Reforming the Port Authority of New York and New Jersey

Graduate Policy Workshop Report

February 2017

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1.0 INTRODUCTION

1.1 PROBLEM STATEMENT

When the Port Authority of New York and New Jersey (henceforth the "Port Authority" or "the Agency") was formed in 1921, its original goals were somewhat vague. The 1921 compact mentions operating government programs according to "rational-legal values," with a primary focus on transportation efficiency. The aim was to promote improved conduct of the commerce passing through the port of New York, to develop transportation and terminal facilities, and to ensure economical and expeditious handling of commerce.[1]

The Authority's vague mission was intentional; it allowed the agency flexibility in how it approached the development of New York and New Jersey. The Executive Director's Letter in the 1984 Annual Report helps explain: "It is central to the genius of the Port Authority that it is so constituted that each generation of leadership can rethink and reshape the Port Authority's mission."[2]

In the early days, such ambiguity worked well for the Agency's well-intentioned, ambitious leadership. Since those days, we believe that the Port Authority has gone astray. The agency has lost its focus; politics and scandal have bored their way into the organization, it has insufficiently planned to meet the infrastructure needs of the region, and its financial position has increasingly relied upon user fees from underinvested and inefficiently-operated assets.

Specifically, this report attempts to address the following manifold failures of the Port Authority:

- Overt political interference in decision-making processes coupled with a failure to adequately represent the needs of those in the Port District that depend upon it;
- Drift from its critical role in leading to the failure of planning and investing in the region's transportation-network, as evidenced by the lack of a long term vision of capital planning and investment; and
- An increasing reliance on a financing structure that is ill-equipped and unable to meet the infrastructure needs of the region in the immediate and long-terms.

Our team has conducted an investigation of the benefits and drawbacks of the status quo at the Port Authority. In judging what would constitute an improvement, we considered financial alongside non-financial characteristics of good performance such as quality of service and public service objectives. We were mindful of both the opportunities and constraints that face the organization. Further, we evaluated the Port Authority's governance model and portfolio of assets against those of comparable public agencies internationally and in the US.

In the pages that follow, we assess the Port Authority in its current state. We are particularly critical of the agency's governance and operational structures. We believe our suggestions can benefit the New York - New Jersey region's ability to deliver improvements in both:

- Daily operations, system maintenance, and new investments; and,
- Long-term regional infrastructure planning.

1.2 EXECUTIVE SUMMARY

In 2015, the New York metropolitan region was responsible for over $1.5 trillion in economic activity, employing 4.3 million people in New York City alone. Its ports moved 36.7 million metric tons of cargo, serving over 23 million consumers. Over 122 million passengers traveled through its airports. In order to ensure that the region continues to grow and prosper economically, public infrastructure must keep pace. The need for an organization to coordinate and construct this infrastructure in a region so economically integrated is clear.

The Port Authority of New York and New Jersey, founded in 1921, was an organization created to meet these challenges. Financially independent, the Port Authority thrived and was successful in coordinating infrastructure projects throughout its jurisdiction. Major projects such as the Holland Tunnel, the Goethals, Bayonne and George Washington bridges were all completed within 10 years of its founding. Shortly thereafter, the Port Authority expanded its portfolio to airports, seaports, bus terminals, and a commuter rail line. For years, the Port Authority stood as a model of both ambition and success.

In recent times, however, the Port Authority's ability to plan, deliver and maintain infrastructure to drive economic growth has eroded. Scandal and operational inefficiency have infiltrated its once solid reputation. In particular, the organization today is hamstrung in carrying out its mission by a suite of issues:

- ***Political Interference:*** The Port Authority's mission to plan, construct and operate bi-state infrastructure assets is continually interrupted by political actors from both New York and New Jersey. This interference means that important projects, rather than being independent decisions by the Port Authority, are a means of carrying out political priorities, many of which are unrelated to infrastructure. Furthermore, the appointment process, rife with political considerations, has resulted in not only the lack of an effective counterbalance against gubernatorial advances, but also a Board that no longer effectively represents the Port District. Examples of this political interference include the politically-motivated closure of lanes on the George Washington Bridge in 2013, the very public dispute between Governor Cuomo and Port Authority Board Chairman John Degnan over the new Port Authority Bus Terminal, and the takeover of Atlantic City International Airport despite being 50 miles outside the Port District. This political interference continues to erode the organizational culture and reputation.

- ***Lack of long-term vision:*** In recent years, the Port Authority has struggled to build and maintain an infrastructure network that keeps pace with the economic growth of the region. Instead, it has become increasingly focused on operational concerns and preserving the viability of cross-subsidy among its assets. This results in a defeating cycle of continued underinvestment in already underinvested assets, as is the case with all of its airports, as well as the Port Authority Bus Terminal. This short-term cross-subsidy model also removes the incentive for business lines to operate efficiently.

- ***Insufficient financing tools:*** The extraordinary cost of large infrastructure projects, combined with the already great investment demands of the current Port Authority asset portfolio, means that the agency's traditional user-fee financing structure has reached its limit. Vital - and economically generative - infrastructure projects are being forgone. The result is a Port Authority that depends upon state and federal funding to complete these projects, opening itself up to political interference. It also means the Port Authority has fallen short of required investment needed for the region's economy to grow. Even under conservative assumptions, this shortfall is nearly $20 billion.

RECOMMENDATIONS

This report is not the first attempt to identify the issues facing the Port Authority and make meaningful reform proposals. The Port Authority's Special Panel Report of 2014 makes an admirable effort in this regard. In the end, however, many of the report's recommendations were never fully implemented.

This report argues that with the infrastructure needs of the region so great both in the immediate and long-terms, and the Port Authority's inability to meet these needs, sweeping reforms that go beyond Special Panel Report will be necessary for the agency to complete its mission. This report categorizes reform recommendations in three areas in order to address the above concerns: governance, operational structure, and finance.

GOVERNANCE

In response to political interference concerns, we recommend that the current structure of the Board of Commissioners be abandoned. In particular, we recommend that the Board of Commissioners be composed of nine directly-elected commissioners representing new jurisdictions within the Port District, alongside five appointed officials from New York City, and the states of New York and New Jersey. Commissioners will serve staggered four year terms, capped at a maximum of two terms. Under this governance structure, the Board of Commissioners would be accountable to the citizens of the Port District, rather than the governors.

In addition to this transformation of the Board structure, this report, like the Special Panel Report, recommends that the Port Authority hire an independent CEO, inheriting all the responsibilities of the current Executive Director. Rather than being appointed by the Governor of New York, this position would be chosen by the Board, shielding operations from direct political interference.

Finally, we propose an elimination of the governor's ability to veto board decisions. A directly elected board eliminates the need for a governor's veto as a representation of the state's constituents, since citizens' interests are present on this board via direct representation. Furthermore, under this structure, the Governors have a voice on the board through their appointment.

OPERATIONAL STRUCTURE

We stop short of recommending a break-up or full privatization, seeking to salvage the Agency and retain it for the public good. With an eye on refocusing the Board's priorities on long-term capital planning and financing, as well as enhancing the efficiency of operations, we recommend that the Port Authority bring new transparency and scrutiny to the operation of each business line:

- ***Public Private Partnerships:*** Currently, the Goethals Bridge rehabilitation and George Washington Bridge Bus Station make use of public-private partnerships. Carefully-selected partnerships with private organizations are attractive because they promote expertise and efficiency in operations where politically-driven mission-creep has otherwise increased costs.

- ***Subsidiary Entities and Private Operators:*** Under an arrangement with a subsidiary entity or a private operator, the Port Authority could promote operational efficiency by setting operational targets. For instance, the Port Authority could set a cap on an operational subsidy with a private operator of PATH, placing an incentive for a private operator to find more efficient ways to run the system. At the same time, the Board would delegate most day-to-day operating decisions to the operator, freeing itself to focus more on long-term planning and strategy.

Under the same objective, we propose the Board delegate all major operational decisions to a CEO. The Board would develop overall strategic direction and policy for the Port Authority. The CEO, in turn, would become responsible for executing projects, delivering services, and maintaining and modernizing assets. A table of the sharing of responsibilities is below:

TABLE 1: CEO/BOARD SPLIT RESPONSIBILITIES

BOARD OF COMMISSIONERS	CEO
Set organizational priorities and adopt strategic plans	Manage Operations
Approve capital plans, including establishing baselines for project scope, schedule, and budget	Manage maintenance and modernization
Adopt budget	Submit budget proposals, weigh in on Board budget deliberations
Approve major contracts	Solicit and negotiate contracts
Appoint, remove, and determine compensation for CEO	Hire personnel
Establish service standards	Respond to customer service demands
Approve fare structures, i.e. formula or schedule, and identify ballot measures to raise funding through voter approved taxes	Propose and implement changes in fares
Conduct oversight	Publish regular reports on operations, maintenance, and modernization projects

Finally, we propose a revision of the Port Authority's mission statement in the hopes of refocusing the agency away from economic development projects, which have been prone to political interference, towards efficiently moving people and goods throughout the region. The new mission statement would read as follows:

"The Port Authority's mission is to meet the critical transportation infrastructure needs of the bi-state region's businesses, residents, and visitors: providing the highest quality, most efficient transportation and port commerce facilities and services that move people and goods within the bi-state region."

FINANCE

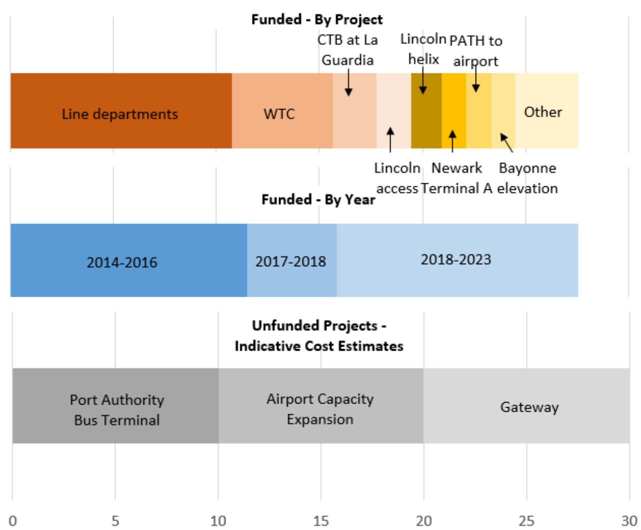
The Port Authority faces two financing concerns. First, the infrastructure needs of the region are immense and expensive. Even assuming that the Port Authority will be able to fund every item in its 2014-2023 Capital Plan, there are an estimated $20 billion in projects that need to be completed, presumably funded partially or fully by the Port Authority. The current user-fee centered financing structure is unable to deliver such funds.

Second, the Port Authority's ability to finance additional debt is shrinking. The Port Authority's latest public forecast predicts only moderate income growth, and in recent years has bonded a growing share of its maximum debt capacity. Even if its operating income were to improve via more efficient operations, we estimate that additional bonding capacity would be insufficient to meet the investment demands of the region.

As such, this report recommends that the Port Authority be given new tools to raise money for capital projects. The primary recommendation is that the Port Authority be given the legal authority to use tax increment financing as a means to finance new projects. Our estimates indicate that using TIF districts around NJ Transit stations could help financing up to $10 billion of the Gateway Program. TIF presents an upgrade from the current financing structure because it allows the Port Authority to capture value from new assets that it builds, in addition to the user fees that it currently collects. However, we believe that the use of TIF is limited to certain projects where the benefits of the project are narrower in scope. We also believe that TIF alone cannot solve all the financing constraints of the agency.

To close this gap, we also recommend that the Port Authority explore the use of a general taxation tool, be it sales, property or income tax to finance new projects. Because the benefits of the Port Authority's projects are so diffuse, general taxation is a blunt but effective tool to capture these benefits. Moreover, the potential financing capacity from this tool is immense, as recent sales tax referenda for transit in Seattle and Los Angeles indicate. However, we propose that any general taxation revenues be earmarked for specific projects or capital plan. This system prevents taxation revenue from being used as a general fund. It also forces the Port Authority to create detailed and realistic capital plans, as voters will demand such transparency if they choose to give the agency taxing authority.

FIGURE 1: CAPITAL EXPENDITURE NEEDS 2014-2023



2.0 GOVERNANCE REFORMS

2.1 KEY RECOMMENDATIONS

In order to transform the Board of Commissioners into a representative, responsible, and responsive body to guide the Port Authority, we recommend the following:

- **Making the Board accountable to those whom they should serve:** Direct elections for Commissioners from districts created within the Agency's Port District. Only a minority of Commissioners will serve at the appointment of political office-holders.
- **Empowering a CEO and electing a Board Chair:** A CEO with clearly defined roles and responsibilities should lead the organization's day-to-day operations. The position of board chair should be an office elected by serving members of the board.
- **Modifying Board mechanics:** Shorter, staggered terms and a complete elimination of governor veto power will allow the Board to run more effectively.

2.2 THE NEED FOR GOVERNANCE REFORMS

POLITICAL INTERFERENCE

When it was founded in 1921, the Port Authority faced a difficult task. It was charged with planning, financing, building, and operating major infrastructure assets that would benefit citizens of both New York and New Jersey. Shared or coordinated infrastructure projects could be beneficial to both states, and therefore, should be taken on the basis of cooperation, rather than competition; free from excessive, direct influence of either state. An independent Board of Commissioners, crafted from a compromise of gubernatorial appointees, was designed to reflect this goal. Indeed, for decades, the Port Authority achieved this objective, especially during the Austin Tobin era, building or taking on new assets to achieve its mission of New York and New Jersey transportation and economic development. Over the years, this political independence has deteriorated and it severely hampers the ability of the Port Authority to be an effective organization.

We believe the problems with political interference, particularly from the governors of both states, presents two major problems. It stifles the ability of the Port Authority to plan and construct long-term capital projects and it wounds public trust in the organization.

Increasingly, the Board of Commissioners has transformed from an independent body to a rubber stamp of gubernatorial objectives. As such, long-term capital priorities for the Port Authority are in danger of being usurped or canceled at the whims of each governor. Nowhere is this clearer than in the case of the decades-planned Access to the Region's Core project, a bi-state priority which was cancelled by Governor Chris Christie in favor of redirecting resources to the Pulaski Skyway because of a funding shortfall in the New Jersey transportation trust fund.[3]

This political interference not only affects the Port Authority's ability to undertake important projects but also trickles down into the organizational culture. The result of years of political interference impeding projects is a weak capital planning process subject to changes every few years. For instance, after publishing a supposed ten-year capital plan in 2014, the Port Authority, at the very public insistence of Governor Cuomo (among others), scrapped the existing capital plan in favor of a new one that would include a new Port Authority Bus Terminal, even in light of serious funding gaps.[4] This lack of construction and planning, at least in part, explains why the Port Authority increasingly relies on underinvested assets for financing and operations.

The shortage of planning and construction plays a role in the second major problem with political interference: reputational harm to the organization. Political interference has played a major role in dismantling the credibility of an agency once seen to serve the interests of the public. First, political interference has meant that even when the Port Authority does manage to construct new projects, it has done so very inefficiently, as seen with the current World Trade Center Transportation Hub, where costs skyrocketed mostly as a result of political considerations.[5] Secondly, public scandals have shaken public trust in the organization, as a direct result of political meddling. The closing of lanes on the George Washington Bridge or the indictment of former Chairman David Samson, a close confidant of Governor Christie, bear out this point. The result is that the Port Authority is no longer trusted by the people to carry out much-needed infrastructure projects.

LACK OF PUBLIC REPRESENTATION IN THE PORT DISTRICT

Through its current design and governance structure, ostensibly the Port Authority is designed to provide for indirect representation of citizens. The directly-elected governors of both states appoint their respective commissioners. As the commissioners pursue, to varying degrees, each governor's priorities, they in turn, represent citizens of both states.

The reality of the situation is different. First, even if the commissioners carried out the will of the governors completely, their decisions would be more representative of the entire states of New York and New Jersey, as opposed to the Port District, the area where the majority of the benefits of the Port Authority's assets accrue. As such, the current board reflects interests living both within and outside the Port District. As political interference creeps increasingly into the decision-making process of the Port Authority, unsurprisingly, the Port Authority has become an organization used to satisfy interests outside the Port District. Nowhere is this more reflective than the acquisition of the unprofitable Atlantic City International Airport, which occurred largely as an economic development ploy by Governor Christie despite being more than 50 miles away from the Port Authority's district.[6]

Second, from a diversity perspective, the Port Authority Board of Commissioners do not remotely reflect the users of its assets. This is a concern across many transit agencies nationwide. A 2009 survey[7] of 66 transit agencies across the country revealed the striking homogeneity of their board membership. In these agencies, 76% of board members are male and 76% of board members are white. This is a group of mostly-white, mostly middle-aged, well-educated men. The Port Authority's Board of Commissioners is strikingly similar to this national average. Among the 10 current board members, all are men, and all are white. Throughout the Port Authority's history, the story has been consistent.[8] This is striking in a region with a balanced gender population and substantially more racial diversity than most of the country: New York City, Hudson County, and Essex County are 45%, 43%, and 54% white, respectively. This is, of course, just one of many demographic lenses.

Whether or not the current structure leads to unequal business decisions at the Board level is unclear. However, what is clear is that, under the current structure, the only avenue for more diverse voices to be heard is through public board meetings. There is currently no mechanism in place that gives any decision-making power to these voices, despite being more representative of the users of Port Authority assets.

LACK OF AN INDEPENDENT CEO

Currently, the governor of New York appoints the Executive Director ("ED") to run the day-to-day operations while the governor of New Jersey appoints the chairman of the Board , with the aim of ensuring that the interests of both states are adequately represented.

This structure has increasingly proven to be too susceptible to gubernatorial influence. With few formal constraints on politicization, under pressure from activist governors seeking scarce funding for state political projects, the role has devolved into a post to carry out gubernatorial priorities. As a result, rather than focusing on ensuring the efficiency of day-to-day operations, the ED is more susceptible to directing the Port Authority at the behest of the governors. Indeed, former Deputy Executive Director Bill Baroni has been accused of carrying out various political directives from Governor Christie ranging from the lane closures on the George Washington Bridge to the $235 million purchase of an army terminal near the Bayonne Bridge as a means of providing financial assistance to the city. Neither of these actions could comfortably be said to be congruent with the core mission of the Agency.

Moreover, the current structure risks the creation of fragmented policies and diminished accountability. If the ED and the Chairman are responsible for simply carrying out gubernatorial directives, then the Port Authority risks having conflicting strategies for building infrastructure in the region should the governors differ in their priorities. Furthermore, it diminishes accountability at the operations level. If a given project fails to bring the projected benefits or runs over-budget, or an asset underperforms, the Board has no recourse. This is because first, it would be difficult to determine who is accountable and second, the ED is just as responsible to the governors as he/she is to the Board.

2.3 BOARD MEMBERSHIP AND BY-LAWS

To make the Port Authority's board run more efficiently and to increase the public's input, we propose:

Combination of elected and appointed officials: A combination of publicly elected and appointed board members will ensure a Board that is accountable to the public and has expertise in planning and transportation. Table 2 illustrates our vision.

In addition to shifting board accountability from the governors to the Port district constituency, public elections increase the visibility of issues otherwise obscured from public view; in this way, we believe that publicly elected Board members will be more incentivized to respond to public needs.

Introduction of non-voting board members: Non-voting representatives, such as labor union representatives or public advocates, would help bring a diverse perspective to the Board and incentivize Board members to ensure that the initiatives and policies they adopt better serve the interests of those most affected by Port Authority decisions. As an example, New York's Metropolitan Transportation Authority (MTA), is comprised of seventeen voting and six non-voting board members[9] with the non-voting members recommended by transport work ers union and rail union members as well as the New York City Transit Riders Council.[10] In this way, relevant parties have a seat at the table to voice their opinions on issues that impact those whom they represent. It is prudent to establish clear roles for non-voting members and incorporate them into the agency's bylaws.

TABLE 2: CURRENT AND PROPOSED BOARD SEAT ALLOCATION

	Current	Proposed
New York	Gov. Appointment	Gov. Appointment
	Gov. Appointment	Gov. Appointment
	Gov. Appointment	NYC Mayor Appointment
	Gov. Appointment	Election: Manhattan
	Gov. Appointment	Election: Brooklyn
	Gov. Appointment	Election: Queens
	N/A	Election: Bronx/Staten Island
New Jersey	Gov. Appointment	Gov. Appointment
	Gov. Appointment	Gov. Appointment
	Gov. Appointment	Election: Hudson County
	Gov. Appointment	Election: Hudson County
	Gov. Appointment	Election: Essex County
	Gov. Appointment	Election: Essex County
	N/A	Election: Bergen County

ELECTIONS AND APPOINTMENTS

We propose a structure in which the states of New Jersey and New York have equal elected representation and the governors of each state have equivalent authority to appoint commissioners, as shown in Table 3 on the following page.

To the extent possible, we sought for Board members in each state to represent similar population sizes. Though the population of New York is larger than the population of New Jersey, both states have a vested interest in the Port Authority and their constituents should be equally represented.

Northern New Jersey has been the source of the largest increase in commuting to New York, with a 21 percent increase in commuters to Manhattan during 2002-2009. With higher levels of job creation in New York City than in northern New Jersey, New Jersey residents are becoming increasingly dependent on New York City for

TABLE 3: PROPOSED BOARD SEAT ALLOCATION

	Population[11]	Board Seats	Elected/Appointed
New York			
Manhattan	1,644,518	1	Elected
Bronx/Staten Island	1,930,002	1	Elected
Brooklyn	2,636,735	1	Elected
Queens	2,339,150	1	Elected
NYC Mayor	8,550,405	1	Self or Appointed
NYC Governor	19,795,791	2	Self and/or Appointed
New Jersey			
Hudson County	674,836	2	Elected
Essex County	797,434	2	Elected
Bergen County	938,506	1	Elected
NJ Governor	8,958,013	2	Self and/or Appointed

WHERE IT WORKS: PORTLAND, OR

Oregon Metro is an enlightening case study of a publicly-elected transit board. The agency serves 1.5 million people across three counties, encompassing Portland, Oregon and 23 other cities. It was the first directly elected regional government in the country, coming about as an effort to provide regional planning and coordination that would manage growth, infrastructure and development issues that crossed jurisdictional boundaries.[17] The Metro Council is comprised of a president and Metro Auditor, elected by the entire region and six councilors who are elected every four years in non-partisan races. The Metro Auditor is responsible for oversight of Metro's annual financial statements and for conducting performance audits. A chief operating officer is appointed by the council members and is charged with carrying out council policies and managing Metro operations.[18]

jobs.[12] In 2013, approximately 397,000 people commuted daily from New Jersey to New York, and about 129,000 people commuted from New York to New Jersey.[13] Furthermore, as New Yorkers take on more jobs in the outer boroughs, Manhattan is growing reliant on commuters from New Jersey to meet its demand for labor.[14]

Moreover, a Board with a majority New York representation would likely result in disproportionate programs or decisions benefitting that State. Nevertheless, we re-balance slightly to recognize New York City's much more populous constituency by offering an appointed seat to the New York City Mayor. Collectively, we hope that this structure balances interests while incentivizing cooperation. Each constituency is large enough to entail the relevance of a variety of issues, and we think that this will encourage equitable Board member effort.

One common argument against directly elected boards is that such boards will be overly focused upon short-term goals and meeting constituents' demands.[15] While this is certainly a risk, we believe the benefits substantially outweigh any potential risks for a number of reasons:

- **Responsiveness is a benefit:** We want for Port Authority Board Members to be responsive to their constituents needs. The current Board is responsive primarily to the interests of the governors and publicly elected board members will be responsive to those who directly elected them.

- **Allows for counter-balance:** Repeated election cycles will allow for the Port Authority to iterate toward its ultimate goals. As such, occasional myopia can be counter-balanced by different votes in future elections. Similarly, direct appointments by governors or the Mayor can help balance out other interests already expressed on the board.

- **Represents long-term interests:** Whatever the short-term politics, directly elected boards tend to be associated with more efficient public transit. A recent study found, for instance, that while only around 17% of public transit boards in the US are publicly elected, those agencies have significantly lower operating costs per passenger trip.[16] Additionally, an elected board that is less susceptible to gubernatorial influence can focus more on long-term objectives and investment.

- **Better public representation:** Having publicly elected Board members increases the likelihood of bringing diverse perspectives into the Agency. If residents of New York City, Hudson, Essex, and Bergen counties can directly elect representatives, those representatives are likely to more closely match the demographic profiles of their constituents.

DIVERSITY AND INCLUSION

We contend that the underrepresentation of the region's diversity is inherently flawed and represents a missed opportunity. Though the public elections will help address issues with representation, elections alone will just be one step towards bringing diversity to the board. For example, just 20% of the 114th Congress (serving today) is female. Just 8.7% of that same Congress is African-American (compared to 12% of the US population), while 7% is Hispanic or Latino American (compared to 16% of the US population).

To remedy this, we propose that Port Authority Diversity & Inclusion be taken up as a key policy interest of the numerous existing bodies tasked with examining related issues. For example, within the Port Authority, we believe that the "Diversity & Inclusion" program should look not only within but also upward. We believe that Governor Cuomo's Advisory Council on Diversity and Inclusion should examine the Port Authority's board and exert influence on the governor's future appointments. Similarly, this imbalance should be explored by Mayor De Blasio's Commission on Gender Equity. While such oversight will not remedy the Board's lack of balance overnight, we believe that, coupled with direct elections, it will provide a useful start.

SERVICE CRITERIA FOR COMMISSIONERS

In elections across the U.S., there are generally no academic or job-related selection criteria necessary for public officials to run for office. Additionally, no other publicly elected transit board in the U.S. places criteria on elected board members. As such, we do not recommend having such selection criteria for the elected Board seats. However, to ensure some expertise on the Board, the politically appointed seats should have some criteria attached to the appointments including:

- **Ridership:** Several transit organizations appoint or elect at least one board member who must be a user of public transit to represent riders and their needs. Examples include the City of Montreal and the MTA.[19]
- **Experience:** Appointed members should have a background in relevant fields including: transportation finance, transportation planning, and governance.
- **Interest:** A demonstrated interest in both transit and public interaction will make for Board members interested in advancing the agency's goals in a way that takes public interest into consideration.
- **Residency:** Appointed members should reside in the Port District to help ensure that they have a vested interest in the decisions made by the Board.

2.4 BOARD CHAIR AND CHIEF EXECUTIVE OFFICER

BOARD CHAIR

Per the by-laws, the Port Authority's Board of Commissioners is directly tasked with electing its Chair. In practice, however, this appointment has become the responsibility of the New Jersey governor, and the Board traditionally confirms his/her appointment. As we collectively remove political interference with the Board's operations, we also propose that the appointment of the Board Chair become a politically neutral intra-Board process. With the institution of a board-selected CEO (see below), we also recommend introducing a non-political Board Chair, elected by other members of the board. This recommendation is quite similar to that of the 2014 Special Panel, with one distinct difference: we do not believe that the position of Board Chair should alternate between the two states.[20]

Instead, we suggest a practice similar to the process employed by most of the Port Authority's peers: the vast majority have Board Chairs who serve 2 – 4 year terms and are elected by other members of the board.[21] This format could serve to remove board leadership from one geographic constituency and make room for selecting a Chair based on expertise and experience which will help steer the agency towards its mission.

At the first board meeting every two years, the Board should elect its Chair through an internally-established voting procedure. Many private corporations adhere to a majority vote standard in their internal Board elections.[22] Board Chairs can be re-elected for up to two terms (i.e., 4 years of total service), in line with the recommendations that the WMATA Governance Working Group recommended to its leadership.

The Board Chair's responsibilities include overseeing the work of the Board, liaising between the CEO and the Board, and facilitating Board communication with external stakeholders, such as the media. The Board Chair leads every Board meeting, puts items on the agenda, and meets regularly with the CEO to ensure coordinated strategy and execution, at a frequency to be determined by the Board Chair and CEO as necessary. If the Board's Chair, or any Commissioner, is found guilty of violations of fiduciary, professional, legal, or ethical obligations, they will be removed from office per their respective state's laws.

CHIEF EXECUTIVE OFFICER

The Executive Director is too susceptible to political influence to act in the best interest of the region, often resulting in incoherent policies and diminished accountability.[23] The direct appointment by the governor of New York explicitly introduces politics into their leadership. Instead of this politically-motivated structure, we believe that the Port Authority's Board should directly hire a Chief Executive Officer ("CEO") with relevant management expertise and planning expertise. The Board should conduct a nationwide search for candidates, possibly through open application (similar to Transport for London's method of selecting Board members), and select a CEO with at least 2/3 vote (10 votes in our proposed structure) to ensure that a CEO who most aligns with and can carry out the Board's vision and goals is selected and has strong support from the Board. The CEO would inherit all responsibilities and powers currently bestowed upon the Executive Director, as stated in the by-laws. The Special Panel Report similarly recommended that a CEO position be created to consolidate the complex leadership structure into a single chain of command accountable to the Board of Commissioners.[24]

While we envision that an independent CEO would inherit the responsibilities and powers of the Executive Director, the independence of the position is a critical distinction that allows the CEO to remain insulated from political interference and to have enough clout and credibility in the execution and management of projects. A nationwide search for a CEO in good national standing means that the Board and Governors could not so readily set aside the CEO's views and that the CEO would be more able to address longstanding issues, such as the location of the Port Authority Bus Terminal, in an impartial manner.[25]

Furthermore, the creation of an independent CEO position streamlines the bureaucracy in which responsibility and blame can be shuffled around in the absence of a clear chain of accountability. As stated in the Special Panel Report, a single chain of command is a best practice for ensuring accountability.[26] Experts unanimously agree that a Chief Executive Officer should be selected by the Board for his or her professional expertise and qualifications, rather than appointed by governors from within their close circles.[27]

With an eye to facilitating the Board's ability to focus on strategy for the agency, the CEO will be responsible for the administration, management, and operations, subject to the policy direction and oversight from the Board. Vesting all powers of staff hiring in the CEO, with the exception of a small number Board staff, will further insulate the Board from charges of handing out sinecures. The Board should agree to place full confidence in the abilities of the CEO to carry out his or her duties well, and thereby refrain from and prevent governors from interfering in management decisions, unless otherwise consulted by the CEO. This clear division of responsibilities increases the independence of the Board and the CEO from the other, optimizes their comparative advantages, and leads to better monitoring and oversight. It empowers the CEO to make the decisions he or she deems best for efficiency and effectiveness, within his or her purview, without worrying about interference from the Board, including in the form of increased mandated reporting that takes away from the CEO's primary duties. This understanding similarly enables the Board to focus on strategy, without spending time trying to micromanage the CEO. Mutual trust, and the Board's role in preventing gubernatorial interference and project delays, enhances the leadership's ability to drive the agency forward as efficiently as possible.

Cognizant of the role of political interference, we propose a structure that insulates the CEO from the threat of losing his or her position due to politically unpopular decisions and creates performance standards that prioritize efficiency and effectiveness. Our hope is that such a structure would create incentives for the CEO to push for difficult but much needed reforms. Under this structure, governors have no influence over the appointment or replacement of a CEO, except through their Board appointments. CEOs cannot be removed unless for violations of fiduciary, professional, legal, or ethical obligations. (Under such circumstances, the Board can remove CEOs by a 2/3 majority vote.) In addition, the Board sets subjective and objective performance targets at the start of each year, which they will use to evaluate the CEO at the end of the year, and must decide the repercussions of the formal evaluations, whether they be tied to compensation, equity, etc.

WHERE IT WORKS: LONDON

Transport for London (TfL) is the result of a significant restructuring of London's government in 1999 with the Greater London Authority Act, which also created the new role of Mayor of London. TfL oversees and is responsible for the majority of London's transportation infrastructure. TfL provides a useful comparison for the Port Authority. TfL holds approximately 44.5 billion USD in long-term assets (TfL Annual Report 2015, p. 142), comparable to the approximately 53.8 billion USD in assets held by the Port Authority (2016 Port Authority budget estimate, p. 11). Both bodies have transport responsibility for large, global cities and hold a heterogeneous portfolio of rail, road, maritime, real estate, and other assets. The two do have significant jurisdictional differences: The boundaries of TfL overlay London, and TfL is the authority for almost all public transit in London. The Port Authority, in contrast, occupies a cross-jurisdictional boundary and operates only a portion of the transit system serving the Port District.

Clear Electoral Accountability. Responsibility for Transport for London makes up one of the most visible parts of the elected Mayor of London's responsibilities. Transport plays a prominent role in mayoral campaigns and in the Mayor's engagement with the public. The current Mayor, for example, ran in part on a fare freeze. The previous mayor introduced a bikeshare and introduced "cycling superhighways", projects that remain closely identified with him. TfL operates according to a strategic vision articulated by the Mayor and the board of TfL.

2.5 TERMS, TERM LIMITS, STAGGERING, AND PAY

For any board to be effective, appropriate checks and balances are essential. Where appropriate, the board should feel empowered to make substantive decisions and shape an agency. Constraints on that power are just as essential: the fundamental aim should be to prevent the board from overstepping its bounds. In limiting the purview of the Port Authority's Board of Commissioners, our proposal already institutes meaningful limitations on the Board's reach. Hopefully, we also empower the Board to thrive in its areas of new focus (i.e., vision and planning). We can further limit and enhance the board through thoughtful rules regarding the specific mechanics of board membership. Our overarching interests are:

- ***Ensuring accountability:*** Whether elected or appointed, Port Authority Board Members should be accountable to the people who pay for and use the Agency's services each day: to the PATH users, bus riders, frequent flyers, and tenants who use Port Authority facilities. There must be a mechanism in place to ensure that these constituents can offer feedback or shape board member action.
- ***Limiting upheavals:*** At the same time, we want to ensure that responsiveness is reasonable—board members should respond to the concerns of

constituents but should have some time and leeway to accomplish their objectives. We do not want to create a system in which changes to governance happen too quickly or stymie operations.

To these ends, we have explored the mechanics of Board operation. Based upon the best practices of private sector corporations and peer transportation authorities, the areas of exploration and our ultimate conclusions are as follows:

TERM LENGTH AND LIMITS

A recent Deloitte study of private sector boards indicates that most members serve on a corporate board for 5 – 8 years.[28] Nevertheless, a majority of companies also report having board members who have been on the board for over 13 years. The Port Authority's board is quite similar: terms are set at 6 years, and the current set of 10 serving board members have been on the board for an average of 5.5 years (median of 4 years). Two current members (David Steiner and Raymond Pocino) have each served for over 13 years.

Continuity of service can certainly be an asset—it can encourage long-term projects or lift board members' focus above topical politics or fads. It can also guarantee that board members have an in-depth operational understanding of the organization. However, such long service can also result in stagnation and stymie innovation. For non-elected board members, such long service suggests the persistence of a particular politics: it can only come about through re-appointment by new executives who agree with prior decision-making.

For these reasons, we propose instituting term limits for Port Authority board members. First, we suggest that board members serve 4-year terms—a long enough time to implement substantial plans, but short enough to constrain power. For elected public transit boards, the length of these proposed terms are fairly standard: other boards with 4-year terms include NJ Transit, the Massachusetts Bay Transit Authority (MBTA), Metropolitan Atlanta Rapid Transit Authority (MARTA), LA Metro, and Bay Area Rapid Transit (BART). Most other peer organizations have terms no longer than 7 years.[29]

In addition, we believe that Board members should be authorized to serve no more than 2 terms (i.e., 8 years total), which need not be consecutive. Our aim is to encourage innovation and fresh perspectives without encouraging excessive turnover. Though such term limits are uncommon for transit agencies, we believe that the evidence on corporate board effectiveness suggests that similar constraints on board tenure would be fruitful in this public sphere.

STAGGERED TERMS

Among American corporations, the last decade seems to have brought on a shift away from staggering the terms of board members. In 2005, for instance, about 57% of corporate boards staggered appointments, but that number dropped to just 32% in 2014.[30] Among public transit agencies, staggered boards happen mostly by happenstance: a new Executive comes to office and appoints new members to certain seats, once able, which results in effective staggering. BART and Denver's Regional Transportation Authority (RTA), through their directly-elected boards, do have designed staggering.

Ultimately, the primary goal of staggering is to shield board members from fluctuations (in markets, in political sentiment, etc.) such that they can effectively institute long-term projects. In fact, a 2015 Stanford University corporate study of staggered boards at firms with some clear operational threat (e.g., single suppliers of key products, or monopsony) showed that "long-term operating performance is positively related to the use of staggered boards."[31] Of course, the Port Authority is not a private corporation, but the overarching aim remains the same, and we believe that staggering the Port Authority's Board can help protect the agency and empower the board to more effectively carry out its long-term projects and planning.

Taking into account our proposed election and appointment structure, we propose a staggering process. In practice, this Board member selection process might occur as depicted in Table 4 on the following page.

Gubernatorial and Mayoral appointments coincide with new administrations, while Port Authority elections occur in the interim, allowing for constituents to push back

TABLE 4: EXAMPLE OF BOARD MEMBER SELECTION PROCESS

	NJ Gov	NY Gov	NY Mayor	PA Appt.	PA Election
2017	ELECTION		ELECTION		
2018		ELECTION		3	ELECTION
2019				2	4
2020					ELECTION
2021	ELECTION		ELECTION		5
2022		ELECTION		3	ELECTION
2023				2	4
2024					ELECTION
2025	ELECTION		ELECTION		5
2026		ELECTION		3	ELECTION
2027				2	4
2028					ELECTION
2029	ELECTION		ELECTION		5

on Executive appointments, if needed. Moreover, Board elections can occur during presidential election years so as to avoid the need for any special election logistics.

TIME COMMITMENT AND PAY

The vast majority of board positions—at corporations and peer public transit agencies—are part-time, and we believe that the Port Authority should be no different. Our aim is to establish a Board responsible for high-level strategy and decision-making, which does not require a full-time commitment.

Compensation, partially tied to performance, is an important part of creating intrinsic and extrinsic motivation for a Board to be actively engaged and invested in the performance of the agency. It not only signals the importance of and appreciation for the Board's work, but it also ties the performance of the agency to personal incentives. Numerous studies have demonstrated that pay-for-performance schemes in the public sector can be effective when outputs are observable.[32] However, only 31% of public transit boards pay their board members some form of compensation.[33] The salaries paid to WMATA's various board members is fairly representative of the range of options among other peer organizations: WMATA board members from D.C. are unpaid, those from Virginia receive $50 per meeting, while those from Maryland receive $20,000 annually.[34] Perhaps most importantly, offering remuneration is critical to allowing people from all economic backgrounds to serve on the Board, making it possible for a diversity of voices to be included in the agency's decision-making process and resulting in more inclusive policies. In this case, the Port Authority's outputs—from decisions to actual infrastructure—can certainly be monitored, and we believe that a smart compensation structure can properly incentivize the Board to work towards their plans and the Port Authority mission in general.

Exact compensation and structure is a matter for future consideration, as compensation schemes (especially for Board members and public sector employees) can be quite complicated. The laws in New Jersey and New York surrounding public sector compensation are also somewhat murky and will require further scrutiny. Nevertheless, we believe this should be feasible.

2.6 ELIMINATION OF GOVERNORS' VETO

One central piece of the Port Authority's current governance structure is the ability of the governors of New York and New Jersey to veto Board decisions. Since this veto power was authorized by the state legislatures in 1927, it has been a mechanism through which the governors exert control over the Board's decisions.[35] In fact, the veto power emerged 6 years after the Port Compact as a result of a bi-state fracas over bridge cabling.[36] The veto power seems mostly indirect: all Port Authority Board decisions are subject to veto by both states' governors, and this limitation informs the Board's actions. This veto power allows either governor to withhold resources for a particular project until the Board surrenders to his or her demands for a project in their respective states, thereby forcing the Board to allocate resources to the governors' priority areas, or risk the governors vetoing the agency's own priority projects. For example, Governor Pataki's successful privatization of the World Trade Center after many years was contingent on subsidizing New Jersey Governor Christine Whitman's priority project of expanding the cargo hub at the Elizabeth Marine Terminal.[37] Explicit use of the veto appears to be uncommon, though no readily available record of vetoes seems to exist.[38] In fact, a 2016 Freedom of Information request for detail on all governor vetoes since 2000 yielded no records made of gubernatorial vetoes.[39]

For example, there has been a renewed push for a new trans-Hudson tunnel in response to capacity constraints, known as the Gateway Project. However, despite Gateway's potential to increase trans-Hudson River capacity by 100 percent, the creation of the Gateway Program Development Corporation (GPDC) in November 2015 to coordinate the project, and the Port Authority's outlay of $2.7 billion to support the tunnel construction, most of the funding for the project has not been secured, and the GPDC only had its first meeting in January 2017. In the aftermath of the cancellation of the ARC project over the division of funding between New York and New Jersey, the project continues to stall over this same dilemma.[40] Furthermore, if the GPDC is to be considered a subsidiary of the Port Authority, it remains unclear the extent of the governors' veto power over GPDC decisions. Until this question is resolved, the federal government is also unlikely to fully commit to the arrangement.

Limited use notwithstanding, we believe that the governors' vetoes should be eliminated. It is a political tool that corrupts the Port Authority's planning and implementation processes, and its existence is unnecessary for an agency meant to be impartial—focused upon growth and economics, not politics. For example, Governor Chris Christie's decision in October 2010 to cancel the Access to the Region's Core (ARC) project was a huge setback for regional growth, given its significance for employment and commuting trends -- not to mention the loss of countless hours and political capital, many economic recovery funds, and millions of dollars already spent in the years leading up to the project.[41] While Governor Christie was not in office when ARC was formulated and planned, he succeeded in unilaterally destroying the enormous progress on the project up until that point, and sacrificing long-term regional growth for his own short-term motivations, i.e. replenishing New Jersey's transportation trust fund without raising the gas tax.[42,43]

This is especially true in our proposed operational and governance structure, in which:

- ***Citizens' interests are well-represented:*** Equipped with the legitimacy to represent its constituents on their specific concerns about transit, a publicly elected Board is protected from outside political interference that has historically hindered its ability to carry out its mission in an efficient and effective manner. The governors' ability to veto Board decisions, one might argue, was a mechanism through which either governor could voice the concerns of constituents. The Board, though appointed by the governors, has never been a politically elected body, and this veto serves as a political check on the Board's power and decision-making. Directly-elected seats make gubernatorial vetoes unnecessary, as our proposed Board structure accounts for a diversity of voices.
- ***The governors already have a voice:*** In our structure, the governors of each State retain the ability to appoint two Board representatives. Such appointments allow each Governor a mechanism for direct influence upon the Port Authority's decisions.

We recognize that dropping this political tool would be an enormous challenge when doing so would almost certainly require the approval of both governors. Nevertheless, we believe that eliminating this power is an important requirement to remove the politics from the Port Authority and get the organization back on track.

3.0 OPERATIONAL REFORMS

3.1 KEY RECOMMENDATIONS

We make the following structure and vision recommendations for the Port Authority:

- ***Separate the Board from day-to-day operations.*** Across private and public companies and nonprofit organizations alike, the boards with the highest impact invest substantial time and energy to understanding and developing the organization's long-term strategy.[44]

- ***Grant greater operational autonomy to Port Authority divisions.*** At minimum, run the business lines with well-defined and transparent performance targets. Consider expanded use of public-private partnerships as well as the use of subsidiary entities and private operators.

- **Introduce a new, focused mission statement to guide future capital plans and investments:** "The Port Authority's mission is to meet the critical transportation infrastructure needs of the bi-state region's businesses, residents, and visitors: providing the highest quality, most efficient transportation and port commerce facilities and services that move people and goods within the bi-state region."

3.2 THE NEED FOR CLEAR VISION AND STRUCTURAL REFORM

POLITICAL INTERFERENCE

The Port Authority manages significant public assets that have a great impact on the lives of residents of New York and New Jersey, and it must be accountable to these residents. This is currently achieved by granting sweeping powers to the people's' elected representatives: the governors of each state. The governors appoint all 12 commissioners, select the Executive Director, and can each veto any action of the Board.

Several of the Port Authority's recent high-level decisions suggest that the Governors' political priorities rather than the needs of the Port District are the principal motivating factor. Port Authority funds have been committed to assets outside of the Authority's core mission – and outside of the Port District – with little economic return. The 2016 capital plan continues to include expenditure on the Pulaski Skyway, which would traditionally be seen as an investment to be made by the New Jersey Transportation Trust Fund. The Port Authority's ostensible involvement is partially to "foster economic activity, and improve regional competitiveness."[45] Its scattered small-scale real estate holdings throughout the Port District were often pitched as economic development projects in areas where the governor wanted to increase his or her support. This type of political horse trading at the expense of focus on the Port Authority's mission is pervasive; the acquisition of the Atlantic City Airport and the $235 million purchase of land near the Bayonne Bridge bear this point out. Indeed, even the development of the original World Trade Center site in 1961 was granted to the Port Authority only after the Port Authority agreed to take on the unprofitable Hudson-Manhattan Railroad, a decision that still costs the Port Authority some 56 years later - $344 million dollars in 2015 alone (PATH).

In recent months, political gridlock has brought the capital planning process to a halt. With a Board of Commissioners divided between and antagonistic across the New York-New Jersey divide, major investments have become seen as preferential resource allocations to states and have been blocked. Nowhere is this more apparent than in the case of the Port Authority Bus Terminal. Despite the end of useful life of this crucial asset approaching, essential planning for investment to replace it remains frozen amid New York-New Jersey tension.[46] Planning documents have shown that this state-to-state division is explicit; items to be included are designated as "New York," "New Jersey," or "Interstate" and Commissioners make sure each state has equal representation, rather than focusing on the most pressing needs of the greater region.

In recent weeks, a proposal for unilateral reform legislation was floated in New York.[47] Provisions of this proposal included a new inspector-general for the New York activities of the agency and the novel ability for the New York governor to remove his appointments unilaterally and make recess appointments. The special session proposed to take up this and other unrelated matters has not yet been convened at the time of writing.[48]

INSUFFICIENT FOCUS ON LONG-TERM VISION

The Port Authority as currently structured has proven to be unable to engage in forward-looking long-term planning that meets the region's needs in a timely manner. For example, it has been clear for years that the Port Authority Bus Terminal is in need of serious renovations or replacement, but the Board has yet to finalize plans. Similarly, the North River Tunnels under the Hudson River are at serious risk of failing and crippling the region's economy. That these issues have festered without serious action shows the current Port Authority is unable to properly balance short-term and long-term priorities.

The current structure of the Port Authority means that major infrastructure projects will not be prioritized unless they are also prioritized by the respective governors. As such, we believe this system has forced the Board of Commissioners to focus inordinately on day-to-day operations as opposed to long-term strategy and planning. Put another way, because the Board is cognizant of the fact that their proposals will not gain traction without gubernatorial approval, they have, in a sense, delegated their long-term planning responsibilities to the governors. Aside from approving capital plans and funding for large projects, both of which are heavily influenced by governors and other political actors, the minutes of the Board reflect this operations-centric focus; the December 8, 2016 meeting vacillated between discussing larger projects like a new runway at JFK, to the age limit for appointment to the Port Authority Police.[49] We consider this focus to be too myopic, coming at the expense of extensive long-term capital planning. As a result, the planning process for large scale projects is ad-hoc, ill-prepared, and politically-charged.

OPERATIONAL INEFFICIENCY

In most transportation agencies in the United States, funding comes from a variety of sources, including user fees, and either earmarked or general tax dollars. As a public authority, the Port Authority benefits from the former but not the latter. In the past, this constraint was not binding; the Port Authority's assets generated sufficient revenues to prove self-sufficient. However, in recent times, rather than a system where each asset sustains itself, the Port Authority has increasingly taken the model of a conglomerate of assets, with a system of cross-subsidy, where profitable assets are used to sustain the unprofitable ones.

We contend that this current organizational structure ill-serves the Port Authority in two ways. The first is that it promotes inefficiency in unprofitable assets. In a system of cross-subsidy, unprofitable assets can continue to run at a loss so long as the other assets are run at a profit. Because the threat of bankruptcy (or at least exposure to significant upheaval) is missing for the unprofitable asset, it no longer faces pressure to operate as efficiently as it could. For example, PATH can continue operating at a significant net loss because the airports operate with a significant net gain. In practice, this means that opportunities for performance improvement are lost; there are insufficient incentives for money-losing divisions to improve their financial performance.

The second is that the profitable assets are operated with the sole purpose of maximizing profit to provide the subsidy. This results in higher tolls for drivers on bridges, higher landing fees for airlines, and decreased ability to finance much-needed capital projects. Furthermore, it leads to underinvested assets that do not meet the current transportation demands of the region. For example, despite being one of the most profitable airports in the country on a per-passenger basis, Newark-Liberty International Airport saw a net decrease in its value as a result of underinvestment in 2015.

The risks of reducing incentives for operational efficiency are clear in the benchmarking of Port Authority assets.[50] PATH is often cited as an example of the Port Authority's managerial inefficiency, and it operates the largest deficit of any Port Authority division. Notwithstanding issues with the peculiar nature of its regulatory oversight as a heavy rail system[51] and relative density of the PATH network—both of which could plausibly be said to increase operating costs—PATH operating expenses are 36% higher than next highest transit system on a per revenue hour basis (see Figure 2). Similar issues plague the Port Authority's Airports division, showing that even its most profitable division still operates inefficiently. Port Authority airports exhibit high cost levels, even above large hubs in other expensive metropolitan areas such as SFO, BOS and LAX (see Figure 3).

FIGURE 2: PATH TOTAL OPERATING EXPENSES[52]

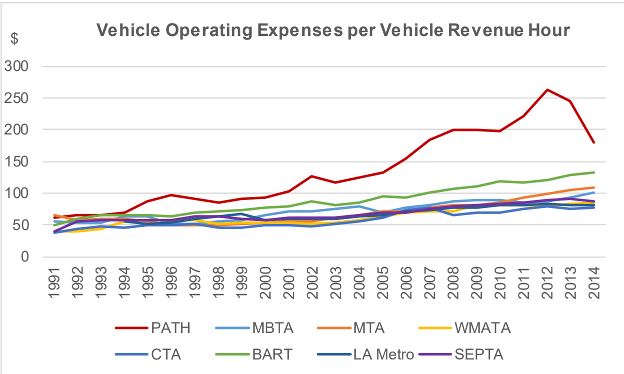
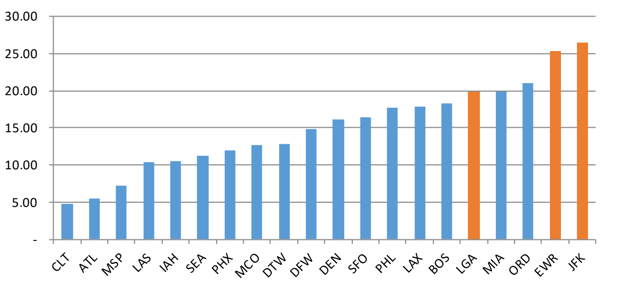


FIGURE 3: AIRPORT OPERATING EXPENSE PER ENPLANEMENT[53]



The Port Authority also seems to struggle in controlling agency overheads. While more-granular benchmarking of divisional expenses is challenging on the basis of public information, some cross-agency comparison of staff costs can be made at the highest level. The average employee within the police department is paid a benefits package worth $121,000 annually in 2016;[54] for FY16 the equivalent figure for the NYPD is $92,000[55] (a difference of 32%). This difference persists on a like-for-like basis: in 2015 the average compensation for sergeants in NYPD was $113,000;[56] in 2016 for the Port Authority it is $162,000 (a difference of 43%).[57]

3.3 DAY-TO-DAY OPERATIONS

Under the current by-laws, the Port Authority Board's responsibility to provide strategic direction for the agency is added as an afterthought, with oversight being the ultimate priority:

"The Board of Commissioners shall establish the policies of the Port Authority and shall be responsible for reviewing and monitoring whether Port Authority procedures and regulations and executive staff's financial, management, and operational decisions and controls are in compliance with such overall policies...The Board of Commissioners *shall also be responsible for adopting strategic plans, capital plans, and budgets of the Port Authority...*" (italics added)

As a result of this clause, the current Board too often gets bogged down with operational issues and spends too much time managing crises within the business lines. Across private and public companies and nonprofit organizations alike, the boards with the highest impact invest substantial time and energy to understanding and developing the organization's long-term strategy.[58] With an eye to creating long-term impact, they operate under an organizational strategic plan, which necessitates that they align the organization's resources with its strategic needs, understand the organization's external environment and trends, and set and achieve performance standards.[59] Various reports suggest that the members of high performing boards dedicate anywhere from 24 to 54 days a year to the job. This focus on strategy in turn has resulted in more stable organizational leadership, as CEOs were less likely to leave the organization.[60]

We therefore propose that the Port Authority's Board re-focus upon long-term strategy and policy, rather than day-to-day operations. Such a refocus will help to improve the overall effectiveness of the agency by concentrating on a cohesive vision with concrete objectives and communicating these priorities to its staff and the public.[61] In keeping with this vision, the agency should restrict the Board's ability to interfere in management decisions, though the Board and the CEO may coordinate closely.[62] The Board should develop overall strategic direction and policy for the Port Authority through consultation with the CEO and various operational employees. After formulation, however, the CEO (and agency) would become responsible for executing projects, delivering services, and maintaining and modernizing assets.

This structure, in conjunction with the governance reforms that we propose, strengthens the Board's and the agency's resolve against political meddling. By focusing the Board on long-term strategy and policy and removing their power and responsibility to interfere in operations and management, we eliminate any legitimacy and limit the space for gubernatorial meddling over which projects to undertake, driven by governors' narrow, short-term goals. For example, had this structure been in place in 2010, the Access to the Region's Core (ARC) project would have already fallen under the purview of the CEO, who is obligated to carry out the project as envisioned and agreed upon by the Board. There would be little space for changing or cancelling the project once it had moved beyond the planning phase. Combined with the lack of a gubernatorial veto, this structure prevents governors from interfering in long-term projects in light of short-sighted goals.

Collectively, this new focus will achieve a few critical aims:

- ***Efficiency.*** The Board can focus its time and energy on setting the direction and the priorities of the agency. Management is streamlined and delegated to someone who is better equipped to ensure that projects and services are carried out in a cost-effective manner across the agency.

- ***Accountability.*** The agency and the public can evaluate and hold the leadership accountable for progress towards clearly identified performance standards. With a distinct separation between planning and management, there is an accountable chain of command under the CEO.[67]

WHERE IT WORKS: WMATA

The governance structure at WMATA remained unchanged from 1970 to the early 2000s. Two catalysts for change were a Congressional decision in 2008 to invest additional federal money in WMATA, contingent on governance reforms, and a devastating subway crash in June 2009, resulting in growing discontent with the agency. Since 2010, WMATA has recalibrated its board's activities to focus on high-level policy issues and delegated operations, procurement, and staffing matters to its general manager. Its reformed governance structure has allowed the organization to set direction and establish priorities.[63] In 2013, WMATA produced a Metro 2025 strategic plan, called Momentum, to guide its investment decisions for the next decade. It is currently developing a plan for 2040, which includes new connectivity and expansion projects in addition to the core system improvements outlined in Metro 2025.[64,65,66]

- ***Public Confidence.*** With a clear chain of accountability and improved efficiency, we hope to boost public confidence in the agency and counter perceptions of regional factionalism in its operations.

- ***Focus.*** A strategic plan provides clear direction for the organization and its staff.

- ***Regional Planning.*** Instead of managing projects, the Board is able to focus its efforts on developing a strategic vision for the region.

Committees remain an excellent way for the Board to specialize in a specific area of interest and in turn, facilitate more efficient and effective Board meetings on long-term policy. The existing Committees include: Capital Planning, Execution and Asset Management; Finance; Operations; Security; Audit; and Governance and Ethics.

Given the interconnected nature of these two components to service delivery, we propose merging the interconnected Operations and Security committees to prevent siloed strategic thinking. Since the September 11 attacks, the Port Authority's security costs have doubled and constitutes almost a quarter of its $2.8 billion operating budget.[68] Combining these two committees would force the Board to consider the two issues in perspective relative to each other; security forces and capital spending on new security projects and equipment should align with the operational needs of the agency, rather than rising disproportionately.

The Special Panel Report recommends that Capital Planning, Execution and Asset Management and the Operations Committees be merged, and the Audit Committee be renamed the Audit and Risk Management Committee and focus on risk mitigation. We believe combining Capital Planning, Execution and Asset Management and Operations risks diluting the focus of the Board, reverting back to a tendency to allow day-to-day operations to hijack long-term strategic planning.

TABLE 5: CEO/BOARD SPLIT RESPONSIBILITIES

BOARD OF COMMISSIONERS	CEO
Set organizational priorities and adopt strategic plans	Manage Operations
Approve capital plans, including establishing baselines for project scope, schedule, and budget	Manage maintenance and modernization
Adopt budget	Submit budget proposals, weigh in on Board budget deliberations
Approve major contracts	Solicit and negotiate contracts
Appoint, remove, and determine compensation for CEO	Hire personnel
Establish service standards	Respond to customer service demands
Approve fare structures, i.e. formula or schedule, and identify ballot measures to raise funding through voter approved taxes	Propose and implement changes in fares
Conduct oversight	Publish regular comprehensive reports on operations, maintenance, and modernization projects

These proposals can be practically instituted in a few ways:

- Amend the by-laws to redefine the Board's focus.[69] Mandate regular performance-based and strategic management planning practices, such as requirements to develop regular multi-year strategic plans (the last plan was in 2005), annual performance plans, and annual performance reports. While the current Annual Reports provide a comprehensive overview of all projects, it fails to evaluate the agency's performance per the strategic goals.

- Develop and share the strategic and performance plans widely internally and publicly to create accountability and rebuild credibility, including requiring staff to create "scorecards" of how they will advance the strategic goals within their own work; hosting roundtables with planning organizations; and conducting on-the-record interviews with press.[70]

- Create an open environment supportive of internal and external checks on the Board.

3.4 DIVISION OPERATIONAL AUTONOMY

While the cross-subsidy allows the Port Authority to fund maintenance and capital projects for needed infrastructure projects, the system papers over inefficiencies in underperforming divisions, as noted above with the PATH. It is beyond the scope of this report to assess why particular assets are underperforming, but we aim to set conditions that will encourage greater efficiencies. If business lines operate with greater autonomy, with transparent targets for performance and expected cross-subsidy, and with managers who are accountable for those targets, greater operational efficiency will be achieved.

We propose below several models which the reformed Port Authority Board may implement. The reformed Port Authority Board should adopt whichever model is most appropriate for each business line: some lines may be best suited for direct operation by the Port Authority, while others may benefit from a public-private partnership or even operation by a private partner. It is important to note that this recommendation is not a "one size fits all" reform that happens all at once across the Port Authority. The Board of Commissioners can take the time to evaluate each division then restructure its management at the most advantageous time and in the manner most suited for the particular asset or business line.

This type of structure is not unlike other systems worldwide. In Hong Kong, the mass transit system is operated by a publicly-listed corporation (MTR Corporation), while the local government is the majority shareholder in this corporation. Stockholm, on the other hand, uses a public corporation as an operator (MTR Corporation), while the system is owned Stockholm City Council, managed by a board composed of local politicians and employees. In the United States, Seattle's Sound Transit, a regional transit agency composed of the three surrounding counties, delegates responsibility for operating and maintaining its Link light rail line to King County Metro, another public agency that operates buses in the Seattle area.

In all of these instances, the increased autonomy in operations and maintenance for the asset has been an effective way for the managing agency to increase efficiency and focus on long-term objectives.

BUSINESS LINES

The Port Authority should run the business lines with well-defined and transparent performance, capital, and cross-subsidization targets. Each of the business lines should have clearly defined performance targets which are published in annual reports, including targets for financial gain and loss. Managers of the business lines should be accountable for achieving these targets.

We recommend that the Board of Commissioners should approve of these performance benchmarks and/or operating subsidies. This arrangement limits the loss for the Port Authority and provides incentive to the business line to achieve higher levels of efficiency. For example, in giving more autonomy to PATH, the Board could approve no more than a $250 million operating subsidy in a given year. This arrangement would give PATH more leeway to find necessary efficiencies, while at the same time, providing the pressure needed to spur those decisions.

PUBLIC-PRIVATE PARTNERSHIPS

There are a number of potential benefits to Port Authority divisions from exploring and instituting public-private partnerships, including those outlined in Table 6.

TABLE 6: INTENDED BENEFITS OF PPPs[71]

	Financial/Economic	Public Good
Up-Front	Limited capital investment required Lower construction costs	Quicker implementation Promotion of local economies
Long-Term	Lower "project life-cycle costs" (including operations and maintenance) Reduced drain on public sector budgets Transferred risk from public to private sector	Higher quality infrastructure More efficient operation More investment in asset/project expansion or maintenance More innovation in service delivery

As it stands, the agency already employs a variety of public-private partnerships. The Goethals Bridge rehabilitation and George Washington Bridge Bus Station, for example, both employ public-private partnerships. The majority of its airport terminals are operated by private companies. Similarly, the Port Authority sold the right to lease and operate the 1WTC building development to the Durst Organization in 2010. Durst invested $100 million to became a co-developer of the site, received fees from the Port Authority for its work, and earned a percentage of any savings made on development costs.

Partnerships with private organizations attract expertise and efficiency in operations and a greater tolerance for risk, and this model should be explored for additional agency assets. With a leaner Port Authority overseeing more independent divisions, the Port Authority's advantage will be in its ability to tie its current assets and future projects into a comprehensive regional strategy, and in the ability to issue debt to fund its capital projects.

SUBSIDIARY ENTITIES AND PRIVATE OPERATORS

As one means of obtaining operational efficiency, we recommend the Port Authority investigate the creation of subsidiary corporations and the use of private operators to achieve efficiency. For instance, the Special Panel Report of 2014 recommended exploring the possibility of a private operator for the PATH. The report concluded that the Port Authority does not have expertise in operating rail systems, and the PATH appears to underperform its peers.

Subsidiary entities with corporate governance structures of their own should also be considered. Creation of subsidiaries may be a way to attract new talent into the organization and create centers of best practices. For example, the agency is currently pursuing the Special Panel Report's recommendation of 2014 to monetize and divest real estate holdings not central to the Port Authority's mission. Rather than conducting this business in-house, where political considerations may interfere with land-use decisions, a real estate holding corporation with a mission to maximize return on the agency's assets may make more efficient decisions and allow the agency itself to focus on its core transportation mission.

WHERE IT WORKS: LONDON

Mixed Operational Structure. TfL operates some of its assets directly, such as the London Underground. Others are bid competitively to private operators, including bus services and the London Overground. In the case of the London Underground, extensive in-house expertise and strong unions point toward direct operation. But in the case of bus operations, private operations have coincided with decreased wait times and expanded ridership. In the rail segment, management of the licensing of commuter rail connecting to London is being increasingly transferred from the national Department for Transport over to TfL to obtain operational efficiencies.

3.5 MISSION STATEMENT

The Port Authority's first formal mission statement was included in the Authority's 1995 Annual Report. The mission statement read: "To identify and meet the critical transportation infrastructure needs of the bi-state region's businesses, residents, and visitors: providing the highest quality, most efficient transportation and port commerce facilities and services that move people and goods within the region, provide access to the rest of the nation and to the world and strengthen the economic competitiveness of the New York-New Jersey Metropolitan Region."[72]

The current mission statement provides the Authority the ability to focus on a variety of development aspects within the bi-state region, outside of transportation services and facilities. We believe this has caused the Authority to stray away from its primary focus on transportation construction and efficiency. The broadness of the mission has permitted the Authority to authorize air terminal development, the development of the World Trade Center, the operation of the PATH, and the development waterfront properties. Due to the immediate needs of the region's transportation infrastructure, it is time for the Port Authority to return to its central mission: efficiently moving people and goods throughout the New York and New Jersey region. Specifically, the Port Authority must focus its attention on its airports, its port facilities, and the region's interstate transportation network. It must spark the development of additional transportation capacity in the bi-state region, and continue to design significant new transit infrastructure.

We propose the Port Authority introduce a new, focused missions statement to guide future capital plans and investments:

> "The Port Authority's mission is to meet the critical transportation infrastructure needs of the bi-state region's businesses, residents, and visitors: providing the highest quality, most efficient transportation and port commerce facilities and services that move people and goods within the bi-state region."

3.6 PUBLIC RELATIONS AND PUBLIC'S TRUST

The Port Authority's public image is damaged due to political scandals, lack of transparency on what the Authority provides to the public, and continuing unmet need for bi-state transportation infrastructure.

The intent of the Port Authority, as a separate nonpartisan agency from local and state government agencies, was to eliminate political corruption and promote honest and efficient bi-state governing. In the past, the Port Authority was held accountable through the efficiency and quality of its regional transportation development.

In the early decades, the media, business world, and the public held the Port Authority accountable by determining if the airports, marine terminals, bridges and tunnel systems worked effectively.

This standard of the Authority's effectiveness is still used today. Although the public image was strong in the beginning of the Authority's implementation, it is now damaged and in need of repair. The Port Authority must refocus its attention on public relations, and become more transparent to the public by better publicizing its capital plans and investments.

The Port Authority's work in the bi-state region is not always made apparent to the public, and bringing more awareness to the infrastructure implemented by the Port Authority may create a more positive image. The proposed new elected governing structure will also lend itself to greater transparency, by ensuring the needs of constituents impacted the most by the Port District are met.

4.0 FINANCIAL REFORMS

4.1 KEY RECOMMENDATIONS

We make three central funding recommendations for the Port Authority:

- ***Use of tax increment financing ("TIF") to better capture value created by transportation infrastructure projects.*** Such tools have the potential not only to provide additional funding for new projects but also raise this funding from those who will benefit most. When well-implemented, these tools can also enhance the transparency and accountability of proposed benefits for projects and discourage the waste of resources. A simple analysis on the Gateway Project suggests that this form of financing could add up to an additional $10 billion in financing capacity.

- Alongside these new powers, ***additional safeguards on the deployment of tax-payer and the Port Authority funds***: requiring revenue bonding of TIF revenues and board certification of the economic surplus to be created for the Port Authority with major investments.

- A continued push to utilize ***public-private partnerships*** that improve the delivery of infrastructure as well as sharing the cost and risks of development and operation.

We recognize that implementation will be complex and that one funding tool will capture sufficient value for all potential projects. Such proposals instead seek to bring more resources to bear on critical infrastructure projects and in turn reduce financial constraints on all Port Authority assets, and to do so which better aligns the costs and benefits of infrastructure development in the region.

4.2 THE STATUS QUO

The flexibility afforded by Port Authority's current funding approach has its limitations. Granting authorities the ability to reinvest their bonded operating revenue was a significant innovation in Moses-era New York:[73] freeing authorities from inefficient capital allocation decisions in government budgeting and allowing an entrepreneurial approach to infrastructure development. However, while the reliance on service-users for funding opened up new opportunities for development, it created a focus upon those projects where user revenues could be sufficient for surplus. For much of its history, this constraint was real for the Port Authority: new infrastructure projects were evaluated for their ability to be self-funding through revenue, at least in the long term.[74]

This principle was amended with the acquisition of the World Trade Center site and PATH systems in the 1960s. The economic strength of the assets held by the Port Authority allowed the development of a new funding model which relaxed the prior constraint: expanding projects to those which could be sustained by operating surpluses of other infrastructure assets. This model - intended or otherwise - enabled a wider set of infrastructure and development projects to be undertaken, extending viable projects to those whose cash operating requirements could be accommodated.

The Port Authority's funding model limits infrastructure funding in two ways: new investment must be financed from these cash flows and new loss-making assets must be sustainable by finite subsidies from current user revenues. In this way, new infrastructure projects in the region are essentially dependent on the Port Authority's ability to stem operational losses from the PATH and sustain cash surpluses in Aviation and TBT both to finance investment and to sustain assets once built.

As the lone bi-state coordinating body for the region,[75] expectations on the Port Authority are high and this funding envelope limits critical investments in the whole region. We argue that after a boon driven by the economic vitality of the region, this limit has begun to bind and needs to be addressed if the region is to receive the investment that it needs for future growth.

FIGURE 4: ILLUSTRATIVE CATEGORIZATION OF POTENTIAL INFRASTRUCTURE PROJECTS

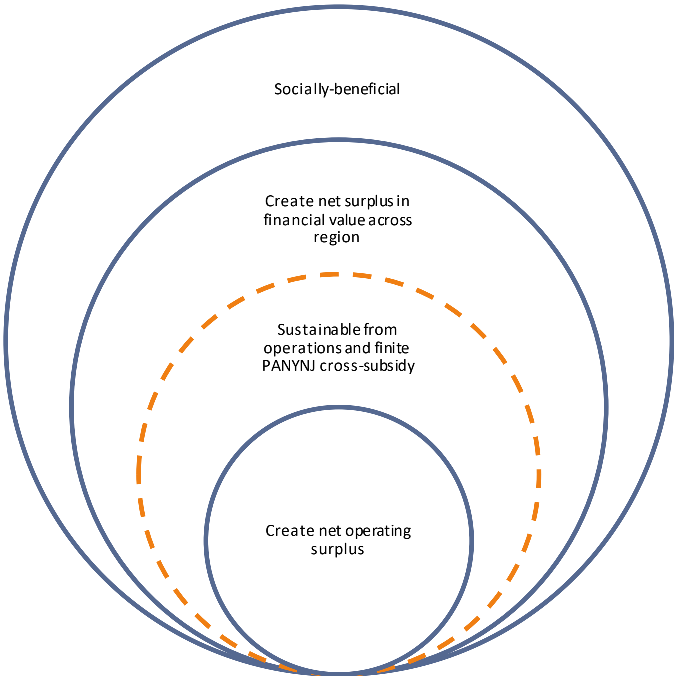
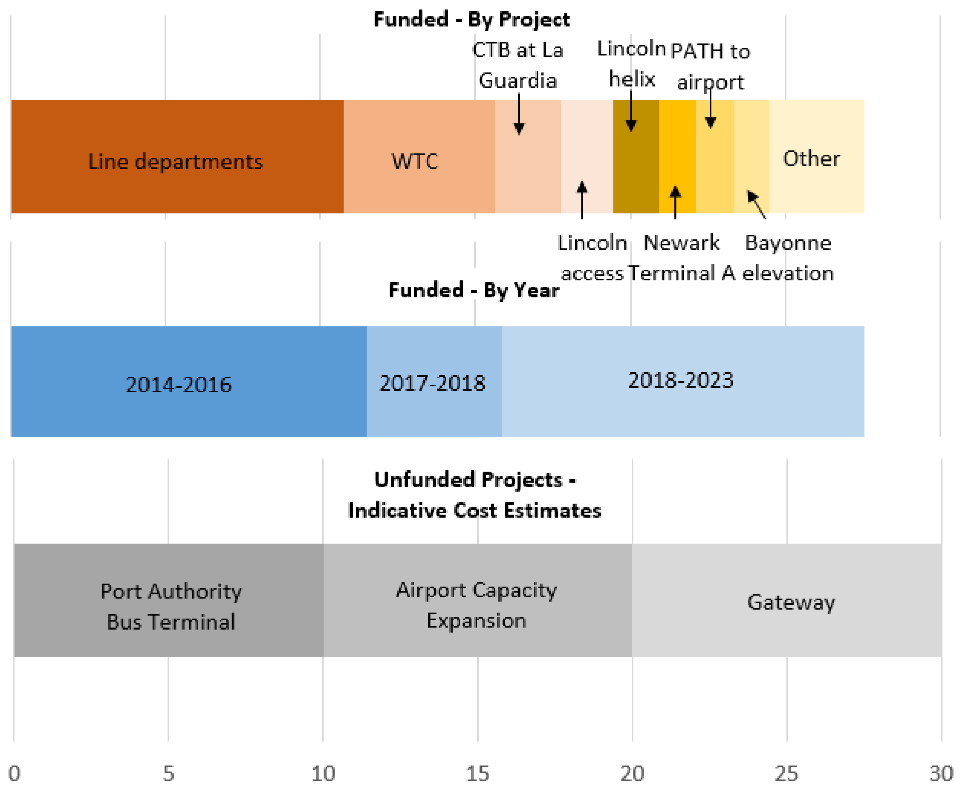


FIGURE 5: REGIONAL CAPITAL EXPENDITURE NEEDS 2014-2023 ($BILLION)



4.3 REGIONAL FUNDING CHALLENGES

INFRASTRUCTURE INVESTMENT

The latest publicly-available Port Authority capital plan[76] schedules $27.5 billion in projects between 2014 and 2023, of which we estimate around $16 billion remained to be spent between 2017 and 2023.[77] It is difficult to glean from public documents how much this capital expenditure relies on existing revenues, projected growth in revenues and existing borrowing capacity.

In addition to the maintenance of current assets, a number of substantial investment demands are now critical to the continued economic growth of the region. The construction of the second deck on the George Washington Bridge more than 50 years ago was the last major infrastructure project to increase road transportation capacity over the Hudson.[78] The replacement of the failing Port Authority Bus Terminal and Gateway projects alone call for around $20bn in expenditure before revenue can be counted on.[79] Delivering substantial additional capacity at the major airports – a critical determinant of the region's continued growth[80] – would cost an estimated $10bn;[81] an investment need that is unaffected by the proposed redevelopment of LaGuardia Airport.

RAISING NEW DEBT

The Port Authority's ability to raise new debt is under pressure. The limit on investment infrastructure spending has begun to bite: these substantial investment needs are met with a decline in the Port Authority's ability to fund them. Driven by a two-year slowdown in operating and other revenues, 2010 saw a significant drawdown of the Port Authority's debt capacity (see Figure 6). Those familiar with Port Authority's capital planning process identified this inflection point in funding ability; they also characterize the development of capital plans as a horse-trading process defined by operational financing needs and the limits of what can be delivered by cash generative business lines: not starting from the region's needs.[82]

FIGURE 6: CONSOLIDATED BOND OBLIGATIONS AS A % OF MAXIMUM DEBT CAPACITY[83]

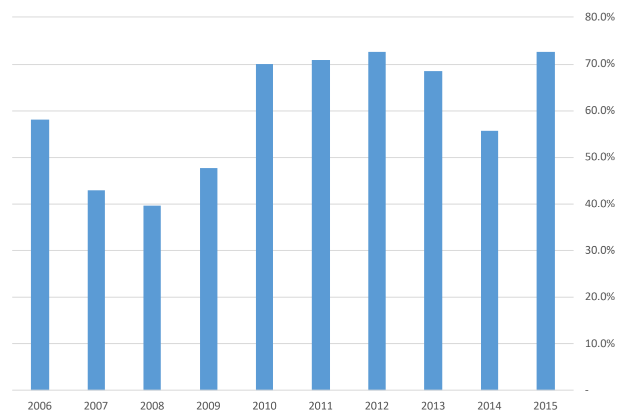
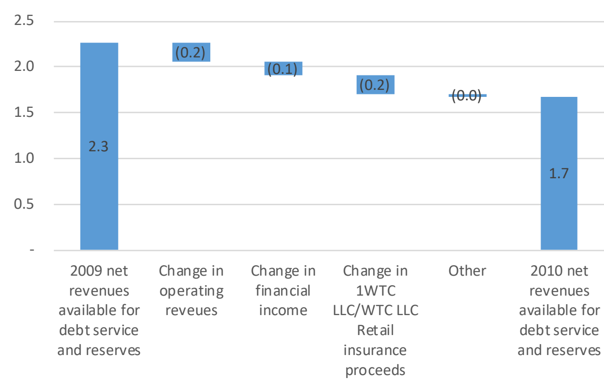


FIGURE 7: PORT AUTHORITY NET REVENUE BRIDGE 2009-2010 ($BN)



The Port Authority's latest public forecast predicts only moderate income growth. The most recent multi-year projections[84] include annual compound growth of 4.4%, including budgeting for a decline in operating income in 2017. Though no divisional breakdown of these projections is provided, this growth is likely to be driven by moving from the build phase to the operations phase of the World Trade Center real estate assets - in turn suggesting limited surplus growth from core assets. We estimate that this improvement in operating incomes over the next five years, if realized and sustained, would support the addition of around $4 billion in extra capital (assuming constant costs of financing). It is unclear the extent to which this additional financing capacity is spoken for by existing capital plans; for the sake of conservatism we assume that none is: that all additional financing capacity from incremental growth can be put toward other major projects.

NEAR-TERM DEBT CAPACITY

Near-term operational improvements are unlikely to deliver sufficient debt capacity.

As demonstrated by their own forecasts, the Port Authority can no longer easily "grow the pie" of operating revenues to support new investment. The capacity-constrained major airports are already among the most profitable in the country and Newark is the subject of an airline legal challenge over the level of airline landing fees.[85] Even were greater cash surpluses available from airports, the Port Authority's vaunted exemption from FAA restrictions on the distribution of airport revenues limits the extent to which these can be used to fund other projects.[86] Since 2012, the cash tolls on Port Authority bridges and tunnels have increased by 15.4 percent to $15 and peak-period E-ZPass tolls by 22 percent to $12.50 as part of a multi- year plan authorized in September 2011[87] and the most recent increase in tolls in December 2015 generated considerable backlash.[88] There is no easy path to substantial increases in user revenues in the short-term.

DEMANDS AND RESOURCES IMBALANCE

The imbalance between demands and resources at the Port Authority limits progress. Whilst the timing and capital costs of major investment are uncertain, the scale of the mismatch between available resources and demand for investment is made clear with the following simple comparison:

- + $7 billion in remaining debt capacity
- + $4 billion in additional capacity if income increases meet projections to 2021
- - $30 billion in unfunded capital projects to which the Port Authority is expected to provide a way forward before 2023 despite their non-inclusion in the latest capital plan.

This makes a shortfall of around $20 billion. In this rough comparison we have made an optimistic assumption that the Port Authority's existing capital plan out to 2023 is fully financed without drawing on the Port Authority's current debt capacity and projected increase in net income. If an increase in debt or an 'earmarking' of revenue growth has already been assumed in the existing Port Authority capital plan, then this shortfall will be even greater.

OTHER CONSTRAINTS TO INFRASTRUCTURE DEVELOPMENT

As explored above, many of the Port Authority's operations are being run relatively inefficiently: PATH operational costs are too high, labor costs are high across the board, and more. However, the scale of these constraints should not be exaggerated. Even if PATH losses could be halved, this would enable only $2bn in additional financing capacity. Fare increases of $1 per ride on the PATH – on top of recent increases – would deliver c.$800m in additional debt capacity.[89] Incremental revenue of $1 per PABT passenger – an increase of some 160% over 2015 revenue per passenger – could provide c.$600m. While costs are high at the three major Port Authority airports, the structure of airline operating agreements – that costs are recovered from the airlines using terminals[90] – limits their drain on Port Authority resources. For the scale of investment that the region needs, these sources alone will not be sufficient.

Further constraints arise on the ability of the Port Authority to liquidate its holdings. Notwithstanding the protections afforded to bondholders,[91] in the current climate the Port Authority could not safely liquidate asset positions and redeploy resources, for fear of those resources being captured by the processes outlined above.

4.4 CONDITIONS FOR A SOLUTION

OTHER INFRASTRUCTURE FUNDING MODELS

Other cities have taken diverse routes to funding infrastructure. In the past months alone, voters in Washington State approved sales tax, car-tab and property tax increases to fund a $54bn 25-year transit plan[92] and voters in Los Angeles authorized $860m in annual sales taxes to expand light rail and subways in the city.[93] To a region struggling to maintain core infrastructure, such programs seem almost unimaginable in the scope of their ambition.

In other major cities, disaggregated infrastructure holdings encourage more flexible investment or authorities have a greater range of tools to capture the value that is created by infrastructure investment. These tools include greater use of transit-oriented development, TIF and the ability to levy tax liens in their region (often with voter approval).

TABLE 7: APPROACHES IN OTHER CITIES

AGENCY (CITY/REGION)	FUNDING SOURCES (OTHER THAN FARES)
MTR (Hong Kong)	Development rights (commercial & residential property) granted to MTR around new subway developments
Land Transport Authority (Singapore)	Federal funding
Los Angeles Metro	Voter-backed sales tax increments, highway tolls.
London	Value capture, increment on business property taxes, land sales and development, national funding
Port of Seattle	Operating revenues plus earmarked property tax
Sound Transit and King County Metro (Seattle)	Earmarked allocation of sales & use, MVET, property and rental car sales taxes funds infrastructure planning and development (Sound Transit). Sales taxes and grants (King County Metro)

ALIGNING COSTS AND BENEFITS OF INFRASTRUCTURE

A solution should not only meet the looming funding gap but better align the costs and benefits of infrastructure development. Many groups benefit from well-functioning infrastructure, beyond those who use it on a given day: businesses, property owners and the region at large benefit from effectively facilitating the transport of goods and services.[94] Under the current funding model, only users of an asset provide revenues. That is, the benefits of Port Authority infrastructure development are dispersed much more than the cost. This failure to raise funds from those who should be willing to pay for further infrastructure development leads to an inefficient inability to finance worthwhile investment. A better capturing of value by the Port Authority on behalf of the public offers the possibility of genuine long-term sustainability in infrastructure development.

In an attempt to draw additional funding from dispersed populations that benefit from development, many cities resort to an earmarking of increments on broad-based taxes. While broad-based earmarked taxation provides surety of funding while in place, the perception of 'overreach' on the part of the public authority may threaten the political viability of such an approach in the New York and New Jersey region. Broad taxes are also imperfect in strengthening the link between costs and benefits of infrastructure projects. It is a blunt instrument.

The use of more targeted value-capture tools is preferable. They would allow for an increase in the funding envelope at the same time as permitting those that benefit from infrastructure development to pay for it. Below, we go into some detail about how a tax increment finance (TIF) approach would provide this kind of targeted value capture in the New York and New Jersey region. For example, consider the value that the PATH is delivering both to New Jersey residents, but to the businesses that employ those residents in Manhattan. When considering the value that an extension to the PATH would deliver, a fair baseline would be that proximity to transit creates a 10% increase in land value.[95]

ANNUAL BUDGET CYCLES

Avoiding a reliance on annual budget cycles. On the basis of recent evidence, it is imprudent to hold critical regional infrastructure hostage to the budget cycles of fiscally constrained state or federal governments. States face structural fiscal pressures which they have struggled to address,[96] with New Jersey an acute example of this.[97] The funding situation at the MTA[98] and NJ Transit[99] – both dependent upon annual state contributions – are worse than that at the Port Authority. These shortfalls would almost certainly be exacerbated by the tantalizing opportunity of relying upon the other state to provide funding in the case of a bi-state agency. Despite the promise of a one-off infrastructure bill, fiscal retrenchment to reduce the annual federal government deficit is likely[100] and federal infrastructure spending has already come under pressure.[101]

Finally, the New York City capital budget is simply too small and constrained by other spending priorities to make a primary contribution to the funding of regional infrastructure. Though the overall capital budget stretches to \$7-12 bn a year, it includes sizeable and unavoidable allocations to education, environmental protection, housing, sanitation and other core functions. Between 2013 and 2016, the NYC budget allocated around \$1.3 bn per year to transportation projects.[102]

4.5 VALUE CAPTURE TOOLS

TAX-INCREMENT FINANCING

The Port Authority can deliver value through infrastructure projects by using tax-increment financing. A key ingredient to the success of any TIF scheme is the materialization of incremental value which an authority or government can capture: the value of the property located within the TIF district must be greater after the project is completed than it was before. The ability to provide a flow of bond payments is solely contingent on this increased value. Because infrastructure investment has been proven to boost property values, it is a good candidate for tax increment financing.

Numerous economic studies demonstrate that major transport infrastructure investments are associated with increased property values. Infrastructure investment has been shown to boost property values for not only property in close proximity to the asset, but also for a wider geographic area. This evidence is strong across all types of infrastructure investment, but especially so for projects that would be pertinent to the Port Authority.[103]

Despite enhanced property values, the use of TIF as a vehicle for financing infrastructure investment is relatively limited across the United States. Most state TIF laws focus on using TIF as a method for developing a "blighted" area, or promoting economic development in a specific area. The Hudson Yards project in New York City, while using TIF, did not use TIF to finance the infrastructure portion of the project (the extension of the #7 subway line). To date, New Jersey has largely used TIF to stimulate the development of economically depressed areas. New York, on the other hand, has flexible laws, but the use of TIF had been relatively rare prior to the Hudson Yards development.

SCOPING TIF POWERS

Risk transfer: Structuring the Port Authority TIF powers to limit downsides for municipalities

Under a traditional TIF, such as New Jersey's Economic Redevelopment and Growth Grant, a municipality bonds the flow of future increments to provide a subsidy to a private developer to develop a "blighted" piece of property. This up-front financing for the project is designed to deliver incremental development by enhancing potential returns for developers. However, in some states, such as California, TIF arrangements similar to this were scaled back as large amounts of future tax revenue growth were given away, putting pressure on local authorities.[104]

The downside to these arrangements is two-fold. First, in the event that the development does not create incremental value (and therefore tax income), the risk falls on the authority. Payments are made to developers, often financed through the issuance of bonds, but if incremental value and tax revenue do not materialize, covering the initial outlay becomes a potential burden on the municipality or State. However, this risk need not be retained by authorities: it can be laid off to bondholders through revenue bonds (at the cost of a risk premium on interest rates) or directly to taxpayers. The latter case is exemplified by the DC New York/Florida Avenues Metro station development.[105]

A second downside to TIF is one of attribution: often 100% of additional value generation is apportioned to the development: municipalities forgo revenue growth in the TIF district, whether incidental to the development or otherwise. Such concerns can be mitigated through limited geographic use of TIF districts - allowing the municipality to gain from increased property values that materialize just outside the district - or through mandated sharing of incremental revenues. Enabling legislation for the Port Authority should require a combination of limited TIF district sizes, mandated sharing of increments and robust measurement of additional value created (normalizing, for example, regional property growth with reference to peer municipalities).

AUTHORIZATION AND IMPLEMENTATION

Currently, New York and New Jersey laws do not permit the Port Authority any taxing authority. Using TIF will require legislative approval from both states. An important question that remains is if the legislatures were to provide this power, would it grant the Port Authority unilateral authority to set up a TIF district and set the terms of the increment or would it require the Port Authority to negotiate with the municipalities over the extent of the district and the "cut" of the increment?

We argue that Port Authority would be more effective if it had unilateral authority in designing the arrangements for any TIF scheme. Having unilateral power to set the district and the increment is advantageous for numerous reasons. First, under this arrangement, the Port Authority keeps all the increment. Second, this legal authority is procedurally easier than having the Port Authority make deals with hundreds of municipalities across the region. This report does not realistically (mainly for political reasons) believe the Port Authority could capture over 50% of increased property values, meaning that the municipalities still gain (in the form of higher property taxes) from the increased property values on existing surrounding property that results from a new development. Finally, granting the Port Authority unilateral authority is not unlike its current legal authority of eminent domain in the region's municipalities. Where benefits substantially fall outside of the Port District, such as in the case of Gateway, additional special enabling legislation would be required to allow one-off taxing authority.

It is worth noting that changes to the bi-state compact may not require Congressional approval. In Virginia v. Tennessee (1983) the Supreme Court articulated an idea later known as the "political power" doctrine, namely that only compacts "tending 'to the increase of political power in the states, which may encroach upon or interfere with the just supremacy of the United States' require congressional consent for their validity."[106]

CONTRIBUTIONS OF MAJOR REGIONAL PROJECTS

Substantial research connects infrastructure investment and increases in property values, but research specific to the region is more difficult to come by. Aside from the work completed by the Regional Plan Association, there is no clear indication of (1) the extent of which infrastructure assets in the New York City region enhance the region's property values and (2) the potential for value capture, especially when it relates to property values, that exists from building new assets.

Before continuing, two important notes are in order. The first is that under this framework, TIF will only be used to finance new projects. While it could be hypothetically possible for the Port Authority, if it had TIF powers, to set up districts around its newer but existing assets, such as the World Trade Center Transportation Hub, and capture the value created by the project, we believe that TIF should only be used on projects that have not been built. If the Port Authority were to begin capturing value from existing assets, a broader tool would be required in the form of a property tax surcharge. Because such a method is broad-based and not necessarily linked to financing a project in the near vicinity, we deem it less politically feasible and risks being used to fund annual budgets.

In this specific analysis, we will focus on the Gateway project. As mentioned earlier, this analysis assumes that all projects in the Port Authority's most recent capital plan have adequate financing and would not require additional financing to complete (a very conservative assumption).

The second note is that any estimate of the monetary benefits of a TIF will depend heavily on the terms of the TIF, specifically, the size of the district and the percentage of the increment taken. For the size of the increment captured, we will provide multiple percentages to give different perspectives. The purpose of this analysis is to demonstrate the scale of the opportunity, rather than definitive guidance as to the implementation of such a program.

TIF POTENTIAL: THE GATEWAY PROGRAM

Should Amtrak's Gateway Program be built, it would be one of the largest infrastructure projects in the nation's history. The current cost estimate from Amtrak is $24 billion. This comes in the wake of the cancelled Access to the Region's Core (ARC) project that was scheduled to cost $12.4 billion. Although the exact funding arrangements for the Gateway project have yet to decided, it seems reasonable that the Port Authority, being a bi-state infrastructure agency, would play a role in financing some part of the project. The 2017-2026 Port Authority capital plan given preliminary approval in early January 2017 included $2.7 billion for the project.[109]

The Gateway Program is projected to bring significant economic benefit to the region. Amtrak estimates a Benefit-to-Cost Ratio of at least 2.16, with between $5-15 billion in lost income should the project not be completed.[110] Though there have not been any public estimates of the effect of the Gateway project on property values, a 2010 study by the Regional Plan Association,[111] found that ARC would increase property values by $18 billion. This examination will draw heavily upon the findings from that report.

This analysis takes the results from the *The ARC Effect* study on property value increases associated with the completion of the ARC project. The ARC project, while not identical to the Gateway Program, provides a useful baseline because the main capital investment in each is the construction of new tunnels underneath the Hudson River. This analysis does not intend to be an update of that study, but rather, uses its numbers as approximations for what the effect could be for the Gateway program.

The TIF district in this analysis is the area within a 2-mile radius of the stations affected by this increased capacity and frequency. Similar to ARC, the Gateway Project, via the Bergen Loop, would provide similar benefits to those in RPA's study, namely, a one seat-ride for those passengers riding on NJ Transit's Main-Bergen and Pascack Valley lines. Also like ARC, Gateway will also result increased capacity on the Newark-Midtown tracks, generating time savings for a rider on these lines, as well as to those on other NJ Transit lines.

Before continuing, it is important to note that this analysis deliberately chooses a TIF district that is broad in scope; that is, along almost all NJ Transit lines despite the fact that the most-recent Amtrak study, only examined the study area between Secaucus Junction and New York Penn Station. While it would make sense to study economic benefits of the immediate tunnel area, we feel that the enhancement in property values along this corridor would be considerably limited. This is because ridership on NJ Transit tends to originate from the stations beyond this area. As such, the bulk of the increase in property values from increased frequency or one-seat rides will be outside the area between New York Penn Station and Secaucus Junction.

The RPA study found that, on average, ARC would increase home values by $19,000 across this district. This paper uses that same figure for the Gateway project figure: $19,000 per home, over the course of 9 years. We deem this figure to be conservative for two reasons. First, the RPA study analyzed home sales in 2009 with an average sales price of $451,000. Housing prices have rebounded since 2009.[112] Secondly, in the RPA study, the number of houses in this district used the 2000 census, a number that is likely lower than the current level.

The resulting increase in property values over 9 years amounts to $18 billion, or $2 billion per year. Depending on the size of this increase that the Port Authority were able to capture in a TIF scheme, this could result in the debt capacities outlined in Table 8.

TABLE 8: DEBT CAPACITY BY PERCENT OF TIF CAPTURE

Percentage the Port Authority Takes	Resulting Debt Capacity
3%	$653m
5%	$1.09bn
10%	$2.18bn
20%	$4.38bn
30%	$6.35bn
40%	$8.71bn
50%	$10.9bn

As mentioned previously, the resulting new debt capacity that could result from TIF could be as high as $10.9 billion and as low as $653 million, depending upon the amount of the increment that the Port Authority could capture.

As this analysis shows, TIF could play a strong role in financing the Port Authority's portion of the Gateway Project, depending on the size of the increment it is able to capture.

TIF CAVEATS AND CONCLUSIONS

As the above analyses suggest, TIF shows potential as a method for financing large-scale projects. Nevertheless, there are abundant variables that can severely restrict the benefits of TIF. As explored above, these can include risk transfer and legal concerns.

This being said, TIF alone cannot be the sole answer for expanding the Port Authority's financing capacity. This is for a variety of reasons. The first is that TIF is inherently difficult to use if the benefits are so diffuse. As is the case of all Port Authority assets, the entire New York City area receives some benefits whether direct or indirect. For airports and the bus terminal, many of the benefits fall outside the Port Authority's district. Unless the Port Authority draws a very large TIF district, it will never fully capture the benefits from its projects. For these reasons, we deem TIF to be a more appropriate financing tool for projects related to PATH (station expansions and construction, new lines, frequency improvements) as well as large projects such as Gateway where the benefits are more concentrated along NJ Transit lines. We do not see TIF as being an adequate approach to financing those projects with diffuse benefits, such as airport capacity enhancements or a new Port Authority Bus Terminal in Manhattan.

Second, its implementation is complicated; politically, it is not realistic to believe that the Port Authority could not capture more than 50% of the increment in property values. Moreover, in a resource-constrained environment, municipal governments are unlikely to readily cede property tax revenues. These are legal constraints that would need to be considered and debated in each state's legislatures.

The benefit of TIF is that, aside from direct user fees, it is most effective at financing projects through those users who benefit most from a given project. Currently, the Port Authority does not employ any financing techniques that capture the value of its assets and new projects. It instead uses user fees from unrelated assets to finance its capital plans. It is our recommendation that the Port Authority consider using TIF as a more reliable, direct funding source for new projects. However, TIF cannot and should not be the only method to increase its ability to finance projects.

4.6 ALTERNATIVE FINANCING TOOLS

Earmarked general taxation should not be ruled out as a way to capture value Port Authority projects on a broad scale. TIF, while a more precise way to capture value from the specific projects, cannot provide all of the necessary financing for Port Authority projects, either for reasons of project suitability or for the quantum of value that can reliably be captured in a feasible taxation increment. In the spirit of capturing the benefits of improved transportation infrastructure, one possible method would be to give general taxation abilities across the Port District to the Port Authority. The appealing nature of a general tax such as this is two-fold. First, a general tax is broader than a TIF district. While a TIF districts captures more value in a smaller area, a tax captures a smaller value over a much wider area. Because the Port Authority's assets and potential projects will benefit the wider region instead of a smaller district, a general tax is better suited to capture this wider value. Second, the potential revenues from general taxation dwarf those from a TIF.

As an example, the Port Authority could implement a payroll or corporate tax in the Port District. The New York City MTA institutes a payroll tax similar to this across New York City and Nassau, Suffolk, Westchester, Rockland, Orange, Putnam, and Dutchess counties. The rate is between 0.11 and 0.34%, and this tax brought in $1.25 billion in 2014. This is enough to service $13 billion in projects. Indeed, general taxation has proven to be a reliable and significant source of funding for capital projects. Recent sales tax referenda in Los Angeles (see Table 9) and Seattle are being used to finance $120 billion and $54 billion worth of projects respectively. A general sales or corporate tax for the Port Authority should be considered as a tool in a broader suite of tools that could increase the financing capacity of the Port Authority.

TABLE 9: LOS ANGELES COUNTY TRAFFIC IMPROVEMENT PLAN (MEASURE M) BALLOT INITIATIVE

What is it?	• ½ cent sales tax increase across all cities in Los Angeles County. Increases to 1% in 2039 • Approved November 8, 2016 with 71% approval in LA County • Funds Los Angeles County Traffic Improvement Plan
How much does it raise and fund?	• $860 million in annual tax revenues • $120 billion in projects over 40 years
Where does the money go?	• $29.9 billion towards bus and rail projects (light rail, subways, bus network expansions, bus rapid transit) • $22.5 billion towards street and road improvements (highways, local streets) • $2.4 billion towards state of good repair • $1.9 billion towards regional rail transit • $2.4 billion towards bike and pedestrian projects

Should general taxation be used, all revenues should be earmarked for a specific project. One of the advantages of TIF over general taxation is that TIF is solely used to finance on an individual project basis. General taxation risks the problem that revenues become used as a general fund for operations and annual budgets rather than for specific capital projects.

Therefore, this report recommends that any general taxation revenues be earmarked towards a specific capital plan or project, similar to the recent ballot initiatives in Seattle and Los Angeles. This prevents these revenues from being used for operational purposes. Furthermore, it reduces governance concerns regarding the management of these revenues, since they are earmarked legally towards a specific project. Finally, and perhaps most importantly, it requires the Port Authority to create realistic and robust capital plans. A Port Authority with a directly elected board asking for earmarked taxation for projects will be accountable to voters from across the region; this accountability provides a powerful incentive for the Port Authority to demonstrate its intentions with detailed and realistic long-term capital plans.

5.0 APPENDICES

APPENDIX A: ACKNOWLEDGEMENTS

The authors would like to extend their thanks those who provided insights and ideas that were critical to the writing of this report. A number of people contributed their time to discussing the Port Authority and related issues with the authors. The opinions contained herein are solely our own and should not be attributed to any interviewee.

- Rohit T. Aggarwala, Sidewalk Labs
- Tom Albro, Port of Seattle
- Paul Berg, Port Authority of New York and New Jersey
- Shahrin Bin Abdol Salam, Singapore Mass Rapid Transit
- Nat Bottigheimer, Fehr and Peers
- David Bragdon, The Transit Center
- Ricky Burdett, London School of Economics
- Malone-Lee Lai Choo, National University of Singapore
- Greg Clark, Urban Innovation Centre
- Patty Clark, Port Authority of New York and New Jersey
- Tim Coombs, Aviation Economics
- Ted Day, King County Metro
- Jameson Doig, Dartmouth College, Emeritus Professor of Politics and Public Affairs at Princeton University
- Ann Ferentino, Federated Investors
- RJ Gallo, Federated Investors
- Alex Heil, Port Authority of New York and New Jersey.
- Geoff Hobbs, Transport for London
- Stefan Horstmann, Duff & Phelps
- Alexander Jan, Arup
- Christophe Karkan, Land Transport Authority
- Julia Kerson, NYC Mayor's Office of Capital Project Development
- Geraldine Knatz, University of Southern California
- Scott Kubly, Seattle Department of Transportation
- Mike Lindblom, Seattle Times
- Hong K. Lo, The Hong Kong University of Science and Technology
- Vincent Loh, Land Transport Authority
- Laura Nelson, Los Angeles Times
- Jamie O'Hara, Transport for London
- Spencer Palmer, London Councils
- Mark Pisano, University of Southern California
- Brian Platt, City of Jersey City
- Ben Plowden, Transport for London
- Ong Ghim Ping Raymond, National University of Singapore
- Cian Shaffrey, Transport for London
- Victoria Shin, Transport for London
- Mohinder Singh, Land Transport Authority
- Dick Sorabji, London Councils
- Steve Strunsky, The Star-Ledger
- Jay Walder, Motivate International
- Lui Weng Chee, Singapore Mass Rapid Transit
- Tom Wright, Regional Plan Association
- Midori Valdivia, NYC Taxi and Limousine Commission

APPENDIX B: ABOUT THE AUTHORS

GRAHAM CAMPBELL

Graham grew up in a small town in Canada but immigrated to Cincinnati before high school. He attended Centre College in Danville, Kentucky, where among other things, he studied economics and French and was a member of the cross country and track teams. Upon graduation, he worked as a research assistant at Canada's central bank, where he analyzed real movements in the Canadian economy and researched the dynamics of Canada. In 2013, Graham joined the International Monetary Fund as an analyst in their African Department, where he traveled to the island archipelago of Comoros to monitor and advise the government on external debt sustainability and trade. This past summer, he interned at the Federal Reserve Bank of New York, analyzing new developments in the credit card market. At WWS, Graham is honing his skills in economics and statistical analysis to prepare for a career in economic or trade policy.

CRYSTAL GODINA

Crystal was born and raised in Chicago and attended the University of Chicago where she studied public policy with a concentration in environmental policy and a minor in human rights. Upon graduation, Crystal moved down to sunny Miami, Florida and served first as an AmeriCorp VISTA and later as a Program Associate in the Office of Civic and Community Engagement at the University of Miami. There she researched national and local issues surrounding affordable housing and place-based community development. At the Woodrow Wilson School, Crystal focuses on Domestic Policy and is particularly interested in urban policy and planning. This past summer, she interned at the Regional Plan Association, analyzing the supply and need for affordable housing in the region.

ELAINE GOLDEN

Elaine was born and raised in the suburbs of South Florida. She made the short move to Miami to receive her bachelor's in international studies and mathematics from the University of Miami. As a Pickering Fellow with the State Department, she will join the Foreign Service after graduation and hopes to focus her career on the intersection of U.S. economic policy and development policy. This past summer, she completed her internship at the U.S. Embassy in Rangoon, Burma. In her free time, Elaine enjoys making others laugh and exploring new places and foods.

ANNIE KHOA

Born and raised in Georgia, Annie completed her undergraduate degree at Princeton, where she studied public policy, East Asian studies, Chinese, and Korean. Upon graduation, she helped develop and coordinate U.S. foreign policy towards Myanmar from Washington, D.C. and Yangon. She has also worked at the U.S. Mission to the United Nations in New York, where she focused on Middle East and women, peace, and security issues in the U.N. Security Council. In her free time, she enjoys traveling, archery, and photography.

DAVID PETERSON

Hailing from Charlotte, North Carolina, David attended UNC Chapel Hill. He was a Fulbright grantee in Malaysia for three years, participating in and then administering an English teaching assistantship program in under-served secondary schools. At Princeton, he focuses on International Development. His primary interests are in civil society, gender and LGBT rights, and Southeast Asia. During the summer of 2016, he interned with the Phnom Penh office of the National Democratic Institute (NDI), reporting on LGBT inclusion in Cambodia.

EWAN RANKIN

Ewan was born and bred in Sydney, Australia. He completed a Bachelor of Commerce (Honours) at the University of Sydney before going on to a range of roles in financial markets and economic analysis at the Reserve Bank of Australia, Australia's central bank. Ewan is at Princeton hoping to broaden his policy toolkit and consider how data analysis contributes to policy design and implementation. This past summer, he interned at the European Bank for Reconstruction and Development in London.

MILAN REED

Milan is a proud New Jersey native and focuses on Urban Policy at WWS. She graduated from the University of Virginia with a bachelor's in political and social thought, an interdisciplinary major. While at UVA, she focused her studies on urban education and wrote her senior honors thesis on education inequity in New Jersey. Milan served as an educator in Newark, New Jersey for four years. This past summer, she interned at the Mayor's Office of the City of New York and worked on education policy initiatives.

KEVIN ROSENBERG

Kevin is from Los Angeles. He worked worked for three years as a management consultant at Deloitte, then moved to Kenya to manage strategic and operational improvement projects for a social enterprise. This past summer, he worked on industrial policy with the Telangana Secretariat in Hyderabad, India.

RYAN STOFFERS

Ryan is originally from the San Francisco Bay Area and focuses on Domestic Policy at WWS. His primary policy interests are in housing and community development finance. Prior to graduate school, he worked for an economic development consulting firm that focused on providing capital to low-income areas throughout the United States. He completed his internship at the Consumer Financial Protection Bureau's Office of Financial Empowerment.

RICHARD TODD

Richard grew up in London, UK and focuses on urban policy and management at WWS. Prior to graduate school he worked in investment banking and then impact investing, using new financing and contractual tools (such as social impact bonds) to deliver innovation in public services. In summer 2016 he worked on strategic initiatives for the City of New Orleans Office of Performance and Accountability, using data analytics and performance management to improve city services.

APPENDIX C: REFERENCES

1. See for example, Doig, Jameson. *Empire on the Hudson: Entrepreneurial Vision and Political Power at the Port of New York Authority*. Columbia University Press. 2001. Pages 162-163.
2. The Special Panel on the Future of the Port Authority. *Keeping the Region Moving.* December 26, 2014. Page 45. http://www.panynj.gov/pdf/SpecialPanelReporttotheGovernors.pdf.
3. Bernstein, Andrea. "How Chris Christie's Men Turned the Port Authority into a Political Piggy Bank." WNYC. January 16, 2014. http://www.wnyc.org/story/how-christies-men-turned-port-authority-political-piggy-bank/
4. Berger, Paul. "Document lifts lid on $30B Port Authority plan." NorthJersey.com. January 4, 2017. http://www.northjersey.com/story/news/transportation/2017/01/04/confidential-document-lifts-lid-30b-port-plan/96160050/
5. Dunlap, David W. "How Cost Of Train Station At World Trade Center Swelled To $4 Billion." *New York Times*. December 2, 2014. https://www.nytimes.com/2014/12/03/nyregion/the-4-billion-train-station-at-the-world-trade-center.html
6. Bogdan, Jennifer. "NY-NJ Port Authority takes over Atlantic City Airport operations." *The Press of Atlantic City*. May 30, 2013. https://skift.com/2013/05/30/ny-nj-port-authority-takes-over-atlantic-city-airport-operations/
7. Ugboro, Isaiah O. and Kofi Obeng. "Board Activities, Involvement, and Public Transit Performance." *Administration & Society, Vol 42, No 2.* Page 244. April 1, 2009.
8. Hennelly, Robert. "Beyond Bridgegate: How to Pull Partisan Politics out of the Port Authority". *City and State NY.* Dec 12, 2016. http://cityandstateny.com/articles/politics/new-york-state-articles/beyond-bridgegate-how-to-pull-the-partisan-politics-out-of-the-port-authority.html
9. Ugboro, Isaiah O. and Kofi Obeng. "Board Activities, Involvement, and Public Transit Performance." *Administration & Society, Vol 42, No 2.* Pages 235-257. April 1, 2009.
10. "MTA Board Members". Retrieved from http://web.mta.info/mta/leadership/board.htm
11. Population estimates from the United States Census Bureau, July 1, 2015 (V2015).
12. Moss, Mitchell L., Carson Y. Qing, and Sarah Kaufman. "Commuting to Manhattan: A study of residence location trends for Manhattan workers from 2002 to 2009." NYU Rudin Center for Transportation Policy and Management. March 2012. http://wagner.nyu.edu/files/rudincenter/ManhattanCommuting.pdf
13. Frassinelli, Mike. "N.J. Drivers Have the Second Highest Rate of Mega-Commutes, Census Reveals." *The Star Ledger.* March 5, 2013. http://www.nj.com/news/index.ssf/2013/03/new_jerseyans_have_second_high.html
14. Moss, Mitchell L., Carson Y. Qing, and Sarah Kaufman. "Commuting to Manhattan: A study of residence location trends for Manhattan workers from 2002 to 2009." NYU Rudin Center for Transportation Policy and Management. March 2012. http://wagner.nyu.edu/files/rudincenter/ManhattanCommuting.pdf
15. WMATA Governance Work Group. "Roles and Responsibilities of Board and Chair: Board's Focus on High-Level Policy and Capacity to Act as a Regional Body." Page 22. http://old.mwcog.org/uploads/committee-documents/a15WWl9b20110519142221.pdf
16. Ugboro, Isaiah O. and Kofi Obeng. "Board Activities, Involvement, and Public Transit Performance." *Administration & Society, Vol 42, No 2.* Pages 235-257. April 1, 2009.
17. Oregon Metro. "What is Metro?" http://www.oregonmetro.gov/regional-leadership/what-metro
18. Ibid.
19. WMATA Governance Work Group. "Roles and Responsibilities of Board and Chair: Board's Focus on High-Level Policy and Capacity to Act as a Regional Body." http://old.mwcog.org/uploads/committee-documents/a15WWl9b20110519142221.pdf
20. Nor do we support the Special Panel's other recommendation–that one co-chair should be appointed by each State. See the Special Panel Report for further information.
21. WMATA Governance Work Group. "Transforming Governance of the Washington Metropolitan Area Transit Authority." December 13, 2011. http://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/wmata_governance_reform_2011-12-13.pdf
22. See, for example, the voting procedures of Morgan Stanley (https://www.morganstanley.com/about-us-governance/cgpolicies); Ford Motor Company (https://corporate.ford.com/content/dam/corporate/en/company/corporate-agovernance/Company_Governance_Corporate_Governance_Principles.pdf); and Pfizer (https://www.pfizer.com/files/investors/corporate_governance/cg_principles.pdf).
23. The Special Panel on the Future of the Port Authority 2014.
24. The Special Panel on the Future of the Port Authority 2014. Page 29.
25. Interview with Jameson Doig. October 21, 2016.
26. The Special Panel on the Future of the Port Authority 2014.
27. Ibid.
28. Deloitte LLP and Society of Corporate Secretaries and Governance Professionals. "2014 Board Practices Report: Perspectives from the Boardroom." 2014. https://www2.deloitte.com/content/dam/Deloitte/us/Documents/regulatory/us-2014-board-practices-report-final-9274051-12122014.pdf

29. WMATA Governance Work Group. "Transforming Governance of the Washington Metropolitan Area Transit Authority." December 13, 2011. http://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/wmata_governance_reform_2011-12-13.pdf
30. Larcker, David F and Brian Tayan. "Seven Myths of Boards of Directors." *Insights by Stanford School of Business.* October 12, 2015. https://www.gsb.stanford.edu/insights/seven-myths-boards-directors
31. Ibid.
32. Hasnain, Zahid, Nick Manning, and Jan Henryk Pierskalla. "Performance-Related Pay in the Public Sector: A Review of Theory and Evidence." World Bank Group. April 2012. http://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-6043
33. Ugboro, Isaiah O. and Kofi Obeng. "Board Activities, Involvement, and Public Transit Performance." *Administration & Society, Vol 42, No 2.* Pages 235-257. April 1, 2009.
34. Washington Post Editors. "Benjamin to leave Metro board." *The Washington Post.* February 17, 2011. http://voices.washingtonpost.com/dr-gridlock/2011/02/benjamin_to_leave_metro_board.html
35. Doig, Jameson. *Empire on the Hudson: Entrepreneurial Vision and Political Power at the Port of New York Authority.* Columbia University Press. 2001. Pages 162-163.
36. Doig, Jameson. *Empire on the Hudson: Entrepreneurial Vision and Political Power at the Port of New York Authority.* Columbia University Press. 2001. Pages 148-151.
37. Sagalyn, Lynne B. *Power at Ground Zero: Politics, Money, and the Remaking of Lower Manhattan.* Oxford University Press. 2016. Kindle Edition. Kindle Locations 2730-2736.
38. Navigant. "Phase II Report Presented to the Special Committee of the Board of Commissioners of the Port Authority of New York and New Jersey." September 2012. https://www.panynj.gov/corporate-information/pdf/navigant-phase-2-and-rothschild-reports.pdf.
39. Freedom of Information Request 17020-O from Margaret Donovan, Twin Towers Alliance. June 14, 2016. Retrieved from http://corpinfo.panynj.gov/pages/public-records-fulfilled-requests/
40. Hutchins, Ryan. "Port Authority Moves Ahead with Capital Plan, Delivering $2.7 Billion Gateway Commitment." *Politico*. January 5, 2017. http://www.politico.com/states/new-jersey/story/2017/01/port-authority-moves-forward-with-capital-plan-delivering-27b-gateway-commitment-108502
41. McGeehan, Patrick. "Christie Halts Train Tunnel, Citing Its Cost." *New York Times.* October 7, 2010. http://www.nytimes.com/2010/10/08/nyregion/08tunnel.html
42. McGeehan, Patrick. "Christie Outlines a Plan to Pay for Transit Work." *New York Times.* January 6, 2011. http://www.nytimes.com/2011/01/07/nyregion/07christie.html
43. McGeehan "Christie Halts Train Tunnel, Citing Its Cost." *New York Times.* October 7, 2010. http://www.nytimes.com/2010/10/08/nyregion/08tunnel.html
44. A 2013 survey of more than 770 directors suggest that high impact boards are more forward looking in their strategy, to include evaluating resource reallocation, looking for synergies, debating strategic alternatives, and deliberating about their own processes, including to remove decision biases. Bhagat, Chinta and Conor Kehoe. "High-performing boards: What's on their agenda?" McKinsey Quarterly. April 2014. http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/high-performing-boards-whats-on-their-agenda
45. The Port Authority of New York and New Jersey. *2016 Budget Book.* December 2015. http://corpinfo.panynj.gov/documents/2016-2/
46. Berger, Paul. "Port Authority Bus Terminal Feud Gets Personal." NorthJersey.com. November 21, 2016. http://www.northjersey.com/story/news/new-jersey/governor/2016/11/20/nj-ny-escalate-port-authority-bus-terminal-feud/94166176/
47. Hutchins, Ryan and Dana Rubenstein. "Cuomo Quietly Seeks Sweeping New Powers over Port Authority". *Politico*. December 22, 2016. http://www.politico.com/states/new-jersey/story/2016/12/draft-bill-gives-cuomo-sweeping-new-powers-over-port-authority-108297
48. Vielkind, Jimmy. "Special session talks collapse, Flanagan looks to January". Politico. December 23, 2016. http://www.politico.com/states/new-york/albany/story/2016/12/special-session-talks-collapse-flanagan-looks-to-january-108325
49. Port Authority of New York and New Jersey. Board of Commissioners Minutes. December 8, 2016. http://corpinfo.panynj.gov/pages/board-minutes-contract-authorizations/#doc-1161208
50. For comprehensive benchmarking, see "Is the Port Authority Underperforming? An Operational Efficiency Analysis of Port Authority's Divisions." Columbia University. 2014.
51. Braun, Martin Z. "PATH Train Less Efficient Than Subways as Cars Cover Loss." *Bloomberg.* August 21, 2014. http://www.bloomberg.com/news/articles/2014-08-22/path-train-less-efficient-than-subways-as-cars-cover-loss
52. Constructed from Federal Transit Administration's National Transit Database. https://www.transit.dot.gov/ntd
53. Constructed from Federal Aviation Administration 2015 data.
54. Constructed from individual salary data made available on the Port Authority website.
55. Based on NYPD 2017 budget submission available at http://council.nyc.gov/html/budget/2017/ex/nypd.pdf
56. Constructed from individual salaries recorded on SeeNY.com transparency data.
57. Constructed from individual salary data made available on the Port Authority website.

58. Bhagat, Chinta and Conor Kehoe. "High-performing boards: What's on their agenda?" McKinsey Quarterly. April 2014. http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/high-performing-boards-whats-on-their-agenda
59. Herzlinger, Regina. "Effective Oversight: A Guide for Nonprofit Directors." *Harvard Business Review.* August 1994. https://hbr.org/1994/07/effective-oversight-a-guide-for-nonprofit-directors
60. Gazley, Beth. "The Habits of Highly Effective Boards." The Center for Association Leadership. https://www.asaecenter.org/resources/articles/an_magazine/2014/january-february/the-habits-of-highly-effective-boards
61. WMATA Governance Work Group. "Transforming Governance of the Washington Metropolitan Area Transit Authority." December 13, 2011. http://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/wmata_governance_reform_2011-12-13.pdf
62. Simon & Simon Research and Associates, Inc. "Public Transit Board Governance Guidebook: TCRP Report 85." Federal Transit Administration's Transit Cooperative Research Program. 2002. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_85.pdf
63. WMATA Governance Work Group. "Transforming Governance of the Washington Metropolitan Area Transit Authority." December 13, 2011. http://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/wmata_governance_reform_2011-12-13.pdf
64. Golden, Anne. "Governance of Regional Transit Systems: Observations on Washington, New York, and Toronto." The Wilson Center. June 2014. https://www.wilsoncenter.org/sites/default/files/CI_140625_governance_v4_0.pdf
65. "Bylaws of the Washington Metropolitan Area Transit Authority Board of Directors." April 28, 2016. https://www.wmata.com/about/board/upload/Bylaws.pdf
66. "Transforming Governance of the Washington Metropolitan Area Transit Authority: Implementation Plan and Schedule for WMATA Governance Reform." January 7, 2011. http://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/wmata_governance_reform.pdf
67. The Special Panel on the Future of the Port Authority 2014.
68. Braun, Martin Z. "Port Authority to Review Doubled Police Costs Since 9/11." *Bloomberg*. June 1, 2014. https://www.bloomberg.com/news/articles/2014-06-02/port-authority-to-review-doubled-police-costs-since-9-11
69. By-laws can be amended by resolutions adopted at any Board meeting, with at least two days advance notice of the intention to present such a resolution.
70. "Bylaws of the Port Authority of New York and New Jersey." September 20, 2012. https://www.panynj.gov/corporate-information/pdf/by-laws-pa.pdf
71. Drawn from Kwak, Young Hoon; Yingyi Chih; C. William Ibbs. "Towards a Comprehensive Understanding of Public Private Partnerships for Infrastructure Development." California Management Review, Vol 51, no 2. 2009, and Chi, Keon S.: Kelly A. Arnold; Heather M. Perkins. "Privatization in State Government: Trends and Issues." Spectrum: The Journal of State Government, Fall 2003 Symposium.
72. The Special Panel on the Future of the Port Authority 2014.
73. See, for example Caro, Robert. *The Power Broker.* Random House. 1975.
74. Doig, Jameson et al. "America's Leading International Trade Centers and their Entrepreneurial Agencies" in *New York and Los Angeles: The Uncertain Future.* Oxford University Press. 2013. Page 110.
75. Aside from the Waterfront Commission of New York Harbor, created in 1953 to combat corruption and crime along the shared waterfront. See http://www.wcnyh.org/history.htm
76. Released in February 2014. Retrived from http://corpinfo.panynj.gov/documents/2014-2023-Capital-Plan-6/
77. Subtracting the budgeted capital expenditure for 2014, 2015 and 2016 from the total allocated in the capital plan for 2014-2023.
78. The Special Panel on the Future of the Port Authority 2014.
79. Port Authority Bus Terminal redevelopment cost estimated at between $7.5 to $10.5 billion (median $10 billion) in "Midtown Bus Master Planning Update" presentation to the Port Authority Board 3/19/2015. In late 2015, the total cost of the Gateway project was reportedly estimated at around $20 billion, with the federal government and AMTRAK responsible for half the cost. See Fitzsimmons, Emma G. "Corporation to Oversee New Hudson Rail, With U.S. and Amtrak Financing Half." *New York Times*. November 11, 2015.
80. For economic impact of region's airports, see PANYNJ. "The Economic Impact of the Aviation Industry on the New York–New Jersey Metropolitan Region." October 2005. https://www.panynj.gov/about/pdf/reg-in-aviation-economic-impact.pdf, and Regional Plan Association. "Upgrading to World Class: The Future of the New York Region's Airports." January 2011. http://www.rpa.org/pdf/RPA-Upgrading-to-World-Class.pdf
81. In 2011, the Regional Plan Association estimated that expansion of airport capacity would require the investment of up to $15 billion. Since that time, the Port Authority has committed roughly $5 billion to projects at LaGuardia and Newark. Our $10 billion estimate is a very rough residual.
82. Drawn from interviews conducted in the composition of this report.
83. Any calculation of debt capacity must be illustrative, relying upon assumptions of debt market appetite, future operational performance, and perceptions of operational performance. This simple calculation uses established Port Authority debt-service cover ratio ("DSCR") calculations to calculate relevant earnings, a target DSCR of 1.8x from Moody's credit report guidelines, and normalizes the debt service requirement to account for different bond maturities by using a ten-year average amortization figure.

84. Projections available online in the 2017 Budget and Aggregate Projections. http://corpinfo.panynj.gov/pages/budget-capital-plan/
85. United Airlines, Inc. v. The Port Authority of New York and New Jersey (16-14-13). https://www.regulations.gov/docketBrowser?rpp=25&po=0&D=FAA-2015-0026&dct=N%25252BFR%25252BPR%25252BO
86. FAA memo of September 8 2011: Report on Grandfathered Airports. Attached to United Airlines submission under FAA 16-14-13.
87. Port Authority of New York and New Jersey's "2012 to 2015 Toll Rate Table." Retrived from https://www.panynj.gov/bridges-tunnels/pdf/toll-table-2001-2015.pdf
88. Porter, David. "Toll Hikes a Crossroads for Port Authority." *Courier Post*. December 4, 2015. http://www.courierpostonline.com/story/news/local/south-jersey/2015/12/04/port-authority-toll-hikes/76792534/
89. Calculations conservatively assume demand elasticity of -0.1 from Kemp, M.A. Transportation (1973) 2: 25. doi:10.1007/BF00172614
90. United Airlines FAA complaint, Docket 16-14-13, "United Airlines, Inc. v. The Port Authority of New York and New Jersey."
91. Bondholders are granted security over net revenues from named assets, including all major infrastructure assets owned by the Port Authority. See Port Authority Consolidated Bond Resolution.
92. Seattle Times Staff. "Sound Transit 3 wins, despite rejection from Pierce County." *Seattle Times*. November 9, 2016. http://www.seattletimes.com/seattle-news/transportation/sound-transit-3-wins-despite-rejection-from-pierce-county/
93. Wattenhofer, Jeff. "Ballot Measure M". *Curbed: Los Angeles*. October 11, 2016. http://la.curbed.com/2016/10/11/13239050/explain-ballot-measure-m-los-angeles
94. Gramlich, Edward M. "Infrastructure Investment: A Review Essay." *Journal of Economic Literature, Vol. 32, No. 3*. September 1994. http://www1.worldbank.org/publicsector/pe/pfma07/EdwardGramlich.pdf
95. Diaz, Roderick B. "Impacts of Rail Transit on Property Values." *Reconnecting America*. January 1999. http://reconnectingamerica.org/assets/Uploads/bestpractice083.pdf
96. See for example the "Report of the State Budget Crisis Task Force." January 14, 2014. http://www.statebudgetcrisis.org
97. As evidenced by continued credit rating downgrades. See Marcus, Samantha. "N.J. credit rating downgraded a record 10th time under Christie." *NJ.com*. November 14, 2016. http://www.nj.com/politics/index.ssf/2016/11/nj_credit_rating_cut_a_record_10th_time.html
98. Tri-State Transportation Campaing. "Transportation 101: What's up with the MTA?" Accessed December 21, 2016. http://www.tstc.org/101/mta.php
99. Vilensky, Mike, Andrew Tangel, and Ted Mann. "NJ Transit Funding Under Scrutiny." *Wall Street Journal*. October 7, 2016. http://www.wsj.com/articles/nj-transit-funding-under-scrutiny-147588588
100. Congressional Budget Office. "Options for Reducing the Deficit: 2017 to 2026." December 8, 2016. https://www.cbo.gov/publication/52142
101. McNichol, Elizabeth. "It's Time for States to Invest in Infrastructure." *Center on Budget and Policy Priorities*. February 23, 2016. http://www.cbpp.org/research/state-budget-and-tax/its-time-for-states-to-invest-in-infrastructure
102. New York City Independent Budget Office. "A Guide to the Capital Budget." June 2013. http://www.ibo.nyc.ny.us/iboreports/IBOCBG.pdf.
103. See Crowley (1973), Cohen and Coughlin (2007), MacMillan (2004), Thompkins et al (1998), Cohen and Brown (2015), Michaelson (2004), Benjamins and Sirmans (1996), Armstrong (1994), Voith (1991).
104. California Assembly Bills 26 and 27 (X1 26 and X1 27), 2011.
105. Haggerty, Maryann and Peter Behr. "New NE Metro Station Gains Private Support." *Washington Post*. February 19, 1999. https://www.washingtonpost.com/archive/local/1999/02/19/new-ne-metro-station-gains-private-support/709a1345-b97f-4127-a093-a0910f46d84d/?utm_term=.6357325b7eea
106. Yale Law Journal. "Congress and the Port of New York Authority: Federal Supervision of Interstate Compacts". April 1961. http://www.jstor.org/stable/794345
107. Fitzsimmons, Emma. "Amtrak Says New York Region's Rail Projects Could Cost Up To $23.9 Billion". *New York Times*. January 20, 2016. https://www.nytimes.com/2016/01/21/nyregion/amtrak-says-regions-rail-projects-could-cost-up-to-dollar23-9-billion.html
108. Government Accountability Office. "Potential Impacts and Cost Estimates for the Cancelled Hudson River Tunnel Project." March 2012. http://www.gao.gov/assets/590/589192.pdf
109. Rivoli, Dan. "Port Authority approves $29.5B plan for projects including bus depot, airports and PATH extension." *New York Daily News*. January 26, 2017. http://www.nydailynews.com/new-york/manhattan/n-critic-horse-trading-ignores-region-article-1.2936243
110. Gardner, Stephen J. "The Economic Benefits of Investment in the Gateway Program." Amtrak. December 12, 2016. http://nec.amtrak.com/content/amtrak-presents-findings-economic-analysis-gateway-program
111. Regional Plan Association. "The ARC Effect: How better transit boosts home values and local economies." July 2010. http://www.rpa.org/pdf/RPA-The-ARC-Effect.pdf
112. U.S. Federal Housing Finance Agency House Price Index, available at https://www.fhfa.gov/DataTools/Downloads/pages/house-price-index.aspx

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