Portal North Bridge Project
Financial Plan

September 13, 2019

Submitted by The New Jersey Transit Corporation
(Portal North Bridge Project Sponsor)

In partnership with:

The National Railroad Passenger Corporation (Amtrak)

Table of Contents

List of Acronyms

Amtrak	National Railroad Passenger Corporation
BCC	Baseline Capital Charge
BCI	Building Cost Index
CAA	Clean Air Act
CAGR	Compound Annual Growth Rate
CCI	Construction Cost Index
CCIP	Contractor Controlled Insurance Program
CE	Categorical Exclusion
CEO	Chief Executive Officer
CIG	Capital Investment Grant
CM	Construction Manager
CMAQ	Congestion Mitigation and Air Quality Improvement Program
Commission	Gateway Development Commission
Corporation	Gateway Program Development Corporation
CPI	Consumer Price Index
CRP	Credit Risk Premium
DEA	David Evans and Associates, Inc.
DEIS	Draft Environmental Impact Statement
DSCR	Debt Service Coverage Ratio
DVRPC	Delaware Valley Regional Planning Commission
EDA	Economic Development Authority
EPA	Environmental Protection Agency
ESB	Emergency Services Building
ESWA	Early Systems Work Agreement
FAST Act	Fixing American's Surface Transportation Act
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FHWA	Federal Highway Administration
FMOC	Financial Management Oversight Contractor
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration

FY	Fiscal Year
GAN	Grant Anticipation Notes
GC	General Contractor
HTP	Hudson Tunnel Project
HYCC	Hudson Yards Concrete Casing
LIRR	Long Island Rail Road
LONP	Letter of No Prejudice
MAP-21	Moving Ahead for Progress in the 21st Century
MBTA	Massachusetts Bay Transportation Authority
MLMU	Multilevel Multiple Units
MPO	Metropolitan Planning Organization
NEC	Northeast Corridor
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NJ TRANSIT	New Jersey Transit
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation
NJEDA	New Jersey Economic Development Authority
NJHA	New Jersey Highway Authority
NJTA	New Jersey Turnpike Authority
NJTPA	North Jersey Transportation Planning Authority
NJTTF	New Jersey Transportation Trust Fund
NJTTFA	New Jersey Transportation Trust Fund Authority
NYCDOT	New York City Department of Transportation
NYMTC	New York Metropolitan Transportation Council
NYSDOT	New York State Department of Transportation
O&M	Operations and Maintenance
OCIP	Owner Controlled Insurance Program
OMB	Office of Management and Budget
P&E	Planning and Expense
PAB	Private Activity Bond
PANYNJ	Port Authority of New York and New Jersey
Parkway	Garden State Parkway
PATH	Port Authority Trans-Hudson

PE	Preliminary Engineering
PIT	Personal Income Tax
PMOC	Project Management Oversight Contractor
PNB	Portal North Bridge
PPGRT	Petroleum Products Gross Receipts Tax
PRIIA	Passenger Rail Investment and Improvement Act of 2008
PSNY	Pennsylvania Station in New York City
RFI	Request for Information
RFP	Request for Proposal
ROD	Record of Decision
RRIF	Railroad Rehabilitation and Improvement Financing
SCC	Standard Cost Category
SEPTA	Southeastern Pennsylvania Transportation Authority
SJTPO	South Jersey Transportation Planning Organization
SOGR	State of Good Repair
STF	Special Transportation Fund
STIP	State Transportation Improvement Program
TFPLUD	Transit Friendly Planning, Land Use and Development
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TOD	Transit-oriented Development
Turnpike	New Jersey Turnpike
ULB	Useful Life Benchmark
USDOT	United States Department of Transportation
WRY	Western Rail Yard
WSY	LIRR West Side Yard
YOE	Year of Expenditure

1.0 INTRODUCTION

The purpose of this report is to document the separate and independent financial plans for Phase 1 of the Gateway Program, which form part of a comprehensive rail improvement program between Newark Penn Station in Newark, New Jersey and Pennsylvania Station New York in New York City, New York (PSNY):

- Phase 1A, the Portal North Bridge (PNB) Project; and
- Phase 1B, the Hudson Tunnel Project (HTP), including:
    - The construction of the new two-tube Hudson River Tunnel,
    - The construction of the Hudson Yards Concrete Casting (HYCC) - Section 3, and
    - The rehabilitation of the existing North River Tunnel.

Each of these projects are currently proceeding through the Federal Transit Administration (FTA) Capital Investment Grant (CIG) program with future construction and funding of each project to occur separately and concurrently in phases. The two projects and their respective financial plans are being submitted independently of each other for separate evaluation and rating. The financial plan for the HTP Project was submitted to FTA on August 23, 2019.

For ease of review by the FTA, and given FTA's request that the financial plan and cash flow statement must include both projects, this document includes financial plans for both projects and is structured as follows:

- Chapter 1 of this report is divided into two parts to describe the elements of the separate and independent projects of Phase 1 of the Gateway Program. This chapter also explains the purpose and need for the projects, the current transit system, and the Project Sponsors' and Funding Partners' capability to fund the construction, operation, and maintenance of the projects. This chapter is organized into two sections:
    - The Phase 1A section introduces the PNB Project; and
    - The Phase 1B section introduces the HTP.
- Chapter 2 summarizes the financial plan for the PNB Project, documenting the proposed plan for funding the capital costs, commitment of funding sources, and operating plans.
- Chapter 3 summarizes the financial plan for the HTP, documenting the proposed plan for funding the capital costs, commitment of funding sources, and operating plans.
- Chapter 4 summarizes the agency-wide capital and operating plan for New Jersey Transit Corporation (NJ TRANSIT), as the Project Sponsor for the PNB and supporting partner for HTP, and includes the historical and forecasted capital and operating conditions at the system-wide level as required by the FTA. This chapter demonstrates that NJ TRANSIT, the public transportation operator utilizing the PNB and HTP, has sufficient capacity to continue to operate and maintain the existing transit system in a state of good repair during these construction activities and following incorporation of these new projects into the transit system.

These financial plans have been developed in consideration of FTA's *Guidance for Transit Financial Plans* issued in June 2000 and subsequent guidance at New Starts workshops, as well as the *Guidelines and*

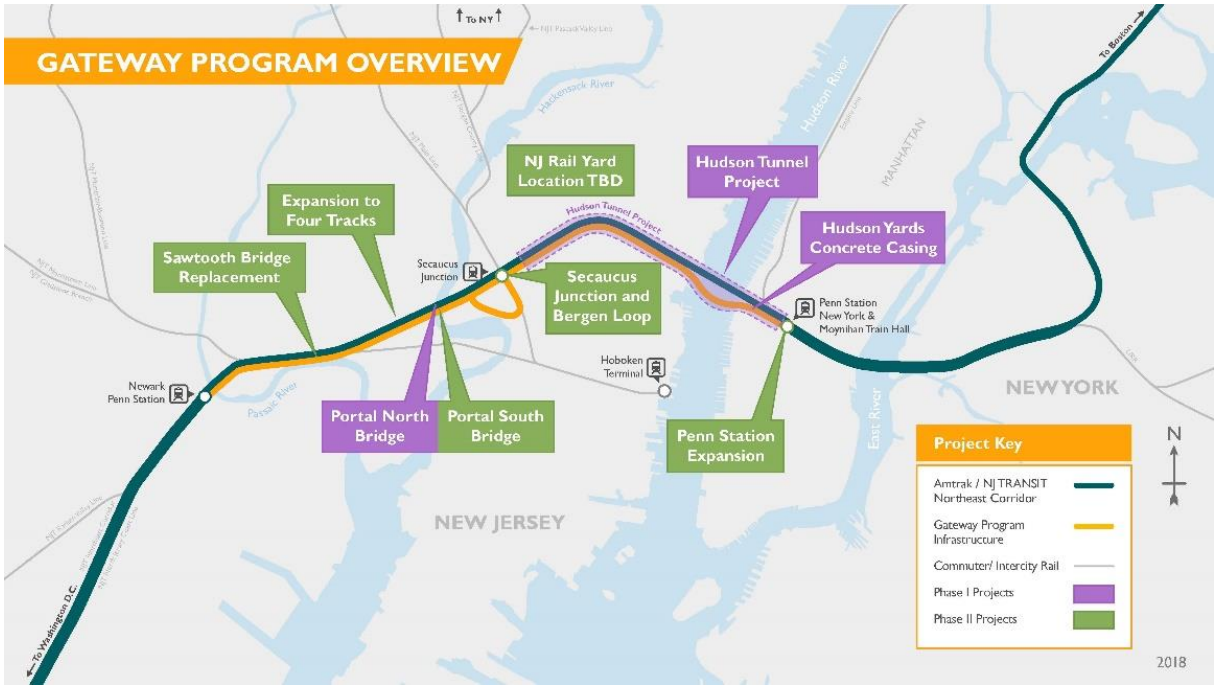
Standards for Assessing Local Financial Commitment, issued by FTA in June 2007, and *Final Interim Policy Guidance Capital Investment Grant Program,* issued by FTA in June 2016.

All dollar figures in this financial plan are presented in year-of-expenditure (YOE) dollars, unless stated otherwise. Further, unless stated otherwise, all figures are presented on the basis of the NJ TRANSIT fiscal year, which runs from July 1st through June 30th.

1.1 Gateway Program Overview

The Port Authority of New York and New Jersey (PANYNJ), NJ TRANSIT, the National Railroad Passenger Corporation (Amtrak), the Gateway Program Development Corporation (Corporation), and the State of New Jersey and the State of New York (collectively, the Project Partners) are dedicated to focusing on, implementing, and constructing the two Phase 1 projects to eliminate the most significant single points-of-failure in providing uninterrupted rail service along the Northeast Corridor (NEC). Because of the phased approach to the Gateway Program, the scopes and costs of projects in later phases will be evaluated in the future. Other major future elements of the Gateway Program in the later phases include the replacement of the Sawtooth Bridges in New Jersey, a rail yard and operational support facility in New Jersey, and the expansion of PSNY, Newark Penn Station, and Secaucus Junction Station. Figure 1-1 depicts Phase 1, including the two most critical, time-sensitive elements (in purple), and the other major elements of the Gateway Program to be addressed in a later phase (in green).

Figure 1-1 Gateway Program Map



1.2 Commitment of Project Partners

NJ TRANSIT is, and will continue to be, the Project Sponsor for the PNB Project. NJ TRANSIT has received a Record of Decision (ROD) from the Federal Railroad Administration (FRA) and FTA for the PNB Project.

PANYNJ has agreed to perform the role of CIG grant applicant and NEPA Project Sponsor, on behalf of the Project Partners for the HTP.

In July 2019, the States of New York and New Jersey created the Gateway Development Commission (Commission) through the enactment of the Gateway Development Commission Act. The Commission is a seven-member public authority and a government sponsored authority (with three Commissioners from the State of New York, three Commissioners from the State of New Jersey, and one Commissioner directly appointed by Amtrak) that is empowered to facilitate and coordinate activities and encourage the actions of others to effectuate the Gateway Program, in particular, Phase 1 of the Gateway program, the PNB Project and the HTP.

The Commission's enabling legislation states that the Commission is "intended to qualify for, be authorized and empowered to apply for and accept, financial assistance, loans, grants, or any other funding for such purposes under federal, state, or local laws, and to make application directly to the appropriate officials or agencies for the application for and receipt of federal, state or local assistance, loans, grants or any other funding in aid of any of the purposes of this act"[1] "at such times as it is appropriate to do so."[2]. Such provisions grant authority to the Commission to be exercised at its discretion, but do not alter or amend co-extensive authority that may extend to other state parties, such as NJ TRANSIT, to also seek and secure such forms of assistance.

NJ TRANSIT's PNB CIG application will not be affected in any way now or in the future by the Commission's formation and project development activities. Similarly, Amtrak's support of design and construction, provision of funding and other commitments to the PNB Project are not affected by the newly created Commission.

The completion of this legislative process to create the Commission is evidence of the strong commitment by the States of New Jersey and New York towards the HTP. The Project Partners intend for the Commission to carry out the lead role in the financing and development of the HTP as soon as it has been established and provided with the appropriate resources from the State of New Jersey, State of New York, and Amtrak.

[1] NYS S6372A, Section 3(c); NJS A5570, Section 4(3) ("Creation of the Commission; purposes").

[2] NYS S6372A, Section 6; NJS A5570, Section 7 ("Duties of the Commission").

Phase 1A: Portal North Bridge Project

1.3 Portal North Bridge Project Overview

The PNB Project will replace the existing Portal Bridge to support the high levels of current passenger demand on the NEC. In addition to increasing capacity to meet current and future demand for NJ TRANSIT commuter rail service and Amtrak service operating along the NEC, the PNB Project will improve service reliability and operational flexibility while minimizing conflicts with maritime traffic.

The PNB Project would replace, not rehabilitate, the existing Portal Bridge, with a new bridge type – a high-level fixed span, on a new rail alignment. The existing Portal Bridge's inefficient design and advanced age have a detrimental impact to service on the NEC, with frequent outages and resulting delays that have a cascading effect in the region and on the national rail network. The new bridge will have a clearance that accommodates current and forecasted maritime traffic, thereby eliminating the need for a movable bridge that results in interruptions to rail operations and delays due to mechanical failures. Additionally, the new bridge design will allow trains to cross at 90 mph, up from 60 mph today. The improved reliability achieved with a new fixed span PNB will provide NJ TRANSIT with greater certainty of being able to access longer platforms at PSNY, allowing for longer trains and multilevel passenger cars that will provide 10 percent more commuter rail passenger capacity in the peak hour.

Planning and design of the new PNB has been advanced to completion by NJ TRANSIT under agreements with Amtrak. NJ TRANSIT has served as project lead and was responsible for completing the National Environmental Policy Act (NEPA) process and completing final design. The PNB Project received a Record of Decision (ROD) from the FRA on December 23, 2008. Upon a review of follow-up design changes being pursued by NJ TRANSIT and Amtrak, the FRA reaffirmed its ROD on March 30, 2011, and again on August 11, 2016. The FTA was a Cooperating Agency in the preparation of the PNB Project's Final Environmental Impact Statement (FEIS). Based upon the FTA's independent review and evaluation of the environmental record prepared under the auspices of the FRA for the PNB Project, the FTA issued a ROD for the PNB Project on July 25, 2017.

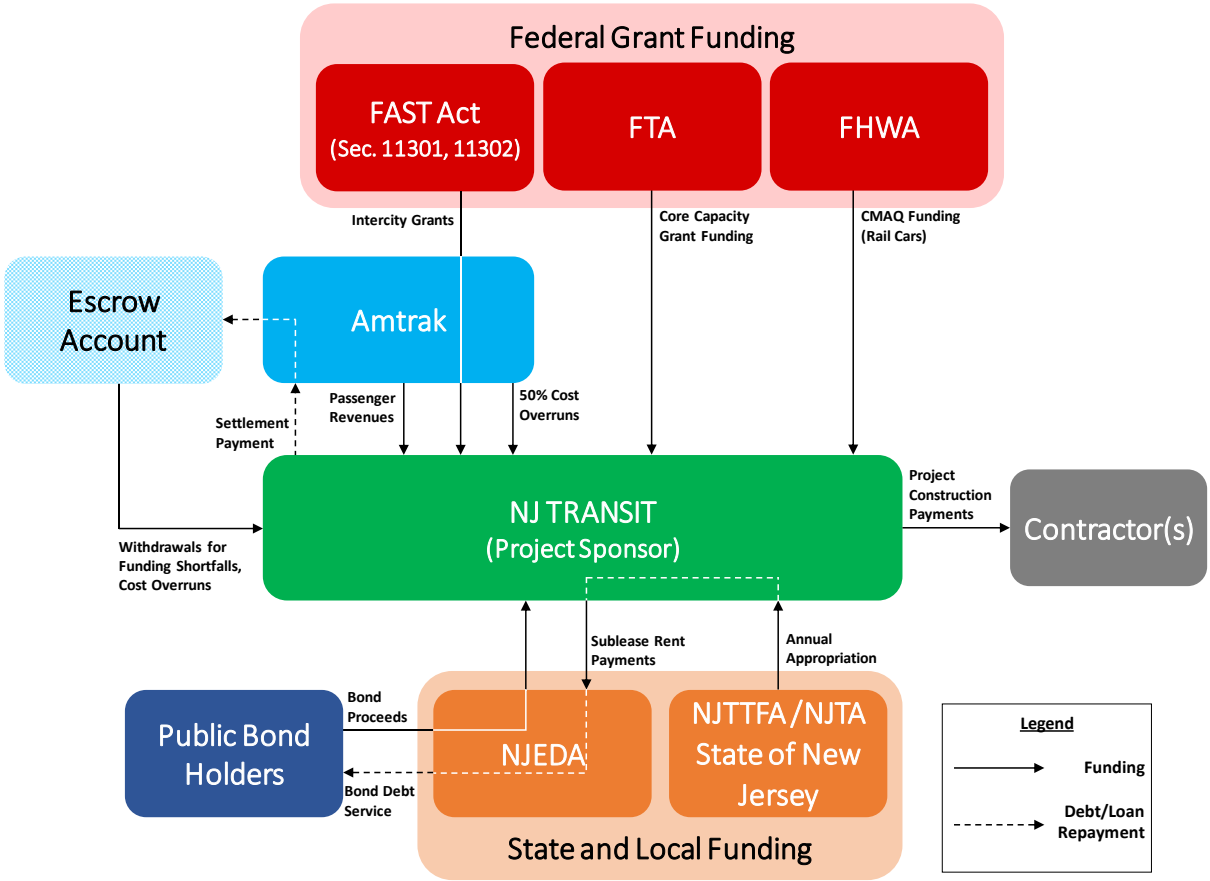
As noted above, NJ TRANSIT will continue to serve as the Project Sponsor for the PNB Project and will be responsible for procurement, construction and delivery, in cooperation with Amtrak. NJ TRANSIT will be the public transportation operator for the PNB and Amtrak will be the intercity rail operator for the PNB.

NJ TRANSIT's PNB Project CIG application will not be affected in any way now or in the future by the Commission's formation and project development activities. Similarly, Amtrak's support of design and construction, provision of funding, and other commitments to the PNB Project are not affected by the addition to the Project Partners of the newly created Commission.

1.4 Description of the of the PNB Project Sponsor and Funding Partners

Entities serving as project sponsor, supporting partner, and funding partners are further described in subsections below. Figure 1-2 provides an overview of the organizational structure for the PNB Project.

Figure 1-2 Portal North Bridge Project Sponsor and Funding Partners



1.4.1 PNB Project Sponsor

1.4.1.1 NJ TRANSIT

NJ TRANSIT's statutory mission is to provide a safe, reliable, convenient and cost-effective transit service with a skilled team of employees, dedicated to serve customers' needs and committed to excellence. NJ TRANSIT is the nation's largest statewide public transportation system. In 2018, it provided an average of more than 900,000 weekday trips and more than 265 million annual trips on 251 bus routes, three light rail lines, 12 commuter rail lines, and Access Link paratransit service. It is the third largest transit system in the country, covering a service area of 5,325 square miles with 166 rail stations, 62 light rail stations and more than 18,778 bus stops linking major points in New Jersey, New York, and Philadelphia. Metro North Railroad contracts with NJ TRANSIT to operate commuter rail service west of the Hudson River in Orange and Rockland Counties, NY.

NJ TRANSIT oversees a fleet of 3,707 buses, minibuses and related vehicular passenger equipment, which 2,245 are owned and operated directly by the corporation. As part of the organization's multi-year plan, NJ TRANSIT is investing more than $700 million to replace 1,104 cruiser buses. The purchase of additional cruiser buses in FY 2020 will result in an average bus fleet age of 7.7 years, consistent with a

"Medium" rating for the "Current Capital and Operating Condition" sub-rating (average bus fleet age of under 8 years). By FY 2022, the average age of the bus fleet will be 5 years, consistent with a "High" rating for the "Current Capital and Operating Condition" sub-rating (average bus fleet age of under 6 years). NJ TRANSIT administers several publicly funded transit programs for people with disabilities, senior citizens and people living in the state's rural areas who have no other means of transportation. The agency provides support and equipment to privately-owned contract bus carriers as well.

NJ TRANSIT is the Project Sponsor for the PNB Project, and the public transportation operator that will utilize the PNB. NJ TRANSIT has experience handling projects with the size and complexity of the PNB Project as demonstrated by its successful completion and operation of the Hudson Bergen Light Rail System (funded with a New Starts Grant), the Secaucus Transfer Station (funded in part with FTA grant funds), and the South Jersey Light Rail System (funded solely with state funds). The State of New Jersey, through the New Jersey Economic Development Authority (NJEDA), will serve as the issuer of bonds for the purpose of financing the NJ TRANSIT contribution to the PNB Project. The New Jersey Transportation Trust Fund Authority (NJTTFA) serves as one of the entities that will provide funding, subject to appropriation by the New Jersey State Legislature, to NJ TRANSIT that will, in turn, be paid to the NJEDA for the repayment of the NJEDA Bonds. The New Jersey Turnpike Authority (NJTA) will also contribute to the PNB Project. The roles of these entities are described in Section **Error! Reference source not found.**.

1.4.2 PNB Funding Partners

1.4.2.1 State of New Jersey

The State of New Jersey is a funding partner to the PNB Project through NJTTFA, NJTA, and the NJEDA. The NJTTFA and the NJTA are independent agencies of the New Jersey state government, and NJEDA is an instrumentality of the State of New Jersey. NJEDA will serve as the issuer of bonds for the purpose of financing the NJ TRANSIT contribution to the PNB Project. The roles of these agencies are described below.

1.4.2.2 New Jersey Transportation Trust Fund Authority

The New Jersey Transportation Trust Fund (NJTTF), created in 1984 through the Transportation Trust Fund statute (N.J.S.A. 27:1B-1, et seq.), is currently NJ TRANSIT's significant source of capital funding. The NJTTF is financed by the NJTTFA, an independent agency of the New Jersey state government. The fund supports the New Jersey Department of Transportation (NJDOT), NJ TRANSIT, and local aid projects. Since its inception in FY 1985, the NJTTF has designated roughly 40 percent of its funds towards NJ TRANSIT. The NJTTF is described in greater detail in Chapter 3.0 of this financial plan.

In 2016, action was taken by the New Jersey Legislature to sustain and increase funding for the NJTTF. On October 7, 2016, the New Jersey State Legislature passed Assembly Bill 10 (A10) reauthorizing the NJTTF for an 8-year period at $16 billion over the reauthorization lifecycle. This reauthorization was partially funded by an increase of 23 cents per gallon in the state's petroleum products gross receipts tax and 4 cents per gallon in the diesel fuel tax. On November 8, 2016, a constitutional amendment dedicating all of the motor fuels tax revenues and petroleum products gross receipt tax revenues for the purposes of paying or financing the cost of planning, acquisition, engineering, construction, reconstruction, repair and rehabilitation of the transportation system in New Jersey was passed by New Jersey voters. The New Jersey Legislature annually appropriates such revenues to NJTTF. The strength of the security pledges supporting State of New Jersey and NJTTF debt issuances are demonstrated through credit ratings in the A category for State of New Jersey General Obligation bonds and credit ratings in the BBB+ to A category

for NJTTF bonds. In January 2019, NJTTFA successfully issued $750 million in Transportation Program Bonds.

1.4.2.3 New Jersey Turnpike Authority

The NJTA is a body corporate and politic of the State of New Jersey organized and existing by virtue of the New Jersey Turnpike Act of 1948, constituting Chapter 454 of the Laws of New Jersey of 1948, as amended and supplemented. Pursuant to the Act, the Authority has owned and operated the New Jersey Turnpike ("Turnpike") since the time the Turnpike opened for traffic in 1951. In July 2003, the New Jersey Highway Authority (NJHA) was abolished and NJTA assumed all of the powers, rights, obligations, assets, debts, liabilities and statutory responsibilities and duties of the NJHA, including the ownership and operation of the Garden State Parkway (the "Parkway").

NJTA owns and operates two well-established major toll roads (the Turnpike and the Parkway) in a densely populated and wealthy region of the country. They act as the "supply chain spine" and the "distribution platform" for the entire Northeast region. The Turnpike consists of a 122-mile mainline and two extensions. The Parkway is a 173-mile limited access toll road from Cape May, New Jersey to Spring Valley, New York. NJTA is committed to prudently managing its finances and operations to provide its customers with a safe, efficient, innovative and resilient toll road system, which facilitates mobility in New Jersey and the Northeast United States. In 2018, total toll transactions and total passenger car transactions on the Turnpike were the highest ever recorded. The 264.7 million total toll transactions and 230.5 million total passenger car transactions exceeded 2017 levels which were the previous highs. In addition, the 2018 commercial vehicle transactions of 34.3 million increased 5% from 2017, and is the highest level ever recorded since the pre-recession previous high, recorded in 2007. As documented in NJTA's 2018 comprehensive annual financial report, its credit rating is A2 Moody's, A+ S&P and A Fitch.

In advancement of the PNB Project, NJTA has committed funds in the amount of $25 million per year to the PNB Project through the final maturity of the NJEDA bonds.

1.4.2.4 New Jersey Economic Development Authority

NJEDA was created in 1974 by the New Jersey Legislature as a public body corporate and politic and an instrumentality of the State of New Jersey. It was created and operates pursuant to The New Jersey Economic Development Authority Act, P.L. 1974, c. 80, as amended and supplemented. The Act authorizes NJEDA to assist in various ways in financing the cost of acquiring, constructing, improving and equipping projects, including transportation projects.

NJ TRANSIT does not have statutory authorization to issue State appropriation-backed obligations on its own behalf. Instead, NJ TRANSIT may utilize NJEDA as a conduit entity to finance capital projects on its behalf, which is the mechanism proposed under the financial plan for the PNB Project.

NJEDA has previously entered into leases and contracts with NJ TRANSIT to secure the financing of various capital projects and programs in the state. Under the terms of these various agreements, NJEDA has issued bonds to fund capital projects and entered into a lease/sublease arrangement with NJ TRANSIT. NJ TRANSIT makes rental payments to NJEDA equal to the debt service on, and other costs related to, the obligations sold to finance the projects, including any payments pursuant to the agreements. NJ TRANSIT's payments to NJEDA are drawn from funds received from NJTTF to NJ TRANSIT.

The annual NJTTFA capital project spending authorization enables NJ TRANSIT to make the required debt service payments for the capital projects.

Prior NJEDA/NJ TRANSIT/NJTTFA issuances are as follows:

- The $633mm 1999 financing of both the River Line ($486mm) and of Hudson Bergen Light Rail ($147mm). The bonds were refunded in 2003 and converted into auction rate bonds with a new money issuance of a further $35 million. The bonds were converted into fixed rate debt in August 2008 following the collapse of the auction rate market. Repayment of the bonds was made via a funding agreement whereby NJ TRANSIT pledged to the NJEDA NJTTFA appropriations in an amount not to exceed that year's debt service. The outstanding balance of $39.4 million matured on May 1, 2019.
- In January 2017, the NJEDA refinanced all of NJ TRANSIT's $563.595 million outstanding State of New Jersey Certificates of Participation (Series 2004A, 2008A and 2009A) and issued $65.4 million of new money for NJ TRANSIT projects (2017 Bonds). The final maturity of the 2017 Bonds is November 2027.

The complete documentation of the 2008 Series A NJEDA River Line refunding is provided as supporting document E-18 (listed in Appendix C).

NJEDA will issue publicly offered NJEDA bonds on behalf of NJ TRANSIT for the PNB Project. Funding for NJ TRANSIT's obligations to NJEDA for the NJEDA bonds will use the same structure successfully utilized for the 2017 Bonds described above. On June 12, 2018, the NJEDA Board passed a resolution authorizing a principal amount not to exceed $600 million in NJEDA bonds for financing the PNB Project. A similar resolution was passed by the NJ TRANSIT Board on June 13, 2018. Finally, a Funding Agreement by and between NJEDA and NJ TRANSIT, with the consent of the Commissioner of the NJDOT, was executed on June 18, 2018. Request for Proposals (RFPs) for underwriters and bond counsel to progress the NJEDA bonds were issued and awarded in June 2018.

Concurrent with financial close of the NJEDA bonds, NJ TRANSIT and NJEDA will enter into a lease/sublease arrangement in connection with NJ TRANSIT's commitment to provide the funding necessary to repay the NJEDA bonds. NJ TRANSIT will possess a real property interest in the PNB Project. NJ TRANSIT will lease that property interest to the NJEDA, which will in turn sublease the property interest back to NJ TRANSIT. NJ TRANSIT's rent payments under the sublease will be in an amount sufficient to pay and will be pledged to pay the debt service on the NJEDA bonds. The NJTTF is the source of funds for NJ TRANSIT to make such rent payments as described above. NJTA has committed funds in the amount of $25 million per year to the PNB Project through the final maturity of the NJEDA bonds

Additional information on the NJEDA, NJ TRANSIT, NJTTF, and NJTA funds will be provided in Chapter 2.0 of this financial plan.

1.4.2.5 Amtrak

Amtrak – America's Railroad® – is dedicated to connecting America in safer, greener and healthier ways. As the nation's intercity passenger rail service provider and high-speed rail operator, Amtrak has 21,000 route miles in 46 states, the District of Columbia and three Canadian provinces. Amtrak owns the majority of the 457-mile NEC, including the entire line south of New York City, and is responsible for its operations and maintenance. Carrying over 2,200 daily trains, including Amtrak, commuter, and freight trains, the NEC is the nation's most congested rail corridor and is among the highest volume rail corridors in the world. As infrastructure owner of the NEC, Amtrak owns and dispatches trains over the existing Portal Bridge and North River Tunnel.

Amtrak is governed by a nine-member board of directors appointed by the President of the United States and confirmed by the U.S. Senate. Amtrak is organized as a federally-chartered, private, for-profit corporation in the District of Columbia.

Planning and design of the PNB was supported by a cooperative effort between NJ TRANSIT and Amtrak. NJ TRANSIT had the lead role in procuring and developing the project design in partnership with Amtrak.

Amtrak is a supporting partner and a funding partner to the PNB Project, and is the intercity rail transportation operator that will utilize the PNB. Amtrak will also be responsible for dispatching trains and maintaining the PNB. Amtrak has also pledged to cover 50 percent of any project cost overruns. The details of Amtrak's financial support for the PNB Project are provided in Section 2.2.2.1.

1.4.2.6 Federal Transit Administration

The FTA is a proposed funding partner for the PNB Project. The FTA administers a number of grant programs to support transit investments and operations carried out by local grantees. One of these programs is the discretionary Section 5309 CIG program, through which FTA can make grants for New Starts, Small Starts, and Core Capacity investments.

FTA obligates discretionary Section 5309 Core Capacity grants to state and local governments for substantial corridor-based capital investments in existing fixed guideway systems that increase capacity by not less than 10 percent in corridors that are at capacity today, or will be in five years.

FTA obligates discretionary Section 5309 New Starts grants to state and local governments for new fixed guideway projects or extensions to existing fixed guideway systems with a total estimated capital cost of $300 million or more, or that are seeking $100 million or more in Section 5309 CIG program funds.

To be eligible, projects applying for CIG funds must meet certain procedural requirements and a series of project justification and local financial commitment criteria mandated by the Fixing America's Surface Transportation Act (FAST Act). These requirements vary for New Starts, Small Starts, and Core Capacity investments.

Federal funding assistance from the FTA in the form of a CIG Core Capacity grant is assumed in the financial plan for the PNB Project.

1.4.2.7 Federal Railroad Administration

FRA is a proposed funding partner for the PNB Project. FRA has jurisdiction over passenger and freight railroads, and administers competitive grants, dedicated grants, and loan programs. The purpose of FRA's financial assistance programs is to support infrastructure projects which may improve safety, relieve congestion and enable the expansion of rail services. Recipients of financial assistance from the FRA may include commuter rail systems, and state and local governments and Amtrak.

The FRA is responsible for administering a dedicated capital grant program to Amtrak. Appropriated funds to Amtrak are divided by NEC and National Network accounts, and monitored by the FRA on a monthly basis.

1.5 Description of the Portal North Bridge Project

The existing Portal Bridge, a two-track, railroad swing-type bridge which crosses the Hackensack River in New Jersey, was built in 1910 as part of the Pennsylvania Railroad's extension from New Jersey to Manhattan. The bridge is a vital element of the NEC—the most heavily used passenger rail line in the U.S., both in terms of ridership and service frequency. The NEC extends from Washington, D.C. in the

south to Boston, Massachusetts in the north, in the densely populated northeast region, through eight states and Washington, D.C., including PSNY in New York City.

1.5.1 Portal North Bridge Project Identification

The proposed PNB Project will replace the existing two-track Portal Bridge with a new two-track fixed structure. The entire project will be approximately 2.44 miles long, which includes approximately 6,800 linear feet of elevated structures to be built on the east and west sides of the Hackensack River, as well as crossing directly over the Hackensack river, and approximately 6,100 feet of railroad embankment sections. The bridge span directly over the Hackensack River will have a clearance that accommodates current and forecasted maritime traffic, thereby eliminating the need for a movable span that interrupts rail operations and results in delays due to mechanical failures. The new bridge design will improve reliability, allowing NJ TRANSIT to operate longer and higher capacity trains. Additionally, trains will be able to cross the bridge at 90 mph, up from 60 mph today. The PNB Project scope therefore also includes the purchase of 25 multilevel cars (22+3 spares) which provide a greater than 10 percent increase in peak hour passenger capacity.

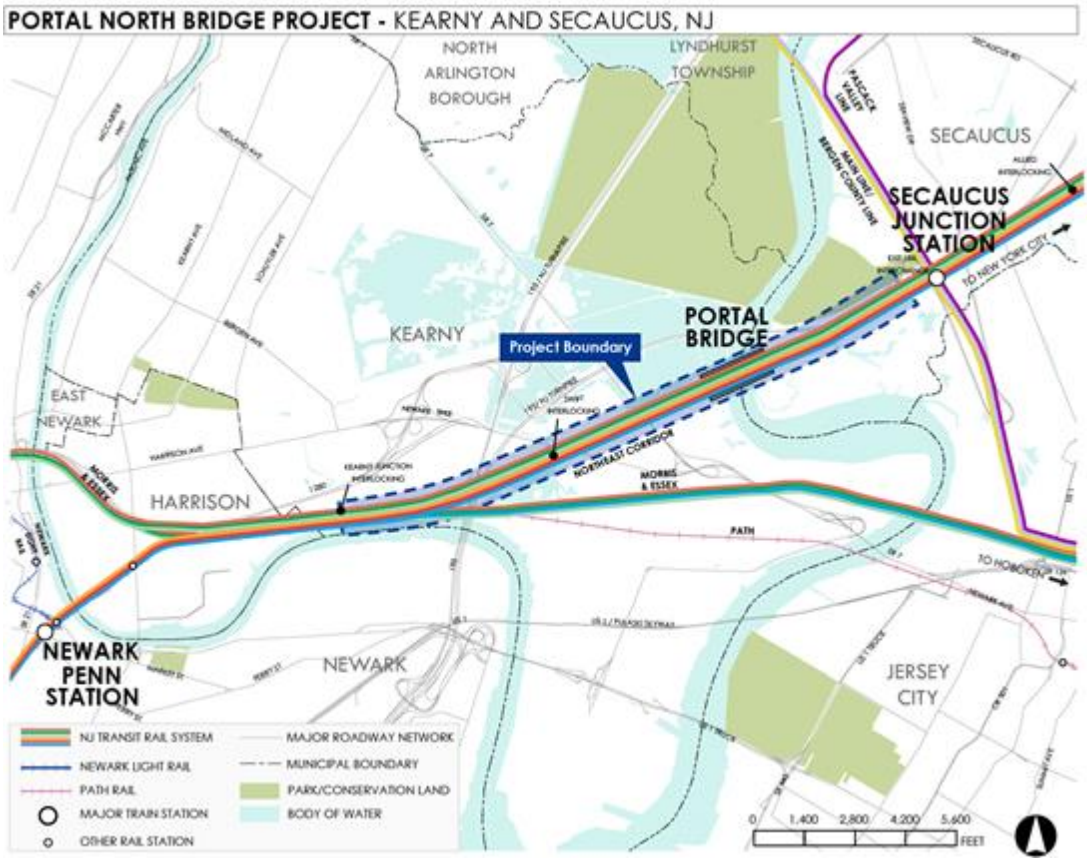
1.5.2 Portal North Bridge Setting

The PNB Project extends 2.44 miles east to west from Secaucus Junction Station, located in Secaucus, NJ, to Kearny Junction Interlocking located across the river in Kearny, NJ (illustrated in **Error! Reference source not found.**). The existing Portal Bridge spans the Hackensack River and multiple NJ TRANSIT rail services throughout the state feed into and utilize the bridge, including NEC, North Jersey Coast Line, Morristown Line, Montclair-Boonton Line, Gladstone Branch, and Raritan Valley Line trains. Numerous Amtrak Intercity services also utilize the existing Portal Bridge, including Acela Express, Northeast Regional, Keystone, and multiple long-distance trains.

1.5.3 Portal Bridge Current Conditions

The existing Portal Bridge serves 349 NJ TRANSIT trains and 105 Amtrak trains daily, accommodating approximately 206,500 trips (184,600 NJ TRANSIT + 21,900 Amtrak) every weekday. There has been a prolonged trend of growth in NJ TRANSIT ridership. Ridership into PSNY has increased an average of 3.1 percent per year since 2005 (including during the recent economic recession) and increased 6.6 percent per year since 2013. Likewise, Amtrak NEC ridership over the existing Portal Bridge has increased at a compound average growth rate of 2.4 percent per year since 2005 and 3.3 percent per year since 2010. The existing NEC is nearly at capacity and ridership growth expected in the next five years will exacerbate this condition. Overall, demand vs. seating capacity on NJ TRANSIT trains in the peak hour remains at 98 percent, with 13 of 21 NJ TRANSIT trains operating over capacity, per FTA guidance on calculating passenger demand versus available seating. Trans-Hudson daily rail ridership is projected to grow at 1.5 percent each year over the next 5 years based on Metropolitan Planning Organization forecasts (equal to 7,100 trips). NJ TRANSIT rail service into PSNY is part of a comprehensive trans-Hudson public transit system for Midtown Manhattan where the other dominant transit mode, bus service, is also at capacity.

Figure 1-3 Portal North Bridge Project Location Map - Swift Interlocking to Secaucus Junction Station



The bridge's age and design limitations prevent Amtrak and NJ TRANSIT from making incremental investments in order to accommodate their growing ridership. The bridge was constructed over a century ago with a 23-foot clearance, low enough to require the bridge's swing-span to pivot open for crossing maritime traffic today. Opening the span closes the bridge to rail traffic, interrupting operations at a critical juncture on the NEC. The bridge's equipment also experiences frequent mechanical failures, resulting in delays that cascade up and down on one of the nation's busiest rail lines. The risk of continued and increasing unplanned outages due to malfunctioning of the obsolete bridge cannot be mitigated through maintenance. In October 2018, for example, the bridge swung open but failed to close—twice in the same day. The second failure occurred during rush hour when the bridge stayed open for more than an hour, causing a substantial delay to more than 80,000 passengers.

Significant maintenance is regularly performed but does not effectively extend the life of the bridge. "Miter rails," which allow the rails to disengage and the bridge to open and close, have been an ongoing problem since the existing Portal Bridge was constructed, and the connections have been replaced several times. These miter rails permanently restrict speeds on the existing Portal Bridge to 60 mph, while trains can operate at 90 mph on adjacent portions of the NEC, causing bottlenecks throughout the whole corridor. Furthermore, extensive maintenance of the bridge will not eliminate the need to open the bridge for maritime traffic, and the Coast Guard considers the bridge's central pier a navigational hazard.

In the 2014-2018 period, the existing Portal Bridge has experienced 18 "major incident" days (defined as a minimum of five hours of delay to Amtrak and/or NJ TRANSIT) involving the Portal Bridge, resulting in cumulative delays of ~780 hours. Over the same period, routine openings of Portal Bridge caused delays on 230 days, affecting 1,000 trains and causing 230 hours of train delay. Other critical incidents related to the bridge's age and condition have occurred periodically in recent years. For example, fires in 2005 and 2014 were due to the failure of the Portal Bridge's opening mechanism and the use of wooden fenders at the base of the bridge. In 1996, the failure of the bridge's swing span to close caused the derailment of a passing train, resulting in 40 passenger injuries.

The impact of insufficient passenger capacity and service delays up and down the NEC would be catastrophic. If the tens of thousands of commuters and travelers are not afforded a comfortable and efficient journey, or suffer unexpected, lengthy delays due to maritime traffic and system failures, they may choose other modes of travel and would add to already congested bridges, tunnels, and streets in both New Jersey and New York. The resulting congestion would do more harm than simply lengthening the daily commutes and intercity trips of trans-Hudson travelers. It would lead to a sizeable degradation of air quality throughout the region, with the movement of people and goods to and from the nation's largest regional economy becoming severely constrained.

1.5.4 Portal North Bridge Project Purpose

The purpose of the PNB Project is to replace the Portal Bridge, which was placed into service over 100 years ago in 1910, with the result of enhancing capacity on the NEC. In addition to increasing capacity to meet current and future demand along the NEC, the PNB Project will improve service reliability and operational flexibility while eliminating conflicts with maritime traffic.

The improved reliability achieved with a new fixed span PNB will provide NJ TRANSIT with greater certainty of being able to access longer platforms at PSNY, allowing for additional and regular scheduling of longer trains and multilevel passenger cars that provide approximately 11 percent more seats per train. At PSNY, NJ TRANSIT trains are almost exclusively assigned to Tracks 1–4 which are stub ended, accommodate limited train lengths, and have limited vertical access (Tracks 1–3 can accommodate an 8-car train and Track 4 a 9-car train). Tracks 5–16 can accommodate longer trainsets, and have more vertical access locations (including the extended West End Concourse).

Increasing train lengths and passenger capacity under the existing Portal Bridge movable configuration is impossible because of frequent infrastructure failures. In 2014, there were 131 bridge failure delays, resulting in over 1.9 million person-hours lost (note: this does not include delays to trains when the bridge normally opens for marine traffic). The unreliability of the bridge's current condition would not allow

NJ TRANSIT to run the longer trainsets to Tracks 5-16 and regular bridge incidents would require NJ TRANSIT to cancel or delay trains.

Under normal operating conditions, NJ TRANSIT operates 21 trains each AM peak weekday hour across the existing Portal Bridge. The proposed PNB Core Capacity project will allow for an 11.6 percent increase in available seating in the AM peak hour in the primary flow direction (eastbound) because NJ TRANSIT will be able to add cars to seven of its existing peak hour trains and utilize multilevel passenger cars on five others. The PNB Project would result in a capacity increase from 25,834 available seats (.95 x actual seating) in the eastbound am peak hour to 28,824, for a net gain of +2,990 seats. The number of new cars required was calculated by dividing the number of new seats (2,990) by 136 seats/car equals 22 cars plus 3 spare cars (13 percent) for a total of 25 cars.

The new PNB itself will further allow for an increase of two new trains in the peak hour on the bridge above the current 26 trains per hour capacity (21 NJ TRANSIT + 5 Amtrak). It is important to note that this increase in capacity cannot be realized until future Gateway Program elements (new tunnels and station capacity) are complete. Accordingly, these benefits are not quantified as a benefit of the PNB Project.

Although also not quantified as a benefit of the PNB Project for FTA Core Capacity assessment purposes, it is worth noting that Amtrak is also replacing the current Acela equipment with new trainsets that will provide the added seating it needs to satisfy future intercity travel demand. Between the use of these new trainsets and other actions to add equipment to other trains, Amtrak expects to increase its own seating capacity by more than the +10% threshold set by the FAST Act to demonstrate a project benefit.

1.5.5 Portal North Bridge Project Summary

The PNB Project is a critical, independent component of the Gateway Program, the comprehensive rail improvement program between Newark Penn Station, NJ and PSNY. The PNB Project meets all criteria for Core Capacity eligibility: ridership on the NEC commuter rail corridor is currently at capacity and the PNB Project is a substantial, corridor-based investment within the existing NEC that will increase capacity by over 10 percent. The PNB Project is not rehabilitating the existing bridge but is to build a new high-level fixed span bridge on a new rail alignment. The PNB Project provides the reliability necessary for NJ TRANSIT to add capacity and is the result of many years of strategic planning to provide more reliable and operationally sound railroad infrastructure. Additionally, its functionality adheres to US Coast Guard requirements to eliminate interference with marine traffic.

Phase 1B: Hudson Tunnel Project

1.6 Hudson Tunnel Project Overview

The purpose of the HTP is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter passenger rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and PSNY.

The HTP includes (1) the construction of a new two-track Hudson River rail tunnel from the Bergen Palisades in New Jersey to Manhattan that will directly serve PSNY; (2) the completion of the Hudson Yards Concrete Casing (HYCC); and (3) rehabilitation of the existing North River Tunnel. This will allow the existing North River Tunnel to be taken out of service for necessary and extensive rehabilitation. The existing tunnel presents reliability challenges due to age, intensive use, and significant and ongoing damage from Superstorm Sandy in 2012, resulting in significant delays when problems arise.

The HTP, for purposes of its FTA CIG New Starts Financial Plan, consists of the following specific elements:

1. **Hudson River Tunnel:** Two new surface tracks parallel to the south side of the NEC beginning at a realigned Allied Interlocking in Secaucus, New Jersey just east of NJ TRANSIT's Secaucus Junction Station, in conjunction with a new two-track Hudson River Tunnel, parallel to the North River Tunnel, beneath the Palisades (North Bergen and Union City) and the Hoboken waterfront area, and beneath the Hudson River to connect to the tracks in the A Yard at PSNY;
2. **HYCC – Section 3:** This includes the construction of the third and final rail right-of-way preservation section beneath the extensive overbuild project that is planned to be constructed on a platform above the rail complex in Manhattan (immediately west of PSNY) known as "Hudson Yards." The new Hudson River Tunnel would make use of the entire HYCC being constructed along the southern edge of the West Side Yard, which consists of the Eastern Rail Yard (ERY) and the Western Rail Yard (WRY), as divided by Eleventh Avenue. The completed HYCC will extend from the north side of West 30th Street to the west side of Tenth Avenue. Construction has been completed on HYCC-Section 1 (an 825-foot section of the HYCC within the ERY between Tenth and Eleventh Avenues, north of West 30th Street) and HYCC-Section 2 (a 105-foot-long portion beneath the viaduct that carries Eleventh Avenue over the West Side Yard). The overbuild project above HYCC-Section 1 and HYCC-Section 2 has completed construction above the platform in the Eastern Rail Yard and that portion of the development site opened on March 15, 2019. The final section, HYCC-Section 3, would be constructed from the western side of Eleventh Avenue to the north side of West 30th Street. The overbuild project above HYCC-Section 3 has not commenced construction of the platform in the Western Rail Yard, but it is expected that the private developers will begin construction of this platform in the not too distant future. HYCC-Section 3 is a right-of-way preservation measure and is included as part of this financial plan, though it is separate and apart from the current Environmental Impact Statement being prepared for the new Hudson River Tunnel and Rehabilitation of the existing North River Tunnel; and
3. **North River Tunnel:** The rehabilitation of the existing North River Tunnel that opened in 1910.

At the completion of the HTP, the NEC would have four tracks (two in the new Hudson River Tunnel and two in the North River Tunnel) between New Jersey and New York under the Hudson River,

which would provide operational flexibility and redundancy for Amtrak and NJ TRANSIT rail operations. No changes to PSNY platforms or platform tracks are proposed as part of the HTP; maintaining the current operational capacity of PSNY as is.

PANYNJ has agreed to perform the role of CIG grant applicant and NEPA Project Sponsor, on behalf of the Project Partners for the HTP. Planning and design of the new Hudson Tunnel and rehabilitation of the existing North River Tunnel is supported by a cooperative effort between Amtrak, NJ TRANSIT, PANYNJ, and the FRA. Amtrak, under agreement with the PANYNJ, has served as project manager and is responsible for completing preliminary design for the construction of the new Hudson River Tunnel and Rehabilitation of the North River Tunnel.

1.6.1 Status of Environmental Review

The Project Partners are awaiting USDOT's approval of the environmental review for the new Hudson River Tunnel and Rehabilitation of the North River Tunnel. The FRA is the Lead Federal Agency and NJ TRANSIT and the PANYNJ are joint lead agencies for the environmental review. FTA and the U.S. Army Corps of Engineers are the two Cooperating Agencies involved in the environmental review.

FRA and NJ TRANSIT jointly prepared a Draft Environmental Impact Statement (DEIS) to evaluate the new Hudson River Tunnel and rehabilitation of the existing North River Tunnel in July 2017. The draft FEIS was completed and provided on-schedule to FRA for their review in February 2018, 22 months from the Notice of Intent, which is less than half the time generally required for a project of this size and complexity. The Federal Infrastructure Projects Permitting Dashboard indicated that the target issuance date for the FEIS and ROD would be on March 30, 2018.

In October 2018, the FRA requested that the draft FEIS be updated to include the PANYNJ as NEPA Project Sponsor and set December 10, 2018 as the deadline for such modifications. On-schedule, the Project Partners provided a revised draft FEIS to FRA on December 10, 2018. Since a ROD is required from FTA to meet FTA CIG Program requirements, FRA provided FTA with the revised draft FEIS on December 11, 2018. At that time, neither FRA nor FTA provided a schedule for publishing the FEIS or ROD. On January 9, 2019, FTA, FRA, NJ TRANSIT, and PANYNJ were scheduled to meet to discuss the revisions with FTA. However, the meeting was cancelled due to the federal government lapse in appropriations (federal government shutdown). During the federal government shutdown, the Gateway Program Development Corporation requested that USDOT issue a ROD immediately under the "One Federal Decision" policy. After the federal government re-opened, the meeting was rescheduled and held on February 11, 2019. At that time, and at the time of this submittal, neither FRA nor FTA has provided any schedule and has not described what steps remain outstanding for issuing the FEIS or ROD. An FTA ROD is a prerequisite for requesting entry into the FTA CIG Program's Engineering Phase and commencing some early work activities.

The environmental review for the HYCC Right-of-Way Preservation project (which includes HYCC-Section 3 and the already constructed HYCC-Section 2) underwent a Supplemental Environmental Assessment in 2014 and received a Finding of No Significant Impact (FONSI) from FRA in November 2014. Since an environmental determination is required from FTA to meet FTA CIG Program requirements, and per the FTA's recommendation, the PANYNJ, on behalf of the Project Partners, requested a Categorical Exclusion from the FTA for HYCC-Section 3 on August 2, 2018. In December 2018, FTA requested supplemental materials that were provided to FTA by PANYNJ that same month. FTA has not provided a schedule as of this submission for issuing the Categorical Exclusion.

For the purposes of this financial plan submittal, the Project Partners have assumed the following:

- The FEIS for the new Hudson River Tunnel and rehabilitation of the North River Tunnel will be released by FRA for review shortly,
- The ROD for the new Hudson River Tunnel and rehabilitation of the North River Tunnel will be issued by FRA and FTA in calendar year 2019, and
- The Categorical Exclusion for HYCC-Section 3 will be issued by FTA in calendar year 2019.

The Project Partners will continue to cooperate fully and in a timely manner with USDOT to ensure these environmental review milestones are met. The completion of the environmental reviews in calendar year 2019 enables early work to progress during 2020 while procurement activities are underway to facilitate the notice-to-proceed date assumed as part of this financial plan submittal.

1.7 Description of the of the HTP Sponsor and Supporting Partners

Entities serving as project sponsor, and supporting partners/funding partners are further described in subsections below.

1.7.1 HTP Project Sponsor

1.7.1.1 Port Authority of New York and New Jersey

Founded in 1921, the PANYNJ builds, operates, and maintains many of the most important transportation and trade infrastructure assets in the country. The agency's network of aviation, ground, rail, and seaport facilities is critical to the New York/New Jersey region's trade and transportation, supporting more than 550,000 regional jobs, and generating more than $23 billion in annual wages and $80 billion in annual economic activity. These facilities include America's busiest airport system, marine terminals and ports, the Port Authority Trans-Hudson (PATH) rail transit system, 2 tunnels and 4 bridges between New York and New Jersey, the Port Authority Bus Terminal in Manhattan, and the World Trade Center.

The PANYNJ raises the necessary funds for the improvement, construction or acquisition of its facilities primarily on the basis of its own credit. The revenues of the PANYNJ are derived principally from the tolls, fares, take-off and landing fees, and dockage fee, rentals, and other charges for the use of, and privileges at, certain of its facilities. The diverse operation of critical infrastructure assets, strong demographics of the region, strong liquidity, and a conservative debt structure all contribute to the PANYNJ's strong credit profile.

The PANYNJ is also a funding partner for the HTP. Additional information on PANYNJ's scheduled debt service payments to the Corporation for the repayment of HTP RRIF loan proceeds is provided in Chapter 3. The PANYNJ has agreed to perform the role of CIG grant applicant and NEPA Project Sponsor, on behalf of the Project Partners for the HTP.

1.7.2 HTP Supporting Partners

1.7.2.1 Gateway Program Development Corporation (Corporation)

In November 2016, the Corporation was incorporated as a New Jersey Domestic Nonprofit Corporation for the purposes of "coordinating, developing, operating, financing, managing, owning or otherwise engaging in activities to effectuate" the entire Gateway Program. The Board of Trustees consists of individuals appointed by (1) the governing body of NJ TRANSIT, (2) the Commissioner of the New York State Department of Transportation (NYSDOT), and (3) Amtrak.

Based on extensive consultation among multiple federal, state and local stakeholders, the Corporation was established to serve a lead role in the financing and development of the Gateway Program, including acting as a federal grant and loan applicant as well as NEPA Project Sponsor. As discussed in the June 2018 progress report letter on the HTP submitted to the FTA, the Project Partners recognized that FTA had expressed the view that the Corporation, as it was constituted, was not eligible to serve as the CIG grant applicant and NEPA Project Sponsor for the HTP. In that progress report letter, the Project Partners also stated that the States of New Jersey and New York agreed to pursue legislative action in both states promptly within the framework of each state's legislative calendar that would enable the Commission to perform these financing and development functions for the HTP.

Since the June 2018 progress report letter, the States of New Jersey and New York have successfully fulfilled their commitment to create a Commission that is empowered to act as CIG grant applicant and NEPA Project Sponsor, as discussed in Section **Error! Reference source not found.**.

The Corporation will continue to coordinate and guide the work of the Project Partners until the Commission can assume that role.

1.7.2.2 Gateway Development Commission (Commission)

The Commission is a seven-member public authority and a government sponsored authority (three Commissioners from the State of New York, three Commissioners from the State of New Jersey, and one Commissioner directly appointed by Amtrak) that is empowered to facilitate and coordinate activities and encourage the actions of others to effectuate the Gateway Program, in particular, Phase 1 of the Gateway program, the PNB Project and the HTP.

The completion of this legislative process to create the Commission is evidence of the strong commitment by the States of New Jersey and New York towards the HTP. The Project Partners intend for the Commission to carry out the lead role in the financing and development of the HTP as soon as it has been established and provided with the appropriate resources from the State of New Jersey, State of New York, and Amtrak. The Commission is further discussed in Section **Error! Reference source not found.**.

1.7.2.3 NJ TRANSIT

NJ TRANSIT is the State of New Jersey's public transportation corporation (described in Section **Error! Reference source not found.**) and the public transportation operator utilizing the HTP. NJ TRANSIT is managing the environmental review of the new Hudson River Tunnel and the Rehabilitation of the North River Tunnel and will also manage the property acquisitions in the State of New Jersey for the HTP.

1.7.3 HTP Funding Partners

1.7.3.1 State of New Jersey

The State of New Jersey has committed to support borrowing for the HTP by the Corporation through a RRIF loan. This financial plan assumes that the Corporation will be the RRIF loan applicant and will enter into a funding agreement with the State of New Jersey, under the terms of which the State of New Jersey will commit to the Corporation to pay principal, interest, and certain fees and expenses.

1.7.3.2 State of New York

The State of New York has committed to support borrowing for the HTP by the Corporation through a RRIF loan. This financial plan assumes that the Corporation will be the RRIF loan applicant and will enter into a funding agreement with the State of New York, under the terms of which the State of New York will commit to the Corporation to pay principal, interest, and certain fees and expenses.

1.7.3.3 Amtrak

Amtrak – America's Railroad® – is dedicated to connecting America in safer, greener and healthier ways. As the nation's intercity passenger rail service provider and high-speed rail operator, Amtrak has 21,000 route miles in 46 states, the District of Columbia and three Canadian provinces. Amtrak owns the majority of the 457-mile NEC, including the entire line south of New York City, and is responsible for its operation and maintenance. Carrying over 2,200 daily trains, including Amtrak, commuter, and freight trains, the NEC is the nation's most congested rail corridor and is among the highest volume rail corridors in the world. As infrastructure owner of the NEC, Amtrak owns and dispatches trains over the existing Portal Bridge and North River Tunnel.

Amtrak is governed by a nine-member board of directors appointed by the President of the United States and confirmed by the U.S. Senate. Amtrak is organized as a federally-chartered, private, for-profit corporation in the District of Columbia.

Amtrak is a funding partner to the HTP and is the intercity rail transportation operator that will utilize the HTP. Amtrak will also be responsible for dispatching trains through the HTP, as part of Amtrak's NEC. Amtrak will also manage the property acquisitions in the State of New York for the HTP.

1.7.3.4 Federal Transit Administration

The FTA is a proposed funding partner for the HTP. The FTA administers a number of grant programs to support transit investments and operations carried out by local grantees. One of these programs is the discretionary Section 5309 CIG program, through which FTA can make grants for New Starts, Small Starts, and Core Capacity investments.

FTA obligates discretionary Section 5309 Core Capacity grants to state and local governments for substantial corridor-based capital investments in existing fixed guideway systems that increase capacity by not less than 10 percent in corridors that are at capacity today or will be in five years.

FTA obligates discretionary Section 5309 New Starts grants to state and local governments for new fixed guideway projects or extensions to existing fixed guideway systems with a total estimated capital cost of $300 million or more, or that are seeking $100 million or more in Section 5309 CIG program funds.

To be eligible, projects applying for CIG funds must meet certain procedural requirements and a series of project justification and local financial commitment criteria mandated by the FAST Act. These requirements vary for New Starts, Small Starts, and Core Capacity investments. Furthermore, FTA requires an FTA NEPA determination to provide federal funding assistance to a project.

Federal funding assistance from the FTA in the form of a CIG New Starts grant is assumed in the financial plan for the HTP.

FTA is a cooperating agency involved in the environmental review of the new Hudson River Tunnel and Rehabilitation of the North River Tunnel. Since a ROD is required from FTA to meet FTA CIG Program requirements, it is expected that FTA will issue a ROD for these elements of the HTP. Furthermore, since an environmental determination is required from FTA to meet FTA CIG Program requirements for Section 3 of the HYCC, a Categorical Exclusion is expected to be issued by the FTA for this element of the HTP in 2019.

1.7.3.5 Federal Railroad Administration

FRA is a proposed funding partner for HTP. FRA has jurisdiction over passenger and freight railroads, and administers competitive grants, dedicated grants, and loan programs. The purpose of FRA's financial

assistance programs is to support infrastructure projects which may improve safety, relieve congestion and enable the expansion of rail services. Recipients of financial assistance from the FRA may include commuter rail systems, and state and local governments.

The FRA is responsible for administering a dedicated capital grant program to Amtrak. Appropriated funds to Amtrak are divided by operating and capital expense accounts, and monitored by the FRA on a monthly basis.

The FRA is the Lead Federal Agency for the environmental review of the new Hudson River Tunnel and Rehabilitation of the North River Tunnel and it is expected that FRA will issue a FEIS and ROD for these elements of the HTP in 2019.

1.7.3.6 Build America Bureau

USDOT's Build America Bureau (the "Bureau") is responsible for driving transportation infrastructure development projects in the United States. The Bureau was created to streamline USDOT credit opportunities and grants, providing access to these programs with increased speed and transparency while also providing technical assistance and encouraging innovative best practices in project planning, financing, delivery, and monitoring. The Bureau combines the TIFIA and RRIF loan programs, Private Activity Bonds (PABs), and the INFRA grant program all within the Office of the Undersecretary for Transportation for Policy.

RRIF loan proceeds, repaid by local revenues, are anticipated to implement the HTP.

1.8 Description of the Hudson Tunnel Project

The North River Tunnel, a two-tube tunnel, which is the sole existing Hudson River crossing on the NEX, carrying Amtrak and NJ TRANSIT passenger rail service between New Jersey and PSNY, was opened in 1910 as part of the Pennsylvania Railroad's extension from New Jersey to Manhattan and was severely damaged during Superstorm Sandy in 2012. The North River Tunnel is a vital element of the NEC, the most heavily used passenger rail line in the U.S., both in terms of ridership and service frequency. Four of NJ TRANSIT's electrified rail lines - NEC, North Jersey Coast Line, Morris and Essex Lines, and Montclair-Boonton Line - provide direct, one-seat ride service into PSNY during peak and off-peak periods. NJ TRANSIT also operates off-peak Raritan Valley Line trains through the North River Tunnel to and from PSNY.

1.8.1 Hudson Tunnel Project Identification

For funding and financing purposes, the HTP consists of three project elements which are described below:

1. New Hudson River Tunnel: The construction of two new surface tracks parallel to the south side of the NEC beginning at a realigned Allied Interlocking in Secaucus, New Jersey just east of NJ TRANSIT's Secaucus Junction Station and a new two-track Hudson River Tunnel, parallel to the existing North River Tunnel, feeding into PSNY. This element is part of the on-going FRA NEPA Process (DEIS submitted 6/30/2017)[3]. An FTA NEPA determination is required to receive FTA CIG funding, as described in Section **Error! Reference source not found.**.
2. HYCC – Section 3: The construction of a concrete casing in the Western Rail Yard of LIRR's West Side Yard (Hudson Yards) in Manhattan, which preserves an underground ROW for the new tunnel; this

[3] http://www.hudsontunnelproject.com/deis.html

element has already received a FRA Finding of No Significance (FONSI for Supplemental Environmental Analysis 11/14/2014)[4]. An FTA NEPA determination is required to receive FTA CIG funding, as described in Section **Error! Reference source not found.**.

3. Rehabilitation of the Existing North River Tunnel: The rehabilitation of the existing North River Tunnel after the new tunnel has been constructed. This element is part of the on-going FRA NEPA Process (DEIS submitted 6/30/2017)[5]. An FTA NEPA determination is required to receive FTA CIG funding, as described in Section **Error! Reference source not found.**.

1.8.2 Hudson Tunnel Project Setting

The study area for the HTP extends along the NEC from Secaucus, New Jersey, beneath the Palisades (North Bergen and Union City) and the Hoboken waterfront area, and beneath the Hudson River to connect to the tracks in A Yard at PSNY.

The western terminus of the new tunnel and related tracks and infrastructure would be east of County Road in Secaucus, New Jersey, and the eastern terminus would be at approximately Ninth Avenue in Manhattan, New York. New ventilation shafts and associated fan plants would be located above the tunnel in New Jersey and New York for regular and emergency ventilation and emergency access (see **Error! Reference source not found.**). The new tunnel would make use of the HYCC that is being constructed along the southern edge of the West Side Yard and extends from the north side of West 30th Street to the west side of Tenth Avenue. Two of the three right-of-way preservation sections have been completed. The third section, included in this submission, completes the rail right-of-way beneath the extensive overbuild project that is planned to be constructed on a platform above the rail complex, known as "Hudson Yards" (see **Error! Reference source not found.**).

The proposed HTP will allow multiple NJ TRANSIT rail services throughout the state to feed into and utilize the tunnel and PSNY, including NEC, North Jersey Coast Line, Morristown Line, Montclair-Boonton Line, Gladstone Branch, and Raritan Valley Line trains. Numerous Amtrak Intercity services will also utilize the tunnel and PSNY, including Acela Express, Northeast Regional, Keystone, and multiple long distance trains.

[4] https://www.fra.dot.gov/eLib/details/L16101

[5] http://www.hudsontunnelproject.com/deis.html

Figure 1-4 Hudson Tunnel Project Location Map

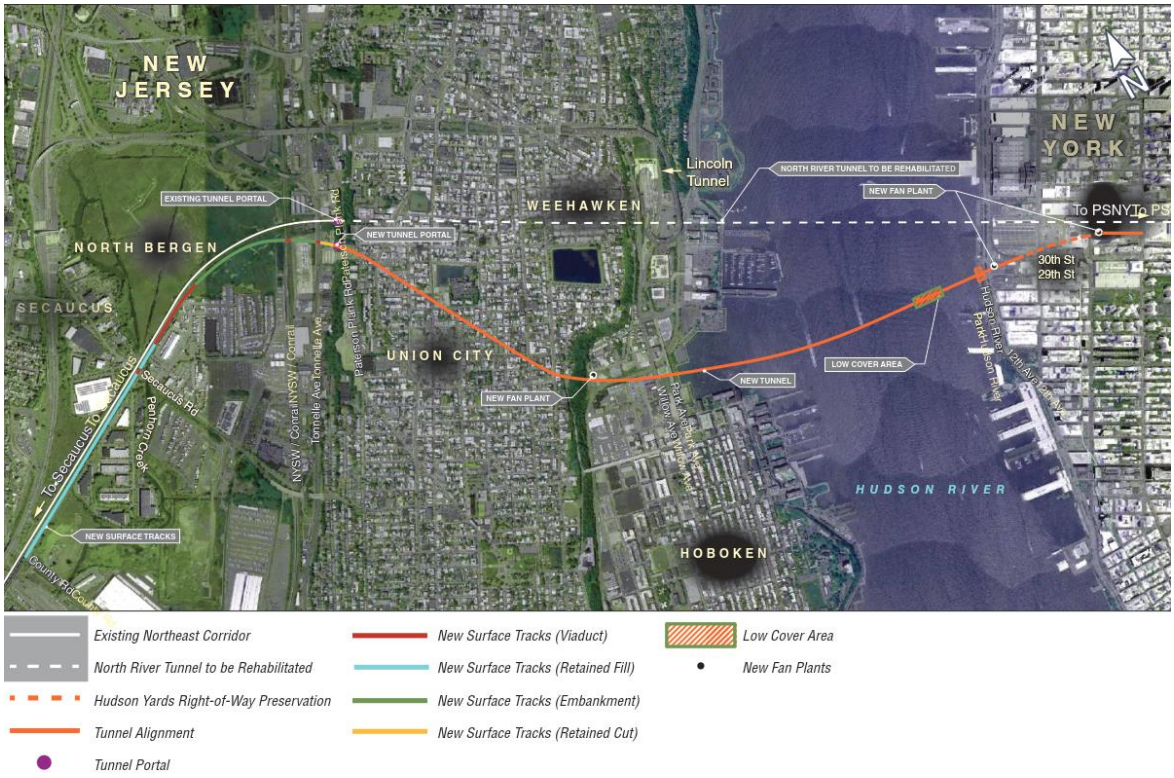
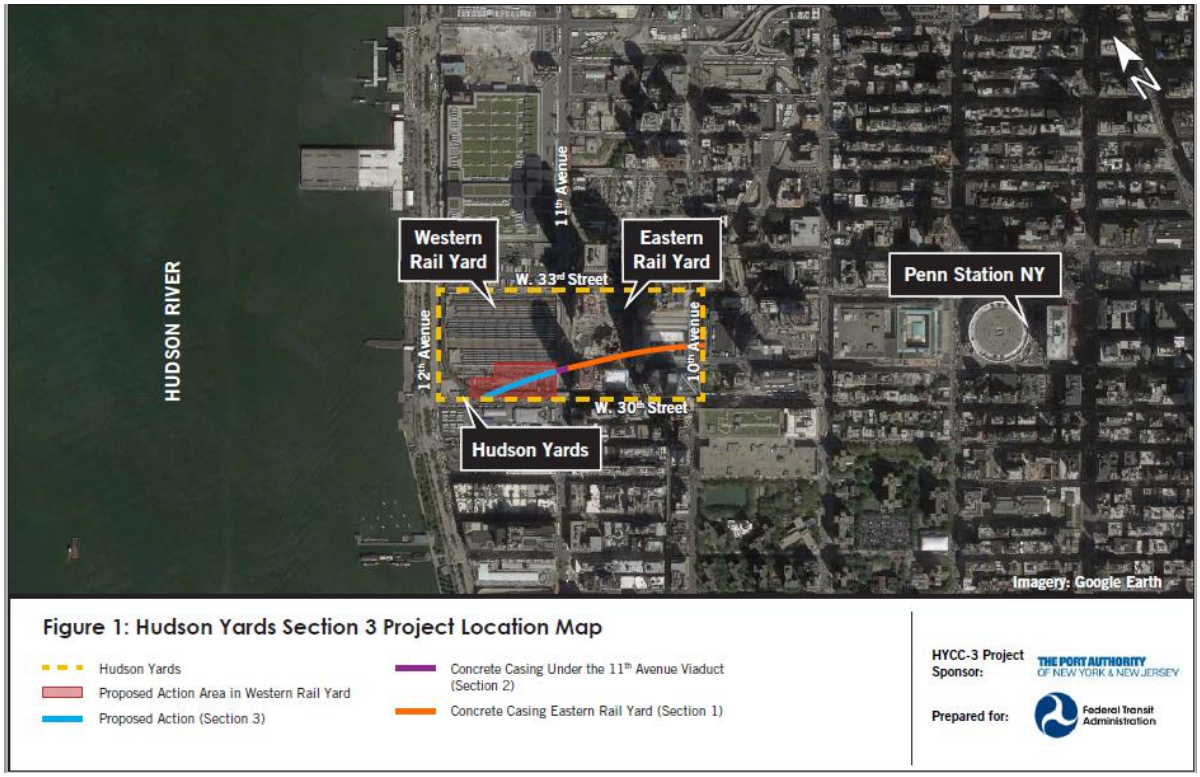


Figure 1-5 HYCC – Section 3 Location Map



1.8.3 Hudson Tunnel Project Current Conditions

The North River Tunnel, built in 1910 as part of the construction of PSNY, is more than 100 years old and was designed and built to early 20th century standards. Service reliability through the tunnel, already suboptimal because of the tunnel's age and antiquated design, has been further compromised because of the damage to tunnel components caused by Superstorm Sandy in 2012. The storm inundated both tubes of the tunnel with seawater above the height of the bench walls at the tunnel's lowest point, and deposited chlorides which remain in the tunnel's concrete liner (i.e., the inner lining of the tunnel), bench walls (the low walls on both sides of the track in each tube which provide walkways and contain utility conduits), and ballast, causing ongoing damage to tunnel components.

The North River Tunnel continues to have significant electrical and mechanical failures because of seawater inundation during Superstorm Sandy. Chlorides from the seawater remain throughout the tunnel's structural, mechanical, and electrical infrastructure, causing unpredictable damage resulting in disabled trains and significant delays. These important rail connections facilitate the movement of over 200,000 train passengers per day between New Jersey and New York and are currently single points-of-failure for the region whose economy drives 10% of America's gross domestic product[6]. Since Superstorm Sandy, Amtrak has been undertaking ongoing repairs to the tunnel. This involves scheduled work during evening off-peak periods as well as full closure of one tube each weekend for a 55-hour window beginning on Friday evening and ending early on Monday morning. These closures dramatically limit the number of trans-Hudson trains that can be operated on a given weekend day and constrain NJ TRANSIT's ability to serve current customer demand for weekend travel. Additional emergency maintenance, required when tunnel components fail, has been necessary with increasing frequency since Superstorm Sandy and this disrupts service for hundreds of thousands of rail passengers throughout the region.

According to analysis of NEC delay data performed by the staff of the NEC Commission at the request of Amtrak and NJ TRANSIT, there were 65 major infrastructure failure incident delay days between 2014 and 2018 causing more than five hours of total train delays for NJ TRANSIT and Amtrak passengers. Infrastructure issues caused 45 of those incidents, resulting in 2,500 delayed trains and 65,800 train delay minutes. Signal problems generated 13% of the delay minutes, including signal power or control issues and track occupancy light issues. Track occupancy light issues were more frequent since track circuits can be affected by broken rail, failed insulated joints, standing water or other defects in the signal circuit. Track conditions generated 31% of the delay minutes and 20 of the 65 days. Overhead power, including catenary or transmission power failures generated 35% of the delay minutes for the North River Tunnel. The existing 1-track-in, 1-track out system under the Hudson River for NJ TRANSIT and Amtrak provides no operational flexibility or redundancy, resulting in significant delays up and down the NEC when these incidents occur. That is, when an incident takes one tube out of service, traffic in and out of PSNY must use the one remaining tube resulting in significant delays that would be mitigated or eliminated by the new paths into and out of PSNY created by the two additional tubes to be constructed by the HTP.

The rehabilitation of the North River Tunnel by the HTP will comprehensively address the causes of unreliability and infrastructure failures of the existing tubes, bring them to a state of good repair (SOGR) and extend their service life well into the next century. In the meantime, Amtrak performs regular maintenance as described above that keeps the tubes safe and operational to the fullest extent possible without requiring long-term closure of the tubes. Amtrak has completed a structural inspection of all 6 subaqueous tubes serving PSNY and has compiled a catalog of designs for isolated repair details that

[6] https://nec.amtrak.com/resource/gateway-program-economic-benefits-report/

are being implemented on an as-needed basis to keep the tunnels safe and operational until a full rehabilitation outage. Amtrak has personnel, equipment and materials ready to address emergencies as they arise which has allowed Amtrak to successfully bring the tubes back into service quickly after incidents. This enhanced maintenance will continue to be diligently performed by Amtrak as owner and operator of the NEC while the HTP is constructed.

1.8.4 Hudson Tunnel Project Purpose

The purpose of the HTP is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and PSNY.

The HTP addresses a specific need stemming from the deterioration of the existing North River Tunnel and is considered independently from the capacity-enhancing projects analyzed in NEC FUTURE and proposed in Gateway Program planning documents.

The North River Tunnel Rehabilitation project element will address the causes of chronic unreliability and bring the tunnel to a state of good repair. It includes the following scope: bench wall and duct bank removal and reconstruction; replacement of the antiquated ballast track system to ballast-less track system; installation of new signal, communication, and power cables and associated components; and replacement of in-tunnel fire/life safety systems while maintaining all required systems and tunnel ventilation to protect construction workers during tunnel construction.

Deteriorating bench walls will be demolished to allow for detailed inspection and repair of the tunnel liner, reconfiguration of the replacement bench walls to better conform with current code and evacuation requirements via level disembarking from trains and unobstructed paths to safety, better and safer access to and segregation of tunnel systems to achieve maintenance efficiency and increased access to the undercarriage of trains to service disabled equipment or extinguish under-train fires, all of which are currently prohibited by the existing tunnel bench wall arrangement.

A ballast-less track system will eliminate the drainage-clogging and pump-fouling ballast fines from the tunnel environment; allow for expanded, open and accessible in-track drainage; mitigate stray current and rail corrosion issues by expediting drainage and elevating the running and third rail on new rubber-isolated blocks/pedestals; and fix the ideal rail profile and alignment without the periodic degradation and rail gage issues caused by wooden ties. A ballast-less track system will significantly reduce split rails from corrosion and wide gage from tie deterioration, two of the current leading causes of derailments in the tunnel and PSNY complex. The associated conventional, LiDAR and Amberg Trolley survey of all aspects of the existing tunnels will allow for a new optimized rail profile and alignment that better maximizes electrical clearances, in-track drainage, and dynamic train car body envelope clearances within the tight constraints of the historic tubes.

The new signal system will be fiber / microprocessor based (compatible with that installed elsewhere on the Northeast Corridor) that allows critical logic components to be relocated out of the tunnels leaving only easily swappable units in the tunnels to maximize recoverability from in-tunnel incidents. The signal system will be 'Rule 562' or 'cab-no-wayside' which removes all but one mid-river wayside signal (a physical signal located on the bench wall), conforming with modern operating procedures and removing the largest physical obstructions on the bench walls (signal masts and cabinets) for improved egress pathing and maintenance access.

Power cables which are subject to random failure after superstorm sandy (high voltage traction power feeders, high voltage facilities power feeders, signal power and low voltage power supply) will be replaced with modern equivalents and appropriately segregated to allow rapid maintenance with minimal personnel. The overhead catenary system will be replaced in its entirety, replacing the degrading historic connections to the existing tunnel liner and updating all arms and insulator assemblies.

Communications, security and fire/life safety components will be replaced and upgraded to a modern standard. (Amtrak, as part of a separate effort, is performing an in-tunnel Live Fire Detection Test program to drive design criteria development by testing multiple systems in the unique tunnel environment.) Security systems will be augmented with improved access control, full-tunnel camera monitoring and modern analytics/algorithms to detect intruders or events. All fire and life safety components will be integrated in a cohesive Supervisory Control and Data Acquisition system for remote operating, monitoring and control.

The existing tunnel concrete lining is structurally sound, but it is necessary to inspect hidden regions of the liner (below track and behind bench walls) and perform localized crack, leakage, and spall repairs to extend the core structural service life through the next century and beyond.

When finished, the rehabilitated tunnels will restore confidence in the NEC and the tunnel, provide more reliable service, improved resiliency from in-tunnel events, reduced maintenance costs and associated time the tunnel must be out of service, a much safer environment for maintenance workers, first responders and the public in the event of an evacuation and a comprehensive re-build that resets the service life of all aspects of the tunnel.

The HTP addresses resilience of the NEC Hudson River crossing and would not increase rail capacity. Although the HTP may be an element of a larger program to expand rail capacity in the future, it meets an urgent need to preserve existing service and is being evaluated accordingly. Ultimately, no increase in service between Newark Penn Station and PSNY could occur until other substantial infrastructure capacity improvements, such as those considered as part of NEC FUTURE, including the Gateway Program, are built in addition to expanded trans-Hudson capacity.

The HTP is critical to the regional and national economy and environmental well-being. Construction of the new Hudson River Tunnel avoids the looming disastrous scenario of a closure of one of the two tubes of the existing North River Tunnel prior to construction and completion of a new Hudson River Tunnel. Closure of one tube of the existing North River Tunnel could reduce train capacity by up to 75%. The 24 trains per hour that ordinarily use the existing tunnel would drop to as few as 6, which would cripple the region's economy and have impacts nationwide.

The new Hudson River Tunnel, together with a rehabilitated North River Tunnel, will result in the NEC having four tracks (two in the new Hudson River Tunnel and two in the existing North River Tunnel) between New Jersey and New York under the Hudson River, which would provide operational flexibility and redundancy for passenger and intercity rail operations. Furthermore, the HTP improves operational flexibility and resiliency to provide a more reliable rail travel experience through the following additional benefits:

- The four tubes of the HTP provide additional flexibility to route trains in and out of PSNY, reducing conflicts on the approach tracks to PSNY, thereby improving the utilization of platforms available to serve trains. This operational flexibility reduces congestion at PSNY and improves reliability for NJ TRANSIT and Amtrak riders;

- The additional two tubes constructed as part of the HTP allow operational flexibility for weekend service, which is currently severely restricted by single track operations through the North River Tunnel due to necessary maintenance (regular maintenance work to track, signal, electric traction systems), essential to keeping the systems in use, prior to any shut-downs for major, possibly emergency projects;
- The new tubes are designed to be fully compliant with National Fire Protection Association (NFPA) 130, the fire and safety code governing passenger rail systems;
- The HTP enables the region to mitigate impacts to infrastructure and service due to severe and extreme weather events. It provides a more resilient overall system that can withstand natural disasters, such as major storms and floods, since it is been designed to meet a higher flood design criterion that includes sea level rise;
- The continued deterioration of the existing tubes of the North River Tunnel will result in more frequent delays due to component failures within the tunnel. The lack of redundant capability across the Hudson River means that any service outage, either unplanned or for planned maintenance, results in substantial reductions to NEC reliability and on-time performance. Once the new tubes are constructed as part of the HTP, maintenance can take place without these service disruptions since having the new tubes in place will provide alternate train paths; and
- The HTP does not preclude any future phases of the Gateway Program and allows for connections to future capacity expansion projects. Building the new tubes gets the region one step closer to meeting future travel demands along the NEC for weekdays as well as weekend service.

1.8.5 Hudson Tunnel Project Summary

The HTP is the result of many years of strategic planning to provide more reliable and operationally sound railroad infrastructure.

Upon completion of the HTP, four tracks (two in the new Hudson River Tunnel and two in the North River Tunnel) will be available between New Jersey and New York under the Hudson River, which allow for operational flexibility and redundancy for Amtrak and NJ TRANSIT rail operations to maintain current capacity levels.

The HTP is critical as it supports commuter rail (public transportation), intercity, regional, and local mobility and associated economic benefits regionally and nationally, provides a more cost-effective transit system due to lower operation and maintenance costs, reduces commuter and intercity rail delays caused by unanticipated events or routine maintenance, and increases on-time performance.

2.0 PORTAL NORTH BRIDGE PROJECT FINANCIAL PLAN

This Chapter describes the proposed plan for funding the capital and operating costs of the PNB Project[7].

The PNB Project is estimated to cost $1.873 billion in YOE dollars (and $1.636 billion in YOE exclusive of financing costs). The Core Capacity portion is estimated to cost $1.716 billion in YOE dollars (and $1.479 billion in YOE exclusive of financing costs). These values include the estimated unallocated contingency. Upon the completion of construction, the PNB Project is expected to yield annual savings of at least $1.4 million in operating and maintenance (O&M) expense. This Chapter 2 describes these costs and savings and how they were derived.

2.1 Portal North Bridge Financial Plan Revisions since FTA FY 2020 Rating

This version of the PNB financial plan includes revisions which address FTA's recommendations and feedback documented in its FY2020 Core Capacity Financial Assessment. In particular, NJ TRANSIT and Amtrak have:

- Obtained commitments for non-Section 5309 CIG program funds as described in Section 2.2.2 and documented in supporting documents B-3, B-10, B-11, B-12, B-13, B-14, B-17, B-21, B-22, G-11, and G-14. All of the non-Section 5309 funds are budgeted and/or committed as defined by FTA. These capital funds have been formally programmed, or will be formally programmed by October 2019 as described herein. As part of these additional commitments:
    - Amtrak and NJ TRANSIT executed a "Funding and Coordination Agreement", documented in supporting document B-17, which commits additional funds to the PNB Project, including cost overruns, as described in Section 2.2.2.1.3.
    - Amtrak committed additional funds to the PNB Project, including $55 million of Amtrak passenger revenues for the intercity rail portion, as described in Section 2.2.2.1.2, and documented in supporting document G-14.
    - The Statewide Transportation Improvement Program (STIP) is being updated as described in Section 2.2.2.4, to dedicate funds to the PNB Project to cover projects costs and overruns including, but not limited to, annual debt service payment.
        - The NJTA has committed an annual contribution of $25 million to further support the PNB Project, as documented in supporting documents B-21 and B-22.
- Updated the project schedule in the financial plan and Standard Cost Category (SCC) template to reflect the latest project information. Additional details are provided in Table 2-4.
- Addressed FTA's June 29, 2018 policy directive documented in a "Dear Colleague" letter and its recommendation in the December 2018 Risk Assessment Refresh regarding the PNB Project

[7] As noted in Chapter 1, the PNB Project is an element, with independent utility, of the larger Gateway Program, a comprehensive rail investment program focused on the area between Newark Penn Station, NJ and PSNY. The proposed Project will replace the existing two-track Portal Bridge, which has become a bottleneck for NJ TRANSIT and Amtrak operations, with a new two-track fixed structure. The entire project will be approximately 2.44 miles long, which includes approximately 6,800 linear feet of elevated structures to be built on the east and west sides of the Hackensack River, as well as crossing directly over the Hackensack river, and approximately 6,100 feet of railroad embankment sections. The bridge span directly over the Hackensack River will have a clearance that accommodates current and forecasted maritime traffic, thereby eliminating the need for a movable span that interrupts rail operations and results in delays due to mechanical failures. The new bridge design will improve reliability, allowing NJ TRANSIT to operate longer and higher capacity trains. Additionally, trains will be able to cross the bridge at 90 mph, up from 60 mph today.

NJ TRANSIT is and will continue to be the Project Sponsor for the PNB Project and has received a ROD from the FRA and the FTA.

cost estimate by incorporating the P-65 project cost estimate. This financial plan also increases the project cost escalation rate from 3.5% to 5%, per FTA's recommendation in the FY20 financial assessment. Additional details are provided in Sections 2.4.2.1.1 and 2.4.2.1.2.

2.2 Capital Plan

The capital plan for the PNB Project reflects the estimated cost and schedule. It describes anticipated funding sources, amounts anticipated from each source, and the level of commitment of non-federal sources. Contingencies and mitigation measures for cost increases and revenue shortfalls are discussed in Section 2.4.

Since the PNB Project will serve both NJ TRANSIT commuter rail and Amtrak intercity passenger rail, FTA guidelines require that separate funding approaches for the transit and intercity rail shares of project costs must be defined. Based on existing weekday peak period ridership counts, approximately 90 percent of all passengers crossing the existing Portal Bridge are travelling via NJ TRANSIT commuter rail service while the remaining 10 percent travel via Amtrak's intercity rail service. Corresponding to this passenger utilization, for the purposes of this capital plan, 90 percent of the PNB Project cost is considered an investment in public transportation (Core Capacity portion) and 10 percent of the PNB Project is an investment in intercity rail (intercity rail portion). Accordingly, the discussion of funding sources differentiates contributions to the costs of each respective rail mode.

2.2.1 Capital Plan Uses of Funds

The capital plan uses of funds is comprised of project capital costs, grant anticipation notes (GANs) financing charges, NJEDA bond financing and its subsequent debt service. The entire annual debt service for the $600 million NJEDA bond proceeds is reflected in NJ TRANSIT's system-wide capital plan in Chapter 4, Section 4.2.4. For the purposes of this financial plan, the financing charges for the $555 million portion of NJEDA debt proceeds applied towards the base estimate of project capital costs are considered eligible financing charges as defined by FTA. Capital plan uses of funds are summarized in Table 2-1.

Table 2-1 Project Capital Uses of Funds (YOE $M)

Project Uses	YOE $M	%
Project Capital Costs	1,636	87%
GAN Financing Charges	47	3%
NJEDA Bond Financing Charges for $555 million proceeds	190	10%
Total Project Uses	**1,873**	**100%**
Debt Service	**YOE $M**	**%**
NJEDA Bond Debt Service for $555 million proceeds (excluding interest during Core Capacity Grant disbursement period)	835	100%
Total Debt Service	**835**	**100%**
Total Uses	**2,708**	

Cost Overruns Project Uses (15% Sensitivity)	YOE $M	%
Project Capital Costs	245	100%
Incremental NJEDA Bond Financing Charges	0	0%
Project Cost Overruns	**246**	**100%**

Debt Service Uses for excess NJEDA Bond Proceeds of $45M ($600M Approved minus $555M for Base Project Cost)	YOE $M	%
Incremental debt service during CIG period	22	27%
Incremental debt service after CIG period	61	73%
Debt Service Uses for excess NJEDA Bond Proceeds of $45M	**83**	**100%**

Note: Dollar values are rounded to the nearest million.

2.2.1.1 Project Capital Costs

The total cost of the PNB Project presented in this financial plan submittal is estimated at approximately $1.355 billion in base year 2019 dollars, exclusive of finance costs[8].

The major bridge-building activities, which are under the subject financial plan, are set to commence in October 2020 assuming FTA provides approval into the engineering phase in January 2020 with an anticipated Full Funding Grant Agreement (FFGA) execution in June 2020. At FTA's request, an escalation factor of 5 percent compounded annually has been included in the calculation to determine the YOE cost of the PNB Project, which is estimated at $1.636 billion in YOE cost, exclusive of finance costs, and $1.873 billion including finance costs consistent with the P-65 cost value as identified through FTA's June 29, 2018 policy directive documented in a "Dear Colleague" letter and "Risk Assessment Refresh, Spot Report 0002, Risk and Contingency Review" dated December 13, 2018 (wherein "P" is the probability (measured in percent) of the occurrence of completing the project at a certain cost, ranging between 0 percent and 100 percent). Additional discussion regarding the FTA Risk Assessment and project cost escalation rate assumption are provided in Section 2.4.2.1.1 and Section 2.4.2.1.2. The Core Capacity portion is estimated to cost $1.479 billion in YOE dollars, exclusive of financing costs, and $1.716 billion

[8] The PNB Project's "early-action" construction work is not included in this CIG application or the $1,355 billion PNB Project estimate and is not a component of this financial plan submittal. This early action work included site access; the construction of a pier in the Hackensack River; construction of a Retaining Wall; the relocation of Amtrak's 138kv transmission line onto 2 new towers; the relocation of several fiber optic lines; and utility relocation activities. This early action work was funded through TIGER Grant No. FR-TII-0038-16-01-00 in the amount of $16 million, that was previously awarded to NJ TRANSIT on September 13, 2016. NJ TRANSIT contributed a local match of $4 million. The early work activities were completed in February 2019, on time and approximately $2 million under budget.

including financing costs. The intercity portion is expected to cost $156 million in YOE dollars. These values include estimated unallocated contingency. The overall construction duration, excluding the early works, is approximately six years.

The base cost estimate for the PNB Project was prepared in 2013 by an engineering consortium called "Portal Partners, Inc." under its contract with NJ TRANSIT, and led by engineering consultants Gannett Fleming, Inc., HNTB, and the Jacobs Engineering Group. The estimated costs are presented in its respective "hard cost" and "soft cost" values. The soft costs are comprised of the following activities:

- design services;
- project management and administrative costs;
- construction administration and management services;
- insurance;
- permits;
- fees; and
- railroad force account support by both Amtrak and NJ TRANSIT forces.

In addition to the costs associated with the construction of the new PNB, the PNB Project scope and budget also includes the purchase of 25 commuter railcars, costing a total of $55.1 million in 2019 dollars, and $71.3 million in YOE dollars. This cost is based on the price and timing of payments set forth in executed contract #17-012. Based on this contract the price for the 25 commuter railcars is not subject to inflation and cannot be further adjusted. The 25 commuter railcars dedicated to the PNB project are included as Option A in contract #17-012. This option has not yet been exercised.

The PNB Project's capital cost, expenditures by year, and schedule - per FTA's SCC worksheets - are presented in Table 2-2, Table 2-3, and Table 2-4, respectively.

Table 2-2 Portal North Bridge Project Capital Costs – FTA Main Worksheet

MAIN WORKSHEET-BUILD ALTERNATIVE (Rev.21, June 2019)

NJ TRANSIT		Today's Date	9/13/19
Portal (North) Bridge		Yr of Base Year $	2019
Core Capacity Rating Application		Yr of Revenue Ops	2027

	Quantity	Base Year Dollars w/o Contingency (CC+SGR+ICR) (X000)	Base Year Dollars Allocated Contingency (CC+SGR+ICR) (X000)	Total Base Year Dollars (CC+SGR+ICR) (X000)	Core Capacity % (excluding SGR and intercity rail)	Base Year Dollars w/o Allocated Contingency (CC Only)	Base Year Dollars Allocated Contingency (CC Only)	Total Base Year Dollars (CC Only)	Total Base Year Dollars Percentage of Construction Cost	Total Base Year Dollars Percentage of Total Project Cost	Base Year Dollars (Core Capacity Only) Percentage of Total Project Cost	YOE Dollars (CC+SGR+ICR) (X000)	YOE Dollars (Core Capacity Only)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	**0.00**	496,505	73,660	570,164	90%	446,854	66,294	513,148	**64%**	**37%**	**34%**	**680,723**	**612,650**
10.01 Guideway: At-grade exclusive right-of-way		0	0	0	90%	0	0	0				0	**0**
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)		0	0	0	90%	0	0	0				0	**0**
10.03 Guideway: At-grade in mixed traffic		0	0	0	90%	0	0	0				0	**0**
10.04 Guideway: Aerial structure		436,580	65,487	502,067	90%	392,922	58,938	451,860				599,421	**539,479**
10.05 Guideway: Built-up fill		0	0	0	90%	0	0	0				0	**0**
10.06 Guideway: Underground cut & cover		0	0	0	90%	0	0	0				0	**0**
10.07 Guideway: Underground tunnel		0	0	0	90%	0	0	0				0	**0**
10.08 Guideway: Retained cut or fill		43,601	6,540	50,142	90%	39,241	5,886	45,127				59,864	**53,878**
10.09 Track: Direct fixation		0	0	0	90%	0	0	0				0	**0**
10.10 Track: Embedded		0	0	0	90%	0	0	0				0	**0**
10.11 Track: Ballasted		9,868	987	10,855	90%	8,882	888	9,770				12,960	**11,664**
10.12 Track: Special (switches, turnouts)		6,455	645	7,100	90%	5,809	581	6,390				8,477	**7,629**
10.13 Track: Vibration and noise dampening		0	0	0	90%	0	0	0				0	**0**
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	**0**	0	0	0	90%	0	0	0	**0%**	**0%**	**0%**	**0**	**0**
20.01 At-grade station, stop, shelter, mall, terminal, platform		0	0	0	90%	0	0	0				0	**0**
20.02 Aerial station, stop, shelter, mall, terminal, platform				0		0	0	0				0	**0**
20.03 Underground station, stop, shelter, mall, terminal, platform				0		0	0	0				0	**0**
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.				0		0	0	0				0	**0**
20.05 Joint development				0		0	0	0				0	**0**
20.06 Automobile parking multi-story structure				0		0	0	0				0	**0**
20.07 Elevators, escalators				0		0	0	0				0	**0**
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0.00	0	0	0	90%	0	0	0	**0%**	**0%**	**0%**	**0**	**0**
30.01 Administration Building: Office, sales, storage, revenue counting		0	0	0	90%	0	0	0				0	**0**
30.02 Light Maintenance Facility				0		0	0	0				0	**0**
30.03 Heavy Maintenance Facility				0		0	0	0				0	**0**
30.04 Storage or Maintenance of Way Building				0		0	0	0				0	**0**
30.05 Yard and Yard Track				0		0	0	0				0	**0**
40 SITEWORK & SPECIAL CONDITIONS	0.00	179,885	17,989	197,874	90%	161,897	16,190	178,086	**22%**	**13%**	**12%**	**232,558**	**209,302**
40.01 Demolition, Clearing, Earthwork		15,432	1,543	16,975	90%	13,889	1,389	15,278				19,951	**17,956**
40.02 Site Utilities, Utility Relocation		3,148	315	3,463	90%	2,833	283	3,117				4,070	**3,663**
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		26,013	2,601	28,614	90%	23,412	2,341	25,753				33,630	**30,267**
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		2,341	234	2,575	90%	2,107	211	2,318				3,027	**2,724**
40.05 Site structures including retaining walls, sound walls		0	0	0	90%	0	0	0				0	**0**
40.06 Pedestrian / bike access and accommodation, landscaping		0	0	0	90%	0	0	0				0	**0**
40.07 Automobile, bus, van accessways including roads, parking lots		30,067	3,007	33,073	90%	27,060	2,706	29,766				38,871	**34,983**
40.08 Temporary Facilities and other indirect costs during construction		102,885	10,288	113,173	90%	92,596	9,260	101,856				133,011	**119,710**
50 SYSTEMS	0.00	109,421	10,942	120,363	90%	98,479	9,848	108,327	**14%**	**8%**	**7%**	**150,088**	**135,079**
50.01 Train control and signals		20,517	2,052	22,569	90%	18,465	1,847	20,312				28,143	**25,328**
50.02 Traffic signals and crossing protection		0	0	0		0	0	0				0	**0**
50.03 Traction power supply: substations		28,727	2,873	31,600	90%	25,854	2,585	28,440				39,404	**35,464**
50.04 Traction power distribution: catenary and third rail		41,201	4,120	45,321	90%	37,081	3,708	40,789				56,514	**50,862**
50.05 Communications		14,971	1,497	16,469	90%	13,474	1,347	14,822				20,536	**18,482**
50.06 Fare collection system and equipment		0	0	0		0	0	0				0	**0**
50.07 Central Control		4,004	400	4,405	90%	3,604	360	3,964				5,492	**4,943**
Construction Subtotal (10 - 50)	0.00	785,811	102,590	888,401		707,230	92,331	799,561	**100%**	**58%**	**52%**	**1,063,369**	**957,032**
60 ROW, LAND, EXISTING IMPROVEMENTS	0.00	18,799	0	18,799	90%	16,919	0	16,919		**1%**	**1%**	**19,933**	**17,940**
60.01 Purchase or lease of real estate		11,843	0	11,843	90%	10,659	0	10,659				12,558	**11,302**
60.02 Relocation of existing households and businesses		6,955	0	6,955	90%	6,260	0	6,260				7,375	**6,638**
70 VEHICLES (number)	**25**	52,454	2,623	55,077	100%	52,454	2,623	55,077		**11%**	**4%**	**71,329**	**71,329**
70.01 Light Rail		0	0	0		0	0	0				0	**0**
70.02 Heavy Rail		0	0	0		0	0	0				0	**0**
70.03 Commuter Rail	25	52,454	2,623	55,077	100%	52,454	2,623	55,077				71,329	**71,329**
70.04 Bus		0	0	0		0	0	0				0	**0**
70.05 Other		0	0	0		0	0	0				0	**0**
70.06 Non-revenue vehicles		0	0	0		0	0	0				0	**0**
70.07 Spare parts		0	0	0		0	0	0				0	**0**
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	0.00	149,639	14,964	164,603	90%	134,675	13,468	148,143	**19%**	**11%**	**10%**	**206,357**	**185,721**
80.01 Project Development		1,920	192	2,112	90%	1,728	173	1,901				2,648	**2,383**
80.02 Engineering		25,495	2,549	28,044	90%	22,945	2,295	25,240				35,158	**31,643**
80.03 Project Management for Design and Construction	2%	13,818	1,382	15,199	90%	12,436	1,244	13,679				19,055	**17,149**
80.04 Construction Administration & Management	9%	70,819	7,082	77,901	90%	63,738	6,374	70,111				97,662	**87,896**
80.05 Professional Liability and other Non-Construction Insurance	1%	7,869	787	8,656	90%	7,082	708	7,790				10,851	**9,766**
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		1,000	100	1,100	90%	900	90	990				1,379	**1,241**
80.07 Surveys, Testing, Investigation, Inspection		0	0	0		0	0	0				0	**0**
80.08 Start up		28,718	2,872	31,590	90%	25,846	2,585	28,431				39,603	**35,643**
Subtotal (10 - 80)	0.00	1,006,703	120,177	1,126,879		911,278	108,421	1,019,699		**81%**	**67%**	**1,360,988**	**1,232,023**
90 UNALLOCATED CONTINGENCY				228,180	90%			205,362				**274,777**	**247,299**
Subtotal (10 - 90)	0.00			1,355,059				1,225,061				**1,635,766**	**1,479,322**
100 FINANCE CHARGES (CC Only)				175,352				175,352				**236,862**	**236,862**
Total Project Cost (10 - 100)	0.00			1,530,411				1,400,413				**1,872,627**	**1,716,184**

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Table 2-3 Portal North Project Capital Costs – FTA Inflation Worksheet

BASE YEAR DOLLARS (X$000)	Base Yr (CC+SGR) Dollars	Double-Check Total (CC+SGR)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
10 GUIDEWAY & TRACK ELEMENTS (route miles)	570,164	570,164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34,210	202,921	292,608	30,333	7,184	2,908	0	0	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 SITEWORK & SPECIAL CONDITIONS	197,874	197,874	0	0	0	0	0	0	0	0	0	0	0	0	0	811	66,505	93,931	11,081	1,860	3,087	10,883	9,716	0	0
50 SYSTEMS	120,363	120,363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,322	11,880	45,678	43,138	13,493	2,853	0	0	0
60 ROW, LAND, EXISTING IMPROVEMENTS	18,799	18,799	0	0	0	0	0	0	0	0	0	0	163	379	380	13,288	4,589	0	0	0	0	0	0	0	0
70 VEHICLES (number)	55,077	55,077	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15,404	0	0	37,259	0	2,414	0	0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	164,603	164,603	0	0	0	0	0	0	0	0	0	0	522	1,044	2,500	6,421	25,686	25,686	25,686	25,686	14,448	14,448	14,448	8,027	0
90 UNALLOCATED CONTINGENCY	228,180	228,180	0	0	0	0	0	0	0	0	0	0	0	0	0	4,389	28,728	71,528	80,220	21,606	8,173	6,650	5,168	1,717	0
100 FINANCE CHARGES (CC Only)	175,352	175,352	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,467	21,972	27,992	26,274	24,640	22,121	19,506	16,795	13,586
Total Project Cost (10 - 100)	1,530,411	1,530,411	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**684**	**1,423**	**2,880**	**24,910**	**165,507**	**443,322**	**483,264**	**148,897**	**108,284**	**59,863**	**51,252**	**26,538**	**13,586**
Inflation Rate			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Compounded Inflation Factor			1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.050	1.103	1.158	1.216	1.276	1.340	1.407	1.477	1.551	1.629
YEAR OF EXPENDITURE DOLLARS (X$000)	YOE Dollars (CC+SGR)		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
10 GUIDEWAY & TRACK ELEMENTS (route miles)	680,723												0	0	0	0	37,716	234,907	355,667	38,713	9,627	4,092	0	0	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	0												0	0	0	0	0	0	0	0	0	0	0	0	0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0												0	0	0	0	0	0	0	0	0	0	0	0	0
40 SITEWORK & SPECIAL CONDITIONS	232,558												0	0	0	852	73,322	108,737	13,469	2,374	4,137	15,314	14,354	0	0
50 SYSTEMS	150,088												0	0	0	0	3,663	13,752	55,522	55,056	18,081	4,014	0	0	0
60 ROW, LAND, EXISTING IMPROVEMENTS	19,933												163	379	380	13,952	5,059	0	0	0	0	0	0	0	0
70 VEHICLES (number)	71,329												0	0	0	0	0	17,832	0	0	49,931	0	3,566	0	0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	206,357												522	1,044	2,500	6,743	28,319	29,735	31,221	32,783	19,362	20,330	21,347	12,452	0
90 UNALLOCATED CONTINGENCY	274,777												0	0	0	4,609	31,673	82,803	97,508	27,576	10,953	9,358	7,636	2,663	0
100 FINANCE CHARGES (CC Only)	236,862												0	0	0	0	2,719	25,435	34,024	33,533	33,020	31,127	28,819	26,054	22,130
Total Project Cost (10 - 100)	1,872,627		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**684**	**1,423**	**2,880**	**26,155**	**182,471**	**513,201**	**587,411**	**190,034**	**145,111**	**84,234**	**75,723**	**41,170**	**22,130**

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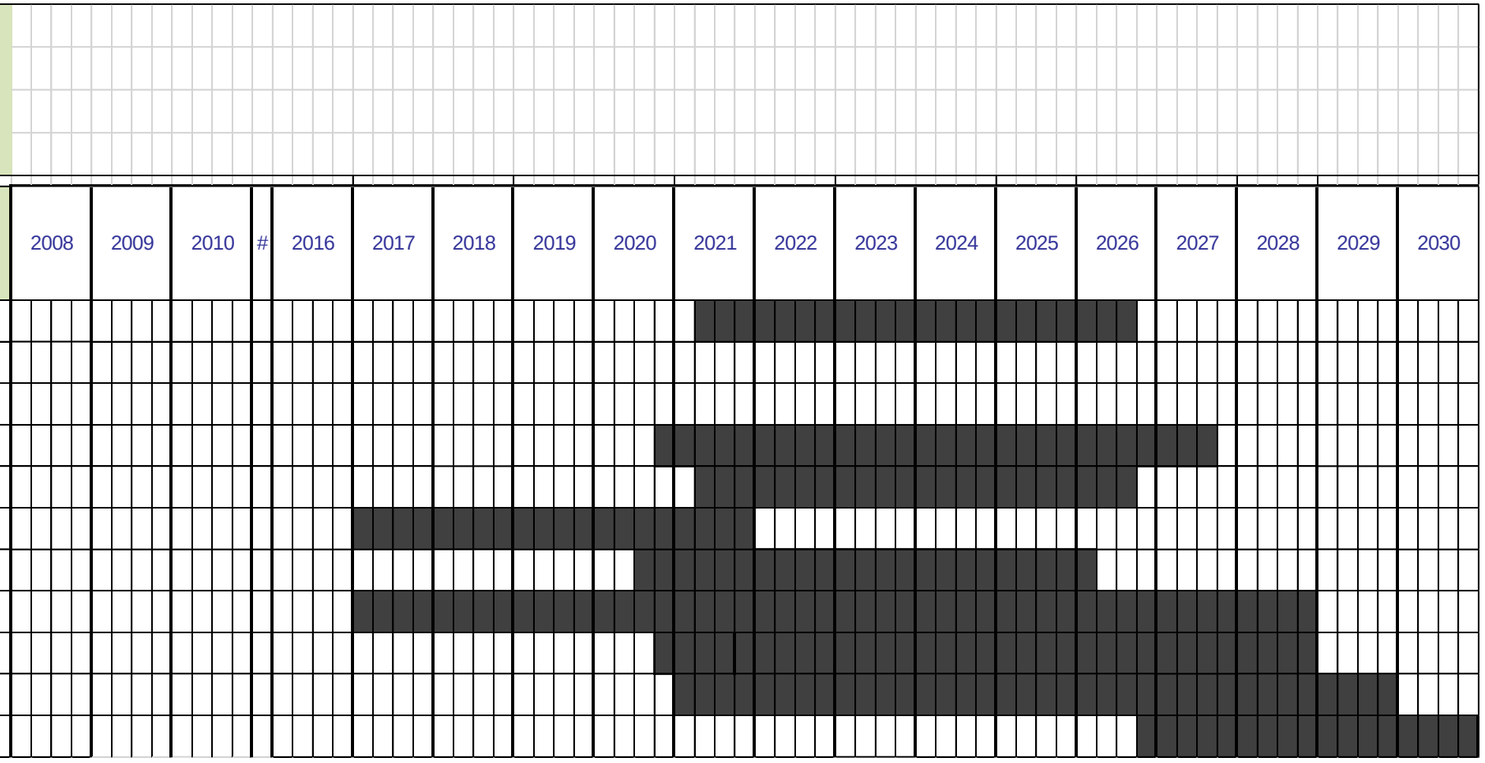
Table 2-4 Portal North Bridge Project Schedule by Fiscal Year

SCHEDULE		(Rev.21, June 2019)
NJ TRANSIT	Today's Date	**9/13/19**
Portal (North) Bridge	Yr of Base Year $	2019
Core Capacity Rating Application	Yr of Revenue Ops	2027

Years are New Jersey State Fiscal Years (July - June)	Start Date	End Date
10 GUIDEWAY & TRACK ELEMENTS (route miles)	10/01/20	03/31/26
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	n/a	n/a
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	n/a	n/a
40 SITEWORK & SPECIAL CONDITIONS	04/01/20	03/31/27
50 SYSTEMS	10/01/20	03/31/26
60 ROW, LAND, EXISTING IMPROVEMENTS	07/01/16	06/30/21
70 VEHICLES (number)	01/01/19	09/30/25
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	07/01/16	06/30/28
90 UNALLOCATED CONTINGENCY	04/01/20	06/30/28
100 FINANCE CHARGES (CC Only)	07/01/20	06/30/29
REVENUE OPERATIONS	03/01/26	



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2.2.1.2 Financing Charges

As described in Section 2.2.3, NJEDA bonds will be issued in 2021 in an amount sufficient to produce $600 million in proceeds (in the absence of pay-as-you-go funding) with cost of issuance estimated at $4.90 per bond. FTA-defined eligible issuance costs for the $555 million base project cost portion of the $600 million proceeds are $2.7 million. NJEDA bond eligible financing charges include issuance cost and interest payments during construction and core capacity grant disbursement period for the $555 million portion of the $600 million NJEDA bonds.

An issuance of GANs is assumed to be executed in 2022 to advance approximately $230 million in Core Capacity funds that will not become available until after the construction period. GAN financing charges include issuance costs and interest payments. The timing, size, and tenor of the GANs are dependent upon assumptions concerning the timing of availability of FTA Core Capacity grants, as well as the construction drawdown schedule. Therefore, for present purposes of simplicity and conservatism, the short-term GAN rate is within the range of the long-term loan rate documented in Appendix A. The interest rate on the GANs is conservatively assumed to be equal to 4.1 percent with full repayment by 2029 upon the final grant receipt. As these assumptions are finalized, NJ TRANSIT would anticipate the applicable GAN rate being lower than the long-term rate.

Financing charges for the GANs and NJEDA bonds amount to $237 million during the construction and core capacity grant disbursement period.

2.2.1.3 Debt Service

Please refer to Section 2.2.3.

2.2.1.4 Cost Overruns

Please refer to Section 2.4.5.

2.2.2 Capital Plan Sources of Funds

The construction of the PNB Project will leverage Amtrak funding, local funding, FTA and FRA grants.

Table 2-5 on the following page presents the proposed capital sources, followed by an explanation of each source and/or contributing agency.

Table 2-5 Project Capital Sources of Funds (YOE $M)

Project Sources	YOE $M	%
Amtrak Contribution/Other FRA Grant	101	5%
Amtrak Passenger Revenues	55	3%
Amtrak Escrow Account Contribution	65	3%
CMAQ	57	3%
FTA Core Capacity	811	43%
NJ TRANSIT Contribution (Match for CMAQ funds)	14	1%
NJEDA Bond Proceeds	555	30%
NJTA Funding Commitment	187	10%
NJ TRANSIT NJTTF Receipts	26	1%
Total Project Sources	**1,873**	**100%**
Debt Service Sources	**YOE $M**	**%**
NJTA Funding Commitment (excluding interest payments during Core Capacity Grant disbursement period)	463	55%
NJ TRANSIT NJTTF receipts to cover debt service on $555M Bond Proceeds (excluding interest payments during Core Capacity Grant disbursement period)	372	45%
Total Funds towards Debt Service & Revenue Fund	**835**	**100%**
Total Sources	**2,708**	

Funding Sources Available to cover Cost Overruns during Construction/CIG period	YOE $M	%
Excess NJEDA Bond Proceeds	45	13%
Excess funds from NJTTF Receipts after covering debt service of excess NJEDA Bond Proceeds	167	50%
Remaining Amtrak Escrow Account Contribution	117	35%
Amtrak Contribution/Other FRA Grant	6	2%
Funding Sources Available to cover Cost Overruns during Construction/CIG period	**334**	**100%**

Debt Service Sources for excess NJEDA Bond Proceeds of $45M ($600M Approved minus $555M for Base Project Cost)	YOE $M	%
NJ TRANSIT NJTTF Receipts for incremental debt service during CIG period	22	27%
NJ TRANSIT NJTTF Receipts balance at end of CIG period after covering Cost Overruns and $555M debt service	61	73%
Debt Service Sources for excess NJEDA Bond Proceeds of $45M	**83**	**100%**

Note: Dollar values are rounded to the nearest million.

A brief description of each proposed source of funds is provided below.

2.2.2.1 Amtrak Funding Sources

Amtrak has committed funding to the PNB Project as follows:

(1) $156 million to the full intercity passenger rail portion;

(2) $65 million toward the Core Capacity portion; and

(3) $123 million toward Amtrak's share of any cost overrun up to 15% of the base project cost.

Amtrak's funding sources are depicted in Table 2-6.

Table 2-6 Amtrak Sources Summary (YOE $M)

	Uses of Amtrak Funds			
Amtrak Sources	**Intercity Passenger Rail Portion**	**Core Capacity Portion**	**Cost Overruns**	**Total**
Amtrak Contribution/Other FRA Grant	101	-	6	107
Amtrak Passenger Revenues	55	-	-	55
Amtrak Escrow Account Contribution	-	65	117	182
Total Amtrak Commitment	**156**	**65**	**123**	**345**

Note: Dollar values are rounded to the nearest million.

Amtrak's funding from each of these sources is discussed below.

2.2.2.1.1 Amtrak Contributions/Other FRA Grant for Intercity Passenger Rail Portion

Amtrak Contributions/Other FRA Grant for intercity passenger rail portion include:

- $35 million from the FY16 Amtrak Capital and Debt Service Grant Agreement
- $11 million from the FY18 Amtrak Capital Budget
- $55 million for the Base Project costs and $6 million for cost overruns from Other FRA Grant/Amtrak Contributions

2.2.2.1.1.1 FY16 Amtrak Capital and Debt Service Grant Agreement

The FY 2016 Amtrak Capital and Debt Service Grant Agreement with the FRA provides $35 million to the PNB Project. Amtrak is the sole eligible recipient of this program, which provides support for the maintenance of the national intercity passenger rail infrastructure. Amtrak's $35 million grant commitment is documented in supporting document G-7. The full amount of these funds is applied to the intercity rail portion of PNB Project costs.

2.2.2.1.1.2 FY18 Amtrak Capital Budget

The FY 2018 Amtrak capital budget provides $11 million in funding for the PNB Project. The FY 2018 capital budget has $339.9 million budgeted for NEC capital project expenses. Amtrak's FY 2018 appropriations are documented in Figure 1 of supporting document G-11. The full amount of these funds is applied to the intercity rail portion of PNB Project costs.

2.2.2.1.1.3 Other FRA Grant/Amtrak Contributions

A $55 million portion of the intercity rail share of base project costs will be covered by any combination of FAST Act Amtrak NEC grants, Consolidated Rail Infrastructure and Safety Improvement Grants (Section 11301 of the FAST Act), Federal-State Partnership for State of Good Repair (Section 11302 of the FAST Act), and/or Amtrak revenue from passenger fares or other net operating revenues. The $6 million portion of intercity rail share of cost overruns will be covered by FAST Act Amtrak NEC grants. FRA and Amtrak have entered into annual grant agreements for FY 2018 and FY 2019 under which $650 million is specifically designated as Reserve funding for NEC capital expenses. Amtrak intends to make those funds available for the PNB Project, as well as other NEC projects. Amtrak and NJ TRANSIT will enter

into an agreement whereby Amtrak will provide the funds to NJ TRANSIT to pay for this share of the intercity passenger rail portion of PNB Project costs as well as cost overruns. Amtrak will work with the FRA to determine the optimal mix of funding for this share of PNB Project funding. Amtrak's funding under each of these programs is discussed below.

- **FAST Act Amtrak NEC grants:** Amtrak is authorized to receive up to $8.1 billion from FY 2016 - 2020 from Section 11101 of the FAST Act, Authorization of Grants to Amtrak, $2.5 billion of which is specifically allotted for the NEC, while the rest will go towards non-NEC activities. Amtrak may dedicate a portion of these grants to fund a share of the PNB Project costs. FAST Act authorized funding for Amtrak's NEC and National Network, respectively, is summarized in Table 2-7 and Table 2-8 below.

Table 2-7 Authorization of Grants to Amtrak - NEC

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Funding Level ($M)	450	474	515	557	600

Note: Amtrak/Federal Fiscal Year, October 1 – September 30 annually

Table 2-8 Authorization of Grants to Amtrak – National Network

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Funding Level ($M)	1,000	1,026	1,085	1,143	1,200

Note: Amtrak/Federal Fiscal Year, October 1 – September 30 annually

- **Consolidated Rail Infrastructure and Safety Improvement Grants, Section 11301 of the FAST Act:** The FAST Act authorizes the USDOT Secretary to issue grants to eligible recipients seeking to finance improvements to passenger and freight rail transportation systems, specifically regarding safety, efficiency, or reliability. Authorized grant funding amounts under this program from FY 16 – FY 20 sum to approximately $1,103 million, beginning with $98 million in FY 2016 and increasing to $330 million in FY 2020. Congress appropriated $25 million for this grant program in FY 2016, $68 million in FY 2017, $593 million in FY 2018, and $255 million in FY 2019. FAST Act authorizations for this program are summarized in Table 2-9 below.

Table 2-9 Consolidated Rail Infrastructure and Safety Improvement Program (YOE $M)

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Funding Level ($M)	98	190	230	255	330

Note: Amtrak/Federal Fiscal Year, October 1 – September 30 annually

- **The Federal-State Partnership for State of Good Repair, Section 11302 of the FAST Act:** This authorizes the USDOT Secretary to develop a program to issue competitive grants to applicants seeking to replace or rehabilitate railroad assets. Elements of the intercity rail component of the PNB Project would be eligible for this program. Section 11302(c)(2) specifies that this competitive grant program may be used for "capital projects to replace existing assets with assets that increase capacity or provide a higher level of service," such as the PNB. The maximum federal share for this program is 80 percent. As summarized in Table 2-10 below, nearly $1 billion in funding is authorized for the program over the life of the bill, subject to annual appropriations by Congress. Since this funding is directed to critical assets such as the NEC, the PNB Project can be expected to be a strong contender for these funds. Amtrak and NJ TRANSIT

unsuccessfully applied for a $55 million grant from this program for the PNB Project in March 2019. NJ TRANSIT and Amtrak will pursue a debrief from FRA regarding this application and will apply for future relevant FRA grant opportunities. Congress appropriated $25 million in FY 2017, $250 million in FY 2018, and $400 million in FY 2019 for this grant program. FAST Act authorizations for this program are summarized in Table 2-10 below.

Table 2-10 Federal-State Partnership for State of Good Repair Program (YOE $M)

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Funding Level ($M)	82	140	175	300	300

Note: Amtrak/Federal Fiscal Year, October 1 – September 30 annually

- **Amtrak revenue:** Amtrak will use revenue from passenger fares or other operating revenues to fund part of the intercity rail portion of the PNB Project.

2.2.2.1.2 Amtrak Passenger Revenues for Intercity Passenger Rail Portion

Amtrak committed $55 million in passenger revenues as matching funds for the PNB Project. This commitment is documented in supporting document G-14, Amtrak Portal North Bridge Project Letter of Commitment. The full amount of these funds is applied to the intercity rail portion of PNB Project costs. While the PNB Project did not receive a Federal-State Partnership State of Good Repair Program Grant, these matched funds are still committed and available to the PNB Project.

2.2.2.1.3 Amtrak Escrow Account Contribution for Core Capacity Portion and Cost Overruns

Amtrak has $182,006,691 in funding available for the PNB Project from an interest-bearing escrow account that was established pursuant to the "Funding and Coordination Agreement" executed between Amtrak and NJ TRANSIT on December 27, 2018. This commitment is documented in supporting document B-17. As documented in Section 2.2 and Section 2.3 of the Funding and Coordination Agreement, NJ TRANSIT paid Amtrak $182,006,691 on December 31, 2018 to settle outstanding disputes between NJ TRANSIT and Amtrak. Amtrak is maintaining these cash funds in an interest-bearing escrow account and will use these funds to support the PNB Project.

Amtrak has committed $182 million of these Amtrak escrow account contributions to the PNB Project as follows:

- $65 million core capacity portion; and
- $117 million available for Amtrak's share of cost overruns - $98 million for the public transportation portion and $18 million for the intercity rail portion.

2.2.2.2 Congestion Mitigation and Air Quality Improvement Program (CMAQ) Funding

A total of $57 million in CMAQ funding is committed for the purchase of multilevel multiple units (MLMU) commuter rail vehicles to allow for a 10 percent increase in available train capacity and an 11.6 percent increase in available seating in the AM peak hour in the primary flow direction (eastbound) on NJ TRANSIT.

The FHWA's CMAQ program provides a flexible funding source to state and local governments for transportation projects and programs which help meet the requirements of the Clean Air Act (CAA). CMAQ funds are available to regions that are in non-attainment of federal air quality standards, or in maintenance regions that were previously in non-attainment. The New York/Northern New Jersey/Long Island metropolitan area is in non-attainment of United States Environmental Protection Agency (EPA) ozone

standards. Transit investments, including transit vehicle acquisitions and construction of new facilities or improvements to facilities that increase transit capacity, are eligible for CMAQ funding. CMAQ funding contributed toward the PNB Project decreased by $25 million (from $82 million previously) to provide an 80 percent federal match on the Option A contracted price and timing of payments for the procurement of 25 railcars; the contract has a fixed price schedule that is not subject to adjustment due to inflation as specified in NJ TRANSIT's executed contract #17-012.

NJ TRANSIT is the recipient of CMAQ funding and will purchase the railcars for the PNB Project. NJ TRANSIT is providing a 20 percent local match to the CMAQ funding in the amount of $14 million. NJ TRANSIT's CMAQ match decreased by $6 million (from $20 million previously) to correspond to revised MLMU costs as described above. Evidence of the federal and state financial commitment to the rail cars is provided in supporting document B-3.

2.2.2.3 FTA CIG Program - Core Capacity

FTA's CIG program is USDOT's largest discretionary funding source for major capital transit investments, authorized by the FAST Act at $2.3 billion per year through 2020. The FTA administers the discretionary Section 5309 CIG Program through which the FTA can make grants for New Starts, Small Starts and Core Capacity Investments. Investments which increase capacity in existing capacity-constrained fixed guideway corridors by at least 10 percent are eligible for CIG "Core Capacity" funding. CIG funding is provided under the terms of an FFGA which serves as a multi-year contract between FTA and a project sponsor to provide an established annual payout of CIG funding – subject to Congressional appropriations – in return for the delivery of a defined project scope within a set schedule and budget.

Receipt of $100 million per year in FY 2021-2028 and $11 million in FY 2029 – for a total of $811 million in CIG funding – is assumed in the financial plan, reflecting the same amount requested in June 2018 despite an increase in the PNB Project cost to address FTA's policy directive of P-65 risk adjusted project costs documented in a "Dear Colleague" letter, and a 5% cost escalation rate. CIG funding will apply to the public transportation portion of the PNB Project cost and financing charges during construction and the CIG disbursement period. NJ TRANSIT will be the CIG Project Sponsor on behalf of the PNB Project and will use the grant proceeds to construct and manage the PNB Project.

2.2.2.4 State of New Jersey Contribution

The NJEDA will serve as the issuer of bonds for the purpose of financing the NJ TRANSIT contribution to the PNB Project.

2.2.2.4.1 NJEDA

The NJEDA is an independent State agency that was created in 1974 as a public body corporate and politic and an instrumentality of the State of New Jersey. Under New Jersey state law, NJEDA is authorized to assist in various ways in financing the cost of acquiring, constructing, improving and equipping projects. The proceeds of the NJEDA bond financing will be provided to NJ TRANSIT to construct and manage the delivery of the PNB Project.

The steps taken to date to secure NJEDA bonds for the PNB Project are outlined below:

1. On June 1, 2018, the New Jersey Office of Public Finance, on behalf of NJEDA for state appropriation-backed transactions, issued an RFP for a senior managing underwriter.
2. In June 2018, the New Jersey Attorney General's Office issued an RFP for the procurement of bond counsel by the New Jersey Attorney General's Office for the NJEDA bond transaction.

3. On June 12, 2018, NJEDA approved a resolution authorizing "a principal amount not to exceed $600 million" in NJEDA Transportation Project Sublease Revenue Bonds. Governor Philip Murphy approved the minutes on June 14, 2018. The NJEDA board item and resolution, and Governor's approval (per New Jersey statute) regarding the form of agreement between NJEDA and NJ TRANSIT and the sources of funds from NJTTF are documented in supporting documents B-10 and B-11.
4. On June 13, 2018, the NJ TRANSIT Board of Directors approved a resolution authorizing the agency to sign a funding agreement and lease finance documents for the issuance of "a principal amount not to exceed $600 million" in NJ Economic Development Authority Transportation Project Sublease Revenue Bonds (New Jersey Transit Corporation – Portal North Bridge Project). The NJ TRANSIT Board minutes were approved by Governor Philip Murphy on June 14, 2018. The NJEDA board resolution, and Governor's approval (per New Jersey statute) are documented in supporting documents B-12 and B-13.
5. On June 18, 2018, NJ TRANSIT, NJDOT and NJEDA executed the necessary Funding Agreement, which is included as supporting document B-14.
6. On June 28, 2018, pursuant to the RFP process described above and managed by the state Office of Public Finance, within the NJ Department of the Treasury, Barclays Capital was selected as the senior managing underwriter for the NJEDA Transportation Project Sublease Revenue Bonds.
7. On June 29, 2018, NJ TRANSIT submitted its financial plan to the FTA.
8. At the end of June 2018, pursuant to the above described procurement process, the State Attorney General's Office retained Eckert Seamans Cherin & Mellot, LLP as bond counsel to the NJEDA for the NJEDA Transportation Project Sublease Revenue Bonds.
9. By August 23, 2019, NJ TRANSIT has submitted an updated financial plan to FTA.

The remaining steps in progress are as follows:

1. When FTA provides the authorization to move forward and NJ TRANSIT receives a commitment to help fund the PNB Project, NJ TRANSIT and NJEDA will enter into a lease/sublease arrangement in connection with NJ TRANSIT's commitment to provide the funding necessary to repay the NJEDA bonds concurrent with financial close of the NJEDA bonds. These documents, including the lease, the sublease and bond counsel opinions, are prepared shortly before the Transportation Project Sublease Revenue Bonds are to be offered in the public markets.
2. The NJEDA Transportation Project Sublease Revenue Bonds will be sold and the bond issue will close. At the time of issuance and closing, the bond proceeds will be on deposit with the bond trustee ready for use in payment of construction and other authorized financing costs.

The sources of funds for NJEDA bond repayment are state appropriations from the NJTTF . NJTA has committed funds in the amount of $25 million per year to the PNB Project through the final maturity of the NJEDA bonds.

2.2.2.4.2 NJTTF

A significant source of NJ TRANSIT's funding is the NJTTF, which was created in 1984 by the New Jersey Transportation Trust Fund Authority Act of 1984. NJ TRANSIT will use a portion of its annual NJTTF appropriations to provide payments to NJEDA of amounts equal to the annual debt service associated

with NJEDA bond financing for the PNB Project. To facilitate the NJEDA bond issuance on the basis of these appropriated payments, so long as the NJEDA bonds are outstanding, the PNB Project will be included each year in NJ TRANSIT's annual capital project list set forth in the State of New Jersey's annual appropriations act. Additionally, this financial plan assumes NJ TRANSIT will use $20.9 million and $5.5 million in NJTTF receipts available in FY2018 and in FY2019 respectively as pay-as-you-go funds until NJEDA bond proceeds are available.

As background, the NJTTF is primarily funded through appropriations of constitutionally-dedicated motor fuels, petroleum products gross receipts, and sales tax collections. The NJTTF supports the NJDOT and NJ TRANSIT capital programs, along with local aid projects. The creditworthiness of the NJTTF was enhanced due to the 2016 authorization of the NJTTFA's enabling legislation. In 2016, the New Jersey Legislature passed Assembly Bill No. 10 (A10) reauthorizing the NJTTF for an eight-year period at $16 billion over the reauthorization lifecycle. This reauthorization is partially funded by an increase of 23 cents per gallon in the State's petroleum products gross receipts tax and 4 cents per gallon in the diesel fuel tax. On November 8, 2016, a constitutional amendment dedicating all of the motor fuels tax revenues and petroleum products gross receipt tax revenues for the purposes of paying or financing the cost of planning, acquisition, engineering, construction, reconstruction, repair and rehabilitation of the transportation system in New Jersey was passed by New Jersey voters. The New Jersey Legislature annually appropriates such revenues to the NJTTF. Additional details regarding NJTTFA's financial information is provided in Chapter 4, Section 4.4.2.

2.2.2.4.3 NJTA

The NJTA is a body corporate and politic of the State of New Jersey organized and existing by virtue of the New Jersey Turnpike Act of 1948, constituting Chapter 454 of the Laws of New Jersey of 1948, as amended and supplemented. Pursuant to the Act, the Authority has owned and operated the New Jersey Turnpike ("Turnpike") since the time the Turnpike opened for traffic in 1951. In July 2003, the New Jersey Highway Authority (NJHA) was abolished and NJTA assumed all of the powers, rights, obligations, assets, debts, liabilities and statutory responsibilities and duties of the NJHA, including the ownership and operation of the Garden State Parkway (the "Parkway").

NJTA owns and operates two well-established major toll roads (the Turnpike and the Parkway) in a densely populated and wealthy region of the country. They act as the "supply chain spine" and the "distribution platform" for the entire Northeast region. The Turnpike consists of a 122-mile mainline and two extensions. The Parkway is a 173-mile limited access toll road from Cape May, New Jersey to Spring Valley, New York. NJTA is committed to prudently manage its finances and operations to provide its customers with a safe, efficient, innovative and resilient toll road system, which facilitates mobility in New Jersey and the Northeast United States. In 2018, total toll transactions and total passenger car transactions on the Turnpike were the highest ever recorded. The 264.7 million total toll transactions and 230.5 million total passenger car transactions exceeded 2017 levels which were the previous highs. In addition, the 2018 commercial vehicle transactions of $34.3 million increased 5% from 2017, and is the highest level ever recorded since the pre-recession previous high, recorded in 2007. As documented in NJTA's 2018 Comprehensive Annual Financial Report, its credit rating is A2 Moody's, A+ S&P and A Fitch.

To support the PNB Project, NJTA has committed funds in the amount of $25 million per year through the final maturity of the NJEDA bonds. This commitment is documented in supporting document B-21 and B-22 (the veto period for this resolution expired on September 11, 2019).

2.2.2.4.4 NJEDA Bonds Repayment

The repayment of existing NJEDA obligations is distinct from future re-authorizations of the NJTTF. The annual spending authorization enables NJ TRANSIT to issue contracts and purchase orders for projects. The revenue appropriation from the New Jersey Legislature to the NJTTFA funds annual debt service on the existing NJTTFA obligations.

NJ TRANSIT does not have the statutory authorization to issue State appropriation-backed debt. Therefore, NJ TRANSIT and NJEDA have entered into lease/sublease agreements in the past in which NJEDA finances projects on behalf of NJ TRANSIT using NJTTFA funds pledged by NJ TRANSIT to NJEDA by means of a funding agreement entered into with the consent of the Commissioner of the NJDOT for the purpose of servicing the debt. The bonds are payable from state appropriations for approved NJ TRANSIT capital projects. Each series of bonds is separately secured by one or more project-specific leases, subleases, and funding agreements between NJ TRANSIT and NJEDA as conduit issuer. Pursuant to these agreements, NJ TRANSIT will include the debt service for each project in its annual capital plan submitted to the State, and pledges such appropriated funds as security for its sublease payments to NJEDA. NJ TRANSIT's obligation to make sublease payments is absolute and unconditional, subject only to appropriation. The appropriations will be funded from revenues constitutionally dedicated to transportation, that are appropriated to the NJTTFA and its Special Transportation Fund (STF) for pay-as-you-go capital projects. While similarly funded with constitutionally-dedicated revenues, these bonds differ from NJTTFA Transportation Program and Transportation System bonds (also appropriation-backed bonds, rated A3/negative) by being funded through appropriations for pay-as-you-go transportation projects rather than appropriations for debt service. Constitutionally-dedicated revenues are appropriated to the NJTTFA, and flow either to debt service accounts for Program and System bonds, or to the Special Transportation Fund (STF) held in the General Fund for pay-go projects. The flow to STF, which includes funding for the NJ TRANSIT projects like the PNB Project, is directed pursuant to monthly requests from NJDOT.

Pursuant to the NJTTFA authorizing legislation, and subject to the approval of the State Commissioner of Transportation, NJ TRANSIT may enter into multi-year funding agreements to advance transportation projects funded by future appropriations to the NJTTFA. NJ TRANSIT has done this for the PNB Project as demonstrated in the funding agreement supporting document B-14. The statute also requires the Commissioner to include the necessary appropriations for the projects in NJDOT's capital funding submission each year. Debt service payment dates in November and May mitigate potential risk that might arise from a delay in annual budget adoption. In addition, the constitutional dedication of revenues and the essentiality of transportation infrastructure projects to the state provide strong incentive to appropriate for debt service. Approximately 84% of New Jersey's net tax-supported debt is subject to appropriation. The importance of maintaining access to the capital markets provides strong incentive for the state to make these appropriations.

As described above, the source of security for the NJEDA borrowings (lease rental payments from NJ TRANSIT to be made from amounts appropriated to NJ TRANSIT from the NJTTF) is a well-established credit and fully independent of, and not reliant upon, the PNB Project. NJ TRANSIT is fully confident in the ability to access the capital markets in the future with this credit structure.

This structure has been successful in past issuances as detailed below:

- The $633 million 1999 financing of both the South Jersey Light Rail River Line ($486 million) and of Hudson Bergen Light Rail ($147 million). The bonds were refunded in 2003 and converted into

auction rate bonds with a new money issuance of a further $35 million. The 2003 Bonds were refunded into fixed rate debt in August 2008 following the collapse of the auction rate market. Repayment of these 2008 NJEDA Transportation Project Sublease Revenue Refunding Bonds is made via a Funding Agreement (signed by the NJ Commissioner of Transportation) whereby NJ TRANSIT pledged to the NJEDA NJTTFA appropriations in an amount not to exceed that year's debt service. Final debt service was paid on the 2008 NJEDA Transportation Project Sublease Revenue Refunding Bonds in May of 2019. The official statement for the 2008 NJEDA Transportation Project Sublease Revenue Refunding Bonds is provided as supporting document E-18.

- In January 2017, the NJEDA refinanced all of NJ TRANSIT's $563.595 million outstanding State of New Jersey Certificates of Participation (Series 2004A, 2008A and 2009A) and issued $65.4 million of new money for NJ TRANSIT projects with the issuance of the 2017 NJEDA Transportation Project Sublease Revenue and Revenue Refunding Bonds. The final maturity of the 2017 NJEDA Transportation Project Sublease Revenue and Revenue Refunding Bonds is November 2027. The official statement for the 2017 NJEDA Transportation Project Sublease Revenue and Revenue Refunding Bonds is provided as supporting document E-19.

The steps taken to date to secure source for repayment of debt service on NJEDA bonds for the PNB Project are outlined below:

1. The NJDOT/NJ TRANSIT ten-year capital program was adopted for the fiscal year beginning July 1, 2017 included $196.9 million in State funding for the PNB Project to be used towards the PNB Project including NJEDA debt service. This allocation is documented in the FY18-FY27 STIP supporting documentations E-13 (see Section VI, page 16 and Section VIII, page 3.) and E-17.
2. The PNB Project was entered into the FY20-FY29 STIP and Transportation Improvement Plan (TIP) to increase funding to PNB Project from $196.9 million to $487.4 million until FY2029. The STIP/TIP proposes annual funds for the PNB Project including, but not limited to the NJEDA debt service repayment. The STIP will be provided to FTA upon final FTA approval (expected October 2019).
3. On June 30, 2019, the New Jersey State Budget was adopted, and included an appropriation for the PNB Project.
4. On July 11, 2019, NJ TRANSIT sent an updated draft STIP/TIP to FTA. This is included as supporting document E-20.
5. On July 17, 2019, the NJ TRANSIT Board of Directors approved a new annual operating budget and NJ TRANSIT's capital plan. The capital plan includes the PNB Project, and is included as supporting document E-11. On July 17, 2019, the NJ TRANSIT Board approved NJ TRANSIT's 10-year capital plan, which includes the PNB Project.
6. Local Metropolitan Planning Organizations (MPOs) concluded public hearings on NJ TRANSIT's draft STIP/TIP on August 29, 2019.
7. NJ TRANSIT has submitted an updated financial plan to FTA by September 13, 2019.

The remaining steps in progress are as follows:

1. By September 30, 2019, the MPO's will approve NJ TRANSIT's draft TIP/STIP and transmit the document to the FHWA for their review and approval.

2. Upon review and approval, FHWA will transmit NJ TRANSIT's STIP/TIP to FTA. We anticipate FTA receipt of the final STIP/TIP by October 1, 2019 for FTA's approval.

As described above, NJ TRANSIT has updated its capital program to increase PNB Project funding from $196.9 million to $487.4 million until FY 2029 (the STIP will be provided to FTA upon final FTA approval). Including $20.9 million from FY18 and $14.0 million from FY19 documented in the previous STIP, the total committed funding to the PNB Project for debt service and pay-as-you-go until FY2029 is $487.4 million. Since the Board resolutions from NJ TRANSIT and NJEDA have committed the bond proceeds to the PNB Project, the associated debt service repayment is also committed to the PNB Project.

2.2.2.5 Summary of Committed Funding

Table 2-11 identifies the sources for funds for the intercity rail and public transportation portions of the Project. NJ TRANSIT anticipates FTA receipt of the final STIP/TIP by October 1, 2019 for FTA's approval and will supplement this application with the final STIP/TIP upon receipt from FTA. One hundred percent of the PNB Project funds have been identified, planned, budgeted or committed, as shown in the table and NJ TRANSIT has taken all necessary actions to commit 100 percent of non-Core Capacity share of the public transportation portion of the FTA-defined project cost.

Table 2-11 Committed Project Capital Sources of Funds (YOE $M)

	Total	Sub-Section Percent	Committed	Sub-Section Percent
SOURCES OF FUNDS				
Intercity Rail				
Amtrak Contribution/Other FRA Grant	101	64.8%	46	29.3%
Amtrak Passenger Revenues	55	35.2%	55	35.2%
Intercity Rail Sources of Funds	**156**	**100.0%**	**101**	**64.5%**
Public Transportation				
CMAQ	57	3.3%	57	3.3%
FTA Core Capacity	811	47.3%	-	-
GAN	230	13.4%	-	-
GAN Principal Repayment	(230)	-13.4%	-	-
Amtrak Escrow Account Contribution	65	3.8%	65	3.8%
NJ TRANSIT Contribution (Match for CMAQ funds)	14	0.8%	14	0.8%
NJEDA Bond Proceeds	555	32.3%	555	32.3%
NJTA Funding Commitment	187	10.9%	187	10.9%
NJ TRANSIT NJTTF Receipts	26	1.5%	26	1.5%
Public Transportation Sources of Funds	**1,716**	**100.0%**	**905**	**52.7%**
Less Core Capacity Grant Amount	(811)	-47.3%		
Non-Core Capacity share of the public transportation portion of the FTA-defined project cost	**905**	**52.7%**	**905**	**100.0%**
Total Project				
Total Source of Funds	**1,873**		**1,006**	**53.7%**

2.2.3 Capital Financing Strategy

As outlined in Section 2.2.2.4.1, the NJEDA will issue an amount sufficient to produce $600 million in proceeds for the purpose of financing the NJ TRANSIT contribution to the PNB Project. The PNB Project will utilize $555 million in NJEDA bond proceeds to cover base project costs with the remaining $45 million dedicated to cover any cost overruns. The NJEDA board resolution, and Governor's approval (per New Jersey statute) regarding this commitment are documented in supporting documents B-10 and B-11. The details of the bond issuance are as follows:

- The bonds are expected to be issued in 2021.

- The cost of issuance is assumed at $4.90 per bond ($2.9 million for a gross issuance amount of $600 million). The cost of issuance for the $555 million portion of the gross proceeds is estimated to be $2.7 million.
- The interest rate is assumed to be equal to 4.5 percent with a 30-year maturity, based upon current market conditions.[9]
- The annual debt service for the entire $600 million bond proceeds is $36.8 million and is included in NJ TRANSIT's system-wide capital plan in Chapter 4, Section 4.2.4. (This debt service is $2.8 million higher than the debt service for the $555 million portion). For the purposes of this financial plan, the financing charges for the $555 million portion are considered as eligible financing charges as defined by FTA.

2.2.4 Capital Sources and Uses of Funds

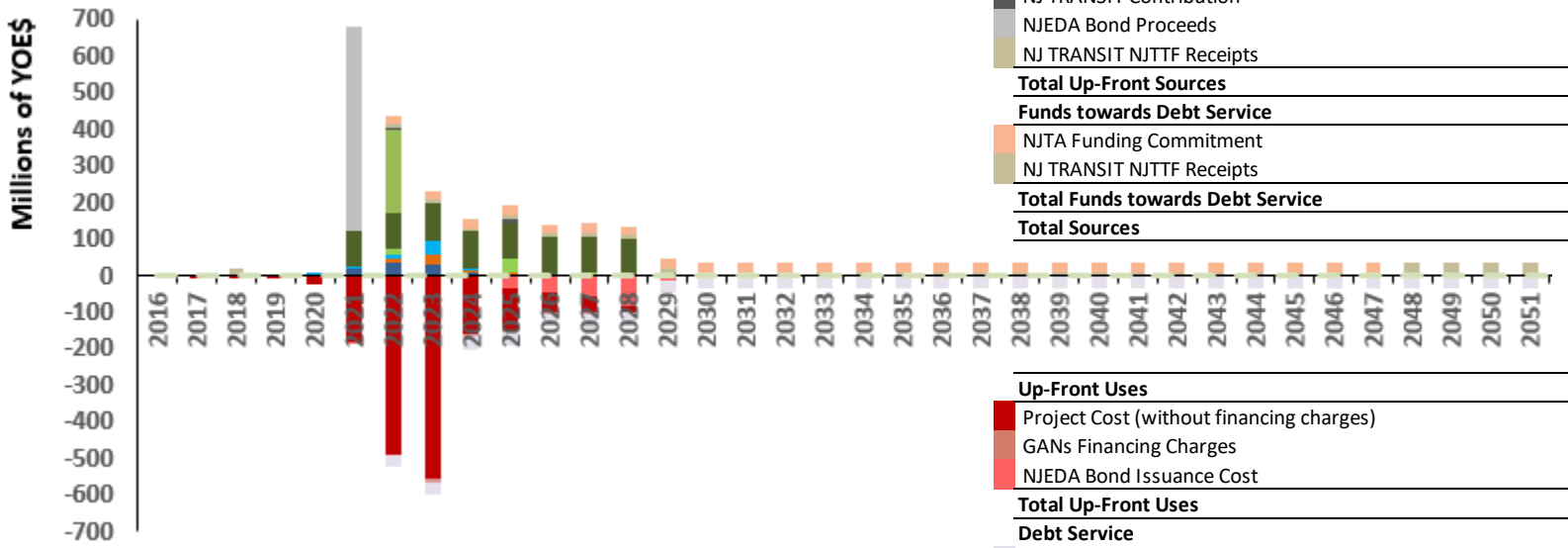
The capital sources and uses of funds are shown as follows in this section:

- Figure 2-1 on the following page illustrates the project sources and uses of funds through FY 2051.
- Table 2-12 presents PNB Project sources and uses of funds between FY 2017 and FY 2029, the last assumed year of receipt of FTA CIG funding.
- Table 2-13 presents debt service sources and uses for the $555 million portion of the $600 million NJEDA bond proceeds through FY 2051.

The system-wide capital plan conservatively represents debt service for the entire $600 million NJEDA bond proceeds.

[9] On June 1, 2018, New Jersey's Office of Public Finance issued a Request for Proposal for an underwriter to structure the financing of the NJEDA bonds. On June 15, 2018, nineteen responses were received from various local and national banks. The NJ Office of Public Finance determined that an interest rate of 4.5 percent on the NJEDA bonds was reasonable and appropriate in light of the received responses. Of note, recent NJEDA issuances of 30-year tax exempt bonds are at a current yield of 4.15 percent.

Figure 2-1 PNB Project Capital Sources and Uses of Funds Projected Cash Flows



Up-Front Sources	$YOE M
Amtrak Contributions/Other FRA Grant	101
Amtrak Passenger Revenue	55
Amtrak Escrow Account Contribution	65
CMAQ	57
FTA Core Capacity	811
GAN	230
GAN Principal Repayment	(230)
NJ TRANSIT Contribution	14
NJEDA Bond Proceeds	555
NJ TRANSIT NJTTF Receipts	26
Total Up-Front Sources	**1,685**
Funds towards Debt Service	**$YOE M**
NJTA Funding Commitment	650
NJ TRANSIT NJTTF Receipts	372
Total Funds towards Debt Service	**1,022**
Total Sources	**2,708**

Up-Front Uses	$YOE M
Project Cost (without financing charges)	1,636
GANs Financing Charges	47
NJEDA Bond Issuance Cost	3
Total Up-Front Uses	**1,685**
Debt Service	**$YOE M**
NJEDA Bond Debt Service	1,022
Total Debt Service	**1,022**
Total Uses	**2,708**

Note: In comparison to Table 2-5, the total up-front sources of funds in Figure 2-1 exclude NJTA funding commitment used for NJEDA bond interest payments during Core Capacity disbursement period. Similarly, when compared to Table 2-1, total up-front uses exclude NJEDA bond interest payments. Ultimately, the overall sources and uses totals respectively reconcile to $2,708 million. Based on fiscal years ending June 30.

Table 2-12 Core Capacity Eligibility Period Sources & Uses of Funds (YOE $M)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total	Sub-Section Percent	Percent of Total
SOURCES OF FUNDS																
Intercity Rail																
Amtrak Contribution/Other FRA Grant	1	-	-	2	18	36	28	8	3	3	2	1	-	101	64.8%	5.4%
Amtrak Passenger Revenues	-	-	-	-	-	11	28	8	3	3	2	1	-	55	35.2%	2.9%
Intercity Rail Sources of Funds	**1**	**-**	**-**	**2**	**18**	**47**	**55**	**16**	**6**	**5**	**4**	**2**	**-**	**156**	**100.0%**	**8.4%**
Public Transportation																
CMAQ	-	-	-	-	-	14	-	-	40	-	3	-	-	57	3.3%	3.0%
FTA Core Capacity	-	-	-	-	100	100	100	100	100	100	100	100	11	811	47.3%	43.3%
GAN	-	-	-	-	-	230	-	-	-	-	-	-	-	230	13.4%	12.3%
GAN Principal Repayment	-	-	-	-	-	-	(2)	(2)	(35)	(44)	(55)	(83)	(11)	(230)	-13.4%	-12.3%
Amtrak Escrow Account Contribution	-	-	-	2	6	10	42	5	0	-	-	-	-	65	3.8%	3.5%
NJ TRANSIT Contribution (Match for CMAQ funds)	-	-	-	-	-	4	-	-	10	-	1	-	-	14	0.8%	0.8%
NJEDA Bond Proceeds	-	-	-	-	555	-	-	-	-	-	-	-	-	555	32.3%	29.6%
NJTA Funding Commitment	-	-	-	-	-	25	25	24	24	23	23	22	22	187	10.9%	10.0%
NJ TRANSIT NJTTF Receipts	-	21	5	-	-	-	-	-	-	-	-	-	-	26	1.5%	1.4%
Public Transportation Sources of Funds	**-**	**21**	**5**	**2**	**661**	**383**	**165**	**128**	**139**	**79**	**71**	**40**	**22**	**1,716**	**100.0%**	***91.6%***
Total Project																
Total Source of Funds	**1**	**21**	**5**	**4**	**679**	**430**	**221**	**144**	**145**	**84**	**76**	**41**	**22**	**1,873**		***100.0%***
USES OF FUNDS																
Intercity Rail																
Project Capital Cost	1	-	-	2	18	47	55	16	6	5	4	2	-	156	100.0%	8.4%
Intercity Rail Uses of Funds	**1**	**-**	**-**	**2**	**18**	**47**	**55**	**16**	**6**	**5**	**4**	**2**	**-**	**156**	**100.0%**	**8.4%**
Public Transportation																
Project Capital Costs	-	1	3	24	162	441	498	141	106	48	43	14	-	1,479	86.2%	79.0%
GAN Financing Charges	-	-	-	-	-	0	9	9	9	8	6	4	0	47	2.7%	2.5%
NJEDA Bond Financing Charges	-	-	-	-	3	25	25	24	24	23	23	22	22	190	11.1%	10.1%
Public Transportation Uses of Funds	**-**	**1**	**3**	**24**	**164**	**466**	**532**	**174**	**139**	**79**	**71**	**40**	**22**	**1,716**	**100.0%**	**91.6%**
Total Project																
Total Uses of Funds	**1**	**1**	**3**	**26**	**182**	**513**	**587**	**190**	**145**	**84**	**76**	**41**	**22**	**1,873**		**100.0%**
Total Project Cash Flow	**0**	**20**	**2**	**(22)**	**497**	**(83)**	**(367)**	**(47)**	**0**	**0**	**0**	**0**	**0**	**(0)**		
Financing Charges	-	-	-	-	3	25	34	34	33	31	29	26	22	237		

Note: Based on fiscal years ending June 30

Table 2-13 Debt Service Period Sources & Uses for the $555 million portion (YOE $M)

	FY 2017*	FY 2018*	FY 2019*	FY 2020*	FY 2021*	FY 2022*	FY 2023*	FY 2024*	FY 2025*	FY2026*	FY2027*	FY2028*	FY2029*	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
NJEDA Loan Debt Service Sources of Funds																			
NJTA Funding Commitment	-	-	-	-	-	25	25	25	25	25	25	25	25	25	25	25	25	25	25
NJ TRANSIT NJTTF Receipts	-	-	-	-	-	9	9	9	9	9	9	9	9	9	9	9	9	9	9
NJEDA Bond Debt Service Sources of Funds	**-**	**-**	**-**	**-**	**-**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**
NJEDA Loan Debt Service Uses of Funds																			
Interest	-	-	-	-	-	25	25	24	24	23	23	22	22	21	21	20	19	19	18
Principal	-	-	-	-	-	9	10	10	10	11	11	12	12	13	14	14	15	15	16
NJEDA Bond Debt Service Uses of Funds	**-**	**-**	**-**	**-**	**-**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**

*Interest portion shown in Table 2-12 Core Capacity Eligibility Period Sources & Uses

(Continued) Debt Service Period Sources & Uses for the $555 million portion (YOE $M)

	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	Total
NJEDA Loan Debt Service Sources of Funds																	
NJTA Funding Commitment	25	25	25	25	25	25	25	25	25	25	25	25	-	-	-	-	650
NJ TRANSIT NJTTF Receipts	9	9	9	9	9	9	9	9	9	9	9	9	34	34	34	34	372
NJEDA Bond Debt Service Sources of Funds	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**1,022**
NJEDA Loan Debt Service Uses of Funds																	
Interest	17	16	16	15	14	13	12	11	10	9	8	7	6	4	3	1	467
Principal	17	18	18	19	20	21	22	23	24	25	26	27	29	30	31	33	555
NJEDA Bond Debt Service Uses of Funds	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**34**	**1,022**

Based on fiscal years ending June 30.

Debt Service Period Sources & Uses for the entire $600 million bond proceeds (YOE $M)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY2028	FY2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
NJEDA Bond Debt Service Sources of Funds																			
NJTA Funding Commitment	-	-	-	-	-	25	25	25	25	25	25	25	25	25	25	25	25	25	25
NJ TRANSIT NJTTF Receipts	-	-	-	-	-	12	12	12	12	12	12	12	12	12	12	12	12	12	12
NJEDA Bond Debt Service Sources of Funds	**-**	**-**	**-**	**-**	**-**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**
NJEDA Bond Debt Service Uses of Funds																			
Interest	-	-	-	-	-	27	27	26	26	25	25	24	23	23	22	22	21	20	19
Principal	-	-	-	-	-	10	10	11	11	12	12	13	13	14	15	15	16	17	17
NJEDA Bond Debt Service Uses of Funds	**-**	**-**	**-**	**-**	**-**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**

(Continued) Debt Service Period Sources & Uses for the entire $600 million bond proceeds (YOE $M)

	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	Total
NJEDA Bond Debt Service Sources of Funds																	
NJTA Funding Commitment	25	25	25	25	25	25	25	25	25	25	25	25	-	-	-	-	650
NJ TRANSIT NJTTF Receipts	12	12	12	12	12	12	12	12	12	12	12	12	37	37	37	37	455
NJEDA Bond Debt Service Sources of Funds	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**1,105**
NJEDA Bond Debt Service Uses of Funds																	
Interest	19	18	17	16	15	14	13	12	11	10	9	7	6	5	3	2	505
Principal	18	19	20	21	22	23	24	25	26	27	28	30	31	32	34	35	600
NJEDA Bond Debt Service Uses of Funds	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**37**	**1,105**

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2.3 Operating Plan

This section describes the estimated O&M expenses and revenues associated with the operation of the PNB from FY 2019 through FY 2038.

Amtrak and NJ TRANSIT have executed an MOU effective December 27, 2018 regarding the ownership, operation and maintenance of PNB and the terms of the MOU are pending approval by FTA and FRA to assure it is compliant with FTA and FRA requirements. This MOU is documented in supporting document B-16. Amtrak and NJ TRANSIT will enter into a contractual arrangement regarding delivery of the PNB Project and payment for and operations and maintenance of the PNB.

2.3.1 PNB Ownership

Pursuant to the December 27, 2018 MOU, NJ TRANSIT, as FTA project sponsor and procuring agency, will own the PNB so long as any bonds issued by the NJEDA to finance the construction of the PNB remain outstanding. When the NJEDA bonds fully mature, ownership of the PNB shall automatically be transferred to Amtrak for a nominal fee. Transfer of the PNB to Amtrak shall be in accordance with federal law including, but not limited to, any requirements of the FTA included in the FFGA for the PNB project. The FTA will have a federal interest in the PNB during the useful life of the PNB.

2.3.2 Real Property Ownership

NJ TRANSIT will exercise its statutory eminent domain authority pursuant to N.J.S. 20-3-1 et seq., to acquire property interests to construct and for Amtrak to operate and maintain the PNB.

2.3.3 Operations and Maintenance of the Portal North Bridge Project

Pursuant to the December 27, 2018 MOU, Amtrak will dispatch train operations along, and will maintain, the PNB.

2.3.4 Infrastructure Operating Plan

2.3.4.1 Operating Costs

Over the last seven years, Amtrak expended an annual average of $1.6 million to operate, maintain, and rehabilitate the existing Portal Bridge. The new PNB is expected to be significantly less expensive to operate and maintain. This is due to the following factors:

- As a fixed, high-level bridge, the new PNB will no longer require the 24/7 staffing of a bridge operator nor will it require electricity to power the opening and closing of the bridge.
- The highly specialized interlocking miter rails, which allow the existing movable bridge to open and close, require frequent maintenance and replacement. The current level of train traffic over the bridge leaves few windows of opportunity for maintenance and inspection activities to be performed. Sections of track must be taken offline to perform these tasks. Amtrak is forced to conduct maintenance and inspection during increasingly limited time periods, such as at night and on weekends, resulting in high costs from increased labor premiums for night and weekend work, and reduced productivity rates due to the short work windows. As train traffic along the NEC increases, fewer suitable time periods for maintenance and inspection will be available if the existing Portal Bridge remains in its current configuration. These costs would be eliminated with the new bridge.

Table 2-14 Amtrak Historic Costs of Operating and Maintaining Portal Bridge*

FY12	FY13	FY14	FY15	FY16	FY17	FY18
$1,255,821	$1,299,971	$1,415,650	$1,517,803	$1,389,134	$2,162,727	$2,234,871

*Amtrak/Federal Fiscal Year October 1-September 30

As shown in Table 2-14, Portal Bridge O&M costs have increased from $1.26 million in FY12 to $2.23 in FY18 at a 10.1 percent CAGR. If the Portal Bridge is not replaced, these costs will continue to increase at a higher rate to include the inspections discussed above in addition to the salary and benefits of the bridge operator, maintenance/replacement of the existing fender system, and utilities for bridge operations. In addition to these expenditures, additional necessary O&M work on the aging Portal Bridge will be necessary, including a $11 million track renewal program between FY 2019 and FY 2025 as track conditions are deteriorating at a rapid rate due to premature aging of timbers that were subject to fires over the years, and about $1 million annually to maintain the miter rail joints, the main drive and control systems, security systems and appurtenant works.

Prospectively, the anticipated O&M expenses associated with the new bridge are primarily the cost of annual inspections at a base cost of $50,000 in FY 2025 which would begin in FY2027 upon completion of the new PNB in March 2026, and quinquennial special arch inspections and underwater inspections at a base annual cost in FY 2029 of $150,000 and $75,000 respectively which would first occur in FY2031. The fixed span feature of the new PNB is expected to yield substantial O&M expense savings through the elimination of bridge openings and closings and associated maintenance activities.

In Table 2-15 below, these costs are estimated to rise 3.5 percent a year with inflation.

The difference in annual O&M expenses between the old and new bridges is estimated at upwards of $1.6 million a year.

Table 2-15 Projected O&M Expenses – "Build" / "No-Build" Scenarios (YOE$)

Year	Total O&M Expenses		
	No Build	Build	Increase/Decrease
FY 2019	$5,225,800	$5,225,800	$0
FY 2020	$5,321,000	$5,321,000	$0
FY 2021	$1,670,525	$1,670,525	$0
FY 2022	$1,490,218	$1,490,218	$0
FY 2023	$1,466,323	$1,466,323	$0
FY 2024	$1,449,686	$1,449,686	$0
FY 2025	$4,565,425	$4,565,425	$0
FY 2026	$1,976,521	$0	($1,976,521)
FY 2027	$1,765,999	$53,561	($1,712,438)
FY 2028	$1,735,615	$55,436	($1,680,179)
FY 2029	$1,721,773	$57,376	($1,664,396)
FY 2030	$1,859,035	$60,000	($1,799,035)
FY 2031	$2,347,280	$241,026	($2,106,255)
FY 2032	$2,097,239	$64,274	($2,032,966)
FY 2033	$2,061,145	$66,523	($1,994,622)
FY 2034	$2,044,926	$68,851	($1,976,074)

Year	Total O&M Expenses		
	No Build	Build	Increase/Decrease
FY 2035	$2,207,998	$70,000	($2,137,998)
FY 2036	$2,787,883	$286,263	($2,501,620)
FY 2037	$2,490,914	$74,986	($2,415,928)
FY 2038	$2,448,047	$77,610	($2,370,437)

2.3.4.2 Operating Sources of Funds

The PNB will be part of the NEC. The infrastructure O&M expenses on the NEC are governed by a standard formula that was developed by the NEC Infrastructure and Operations Advisory Commission (NEC Commission), as required by Section 212 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). Under the NEC Commuter and Intercity Rail Cost Allocation Policy dated September 17, 2016 (Policy) all service providers are committed to covering the costs of their respective uses of NEC infrastructure–based on their respective uses. The charge allocated to each user is calculated by using a formula for the operating costs and maintenance of way. The resulting charge is used to maintain the NEC in a SOGR and to ensure that the essential rail services they provide continue.

The formula used to allocate costs associated with operating and maintenance activities divides the NEC into geographic segments and measures the proportion of train movements, the gross ton miles and train miles over that segment. For the segment in which the existing and future PNB are located, NJ TRANSIT accounts for approximately 77.5 percent of all train movements and Amtrak 22.5 percent. Thus, NJ TRANSIT and Amtrak are responsible for their proportional share of the operating and maintenance costs for that segment.

Amtrak funds its share of the operating and maintenance costs for the NEC segment in which Portal Bridge is located with its NEC net operating revenues. Below Table 2-16 shows Amtrak's NEC net operating revenues for FY 2012-2018.

Table 2-16 Amtrak NEC Spine Net Operating Revenues ($ millions)

FY	FY12	FY13	FY14	FY15	FY16	FY17*	FY18*
NEC Spine	288.6	364.1	478.2	439.8	478.7	435.9	494.6

*Reflects methodology for NEC accounting under FAST Act.

Note: Amtrak/Federal Fiscal Year is October 1-September 30

NJ TRANSIT's share of funds for O&M expenses of the PNB Project are incorporated in the system-wide operating financial plan in Chapter 4, Section 4.3.3.

2.3.5 Rail Service Operating Plan

NJ TRANSIT's system wide operating plan in Chapter 4, Section 4.3.3 includes the project rail service O&M as a part of the plan. Both the NJ TRANSIT and Amtrak project related train capacity and ridership projections used to develop the operating plan used as the basis of the operating period in this financial plan are discussed below.

2.3.5.1 NJ TRANSIT Train Capacity and Ridership

In 2015, there were 44.5 million annual linked trips on NJ TRANSIT trains that use the existing Portal Bridge. They are transported on 349 revenue trains traveling to and from PSNY each day. In the AM peak period in

the eastbound direction, the 21 NJ TRANSIT trains operated accommodate about 25,300 trips. Comparing this level of use against the current train seating for all 21 trains yields a demand to capacity ratio - using the FTA means of determining available seating - of approximately 98 percent.

Growth rates for Portal Bridge project-level and system-wide boardings were derived from travel demand forecasting models using approved MPO demographics. The forecasting models utilize the regionally approved forecasts of population, households, employment and labor force generated by the New York Metropolitan Transportation Council (NYMTC), NJTPA, Delaware Valley Regional Planning Commission (DVRPC) and South Jersey Transportation Planning Organization (SJTPO). These forecasts are applied to survey-derived trip tables to generate future year base trip tables. The regional models then assign the future year trips to various travel modes based on total impedance, a factor which combines weighted values of cost, in vehicle time, out of vehicle time and other considerations.

To generate the specific growth rates used for the PNB Project analysis, scenarios were run in the regional models at five-year intervals, generating forecasts for 2015, 2020, 2025, 2030 and 2035 for the peak period and all day. The relevant growth rates between 2015 and the desired future year (either at PSNY or system-wide by mode) were then calculated and annualized, producing an average annual growth rate as shown in Table 2-17. These growth rates were applied to 2015 ridership from counts and ticket sale data to create a future year forecast for ridership. Regional CPI 1970-2045, Long-US Economic Forecast 2005-2037, and NYNJ Regional Forecast 2005-2045 can all be found in Appendix C, Section D.

Table 2-17 2015-2035 PSNY Ridership Forecast by Time Period

Year	Annual Total (both directions)
2015	51,695,840
2035	68,047,964
2015-2035 Annual % Growth	1.38%

It is useful to note that actual NJ TRANSIT commuter rail use into PSNY has been growing at a much faster rate than suggested by the MPO forecasts. For the period from 2005 until 2015, the annual average growth rate for rail trips using PSNY was +3.1 percent per year. The 2014-15 period saw especially strong growth, as ridership increased by +6.6 percent per year. The MPO forecasts for population and employment for the next five years indicate an average annual rate of growth is +1.5 percent. The reasons for the differences between the factors derived from the MPO forecasts and what is actually occurring include:

- The trans-Hudson bus system comprised of the Route 495 Exclusive Bus Lane, Lincoln Tunnel and PANYNJ Bus Terminal is currently functioning at capacity. Where it is feasible and convenient, new trans-Hudson travelers seek out the rail services, especially for trips to Midtown Manhattan locations.
- The MPOs NJ TRANSIT works with are in the process of updating their demographic forecasts.
- NJ TRANSIT rail services are benefiting from an unparalleled boom in Transit-Oriented Development (TOD) projects near many of its stations, especially those stations with rail service to Midtown Manhattan.

However, NJ TRANSIT's rail service to and from Manhattan is constrained in the AM and PM peak demand periods, for approximately two hours in the AM and two hours in the PM, by the capacity limits of the platforms and tracks at PSNY. This capacity constraint limits the ability of NJ TRANSIT's trains to handle an

unconstrained forecast[10] of future passenger demand in the out years unless a means is found to permit more trains to be operated. Accounting for these capacity constraints, the NJ TRANSIT ridership over the PNB into PSNY is capped at 20 percent over 2015 levels.

2.3.5.2 Amtrak Train Capacity and Ridership Growth

In 2015, 7.2 million riders travelled between PSNY and Newark Penn Station, the NEC segment including Portal Bridge.

Although FTA's primary focus is on commuter rail, it is useful to note the level of use by riders on the intercity trains operated by Amtrak. Within the peak hour, approximately 7:30 to 8:30 AM, in the primary flow direction (eastbound), Amtrak operates three trains: one Acela train, one Regional and one Keystone. Amtrak is now taking action to replace the current Acela equipment with new trainsets that will provide added seating. Between the use of these new trainsets and other actions to add equipment to other trains, Amtrak is positioned to increase its seating capacity by more than 10 percent. It is expected that with this ability to add seating, Amtrak will be able to satisfy future demand.

In the financial plan, Amtrak's historic 10 year CAGR (2005-2015) was used to forecast ridership until 2020. Additionally, separate growth rates for Acela and other Amtrak riders were provided by Amtrak to account for the increase in Acela ridership due to the new trainsets.

2.4 Portal North Bridge: Risks and Uncertainties

The foregoing analysis presents the baseline assumptions for revenues and costs for the PNB financial plan. As recommended by FTA, this section identifies and discusses the primary risks and uncertainties surrounding the key assumptions.

2.4.1 Discussion of Major Sources of Risk and Uncertainty

As with any large infrastructure project, the PNB Project includes several sources of risks and uncertainty, which could potentially affect the capital and operating financial plans.

The ability to successfully complete the PNB Project within the estimated cost, schedule and budget has undergone an extensive evaluation by the representatives of NJ TRANSIT and Amtrak who have reviewed the engineering and construction issues surrounding the PNB Project. In identifying the risks associated with building the PNB Project, NJ TRANSIT and Amtrak performed a qualitative assessment keying on multiple potential "risk" areas, including but not limited to the following:

- the scope of the PNB Project and the environment within which the PNB Project is to be built;
- the availability and adequacy of labor, equipment and material availability;
- work restrictions; procurement approvals; impacts with other on-going projects; and
- adverse weather; productivity; contract phasing; permitting; timeliness of funding.

Capital plan risks are associated with the capital cost and revenue components of the financial plan. From a capital cost perspective, they include inflationary risks, the construction schedule, and possible changes to the scope of the Project. On the revenue side, risks include the timely availability of federal funds, and loans.

[10] An unconstrained forecast assumes that the capacity can be provided to accommodate the projected future demand. But the reality is that the number of trains able to sit at a platform to load and unload and the platform passenger handling capacity are constrained at PSNY, especially at platforms 1 and 2, tracks 1-4, which are only used by NJ TRANSIT trains.

The operating plan risks are split between the infrastructure operating plan risks and the rail service operating plan risk. The infrastructure operating plan risks are fairly low considering the new PNB is expected to be significantly less expensive to operate and maintain. The rail service operating plan risks are addressed in the system-wide risks and uncertainties.

The following sections detail the aforementioned risks, outline risk mitigation measures that can be implemented should one of the aforementioned events occur, and provide sensitivity analyses that identify the impact of several risk scenarios. A summary is also provided of the Risk Assessment process undertaken by the FTA's Project Management Oversight Contractor (PMOC) with input from NJ TRANSIT and Amtrak.

2.4.2 Capital Plan

This section discusses the construction period risks considered to be most relevant and impactful on the PNB Project. As well as providing an overview of each of these key risks, this section sets out the mitigation strategies NJ TRANSIT has, or will, set in place to minimize the likelihood of occurrence and/or the impact of these risks.

2.4.2.1 Capital Cost Risks

2.4.2.1.1 Risk Assessment

As part of the FTA's review of the estimated cost of the PNB Project, the federal agency directed its regional PMOC, David Evans and Associates, Inc. (DEA), to conduct a "Risk Assessment" of the Project to validate its estimated cost prior to the formal commitment of federal funds. The analysis began in October 2016 and the initial Risk Assessment and related Risk Assessment Report were completed in April 2017. This initiative was followed with the release of the PMOC's Spot Report 0001 dated November 17, 2017. In a continuing review of the Project's risks and contingencies, a second follow-up analysis was later released by the PMOC under the guise of Spot Report 0002 dated December 13, 2018. The Risk Assessment examined certain areas that could potentially affect the ultimate cost of the Project, including the following: Environmental and Regulatory Concerns, Engineering and Design, Rights-of-Way and Land Acquisition, Third Party Agreements, Project Management, External Pressures, and Construction Concerns. The Risk Assessment had initially identified approximately 217 areas of concern which NJ TRANSIT addressed as Project Sponsor in order to more firmly secure any future federal funding for the PNB Project.

Upon the completion of the initial Risk Assessment analysis, in June 2017, NJ TRANSIT undertook a series of initiatives to address some of the most prominent and likely contributors to potential cost increases and schedule delays as determined by DEA. As part of this effort, NJ TRANSIT solicited the assistance of several engineering consultants to help in this effort, including the following; Portal Partners, the "engineer of record" for the Project; Hill International, Inc. who is serving as Amtrak's Program Manager for the Gateway Program, and; AECOM / STV, a Joint Venture comprising the Project's Construction Management team.

Discussions between NJ TRANSIT and the FTA continued throughout the Fall of 2017. In late October 2017, the parties reached a consensus with regards to strategies proposed to be implemented to mitigate the identified PNB Project risks, as well as the ultimate cost of the PNB Project. On November 30, 2017, having reached a general agreement on the estimated cost of the PNB Project, NJ TRANSIT submitted a formal "Request to Enter Engineering" to the FTA and multiple other regulatory parties so as to continue the advancement of the PNB Project through the CIG approval process.

In Spring 2018, following from the Risk Assessment discussed above, NJ TRANSIT took the following steps to reduce costs identified by FTA in the Risk Assessment.

- **Contract Packages Reduced to One Package from Eight Packages:** Table 2-4 indicates only one construction contract is anticipated to be awarded for the PNB Project, as opposed to the eight individual contracts, as initially conceptualized during the design phase of the Project which ended in 2013. The FTA'S original Risk and Contingency Review dated November 17, 2017 (Risk Assessment) identified a net savings between $50 and $150 million dollars by going to one construction package. A reconsideration of contract packaging methods and reduction in the number of contracts is expected to yield a shorter duration of construction, leading to earlier completion of the Project and additional construction savings. Moreover, providing one large construction contract also provides the advantage of one contractor working in a single geographic direction (early action, east to west or west to east and river) and an unencumbered work environment along with the potential of improved task completion dates advancing construction. Also, a single contractor constructing foundations will develop a routine which will improve safety, means and methods and overall project schedule. These resulted in significant cost savings to the project. Moving from eight contract packages to one contract package also resulted in the most effective cost savings with regard to soft costs, bid packaging, insurance, reduced potential delay claims, and an improved production rate. This option also offers the most creativity for design alternatives, economy of scale for material savings, greater material delivery options and flexibility to further compress the schedule.
- **Insurance Cost Reduced by Utilizing an Owner Controlled Insurance Plan (OCIP) (SCC line 80.05):** In late 2017, NJ TRANSIT's Risk Management department solicited vendors to provide Owner Controlled Insurance Program (OCIP) in lieu of the contract-based insurance as assumed in the prior SCC submittals. Actual insurance rates for OCIP are based on similar programs in the region which yield a projected industry range between 3 and 3.5%. As part of the procurement process, NJ TRANSIT advertised RFPs for OCIP services on 10/17/17. Proposals were accepted on 11/21/17 with the lowest responsive bidder producing a negotiated percentage value of 2.8% + miscellaneous fees rounding to a weighted overall value of 3.5%. The current SCC insurance values listed on line 80.05 reflects the OCIP rate based on a signed OCIP contract. Although funds have not been expended on the OCIP contract, the value is finalized.
- **Vehicle Cost Reduced through Actual Bids (SCC line 70):** The prior Core Capacity grant submittals estimated that 25 additional railcars will be required to provide additional capacity during the peak hours. The vehicle costs were initially estimated at $5 million per vehicle for a total base year cost of $125 million. This amount was escalated by allocating 20% of the base year cost to five consecutive years on the Inflation worksheet to a total of $148.6 million. NJ TRANSIT finished the procurement phase for new vehicles; carbuilder bids were received on June 1, 2018 and a contract was signed in January 2019. The new vehicles are Option A on the contract. Although the contract has been executed, Option A has not yet been exercised.
- **Permit Costs Reduced to Reflect Actual Costs:** Permitting costs of $8 million were initially identified in the original SCC as a percentage of contract costs. To date, all permits have been obtained for the project and the actual cost of the project permits are known and secured. In May 2019, the Army Corps of Engineers Section 404 Wetlands Filling Permit was extended through the life of the project, until June 2028, without any additional cost. Permits issued by the NJ Department of Environmental Protection (NJDEP) are in the midst of being renewed and/or extended at this time, again with minimal or no additional cost expected to be imposed. SCC line 80.06 was reduced from $8 million to $1 million to reflect actual costs plus incidental modifications should they be required.

In December 2018, "FTA Risk Assessment Refresh, Spot Report 0002, Risk and Contingency Review" was completed indicating that the new P-65 value is $1.87B. In this submission, NJ TRANSIT increased the unallocated contingency percentage to 23% from 15% in last year's version in order to be consistent with FTA's policy directive documented in the June 29, 2018 "Dear Colleague letter to reflect P-65 project costs

in the financial plan. The current contingency amount for the PNB Project is 35% (12% allocated 23% unallocated).

2.4.2.1.2 Inflation

Inflation is a key risk for mega-projects, as it typically represents a large share of the capital cost when project development occurs over several years. A large part of cost inflation is driven by demand and supply at global and regional levels, factors that are beyond the control of project sponsors.

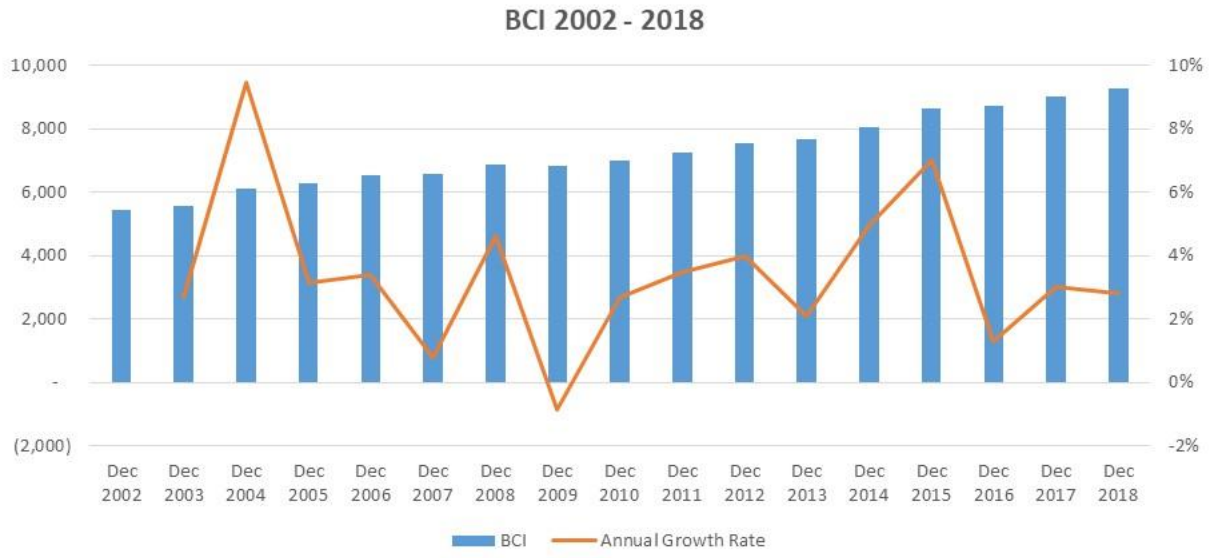
The capital cost estimate assumes that the rate of inflation will increase by 5 percent annually.

The historical Building Cost Index (BCI) and Construction Cost Index (CCI) data as published by ENR magazine for the New York area is documented in supporting document C-3. The average of yearly inflation rate over the past fifteen years consisting of the peaks of 2003 to 2005 and valleys of 2008 to 2010 of the construction economy is less than 3.5%. This historical information over a long period of time, such as fifteen years, is considered a reliable indicator of escalation for the future years by construction cost estimators.

BCI represents relatively a more accurate forecasting of inflation in the construction industry. The basic difference between BCI and CCI is in the number and type of labor hours that make up the index. CCI uses 200 hours of common labor that represents highway construction and BCI uses 68 hours of skilled labor. For materials components, both indexes use materials that include cement, structural steel and lumber. The BCI is more suited for the construction of Portal North Bridge Project than the CCI as the majority of the project cost is attributed to heavy construction with high skilled labor component and building material including cement, structural steel and lumber. Over the last fifteen years (December 2003 – December 2018), the BCI grew at an average annual rate of 3.4% and over the last year (December 2017 – December 2018), the BCI grew at a rate of 2.8%. As described above, the longer fifteen-year period averages out the peaks and valleys of the construction economy, which can be seen in Figure 2-2.

The cost escalation rate assumption of 5 percent provides more than adequate contingency to mitigate against future risks of inflation.

Figure 2-2 Building Cost Index History



2.4.2.1.3 Project Scope

The risk of project scope change is limited because the bridge is 100 percent designed and soil and geotechnical borings in the project area are complete. Cost increases could occur as a result of various construction issues, including but not limited to; unexpected soil conditions and geotechnical issues, the need for unexpected utility relocations, or the presence of tar sands, unanticipated groundwater and other environmental impacts and, any mitigation measures that may need to be employed to address such unanticipated occurrences. The current cost estimate includes contingencies to cover these and other potential changes.

The identification of risks and modification to the risk assessment has and will continue as the PNB Project develops. During engineering and design, a risk management plan was developed for the Project to ensure risks are reviewed and managed, and procedures are developed to reduce or eliminate their impacts to the PNB Project. Risks which remain will be allocated in part or in whole through the contractual arrangements and bidding process, conscious always that risks should be assigned and owned by the party best able to manage that risk.

2.4.2.1.4 Interest Rates

As in any capital project requiring the issuance of debt, the PNB Project is subject to uncertainty associated with fluctuations in interest rates, which may impact the interest paid on debt to be issued, the par amount of the debt required to finance the PNB Project and interest earned on cash balances. Fluctuations in interest rates are primarily influenced by market conditions and credit quality. Conservatively, the financial plan has not assumed any bond proceeds reinvestment earnings.

2.4.2.2 Capital Revenue Risks

2.4.2.2.1 Federal Funds

The PNB Project financial plan assumes certain levels of federal funds through FRA, CMAQ, and in particular, FTA's CIG program. Passage of the five-year, $305 billion FAST Act provides some long-term funding certainty. However, it does not cover the entire analysis period of the financial plan. Federal transit funding

for the CIG program is subject to periodic policy and political uncertainty. Subsequent to the FAST Act, a continuing resolution or a new federal authorizing legislation could go into effect, resulting in changes in existing grant programs that may, depending on the program, create new funding opportunities and eliminate others, change the amount of funds available or impose new rules on project eligibility.

Core Capacity funding is also subject to appropriation uncertainties. The amount of the CIG contribution is to be identified in the FFGA. The FFGA will also identify the amount to be made available each year, subject to annual appropriations legislation. Although history has shown that Congress ultimately honors and appropriates the full amount spelled out in an FFGA, Congress could delay funding for the PNB Project by reducing or stretching out the annual appropriations. Any delay might necessitate reprogramming of non-CIG funds or additional borrowing. Recognizing this risk, the financial plan assumes that the PNB Project doesn't receive Core Capacity federal appropriations until FY 2021. Additionally, any further delay in federal appropriations can be mitigated due to the up-front NJEDA debt issue that would help to provide a sufficient cushion as demonstrated in the project cash flow surplus in Table 2-12. The STIP will show a higher level of annual amount that exceeds funding required for annual NJEDA debt service over the CIG and construction period, and these receipts could serve as an additional funding source to cover any delays in federal appropriations.

2.4.2.2.2 NJEDA Bonds

NJEDA bond proceeds are dependent on access to the capital markets and interest rate conditions. The State of New Jersey and NJEDA are well-established issuers and have strong market access. The financial plan incorporates conservative interest rate assumptions for the NJEDA issuance. Further underlying this conservative approach to the financial plan, no interest earnings on unused bond proceeds have been included in this financial plan.

2.4.3 Operating and Maintenance Plan

This section discusses the operating period risks considered to be most relevant and impactful on the PNB Project. As well as providing an overview of each of these key risks, this section sets out the mitigation strategies. NJ TRANSIT has, or will, set in place to minimize the likelihood of occurrence and/or the impact of these risks.

2.4.3.1 Operating and Maintenance Cost Risks

2.4.3.1.1 Cost Escalation

In general, O&M expenses are subject to many macroeconomic factors, including fuel prices, commodity prices, and labor contracts. These factors are all subject to the macroeconomic environment and are largely out of the hands of Amtrak and thus are all potential risks that may have impacts on operating costs, either negative or positive. Considering the reduction in O&M expenses compared to current levels, this risk is manageable.

2.4.3.2 Operating and Maintenance Revenue Risks

Under the NEC Commuter and Intercity Rail Cost Allocation Policy all service providers are committed to covering the costs of their respective uses of NEC infrastructure–including a formula charge for the operating costs and maintenance of way–to maintain the NEC in a SOGR and to ensure that the continued provision of its essential rail services. NJ TRANSIT signed an Amended and Restated Northeast Corridor Services Agreement with Amtrak and a Capital Agreement with Amtrak which dedicates capital and operating costs to Amtrak for maintenance, operation and capital improvements in NJ TRANSIT's operating territory. Those

payments are allocated as part of NJ TRANSIT's annual capital and operating program and recently approved by the NJ TRANSIT Board of Directors.

2.4.4 Mitigation Strategies

If any of the cost or schedule risks described above materialize, the Project Sponsor has risk mitigation strategies available.

NJ TRANSIT has extensive experience with major construction programs. Even though the PNB Project has completed 100 percent design, the project cost estimate includes 12 percent in allocated contingencies and an additional 23 percent of unallocated contingency, totaling 35 percent of the total base year construction cost of $1.01 billion (without contingency) in 2019 dollars. Additionally, the terms and conditions of the construction contract will seek to mitigate cost increases due to the associated risks.

Without limiting other commitments made by NJ TRANSIT and Amtrak in support of the PNB Project, Amtrak and NJ TRANSIT expect to arrange in advance to cover all cost overruns (that are not otherwise secured or guaranteed and not the result of waste or fraud), with Amtrak and NJ TRANSIT each responsible for 50 percent of the amount of such cost overrun. As demonstrated in Sections 2.2.2.1.1 and 2.2.2.1.3, Amtrak has $123 million available to cover its share of cost overruns. Similarly, as demonstrated in Section 2.4.5 below, NJ TRANSIT has funds available in the STIP to cover its share of cost overruns. In addition, NJ TRANSIT anticipates that its procurement of the PNB Project will use prudent contracting methods to reduce the risks of costs overruns and completion delays.

As the PNB Project proceeds, NJ TRANSIT will continue to review and revise the financial plan to take into account cost and schedule changes, federal funding opportunities, and financial market conditions. NJ TRANSIT will continue to engage in the risk assessment process with FTA and its PMOC, which will result in revised contingency levels and a detailed risk management plan to be implemented during final design and construction.

2.4.5 Sensitivity Analysis

Funding for cost overruns has been committed and will be shared by Amtrak and NJ TRANSIT on a 50/50 basis. This section presents an analysis of how a 15 percent increase in PNB Project capital costs might be addressed. The PNB Project is 100% designed, and the project costs are at a P-65 value and already include unallocated contingency of 25 percent of the construction total (SCCs 10-50), and a conservative inflation rate. These measures should result in a low likelihood of any cost overruns. As mentioned earlier, a risk register has been developed and the Project Sponsor is committed to enacting cost containment measures as a primary tool to maintain the PNB Project's capital cost within the established budget.

In this 15 percent cost increase scenario, the increase in cost starts showing from FY 2020 onwards since the earlier contracts over FY2019 are well-established and any increase in costs could be deferred. This scenario leads to a $245 million increase in the total PNB Project capital cost estimate (inclusive of the intercity rail portion) as shown in Table 2-18.

Table 2-18 Sources for 15% Cost Overrun

Project Sources	Project Uses (YOE $M)		
	Intercity Passenger Rail Portion	Core Capacity Portion	Total
Amtrak Escrow Account Contribution	18	98	117
Amtrak Contributions/Other FRA Grant	6	-	6
NJEDA Bond Proceeds	-	45	45
NJ TRANSIT NJTTF Receipts	-	78	78
15% Cost Overrun	**25**	**221**	**245**
NJ TRANSIT NJTTF Receipts Remaining Balance after covering 15% cost overrun	-	89	89
Total Funding Available to Cover a Cost Overrun	**25**	**310**	**334**

Note: Dollar values are rounded to the nearest million.

Table 2-19 presents Project sources and uses of funds between 2017 and 2029 for this sensitivity case.

- As demonstrated in Section 2.2.2.1.3, Amtrak has committed $117 million from the $182 million interest bearing escrow account to cover its share of cost overruns. This commitment is documented in supporting document B-17. $98 million of these funds would cover Amtrak's portion of the core capacity cost overrun obligations. The remaining $18 million along with $6 million in Amtrak Contributions/Other FRA Grant as document in Section 2.2.2.1.1 would cover intercity passenger rail cost overruns. Amtrak's funding balance for the 15% cost overrun scenario is presented in Table 2-20.
- NJ TRANSIT would fund its portion of the cost overrun via NJEDA bond financing up to the $600 million principal cap, and via excess NJTTF receipts available for the PNB Project.
    - Since the based case already assumes only $555 million in NJEDA bond proceeds, NJ TRANSIT would have access to $45 million in additional funds in NJEDA bond proceeds. The funding to cover the debt service for these additional bond proceeds is already included in the revised Draft FY2020-2029 STIP (STIP will be provided to FTA upon final FTA approval) and the NJ TRANSIT system-wide capital plan documented in Chapter 4, Section 4.2.
    - The remaining $78 million would be covered by excess funds from NJTTF receipts[11]. Excluding funds utilized as pay-as-you-go for base PNB Project costs and funds required to cover debt service for the $600 million bond during the CIG and construction period, the STIP will include $167 million in funds to cover cost overruns and debt service for future years. After accounting for 15% cost overruns, the NJTTF receipt balance is at $89 million at the end of the CIG period as presented in Table 2-21.

The STIP and sensitivity analysis is consistent with the system-wide capital plan documented in Chapter 4, Section 4.2 which demonstrates NJ TRANSIT's adequate funding capacity to address this cost increase.

[11] FY18 and FY19 amounts are documented in the FY18-FY27 State Transportation Improvement Plan (STIP) in supporting document E-17,

Table 2-19 Core Capacity Eligibility Period Sources & Uses of Funds for 15 percent increase in Project Capital Costs (YOE $M)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total	Sub-Section Percent	Percent of Total
SOURCES OF FUNDS																
Intercity Rail																
Amtrak Contributions/Other FRA Grant	1	-	-	2	18	36	28	10	5	3	3	1	-	107	59.3%	5.0%
Amtrak Escrow Account Contribution for Intercity Rail Portion	-	-	-	0	3	7	8	-	-	-	-	-	-	18	10.2%	0.9%
Amtrak Passengers Revenue	-	-	-	-	-	11	28	8	3	3	2	1	-	55	30.5%	2.6%
Intercity Rail Sources of Funds	**1**	**-**	**-**	**3**	**21**	**54**	**64**	**18**	**8**	**6**	**5**	**2**	**-**	**181**	**100.0%**	**8.5%**
Public Transportation																
CMAQ	-	-	-	-	-	14	-	-	40	-	3	-	-	57	2.9%	2.7%
FTA Core Capacity	-	-	-	-	100	100	100	100	100	100	100	100	11	811	41.5%	38.0%
GAN	-	-	-	-	-	230	-	-	-	-	-	-	-	230	11.8%	10.8%
GAN Principal Repayment	-	-	-	-	-	-	(2)	(2)	(35)	(44)	(55)	(83)	(11)	(230)	-11.8%	-10.8%
Amtrak Escrow Account Contribution for Public Transportation Portion	-	-	-	4	17	39	75	15	7	3	3	1	-	164	8.4%	7.7%
NJ TRANSIT Contribution (Match for CMAQ funds)	-	-	-	-	-	4	-	-	10	-	1	-	-	14	0.7%	0.7%
NJEDA Bond Proceeds (Max. Amount Allowed)	-	-	-	-	600	-	-	-	-	-	-	-	-	600	30.7%	28.1%
NJTA Funding Commitment	-	-	-	-	-	25	25	25	25	25	25	24	23	197	10.1%	9.2%
NJ TRANSIT NJTTF Receipts	-	21	5	2	-	7	43	13	9	4	4	1	-	109	5.6%	5.1%
Public Transportation Sources of Funds	**-**	**21**	**5**	**6**	**717**	**419**	**242**	**151**	**156**	**88**	**80**	**44**	**24**	**1,952**	**100.0%**	***91.5%***
Total Project																
Total Source of Funds	**1**	**21**	**5**	**9**	**738**	**474**	**306**	**169**	**164**	**94**	**85**	**45**	**24**	**2,133**		***100.0%***
USES OF FUNDS																
Intercity Rail																
Project Capital Cost	1	-	-	3	21	54	64	18	8	6	5	2	-	181	100.0%	8.5%
Intercity Rail Uses of Funds	**1**	**-**	**-**	**3**	**21**	**54**	**64**	**18**	**8**	**6**	**5**	**2**	**-**	**181**	**100.0%**	**8.5%**
Public Transportation																
Project Capital Costs	-	1	3	28	186	507	573	162	121	55	49	16	-	1,700	87.1%	79.7%
GAN Financing Charges	-	-	-	-	-	0	9	9	9	8	6	4	0	47	2.4%	2.2%
NJEDA Bond Financing Charges	-	-	-	-	3	27	27	26	26	25	25	24	23	205	10.5%	9.6%
Public Transportation Uses of Funds	**-**	**1**	**3**	**28**	**189**	**534**	**609**	**197**	**156**	**88**	**80**	**44**	**24**	**1,952**	**100.0%**	**91.5%**
Total Project																
Total Uses of Funds	**1**	**1**	**3**	**31**	**210**	**588**	**672**	**215**	**164**	**94**	**85**	**45**	**24**	**2,133**		**100.0%**
Total Project Cash Flow	**0**	**20**	**2**	**(22)**	**528**	**(115)**	**(367)**	**(47)**	**0**	**0**	**0**	**0**	**0**	**(0)**		

Note: Based on fiscal years ending June 30

Table 2-20 Amtrak Escrow Account Balance during CIG Period (YOE $Million)

A	B	C	D = B + C	E	F = D + E	G	H	I = H + G + F
Fiscal Year	Initial Balance Escrow Account (BEG) YOE $M	Uses of Funds for base PNB Core Capacity Portion YOE $M	Escrow Account Available for Public Transportation Cost Overruns YOE $M	Sensitivity Case 15% - Public Transportation Portion Cost Overruns covered by Amtrak YOE $M	Escrow Account Available for Intercity Rail Portion Cost Overruns YOE $M	Amtrak Contribution/Other FRA Grant funds for Intercity Rail Portion Cost Overruns YOE $M	Sensitivity Case 15% - Intercity Rail Portion Cost Overruns covered by Amtrak YOE $M	Final Balance Escrow Account After Cost Overruns (END) YOE $M
2017	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-
2019	182	-	182	-	182	-	-	182
2020	182	(2)	180	(2)	178	-	(0)	178
2021	178	(6)	171	(11)	161	-	(3)	158
2022	158	(10)	148	(29)	119	-	(7)	112
2023	112	(42)	70	(33)	36	0	(8)	28
2024	28	(5)	23	(9)	14	2	(2)	14
2025	14	(0)	14	(7)	7	2	(2)	7
2026	7	-	7	(3)	4	1	(1)	4
2027	4	-	4	(3)	1	1	(1)	1
2028	1	-	1	(1)	-	0	(0)	-
2029	-	-	-	-	-	-	-	-
Total	**-**	**(65)**	**-**	**(98)**		**6**	**(25)**	

Table 2-21 NJ TRANSIT Cost Overrun analysis (YOE $ Million)

A	B	C	D	E	F	G	H	I = B + C + D + E + F + G + H
Fiscal Year	Initial Balance (BEG) YOE $M	NJTA Funding Commitment YOE $M	NJ TRANSIT NJTTF Receipts for Portal North Bridge YOE $M	NJTTF Revenue used as Pay-As-You-Go YOE $M	Debt Service for Maximum Amount Allowed ($600M) YOE $M	Excess NJEDA Net Bond Proceeds available for Cost Overruns ($0M-0M) YOE $M	Sensitivity Case 15% - Cost Overruns covered by NJT YOE $M	NJTTF Funds Available after Cost Overruns (END) YOE $M
2017	-	-	-	-	-	-	-	-
2018	-	-	21	(21)	-	-	-	-
2019	-	-	14	(5)	-	-	-	9
2020	9	25	26	-	-	-	(2)	58
2021	58	25	14	-	-	45	(13)	128
2022	128	25	20	-	(37)	-	(37)	100
2023	100	25	20	-	(37)	-	(42)	67
2024	67	25	20	-	(37)	-	(12)	64
2025	64	25	20	-	(37)	-	(8)	64
2026	64	25	20	-	(37)	-	(4)	68
2027	68	25	20	-	(37)	-	(4)	73
2028	73	25	20	-	(37)	-	(1)	80
2029	80	25	20	-	(37)	-	-	89
2030	89	25	20	-	(37)	-	-	97
2031	97	25	20	-	(37)	-	-	106
2032	106	25	20	-	(37)	-	-	114
2033	114	25	20	-	(37)	-	-	122
2034	122	25	20	-	(37)	-	-	131
2035	131	25	20	-	(37)	-	-	139
2036	139	25	20	-	(37)	-	-	148
2037	148	25	20	-	(37)	-	-	156
2038	**156**	**25**	**20**	**-**	**(37)**	**-**	**-**	**164**
2039	164	25	20	-	(37)	-	-	173
2040	173	25	20	-	(37)	-	-	181
2041	181	25	20	-	(37)	-	-	190
2042	190	25	20	-	(37)	-	-	198
2043	198	25	20	-	(37)	-	-	206
2044	206	25	20	-	(37)	-	-	215
2045	215	25	18	-	(37)	-	-	221
2046	221	-	-	-	(37)	-	-	184
2047	184	-	-	-	(37)	-	-	147
2048	147	-	-	-	(37)	-	-	111
2049	111	-	-	-	(37)	-	-	74
2050	74	-	-	-	(37)	-	-	37
2051	**37**	**-**	**-**	**-**	**(37)**	**-**	**-**	**(0)**
Total for CIG/construction/current STIP period (2029)		**250**	**237**	**(26)**	**(295)**	**45**	**(123)**	**89**
Total until 20 year system-wide forecast period (2038)		**475**	**420**	**(26)**	**(626)**	**45**	**(123)**	**164**
Total until NJEDA bond defeasance (2051)		**650**	**559**	**(26)**	**(1,105)**	**45**	**(123)**	**(0)**

At the end of the CIG period (FY2029), $104 million in funds is available for future debt service.

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4.0 NJ TRANSIT SYSTEM-WIDE FINANCIAL PLAN

This chapter documents the system-wide capital and operating financial capacity of NJ TRANSIT, which will operate commuter rail public transportation services across the new PNB, the rehabilitated North River Tunnel, and the new Hudson River Tunnel.

4.1 Introduction

This version of the NJ TRANSIT system-wide financial plan includes revisions which address FTA's recommendations and feedback documented in its FY 2020 Core Capacity Financial Assessment. Key revisions include the following:

- The average age of NJ TRANSIT bus fleet is forecasted to decrease from 9.3 years to approximately 5.0 years by 2022 as demonstrated in Figure 6 of the 2018 Bus Fleet Plan (provided as supporting document J-2), and documented in Section 4.4.1 below.
- A significant portion of NJ TRANSIT's non-federal and non-local capital funding is obtained through NJTTFA. The revenues available from this source are for NJ TRANSIT projects and the repayment of its debt obligations. Section 4.4.2 describes the financial stability of NJTTFA.
- NJ TRANSIT performed an analysis comparing NJ TRANSIT's current asset to current liability ratio with entities that have approximately the same range in assets and liabilities, demonstrating that its finances are stable relative to comparable transit agencies. This analysis does not include current assets, such as the FTA or NJTTFA funds that will fund projected future liabilities, as discussed in Section 4.4.3.
- Capital sources and uses for the period FY 2010 – FY 2018 reflect a slight decrease of 0.2 percent negative compound annual growth rate, as discussed in Section 4.2. The NJ TRANSIT FY 2019 Capital Program documented in Section D, supporting documents E-10 and E-14, shows a 14% increase compared to the FY 2018 amount (excluding competitive resiliency projects), including a 45% increase in the rail infrastructure improvements budget and a 72% increase in the system-wide improvements budget, reflecting the state's commitment to meet the system's needs. The forecast capital sources are assumed to grow at only a 0.1 percent compound annual growth rate and forecast capital uses are assumed to grow at only a 0.2 percent compound annual growth rate. The capital sources and uses for the system-wide plan reflects a relatively flat forecast.
- Operating sources and uses are estimated to increase at a compound annual growth rate of 2.4 percent, which is just slightly lower than the historic FY 2010 – FY 2018 compound annual growth rate of 2.6 percent reflecting a conservative assumption, as discussed in Section 4.3.1 and Section 4.3.2. This forecast reflects a more recent focus on identifying cost efficiencies and maximizing non-fare revenue alternatives.
- Operating fare revenue forecast generally reflects historic trends, as documented in Section 4.3.1.1.1.
- Section 4.3.3.1 describes the methodology for forecasting state and federal reimbursements and operating assistance to NJ TRANSIT, substantiating the increases in the forecasted level of funding compared to historical values.
- The passenger fare surcharge on Trans-Hudson rail use for the Gateway Program was removed from Section 4.3.3.1 and NJ TRANSIT's operating plan. As noted in supporting document B-7, a passenger fare surcharge is not the source of repaying the RRIF loan, so it has been removed from the operating plan.

4.2 Capital Plan

This section discusses NJ TRANSIT's historic and forecast capital sources and uses of funds. Capital plans for FY 2010 through FY 2020 for NJ TRANSIT can be found supporting documents E-1 to E-11.

4.2.1 Historic Capital Plan Sources of Funds

NJ TRANSIT's agency-wide historical capital sources of funds from FY 2010-FY 2018 are summarized in Table 4-1. System-wide capital sources can be categorized as Federal FTA and Federal Highway Administration (FHWA) funds, Federal Resiliency Funding (Sandy Funds), NJTTF and State Resiliency funds, and other sources.

The purpose of the agency's Capital Program is to provide NJ TRANSIT with the authority to secure capital funding in support of the various individual projects and programs authorized by the NJ TRANSIT Board of Directors throughout the year. The majority of the agency's budget is derived from the NJTTF, which is the common term used to refer to the State of New Jersey's Transportation Capital Program. NJTTF is funded in part by taxes imposed on gasoline, blended fuel that contains gasoline, liquefied petroleum gas and aviation fuel. NJTTF is administered by the NJTTFA, an independent agency of New Jersey state government whose stated mission is to finance the cost of "planning, acquisition, engineering, construction, reconstruction, repair, and rehabilitation of the state's transportation system."

At the federal level, NJ TRANSIT receives funding from the FTA pursuant to the FAST Act which was signed into law in December 2015. The FAST Act supports transit funding through fiscal year 2020 for projects or programs that improve mobility, streamline capital project construction and acquisition, and increase the safety of public transportation systems across the country. The FAST Act's predictable formula funding program enables transit agencies to better manage long-term assets and address the backlog of SOGR needs. Additionally, the FAST Act includes funding for new competitive grant programs for buses and bus facilities, innovative transportation coordination, workforce training, and public transportation research activities.

Another significant source of federal funding is flexed funds from the FHWA through the NJDOT. The balance of NJ TRANSIT's capital funding is comprised of other sources such as casino revenue and the NJTA.

Total capital sources of funds decreased at a compound annual growth rate of 0.2 percent between FY 2010 and FY 2018. (The compound annual growth rate (CAGR) is computed between FY 2010 and FY 2018 specifically because additional unprecedented Superstorm Sandy Resiliency funds were received in FY 2016 and FY2017). Federal funding increased at a compound annual growth rate of 0.2 percent from FY 2010 to FY 2018 and state funding decreased at a compound annual growth rate of 0.3 in the same period. On average federal and state funds account for approximately 54% and 43% of capital sources of funds from FY 2010 to FY 2018 respectively. Other sources of capital funding decreased at a compound annual growth rate of 2.7 percent between FY 2010 and FY 2018. On average other sources account for approximately 3% of capital sources of funds from FY 2010 to FY 2018.

Table 4-1 Historic Capital Sources of Funds (YOE $M)

Capital Sources of Funds	FY 10 Budget	FY 11 Budget	FY 12 Budget	FY 13 Budget	FY 14 Budget	FY 15 Budget	FY 16 Budget	FY 17 Budget	FY 18 Budget
Total Federal Funds	**637**	**700**	**497**	**530**	**695**	**695**	**1,558**	**1,075**	**646**
FTA	425	449	396	396	468	468	467	513	508
FHWA Flex and CMAQ	151	251	101	134	228	228	220	169	138
Federal Resiliency	-	-	-	-	-	-	871	393	-
Federal Earmark	61	-	-	-	-	-	-	-	-
*Annual Growth Rate**	*0.0%*	*9.9%*	*-29.0%*	*6.5%*	*31.3%*	*0.0%*	*-1.2%**	*-0.7%**	*-5.3%**
CAGR (FY10-FY18)									*0.2%*
Total State Funds	**692**	**600**	**622**	**590**	**496**	**471**	**504**	**583**	**676**
NJTTF	692	600	622	590	496	471	462	554	676
NJTTF Resiliency	-	-	-	-	-	-	42	29	-
*Annual Growth Rate**	*0.0%*	*-13.3%*	*3.7%*	*-5.2%*	*-15.9%*	*-5.0%*	*-1.8%**	*19.9%**	*22.0%**
CAGR (FY10-FY18)									*-0.3%*
Other Sources	**56**	**50**	**45**	**33**	**38**	**38**	**38**	**25**	**45**
Annual Growth Rate	*0.0%*	*-10.7%*	*-10.0%*	*-26.7%*	*14.2%*	*0.0%*	*0.0%*	*-33.7%*	*80.0%*
CAGR (FY10-FY18)									*-2.7%*
Total Capital Sources of Funds (including Sandy Resiliency Funds)	**1,385**	**1,350**	**1,164**	**1,152**	**1,228**	**1,203**	**2,100**	**1,683**	**1,367**
Total Capital Sources of Funds (excluding Sandy Resiliency Funds)	**1,385**	**1,350**	**1,164**	**1,152**	**1,228**	**1,203**	**1,187**	**1,261**	**1,367**
Annual Growth Rate*	***0.0%***	***-2.5%***	***-13.8%***	***-1.0%***	***6.6%***	***-2.0%***	***-1.4%****	***6.3%****	***8.4%****
CAGR (FY10-FY18)									***-0.2%***

*Note: Annual Growth Rate excludes Sandy Resiliency Funds

4.2.2 Historic Capital Plan Uses of Funds

NJ TRANSIT's Capital Program is evolving from a program reactive to deadlines and repair needs affecting agency costumers to a more metric-based program that prioritizes projects based on lifecycle costs and criticality. System-wide capital uses are grouped into two major categories: capital preservation and capital expansion. Total capital uses of funds decreased by a compound annual growth rate of 0.2 percent between FY 2010 and FY 2018. Table 4-2 summarizes NJ TRANSIT's historical capital uses of funds.

Table 4-2 Historic Capital Uses of Funds (YOE $M)

Capital Uses of Funds Capital Preservation Costs	FY 10 Budget	FY 11 Budget	FY 12 Budget	FY 13 Budget	FY 14 Budget	FY 15 Budget	FY 16 Budget	FY 17 Budget	FY 18 Budget
Operations, Maintenance and Debt Service	714	738	653	654	691	674	673	594	601
Pass-Through	121	81	64	52	50	51	51	47	42
Rail Infrastructure Improvements	116	85	217	115	132	180	116	200	201
Rail Rolling Stock Improvements	-	-	-	88	53	104	87	105	109
Rail Station Improvements	34	11	42	16	37	46	82	64	47
Bus/Light Rail Improvements	62	85	125	164	195	76	85	186	168
Sandy Competitive Resiliency Projects	-	-	-	-	-	-	913	422	80
System-wide Improvements	52	53	64	63	69	55	92	65	86
Total Capital Preservation	**1,099**	**1,053**	**1,165**	**1,152**	**1,227**	**1,186**	**2,099**	**1,683**	**1,334**
Annual Growth Rate	*75.3%*	*-4.2%*	*10.6%*	*-1.1%*	*6.5%*	*-3.3%*	*77.0%*	*-19.8%*	*-20.7%*
CAGR (FY10-FY18)									*2.5%*
System Expansion									
Total System Expansion	**287**	**296**	**0**	**0**	**1**	**17**	**0**	**0**	**33**
Annual Growth Rate	*-4.1%*	*3.1%*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
CAGR (FY10-FY18)									*-23.7%*
Total Capital Uses of Funds									
Total Capital Uses of Funds	**1,386**	**1,349**	**1,165**	**1,152**	**1,228**	**1,203**	**2,099**	**1,683**	**1,367**
Annual Growth Rate	***49.6%***	***-2.7%***	***-13.6%***	***-1.1%***	***6.6%***	***-2.0%***	***74.5%***	***-19.8%***	***-18.8%***
CAGR (FY10-FY18)									***-0.2%***

4.2.2.1 Capital Preservation

Capital preservation costs are expenses associated with rehabilitation, reconstruction, and any improvements to existing assets, such as rail SOGR, bus/light rail SOGR expenses, rail station improvements, park & ride improvements, rail rolling stock improvements, and Superstorm Sandy resiliency projects. Capital preservation costs have also consisted of operations, maintenance, debt service payments. Between FY 2010 and FY 2018 capital preservation costs increased at a rate of 2.5 percent, which is consistent with the organization's emphasis on SOGR activities for infrastructure and facility assets.

4.2.2.2 System Expansion

Capital costs associated with system expansion relate to new projects. Although system expansion has been somewhat limited since 2012, NJ TRANSIT is undertaking significant projects to expand operations where there is critical need. For instance, the Capital Program is investing in two light rail expansion projects. The Hudson-Bergen Light Rail Northern Branch Extension project will reintroduce rail service between Englewood in Bergen County and North Bergen in Hudson County. In addition, the Glassboro to Camden Line will provide new light rail passenger service to communities in Camden and Gloucester Counties in South New Jersey along an existing freight rail line.

4.2.3 Forecast Capital Plan Sources of Funds

NJ TRANSIT's system-wide capital plan covers State FY 2019 to FY 2038 including the PNB Project and the HTP. The sources of funds projected over the next 20 years are based on a continuation of the FY 2019

levels of funding received by NJ TRANSIT from various federal programs, the NJTTF, casino revenue funds and other smaller fund sources. Both federal and state funding was assumed to increase periodically at a nominal rate. The capital plan also identifies funds from State FY 2018 and prior years that have not yet been drawn down and are thus available for State FY2019 expenditures and beyond. The forecast capital funding sources is presented in Table 4-3.

The capital sources are estimated to increase at a compound annual growth rate of 0.16 percent over the FY 2019 to FY 2038 period. This is a relatively flat growth rate assumption compared to the historic decrease of 0.1 percent compound annual growth rate for the FY 2010 to FY 2018 period.

On December 27, 2018, Amtrak and NJ TRANSIT executed the "Funding and Coordination Agreement", which is included as supporting document B-17. The Agreement settles outstanding disputes between NJ TRANSIT and Amtrak (unrelated to the Gateway Program) and provides an additional source of funding to NJ TRANSIT. As documented in section 2.4 of the Agreement, from FY 2018 to FY 2030, NJ TRANSIT is scheduled to receive a total of $290 million in scheduled credits against its annual Baseline Capital Charge (BCC) Program payments due to Amtrak under the Agreement for Capital Obligations between Amtrak and NJ TRANSIT. These credits were unanimously approved by the NEC Commission on September 12, 2019 (supporting document B-23). These scheduled credits will further improve NJ TRANSIT's system-wide capital plan.

Table 4-3 Forecast Sources of Funds: FY 2019 – 2038 (YOE $M)

Sources of funds	Prior Years	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	Total
		Budget	Budget	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	
Federal Funding		$ 518	$ 528	$ 541	$ 541	$ 541	$ 541	$ 541	$ 554	$ 554	$ 554	$ 554	$ 554	$ 568	$ 568	$ 568	$ 568	$ 568	$ 582	$ 582	$ 582	**$ 11,107**
Federal Resiliency Funding		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Federal Flex and CMAQ Funding		$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	**$ 1,520**
State TTF		$ 810	$ 760	$ 760	$ 760	$ 760	$ 760	$ 767	$ 767	$ 767	$ 767	$ 786	$ 786	$ 786	$ 786	$ 786	$ 806	$ 806	$ 806	$ 806	$ 806	**$ 15,638**
Others		$ 61	$ 34	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	**$ 474**
Others - Portal North Bridge Project		$ -	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	**$ 475**
Prior Year Funding	$ 5,062	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 5,062**
Total Sources of Funds	**$ 5,062**	**$ 1,464**	**$ 1,422**	**$ 1,423**	**$ 1,423**	**$ 1,423**	**$ 1,423**	**$ 1,430**	**$ 1,443**	**$ 1,443**	**$ 1,443**	**$ 1,462**	**$ 1,462**	**$ 1,476**	**$ 1,476**	**$ 1,476**	**$ 1,496**	**$ 1,496**	**$ 1,510**	**$ 1,510**	**$ 1,510**	**$ 34,276**
CAGR (FY19-FY38)																					*0.16%*	**-**

4.2.4 Forecast Capital Plan Uses of Funds

For years FY 2019 – FY 2038, Capital Program expenditures are presented project by project for the near term and include escalation for future years. Beyond those specific projects, an allowance for various project types is indicated, such as station projects, bridge projects, etc. These allowances will be allocated to specific projects as each annual budget is developed. An allowance for future rail and bus rolling stock expenditures is included and is consistent with the NJ TRANSIT fleet plans.

Table 4-4 on the following page summarize projected use of capital funds including the PNB Project, and the HTP. The Capital uses are estimated to increase at a compound annual growth rate of 0.13 percent for the FY 2019 to FY 2038 period. This is a relatively flat growth assumption compared to the historic decrease of 0.2 percent compound annual growth rate for the FY 2010 to FY 2018 period.

NJ TRANSIT is increasing its commitment to the FY 2019 Capital Program (documented in Section D, supporting documents E-10 and E-14) through a 14% increase compared to the FY 2018 amount (excluding competitive resilience projects), including a 45% increase in rail infrastructure improvements and 72% increase in system-wide improvements budget reflecting the state's commitment to meet the system's needs.

Table 4-5 depicts the combined system-wide sources and uses of funds for the forecast period. It is assumed that NJ TRANSIT will use a portion of its NJTTF appropriations to provide payments to NJEDA in amounts equal to the scheduled annual debt service associated with NJEDA bond financing for the PNB Project. The annual debt service amount included in the 20-year capital plan uses of funds, reflects the debt service required to repay $600 million in NJEDA bond proceeds. Chapter 2, Section 2.2.2.4.1 provides more detail on NJEDA bond proceeds for the PNB Project. The debt service schedule provided in Table 4-5 reflects the strength and resilience of the NJ TRANSIT capital plan for bond repayment.

As depicted in the capital plan sources and uses, the cumulative project cash flow decreases from $4,891 million in FY 2019, to $425 million in FY 2038. This significant balance of available funds, on average represents approximately 139 percent of NJ TRANSIT's total annual capital uses for the FY 2019 to FY 2038 period. The forecast capital plan demonstrates the stability and availability of additional capital sources and uses at the system-wide level for the 20-year forecast period.

Table 4-4 Forecast Uses of Funds: Twenty Year Forecast FY 2019 – FY 2038 (YOE $M)

Uses of funds	Prior Years	FY 2019 Budget	FY 2020 Budget	FY 2021 Proj.	FY 2022 Proj.	FY 2023 Proj.	FY 2024 Proj.	FY 2025 Proj.	FY 2026 Proj.	FY 2027 Proj.	FY 2028 Proj.	FY 2029 Proj.	FY 2030 Proj.	FY 2031 Proj.	FY 2032 Proj.	FY 2033 Proj.	FY 2034 Proj.	FY 2035 Proj.	FY 2036 Proj.	FY 2037 Proj.	FY 2038 Proj.	Total
Planned Expenditures																						
On Going Programs	-	$ 742	$ 745	$ 755	$ 770	$ 830	$ 827	$ 820	$ 820	$ 828	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 16,285
Resiliency	-	$ 385	$ 389	$ 431	$ 312	$ 164	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,682
Construction Projects	-	$ 172	$ 204	$ 73	$ 49	$ 154	$ 120	$ 128	$ 128	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 2,472
Rolling Stock	-	$ 326	$ 335	$ 480	$ 629	$ 639	$ 684	$ 689	$ 689	$ 689	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 12,701
Portal North Bridge Project	**-**	**$ 10**	**$ 5**	**$ -**	**$ 55**	**$ 37**	**$ 37**	**$ 87**	**$ 37**	**$ 40**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 712**
Portal Bridge Early Works (TIGER Match)	-	$ 4	$ 5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9
Portal Bridge Contribution	-	$ 6	$ -	$ -	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 632
Portal Bridge Vehicle Purchase	-	$ -	$ -	$ -	$ 18	$ -	$ -	$ 50	$ -	$ 4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 71
Total Uses of Funds	**-**	**$ 1,635**	**$ 1,678**	**$ 1,739**	**$ 1,814**	**$ 1,825**	**$ 1,667**	**$ 1,724**	**$ 1,674**	**$ 1,678**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 33,851**
CAGR (FY19-FY38)																					*0.13%*	**-**
Project Cash Flow	**$ 5,062**	**$ (171)**	**$ (255)**	**$ (316)**	**$ (391)**	**$ (402)**	**$ (245)**	**$ (294)**	**$ (231)**	**$ (235)**	**$ (231)**	**$ (212)**	**$ (212)**	**$ (198)**	**$ (198)**	**$ (198)**	**$ (178)**	**$ (178)**	**$ (164)**	**$ (164)**	**$ (164)**	**$ 425**
Cumulative Project Cash Flow	**$ 5,062**	**$ 4,891**	**$ 4,636**	**$ 4,320**	**$ 3,929**	**$ 3,527**	**$ 3,283**	**$ 2,988**	**$ 2,757**	**$ 2,523**	**$ 2,292**	**$ 2,080**	**$ 1,868**	**$ 1,670**	**$ 1,472**	**$ 1,274**	**$ 1,096**	**$ 918**	**$ 754**	**$ 590**	**$ 425**	

Table 4-5 Forecast Twenty-Year Capital Plan FY 2019 – FY 2038 (YOE $M)

Sources of funds	Prior Years	FY 2019 Budget	FY 2020 Budget	FY 2021 Proj.	FY 2022 Proj.	FY 2023 Proj.	FY 2024 Proj.	FY 2025 Proj.	FY 2026 Proj.	FY 2027 Proj.	FY 2028 Proj.	FY 2029 Proj.	FY 2030 Proj.	FY 2031 Proj.	FY 2032 Proj.	FY 2033 Proj.	FY 2034 Proj.	FY 2035 Proj.	FY 2036 Proj.	FY 2037 Proj.	FY 2038 Proj.	Total
Federal Funding		$ 518	$ 528	$ 541	$ 541	$ 541	$ 541	$ 541	$ 554	$ 554	$ 554	$ 554	$ 554	$ 568	$ 568	$ 568	$ 568	$ 568	$ 582	$ 582	$ 582	$ 11,107
Federal Resiliency Funding		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Federal Flex and CMAQ Funding		$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 76	$ 1,520
State TTF		$ 810	$ 760	$ 760	$ 760	$ 760	$ 760	$ 767	$ 767	$ 767	$ 767	$ 786	$ 786	$ 786	$ 786	$ 786	$ 806	$ 806	$ 806	$ 806	$ 806	$ 15,638
Others		$ 61	$ 34	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 21	$ 474
Others - Portal North Bridge Project		$ -	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 25	$ 475
Prior Year Funding	$ 5,062	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,062
Total Sources of Funds	**$ 5,062**	**$ 1,464**	**$ 1,422**	**$ 1,423**	**$ 1,423**	**$ 1,423**	**$ 1,423**	**$ 1,430**	**$ 1,443**	**$ 1,443**	**$ 1,443**	**$ 1,462**	**$ 1,462**	**$ 1,476**	**$ 1,476**	**$ 1,476**	**$ 1,496**	**$ 1,496**	**$ 1,510**	**$ 1,510**	**$ 1,510**	**$ 34,276**

Uses of Funds	Prior Years	FY 2019 Budget	FY 2020 Budget	FY 2021 Proj.	FY 2022 Proj.	FY 2023 Proj.	FY 2024 Proj.	FY 2025 Proj.	FY 2026 Proj.	FY 2027 Proj.	FY 2028 Proj.	FY 2029 Proj.	FY 2030 Proj.	FY 2031 Proj.	FY 2032 Proj.	FY 2033 Proj.	FY 2034 Proj.	FY 2035 Proj.	FY 2036 Proj.	FY 2037 Proj.	FY 2038 Proj.	Total
Planned Expenditures																						
On Going Programs		$ 742	$ 745	$ 755	$ 770	$ 830	$ 827	$ 820	$ 820	$ 828	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 831	$ 16,285
Resiliency		$ 385	$ 389	$ 431	$ 312	$ 164	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,682
Construction Projects		$ 172	$ 204	$ 73	$ 49	$ 154	$ 120	$ 128	$ 128	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 120	$ 2,472
Rolling Stock		$ 326	$ 335	$ 480	$ 629	$ 639	$ 684	$ 689	$ 689	$ 689	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 686	$ 12,701
Portal North Bridge Project		**$ 10**	**$ 5**	**$ -**	**$ 55**	**$ 37**	**$ 37**	**$ 87**	**$ 37**	**$ 40**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 37**	**$ 712**
Portal Bridge Early Works (TIGER Match)		$ 4	$ 5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9
Portal Bridge Contribution		$ 6	$ -	$ -	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 37	$ 632
Portal Bridge Vehicle Purchase		$ -	$ -	$ -	$ 18	$ -	$ -	$ 50	$ -	$ 4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 71
Total Uses of Funds		**$ 1,635**	**$ 1,678**	**$ 1,739**	**$ 1,814**	**$ 1,825**	**$ 1,667**	**$ 1,724**	**$ 1,674**	**$ 1,678**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 1,674**	**$ 33,851**
Project Cash Flow	**$ 5,062**	**$ (171)**	**$ (255)**	**$ (316)**	**$ (391)**	**$ (402)**	**$ (245)**	**$ (294)**	**$ (231)**	**$ (235)**	**$ (231)**	**$ (212)**	**$ (212)**	**$ (198)**	**$ (198)**	**$ (198)**	**$ (178)**	**$ (178)**	**$ (164)**	**$ (164)**	**$ (164)**	**$ 425**
Cumulative Project Cash Flow	**$ 5,062**	**$ 4,891**	**$ 4,636**	**$ 4,320**	**$ 3,929**	**$ 3,527**	**$ 3,283**	**$ 2,988**	**$ 2,757**	**$ 2,523**	**$ 2,292**	**$ 2,080**	**$ 1,868**	**$ 1,670**	**$ 1,472**	**$ 1,274**	**$ 1,096**	**$ 918**	**$ 754**	**$ 590**	**$ 425**	**-**
Percent of Total Uses of Funds		299%	276%	248%	217%	193%	197%	173%	165%	150%	137%	124%	112%	100%	88%	76%	65%	55%	45%	35%	25%	-

4.3 Operating Plan

This section describes the system-wide operating historical and forecast sources and uses for NJ TRANSIT operations. The operating budgets for FY 2010 through FY 2020 can be provided as supporting documents E-1 to E-11.

4.3.1 Historic Operating Sources of Funds

System-wide operational sources of funds are categorized as operating revenues and operating assistance. Between FY 2010 – FY 2018, overall sources of funds increased at a compound annual growth rate of 2.6 percent. Table 4-6 summarizes NJ TRANSIT's historical sources of revenue and operating assistance.

Table 4-6 Historic Sources of Operating Funds (YOE $M)

Operating Sources of Funds	FY 10 Actual	FY 11 Actual	FY 12 Actual	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Actual
Operating Revenues									
Passenger Revenues	757.6	863.8	884.8	874.9	906.2	929.3	990.3	986.4	968.1
Other Revenues	94.5	101.6	106.1	147.2	152.6	106.1	108.3	121.0	103.6
Total Operating Revenues	**852.1**	**965.4**	**990.9**	**1,022.1**	**1,058.8**	**1,035.4**	**1,098.6**	**1,107.4**	**1,071.7**
Annual Growth Rate	*1.2%*	*13.3%*	*2.6%*	*3.1%*	*3.6%*	*-2.2%*	*6.1%*	*0.8%*	*-3.2%*
CAGR (FY10 - FY18)									*2.9%*
Operating Assistance									
State Operating Assistance	261.5	276.2	395.0	363.2	353.4	368.2	390.3	427.0	427.0
Other State and Federal Reimbursements	247.7	80.5	103.2	173.8	213.8	191.4	225.6	183.6	170.0
State and Federal Capital Transfers	471.4	535.5	400.4	468.5	461.2	480.4	518.3	409.5	585.4
Total Operating Assistance	**980.6**	**892.2**	**898.6**	**1,005.5**	**1,028.4**	**1,040.0**	**1,134.2**	**1,020.1**	**1,182.4**
Annual Growth Rate	*7.7%*	*-9.0%*	*0.7%*	*11.9%*	*2.3%*	*1.1%*	*9.1%*	*-10.1%*	*15.9%*
CAGR (FY10 - FY18)									*2.4%*
Total Operating Sources of Funds	**1,832.7**	**1,857.6**	**1,889.5**	**2,027.6**	**2,087.2**	**2,075.4**	**2,232.8**	**2,127.5**	**2,254.1**
Annual Growth Rate	*4.6%*	*1.4%*	*1.7%*	*7.3%*	*2.9%*	*-0.6%*	*7.6%*	*-4.7%*	*6.0%*
CAGR (FY10 - FY18)									*2.6%*

4.3.1.1 Operating Revenues

Operating revenues are driven by user fees and other non-fare revenue sources. From FY 2010 to FY 2018, overall revenue contributions increased at a compound annual growth rate of 2.9 percent. These revenues are categorized under passenger or other revenues as shown in Table 4-6.

4.3.1.1.1 Passenger Revenues

NJ TRANSIT generates passenger fare revenue through two types of modes: directly operated transportation and purchased transportation. Modes directly operated by NJ TRANSIT include commuter rail, light rail, and motor bus, while purchased transportation modes include demand response service, light rail, motor bus, and hybrid rail. Passenger revenues have shown steady increases from FY 2010 to FY 2018, growing at a compound annual growth rate of 3.1 percent. In recent years, passenger fare revenue growth has been attributed to the addition of the Meadowlands and Liberty Corridor Bus services; two passenger fare rate

increases since FY 2010; and a steady growth in system-wide ridership trends and employment since FY 2013.

NJ TRANSIT does not follow a biennial fare increase model thereby moderate fare increases are levied every two years. Rather, NJ TRANSIT's historical fare increases since 2000 reflect large increases every two to four years (as demonstrated in Table 4-7):

Table 4-7 NJ TRANSIT Historic Fare Increases

Date	Increase
March 2002	10.00%
July 2005	11.50%
June 2007	9.60%
May 2010	22.00%
October 2015	9.00%

Growth rates for system-wide boardings were derived from travel demand forecasting models using approved MPO forecasts of population, households, employment and labor force generated by NYMTC, NJTPA, DVRPC and SJTPO. These forecasts are applied to survey-derived trip tables to generate future year base trip tables. The regional models then assign the future year trips to various travel modes based on total impedance, a factor which combines weighted values of cost, in-vehicle time, out-of-vehicle time and other considerations. Table 4-8 presents NJ TRANSIT ridership projections for its primary modes for three horizon years, both with and without the Core Capacity improvements provided by the PNB Project. It should be noted that the "Build" scenario in Table 4-8 refers to system-wide ridership after the PNB Project is completed, and the "No-Build" scenario refers to continuation of existing condition, without the PNB Project.

Table 4-8 New Jersey Transit Ridership Comparisons for PNB "No-Build" and "Build" Scenarios

Ridership	FY 2015		FY 2025		FY 2035	
	No Build	Build	No Build	Build	No Build	Build
Rail Total	87,628,300	87,628,300	99,336,777	100,597,134	111,712,075	111,970,458
Bus Total	162,227,000	162,227,000	174,941,679	174,311,500	188,281,601	188,152,409
Light Rail Total	22,531,400	22,531,400	25,448,897	25,448,897	28,781,814	28,781,814
Total System	**272,386,700**	**272,386,700**	**299,727,353**	**300,357,531**	**328,775,489**	**328,904,681**

Note that the PNB "No-Build" scenario experiences a 1.26 percent compound annual growth rate from 2015-2025 (the year of project opening), whereas the "Build" scenario has a compound annual growth rate of 1.39 percent from 2015-2025. However, forecasts from 2015-2035 show comparable annual ridership growth for both scenarios (1.22 percent in the "No-Build" and 1.23 percent in the "Build" scenario). These results are explained by the 20 percent cap for an increase in capacity as discussed previously in this financial plan. When the PNB Project is completed, the annual rail ridership growth rate is expected to initially increase rapidly primarily due to the increased capacity of the PNB, but once the cap is reached ridership will stabilize over time.

4.3.1.1.2 Other Revenues

Other revenue sources can be broken down into the following categories: transportation funds, auxiliary transportation funds, and non-transportation funds. Transportation funds have consistently included park and ride fees. Historically, transportation funds have also included Metro North-Interline revenue and special service revenue. Auxiliary transportation funds account for concessions, advertising revenue, Interline

commissions, ticket sales commissions, contract revenue, and special services revenue. Expansion of the NJ TRANSIT advertising program has been a consistent driver in growing commercial revenues annually. Non-transportation funds comprise vehicle rental revenues, rental income from buildings and other properties, parking lot rental, parking permit revenue, investment income, and transit-oriented development initiatives. Note that in 2011 the additional asset value for parking assets developed through public-private partnerships created a new source of revenue. Further, in 2013, $50 million was collected in insurance for Superstorm Sandy. Other revenue contributions have grown at a compound annual growth rate of 1.2 percent from FY 2010 to FY 2018.

4.3.1.2 Total Operating Assistance

Total operating assistance increased at a compound annual growth rate of 2.4 percent from FY 2010 to FY 2018. Operating assistance is classified as state, federal funds, or other assistance from quasi-governmental entities. State operating assistance alone increased at a compound annual growth rate of 6.3 percent from FY 2010 to FY 2018. The decline in state and federal reimbursements is directly tied to expenses and is largely due to a drop in planning and expense (P&E) initiatives, which are supported by reimbursements from state, federal and other third-party entities. For example, the historical decline in funding from New Jersey's Casino Revenue Fund in support of NJ TRANSIT's Transportation Assistance for Senior Citizens and Disabled Residents Program has contributed to the decline in reimbursements and related expenses.

State and federal reimbursements collectively decreased at a compound annual growth rate of 4.6 percent from FY 2010 to FY 2018. State and federal capital transfers increased at a compound annual growth rate of 2.7 percent from FY 2010 to FY 2018. These state and capital transfers represent both federal and NJTTF capital funds used to support eligible and non-routine operating expenses that help to extend the useful life of the assets being repaired. These operating expenses include, but are not limited to, engine repairs, axel replacements, and transmission rehabilitation. The specific categories making up total operating assistance sources of funds are also described below.

4.3.1.2.1 State Assistance

State assistance can be categorized as state operating assistance, state reimbursements, and state capital transfers. In the recent past, consistent sources of state assistance have included direct subsidies from the State of New Jersey, pass-through funding from the NJTA and State Clean Energy Fund, resources from the New Jersey Casino Revenue Fund, and other project reimbursements from other governmental and third-party entities.

4.3.1.2.2 Federal Assistance

Federal assistance can be categorized as federal reimbursements and federal capital transfers. Historically, federal sources of assistance have been comprised of FTA Urbanized and Rural Area Formula Program funds, FTA Special Needs of Elderly Individuals and Individuals with Disabilities Formula Program (5310) funds, and other small programs which were eliminated under the Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2012. Additionally, in some years NJ TRANSIT has received federal operating grants through FHWA CMAQ funding, the US Department of Labor, and the FRA.

4.3.2 Historic Operating Uses of Funds

System-wide operational uses of funds are categorized as follows: labor and fringe, services, fuel and power, materials and supplies, purchased transportation, and other expenses. Operational uses increased at a compound annual growth rate of 2.7 percent between FY 2010 to FY 2018. Table 4-9 summarizes the historic uses of operating funds.

Table 4-9 Historic Uses of Operating Funds (YOE $M)

Operating Uses of Funds	FY 10 Actual	FY 11 Actual	FY 12 Actual	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Actual
Labor and Fringes	1020.7	1060.8	1048.7	1099	1147.9	1174	1298.4	1207.9	1296.8
Services	109.3	107.6	114.3	200	174.6	149.9	171.8	158.3	164.5
Fuel & Power	128	146.6	162	151.3	158.1	152.4	131.9	94.3	97.7
Materials and Supplies	144.8	151	175.6	179.5	188.9	165.1	170	177	172.3
Purchased Transportation	195.5	200.2	197.2	212.1	218.7	221.9	223.5	212.5	245.3
Other	210.7	169.4	184.9	187.1	217.5	211.6	259.7	282.9	256.4
Total Operating Uses of Funds	**1,809.0**	**1,835.6**	**1,882.7**	**2,029.0**	**2,105.7**	**2,074.9**	**2,255.3**	**2,132.9**	**2,233.0**
Annual Growth Rate	*0.4%*	*1.5%*	*2.6%*	*7.8%*	*3.8%*	*-1.5%*	*8.7%*	*-5.4%*	*4.7%*
CAGR (FY10 - FY18)									*2.7%*

4.3.2.1 Labor and Fringe

Labor and fringe expenses include expenses related to current contractual labor agreements and costs for other non-union staff. These costs are due to salaries, wages, health care, and pension payments for operators and others. Changes in these costs are related to changes in the volume of laborers. Increases may be related to the addition of a new transit service which requires new staff to operate. Diminishing costs may result from lowering pension contributions or reducing the amount of staffed positions. Recently, departments throughout NJ TRANSIT have been effectively managing labor costs by strategically evaluating positions and tasks. Labor and fringe expenses increased at a rate of 3.0 percent from FY 2010 to FY 2018.

4.3.2.2 Services

Costs associated with services grew at a rate of 5.2 percent from FY 2010 to FY 2018.

4.3.2.3 Fuel and Power

Changes in fuel and power costs are related to usage and market prices of diesel and electricity as well as changes in service volume. Over the last four years, causes of the decrease in fuel and power spending are a result of a combination of declining fuel prices and NJ TRANSIT's ability to initiate timely fuel hedges. The overall decline in fuel prices has been slightly offset by growth in electric propulsion costs, the addition of a bus detour mitigation and other service adjustments, purchase of reimbursable local/county shuttle vehicles, and corresponding additional diesel and lubricant use Fuel and power costs overall decreased at a compound annual growth rate of 3.3 percent from FY 2010-FY 2018.

4.3.2.4 Materials and Supplies

Costs associated with materials and supplies are dependent on supply contracts. Examples of materials and supplies are tubes, tires, and metal. Expenses due to materials and supplies increased at a rate of 2.2 percent between FY 2010 and FY 2018.

4.3.2.5 Purchased Transportation

Increases in purchased transportation costs in recent history are primarily attributed to growth in existing Light Rail, Access Link, and Private Carrier Bus contracts. Historically, reductions in purchased transportation costs have resulted from reductions in related service and administration costs. Purchased transportation costs increased at a rate of 2.9 percent from FY 2010 to FY 2018.

4.3.2.6 Other Expenses

Alternate operational costs incurred by NJ TRANSIT include costs of utilities, funding for outside services, claims and insurance expenses, tolls, and trackage fees. Historically, increases in other expenses have been related to increases in credit card processing fees related to mobile ticketing and ticket vending machine use, higher utilities costs, and higher payments to Amtrak with regard to the Passenger Rail Investment and Improvement Act. Miscellaneous operational expenses increased at a rate of 2.5 percent between FY 2010 and FY 2018.

4.3.3 Forecast Operating Budget

NJ TRANSIT's operating budget is the result of an annual process involving both internal personnel and other state agencies. Within NJ TRANSIT, development of the operating budget is an agency-wide effort involving all departments. The operating budget process typically begins in the late summer with departments asked to prepare a proposed budget based upon new service needs, staffing requirements and mandates. It begins with meetings between the Budget department and all departments individually. Growth and reduction items are presented with proper justification through documentation of the full impact for the upcoming fiscal year as well as any impacts to the next three fiscal years. These items are discussed with the requesting department at length by NJ TRANSIT budget analysts. The Budget department works with all the departments to establish a balanced budget while prioritizing the needs of customers and being more efficient. After the Budget department consolidates the agency's needs and provides recommendations, the President and Chief Executive Officer (CEO) of NJ TRANSIT then reviews the proposed budget for required modifications.

After the President and CEO's approval, the budget is reviewed by the NJDOT and the State Office of Management and Budget (OMB). If OMB suggests that the anticipated levels of funding from revenues/state and federal sources or revenue projections appear unrealistic, NJ TRANSIT will modify the revenue/expense numbers after consulting with these three parties.

The agreed upon budget forms the basis of the Governor's Budget Message for the upcoming State fiscal year, which is usually delivered in February. In the spring, the NJDOT and NJ TRANSIT appear before the State Senate and Assembly Transportation Committees to answer questions about the proposed budget.

As changes to the budget can occur even at this late stage, NJ TRANSIT must be prepared to modify its proposal based upon the final shaping of the State budget which is finalized with the passage of the entire budget by both the Assembly and the Senate and the subsequent signing by the Governor.

Once the State budget has been approved, the NJ TRANSIT Board adopts its budget for the forthcoming fiscal year.

Because NJ TRANSIT functions with a balanced budget and given the funding challenges in the future, for this set of projections, NJ TRANSIT did not include any increase in service frequencies or expansion of services, beyond FY 2020. NJ TRANSIT has in recent years placed more intense attention on greater efficiency in the delivery of transit services, evidenced in the use of rail and bus vehicles which handle more persons per vehicle than had been the case previously. Service patterns are reviewed periodically and equipment and staff reallocated to reflect changing customer needs. These actions allow existing or improved services to be delivered while not causing increases in the overall agency budget.

NJ TRANSIT prepared its 20-year financial plan utilizing various assumptions. These assumptions are developed by expert budget analysts who work on each department's budget in detail. They monitor actual costs versus budgeted costs on both a monthly and annual basis. The assumptions developed on the

financial plan include both revenue and expenses. Many of the assumptions are based on historical trend growth factoring out any anomalies for that period.

NJ TRANSIT has summarized the growth factors applied to the base budgets by each category of revenue and expense with explanations. Note that historical trend data includes costs that are reimbursable and/or related to emergency or one-time events. For example, during the past several years, NJ TRANSIT has incurred higher than anticipated costs for Hurricane Irene, Superstorm Sandy, Department of Homeland Security and other event costs. Some of these costs were reimbursed by Federal Emergency Management Agency, FTA, and Department of Homeland Security funding. In other instances, expense costs may be reimbursed by other revenue sources such as the NJTTF or federal grants. The forecast makes no assumptions regarding one-time events similar to the ones mentioned above.

4.3.3.1 Forecast Operating Sources of Funds

The forecast of operating sources reflects projections of NJ TRANSIT's passenger revenues, state operating assistance, federal operating assistance, and other funding assistance. Table 4-10 summarize total operating sources assumed in the financial plan over the FY 2019 to FY 2038 period including the PNB Project and HTP's operating impacts. Total funding for future operating sources of funds includes: passenger revenues, other revenues, state operating assistance, state and federal reimbursements, other reimbursements, and state and federal capital transfers. System-wide operational sources are estimated to increase at a compound annual growth rate of 2.4 percent for the forecast period which is just slightly lower than the historic FY 2010 to FY 2018 compound annual growth rate of 2.6 percent reflecting a conservative assumption.

System-wide ridership is assumed to grow at an average annualized rate of just under 1 percent per year from FY 2019 to FY 2038. The fare revenue forecast includes a fare increase of approximately 3 percent, inclusive of a ridership diversion of 0.1 percent. It is anticipated that the first of these fare increases will occur in FY 2022, and every other even year thereafter. NJ TRANSIT's policy is to satisfy the public hearing and comment period, and seek Board approval before each fare increase. Given that on average fares increased by 3.7 percent per year between 2002 to 2019, the forecast fare increase assumption is considered to be consistent, if not somewhat conservative.

Overall Passenger revenues are estimated to increase at a compound annual growth rate of 3.0 percent for the forecast period with expanded efforts in transit-oriented development projects. This forecast is slightly less than the historical rate of 3.1 percent from FY 2010 to FY 2018. Other commercial revenue increases are assumed to be 1.9 percent compound annual growth rate. Therefore, overall operating revenues are estimated to increase at a compound annual growth rate of 2.9 percent, very similar to the historic operating revenue growth. It should be noted that the passenger fare surcharge on Trans-Hudson rail use for the Gateway Program (described in the December 13, 2017 letter from NJ TRANSIT submitted in the September 2018 financial plan) was removed from the passenger revenue forecasts of NJ TRANSIT's operating plan in this section. As noted in supporting document B-7, a passenger fare surcharge is not the source of repaying the RRIF loan, so it has been removed from the operating plan.

State operating assistance comprises proceeds from the Clean Energy Fund, NJTA, and a general state operating subsidy. The Clean Energy Fund is projected to remain constant throughout the forecast period, at FY 2020 budgeted level of $82.1 million. The proceeds from NJTA are assumed to stay constant at the current FY 2020 budgeted level of $129 million. The general state operating subsidy is projected to increase as necessary, in order to balance the budget and partially support a preliminary plan to reduce NJ TRANSIT's reliance on the annual capital transfers. The FY 2020 general state operating subsidy amount is $457.5.

Both the state and federal reimbursements have been combined in Table 4-10. These reimbursements are driven by certain expenses, which are largely indicative of the number of P&E initiatives in a given year. NJ TRANSIT budgets P&E projects based on history, but ultimately, if those planned expenses do not materialize, there's no subsequent reimbursement or net impact on the operating budget. Vice versa, if more than expected P&E projects occur, NJ TRANSIT would bring in more reimbursements than budgeted in order to cover those increased expenses. Total state and federal reimbursements come from a variety of state, federal and third-party sources. As an example, NJ TRANSIT provides funding to New Jersey counties for the Transportation Assistance for Senior Citizens and Disabled Residents Program. Because these expenses are fully supported by reimbursements provided from the State of New Jersey's Property Tax Relief Fund, actual reimbursements will comport to the same level of spending in that year, which may differ from the initial budget. Therefore, these types of changes can create large fluctuations in state and federal reimbursements year-over-year.

State and federal capital transfers are projected to decrease at a compound annual growth rate of 2.9 percent from $511 million in 2019 to $293 million in 2038. The current O&M forecast includes a preliminary plan to reduce the reliance on these capital transfers over time, allowing more of those capital dollars to be invested on infrastructure.

Total operating assistance is estimated to increase at a compound annual growth rate of 2.0 percent for the forecast period, which is a conservative assumption compared to the historical compound annual growth rate of 2.4 percent per year.

4.3.3.2 Forecast Operating Uses of Funds

Operating uses are estimated to increase at a compound annual growth rate of 2.4 percent for the forecast period which is just slightly lower than the historic FY 2010 – FY 2018 compound annual growth rate of 2.7 percent. This decline in the forecasted annual growth rate, when compared to the historic growth rate, is largely attributable to a more recent focus on cost efficiencies. These efforts include the streamlining of certain job functions in order to avoid the need for new positions where applicable and recent health benefit reforms reflecting a shift to the National Preferred Formulary and implementation of compound drug controls. NJ TRANSIT will continue these efforts in order to maximize efficiencies.

In developing the projections for the forecast period, core inflation is assumed to be 2.7 percent per year on claims and insurance, purchased transportation, and miscellaneous expenses, and 2.5 percent per year on labor and fringes. Core inflation on services, fuel & power, and materials and supplies were assumed to be 2.1 percent per year, 0.7 percent per year, and 2.0 percent per year respectively. Table 4-11 summarizes the 20-year forecasts for operating uses of funds for the forecast period. NJ TRANSIT will continue to look at ways to become more efficient and realize cost savings by getting the most out of existing resources.

Table 4-10 Forecast Sources of Operating Funds: FY 2019 – FY 2038 (YOE $M)

Operating Sources of Funds	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038
Operating Revenues	**Budget**	**Budget**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**
Passenger Revenues	$ 986	$ 986	$1,022	$1,037	$1,064	$1,099	$1,123	$1,167	$1,194	$1,237	$1,268	$1,325	$1,351	$1,419	$1,445	$1,507	$1,546	$1,602	$1,633	$1,715
Other Revenues	$ 118	$ 118	$ 121	$ 126	$ 127	$ 129	$ 133	$ 136	$ 139	$ 142	$ 143	$ 145	$ 150	$ 151	$ 156	$ 157	$ 162	$ 164	$ 167	$ 168
Total Operating Revenues	**$1,103**	**$1,103**	**$1,142**	**$1,162**	**$1,190**	**$1,228**	**$1,255**	**$1,303**	**$1,333**	**$1,379**	**$1,411**	**$1,469**	**$1,501**	**$1,570**	**$1,601**	**$1,664**	**$1,708**	**$1,766**	**$1,800**	**$1,883**
Annual Growth Rate		*0.0%*	*3.5%*	*1.8%*	*2.4%*	*3.2%*	*2.2%*	*3.8%*	*2.3%*	*3.4%*	*2.4%*	*4.1%*	*2.1%*	*4.6%*	*2.0%*	*4.0%*	*2.6%*	*3.4%*	*1.9%*	*4.6%*
CAGR (FY2019-FY2038)																				*2.9%*
Operating Assistance																				
State Operating Assistance	$ 544	$ 669	$ 695	$ 723	$ 752	$ 782	$ 813	$ 844	$ 878	$ 913	$ 949	$ 987	$1,027	$1,049	$1,090	$1,127	$1,172	$1,219	$1,268	$1,288
Other State and Federal Reimbursemen	$ 158	$ 158	$ 159	$ 161	$ 162	$ 163	$ 167	$ 168	$ 172	$ 173	$ 173	$ 174	$ 178	$ 179	$ 181	$ 182	$ 183	$ 184	$ 185	$ 186
State and Federal Capital Transfers	$ 511	$ 461	$ 449	$ 440	$ 431	$ 422	$ 412	$ 403	$ 394	$ 385	$ 376	$ 366	$ 357	$ 348	$ 339	$ 329	$ 320	$ 311	$ 302	$ 293
Total Operating Assistance	**$1,213**	**$1,288**	**$1,304**	**$1,325**	**$1,345**	**$1,367**	**$1,393**	**$1,415**	**$1,443**	**$1,470**	**$1,498**	**$1,528**	**$1,562**	**$1,575**	**$1,610**	**$1,639**	**$1,676**	**$1,714**	**$1,755**	**$1,766**
Annual Growth Rate		*6.2%*	*1.2%*	*1.6%*	*1.5%*	*1.6%*	*1.9%*	*1.6%*	*2.0%*	*1.9%*	*1.9%*	*2.0%*	*2.2%*	*0.9%*	*2.2%*	*1.8%*	*2.2%*	*2.3%*	*2.4%*	*0.7%*
CAGR (FY2018-FY2037)																				*2.0%*
Total Operating Sources of Funds	**$2,316**	**$2,391**	**$2,446**	**$2,487**	**$2,536**	**$2,595**	**$2,648**	**$2,718**	**$2,776**	**$2,849**	**$2,910**	**$2,997**	**$3,062**	**$3,145**	**$3,211**	**$3,303**	**$3,383**	**$3,480**	**$3,555**	**$3,649**
Annual Growth Rate		*3.2%*	*2.3%*	*1.7%*	*2.0%*	*2.4%*	*2.0%*	*2.6%*	*2.2%*	*2.6%*	*2.1%*	*3.0%*	*2.2%*	*2.7%*	*2.1%*	*2.9%*	*2.4%*	*2.9%*	*2.1%*	*2.7%*
CAGR (FY2019-FY2038)																				*2.4%*

Table 4-11 Forecast Uses of Operating Funds: FY 2019 – FY 2038 (YOE $M)

Operating Uses of Funds	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038
Operating Costs	**Budget**	**Budget**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**	**Proj.**
Labor and Fringes	$1,394	$1,466	$1,496	$1,516	$1,545	$1,577	$1,616	$1,656	$1,698	$1,740	$1,784	$1,837	$1,878	$1,925	$1,968	$2,022	$2,076	$2,133	$2,182	$2,242
Services	$ 155	$ 155	$ 163	$ 166	$ 170	$ 174	$ 177	$ 181	$ 185	$ 189	$ 191	$ 196	$ 200	$ 205	$ 209	$ 214	$ 216	$ 222	$ 225	$ 231
Fuel & Power	$ 107	$ 107	$ 108	$ 109	$ 110	$ 111	$ 111	$ 112	$ 113	$ 115	$ 115	$ 116	$ 117	$ 118	$ 119	$ 120	$ 120	$ 122	$ 122	$ 123
Materials and Supplies	$ 184	$ 184	$ 188	$ 193	$ 197	$ 201	$ 203	$ 209	$ 210	$ 215	$ 219	$ 225	$ 230	$ 236	$ 242	$ 248	$ 253	$ 259	$ 265	$ 270
Purchased Transportation	$ 252	$ 252	$ 260	$ 268	$ 274	$ 282	$ 288	$ 297	$ 304	$ 313	$ 320	$ 331	$ 339	$ 351	$ 358	$ 370	$ 382	$ 395	$ 407	$ 415
Other	$ 222	$ 225	$ 231	$ 236	$ 240	$ 250	$ 252	$ 263	$ 267	$ 277	$ 281	$ 293	$ 298	$ 310	$ 317	$ 329	$ 336	$ 349	$ 355	$ 369
Total Operating Uses of Funds	**$2,316**	**$2,391**	**$2,446**	**$2,487**	**$2,536**	**$2,595**	**$2,648**	**$2,718**	**$2,776**	**$2,849**	**$2,910**	**$2,997**	**$3,062**	**$3,145**	**$3,211**	**$3,303**	**$3,383**	**$3,480**	**$3,555**	**$3,649**
Annual Growth Rate		*3.2%*	*2.3%*	*1.7%*	*2.0%*	*2.4%*	*2.0%*	*2.6%*	*2.2%*	*2.6%*	*2.1%*	*3.0%*	*2.2%*	*2.7%*	*2.1%*	*2.9%*	*2.4%*	*2.9%*	*2.1%*	*2.7%*
CAGR (FY2019-FY2038)																				*2.4%*

4.4 New Jersey Transit Risks and Uncertainties

This section of the financial plan discusses the current state of NJ TRANSIT as it relates to system-wide risks and uncertainties considering fleet age, stability of funding sources, and NJ TRANSIT liquidity.

4.4.1 Bus and Rail Fleet Age

NJ TRANSIT's objective is to create a consistently reliable system that will meet the needs of every customer. Modernizing its bus and rail fleet is a priority in NJ TRANSIT's state-wide Capital Program. As part of the organization's multi-year plan, NJ TRANSIT is investing more than $700 million to replace 1,104 cruiser buses. Cruiser buses are designed to serve longer distance routes primarily to employment centers in New York City and Philadelphia; they feature overhead and underfloor luggage areas, a single entry/exit at the front, and high back seats for longer trips. Additionally, the NJ TRANSIT Board recently authorized a contract for the acquisition of 85 60-foot articulated buses. These buses are designed to serve shorter distance routes primarily within New Jersey's towns and cities; the buses are characterized by ease of boarding and deboarding as well as more areas to stand for short trips.

Upon completion of NJ TRANSIT's bus acquisition program, it is anticipated that the average age of the fleet will decrease to 5.0 years by 2022, resulting in the organization's youngest bus fleet since 2005 as demonstrated in Table 4-12. The purchase of additional cruiser buses in FY 2020 will result in an average bus fleet age of 7.7 years, consistent with a "Medium" rating for the "Current Capital and Operating Condition" sub-rating (average bus fleet age of under 8 years). By FY 2022, the average age of the bus fleet will be 5 years, consistent with a "High" rating for the "Current Capital and Operating Condition" sub-rating (average bus fleet age of under 6 years).

Currently, the average age of the NJ TRANSIT's bus fleet is 8.5 years, which is significantly less than the Useful Life Benchmark calculated based on FTA's 2016 Final Rule on Transit Asset Management[12]. The metric of Useful Life Benchmark (ULB) was established in the Rule where transit operators determine the Useful Life expectancy of their buses, and then measure what percentage of their fleet meets or exceeds (that is, buses older than) the ULB. NJ TRANSIT has proposed their ULB for cruiser buses to be 14 years of service, 12 years for articulated buses, and 13 years for suburban and transit model buses consistent with the policy noted above, for the purposes of Transit Asset Management.

The 2018 Bus Fleet Plan provided as supporting documents J-1 and J-2 presents ongoing changes to the bus fleet due to retirements, maintenance, and purchases of new equipment that will result in a modernized fleet sized to meet increasing customer demands for inter- and intra-state bus service. The plan calls for 1,610 new cruiser buses to be in service by 2021, followed by an estimated 1,409 new transit buses to be in service by 2026. A commensurate number of older buses would be retired during the planning period through 2030.

Table 4-12 Bus Fleet Age and Planned Purchases

Bus Fleet Conditions	2017	2018	2019	2020	2021	2022
Bus Purchases (Actual and Planned)	187	185	183	200	200	180
Average Bus Age	9.3	9.4	8.5	7.7	6.2	5.0

Source: NJ TRANSIT 2018 Bus Fleet Plan, December 2018

[12] 49 CFR Parts 625 and 630, Transit Asset Management, https://www.govinfo.gov/content/pkg/FR-2016-07-26/pdf/2016-16883.pdf

The average age of the commuter rail fleet is 19.6 years, which is relatively consistent with the industry average age of 18.6 years[13]. The 2018 Rail Fleet Plan provided as supporting documents K-1 and K-2, presents ongoing changes to the rail fleet due to retirements, maintenance, overhauls and purchases of new equipment that will result in a modernized fleet sized to the expected customer demands within the constraints of existing and expected railway infrastructure.

NJ TRANSIT will acquire 113 next-generation Multilevel III railcars, enabling the agency to retire 40-year-old Arrow III cars. The railcars will incorporate customer-requested amenities such as two-by-two seating and charging outlets. Additionally, seating capacity will increase by over 10 percent. It is projected that NJ TRANSIT will be in receipt of a new rail car by 2022, and the remaining cars will be delivered starting in 2023 through 2025. Separately, NJ TRANSIT is overhauling HVAC components on 360 out of the 550 Comet V railcars and 350 Multilevels. The overhaul will improve efficiency and reliability of the affected railcars.

4.4.2 NJTTF Financial Stability

NJ TRANSIT's significant source of funding is the NJTTF, created in 1984 through the Transportation Trust Fund statute (N.J.S.A. 27:1B-1, et seq.) and has been periodically reauthorized since its inception. [14]. The NJTTF is financed by the NJTTFA, an independent agency of the State of New Jersey. The fund supports the NJDOT, NJ TRANSIT, and local aid projects. Since its inception in FY 1985, the NJTTF has designated roughly 40 percent of its funds towards NJ TRANSIT. NJ TRANSIT's annual NJTTF allocation outlined in this financial plan may be considered the minimum amount of NJTTF funding NJ TRANSIT is likely to receive. Since 2000, NJ TRANSIT has received an average annual NJTTF allocation of approximately 43 percent of the total available NJTTF funds, and not lower than 34 percent in any one year.

In 2016, action was taken by the New Jersey Legislature to sustain and increase funding for the NJTTF. On October 7, 2016, the New Jersey State Legislature passed Assembly Bill 10 (A10) reauthorizing the NJTTF for an unprecedented 8-year period at $16 billion over the reauthorization lifecycle. This reauthorization was partially funded by a 23 cent per gallon increase on the state's petroleum products gross receipts tax and 4 cents per gallon on the diesel fuel tax. On November 8, 2016, a constitutional amendment dedicating all of the motor fuels tax revenues and petroleum products gross receipt tax revenues for the purposes of paying or financing the cost of planning, acquisition, engineering, construction, reconstruction, repair and rehabilitation of the transportation system in New Jersey was passed by New Jersey voters. The New Jersey Legislature annually appropriates such revenues to the Transportation Trust Fund. A copy of New Jersey Assembly Bill 10, legislation to revise the New Jersey Transportation Trust Fund Authority Act, as passed by the New Jersey House and Senate on October 7, 2016, and approved by the Governor of New Jersey on October 14, 2016 is provided as supporting documentation F-4.

The health and future of the NJTTF is strong, as demonstrated through the October 2016 increase in the petroleum products gross receipts tax (PPGRT) and the most recent incremental increase in October 2018. As authorized in paragraph three of subsection c of section 3 under P.L.2016, c. 57, the State Treasurer and Legislative Budget and Finance Officer are required to determine annually, by August 15th, if the State is collecting enough PPGRT revenue to support authorized NJTTF-funded projects. If it is determined that PPGRT collections are below the amount needed to support such NJTTF projects (i.e., the highway fuel cap), the State Treasurer, in consultation with the Legislative Budget and Finance Officer, is authorized to raise

[13] American Public Transportation Association (APTA) 2019 Fact Book, Figure 15: Transit Fleet Age Compared to FTA Minimum Useful Life Guidelines (https://www.apta.com/wp-content/uploads/APTA_Fact-Book-2019_FINAL.pdf).

[14] The following link provides brief description of the NJTTF, demonstrating that the NJTTF has always been reauthorized since its inception: www.state.nj.us/ttfa/about/legislation.shtm

the tax accordingly, effective at the start of October of that calendar year. This helps to protect those constitutionally dedicated PPGRT revenues against volatility in fuel consumption that may be caused by the use of more fuel efficient or electric vehicles and migration to mass transit. Vice versa, if PPGRT collections go above the highway fuel cap, the tax is adjusted downward.

Table 4-13 presents the constitutionally dedicated revenues for the NJTTFA for the FY 2015 to FY 2019 period. The total available revenues increased at a 5.7 percent compound annual growth rate from FY 2015 to FY 2019. The substantial revenues available for repayment of debt obligations of NJTTFA, which have experienced strong year-over-year growth, constitutes a reasonable and reliable funding source for repayment of the NJEDA bonds for the PNB Project.

More information on the history and solvency of the NJTTF can be found in the NJTTF History document, which is provided as supporting documentation F-7. Additional information regarding funding allocations from the NJTTF included within the PNB capital budget resource chart is provided as supporting documentation F-9.

Table 4-13 Constitutionally Dedicated Revenues for the NJTTFA: FY 2015 – FY 2019 ($M)

Revenue Source	2015	2016	2017	2018	2019 (estimated)
Motor Fuels Tax	$535.6	$554.5	$532.9	$512.5	$500.7
PPGR Tax	$215.1	$214.8	$862.4	$1374.1	$1,360.5
Sales and Use Tax (1)	$8,875.1	$9,203.3	$9,448.4	$619.2	$10,136.1
Totals	**$9,625.8**	**$9,972.6**	**$10,843.7**	**$11,505.8**	**$11,997.3**
(CAGR FY 15-FY19)					*5.7%*

(1) Note: The dedicated revenues available from the Sales and Use Tax are also utilized by the State's General Fund to make certain appropriations, including to pay debt service for certain New Jersey General Obligation bonds, Garden State Preservation Trust Bonds and other State appropriation-backed obligations. Amounts shown reflect estimated net collections of Sales and Use Tax.

Figure 4-1 illustrates the multiple mechanisms through which the NJTTF supports NJ TRANSIT commitments and activities. First, any debt service for NJ TRANSIT program debt is backed by both: (i) substantial, constitutionally dedicated sources – Motor Fuels Tax, Petroleum Products Gross Receipts Tax, and General Sales and Use Tax – which are appropriated annually; and (ii) sources dedicated by statute. After fulfilling debt service commitments, any remaining appropriations are added to available debt proceeds and cash balances to be deployed as pay-as-you-go funding for NJ TRANSIT/NJDOT capital project payments. This pay-as-you-go portion may be further supplemented by appropriations from the State's toll road authorization.

Key strengths of the NJTTF pertaining to its financial support of NJ TRANSIT includes:

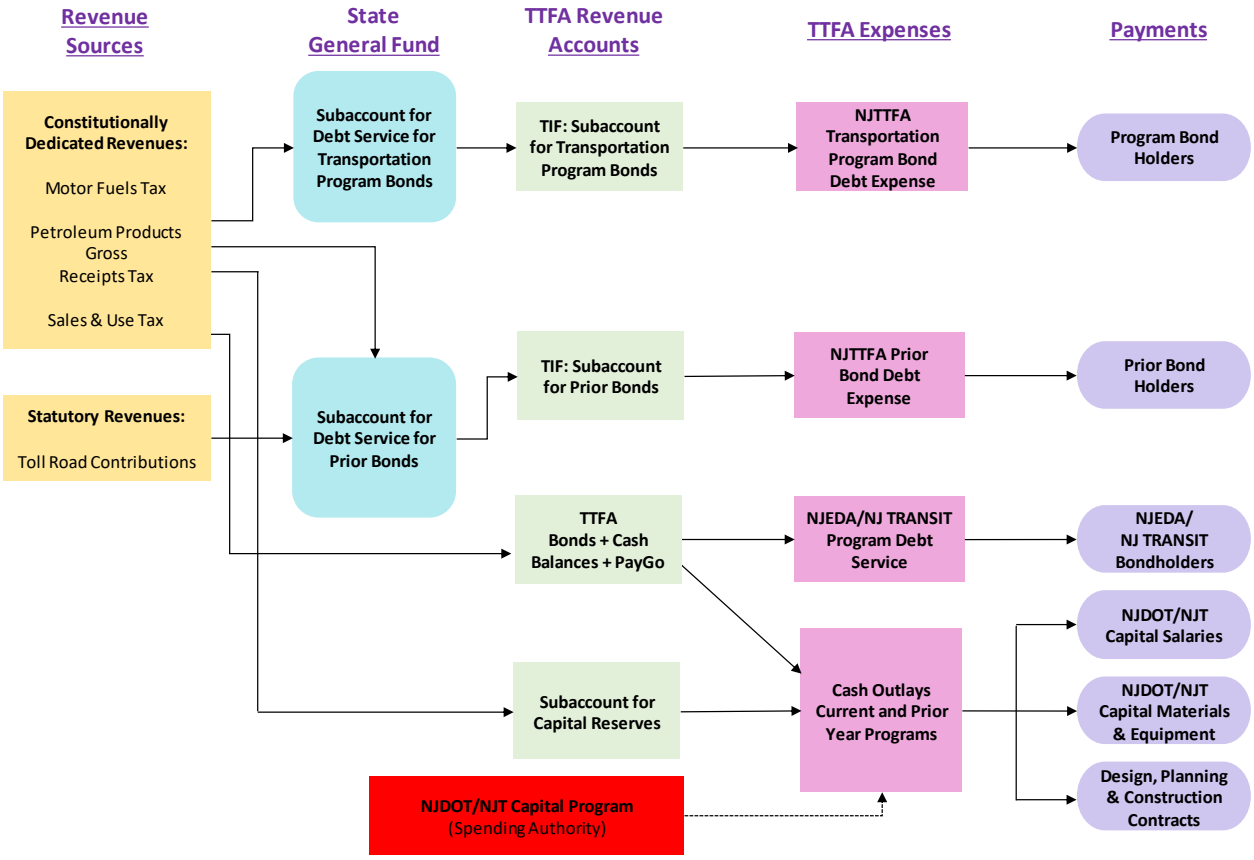
- **Expanded revenue sources.** The 2016 reauthorization of the NJTTFA's enabling legislation provided a new "pay-as-you-go" funding source in support of statewide transportation capital projects with the establishment of the Transportation Trust Fund Sub-Account for Capital Reserves, funded from excess constitutionally dedicated Petroleum Products Gross Receipts tax revenues not needed to satisfy current year debt service obligations. Beginning in FY 2017, annual revenues from the increased tax dedication significantly exceed the appropriations. It is anticipated that the Sub-Account for Capital Reserves will provide an estimated $1.3 billion in new "pay-as-you-go" funding from fiscal years 2017 through 2024.

- **Debt issued for NJ TRANSIT is secured by the NJTTF, not NJ TRANSIT revenues:** NJTTFA manages the NJTTF and does not maintain and operate transportation systems. The state legislature annually appropriates revenue dedicated by statute and the constitution for transportation to fund the NJTTF. Over 40 percent of 2010-2019 appropriations have been dedicated to NJ TRANSIT.
- **Strong public and legislative support for funding transportation projects.** Through amendments and other legislative action, revenues dedicated and appropriated to the NJTTF have increased continuously and significantly with each reauthorization since its creation in 1984 (from $249 million in 1985 to $2,050 million in 2019). A voter-approved amendment of the New Jersey State Constitution in November 2016 dedicated additional tax revenues to transportation, reflecting public support for the funding.
- **The NJTTFA debt rating is linked to the State rating.** The debt of the NJTTFA is funded by state appropriations. The debt is rated one notch below the State General Obligation rating shown in Table 4-14. The official statement from the last bond issue by the NJTTFA, 2019 Series AA in January 2019, is provided as supporting documentation F-13.

Table 4-14 NJTTFA Bond Ratings

CREDIT RATINGS	S&P	Moody's	Fitch	KBRA
State of New Jersey GO Bonds	A-	A3	A	A
NJTTFA Bonds	BBB+	Baa1	A-	A-

Figure 4-1 NJTTF Financing Process



4.4.3 NJ TRANSIT Liquidity

NJ TRANSIT's ratio has increased by 22% over the last seven years –a 3.3% compound annual growth rate between 2012 to 2018 – primarily driven by growth in current assets. Based on NJ TRANSIT's audited June 30, 2018 financial statements, the ratio is now at 93%. NJ TRANSIT's current ratio, based upon its annual financial statements includes amounts due within one year on long-term notes (principal portion of the Grant Anticipation Notes and the NJEDA Bonds) but does not include the funds that will make those future payments. The principal payments on the federal and state obligations are due annually on September 15 and May 1, respectively.

In addition, the current ratio includes amount due under NJ TRANSIT's $300 million line of credit. Repayment of the $75 million outstanding at June 30, 2018 was made once reimbursements for eligible expenses were received.

An analysis was performed comparing NJ TRANSIT's current asset to current liability ratio with that of MBTA and SEPTA. The results of this analysis reveal that NJ TRANSIT's ratio is 4% higher than SEPTA's, but slightly lower (11%) than MBTA's. Both entities have approximately the same dollar value in assets and liabilities which provides a more accurate comparison, as summarized in Table 4-15.

Table 4-15 Current Assets to Current Liabilities Ratios Comparison (NJT, SEPTA, and MBTA)

Agency	Assets/ Liabilities/ Ratios	2012	2013	2014	2015	2016	2017	2018	CAGR (2012-2018)
NJ TRANSIT	Current Assets	$527,818	$743,998	$699,348	$743,186	$723,493	$547,878	$863,622	8.6%
	Current Liabilities	$691,359	$868,631	$841,993	$919,102	$896,768	$622,721	$929,386	5.1%
	Current Ratio	76%	86%	83%	81%	81%	88%	93%	3.3%
SEPTA	Current Assets	$465,038	$439,493	$449,093	$489,970	$518,110	$571,983	$600,886	4.4%
	Current Liabilities	$506,883	$504,206	$519,866	$499,345	$584,093	$548,530	$672,584	4.8%
	Current Ratio	92%	87%	86%	98%	89%	104%	89%	-0.4%
MBTA	Current Assets	$510,761	$516,770	$546,963	$597,039	$552,489	$573,534	$922,305	10.4%
	Current Liabilities	$796,017	$835,324	$830,934	$851,966	$863,840	$949,630	$882,596	1.7%
	Current Ratio	64%	62%	66%	70%	64%	60%	104%	8.5%

Note: MBTA stands for Massachusetts Bay Transportation Authority and SEPTA stands for Southeastern Pennsylvania Transportation Authority

Yearly fluctuations in the detailed accounts that make up the ratio can be seen in Table 4-16. This analysis details the components and their fiscal year-end balances. The timing of accruals in certain line items can have a dramatic effect on the ratio. In 2018, for example, NJ TRANSIT financials reported a significant increase in the Liability; Advance Funds to State line item, which increased from $4.8 million in 2017 to $102.6 million in 2018. This increase was due to an additional borrowing of $99.9 million of state preventative maintenance funds that had to be paid back to the NJTTF. Had the "Advance Funds to State" line item remained consistent with the two prior years, the NJ TRANSIT current ratio would be at 105% as of June 30, 2018.

Table 4-16 Detailed Breakdown of the NJ TRANSIT Current Assets to Current Liabilities Ratio (in thousands of dollars)

Assets/Liabilities/Ratios	2012	2013	2014	2015	2016	2017	2018
Current Assets:							
Cash and Cash Equivalents	$ 114,810	$ 38,775	$ 183,133	$ 72,817	$ 72,902	$ 106,594	$ 80,654
Restricted Cash and Cash Equivalents	-	19,402	39,623	-	-	-	-
Investments	30,477	32,394	36,804	40,553	44,087	48,875	54,139
Due from Federal Government	124,258	359,431	141,792	325,926	281,227	75,923	284,413
Due from State of New Jersey	93,743	125,068	120,352	123,959	132,934	130,884	250,718
Materials and Supplies	114,531	122,919	125,992	125,570	134,568	135,392	122,998
Other	49,999	46,009	51,652	54,361	45,016	44,865	46,585
Derivative Instrument Asset	-	-	-	-	12,759	5,345	24,115
Total Current Assets	527,818	743,998	699,348	743,186	723,493	547,878	863,622
Current Liabilities:							
Accounts Payable	140,130	241,685	188,161	171,897	191,850	174,445	327,524
Accrued Payroll and Benefits	112,566	121,202	162,144	189,334	197,564	154,752	126,657
Current Installments Under Capital Leases	87,206	80,556	65,301	61,365	42,538	17,057	53,671
Short-term Notes and Line-of-Credit payable	195,705	204,955	213,975	161,878	357,105	178,570	188,960
Other:							
Advance Funds- State/Port Authority	50,900	120,800	117,200	238,200	7,800	4,800	102,600
NEC Obligations -Amtrak	-	-	-	-	-	-	54,500
Injury and Damage Claims	34,300	35,500	38,000	39,600	42,400	44,500	43,100
Retainage on Construction Projects	15,000	8,000	6,800	9,000	8,800	8,600	8,000
Pollution Remediation Obligations	4,000	9,900	4,200	3,100	3,300	8,100	7,900
ARC Settlement Payable	19,000	19,000	19,000	19,000	-	-	-
ARC Insurance Refunds Payable	1,100	1,100	-	-	-	-	-
Other	31,452	25,933	27,212	25,728	45,411	31,897	16,474
Total Current Liabilities	$ 691,359	$ 868,631	$ 841,993	$ 919,102	$ 896,768	$ 622,721	$ 929,386
Current Assets to Current Liabilities Ratio	**76%**	**86%**	**83%**	**81%**	**81%**	**88%**	**93%**

NJ TRANSIT's ability to cover its current liabilities is dependent on timing of accruals and appropriations from NJTTFA, it should be noted that the NJTTFA has an extremely high current ratio, which has remained high over the past three fiscal years – between 91x and 250x. NJTTFA's current assets are restricted in use for payment of state transportation costs and bond issued outstanding (as shown Table 4-17).

Table 4-17 NJTTFA Current Ratio (in millions of dollars)

Assets/Liabilities/Ratio	2016	2017	2018
Current Assets	$16,922	$22,210	$20,608
Current Liabilities	$123	$89	$225
Current Ratio	137x	250x	91x

Appendix A – SUMMARY OF REGIONAL ECONOMIC FORECASTS

Overview

This section presents a summary of historic and projected economic conditions of the New York – Jersey City region according to the following four economic indicators: population, employment, personal income, and inflation. These indicators provide additional information for evaluating the cost and revenue growth rates assumed in the financial plan, and are consistent with the assumptions utilized in the forecasts of ridership, service levels, and revenue growth in this financial plan.

In general, the forecasts for the New York – Jersey City region represent slow and moderate growth during the planning horizon. Future growth rates are generally assumed to be lower than the rates experienced over the past ten years.

Population Growth Estimates

Table A-1 summarizes historic and forecasted population growth rates for the New York – Jersey City region from 2005 to 2040. For the purposes of the population and employment figures, the New York – Jersey City region includes the Counties of Bergen, Hudson, Passaic, Middlesex, and Monmouth in New Jersey State, as well New York, Bronx, Kings, Queens, Richmond, Orange, Rockland, and Westchester in New York State.

The region's population historic and forecast data were obtained from IHS Markit Economic Analytics, a company which provides economic forecasts to local and national governments.

As shown in Table A-1, population growth in the New York – Jersey City region is forecasted to grow approximately 0.18 percent from 2015 to 2040. This rate is highly conservative relative to the growth experienced from 2005 to 2015, which is equal to 0.4 percent.

Table A-1. 2005 to 2040 Population Growth for the New York – Jersey City Region

Year	Population - New York - Jersey City Region Total (000s)	5-Yr. Growth Rate
2005	13,579	
2010	13,912	2.45%
2015	14,423	3.67%
2020	14,742	2.22%
2025	14,928	1.26%
2030	15,042	0.77%
2035	15,087	0.29%
2040	15,085	-0.01%
2005 to 2015 CAGR	0.40%	
2015 to 2040 CAGR	0.18%	

Source: IHS Markit Economic Analytics, 2016

Employment Growth Estimates

Table A-2 presents the historic and forecasted employment growth for the New York – Newark region from 2005 to 2040. The employment forecast is from IHS Markit Economic Analytics.

Table A-2: 2005 to 2040 Employment for the New York – Jersey City Region

Year	Employment - New York - Jersey City Region Total (000s)	5-Yr. Growth Rate
2005	6,022	
2010	6,043	0.34%
2015	6,701	10.90%
2020	6,981	4.17%
2025	7,148	2.39%
2030	7,231	1.16%
2035	7,291	0.83%
2040	7,345	0.74%
2005 to 2015 CAGR	0.71%	
2015 to 2040 CAGR	0.37%	

Source: IHS Markit Economic Analytics, 2016

From 2015 to 2040, employment in the New York - Newark region is forecast to increase at a compound annual growth rate (CAGR) of 0.37 percent. This rate is more conservative than the growth experienced from 2005 to 2015, which is equal to 0.71 percent.

Personal Income

Table A-3 summarizes historic and forecasted personal income and per capita personal income for the New York- Newark region from 2005 to 2040. The region's historic and forecasted personal income data was obtained from IHS Markit Economic Analytics.

Table A-3: 2005 to 2040 Personal Income for the New York-Jersey City Region

Year	Personal Income - New York-Jersey City Region ($ M) Total	5-Yr. Growth Rate	Personal Income Per Capita - New York - Jersey City Region Total	5-Yr. Growth Rate
2005	616,931		45,433	
2010	744,260	20.64%	53,497	17.75%
2015	898,624	20.74%	62,307	16.47%
2020	1,118,844	24.51%	75,894	21.81%
2025	1,380,334	23.37%	92,469	21.84%
2030	1,679,032	21.64%	111,619	20.71%
2035	2,038,906	21.43%	135,145	21.08%
2040	2,474,729	21.38%	164,055	21.39%
2005 to 2015 CAGR	2.54%		2.13%	
2015 to 2040 CAGR	4.14%		3.95%	

Source: IHS Markit Economic Analytics, 2016

Personal income and per capita personal income is forecasted to grow at a higher rate than the historical 2005 to 2015 CAGR.

Inflation Rate Forecasts

The New York-New Jersey region's historic and forecasted consumer price index (CPI) from 2005 to 2040 is shown in Table A-4. The historic and forecast CPI data were obtained from IHS Markit Economic Analytics.

Table A-4: 2005 to 2040 CPI for the New York-Jersey City Region

Year	CPI – New York – Jersey City Region	
	CPI	5-Yr. Growth Rate
2005	213	-
2010	241	13.24%
2015	261	8.18%
2020	292	11.91%
2025	331	13.37%
2030	370	12.01%
2035	416	12.28%
2040	467	12.45%
2005 to 2015 CAGR	1.36%	
2015 to 2040 CAGR	2.37%	

Source: IHS Markit Economic Analytics, 2016

Within the New York – Jersey City Region, the CPI is forecast to increase at a CAGR of 2.37 percent from 2015-2040. This is consistent with the CPI growth rate assumed in the cash flow projections in this financial plan.

Additionally, the 30-year Treasury bond yield rate from 2005 to 2035 is shown in Table A-5 on the next page. This data was obtained from IHS Markit Economic Analytics. This rate was used for the GANs interest rate in developing the financial analysis for the PNB Project.

Table A-5 Yield on 30-year Treasury Bonds

Year	Yield on 30-year Treasury bonds
2005	4.56
2010	4.25
2015	2.84
2020	4.11
2025	4.11
2030	4.11
2035	4.11

Source: IHS Markit Economic Analytics, 2016

Appendix B – **PANYNJ FINANCIAL INFORMATION**

Appendix B-1: Revenues, Expenses, Capital Investment by Business (in thousands) (Pursuant to GAAP)

Appendix C-1	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Gross Operating Revenues:										
Tunnels, Bridges and Terminals	$ 1,009,313	$ 1,009,891	$ 1,078,977	$ 1,258,125	$ 1,369,559	$ 1,447,896	$ 1,599,575	$ 1,742,028	$ 1,739,552	$ 1,737,458
PATH	106,063	109,704	121,102	134,382	150,804	168,668	184,560	191,261	202,880	203,800
Port Commerce	205,861	223,095	236,461	249,609	262,526	248,443	270,263	300,569	295,851	310,637
Aviation	2,043,091	2,124,955	2,221,157	2,276,018	2,321,300	2,479,106	2,537,233	2,646,213	2,682,523	2,762,279
Development	98,603	89,457	100,800	87,521	29,492	51,077	26,561	25,956	24,967	25,632
World Trade Center	89,189	76,704	41,816	44,107	50,087	85,942	207,634	260,665	274,029	303,995
Other (a)	123	217	167	254	471	680	756	682	787	207
Total	$ 3,552,243	$ 3,634,023	$ 3,800,480	$ 4,050,016	$ 4,184,039	$ 4,481,812	$ 4,826,582	$ 5,167,374	$ 5,220,389	$ 5,344,008
Operating Expenses: (b)										
Tunnels, Bridges and Terminals	$ 436,796	$ 437,775	$ 460,960	$ 468,263	$ 493,429	$ 510,383	$ 499,873	$ 509,529	$ 525,862	$ 524,212
PATH	300,874	385,686	322,133	329,663	338,926	401,273	389,276	415,251	423,384	447,552
Port Commerce	127,240	163,424	185,053	190,043	176,459	172,545	175,976	167,724	160,495	166,405
Aviation	1,306,078	1,317,749	1,385,582	1,410,070	1,466,692	1,623,190	1,557,926	1,612,470	1,693,563	1,754,801
Development	85,246	77,200	82,637	79,620	15,497	15,737	13,659	10,853	12,399	11,786
World Trade Center	158,348	116,797	106,277	76,149	94,312	192,789	258,748	293,864	312,242	333,848
Other (c)	24,088	99,926	22,327	35,639	10,953	7,337	5,194	3,396	4,973	3,711
Total	$ 2,438,670	$ 2,598,557	$ 2,564,969	$ 2,589,447	$ 2,596,268	$ 2,923,254	$ 2,900,652	$ 3,013,087	$ 3,132,918	$ 3,242,315
Capital Investment: (d)										
Tunnels, Bridges and Terminals	175,392	149,803	168,759	233,637	413,946	961,854	956,231	1,179,307	885,311	931,539
PATH (including WTC Transportation Hub)	741002	752486	720797	743136	559104	512415	268428	454031	274429	340635
Port Commerce	174,459	302,858	228,747	184,750	180,760	210,496	93,729	133,874	106,455	146,153
Aviation	658,292	518,545	243,995	351,535	468,319	715,456	791,805	584,996	772,520	989,693
Development	23,237	29,297	(26,556)	140	527	1,977	2,110	1,569	893	3,682
World Trade Center	903,220	1,091,464	2,087,741	1,802,009	1,373,328	1,674,030	904,787	846,597	311,122	314,472
Other (a)	44,953	133,229	9,464	6,767	3,221	3,822	3,144	290	150,409	39,547
Total	$ 2,720,555	$ 2,977,682	$ 3,432,947	$ 3,321,974	$ 2,999,205	$ 4,080,050	$ 3,020,234	$ 3,200,664	$ 2,501,139	$ 2,765,721

(a) Includes FerryTransportation Facilities, Access to the Regions Core, and Regional Facilities and Programs.
(b) Amounts include all direct operating and allocated expenses.
(c) Includes FerryTransportation Facilities, Access to the Regions Core, Regional Facilities and Programs and administrative expenses related to PAICE.
(d) Capital investment includes contributed capital amounts and write-offs related to capital construction.

Appendix B-2: Revenues, Expenses, and Change in Net Position (in thousands) (Pursuant to GAAP)

Appendix C-2	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenues, Expenses and Changes in Net Position:										
Gross operating revenues:										
Tolls and fares	$ 1,068,105	$ 1,069,785	$ 1,148,061	$ 1,337,372	$ 1,462,957	$ 1,553,625	$ 1,718,770	$ 1,865,481	$ 1,873,622	$ 1,865,384
Rentals (a)	1,115,652	1,144,709	1,150,569	1,208,730	1,228,491	1,300,818	1,446,980	1,564,527	1,618,439	1,673,994
Aviation fees	839,327	872,774	895,356	904,666	934,459	1,058,416	1,063,902	1,112,436	1,128,352	1,192,454
Parking and other	316,005	321,257	339,131	338,178	315,111	321,760	359,631	399,178	377,421	384,088
Utilities	140,817	154,041	154,810	152,945	139,835	149,052	144,580	138,987	139,502	149,008
Rentals - Special Project Bonds Projects	72,337	71,457	112,553	108,125	103,186	98,141	92,719	86,755	83,053	79,080
Gross operating revenues	3,552,243	3,634,023	3,800,480	4,050,016	4,184,039	4,481,812	4,826,582	5,167,364	5,220,389	5,344,008
Operating expenses:										
Employee compensation, including benefits	974,154	1,022,195	1,037,681	1,038,243	1,114,397	1,187,877	1,178,967	1,290,334	1,342,943	1,338,277
Contract services	683,418	630,438	726,883	749,106	684,411	797,516	833,903	852,926	880,331	934,821
Rents and amounts in-lieu-of taxes (PILOT)	276,830	272,002	280,237	304,020	301,582	362,627	356,162	352,293	390,576	396,048
Materials, equipment and other	263,682	418,639	219,183	215,937	220,859	277,174	252,071	264,977	252,533	298,121
Utilities	168,249	183,826	188,432	174,016	171,833	199,919	186,830	165,802	183,482	195,968
Interest on Special Project Bonds	72,337	71,457	112,553	108,125	103,186	98,141	92,719	86,755	83,053	79,080
Operating expenses	2,438,670	2,598,557	2,564,969	2,589,447	2,596,268	2,923,254	2,900,652	3,013,087	3,132,918	3,242,315
Net revenue/(expense) related to the events of September 11, 2001	202,978.00	53,051.00	-	-	-	-	-	-	-	-
Net revenue/(expense) related to the events of Superstorm Sandy	-	-	-	(30,000)	28,229	53,530	123	-	18,323	-
Depreciation of facilities	(712,331)	(789,011)	(852,727)	(884,239)	(875,979)	(932,149)	(1,124,383)	(1,173,747)	(1,231,139)	(1,329,283)
Amortization of costs for regional programs	(74,617)	(76,504)	(77,537)	(77,719)	(64,275)	(64,484)	(64,665)	(64,765)	(44,164)	(41,874)
Income from operations	529,603	223,002	305,247	468,611	675,746	615,455	737,005	915,765	830,491	730,536
Income on investments (including fair value adjustment)	146,561	4,435	(46,898)	39,661	8,608	38,100	30,978	30,554	35,326	89,304
Interest expense on bonds and other asset financing	(501,892)	(501,607)	(559,110)	(658,313)	(623,353)	(666,244)	(909,603)	(935,442)	(908,343)	(937,983)
Net gain(loss) on disposition of assets	27,125	-	-	(4)	4,423	19,043	-	-	-	-
Pass-through grant program payments	(1,120)	(2,166)	(11,507)	(56,446)	(176,848)	(107,606)	(51,429)	(10,695)	(19,717)	(1,438)
4 WTC associated payments	-	-	8,343	65,293	36,660	6,128	36,766	41,521	65,293	65,293
Grants in connection with operating activities	10,613	11,708	23,727	52,161	188,409	207,898	101,074	64,315	39,845	24,006
Contributions in aid of construction	382,978	358,268	767,010	997,441	689,898	700,267	586,295	674,950	187,473	252,225
Passenger facility charges	201,737	210,387	214,456	222,614	224,301	233,172	248,707	264,363	275,785	286,395
1 WTC LLC/WTC Retail LLC insurance proceeds	50,813	42,814	-	3,525	-	-	-	-	-	-
Increase in net position December 31,	$ 846,418	$ 346,841	$ 701,268	$ 1,134,543	$ 1,027,844	$ 1,046,213	$ 779,793	$ 1,045,331	$ 506,153	$ 508,338
Net position is comprised of										
Net investment in capital assets	$ 8,415,993	$ 9,200,077	$ 10,020,306	$ 9,273,213	$ 9,442,138	$ 10,402,894	$ 11,810,573	$ 12,746,144	$ 13,179,105	$ 14,190,682
Restricted	211,725	222,871	294,460	392,389	454,467	470,857	456,429	567,443	760,912	500,610
Unrestricted	2,050,064	1,601,675	1,411,125	3,034,881	3,831,722	3,900,789	3,262,561	3,261,307	3,141,030	1,187,102
Net Position, December 31,	10,677,782	11,024,623	11,725,891	12,700,483	13,728,327	14,774,540	15,529,563	16,574,894	17,081,047	15,878,394

(a) Commencing in 2014, Rentals include the recognition of unearned income related to the transfer of the Port Authority's interests

Appendix B-3: Revenues and Reserves (in thousands)

Appendix C-3	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Gross operating revenues:										
Tolls and fares	1,068,105	1,069,785	1,148,061	1,208,730	1,228,491	1,294,199	1,439,229	1,555,958	$ 1,873,622	$ 1,865,384
Rentals	$ 1,115,652	$ 1,144,709	$ 1,150,569	$ 1,337,372	$ 1,462,957	$ 1,553,625	$ 1,718,770	$ 1,865,481	$ 1,609,179	$ 1,664,734
Aviation fees	839,327	872,774	895,356	904,666	934,459	1,058,416	1,063,902	1,112,436	1,128,352	1,192,454
Parking and other	316,005	321,257	339,131	338,178	315,111	321,760	359,631	399,178	377,421	384,088
Utilities	140,817	154,041	154,810	152,945	139,835	149,052	144,580	138,987	139,502	149,008
Rentals - Special Project Bonds Projects	72,337	71,457	112,553	108,125	103,186	98,141	92,719	86,755	83,053	79,080
Total gross operating revenues	3,552,243	3,634,023	3,800,480	4,050,016	4,184,039	4,475,194	4,818,831	5,158,795	5,211,129	5,334,748
Operating expenses:										
Employee compensation, including benefits	974,154	1,022,195	1,037,681	1,038,243	1,114,397	1,187,877	1,178,967	1,290,334	1,342,943	1,338,277
Contract services	683,418	630,438	726,883	749,106	684,411	797,516	833,903	852,926	880,331	934,821
Rents and amounts in-lieu-of taxes	276,830	418,639	280,237	304,020	301,582	362,627	356,162	352,293	390,576	396,048
Materials, equipment and other	263,682	272,002	219,183	215,937	220,859	277,173	252,071	264,977	252,533	298,121
Utilities	168,249	183,826	188,432	174,016	171,833	199,919	186,830	165,802	183,482	195,968
Interest on Special Project Bonds	72,337	71,457	112,553	108,125	103,186	98,141	92,719	86,755	83,053	79,080
Total operating expenses	2,438,670	2,598,557	2,564,969	2,589,447	2,596,268	2,923,254	2,900,652	3,013,087	3,132,918	3,242,315
Amounts in connection with operating asset obligations	55,058	46,561	29,580	27,956	25,908	23,734	50,000	-	-	-
Expenses related to the events of September 11, 2001	(202,978)	(53,051)	-	-	-	-	-	18,871	-	12,921
Net (revenue)/expense related to Superstorm Sandy	-	-	-	30,000	(28,229)	(53,530)	(123)	-	16,050	-
Amounts in connection with operating asset obligations	-	-	-	-	-	-	21,387	-	(18,323)	-
Net operating revenues	1,261,493	1,041,956	1,205,931	1,402,613	1,590,092	1,581,736	1,846,915	2,126,837	2,080,484	2,079,512
Financial income:										
Interest income	62,396	55,835	48,026	26,970	23,464	17,637	18,370	6,746	47,711	77,287
Net increase in fair value of investments	78,740	(56,735)	(101,296)	2,151	(26,428)	(2,950)	(14,290)	(11,530)	(14,137)	8,963
Contributions in aid of construction	382,978	358,268	487,296	570,261	529,185	465,152	272,335	293,770	173,253	198,173
Allocated Passenger Facility Charges	205,164	207,122	215,645	110,015	175,421	652,103	66,963	77,869	-	-
Application of 1WTC LLC/WTC Retail LLC Insurance Proceed	266,676	61,468	57,340	17,962	-	221,156	273,721	229,921	285,335	433,326
Application of 4 WTC associated payments	-	-	8,343	65,293	36,660	6,128	36,766	41,520	65,293	65,293
Restricted Net Operating Revenues - PAICE	3,177	(102)	644	2,710	4,305	-	-	-	-	-
Grants	10,613	11,708	23,727	52,161	188,409	207,898	101,074	64,315	39,845	24,006
Pass-through grant program payments	(1,120)	(2,166)	(11,507)	(56,446)	(176,848)	(107,606)	(51,429)	(10,695)	(19,717)	(1,438)
Net revenues available for debt service and reserves	2,270,117	1,877,354	1,934,149	2,193,690	2,344,260	3,041,255	2,550,425	2,818,753	2,658,067	2,885,122
Debt service:										
Interest on bonds and other asset financing obligations	436,322	444,202	518,325	627,200	595,513	646,804	876,817	906,187	928,264	971,566
Debt maturities and retirements	147,370	178,095	140,390	169,770	204,000	226,205	259,315	268,520	300,905	319,090
Debt retirement acceleration			6,100	54,635	-	-	-	-	-	8,300
Repayment of asset financing obligations	13,525	30,062	20,258	16,514	15,701	105,562	51,928	(6,669)	1,276	188
Total debt service	597,217	652,359	685,073	868,119	815,214	978,571	1,188,060	1,168,038	1,230,445	1,299,144
Debt service - operations:										
Interest on bonds and other asset financing obligations (b)	(427,384)	(436,622)	(480,623)	(539,436)	(556,824)	(635,262)	(810,356)	(824,586)	(858,694)	(868,510)
Times, interest earned (a/b)	5.31	3.84	4.02	4.07	4.21	4.79	3.15	3.42	3.10	3.32
Debt maturities and retirements (c)	(147,370)	(178,095)	(140,390)	(169,770)	(204,000)	(226,205)	(259,315)	(268,520)	(300,905)	(319,090)
Times, debt service earned [a/(b+c)]	3.95	2.73	3.11	3.09	3.08	3.53	2.38	2.58	2.29	2.43
Transfers to reserves	-	-	-	-	-	-	-	-	-	-
Revenues after debt service and transfers to reserves	1,672,900	1,024,995	1,249,076	1,325,571	1,529,046	2,062,684	1,362,365	1,650,715	1,427,622	1,585,978
Direct investment in facilities	(1,522,096)	(1,375,008)	(742,001)	(691,079)	(1,059,756)	(1,473,432)	(1,949,785)	(1,132,915)	(1,623,347)	(1,771,900)
Change in appropriations for self-insurance	6,463	(3,971)	1,949	37,547	10,414	28,100	-	-	-	-
Acceleration of unamortized brokerage commissions *	-	-	-	-	(46,863)	-	-	-	-	-
Increase (decrease) in reserves	157,267	(353,984)	509,024	672,039	432,841	617,352	(587,420)	517,800	(195,725)	(185,922)
Reserve balances, January 1	2,392,729	2,549,996	2,196,012	2,705,036	3,377,075	3,809,916	4,427,267	3,839,847	4,357,647	4,161,922
Reserve balances, December 31	2,549,996	2,196,012	2,705,036	3,377,075	3,809,916	4,427,267	3,839,847	4,357,647	4,161,922	3,976,000

Appendix C **– LIST OF SUPPORTING DOCUMENTS**

A) Supporting Financial Model Documentation

A-1. PNB Base Case and Sensitivity Supporting Spreadsheet ***– UPDATE***
A-2. Portal Bridge Infrastructure O&M Historic ***– UPDATE***
A-3. Portal Bridge Infrastructure O&M Forecast ***– UPDATE***
A-4. NJ TRANSIT System-wide 20-year Forecast ***– UPDATE***
A-5. HTP Base Case and Sensitivity Supporting Spreadsheet ***– UPDATE***
A-6. Hudson Tunnel Project Infrastructure O&M Forecast ***– UPDATE***

B) Local Financial Commitment

B-1. Gateway MOU
B-3. CMAQ for Railcar Procurement Documentation: NJTPA TIP 2016-2019 – Rail Rolling Stock Procurement – Relevant Page
B-5. Certificate of Incorporation of Gateway Program Development Corporation
B-6. Gateway Emerging Projects Agreement
B-7. State of New Jersey's Governor Commitment Letter for the Hudson Tunnel Project (2019) ***– NEW***
B-8. State of New York's Division of the Budget Commitment Letter for Hudson Tunnel Project (2019) ***– NEW***
B-9. Port Authority Board Resolution (02/15/2018) – 7) Gateway Program – Authorization of Funds for Gateway Program Early Work – Relocation of Infrastructure and Program Management Services for The Gateway Program Development Corporation AND 8) Port Authority Gateway Support Program, Early Work – Facility Certification
B-10. NJEDA Early Approval 6 12 18 Meeting
B-11. NJEDA Preliminary Resolution - June 2018 Adopted
B-12. NJT Board Item 1806-44 Portal Bridge
B-13. NJT Early Approval Letter 6 13 18 Meeting
B-14. NJT-NJEDA Funding Agreement (fully executed)
B-15. Port Authority Board Resolution (06/28/2018) - Confirmation of Capital Plan Allocation for the Hudson Tunnel Project
B-16. Request for Information – Industry Session & Project Overview - Hudson Tunnel Project & Hudson Yards Concrete Casing – Section 3
B-17. Funding and Coordination Agreement between Amtrak and NJ TRANSIT ***– NEW***
B-18. MOU between Amtrak and NJ TRANSIT ***– NEW***
B-19. State of New Jersey Act 5570 establishing the Gateway Development Commission ***– NEW***
B-20. State of New York Act 6372-A establishing the Gateway Development Commission ***– NEW***
B-21. NJTA Board Meeting Agenda Item 214-08-2019 ***– NEW***
B-22. NJTA Board Resolution Certified Minutes ***– NEW***
B-23. Northeast Corridor Commission Base Capital Cost Resolution ***– NEW***

C) Inflation Rate Forecasts

C-1. Interest and Inflation Rates 2005-2038
C-2. US Construction Indices 2005-2031
C-3. Historic Building Cost Index (BCI) and Construction Cost Index (CCI) for New York ***– NEW***

D) Regional Economic Conditions

D-1. Regional CPI 1970-2045
D-2. Long-Range US Economic Forecast 2005-2037
D-3. NYNJ Regional Forecast 2005-2045

E) NJ TRANSIT Documents

E-1. FY 2010 NJ TRANSIT Capital and Operating Budget
E-2. FY 2011 NJ TRANSIT Capital and Operating Budget
E-3. FY 2012 NJ TRANSIT Capital and Operating Budget
E-4. FY 2013 NJ TRANSIT Capital and Operating Budget
E-5. FY 2014 NJ TRANSIT Capital and Operating Budget
E-6. FY 2015 NJ TRANSIT Capital and Operating Budget
E-7. FY 2016 NJ TRANSIT Capital and Operating Budget
E-8. FY 2017 NJ TRANSIT Capital and Operating Budget
E-9. FY 2018 NJ TRANSIT Capital and Operating Budget
E-10. FY 2019 NJ TRANSIT Capital and Operating Budget ***– NEW***
E-11. FY 2020 NJ TRANSIT Capital and Operating Budget ***– NEW***
E-12. FY 2017 NJ TRANSIT/NJDOT Transportation Capital Program
E-13. FY 2018 NJ TRANSIT/NJDOT Transportation Capital Program
E-14. FY 2019 NJ TRANSIT/NJDOT Transportation Capital Program ***– NEW***
E-15. DRAFT FY2020 NJ TRANSIT/NJDOT Transportation Capital Program ***– NEW***
E-16. HTP New Starts Fare Policy and Level of Service
E-17. FY 2018-2027 Statewide Transportation Improvement Program – NJ Transit Relevant Page
E-18. NJEDA 2008 Series A Closing Documents
E-19. NJEDA 2017 Series Official Statement
E-20. Letter to FTA for comments on DRAFT FY2020-2029 STIP ***– NEW***

F) Financial Condition of Public Transportation Provider

F-1. NJ TRANSIT 2013 Annual Report
F-2. NJ TRANSIT 2014 Annual Report
F-3. NJ TRANSIT 2015 Annual Report
F-4. New Jersey Assembly Bill 10
F-5. New Jersey Assembly Bill 10 Legislative History
F-6. Official Statement for New Jersey Transportation Trust Fund Authority Transportation Program Bond 2015 Series AA
F-7. New Jersey Transportation Trust Fund Authority History ***– UPDATE***
F-8. New Jersey 2016 Public Question 2 Ballot Measure
F-9. New Jersey Transportation Trust Fund Funding Allocations ***– UPDATE***
F-10. NJ TRANSIT 2016 Annual Report
F-11. NJ TRANSIT 2017 Annual Report
F-12. NJ TRANSIT 2018 Annual Report – ***NEW***
F-13. Official Statement for New Jersey Transportation Trust Fund Authority Transportation Program Bond 2019 Series AA ***– NEW***
F-14. NJTTFA 2016 Audited Financial Statements ***– NEW***
F-15. NJTTFA 2017 Audited Financial Statements ***– NEW***
F-16. NJTTFA 2018 Audited Financial Statements ***– NEW***

G) Amtrak Documents

G-1. FY 2013 Amtrak Annual Report
G-2. FY 2014 Amtrak Annual Report
G-3. FY 2013 Amtrak Audited Consolidated Financial Statements
G-4. FY 2014 Amtrak Audited Consolidated Financial Statements
G-5. FY 2015 Amtrak Audited Consolidated Financial Statements
G-6. Amtrak Northeast Corridor Five-Year Capital Plan 2016-2020
G-7. Amtrak Commitment Documentation: FRA Grant Agreement (FR-AMT-0008-16-01-02), Statement of Work, Attachment 2a, Task 9 – Gateway Projects

G-8. FY 2015 Amtrak Annual Report
G-9. FY 2016 Amtrak Audited Consolidated Financial Statements
G-10. Amtrak Northeast Corridor Capital Investment Plan 2018-2022 ***– UPDATE***
G-11. Amtrak FY 2018 Full-Year Funding Grant Amendment
G-12. FY 2017 Amtrak Audited Consolidated Financial Statements
G-13. FY 2018 Amtrak Audited Consolidated Financial Statements – ***NEW***
G-14. Amtrak Portal North Bridge Project Letter of Commitment – ***NEW***

H) PANYNJ Documents

H-1. FY 2013 PANYNJ Annual Report
H-2. FY 2014 PANYNJ Annual Report
H-3. FY 2015 PANYNJ Annual Report
H-4. FY 2013 PANYNJ Audited Financial Statements
H-5. FY 2014 PANYNJ Audited Financial Statements
H-6. FY 2015 PANYNJ Audited Financial Statements
H-7. PANYNJ Proposed Capital Plan Summary 2014-2023
H-8. FY 2016 PANYNJ Annual Report
H-9. FY 2016 PANYNJ Audited Financial Statements
H-10. PANYNJ Capital Plan 2017-2026
H-11. FY 2017 PANYNJ Annual Report
H-12. FY 2017 PANYNJ Audited Financial Statements
H-13. FY 2018 PANYNJ Annual Report – ***NEW***
H-14. FY 2018 PANYNJ Audited Financial Statements – ***NEW***

I) Planning Documents

I-1. NJ State Rail Plan 2015 – Relevant Pages
I-2. Board action to approve the Locally Preferred Alternative for the Portal North Bridge

J) NJ TRANSIT Bus Fleet Management Plan

J-1. NJ TRANSIT Bus Fleet Plan 2014-2020
J-2. NJ TRANSIT Bus Fleet Plan 2018 ***– NEW***

K) NJ TRANSIT Rail Fleet Management Plan

K-1. NJ TRANSIT Rail Fleet Plan 2014-2020
K-2. NJ TRANSIT Commuter Rail Fleet Plan 2018 ***– NEW***