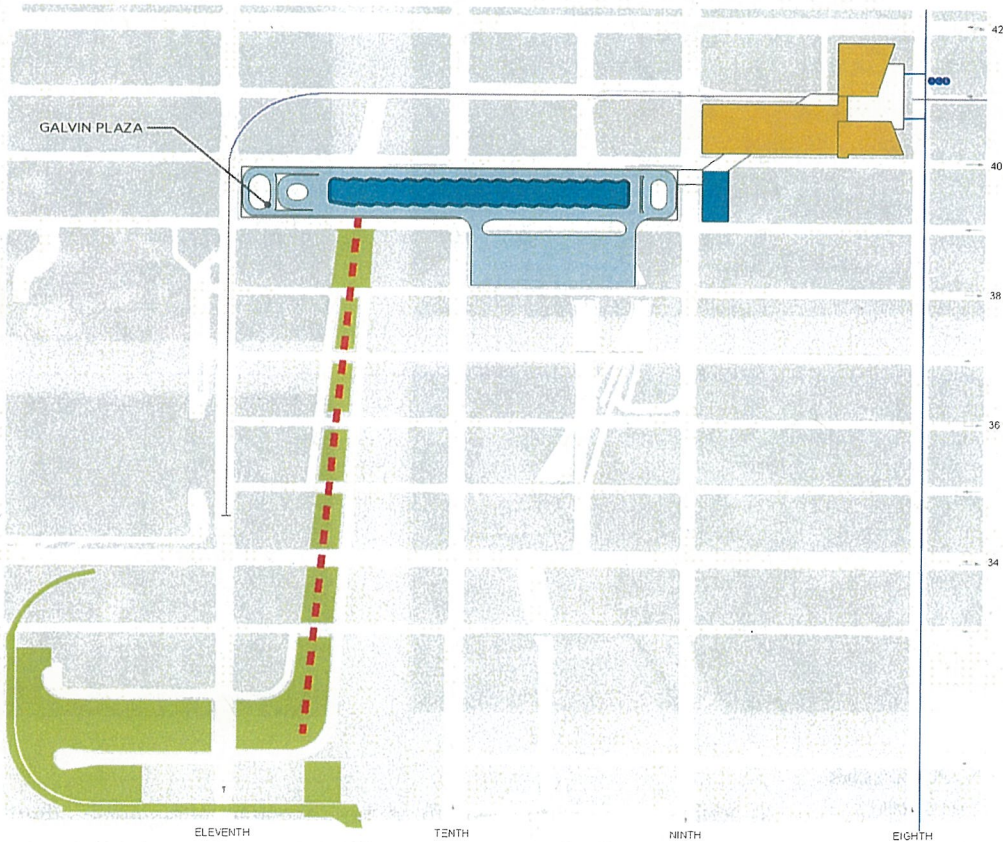
Urban Design Goals

The urban design approach for conceptual designs should provide:

- Pedestrian friendly streetscapes to promote access to the Eighth Avenue subways and other transportation modes,
- Improved streetscapes to promote access to surrounding neighborhoods,
- Widened sidewalks, and safe and comfortable space for pedestrians at street corners and crosswalks,
- Public open space,
- Easy wayfinding in and around the terminal, and
- Multiple entry and exit points into and out of the terminal to disperse potential congestion.

Millions of square feet of new development in Hudson Yards, the West Side Yard, and Hudson Boulevard is underway in West Midtown between 30th and 39th streets, Tenth and 12th Avenues. The improvements revamp land that currently contains exposed rail yards, industrial buildings, empty lots, as well as smaller scale commercial and residential buildings. Much of the development is south of 33rd street, but Hudson Boulevard is a segment that runs north-south and terminates in Port Authority owned land, Galvin Plaza.

FIGURE 2-9:
ALIGNMENT WITH HUDSON
BOULEVARD



Hudson Boulevard is intended to be prominent, lined with buildings assigned FAR (floor area ratio) of 20 to 33, some of the highest in the city. Galvin Plaza has an important relationship to Hudson Boulevard, at its terminus, which the concepts address to various degrees. Galvin Plaza is challenging to develop. A Lincoln Tunnel portal is located on the southwest corner of the block. Stretches over 200 feet wide in the middle of the block are devoted to roadways to reach the tunnel. Additionally, Amtrak has an easement below grade through the middle of the block, running north south on axis with the boulevard, which requires large structural spans for any development to be seen at the end of the boulevard (see Figure 2-9).

Streetscape Improvements

Streetscape improvements are recommended throughout the area around the new bus facility, as well as along the side streets that bridge over Dyer Avenue. Wherever possible, the streets should also be enhanced by street-level retail, dining, and entertainment uses. However, even in areas where such programming along the street wall is impossible, there are other sidewalk improvements that could be made.

Several examples of these streetscape improvements are shown in the Figure 2-10. Street side plantings for both beauty and rainwater management, the use of vegetation on vertical surfaces to block noise, and a variety of seating options drastically improve the urban environment. These interventions would create a more welcoming place for pedestrians and would introduce a seamless pedestrian movement across Dyer Avenue.

not 45x



FIGURE 2-10:
STREETSCAPE AND URBAN
LANDSCAPE EXAMPLES

In addition to the improvement of the pedestrian experience, urban landscaped areas and public parks can maximize daylight exposure and increase porosity of the site and potentially provide storm water catchment. The use of leafy vegetation to create a buffer between the road and sidewalk can be used to reduce the summer's urban heat island effect.

Current Bus Terminal Impact on 41st Street and Future Opportunities

In addition to the 42nd Street corridor, an urban view-corridor along West 41st Street from the existing terminal site to Bryant Park exists, as shown in Figure 2-11. Opportunities to use this two-avenue stretch providing an on-axis view of the park and can be used to great advantage.

FIGURE 2-11:
41ST STREET AXIS

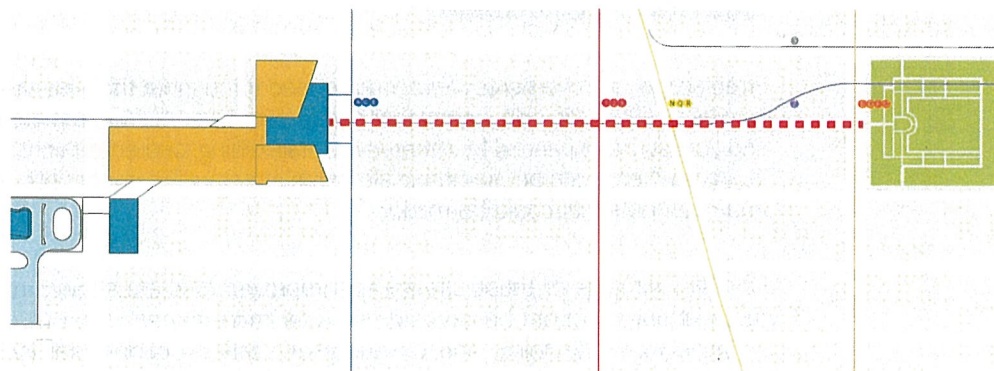
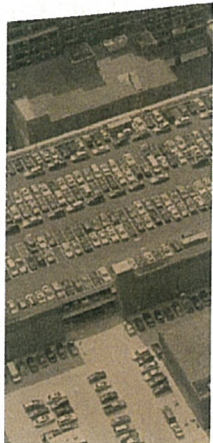
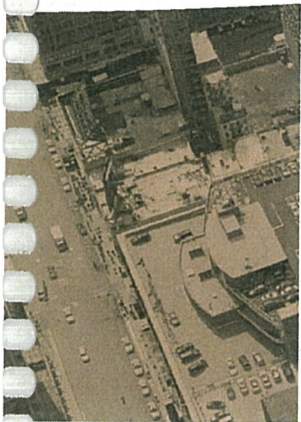


FIGURE 2-12:
BRYANT PARK AND THE
NY PUBLIC LIBRARY



There is an opportunity to do more on 41st Street beyond the unwelcoming streetscapes associated with the terminal today, especially due to the direct axis with one of Midtown's great public spaces: Bryant Park and the New York Public Library (see Figure 2-12).



MASTER PLANNING
EFFORTS:
THE CONCEPTS

Master Planning Efforts: The Concepts

3.1. Introduction to the Concepts

Through master planning efforts for the Bus Terminal, five concepts, introduced in this section, were advanced through the alternatives development and screening process. The alternatives development and screening process is further described in Appendix C. Competitors should review the various concepts that the Port Authority has considered to date for the design and construction of a new bus terminal to understand ongoing deliberative process behind the Port Authority's continuing master planning efforts for the new Bus Terminal. They are not intended to represent any final determination of the Port Authority.

Competitors will note that although each of the five concepts differ in location and configuration, several features are common to more than one concept.

Some of the common elements/considerations of these concepts include:

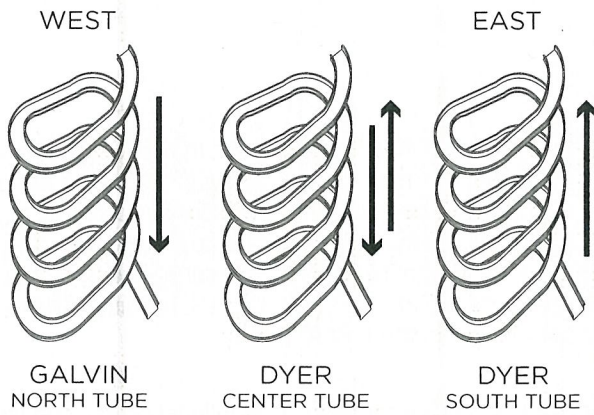
- Bus and Passenger Circulation
- Urban Impacts of West Side Infrastructure
- Impact on Ninth Avenue
- Civic Presence and Alignment in the City
- Pedestrian Connectivity
- Interim Operations
- Intercity Bus Operations

Bus and Passenger Circulation

In each of the concepts, as buses enter Manhattan via the Lincoln Tunnel, they will enter the bus terminal comprised of ramps, a storage and staging facility, and a passenger and bus facility. Each Concept considered in the master plan features a direct connection between Lincoln Tunnel portals and the bus terminal eliminating circulation on city streets. Buses will travel via helix ramps to access either the terminal or storage and staging facility.

Ramps

In each of the concepts, three bus-only helix ramps would provide operational redundancy and flexibility. The ramping system provides terminal recirculation (as opposed to the existing Bus Terminal, which has limited, partial recirculation capacity). The helix ramps would provide critical linkages from the Lincoln Tunnel to bus storage and staging facilities; between the Lincoln Tunnel and bus gates, and between bus gates and bus storage and staging facilities that are located on different levels.



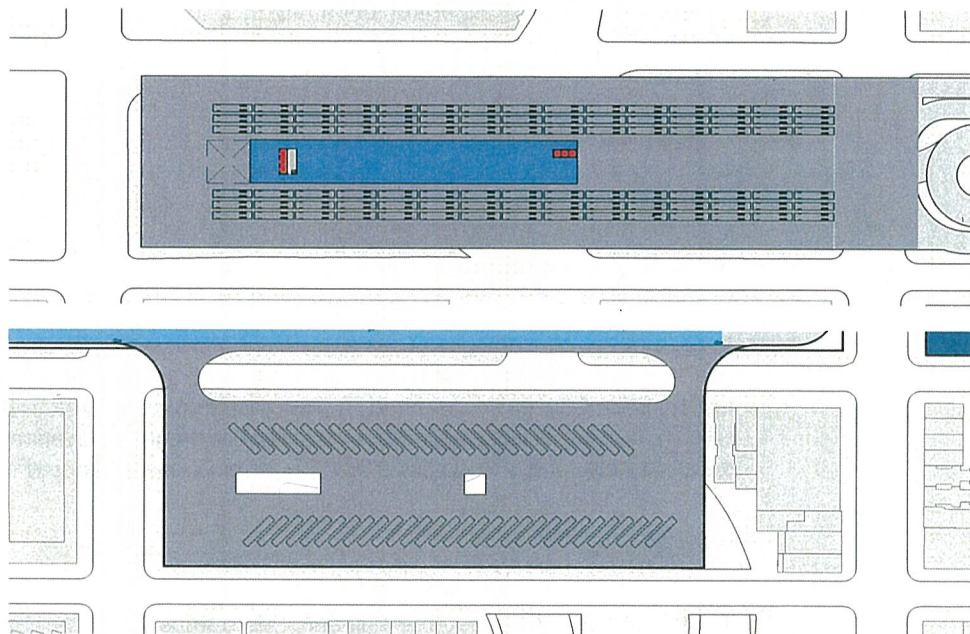
The eastern-most helix would operate in the upward direction at all times and connect to the South Tube of the Lincoln Tunnel via the east side of Dyer Avenue. The westernmost helix would operate in the downward direction at all times and connect to the North Tube of the Lincoln Tunnel via Galvin Plaza. The center helix would be bi-directional (operating in the upward direction during the AM peak period and the downward direction in the PM peak period) and would connect to the center tube of the Lincoln Tunnel via the west side of Dyer Avenue (see Figure 3-1).

FIGURE 3-1:
PROPOSED RAMP
CONNECTIONS BETWEEN
LINCOLN TUNNEL AND PABT

Storage and Staging Facility

Bus storage and staging is included in all five Concepts. Concepts 1-4 feature five-level storage and staging facilities located at either Dyer Plaza or Galvin Plaza with connections to and from the helix ramps and the passenger facility at each level. In Concept 5, staging areas would be provided as a portion of each floor of the passenger and bus facility, not as separate facilities (see Figure 3-2).

FIGURE 3-2:
"RACETRACK"
STORAGE/STAGING
CONFIGURATION
SHOWN ABOVE;
INDEPENDENT
STORAGE/STAGING
CONFIGURATION
SHOWN BELOW



10/50x

The reliability of an on-site supply of buses would improve reliability of passenger operations. The design of each floor would be flexible enough to allow for use as a storage or bus staging area with either a “racetrack” or independent storage/staging configuration.

Passenger and Bus Facility

In each of the concepts, planned bus gates provide flexible, efficient bus circulation. Each concept includes a central island platform with shallow sawtooth bus gates and the ability of the buses to recirculate within each level of the terminal. The central island concourse featured in each concept would provide efficient pedestrian circulation, queuing areas, and wayfinding.

Shallow sawtooth bus bays are recommended for regional commuter bus services due to the following advantages:

- Enables independent entry and exit from the bus bay.
- Does not require the driver to back up into the bus driveway to exit the bus bay, which is safer and less disruptive to other bus traffic.
- Accommodates ADA access along the full length of the bus, critical if bus lifts are located either at the front door or middle of the bus.
- Offers greater bus bay productivity than gate configurations, such as the pull-through bus gates.

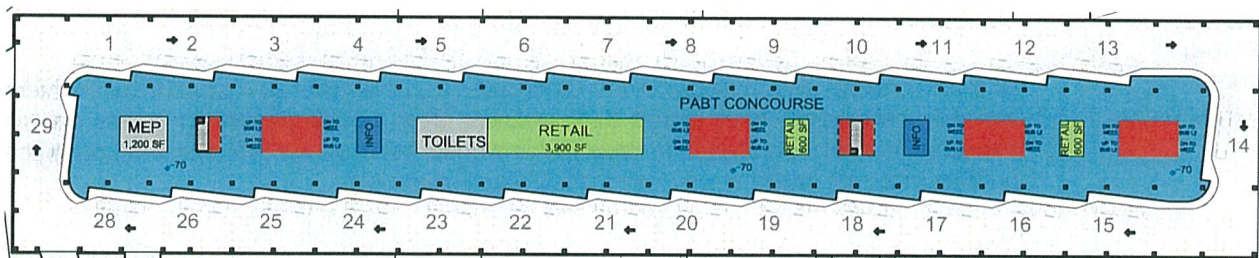


FIGURE 3-3:
SHALLOW SAWTOOTH BUS
GATE LAYOUTS

To accommodate the number of required shallow sawtooth gates, five levels of bus concourse are required. An example of a shallow sawtooth bus layout is shown in Figure 3-3. Above grade concourse levels are recommended to avoid possible utility and infrastructure conflicts, additional ventilation requirements, and higher costs.

Urban Impacts of West Side Infrastructure

All of the concepts advanced through master planning efforts took into account the west side infrastructure, and the large areas occupied by these roadways, most notably those on Galvin Plaza and Dyer Plaza. Efforts were made to place terminal-related program above areas with infrastructure that already are serving vital mobility purposes. This provides cover over land that is otherwise very difficult to develop and unsightly, and also reduces the need to displace existing uses.



FIGURE 3-4:
PEDESTRIAN
NETWORK OVER
9TH AVENUE

Impact on Ninth Avenue

All of the concepts take advantage of the opportunity to connect with an important thoroughfare and the surrounding street grid at Ninth Avenue. They provide pedestrian access directly between the bus terminal and the street at this avenue, but there are differences in how much building mass will bridge across the roadway (see Figure 3-4).

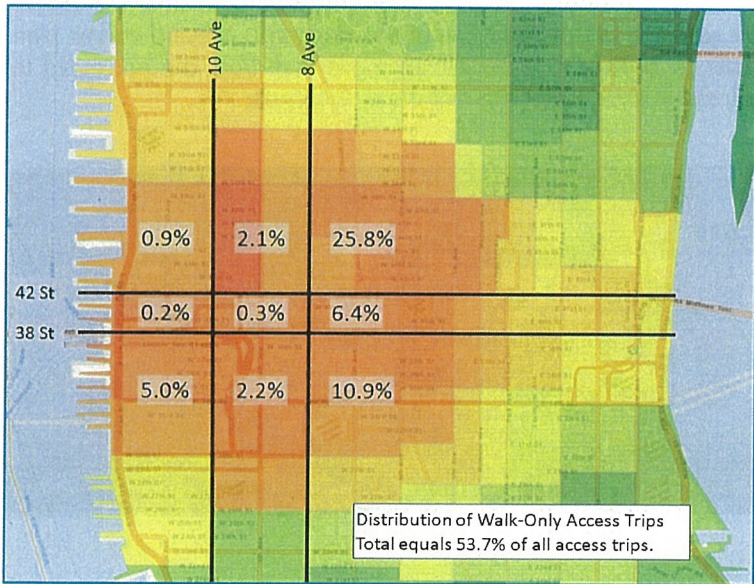
In Concepts 3 and 5 the terminal is entirely west of Ninth Avenue, but a large majority of the passengers have destinations to the east, necessitating either an above-grade passage over the avenue or a below-grade passage under the avenue to relieve congestion at the crosswalks. Concepts 3 and 5 both provide an enclosed, 60-foot wide, above-grade passageway across Ninth Avenue at the Mezzanine level. The underside of this bridge will be well illuminated, its sides will be transparent, and its narrow width will allow plenty of natural light to reach the street below. It will land on the east side of Ninth Avenue on an acquired site. Between 40th and 39th streets. Concepts 3 and 5, in their final phase, will have another pedestrian bridge across 40th street to deliver bus passengers to the subway system at Eighth Avenue. In Concepts 3.1 and 3.2, an underground pedestrian connection below 41st Street would create the pedestrian connection to the Eighth Avenue subway station, in addition to a 9th Avenue if deemed necessary to meet pedestrian flow requirements.

In Concepts 1, 2, and 4, the bus terminal bridges over Ninth Avenue with a mezzanine and five bus levels. 200 feet of the avenue will be covered by the building between 41st and 40th streets. The clear height under the building will range between 15 to 35 feet along the avenue, with well-lit retail spaces at street level to ensure a safe, animated, welcoming atmosphere.

Civic Presence and Alignment in the City

Recognizing the opportunity to create a new landmark which will enhance the Manhattan skyline and draw the prominence of 42nd Street towers further west, all of the concepts advanced provide iconic development opportunities at the corner of Eighth Avenue and 42nd street, as well as a large civic space for passengers and surrounding communities.

Pedestrian Connectivity

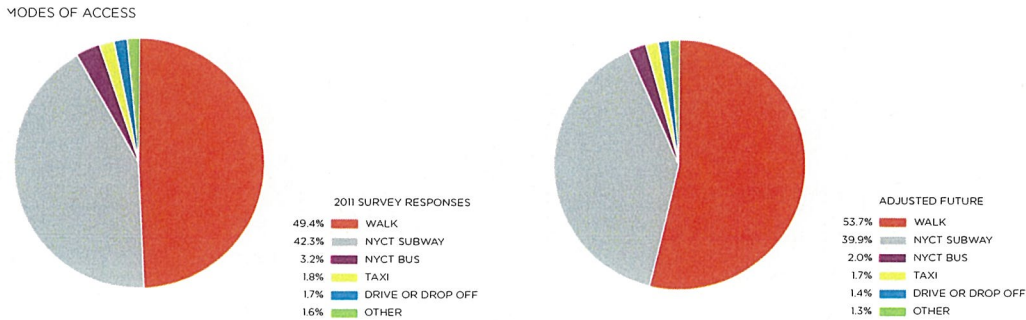


Approximately 50% of existing Bus Terminal's passengers walk from the terminal to their destinations, as shown in Figure 3-5 and Figure 3-6. The second highest total of passengers, approximately 42%, use the subways to reach their final destination. Adding the projected completion of Hudson Yards by 2030, the Port Authority's adjusted future percentage of passengers walking to their destinations is estimated to increase to 54%, although the subway-bound passenger percentage would decrease slightly to 40%.

Direct connection to the subway is one of the main advantages of the current Bus Terminal site. Today the weighted average walking time from the corner of Eighth Avenue and 42nd Street to a centroid gate is approximately 45 minutes. Concepts 1-5 would include a passenger hall with Eighth Avenue frontage, affording commuters direct access to the A, C, E subway lines and to the passageway under 42nd Street linking the Eighth Avenue station with the Times Square station and the 1, 2, 3, N, Q, R, S, and 7 subway lines (see Figure 3-8). The passenger terminal in Concepts 1, 2, and 4 is located on Eighth Avenue and would have a weighted average walking time from the corner of Eighth Avenue and 42nd Street to a centroid gate of approximately six minutes. For Concepts 3 and 5 located west of Ninth Avenue, this travel time would be approximately 11 minutes.

FIGURE 3-5: FUTURE DISTRIBUTION OF WALK-ONLY ACCESS TRIPS (RED INDICATES HIGH VOLUMES)

FIGURE 3-6: PROJECTED PEDESTRIAN VOLUMES



53x

Urban Design Considerations: Hudson Boulevard Master Plan

Concept 4 was developed to provide an option that sensitively responds to the ambitions of the Hudson Boulevard master plan. In Concept 4 the bus facility is contained east of Tenth Avenue, and Galvin Plaza is developed with residential towers that flank the boulevard. Potential for regarding of the final blocks of park between 39th Street and 37th Street was explored to create a vista that visually connects the park to a residential platform above the roadways – eliminating one's view of the congested traffic at grade on the Plaza.

In Concepts 1, 2, 3 and 5, various elements of ramps, staging and storage, and passenger facility elements are on Galvin Plaza, in view from the boulevard. The surface treatment of these building elements must be sensitive to the intentions of the Hudson Boulevard master plan. Additionally, the city's intentions of facilitating pedestrian movement from the boulevard to 42nd street must be considered in the development of the architecture.



FIGURE 3-7:
EIGHTH AVENUE PASSENGER
HALL SECTION LOOKING
NORTH

FIGURE 3-8:
EIGHTH AVENUE PASSENGER
HALL WITH SUBWAY ACCESS
TO A,C,E AND 1,2,3,
N,Q,R,S,7 LINES



FIGURE 3-9:
PASSENGER HALL WITH 41ST
STREET BEYOND, FROM
MEZZANINE LEVEL

x0155x

Interim Operations

All concepts require extensive planning for bus operations and pedestrian access during the construction phase, and include different phasing plans.

For Concepts 1, 2, and 4, three issues have been identified and addressed:

1. There is a need for an interim bus terminal, at Galvin Plaza or Dyer Plaza, which would accommodate up to 70% of 2030 commuter demand
2. Need for TDM strategies to accommodate the other 30% of 2030 commuter demand (i.e., on-street bus operations or use of alternate transit hubs)
3. Adequate pedestrian connection to Eighth Avenue is necessary (i.e., grade-separated pedestrian crossing across Ninth Avenue, sidewalk widening, peak period street closures, etc.)

For Concepts 3 and 5, an interim bus terminal and interim TDM strategies would not be required. However, adequate connection to Eighth Avenue would need to be provided during the interim period.

FIGURE 3-10:
CORNER VIEW OF 8TH
AVENUE AND 42ND STREET



FIGURE 3-11:
40TH STREET ENTRANCE



Intercity Bus Operations

On-Site: Concept 1

Concept 1 includes a single level of below grade intercity gates (see Figure 3-12). These gates would be accessed via the existing Greyhound Tunnel.

Intercity Terminal Site: Concepts 2, 3, 4 & 5

Concepts 2-5 are not able to accommodate projected 2040 commuter and intercity bus demand within the main terminal building due to physical space limitations. Because intercity services involve much lower bus volumes that do not require direct access to the Lincoln Tunnel ramps, it is possible to consider a wider range of possible locations for a satellite intercity bus terminal. The Port Authority does not currently own a site that would be suitable for such a terminal, and a specific site was not selected as part of this master planning effort.

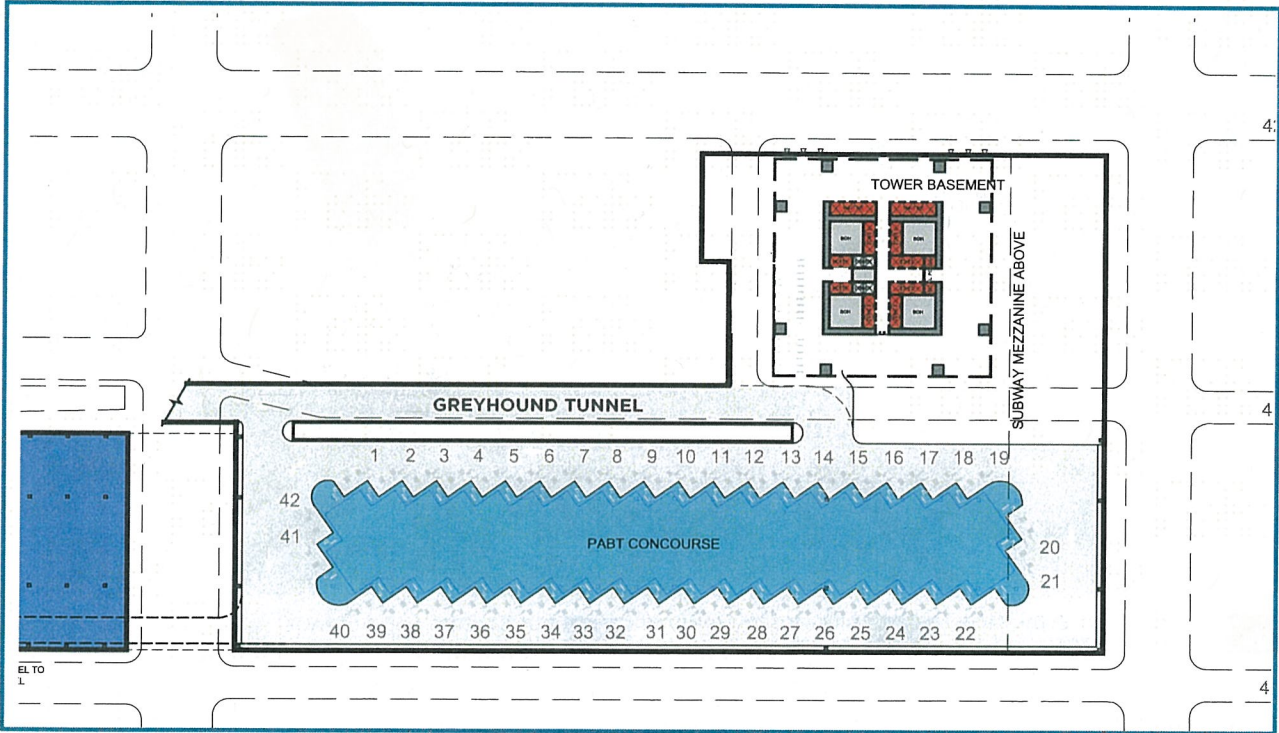


FIGURE 3-12:
CONCEPT 1: BELOW
GRADE INTERCITY
GATES

x857x

3.2. Concept 1

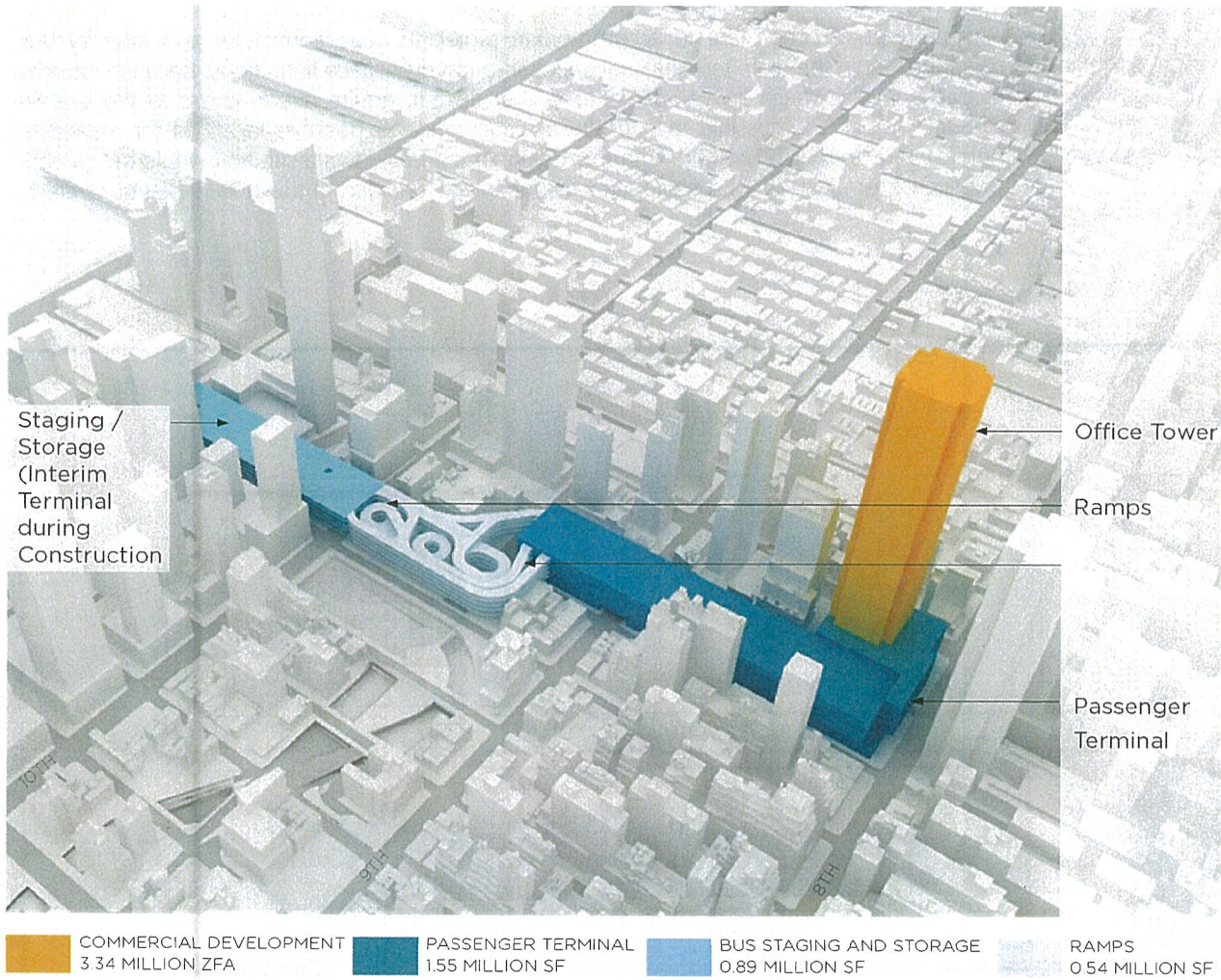
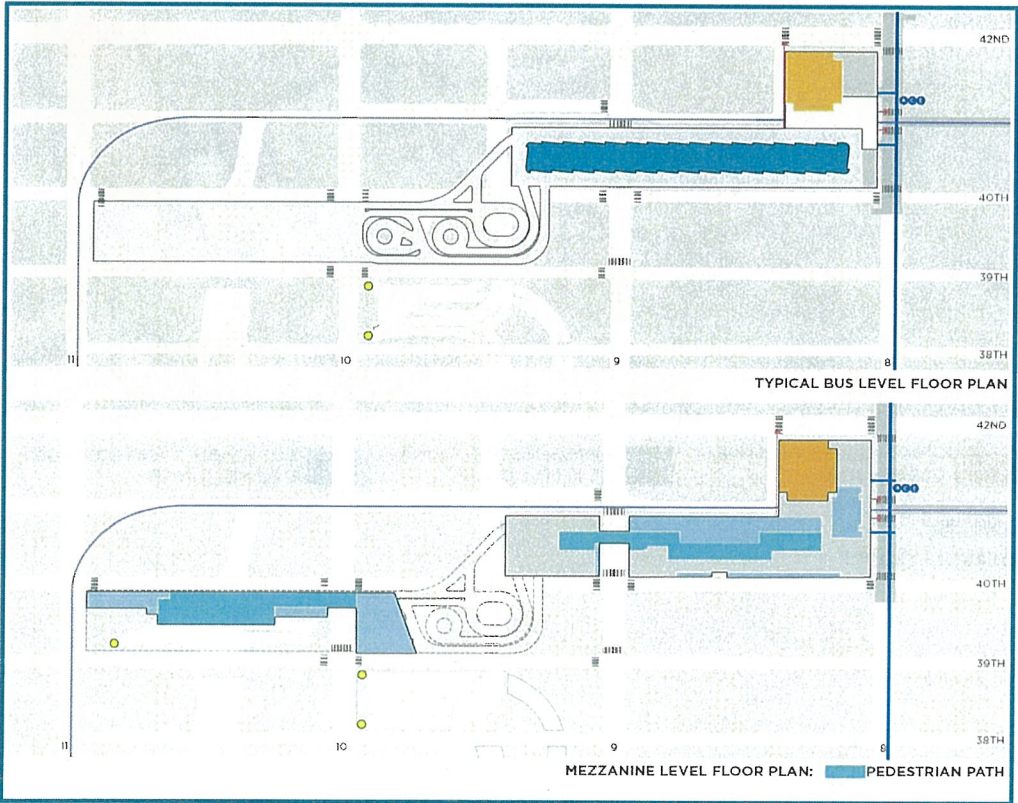


FIGURE 3-13:
MASSING OF CONCEPT 1

Concept 1 proposes a passenger facility on Eighth Avenue with a similar footprint to the existing Bus Terminal. The eastern half of 41st Street would be closed to through traffic and would be the site of a prominent passenger hall. The passenger hall would provide direct connection to the Eighth Avenue, Broadway, and Seventh Avenue subway lines. This concept meets 100% of future passenger demand including intercity operations. Galvin Plaza will serve as the long-term bus storage and staging facility as well as the site for interim operations during construction. Commercial development is most limited in Concept 1.

FIGURE 3-14:
CONCEPT 1 FLOOR PLANS



594

3.3. Concept 2

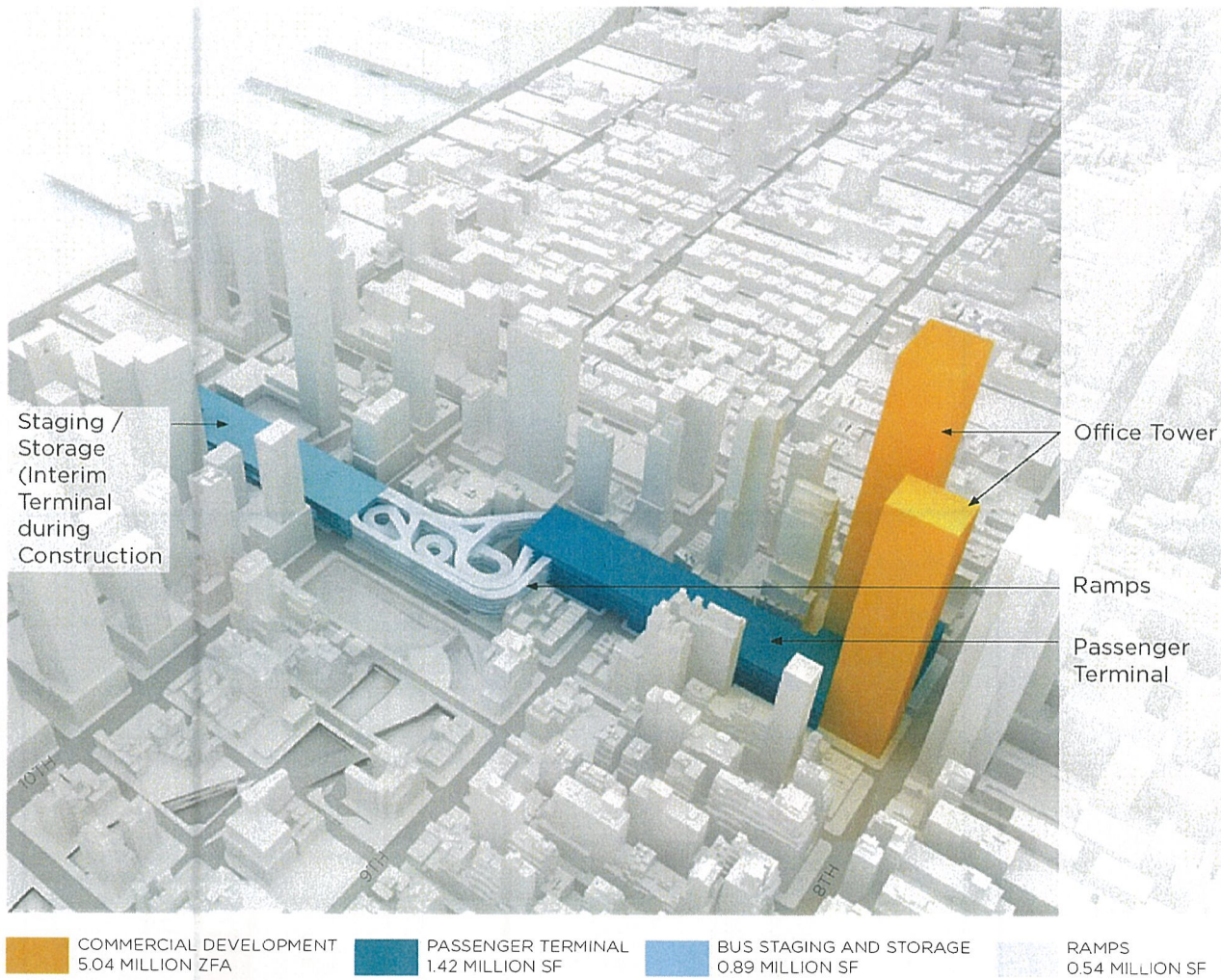
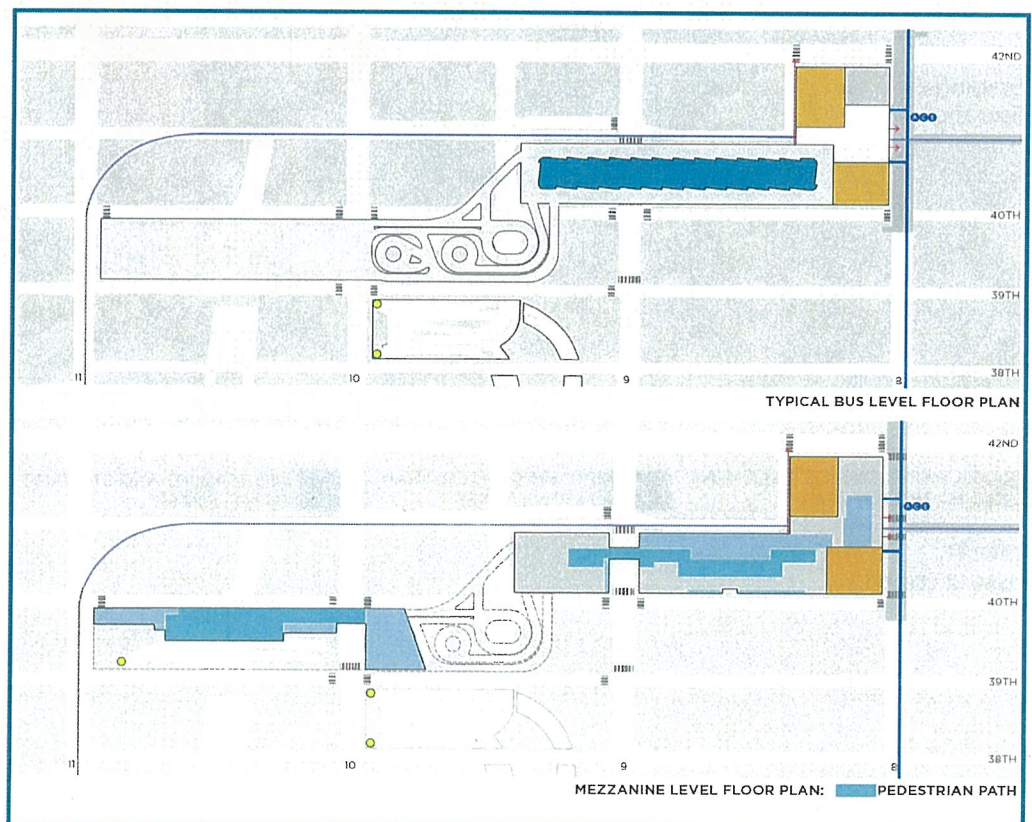


FIGURE 3-15:
MASSING OF CONCEPT 2

The bus facility size in Concept 2 is reduced to make room for a second office tower on the prime Eighth Avenue address. As in Concept 1, a portion of 41st Street would be closed and would be the site of the passenger hall. The passenger hall would connect directly to the Eighth Avenue, Broadway, and Seventh Avenue subway lines. The main terminal is sized to accommodate the 2040 commuter demand with 144 bus gates. The facility will not include capacity for intercity buses. A remote intercity facility would be required off site.

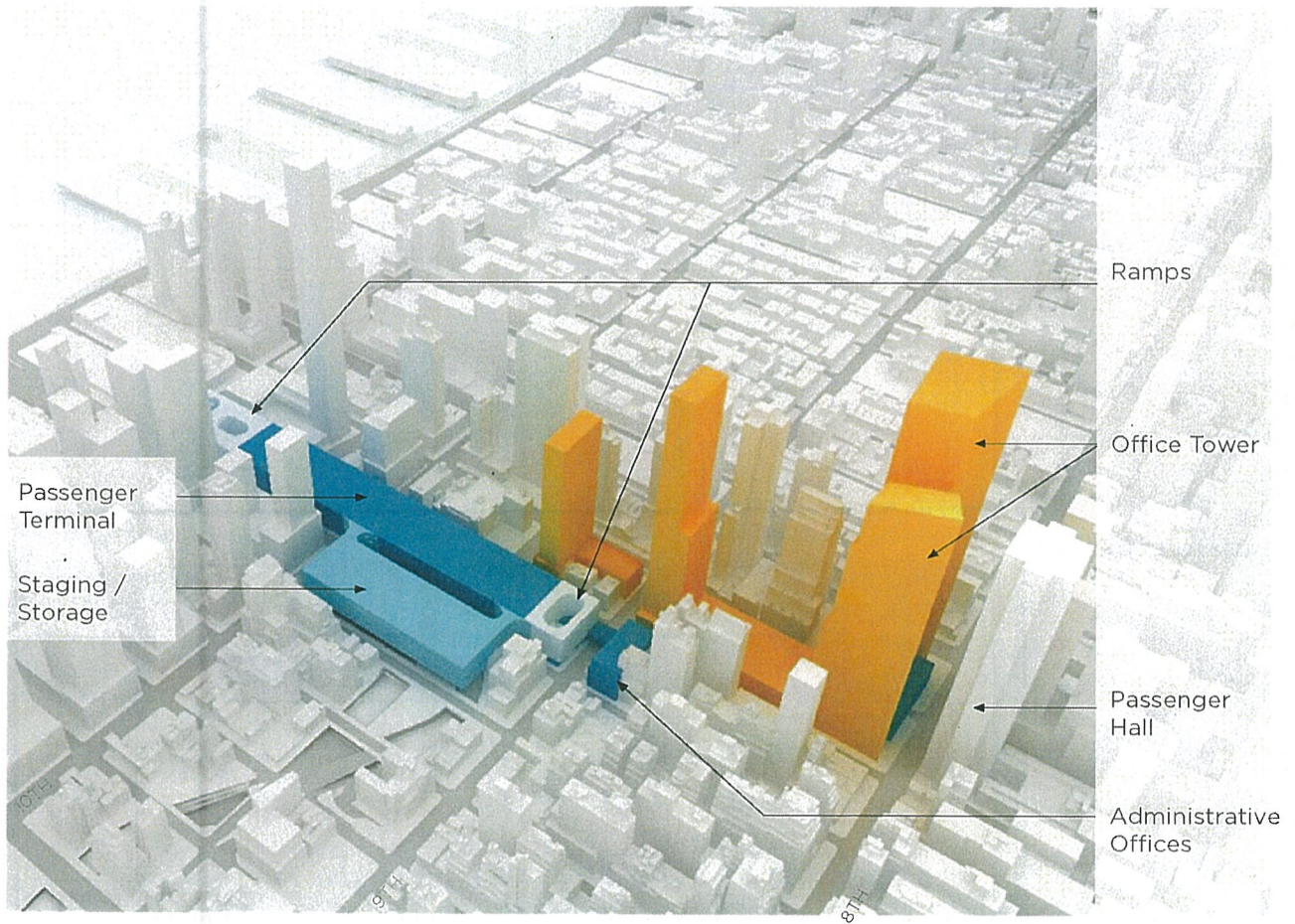
As in Concept 1, the Galvin Plaza facility would serve as the long-term bus storage and staging facility, but used during the demolition and construction period for passenger operations. This concept would provide more potential for commercial development as compared to Concept 1.

FIGURE 3-16:
CONCEPT 2 FLOOR PLANS



6/11

3.4. Concept 3

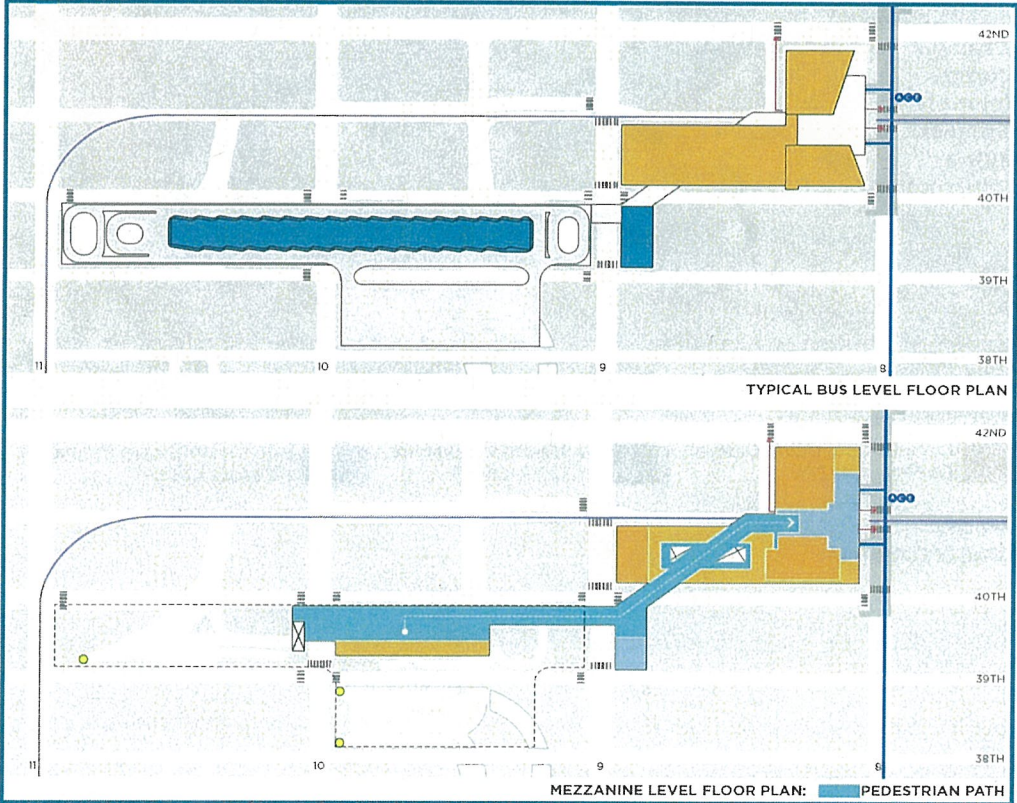


 COMMERCIAL DEVELOPMENT 6.2 MILLION ZFA	 PASSENGER TERMINAL 1.67 MILLION SF	 BUS STAGING AND STORAGE 62 MILLION SF	 RAMPS .45 MILLION SF
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FIGURE 3-17:
MASSING OF CONCEPT 3

In Concept 3 the passenger gates would be relocated between Ninth and Eleventh Avenues, in order to allow the existing terminal to remain in operation throughout construction of the new bus terminal. Post-construction, the existing Bus Terminal site would be available for commercial development. To provide passengers a safe commute, a 60-foot wide interior passageway would be provided to an Eighth Avenue Passenger Hall with subway access. A connection to a potential future Tenth Avenue station on Subway's #7 would be an attractive enhancement to the bus facilities, but is not included in the program or cost. The bus terminal is sized to accommodate the 2040 commuter demand with 159 bus gates. The facility would not include capacity for intercity buses; a remote intercity facility would be required off site. Interim operations would be simplified as the passenger terminal in Concept 3 could be constructed while the existing Bus Terminal remains operational. A grade-separated pedestrian bridge across Ninth Avenue to an interim lobby would be provided during demolition of the existing Bus Terminal. After demolition of the existing Bus Terminal, the pedestrian network to Eighth Avenue would be constructed. This concept would provide a high potential for commercial development with 6.2 million square foot, including the entire Bus Terminal site with up to 19 FAR.

FIGURE 3-18:
CONCEPT 3 FLOOR PLANS



63x

3.5. Concept 4

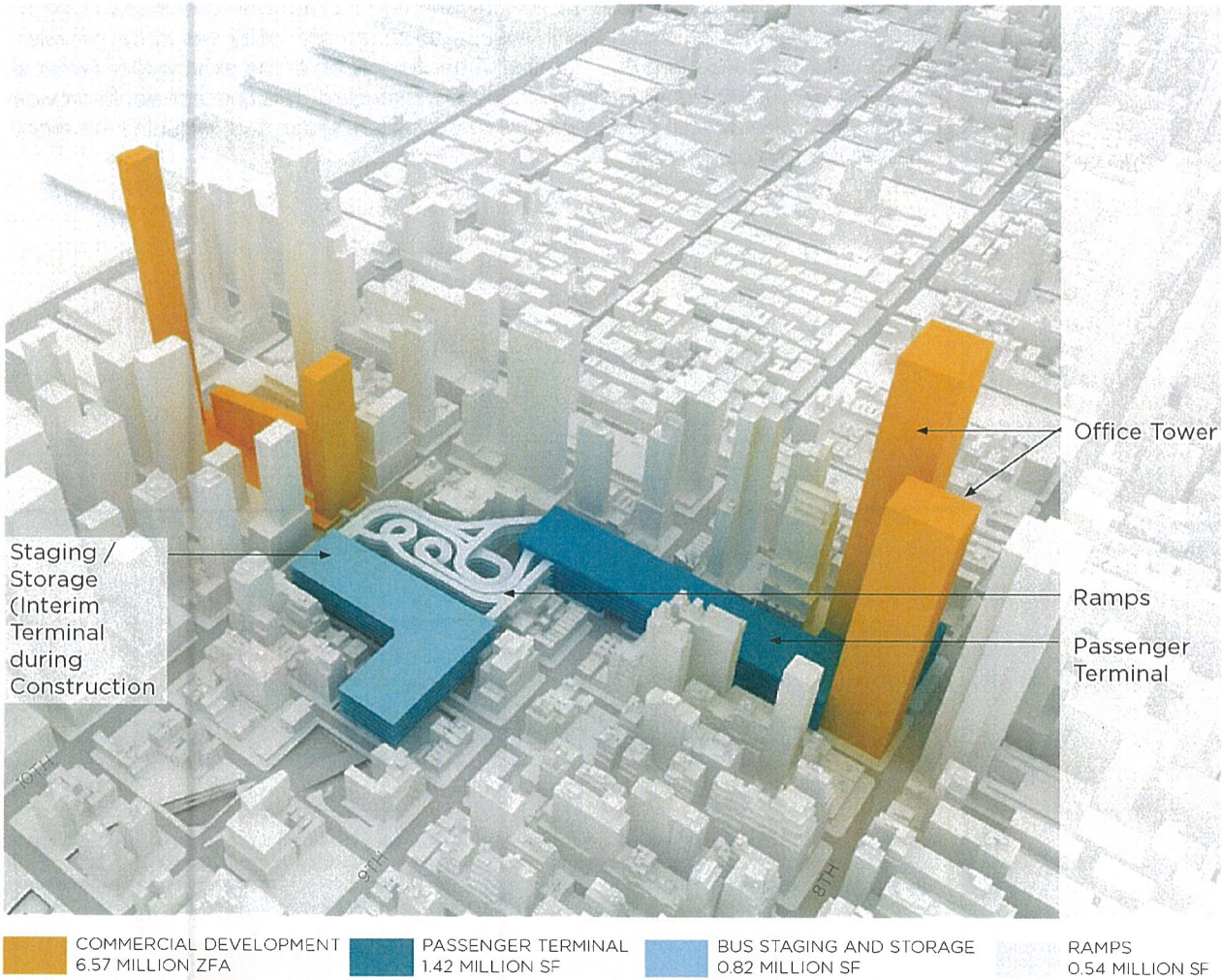


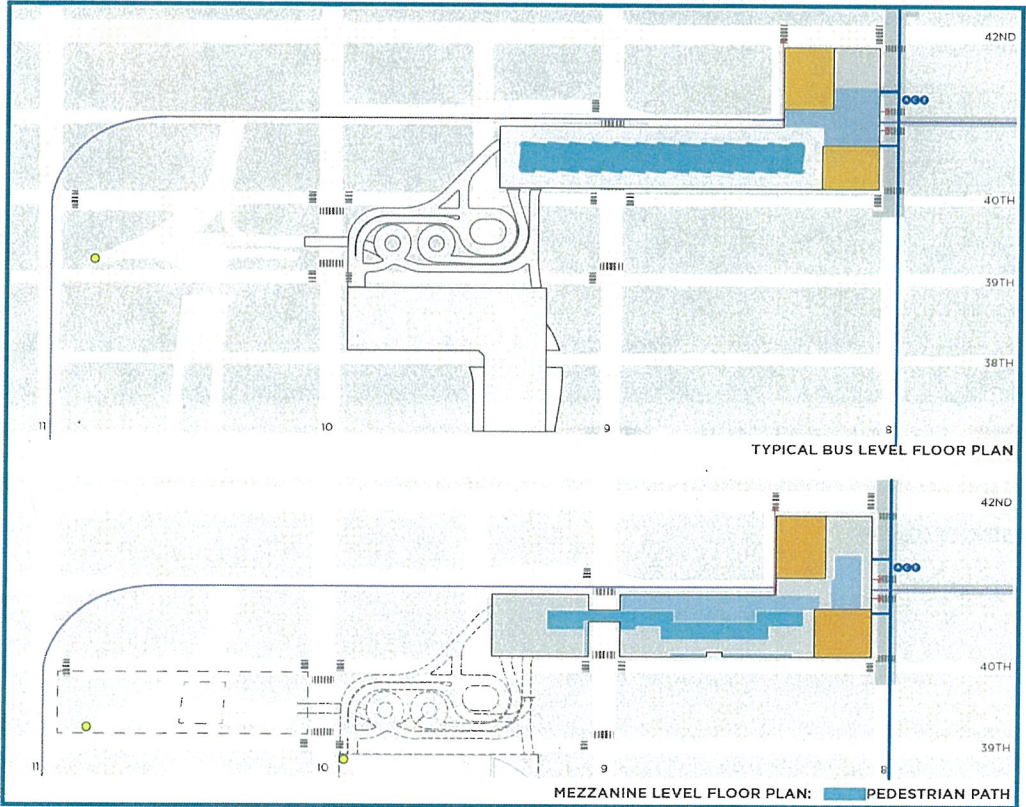
FIGURE 3-19:
MASSING OF CONCEPT 4

64x

Concept 4 has the same passenger facility configuration as Concept 2. However, the bus storage and staging facility would be set in an "L" shaped configuration over Dyer Plaza as opposed to the overbuild of Galvin Plaza in Concept 2. This would allow for development on Galvin Plaza. The passenger hall would connect to the Eighth Avenue, Broadway, and Seventh Avenue subway lines. The bus passenger facility is sized to accommodate the 2040 commuter demand with 144 bus gates. The facility would not include capacity for intercity buses, which would be accommodated at a remote intercity facility.

The Dyer Plaza facility would serve as the long-term bus storage and staging facility, and used during the construction period for passenger operations. Concept 4 would provide a high potential for commercial development with 6.57 million sq. ft. The development proposed on Galvin Plaza would be challenging to construct and market due to the active roadway on the site. Building a staging and storage facility on Dyer Plaza to make room for development on Galvin Plaza would result in an inefficient configuration for bus movement and storage.

FIGURE 3-20:
CONCEPT 4 FLOOR PLANS



x65x

3.6 Concept 5

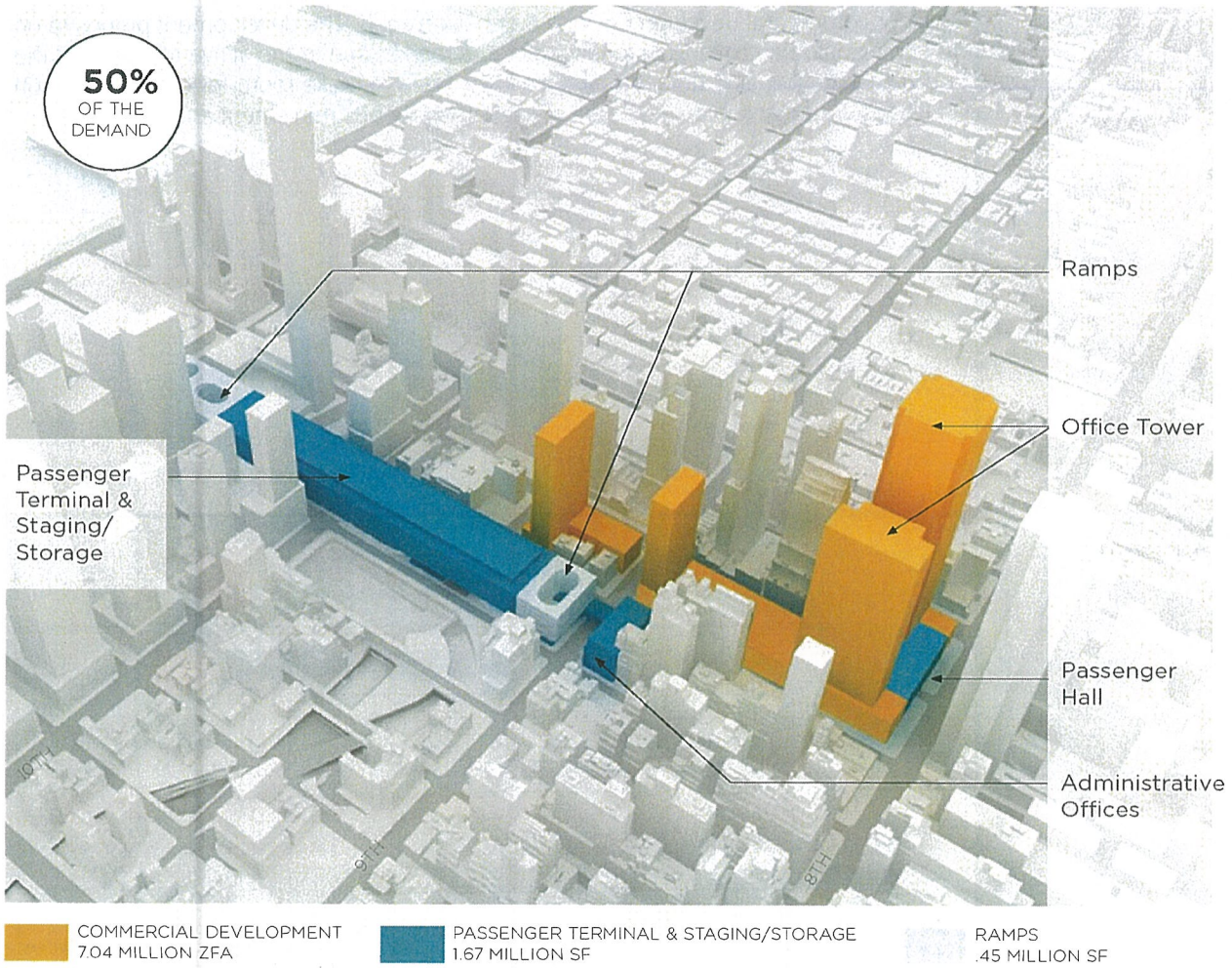


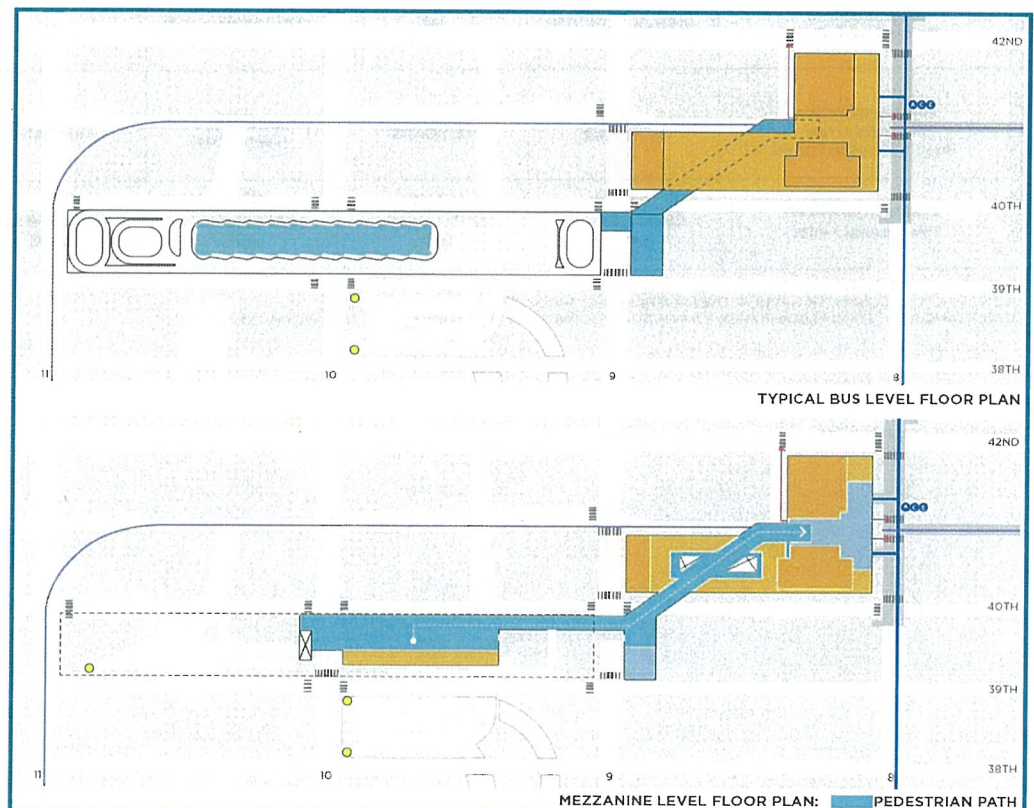
FIGURE 3-21:
MASSING OF CONCEPT 5

The Concept 5 bus terminal would accommodate approximately 50% of the 2040 regional commuter bus demand and 100% of the 2040 intercity buses. It would not have a stand-alone storage and staging facility as in other concepts. Transportation demand management (TDM) measures that include transportation facilities/operational improvements located in Manhattan and in New Jersey would be required to meet the remaining 50% of the demand. These proposed transportation facilities include:

- Expanded Secaucus Junction transfer facility (approximately 60 gates) (combined with potential/future Amtrak Gateway project or NYCT #7-line extension)
- North Bergen Park & Ride (approximately 15 gates)
- Port Imperial Ferry Terminal (approximately 4 gates)
- Satellite intercity facility or curbside gates in Hudson Yards
- A bus storage and staging facility close to the Lincoln Tunnel in New Jersey
- Curbside gates & bus priority improvements in Midtown Manhattan
- George Washington Bridge Bus Station
- Other bus operating strategies that use on-street bus routing to avoid the new terminal

The Concept 5 bus terminal can be constructed in the same way as in Concept 3. Phasing schedules or funding strategies have not been established for the additional facilities required in New York and New Jersey.



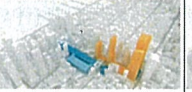


FIGURE 3-22:
CONCEPT 5 FLOOR PLANS



x67x

3.7. Comparison of Concepts 1-5

Table 3-1 (“**Concepts 1-5 Comparison**”) presents the comparison of Concepts across the refined performance measures as established during the master planning process.

	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	
					 + TDM Measures	
BUS FACILITY CONSIDERATIONS	On-Site Intercity	YES	NO	NO	NO	
	Total Commuter Bus Gates	164	144**	159**	144**	110** (at reduced efficiency)
	Intercity Gates	36	34	34	34	34
IMPLEMENTATION CONSIDERATIONS	Capital Cost Estimates	\$10.72 BILLION*	\$10 BILLION	\$10.35 BILLION* (includes passenger hall and connection)	\$10 BILLION	\$10.52 BILLION* (includes passenger hall, connection, and TDM)
	Operations & Maintenance Cost	\$155.81 MILLION	NA	\$166.06 MILLION	NA	\$182.16 MILLION
	Project Duration Including 6 Year Pre-Construction Period	15 YEARS	15 YEARS	12 YEARS & 9 MONTHS	15 YEARS	12 YEARS & 9 MONTHS
	Land Acquisition Residential Units	3 Lots 92 Residential Units	3 Lots 92 Residential Units	27 Lots 167 Residential Units	3 Lots 92 Residential Units	27 Lots 167 Residential Units #

*REFINED PROJECT COST AS OF OCTOBER 2015

**DOES NOT INCLUDE COMMUTER GATES AT THE MARSHALLING YARD SITE

#INCLUDES LAND ACQUISITION REQUIRED FOR TDM INITIATIVES. CONCEPT 5 DOES NOT REQUIRE SITE ACQUISITION IN NJ

TABLE 3-1:
CONCEPTS 1-5 COMPARISON



**THE MIDTOWN BUS TERMINAL:
MANAGING TODAY AND
PLANNING FOR THE FUTURE**

Community Presentation

April 18, 2016

69x

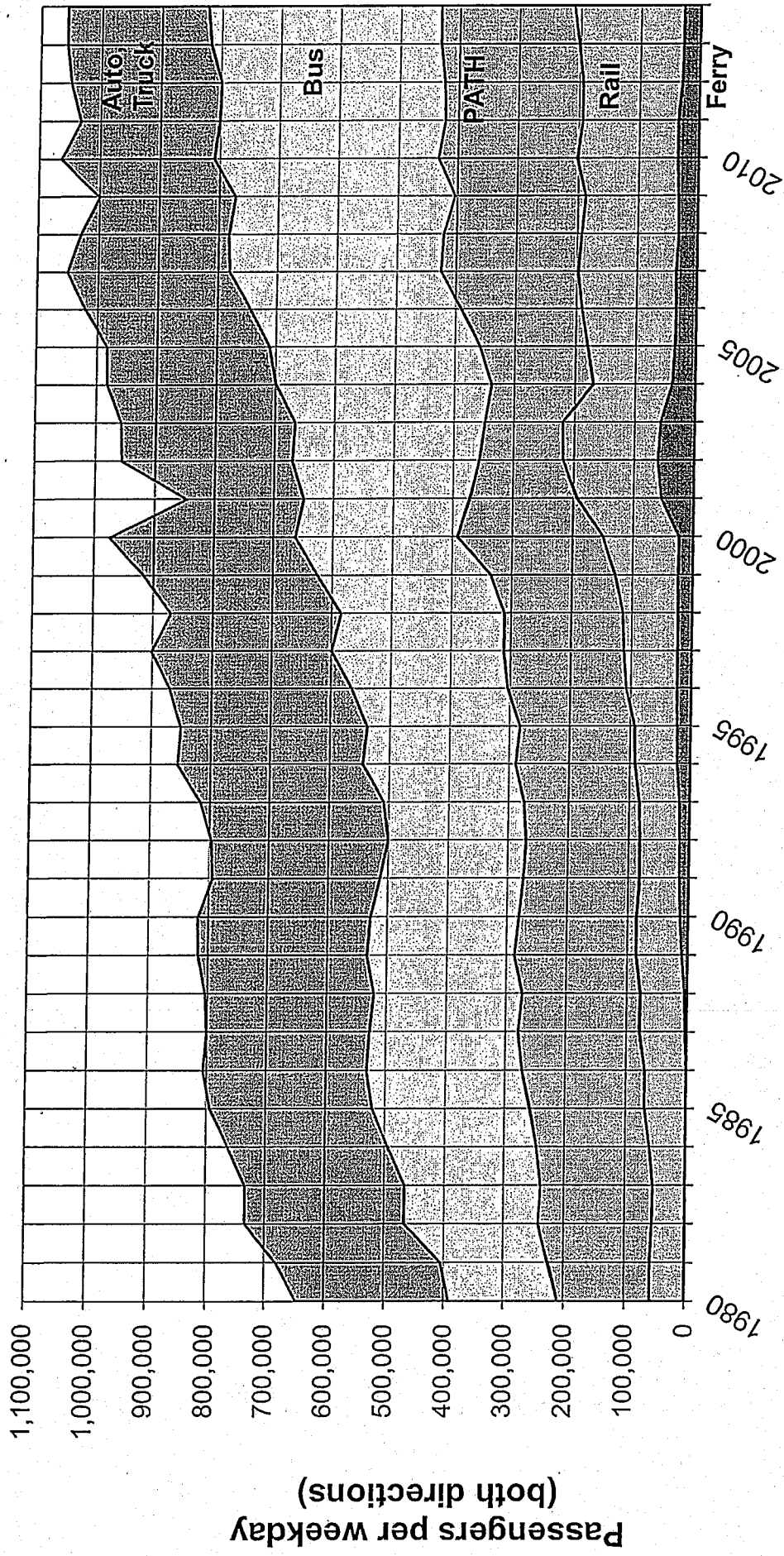
Overview

- Trans-Hudson Network Demand
- Recent Improvements
- Future of the Bus Terminal
 - International Design + Deliverability Competition
 - Commuting Capacity Study

Trans-Hudson Demand

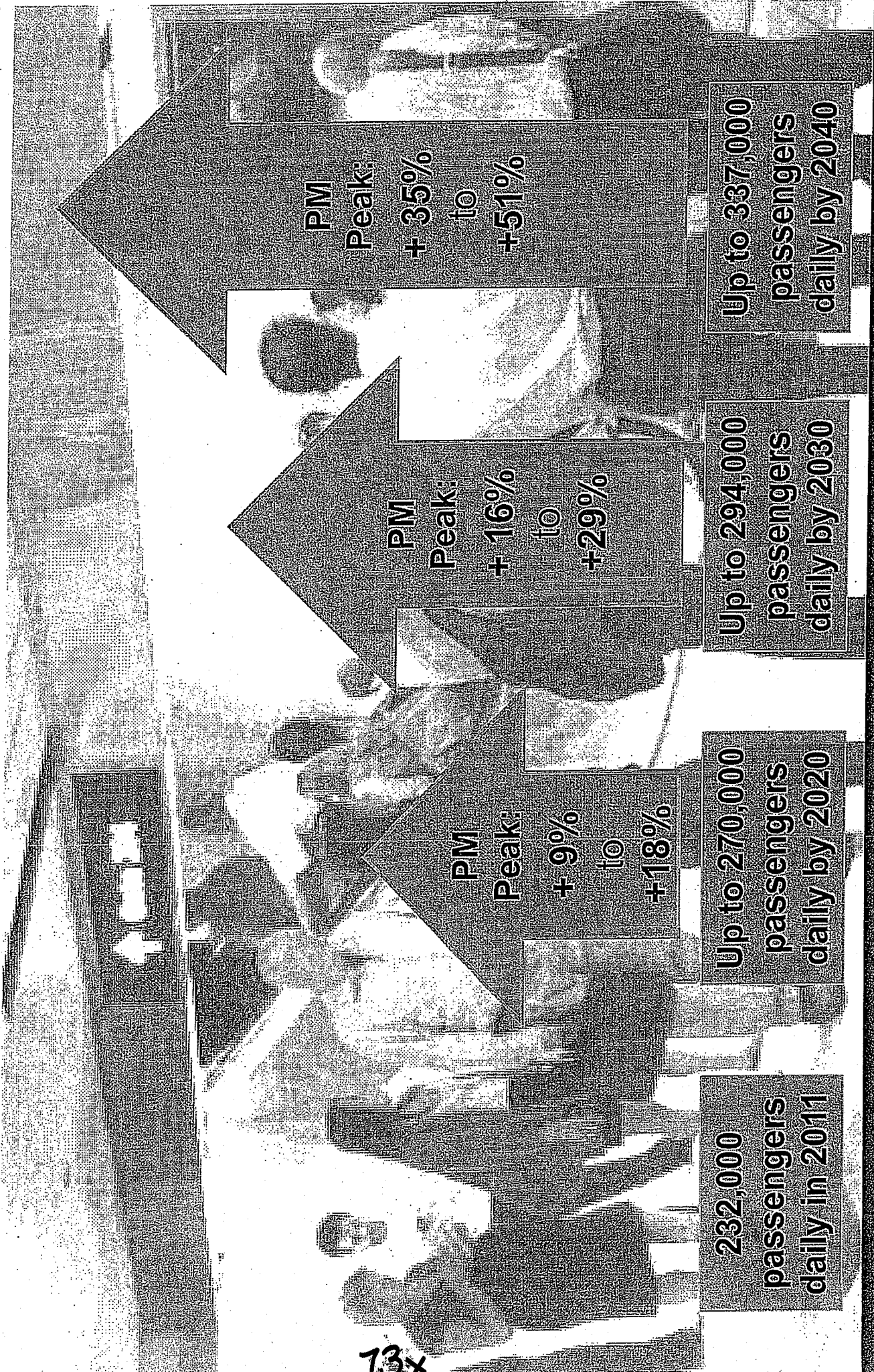
The Regional Interstate Transportation Network

Trans-Hudson Trips Below 60th Street



Source: NYMTC Hub Bound Travel Report

Forecasted Bus Terminal Passenger Growth 2011-2040



73x

An aerial, black and white photograph of a port facility, likely a harbor or dock area. The image shows various structures, including buildings, piers, and what appears to be a large crane or gantry system. The water is visible in the lower right. A large, dark, rounded rectangular banner is superimposed over the center of the image, containing the text 'Recent Improvements'.

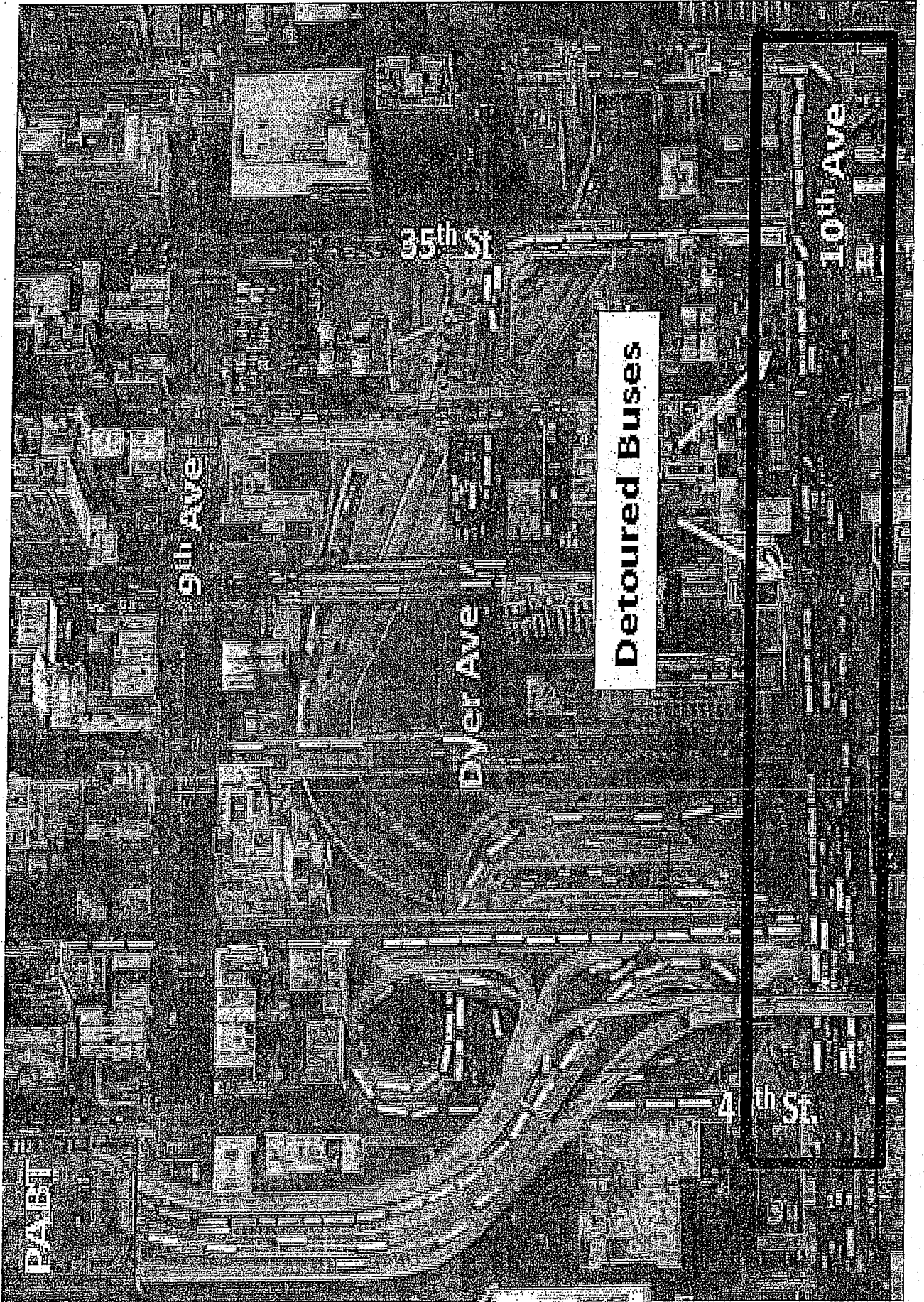
Recent Improvements

Managing Today:

Always Seeking Improvement

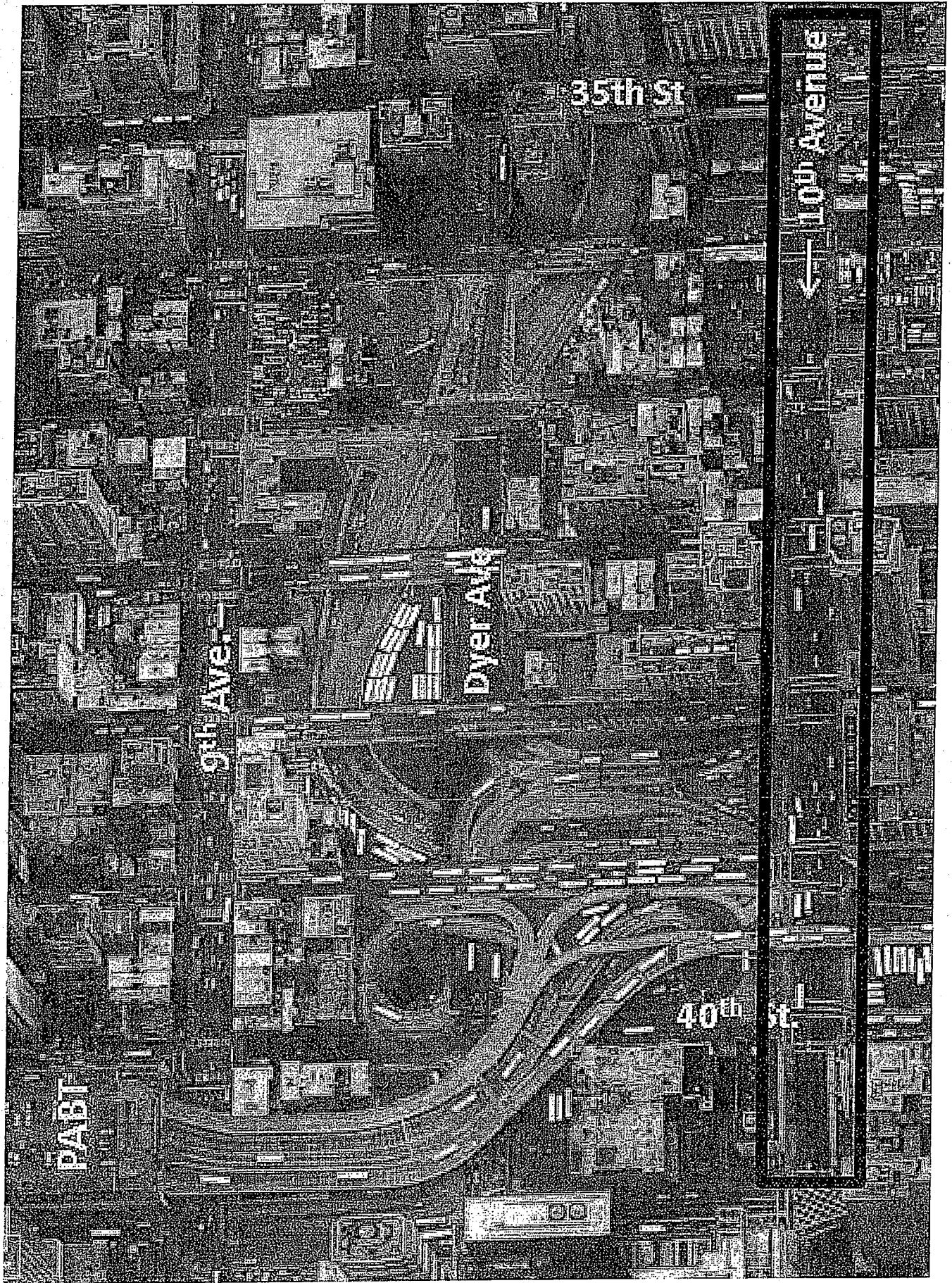
- **Quality of Life in the Community**
 - Traffic Congestion
 - Pedestrian Safety
 - New Retail
 - Public Safety
- **Quality of Commute Program**
 - Traffic and Operating Enhancements
 - Building Improvements
 - New Communications

Congestion on 10th Avenue in May 2014



x76x

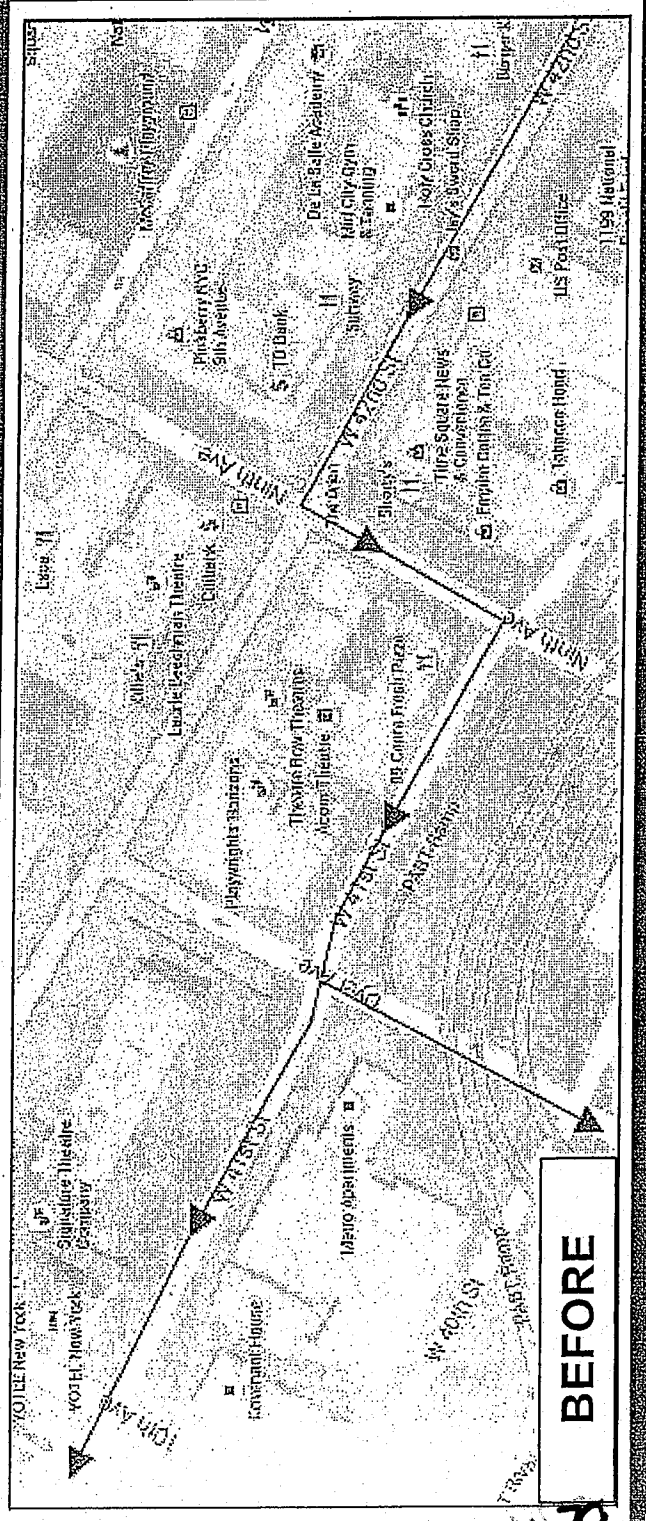
Congestion on 10th Avenue in October 2014



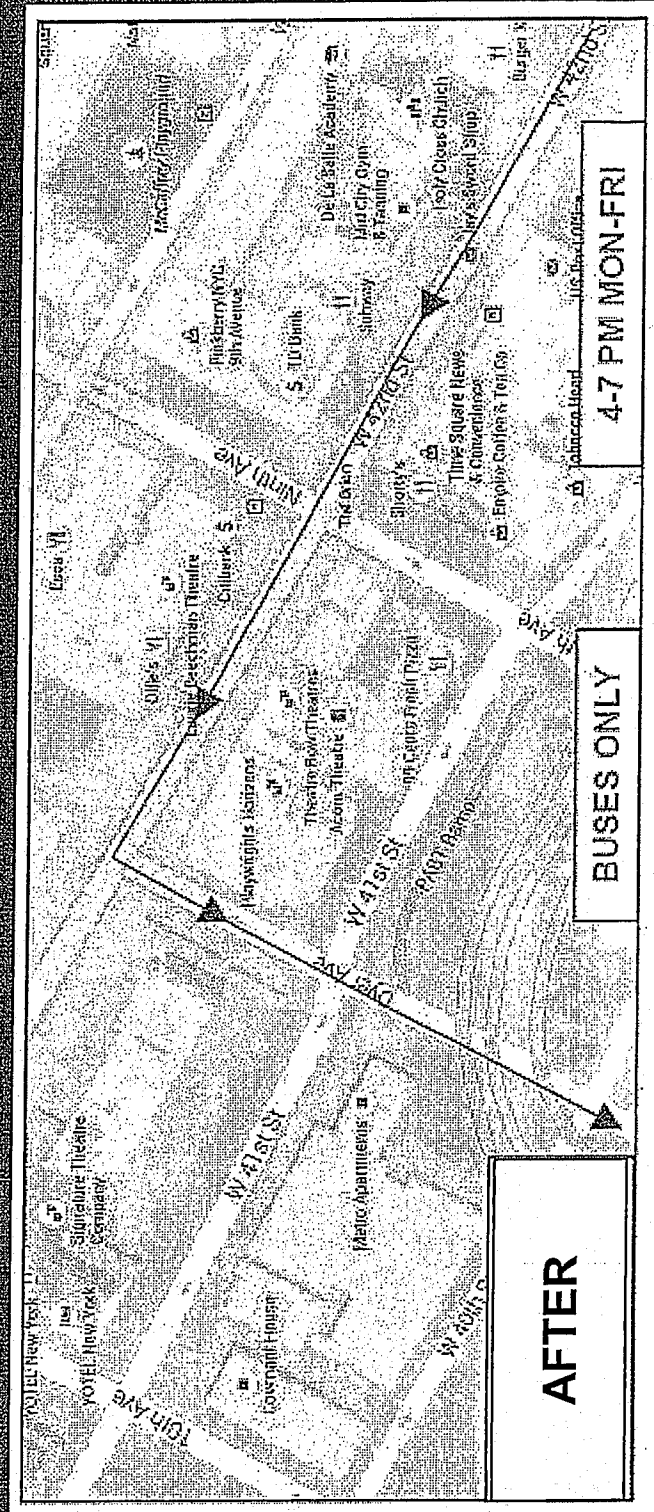
77x

Dyer Avenue Contra-Flow Lane Extended to 42nd St.

Reduced bus turns to access Lincoln Tunnel by 50%.



Improved pedestrian safety and reduced 9th Ave. traffic congestion.



Crime Reduction

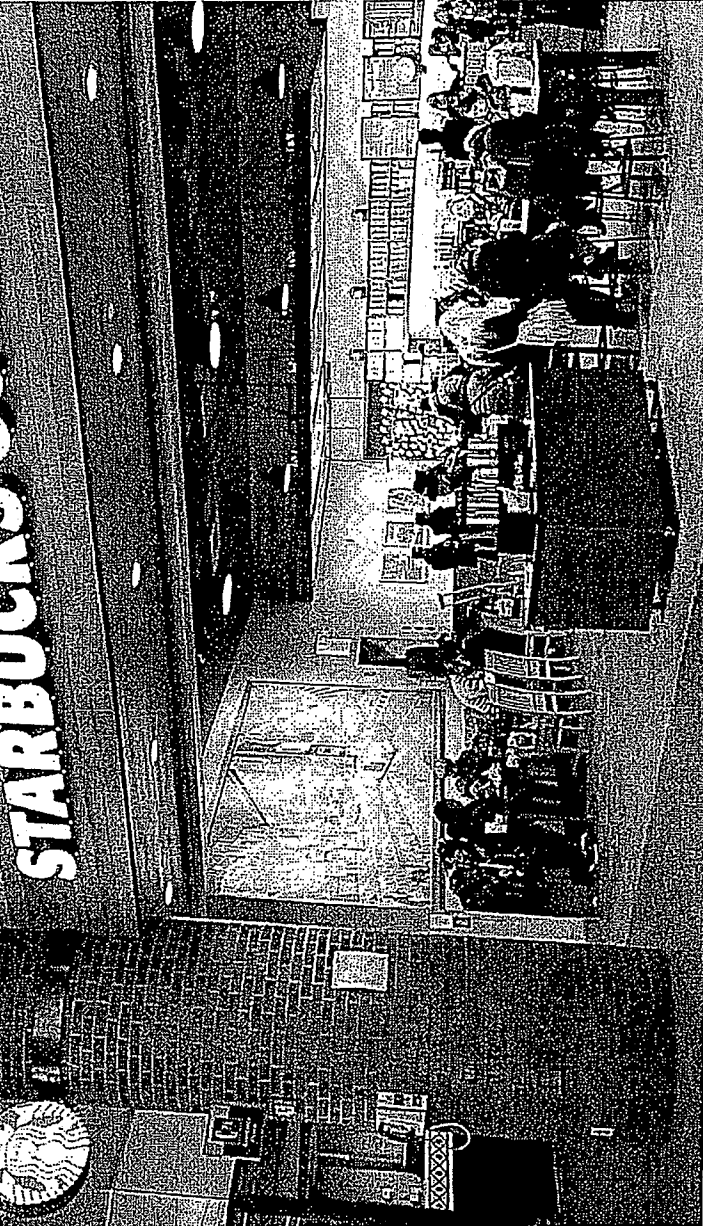
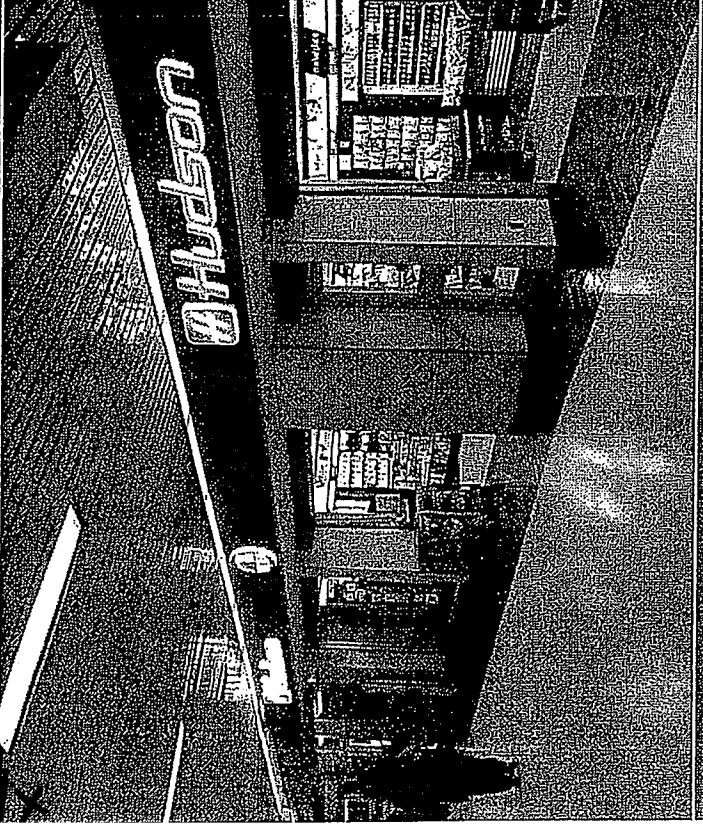
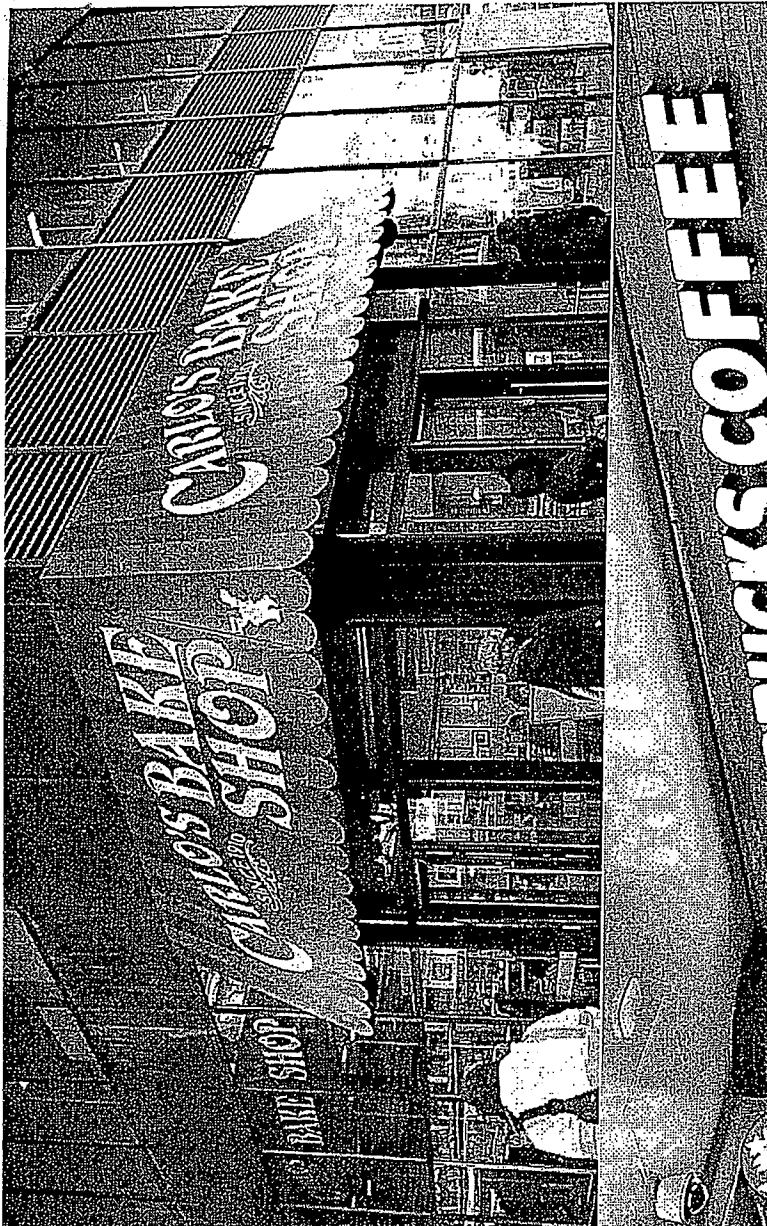
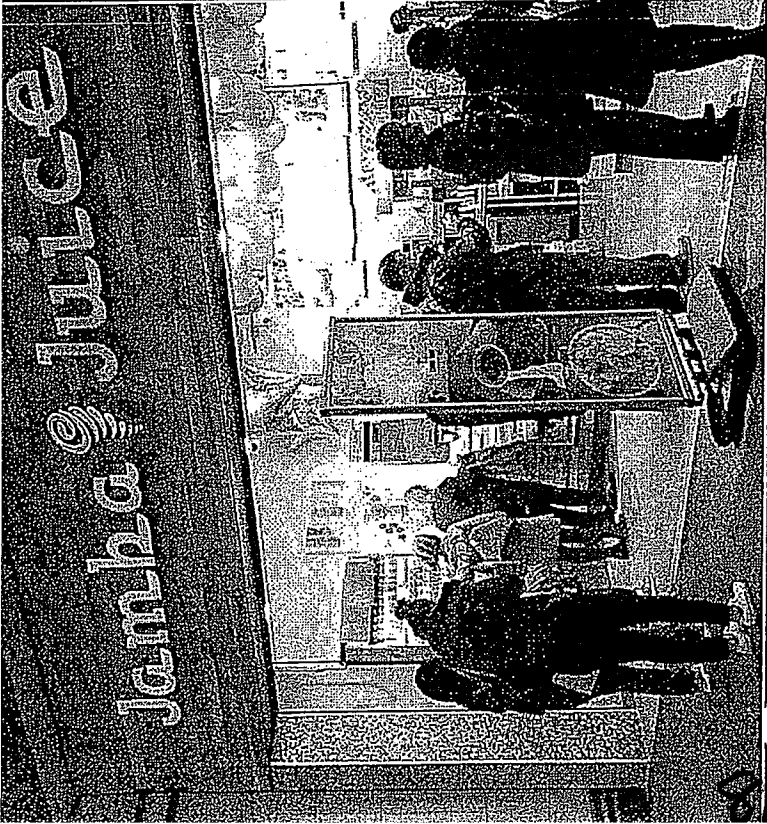
- Quality of Life Enforcement
- Tactical Patrols
- Youth Services Unit
- Winter Action Plan
- Multi-agency Efforts

Crime Reduction

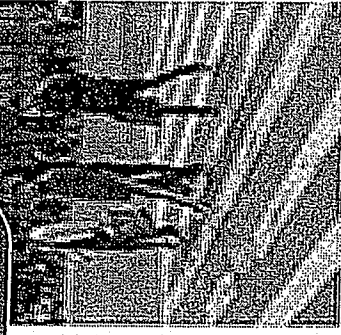
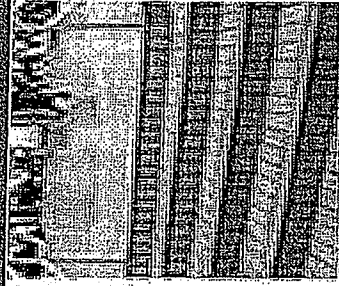
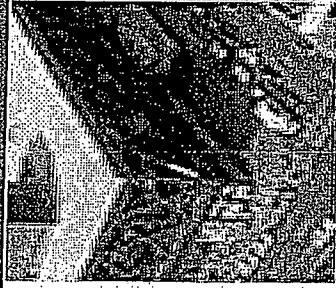
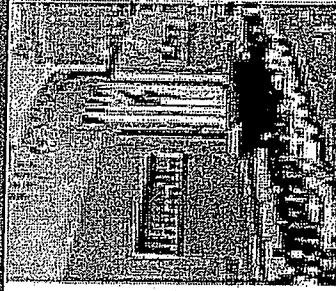
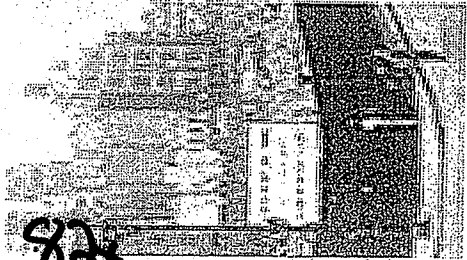
Uniform Crime Reporting – Major Crimes

Reporting Metric	2015	2014	Change	% Change
Crimes	142	185	-43	-23%
Arrests	88	111	-23	-21%

Source: Port Authority Chief Security Office Uniform Crime Report, Part I

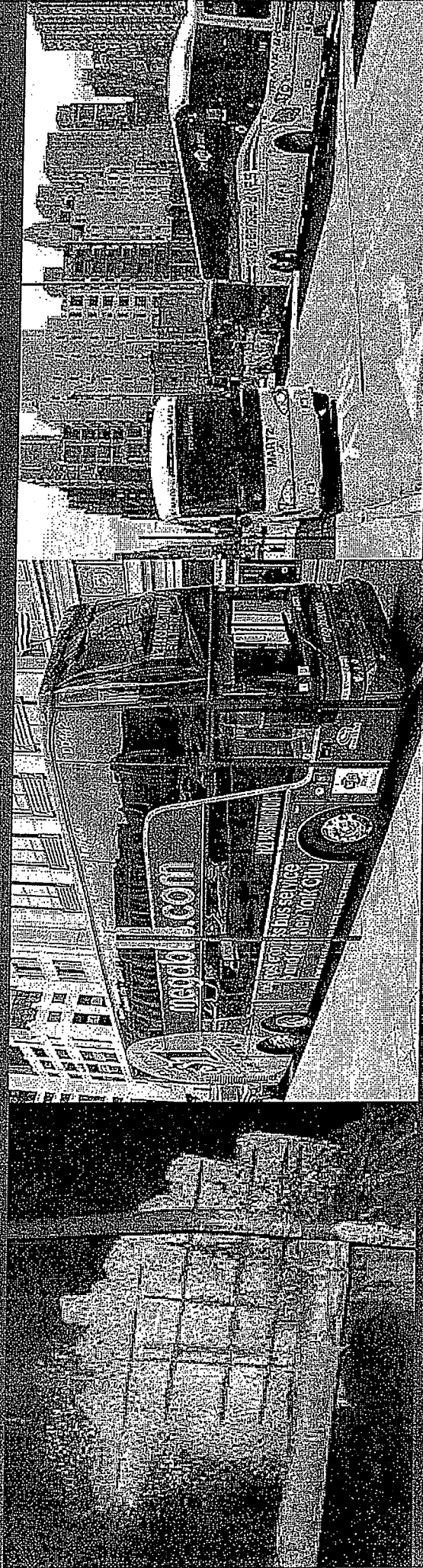


Future of the Bus Terminal



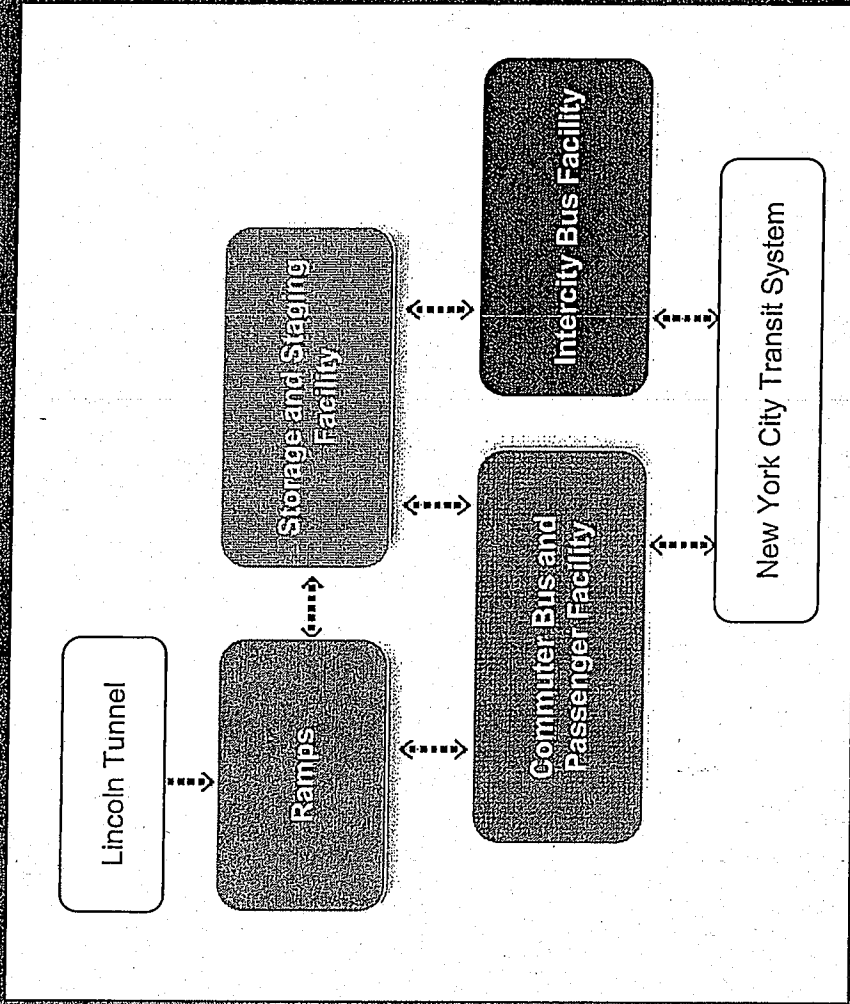
Addressing Aging Infrastructure

- Not built for taller, heavier modern buses
- Structural issues require replacing the terminal
- Inadequate bus parking, staging, circulation space



Planning a 21st Century Midtown Bus Terminal

Midtown Bus Master Planning Process "Building Blocks"



Design + Deliverability Competition

International Design + Deliverability Competition

PORT AUTHORITY BUS TERMINAL

Competition Conditions

<https://www.panynj.gov/bus-terminals/pdf/PABT-Design-Competition%20Conditions.pdf>

Design + Deliverability Competition Objectives:

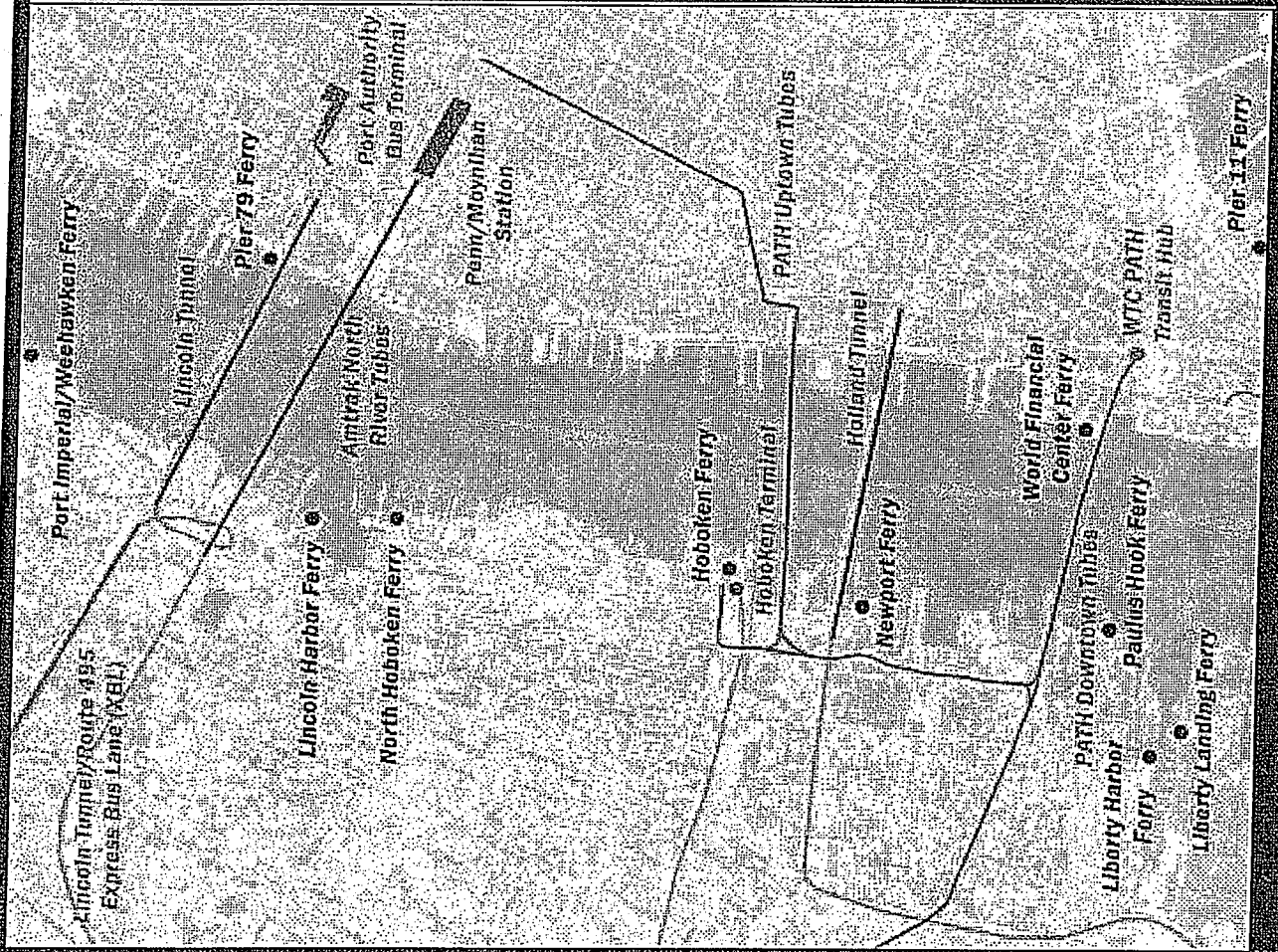
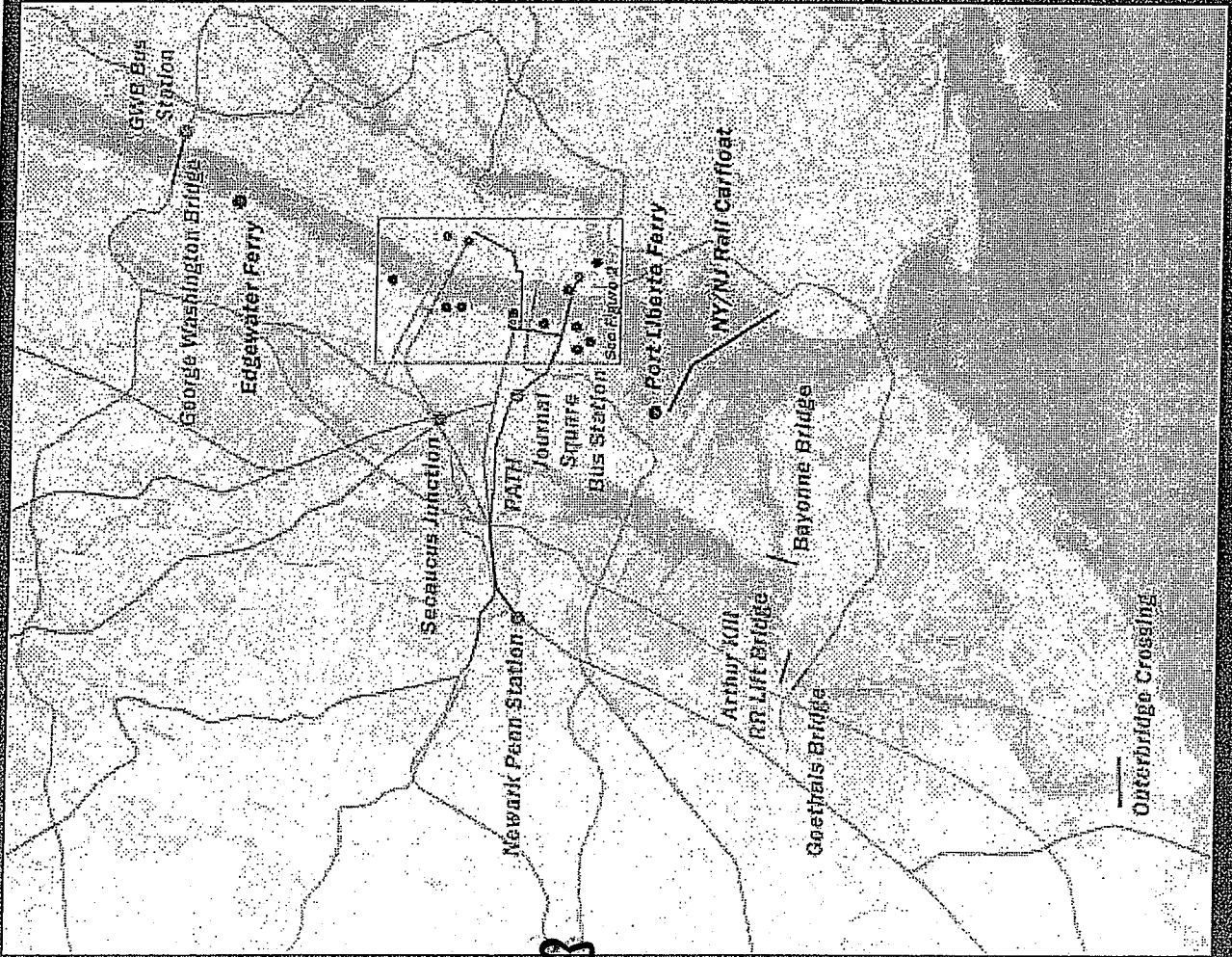
- Meet current and projected bus passenger travel demand
- Advance functional and practical transportation solutions
- Use Port Authority property where possible, minimizing possible private property acquisition
- Minimize traffic impacts to surrounding local streets
- Account for concerns of the local community
- Take constructability into account
- Provide cost-effective solutions, accounting for capital and future operating costs in “deliverability”

Design + Deliverability Competition

Objectives: *(continued)*

- Provide functionality for bus parking and staging
- Permit scalable and modular solutions that may be phased as needs and standards evolve
- Sustain the Port Authority's interest in safety and security through design, operations, and site location
- Attract private capital as an element of project "deliverability"
- Utilize sustainable design principles
- Consider potential for bus storage in alternate locations
- Embody excitement and dynamism of NYC and the region

Commuting Capacity Study

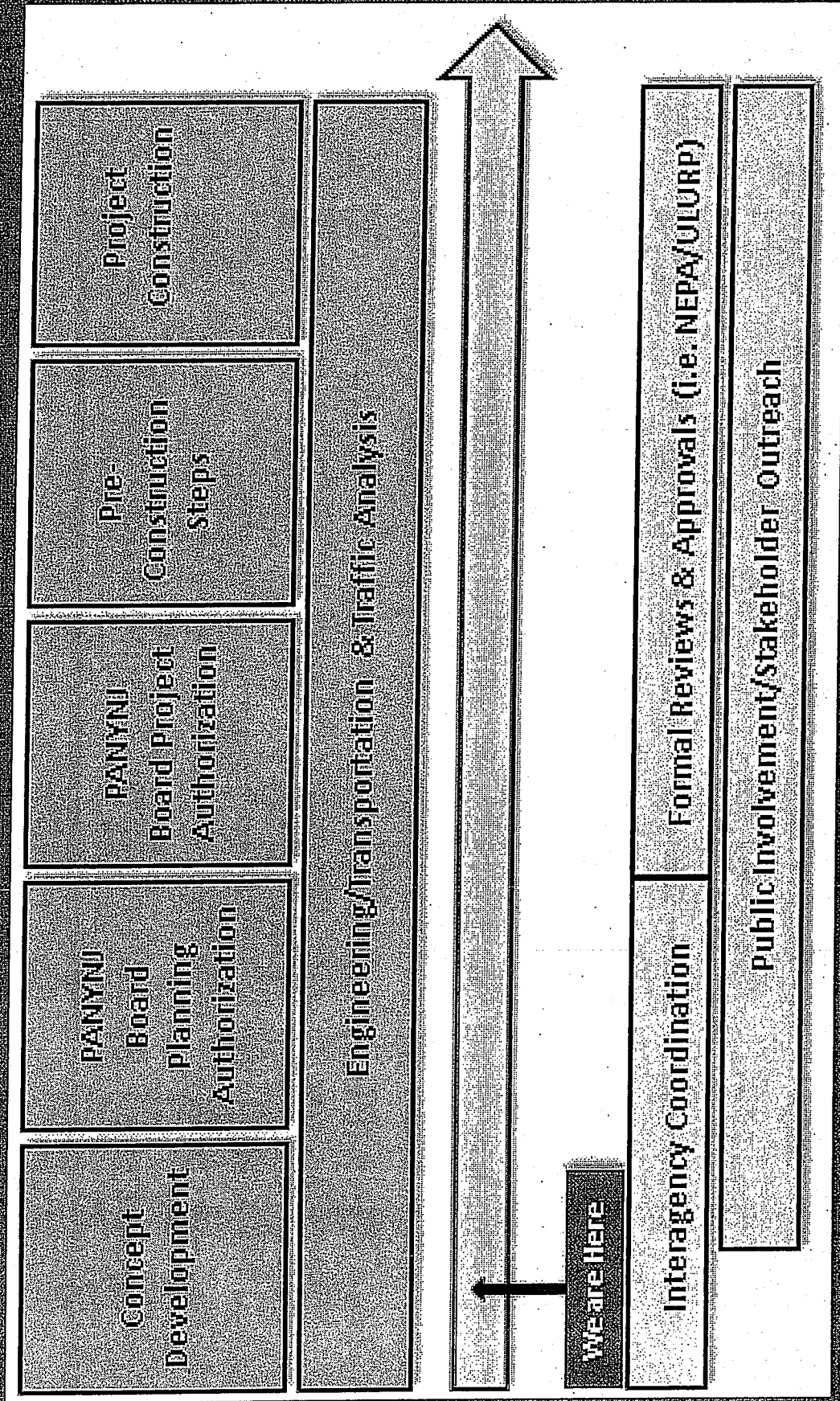


Commuting Capacity Study

- Complete by June 2016 to Inform PABT Deliberations
- Assess Overall West-of-Hudson Commuter Network Outlook
- Evaluate Innovations in Bus Operations, Technology
- Consider Workplace, Commuting Patterns affecting Peak Demand
- Identify Long-Term Transportation and Economic Impacts of Not Replacing the Bus Terminal*

*Information has been edited for clarification purposes since presentation on 4/18/2016

Major Capital Project Timeline



468

PABT Planning: Major Milestones

Design + Deliverability Competition & Commuter Capacity Study - 2016

Commuting Capacity Study Launch

March

D+D Competition Launch

March 11

D+D Phase One Submission and Registration

April 28

Commuting Capacity Study Interim Findings

April/May

D+D Phase Two Launch

May

Commuting Capacity Study Completion

June

D+D Phase Two Submission Due

July/August

We Want to Hear From You!

Neighbor Survey:

<http://www.panynj.gov/bus-terminals/pabt-design-survey.html>

For more information:

<http://www.panynj.gov/bus-terminals/pabt-design.html>

Port Authority Bus Terminal

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

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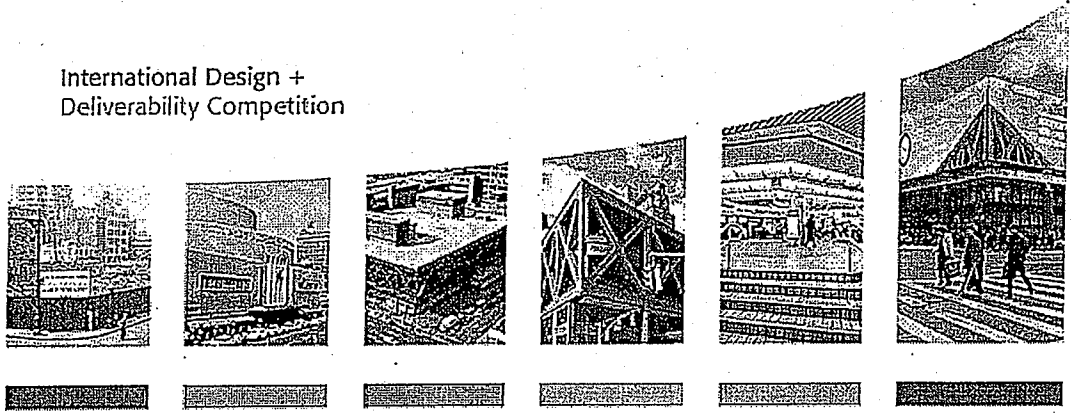


Home Terminal Guide About the Terminal Design + Deliverability Competition Design Survey

Port Authority Bus Terminal • Bus Terminal Design Competition

- About the Terminal Home
- History
- FAQs
- Design + Deliverability Competition
- Design Survey
- Midtown Bus Master Plan

International Design + Deliverability Competition



Invitation to Compete

The Port Authority of New York and New Jersey (the "Port Authority") welcomes your participation in the Port Authority Bus Terminal International Design + Deliverability Competition (the "Competition"). The Port Authority is launching this Competition to inform the Port Authority's master planning efforts and select a conceptual design that most fully meets the Design + Deliverability Objectives for a new Bus Terminal. The Port Authority anticipates awarding a one million dollar honorarium to the winning Finalist.

The Competition's scope embraces a diverse field of expertise, including architecture and engineering, intermodal transportation operations and planning, construction, land use, and finance. Competitors should therefore assemble a multi-disciplinary design-led team, of both emerging and established talent, with the appropriate skill sets and expertise to embrace the complex challenges of designing a new Bus Terminal in the heart of New York City, and deliver a conceptual design that meets the Design + Deliverability Objectives.

The Port Authority will conduct the Competition in two phases. In Phase One of the Competition, the Port Authority seeks multi-disciplinary design-led teams (each a "Competitor" and collectively the "Competitors") to register to compete in the Competition, and submit a Phase One Submission. The Phase One Submissions will be evaluated in accordance with the Phase One Submission Evaluation Criteria. At the conclusion of Phase One, the Port Authority will shortlist Competitors to participate in Phase Two of the Competition (the "Finalists"). Neither Competitors' Phase One nor Phase Two Submissions will be anonymous.

During Phase Two, the Port Authority will issue additional materials to the Finalists. Finalists may use these materials to inform their Phase Two Submission, which must contain a fully deliverable conceptual design and a proposed methodology for delivering the conceptual design.

The Port Authority has commissioned a trans-Hudson Commuting Capacity Study of available strategies for meeting and managing the anticipated increases in trans-Hudson commuter demand over the next thirty years. While the Capacity Study is expected to be completed by June 30, 2016, interim products highlighting work in progress findings are due at the midpoint of this effort. The Port Authority anticipates providing the interim products from the capacity study to Finalists during Phase Two. In addition, the public is invited to submit comments to the Port Authority via an online survey available at www.panynj.gov/BusTerminalDesign. The online survey will be available throughout the Competition. The Agency will provide the survey results and public comments to the Competitors, the Jury that will be selected to judge the Competition, and the Port Authority's Board of Commissioners.

Competition Conditions

Summary of the Port Authority's Master Planning Efforts to Date for a New Bus Terminal

Addenda (Updated April 21, 2016)

Question & Answer Log (Updated April 27, 2016, 2:00 p.m.)

The Jury

Register to Compete (Updated April 12, 2016)

Downloads

92x

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93x

476
Midtown Bus Master Planning Update
Public Session
March 19, 2015

Midtown Bus Master Planning Update

- Planning team has been at work for a year and a half.
- Addresses trans-Hudson buses today and into 2040.
- Includes commuter buses from NJ, NY, and PA and intercity buses (which are non-commuter buses traveling longer distances).
- Consultant team:
 - Kohn Pedersen Fox Associates (Architects)
 - Parsons Brinckerhoff (Engineering)
 - Skanska (Construction Staging)
 - Thornton Tomasetti (Structural Engineering)
 - VJ Associates (Estimating)

Goals for Bus Master Planning

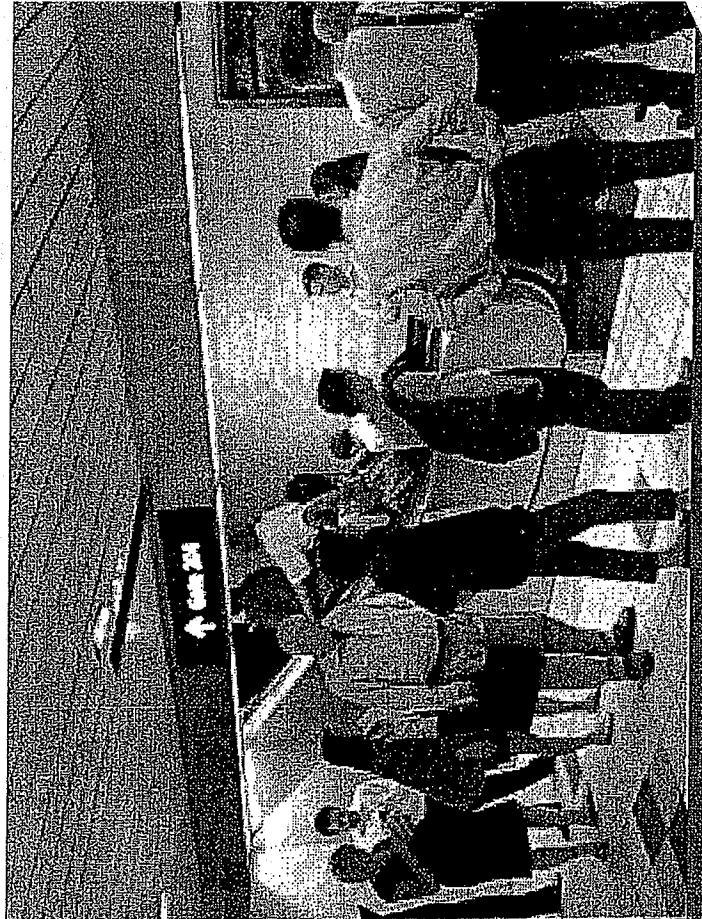
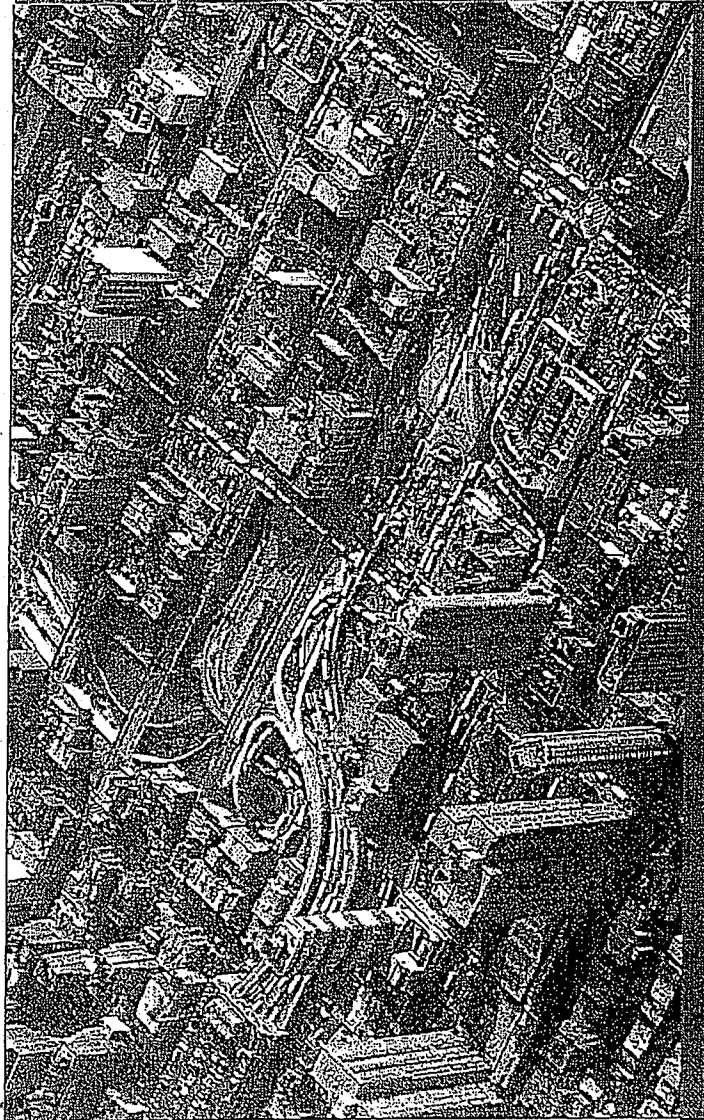
- Improve customer experience
- Increase capacity and operational efficiency
- Modernize terminal
- Reduce neighborhood impacts
- Develop funding and phasing strategies
- Strengthen role of buses as most flexible, resilient link in trans-Hudson network

96x

Major Issues at the PABT

- Quality of service – lines, delays, reliability.
- Current peak demand exceeds capacity and spills over onto city streets.
- Queuing buses affect air quality and generate traffic congestion.
- Operating deficit of over \$100 million per year.

97x.

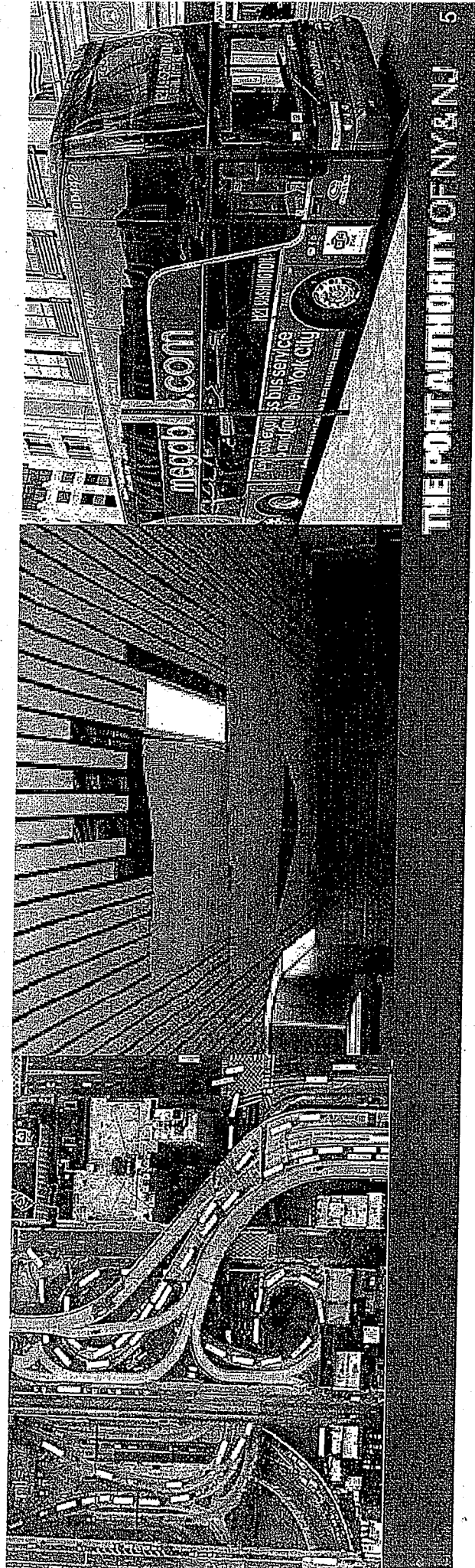


THE PORT AUTHORITY OF NY & NJ

Major Issues at the PABT

- The structural slabs supporting bus operations will need to be replaced in 15-25 years.
- Addressing structural issues requires replacing the terminal.
- Terminal was not built for taller, longer, heavier modern buses.
- Inadequate bus parking, staging, circulation space.

489998x

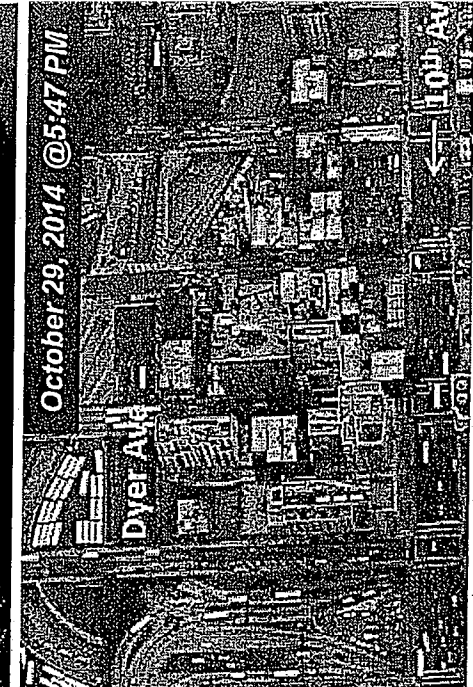
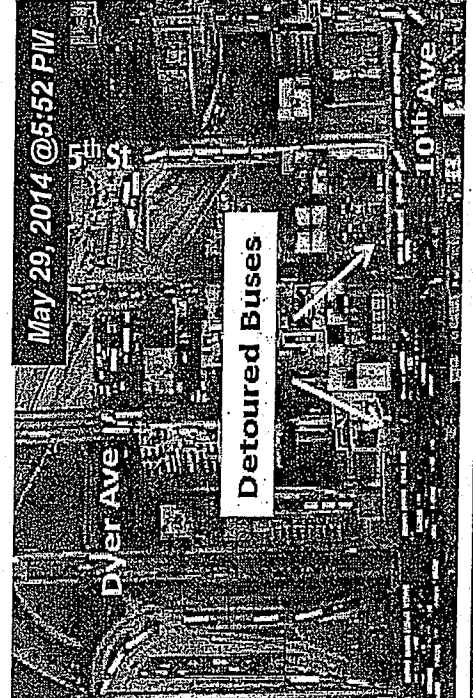
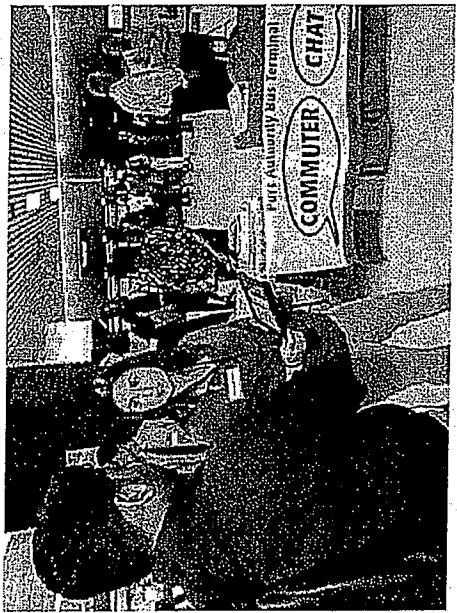
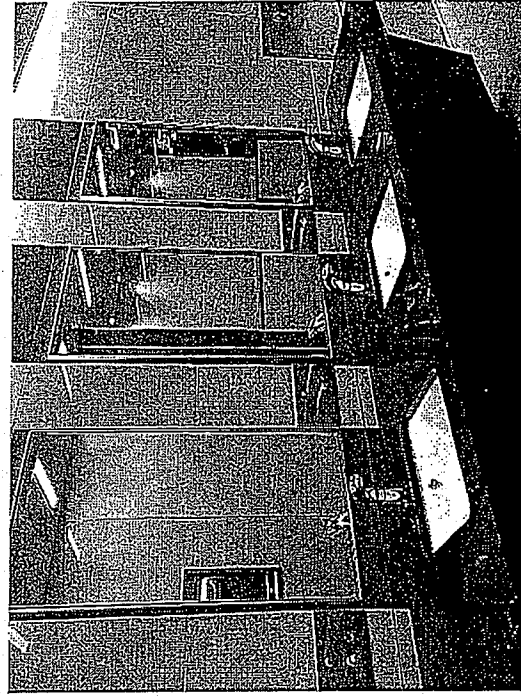


Early Actions in Place

PABT \$90 million Quality of Commute Improvement Program

- Improved Trip Reliability/Reduced Terminal Crowding
- Improved Communications
- Improved Terminal Conditions

2999x



Potential Additional Early Actions

- Build bus storage/staging options in NY and NJ
- Develop satellite terminal for intercity bus operations
- Implement technology to improve fleet management
- Explore strategies to manage near term growth at the existing terminal:
 - Route consolidation
 - Hub & spoke operations
 - Hudson River ferries
 - Service to other transit hubs in NY and NJ (George Washington Bridge Bus Station, Secaucus Junction, ferry terminals)
 - Gate utilization

Why not rehabilitate the existing PABT?

- Impractical to keep the PABT operational during a phased rehabilitation of the bus level floor slabs.
- Meeting code and accessibility requirements would reduce capacity below current levels.
- Expansion required to address lost capacity, current deficiencies and growing demand.
- Major capital investment needed over the next 25 years to keep the PABT in operation without addressing structural slabs and without expanding capacity.

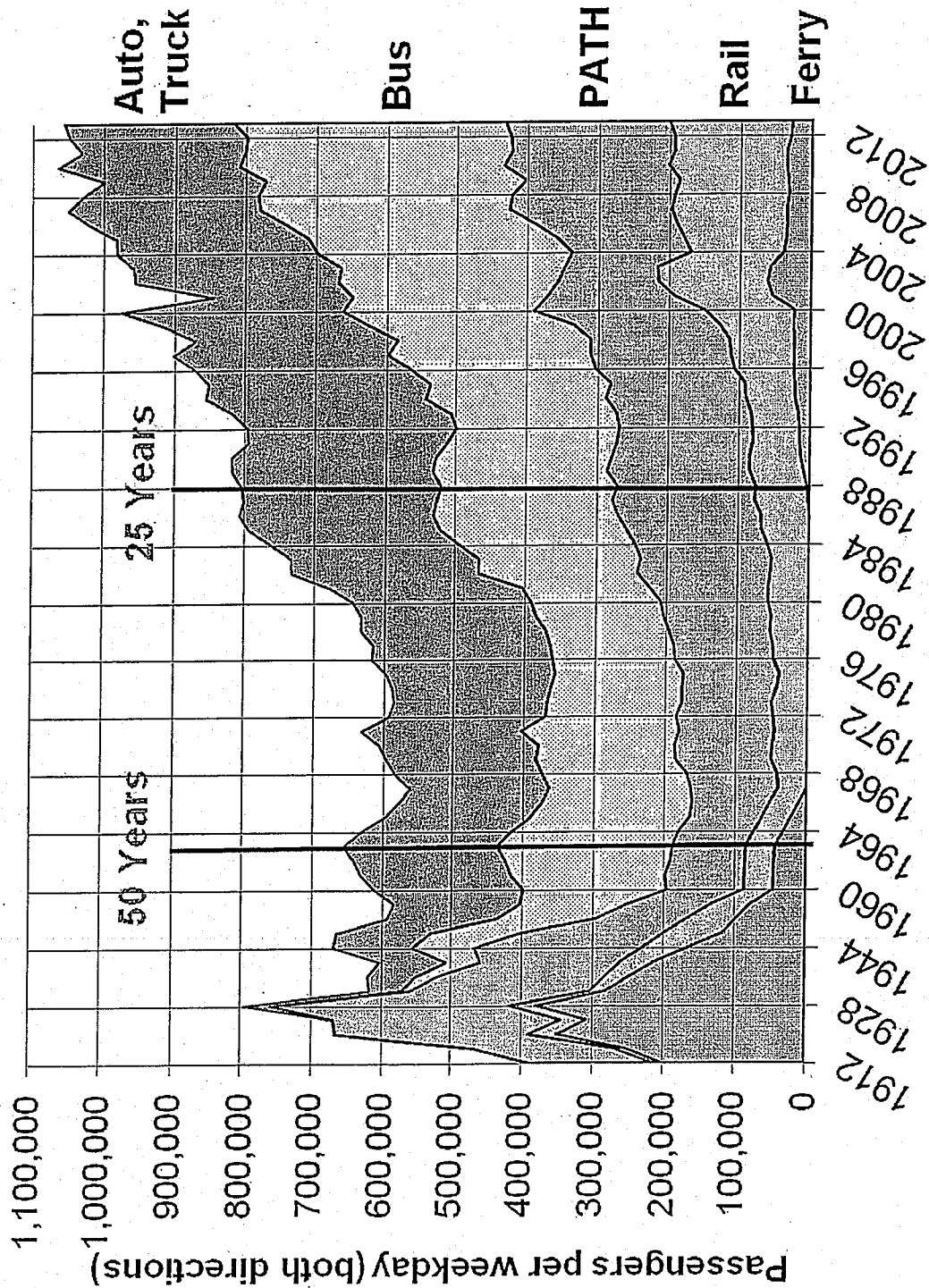
Midtown Bus Master Planning Update

- Building blocks for the plan:
- Population and employment projections
- Travel demand forecasts in coordination with NJ Transit
- Interviews with bus operators, bus passenger surveys
- Requirements for bus gates, staging, parking, passenger circulation
- Survey of West Midtown properties
- 20 initial alternatives screened down to 5 working concepts.
- Developed construction staging and cost estimates.
- Work is in progress. Additional alternatives are being analyzed and must be reviewed by stakeholders before the Port Authority and our regional partners settle on a course of action.

401

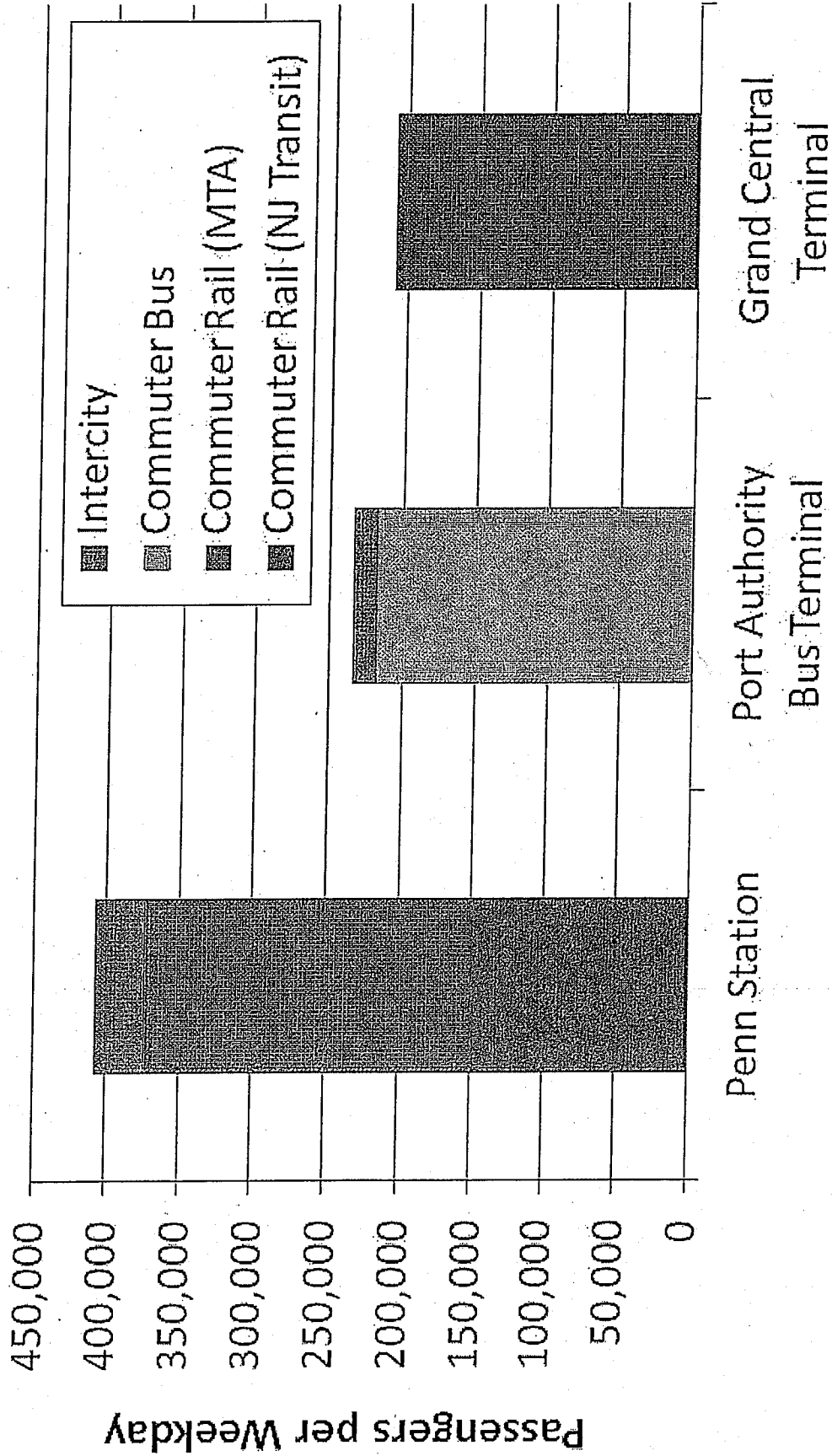
Growing Demand

Trans-Hudson Travel, Manhattan below 60th St.



Source: NYMTC Hub Bound Travel Report

Major Manhattan Transit Terminals

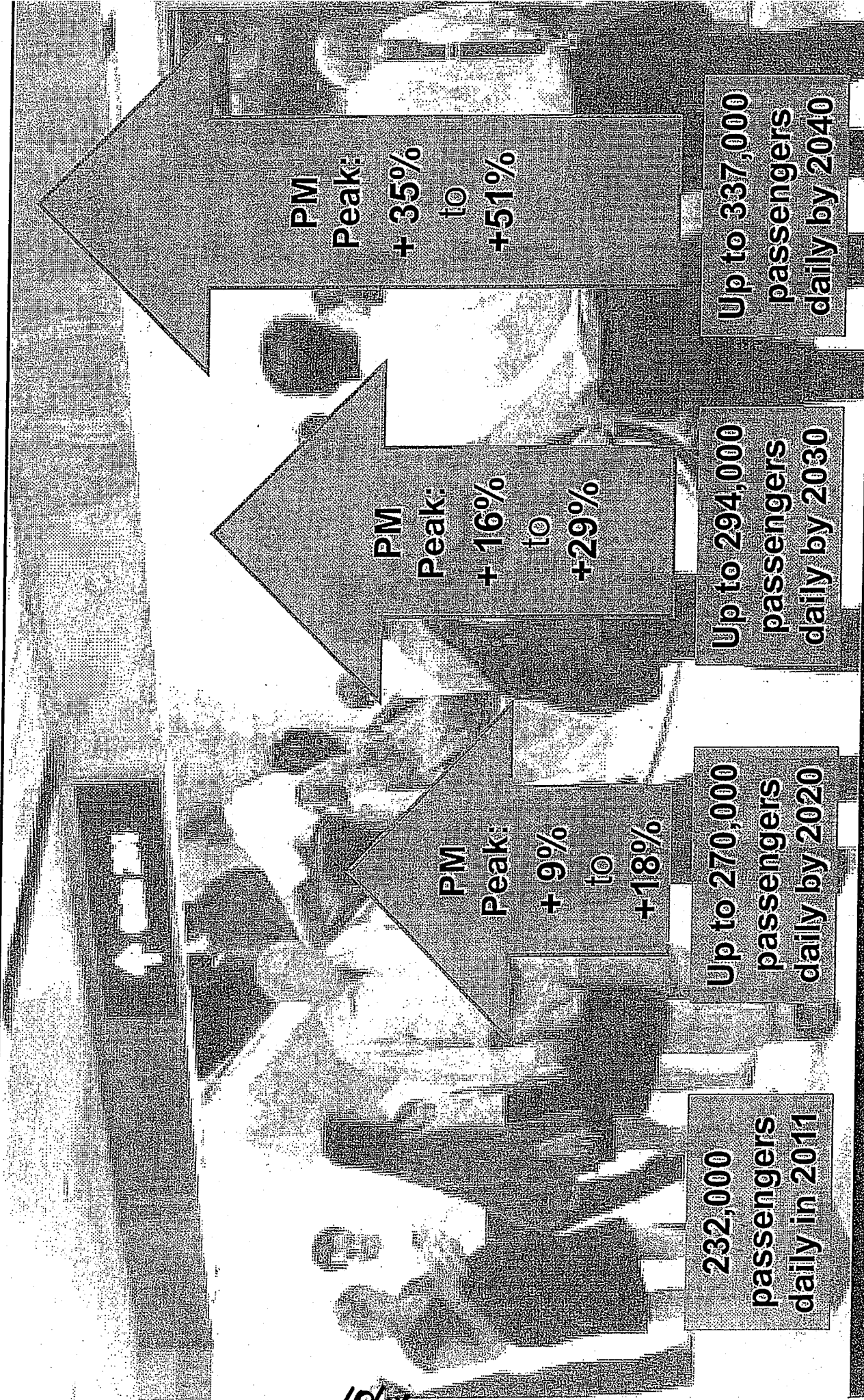


104x

Importance of the Trans-Hudson Bus System

- Over 115,000 west of Hudson residents commute via bus to jobs in Manhattan.
- They collectively earn \$9.5 billion a year, supporting economic activity equivalent to 3% of NJ's economy.
- More than 8,000 NYC residents commute by bus to jobs west of the Hudson.
- Access to expanding West of Hudson workforce is critical to NYC's competitiveness as an office location.
- The PABT is a resilient regional lifeline when the rail system is disrupted.

Forecasted PABT Passenger Growth 2011-2040

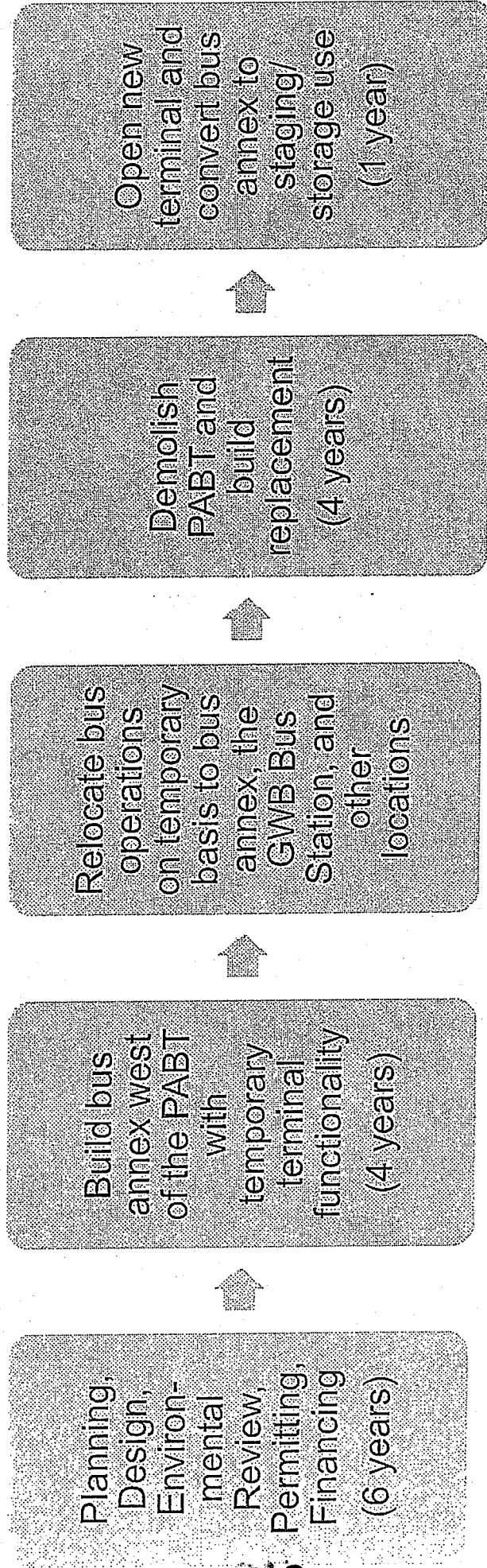


106x

Magnitude of New Facilities

- 2040 projections indicate up to 42,000 passengers in the PM peak hour, up from 28,000 today. The facility must handle the seating capacity of the Mets' Citi Field ballpark each peak hour.
- 1,000 27-ton buses per hour in the PM peak, up from 770 today. Placed end to end, these buses would stretch over 8½ miles.
- Accommodating these buses requires one of the largest, most complex transit terminals in the country – 5 levels of terminal, ramps, staging, and parking covering 3½ city blocks and bridging streets and active tunnel portals.

Possible Project Timeline and Staging Approach



15 years to design, approve, finance, and build

Concept Review: Concept 1

- Largest terminal – sufficient to serve all projected bus ridership to 2040
- Nearest to subways and employment locations
- Requires interim bus facility
- Least funding from development rights



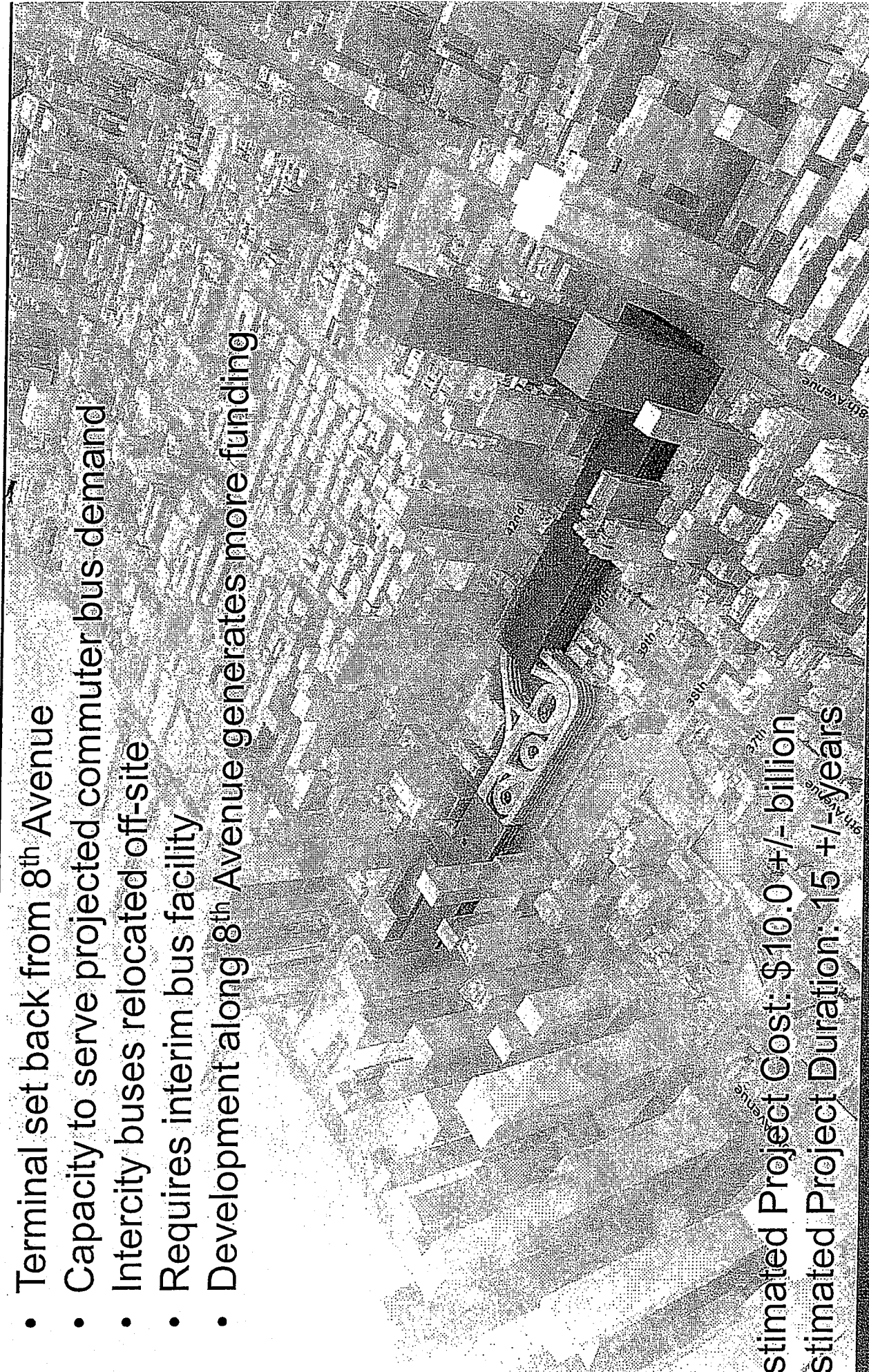
Estimated Project Cost: \$10.5 +/- billion
Estimated Project Duration: 15 +/- years

109x

Concept Review: Concept 2

- Terminal set back from 8th Avenue
- Capacity to serve projected commuter bus demand
- Intercity buses relocated off-site
- Requires interim bus facility
- Development along 8th Avenue generates more funding

110x



Estimated Project Cost: \$10.0 +/- billion

Estimated Project Duration: 15 +/- years

Concept Review: Concept 3

- Terminal moved to west of 9th Avenue – longer connection to subways
- Capacity to serve projected commuter bus demand
- Intercity buses relocated off-site
- Does not require interim bus facility
- More funding from development



Estimated Project Cost: \$9.0 +/- billion
Estimated Project Duration: 13 +/- years

Concept Review: Concept 4

- Terminal set back from 8th Avenue
- Bus staging and storage moved east of 10th Av and south of 39th Street
- Capacity to serve projected commuter bus demand
- Intercity buses relocated off-site
- Requires interim bus facility
- More funding from development

Estimated Project Cost: \$10.0 +/- billion

Estimated Project Duration: 15 +/- years

Concept Review: Concept 5

- Smaller terminal between 9th and 11th Avenues
- Bus staging housed within terminal
- Accommodates 73% of current commuter demand (53-59% in 2040)
- Intercity and some commuter buses relocated off-site
- Requires additional facilities at other locations to meet projected demand
- Does not require interim bus facility

Estimated Project Cost: \$7.5 +/- billion
Estimated Project Duration: 11-12 +/- years

Concept Summary

	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5
Terminal Location and Commute Quality	✓✓✓	✓✓	✓	✓✓	✓
On-site Intercity	Yes	No	No	No	No
Development Opportunities	✓	✓✓	✓✓✓	✓✓✓	✓✓✓
Estimated Total Project Cost	\$10.5 billion	\$10.0 billion	\$9.0 billion	\$10.0 billion	\$7.5 billion
Meets Commuter Passenger Demand	Yes	Yes	Yes	Yes	No
Project Duration (Including 6 year pre-construction period)	15 years	15 years	13 years	15 years	11-12 years

4/1/02

Total Project Costs – Order of Magnitude

Bus Facilities (3.7 M sf @ \$1,230/sf pre-escalation)

New Terminal (2.1 M sf)

\$2.8 B

Parking and Staging Facility and Ramps (1.6 M sf)

\$1.7 B

Escalation

\$1.4 B

Hard Construction Cost

\$5.9 B

Planning, Engineering, Legal, Professional

\$1.3 B

Financing and Insurance

\$1.4 B

Soft Costs

\$2.7 B

Program Contingency

\$1.9 B

Total Project Cost

\$10.5 B

Construction costs estimated by KPF/PB Joint Venture, Skanska and VJ Associates

11/5x

Cost Estimation

Construction cost estimates account for:

- Unusually heavy gauge of construction
- Phasing plans that keep bus terminal operational at all stages of construction
- Restricted work schedules to maintain Lincoln Tunnel access and egress
- Site limitations
- Escalation to the mid-year of construction
- \$500 million for satellite intercity facility (Concepts 2-5 only)

Soft costs, program contingency, and other factors consistent with Port Authority experience and industry standards.

5/1/6x

Public Transportation Projects of Similar Magnitude

	Project	Cost Estimate (Current)	Federal Share	Construction Timeline
Current Regional Projects	WTC Transportation Hub	~\$4 billion	\$2.9 billion	2006 - 2015
	East Side (Rail) Access	\$10.2 billion	\$2.6 billion	2007 - 2022
	Second Avenue Subway (Phase 1)	\$4.5 billion	\$1.3 billion	2007 - 2016
Proposed Regional Projects	Second Avenue Subway (Phase 2)	~ \$4.5 billion	TBD	TBD
	Amtrak's Gateway Project	~ \$15 billion	TBD	TBD
Current National Projects	Washington Metro Dulles Corridor	\$5.7 billion	\$900 million (Phase 1) \$1.9 billion (TIFIA, Phase 2)	2010 - 2018
	LA Purple Line Subway Extension (Phase 1&2)	\$5.4 billion	\$1.3 billion (Phase 1)	2015 - 2023
	Honolulu Transit Corridor	\$5.1 billion	\$1.6 billion	2012 - 2019

Sources: FTA, USDOT, and other government websites

Funding

- PABT replacement program requires a funding strategy that addresses capital costs and operating losses.
- Funding of new bus facilities requires participation from the Port Authority; local, regional and federal government; and the private sector.
- Decisions about bus facility investments must be part of a comprehensive, multi-modal interstate network strategy.

1/18x

Potential Funding Sources

- Port Authority Capital Plan
 - Monetizing Port Authority Development Rights
- Federal Grants and Loans
- Participation by Other Agencies and Localities
- Private Investment

4/19

Next Steps

Constructing a new bus terminal requires broad regional support and robust federal, state, and local participation.

In the next phase, the Port Authority will:

- Discuss alternatives with the community and commuters.
- Engage key stakeholders.
- Study additional alternatives in context of the full range of needs on the multimodal trans-Hudson network.
- Develop a funding strategy for capital and operating costs.

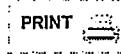
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PORT AUTHORITY WILL BUILD NEW BUS TERMINAL ON MANHATTAN'S WEST SIDE NEAR CURRENT FACILITY

Date: Mar 24, 2016
Press Release Number: 42-2016

Board to fund multi-billion dollar replacement of America's busiest bus terminal in 2017-2026 Capital Plan, with new station remaining in New York

The Port Authority Board of Commissioners today committed to keep on Manhattan's West Side a new state-of-the-art bus terminal to replace the aging and outmoded current facility, while also voting to dedicate the funding necessary for completion of the project.

The Board committed to allocate the necessary funds for the project's construction in New York City when the Port Authority establishes its 2017-2026 Capital Plan.

The anticipated capacity needs and funding for a new bus terminal will be determined in part by the results of the recently announced [Port Authority International Design + Deliverability Competition](#). The competition seeks to deliver a winning conceptual design for a new terminal through a qualified multi-disciplinary team, informed in part by the results of an ongoing Trans-Hudson Commuting Capacity Study.

"By committing to build a much-needed 21st century bus terminal on the West Side of Manhattan, with the understanding that no bus terminal will be built in New Jersey, we are making a crucial investment in our region's economic growth," said Port Authority Chairman John Degnan. "This is a vital service for the many thousands of riders who rely on this critical link for their daily commute for decades to come."

The ongoing design and deliverability competition, announced March 11, is being conducted in two phases. Phase One submissions from multidisciplinary design-led teams are due in April. Finalist submissions will be due in late summer 2016, with the competition winner expected to be announced in September. Prospective competitors should refer to the [competition website](#) for important updates, such as today's commitment by the Board.

The winning design concept is expected to deliver on agency objectives that include an appropriate level of service to meet future bus passenger demand, improved functionality for bus parking and staging, minimizing traffic impact on surrounding local streets, and sustaining safety and security.

The design concept must be cost-effective, taking into account both capital and future operating costs given limited financial resources and the history of significant operating losses at the existing bus terminal.

About the Port Authority Bus Terminal

Built in 1950 and expanded in 1979, the Port Authority Bus Terminal accommodates approximately 220,000 passenger trips and more than 7,000 bus movements on an average weekday. In 2014, it accommodated 66 million passenger trips and 2.3 million bus movements. 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.

To improve conditions for customers at the existing bus terminal while planning continues for the design and construction of a new terminal, the Board in 2014 approved a \$90-million Quality of Commute program. This initiative includes operational improvements to help reduce crowding and improve bus flow, and has resulted in significantly fewer customer complaints about bus delays. It also includes the addition of increased cellular and Wi-Fi connectivity within the terminal and the installation of new restrooms, among other changes.

For up-to-the-minute updates on conditions at the bus terminal and at other Port Authority facilities, travelers are encouraged to sign up for Port Authority alerts at <http://www.paalerts.com/>.

Contact:
The Port Authority of New York and New Jersey
212-435-7777

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126x

5/23/16

Founded in 1921, the Port Authority of New York and New Jersey builds, operates, and maintains many of the most important transportation and trade infrastructure assets in the country. The agency's network of aviation, ground, rail, and seaport facilities is among the busiest in the country, supports more than 550,000 regional jobs, and generates more than \$23 billion in annual wages and \$80 billion in annual economic activity. The Port Authority also owns and manages the 16-acre World Trade Center site, where the 1,776-foot-tall One World Trade Center is now the tallest skyscraper in the Western Hemisphere. The Port Authority receives no tax revenue from either the State of New York or New Jersey or from the City of New York. The agency raises the necessary funds for the improvement, construction or acquisition of its facilities primarily on its own credit. For more information, please visit <http://www.panynj.gov>.

~~THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY~~

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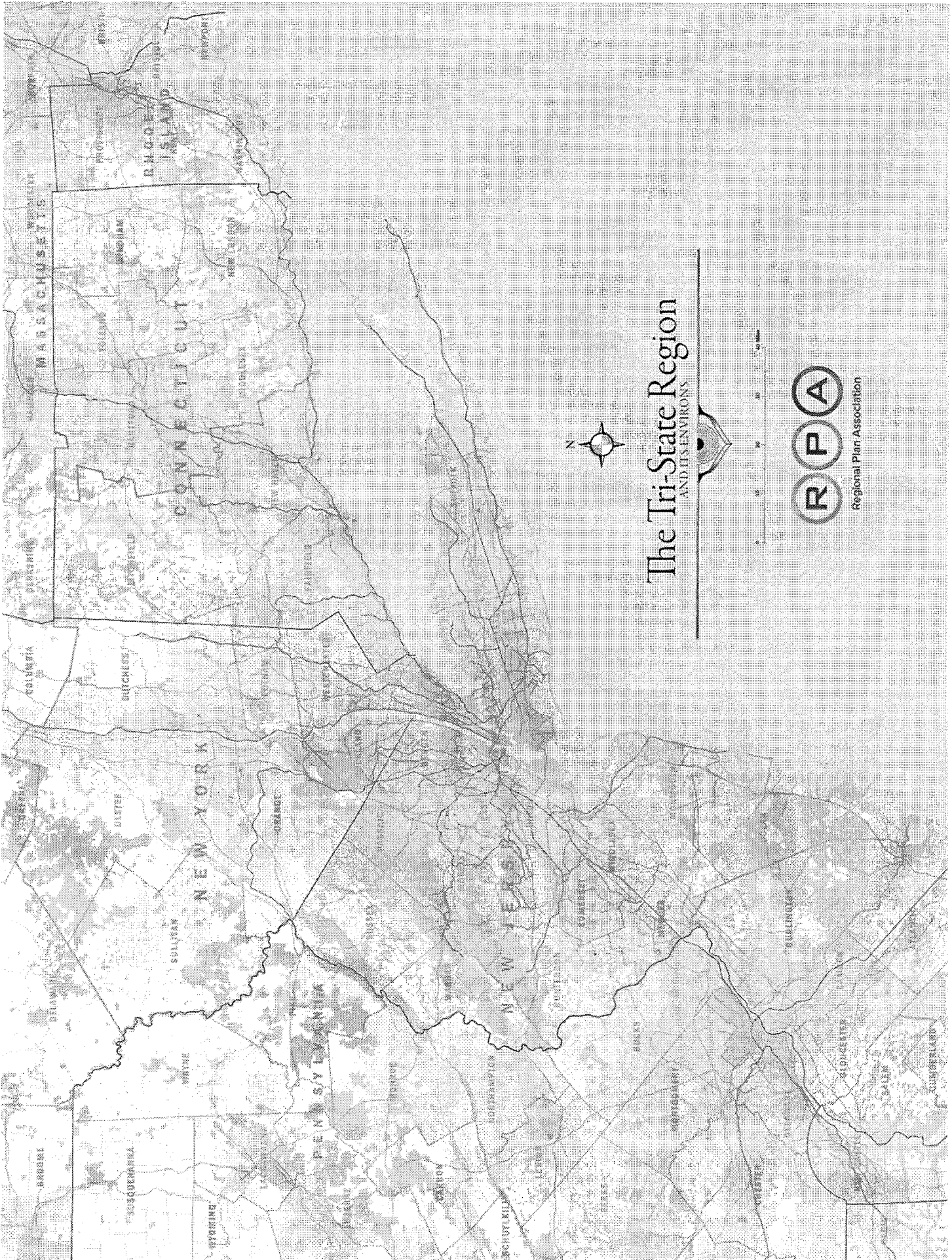
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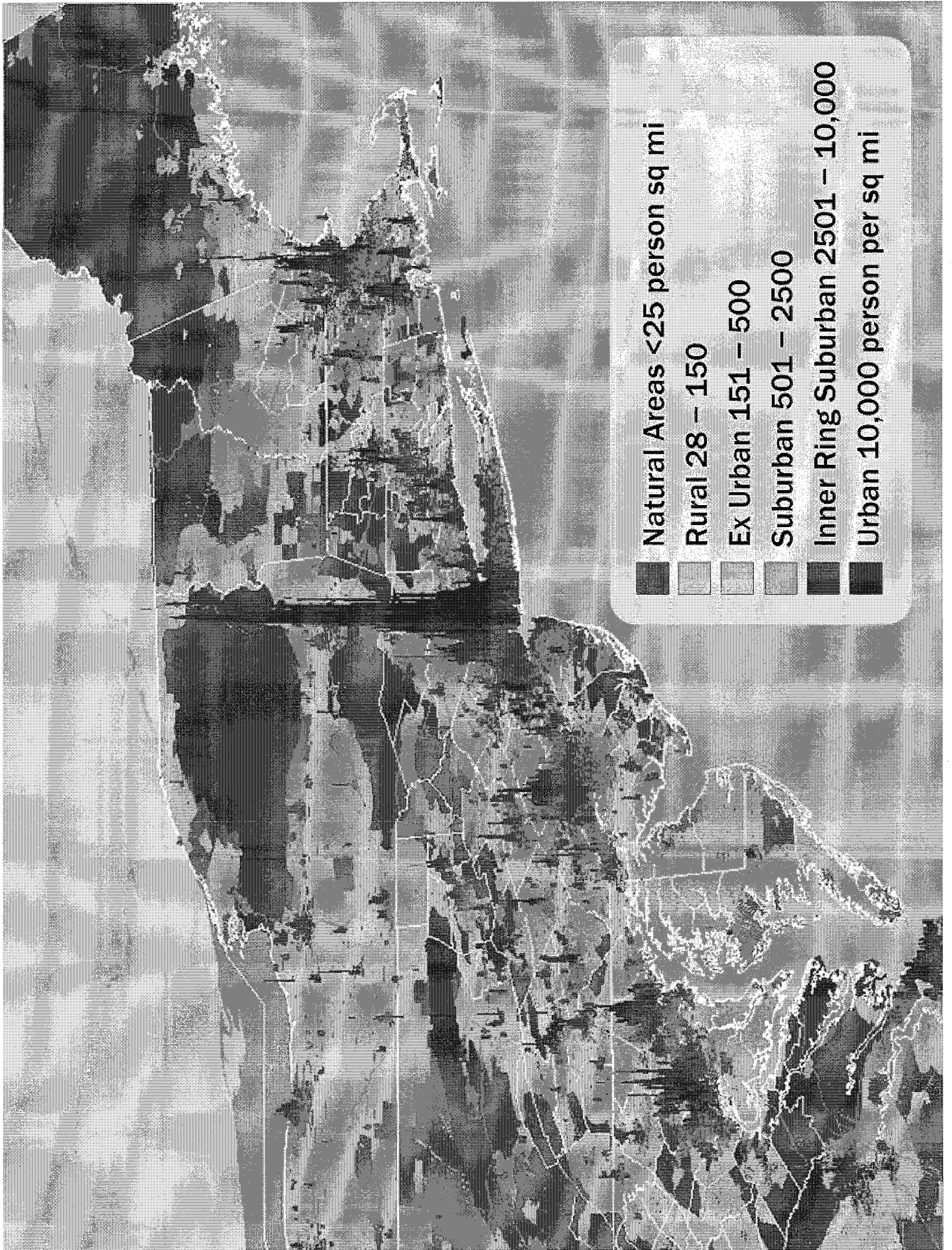


The Tri-State Region
AND ITS ENVIRONS



Regional Plan Association

123x6



Natural Areas <25 person sq mi

Rural 28 - 150

Ex Urban 151 - 500

Suburban 501 - 2500

Inner Ring Suburban 2501 - 10,000

Urban 10,000 person per sq mi

The Region's Transit Infrastructure



125x

The Region's Transit Infrastructure

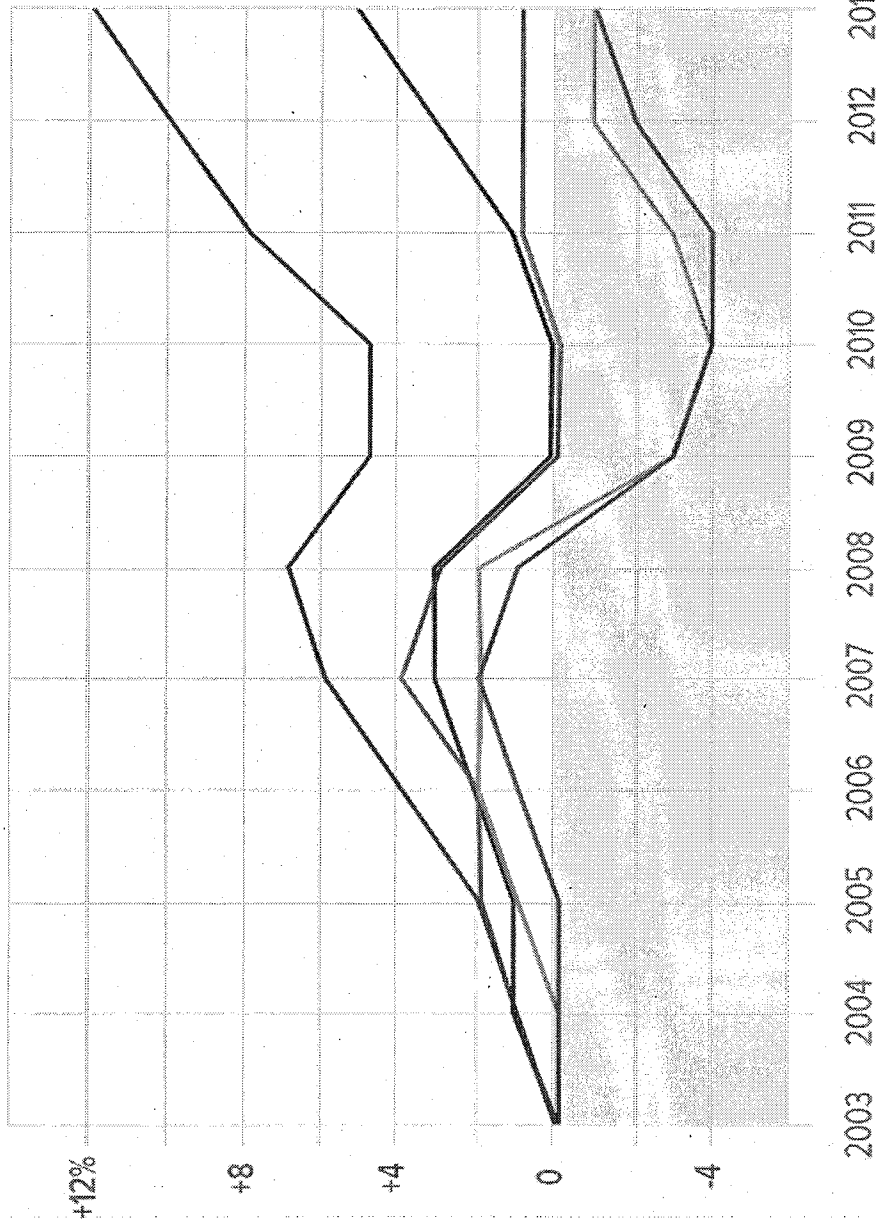


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New York City is growing faster than the rest of the tri-state region

JOB GROWTH

- New York City
- Northern New Jersey
- Long Island
- Hudson Valley
- Southwestern Connecticut



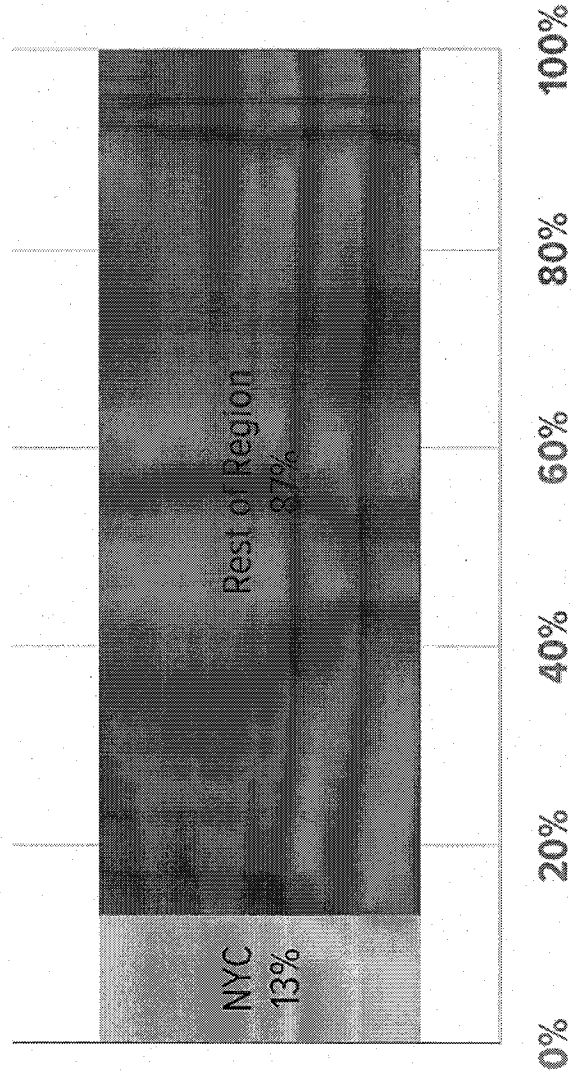
Source: Bureau of Labor Statistics

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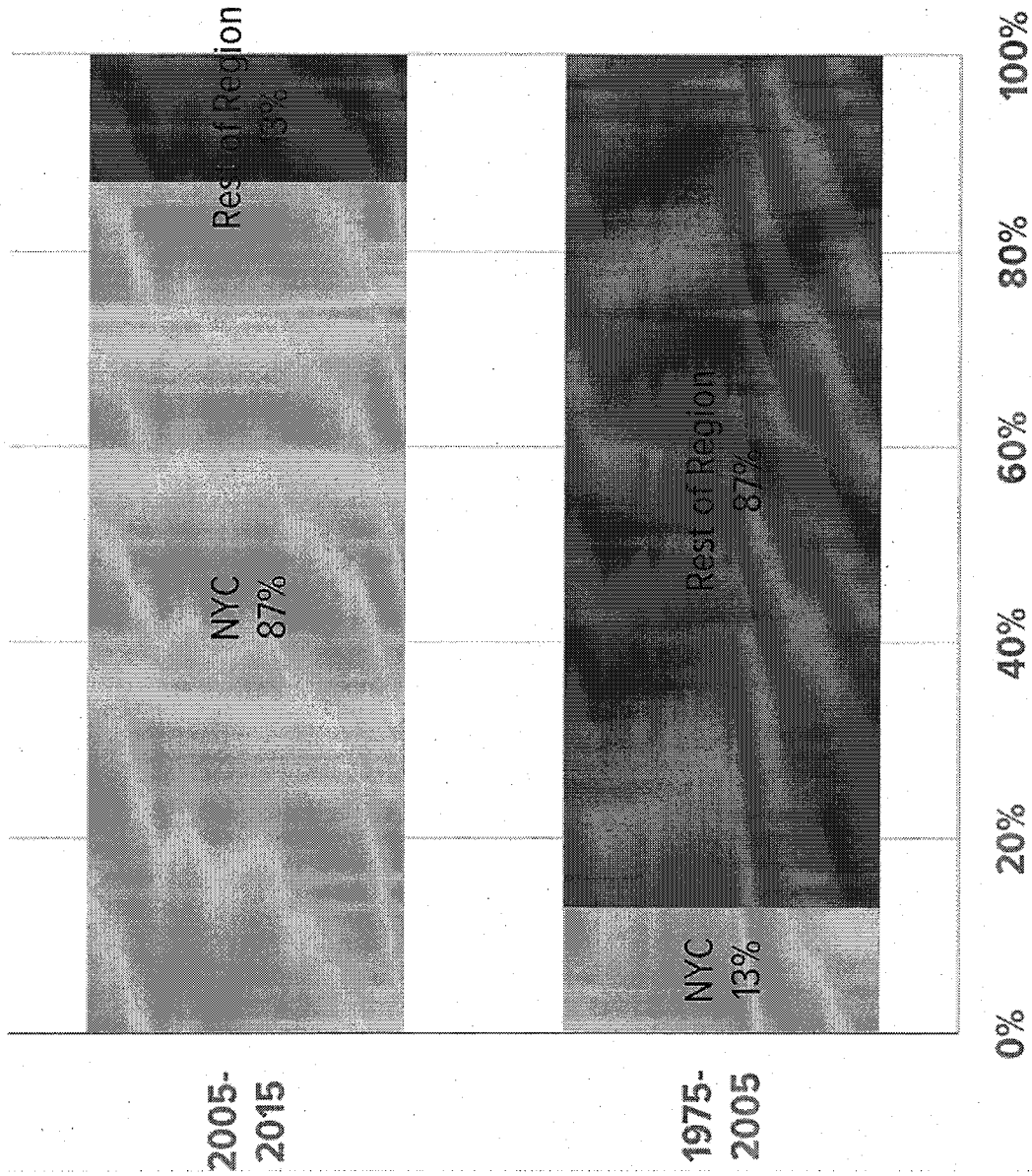
From 1975
to 2005,
almost all
new jobs
were
created
outside
New York
City -- many
of them in
New Jersey

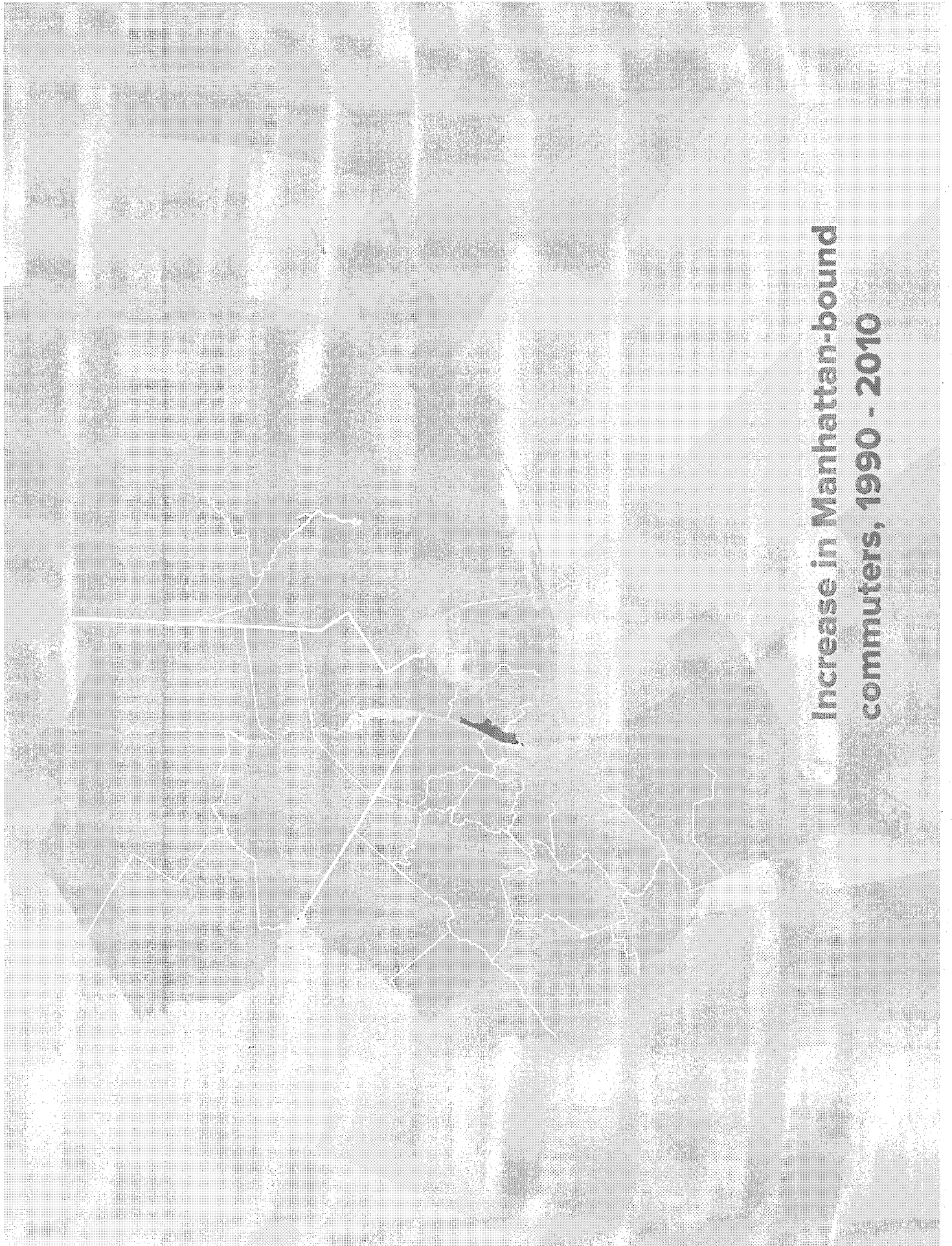
X128x

1975-
2005



Today, New York City is generating 9 out of every 10 new jobs in the region





**Increase in Manhattan-bound
commuters, 1990 - 2010**

130x

Long Island
No Change

Increase in Manhattan-bound
commuters, 1990 - 2010

Connecticut

5K

Long Island

No Change

Increase in Manhattan-bound
commuters, 1990 - 2010

Rest of
Hudson Valley

8K

Connecticut

5K

Long Island

No Change

Increase in Manhattan-bound
commuters, 1990 - 2010

Rest of
Hudson Valley
8K

Connecticut
5K

West of Hudson

69K

Long Island
No Change

Increase in Manhattan-bound
commuters, 1990 - 2010

134x

Rest of
Hudson Valley
8K

Connecticut
5K

West of Hudson
69K

Long Island
No Change

Within Manhattan
60K ↑

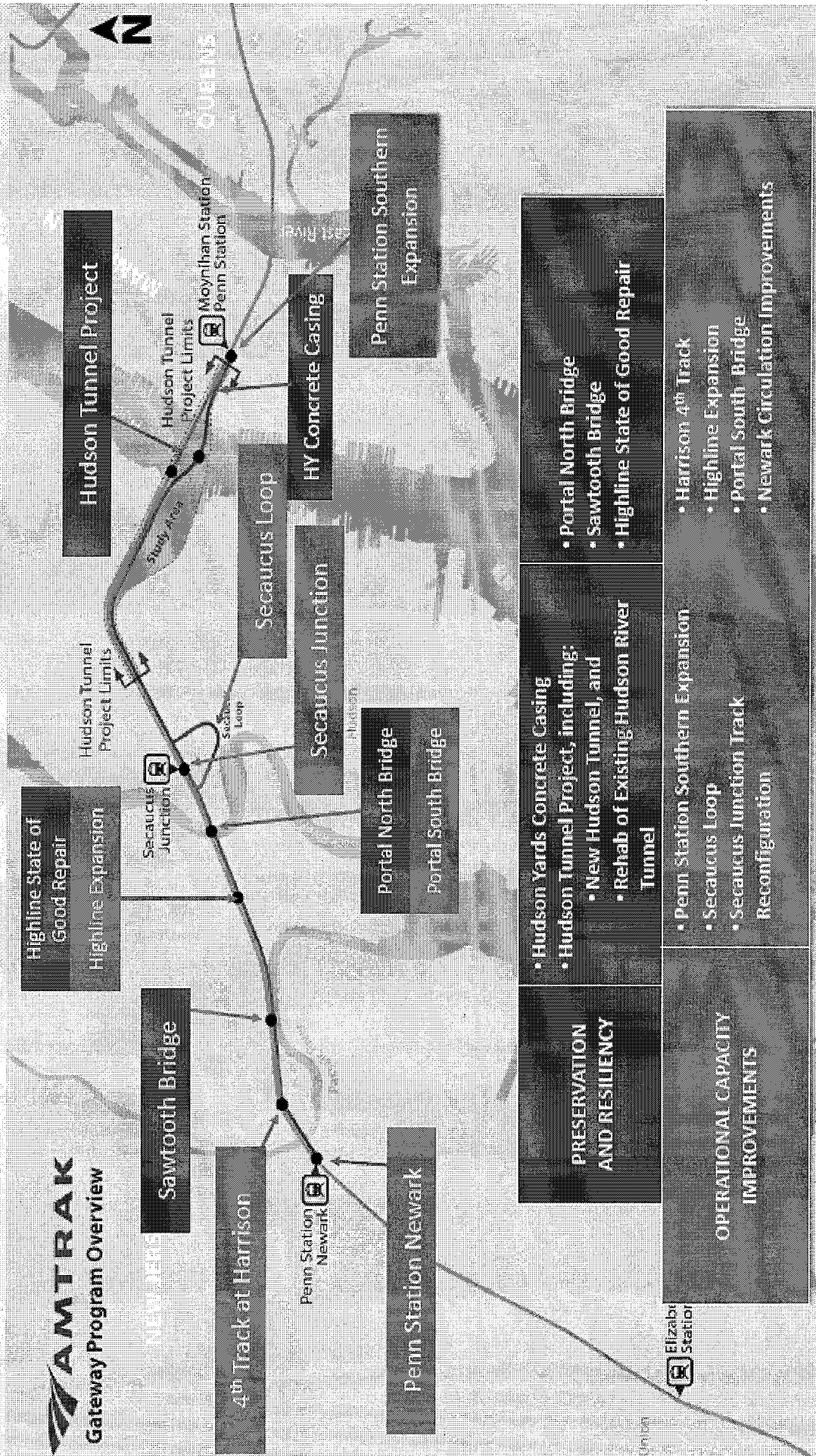
Other NYC
93K ↑

Increase in Manhattan-bound
commuters, 1990 - 2010

Hudson River Tunnels: Crisis Scenario



AMTRAK
Gateway Program Overview



Highline State of Good Repair
Highline Expansion

Sawtooth Bridge

4th Track at Harrison

Penn Station Newark

Portal North Bridge
Portal South Bridge

PRESERVATION AND RESILIENCY

- Hudson Yards Concrete Casing
- Hudson Tunnel Project, including:
 - New Hudson Tunnel, and
 - Rehab of Existing Hudson River Tunnel

OPERATIONAL CAPACITY IMPROVEMENTS

- Penn Station Southern Expansion
- Secaucus Loop
- Secaucus Junction Track Reconfiguration

OPERATIONAL CAPACITY IMPROVEMENTS

- Portal North Bridge
- Sawtooth Bridge
- Highline State of Good Repair

OPERATIONAL CAPACITY IMPROVEMENTS

- Harrison 4th Track
- Highline Expansion
- Portal South Bridge
- Newark Circulation Improvements

Hudson Tunnel Project

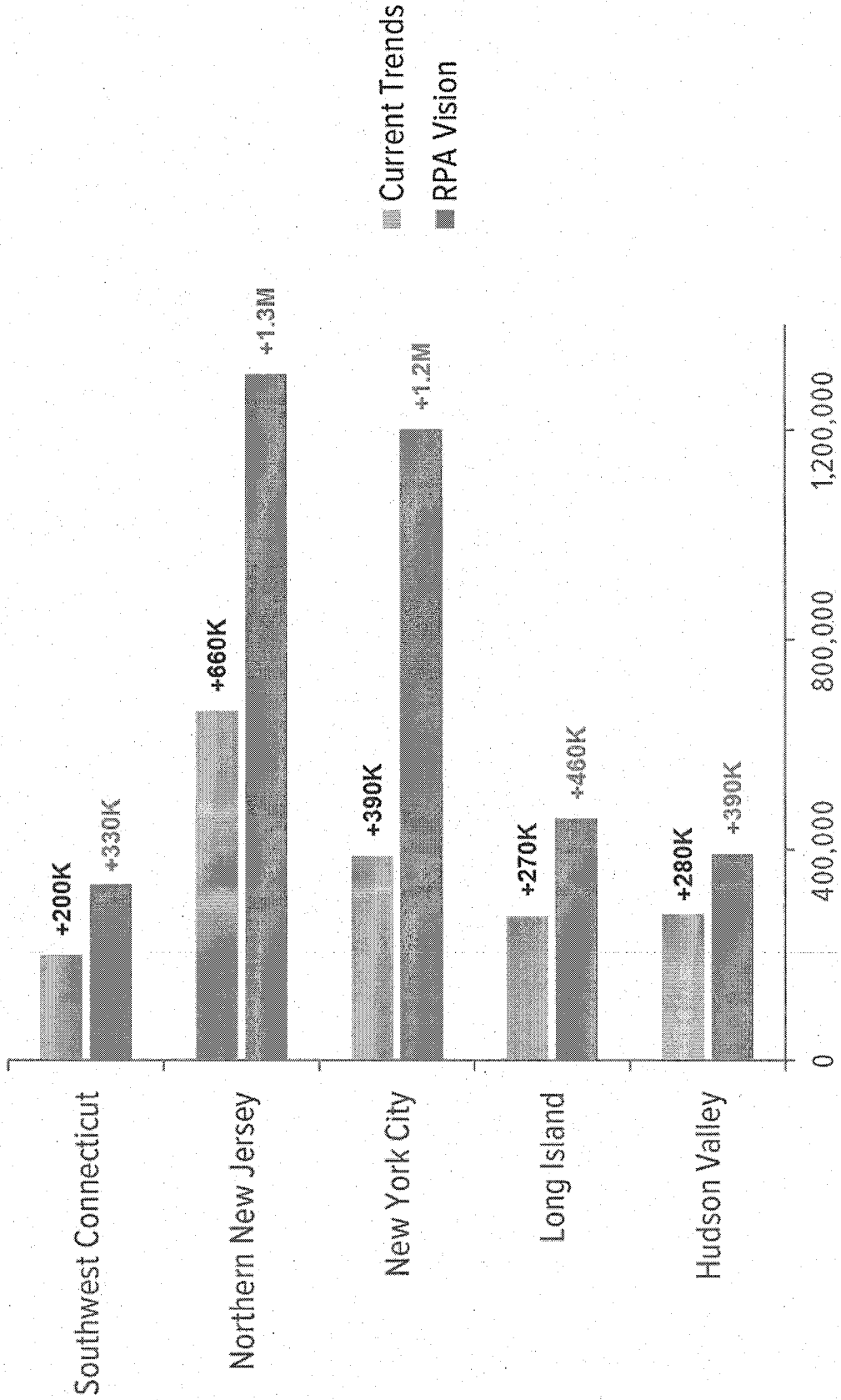
Secaucus Loop

HY Concrete Casing

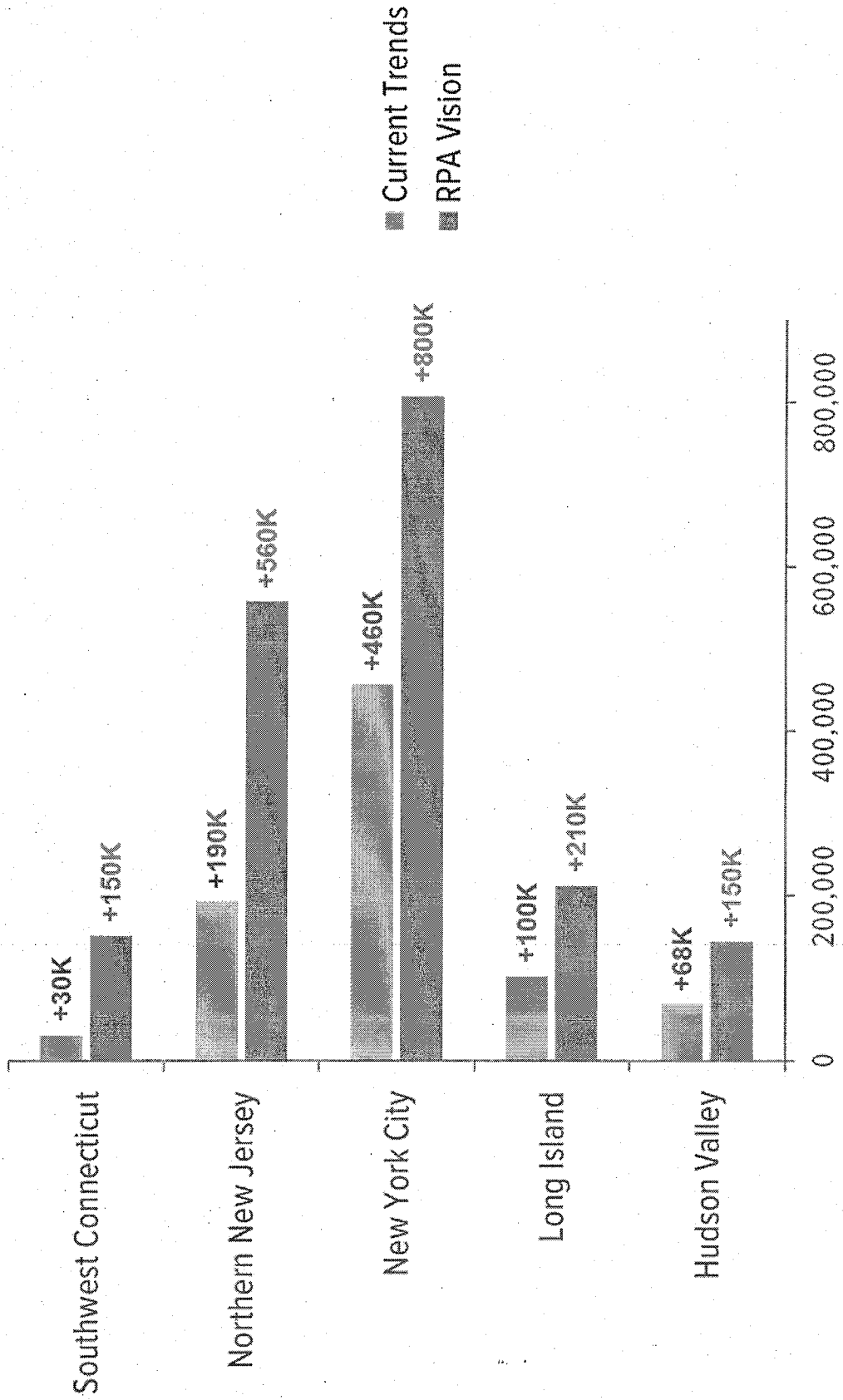
Penn Station Southern Expansion

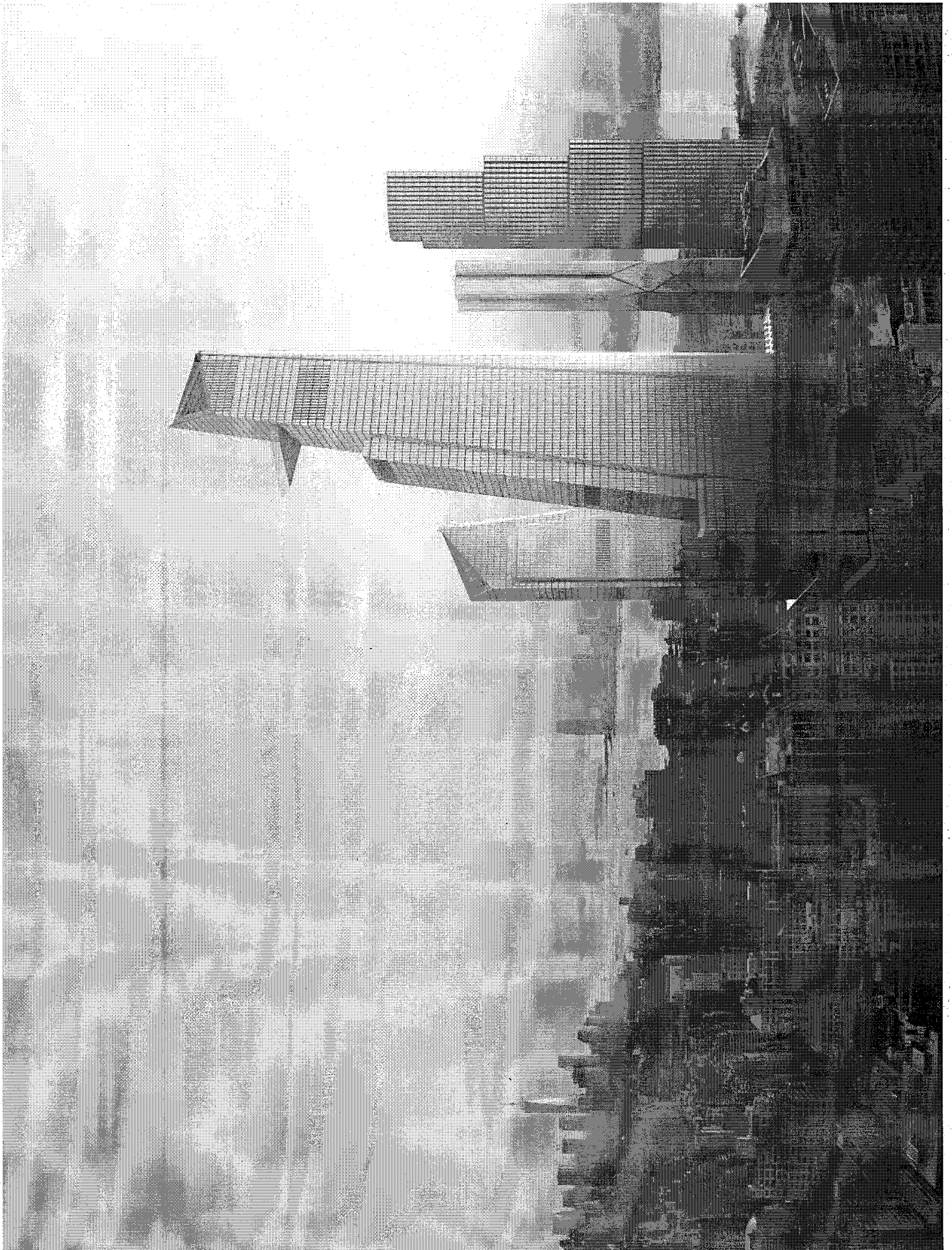
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Increase in Population by Subregion, 2015-2040

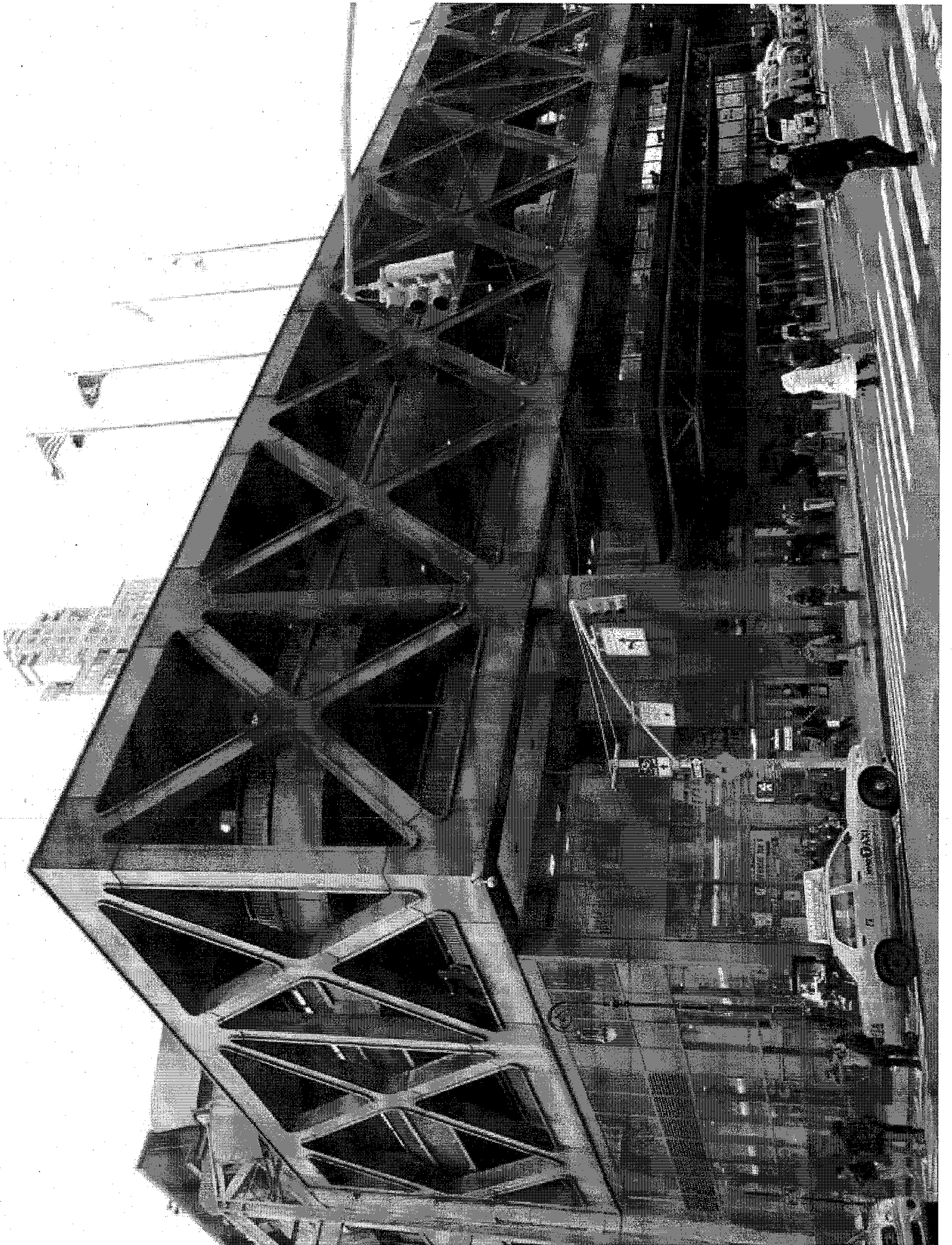


Increase in Jobs by Subregion, 2015-2040

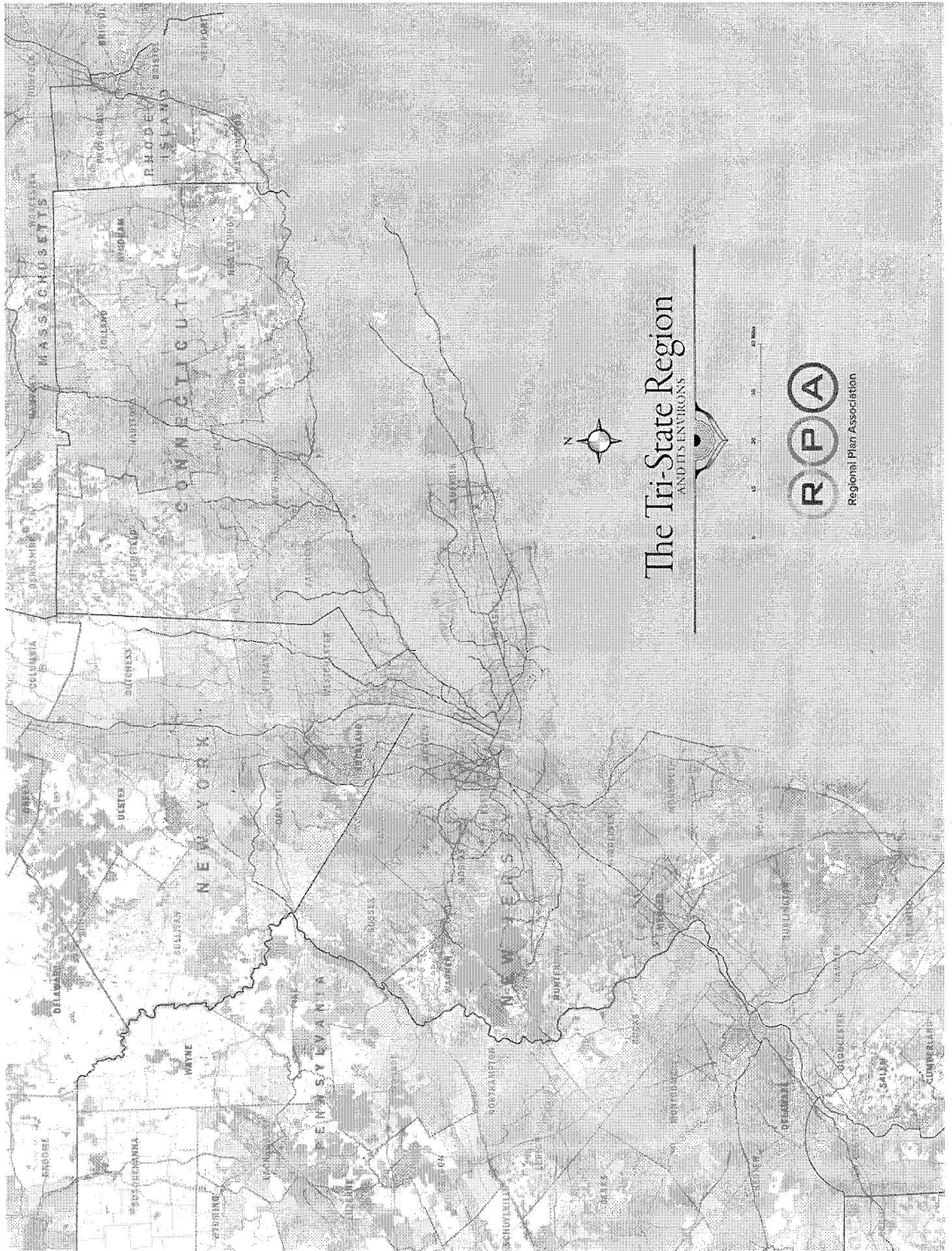




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The Tri-State Region

AND ITS ENVIRONS



0 10 20 30 40 Miles

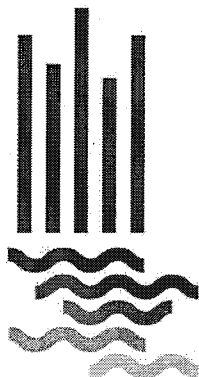


Regional Plan Association

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**New Jersey Senate Legislative Oversight Committee:
Hearing on the Port Authority Bus Terminal and Trans-
Hudson Commuting**

May 24, 2016

Roland Lewis
President and CEO
Waterfront Alliance

The Waterfront Alliance's mission is to protect, transform, and revitalize New York Harbor. We are the premier advocates for expanded ferry service in northern New Jersey and New York City, to take advantage of the 'blue highways' to link commuters in far-flung transit deserts to jobs and opportunity. As a member of the New Jersey for Transit coalition, we seek greater investment in affordable and efficient high-quality public transit in New Jersey.

The Boston–Washington corridor is the nation's most populous and economically productive mega-region, accounting for 20 percent of U.S. gross domestic product. If it were its own country, it would have the world's fourth-largest economy. Critical to that economy is access to and through the island of Manhattan via tunnels under the Hudson River, yet train passengers traveling through them are stranded regularly—sometimes for hours. Those people need no reminder that these vital arteries are corroded and dying.

The two North River Tunnels, as they are known, carry three times as many riders between Washington and New York as commercial airlines and 16 percent of region's central business district workforce. In service since 1910 and operating at full capacity, the travel corridors have suffered from decades of neglect and deferred maintenance, exacerbated by saltwater flooding during Hurricane Sandy. With a significant likelihood of one or both tunnels becoming inoperable within several years, funding and progress on the Gateway Program to refurbish the tunnels could not be more pressing. Operating just one tunnel would reduce train capacity to one-quarter its current level.

How is the region planning for what seems to be inevitable? NJ Transit has previously indicated that in the event of a sustained tunnel failure, one-third of today's train passengers will switch to buses, one-third will take ferries and the rest will stay home. Putting aside the economic impact of a third of today's rail commuters staying home, let's consider the other two options: buses and ferries. Most new bus riders would travel to Manhattan via the Lincoln Tunnel to the Port Authority Bus Terminal. The prospect of adding more buses to stop-and-go tunnel traffic and a bus terminal bursting at the seams and suffering from its own neglect is alarming. Expanding and upgrading the bus terminal, regardless of the need, will not be done quickly.

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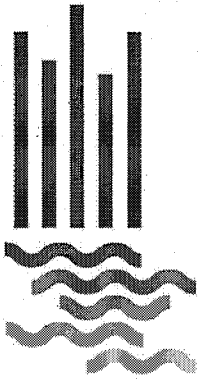
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Roland Lewis
President and CEO

143x



Ferries have proved their reliability and the infrastructure is largely in place. But they must be more affordable to be a legitimate part of a solution. A typical monthly trans-Hudson ferry pass costs a commuter just over \$300 — that's nearly \$4,000 a year. In other words, what planners describe as a critical piece of an interim trans-Hudson solution may be a non-starter for most people, proving an additional blow to a regional economy dependent on convenient and reasonably affordable transportation to the Manhattan central business district.

Subsidizing ferry service presents a way forward to mitigate the catastrophic effects of reduced rail service. Today, all trans-Hudson ferry operations are unsubsidized, attracting just 2.7 percent of New York-bound commuters (those with higher incomes). New York City has shown that subsidized ferries work. Ridership on the free, fully subsidized Staten Island Ferry continues to grow steadily, providing 24-hour public transportation in the absence of rail connections to Manhattan. In 2010, New York City launched the subsidized, public-private partnership East River Ferry (ERF), linking Brooklyn and Queens to Midtown and Downtown Manhattan; ridership quickly doubled projections. High ridership makes these subsidies competitive with other modes: The ERF per-ride subsidy is equivalent to that for New York City Transit (NYCT) buses, and both the ERF and the Staten Island Ferry per-ride subsidies are less than those for Long Island Rail Road and NYCT Express Buses. At \$160, the ERF monthly pass is roughly half that of the unsubsidized trans-Hudson ferries. ERF has been so successful that Mayor Bill de Blasio announced Citywide Ferry Service last year, which will serve 13 new locations starting in 2017 — for the same \$2.75 fare as an NYCT bus or subway.

The Port Authority has previously indicated that expanded ferry service should be considered as part of a trans-Hudson transportation solution. And State Senator Robert Gordon previously wisely acknowledged that a subsidized ferry system "could be implemented much more quickly" than building a new bus station.

How to pay for such a subsidy? One option: New Jersey's gas tax, which is intended in part to fund mass transit, is one-third that of New York, Connecticut and Pennsylvania's; polls indicate that over half of New Jersey voters would support an increase. Any new revenues raised should contribute to improvements to public transportation, and though the infrastructure for ferries is already in place, additional support would help significantly more riders be able to afford them. We should not wait for the tunnels to get worse. With subsidies in place, commuters can begin now to change their travel habits and offset the impact of future outages.

Ferries are no silver bullet, but with a small portion of a rational gas tax subsidizing their operations, they can be a key part of an interim solution for safely and efficiently moving commuters across the Hudson.

x02 144x

Chris Christie, Governor
Kim Guadagno, Lieutenant Governor
Richard T. Hammer, Acting Commissioner
Dennis J. Martin, Interim Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, NJ 07105-2246
973-491-7000

May 24, 2016

Dear Chairman Gordon,

NJ TRANSIT would like to thank you and the other members of the Senate Legislative Oversight Committee for the opportunity to provide NJ TRANSIT's perspective on the condition of the current Port Authority Bus Terminal (PABT) and potential solutions to the challenges presented by the existing facility. Please accept this letter as our testimony on this matter.

NJ TRANSIT is the largest user of the PABT. Each weekday we operate more than 2,000 bus trips to the terminal, and a similar number of departures. Some 87,000 of our customers travel each way on those bus trips. Most of that travel occurs, of course, during peak hours. Private and other bus carriers add thousands more customers and trips.

We at NJ TRANSIT, in collaboration with the Port Authority, have taken creative steps to maximize every bit of efficiency possible in the current Bus Terminal, and we have had some success. For instance, by rearranging our bus staging procedures, we have noticeably reduced the congestion and subsequent frustrations of our customers waiting for buses to arrive and improved the commuting experience as a whole.

Still, the advanced age, small size and other constraints of the existing PABT result in far more buses entering the facility beyond anything that was envisioned by the builders in the middle of the last century.

NJ TRANSIT was, therefore, very appreciative earlier this year when Port Authority Chairman John Degnan and the Port Authority's commissioners committed to building a new, modern bus facility that can accommodate the

committed to building a new, modern bus facility that can accommodate the ridership of the 21st Century – and to build this facility on Manhattan’s West Side. The West Side is where our New York market bus customers want to go each work day, as directly and smoothly as possible.

Proposals to build a new bus terminal in New Jersey, perhaps connecting commuters and other customers to train service at the Frank R. Lautenberg Station on the Northeast Corridor in Secaucus, simply do not meet the needs of NJ TRANSIT’s customers. This is true not only for our bus customers, who need and deserve direct, efficient service, but also for NJ TRANSIT’s rail customers. Today, we carry more than 180,000 rail customers to and from Penn Station New York, and this rail ridership is growing steadily. As the Committee members are aware, the trans-Hudson rail network has its own pressing needs. Future capacity on the rail network will be needed for the expected growth in rail ridership. In short, the railroad cannot replace direct bus service to and from Manhattan.

As the Port Authority looks to a new bus terminal, NJ TRANSIT will continue to work with the PA and its staff to ensure the new facility meets the needs of New Jersey’s citizens and other travelers. To that end, we offer the following observations:

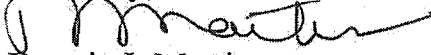
- The new PABT should be located one block west of the existing terminal site (between 9th/10th Avenues) to minimize customer inconvenience during the construction of the new facility and to maintain reasonable connections to the NYC subway system for our customers;
- The new terminal should be sized to accommodate all existing NJT commuter services and also include a realistic additional number of gates to handle future growth;
- Commuter gates should be constructed with a “relaxed sawtooth” configuration, to assure that each individual bus can both enter and exit a specific loading area independently, without requiring other buses to move first. All commuter gates must be ADA-accessible and capable of handling alternative fuel buses (i.e. Compressed Natural Gas, etc.);
- The new terminal should be designed with maximum flexibility for future bus lengths, heights, and widths, to accommodate possible introductions of new bus fleet vehicle types (double-decker buses, for example) to accommodate ridership growth during the life span of the new facility;

- The new terminal should must contain an adequate area for midday parking and storage of buses, to minimize “deadhead” non-revenue mileage and cost and maximize the reliability of PM departures during the peak hour period;
- There should be a dedicated ramp system constructed to provide bus access/egress between the Lincoln Tunnel and the facility without the need to operate in mixed traffic on city streets;
- The terminal should support state-of-the-art Wi-Fi and other technology for customers and staff and have the capability to display real-time information about the status of bus service, throughout the facility and at the boarding gates.

The Port Authority Bus Terminal is a vital hub for transit and transportation in the New Jersey-New York region. An efficient, comfortable, smoothly-operating terminal is crucial for the region’s economy and for the quality of life for our citizens. We look forward to continuing to work with the Port Authority of New York and New Jersey, with the Committee and the Legislature and with New York officials and other stakeholders, to ensure a new terminal is designed and brought to construction as expeditiously as possible.

Again, thank you, Chairman, and members of the Oversight Committee, for the opportunity to comment.

Sincerely,



Dennis J. Martin

Interim Executive Director

THE GATEWAY PROGRAM

Critical Capacity Expansion to the Northeast Corridor

OVERVIEW

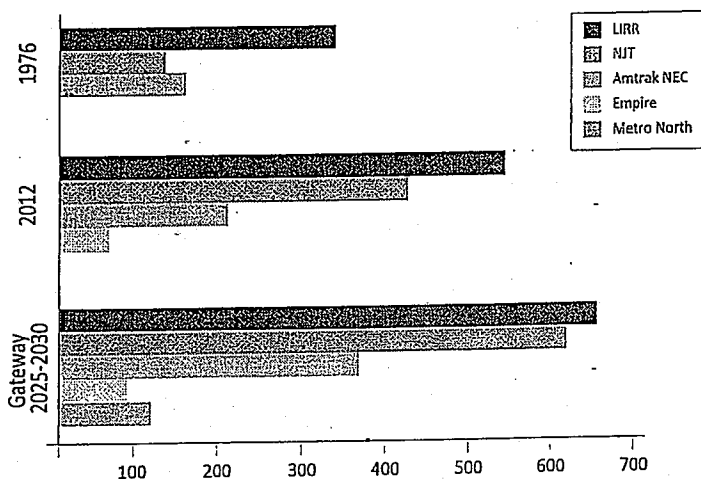
The Gateway Program is a comprehensive program of strategic rail infrastructure improvements designed to improve current services and create new capacity that will allow the doubling of passenger trains into Manhattan. The program will increase track, tunnel, bridge, and station capacity, eventually creating four mainline tracks between Newark, New Jersey, and Penn Station, New York, including a new Hudson River tunnel. The program will also strengthen system resiliency with the modernization of existing infrastructure, and updates to the electrical system that supplies power to the roughly 450 daily trains using this segment of Amtrak's Northeast Corridor.

WHY IS THE GATEWAY PROGRAM NEEDED?

The Northeast Corridor (NEC), connecting Washington, DC and Boston, MA, is at or near capacity at many locations, but nowhere is the demand on the existing rail system greater than in Penn Station, New York and its associated infrastructure. The existing, 105-year-old rail tunnel into midtown Manhattan – the only intercity passenger rail crossing into New York City from New Jersey – operates today at 95 percent capacity during rush hour, creating a severe bottleneck that limits NEC train volume across the entire rail corridor. Trains and stations are currently severely overcrowded at peak periods, and this will worsen as demand for service is projected to increase significantly by 2030. Additionally, much of the existing rail infrastructure in this portion of the NEC was damaged following Super Storm Sandy and now faces reliability challenges.

The vulnerability of access to Penn Station, New York was brought into national focus after Super Storm Sandy inundated the Hudson and East River tunnels, severing all rail service to New York. With the Gateway

Historic and Projected Growth in Daily Penn Station, New York Train Movements 1976, 2012, and with Gateway (Illustrative)



PROGRAM SUMMARY

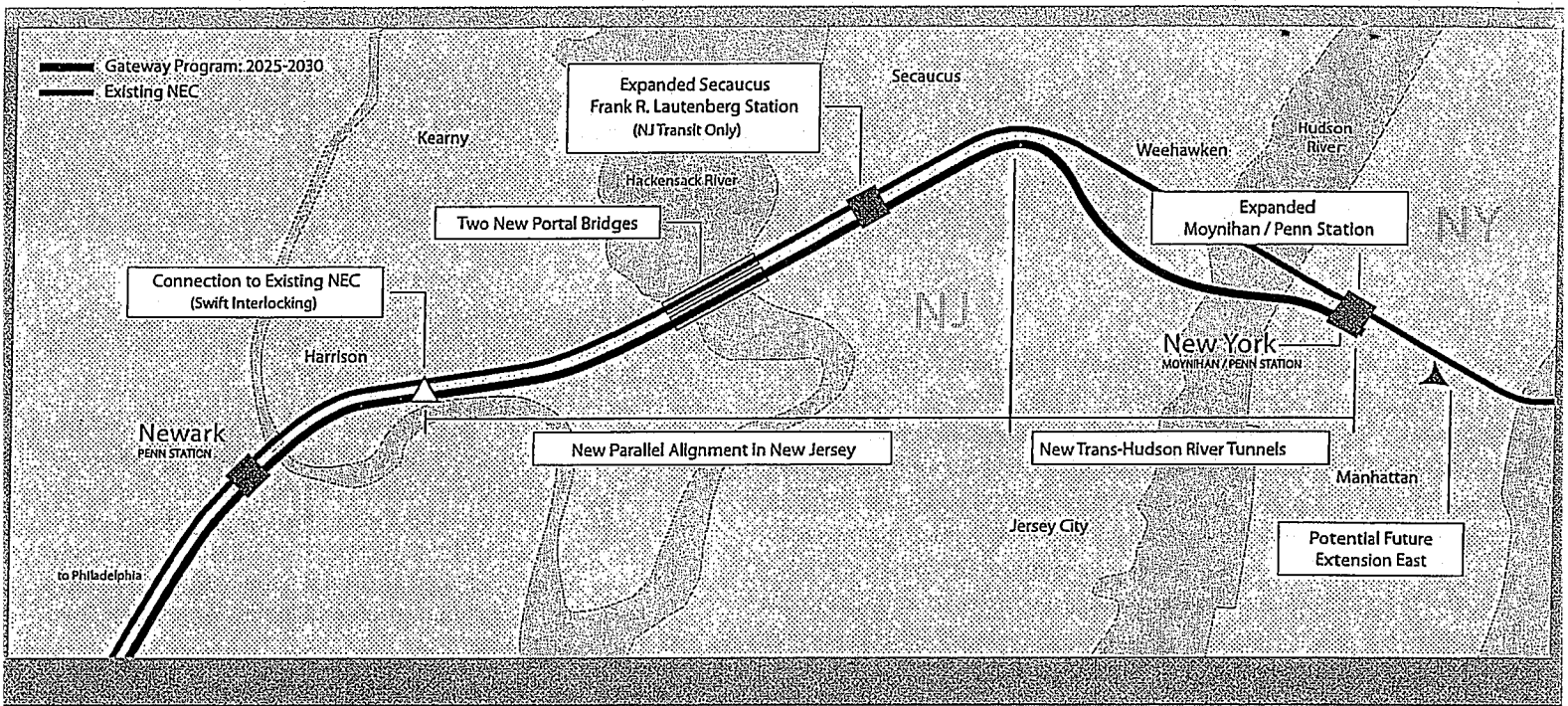
Timeline	Target Completion: 2030
Funding	Amtrak has directed more than \$300 million, mostly from federal sources, to the Gateway Program since 2012. This includes approximately \$74 million for planning and pre-construction work and \$235 million to the Hudson Yards concrete casing from federal Sandy Resiliency funding under the Disaster Relief Appropriations Act of 2013.
Partners	Amtrak is seeking to collaborate with all potential users of the future capacity provided by Gateway, and will engage with local, regional, national, and private partners as the program develops.
Status	Construction is underway to preserve the future potential pathway of the Gateway tunnel through Hudson Yards, west of Penn Station. A System Level Design study was recently completed; Program Development is now underway. An environmental impact statement for the Gateway Tunnel Resiliency Project could begin as early as Fall 2015.

Program, the construction of a new Hudson River tunnel will permit the closing of the existing century-old tunnel for extended periods so that essential repair and replacement work can be done. The current volume of traffic through the tunnel is so dense that long-term closures are impossible to plan unless the new Gateway tunnel is in place. The disruption of the daily traffic into and out of Manhattan would be too great. Today, work is done during elaborately scheduled 55-hour weekend periods to avoid crippling weekday service reductions – but longer-term closures cannot be avoided due to the degree of damage that has been discovered following Super Storm Sandy.

In sum, the Gateway Program will create the new infrastructure essential to greater resiliency against future potential storms and disasters, while enabling repairs to damage and achieving capacity and reliability-related investments to meet the needs of the NEC's operators for the next 30-50 years.



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KEY COMPONENTS

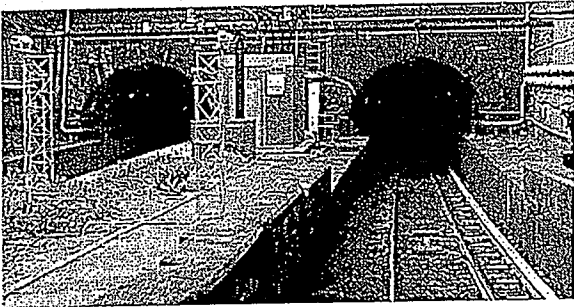
New Hudson River Tunnel: A new, two-tube trans-Hudson River rail tunnel from the Bergen Palisades in New Jersey to Manhattan will directly serve an expanded Penn Station. This new tunnel will provide operational benefits for the existing Penn Station and increased capacity for commuter and intercity rail operations including NJ Transit and Amtrak. Construction has been completed on an 800-foot concrete casing through the Hudson Yards site, west of Penn Station, to preserve the only viable right-of-way for the future tunnel into Penn Station. A second 105-foot section is now underway.

Expanded Moynihan/Penn Station, New York: An expansion of existing New York Penn Station tracks and platforms and the creation of new “Penn South” concourses will also provide direct connections to the future Moynihan Station. These improvements will support the long-term growth of commuter and intercity passenger rail service at both Penn Station and the historic Farley Post Office Building, which is being transformed into the new “Moynihan Station” by the Moynihan Station Development Corporation. The expanded Moynihan/Penn Station complex creates a consolidated Amtrak operation on Manhattan’s West Side and the high level of service and connectivity required for the growth of Amtrak’s Acela and future NextGen high-speed rail services.

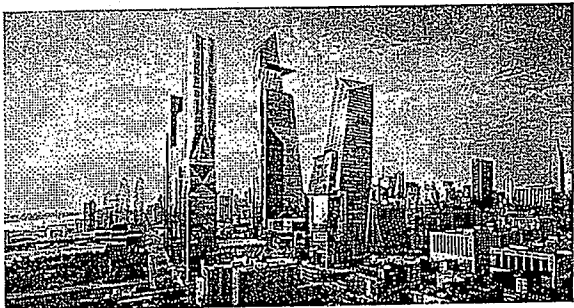
New Portal Bridges: Two new high-level, fixed bridges, known as North and South Portal Bridges, will replace the 100-year-old, moveable Portal Bridge over the Hackensack River between Kearny and Secaucus, New Jersey, doubling corridor capacity. Final design and federal environmental review for the North Bridge, the first to be constructed, has been completed. The new bridge is estimated to cost approximately \$1 billion over a 5-year construction period and will proceed with the cooperation of NJ Transit, Amtrak, and the federal government, as soon as funding can be secured.

Newark-to-Secaucus Improvements: The existing NEC will be greatly improved between Newark and Secaucus, New Jersey. The mainline will be expanded from two to four tracks between Newark and the Bergen Palisades tunnel portals, better connections will be built to link the NEC with the NJ Transit Morris and Essex Lines, and various bridges will be upgraded or replaced.

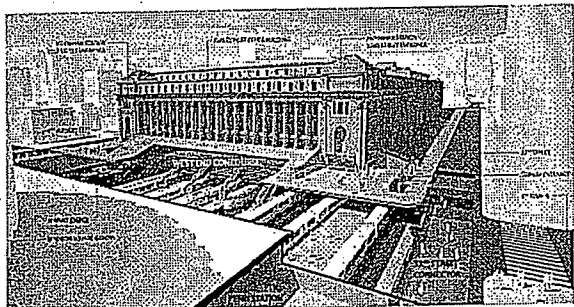
Reconstruction of Existing Hudson River Tunnel: It has long been Amtrak’s goal that the existing Hudson River tunnel, completed in 1910 by the Pennsylvania Railroad, be rebuilt and modernized. However, the damage to the tunnel following Super Storm Sandy has changed the situation entirely. Instead of work being a long term goal, it is now an urgent necessity. The Gateway Program resiliency components must be expedited for that work to proceed without causing acute disruptions to the NEC.



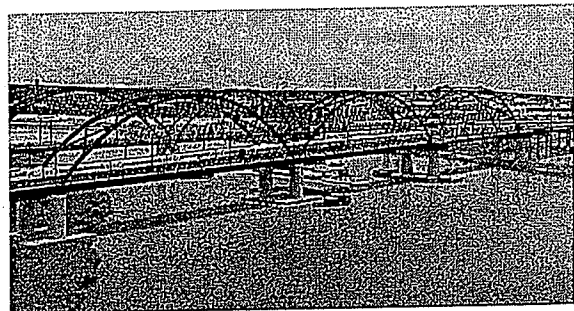
Hudson River Tunnel: The existing Hudson River tunnel is over 100 years old, was damaged by Super Storm Sandy, and requires service outages every weekend to perform maintenance and/or repairs.



Hudson Yards: The rapid advancement of the Hudson Yards mixed-use development project by Related Companies and Oxford Properties Group required early action to protect the Gateway tunnel alignment into Penn Station.



Moynihan Station: The first phase of construction is underway to turn the Farley Post Office into an expanded Moynihan/Penn Station complex, which will benefit from the connections provided by the Gateway Program.



Portal Bridge: Elements of the Gateway Program, such as the replacement of Portal Bridge, have completed final design and are ready to move forward as soon as funding is secured.

PROGRAM BENEFITS

By eliminating the bottleneck in New York and creating additional tunnel, track, and station capacity in the most congested segment on the NEC, the Gateway Program will provide greater levels of service, increased redundancy, added reliability for shared operations, and additional capacity for the future increases in commuter and intercity rail service.

- **Preservation:** The construction of a new Hudson River tunnel is necessary to preserve NJ Transit and Amtrak service to and from Penn Station while removing from service the existing Hudson River Tunnel for a continuous, extended outage. Without extensive repairs and rebuilding of the existing tunnel, service reliability is likely to continue to deteriorate due to ongoing damage from saltwater incursion during Super Sandy, eventually forcing a shutdown of one or both tubes of the Hudson River Tunnel.
- **Capacity:** The Gateway Program will benefit both intercity and commuter rail passengers, as well as communities and states along the entire NEC. When all components of the Gateway Program are put in place, it will double capacity for train operations under the Hudson River and expand tracks and platforms at Penn Station by nearly 40 percent.
- **Operational Reliability and Resiliency:** The Gateway Program will provide essential Hudson River system redundancy and operational flexibility critical to both managing and maintaining the system reliably day-in and day-out and in responding to emergencies. The new Hudson River tunnel will be built to provide enhanced resiliency against natural and man-made threats.
- **Commuter Rail Service Expansion:** The Gateway Program will enable the expansion of one-seat ride opportunities to New York City for NJ Transit and Metro-North West-of-Hudson commuters. It will also support the introduction of Metro-North Railroad New Haven and Hudson Line commuter services to Penn Station, New York and provide additional capacity to expand Amtrak high-speed, regional, and state-supported intercity services throughout the entire Northeast Region.
- **High-Speed Rail:** The Gateway Program improvements will enable expansion of existing Amtrak high-speed Acela Express and other intercity services, including Amtrak's proposed 220 mph, next generation high-speed rail trains. Without the infrastructure and capacity improvements contained in the Gateway Program, it will not be possible to achieve the proposed high-speed goals.
- **Economic Growth:** The Gateway Program will grow the economy by making business travel in the Northeast Region more convenient and reliable. The Program will also increase access to labor and job markets on both sides of the Hudson River for employers and employees, creating more comfortable and reliable commuting options. The expansion of high-speed Acela Express service and future introduction of 220 mph high-speed service will shrink travel times between major cities in the Northeast Region, forging new economic linkages critical in today's globally competitive market.

PROGRESS TO DATE AND NEXT STEPS

Hudson Yards Right-of-Way Preservation

Early actions to preserve the future pathway of a new Hudson River tunnel connecting to Penn Station have already begun. Amtrak began construction in 2013 on a concrete casing to preserve an underground right-of-way that could serve as the future alignment for the Gateway tunnel into Penn Station, New York. Amtrak has determined that this alignment through the Hudson Yards provides the only viable route for new Hudson River tunnel to access Penn Station and serve existing tracks and platforms. In December 2014, construction began to extend the concrete casing another 100 feet under the 11th Avenue Viaduct. This effort has been supported by approximately \$235 million of federal Sandy Resiliency funding under Disaster Relief Appropriations Act of 2013 and a local match shared by Amtrak, NJ Transit and the Metropolitan Transportation Authority.

Design of Program Elements

Amtrak is advancing concept design for discrete elements of the Gateway Program, many of which offer independent utility as replacement or resiliency projects, until they are all activated to deliver the capacity benefits of the Gateway Program. These include projects such as Replacement of "Sawtooth" Bridges in New Jersey, Harrison Station Fourth Track, and Elizabeth Station Fifth Track, and Penn Station Expansion. The Gateway Program's modular design allows these individual elements to advance as funding becomes available. For example, final design and environmental review of Portal North Bridge, which will replace the existing Portal Bridge over the Hackensack River, is already complete, making the project "shovel ready."

Environmental Review and Preliminary Engineering of a new Hudson River Tunnel

A new tunnel under the Hudson River from the Bergen Palisades to Penn Station in Manhattan is likely to be the first major element of Gateway Program to advance. This new tunnel is needed in order to reroute rail traffic while the existing Hudson River Tunnel undergoes extensive repairs. Amtrak is now conducting outreach prior to launching the environmental review process required by the National Environmental Policy Act (NEPA), with an aim to begin the NEPA process for the new tunnel in cooperation with its state and federal partners, in fall 2015. Amtrak has also partnered with NJ Transit to advance design and construction of a micro-grid supply within the Gateway Program area. When completed, this project will deliver electric power generated by independent sources and introduce new measures of a resilient power supply for this vitally important area.

Program Development

Amtrak has completed a system-level design study that evaluated traction power, signalization, and operational concepts for a new pair of rail tubes under the Hudson River that connect to a new 8-track expansion of Penn Station New York south of 31st Street in Manhattan. The next phase of the study, Program Development, explores implementation and phasing, including initiating the NEPA process, organizational approach and program delivery, funding and financing, and further planning of the integrated Penn Station facility. The Program Development study is ongoing through early 2016.

Visit NEC.Amtrak.com for more information on the Gateway Program and other NEC infrastructure investments.



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