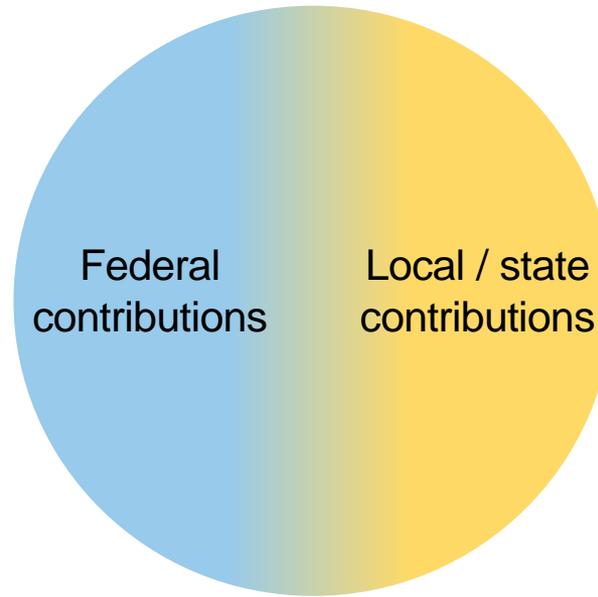


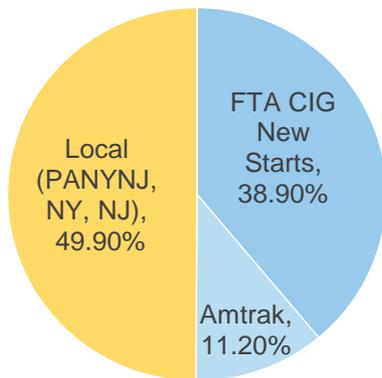
An aerial photograph of a dense urban skyline, likely New York City, featuring numerous skyscrapers and buildings. A semi-transparent white rectangular box is overlaid on the upper portion of the image, containing the title text. A teal vertical bar is positioned on the left side of the image.

Penn Projects Funding and Financing Considerations

Cost Sharing Model for Large-Scale Rail Infrastructure Projects

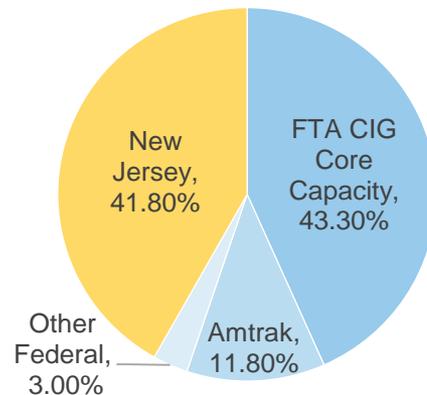


Gateway: Hudson Tunnel \$13.7 B



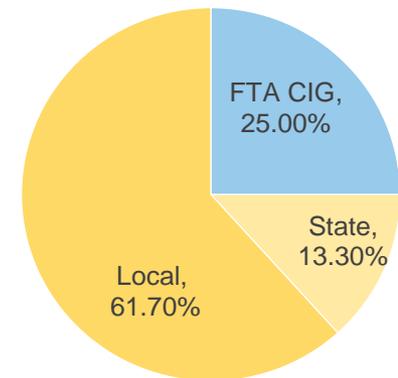
Source: FY22 Financial Plan

Portal North Bridge \$1.9 B



Source: Sep. 2019 Financial Plan

BART to Silicon Valley II \$6.9 B



Source: Infrastructure Journal

Financing Considerations



Timing

- i. What federal grant programs would be available for the project and what are their timing and requirements?
- ii. What are the conditions precedent to financing? (e.g., approval of GPP, agreements with funding partners, property acquisition, sequencing of project components, etc.)
- iii. What are expectations for receipt of funds vs project spend?

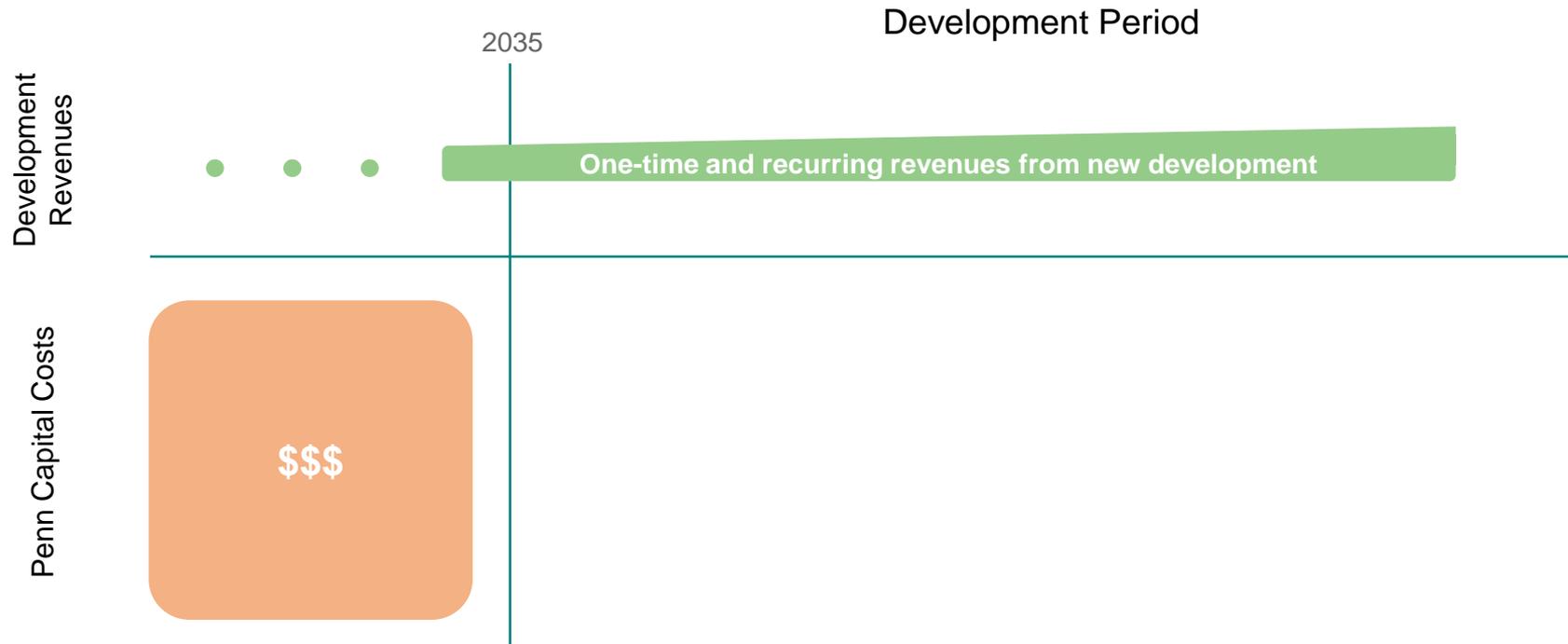


Revenue Profile

- i. How do the revenue streams and project uses impact debt capacity, taxability, funding agreements, and project delivery strategy?
- ii. What is the investment quality of the revenue streams; will the financing require credit enhancement to achieve investment-grade quality; and what are precedent structures for credit enhancing similar projects/revenue streams?

Timing Considerations

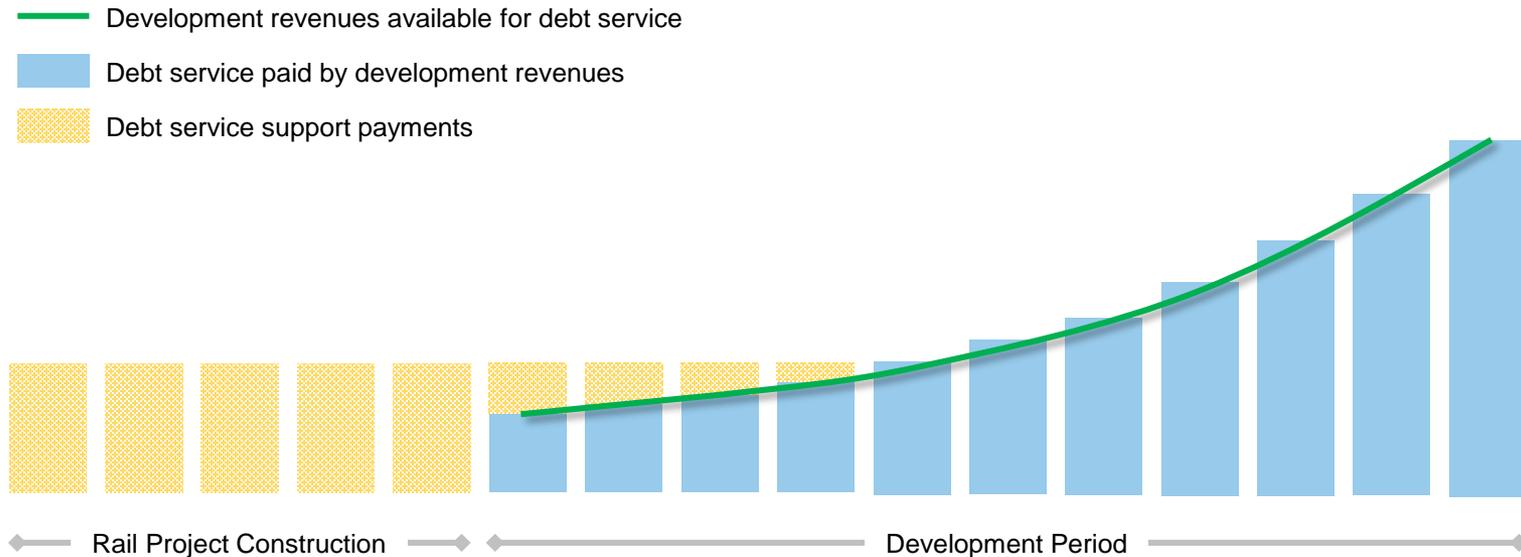
- Development-related revenues from the GPP sites can potentially serve as NY's share toward the Penn Projects' capital costs.
- However, the timing differences between project spend and receipt of these revenues is the key consideration of any financing strategy.



Revenue Profile Considerations

- Tax revenues related to potential future development carry uncertainty around timing and amount.
- Credit enhancement mechanisms are usually required in order to address this uncertainty and achieve investment-grade ratings.
- E.g., financing for the No. 7 subway line extension relies upon Interest Support Payments from the City to bridge the timing gap between project needs and development-related tax revenues.

Illustrative diagram of credit enhancement requirement



Financing Tools for Local Contributions

	Program Description	Key Precedent
Transportation Infrastructure Finance and Innovation Act (TIFIA)	<ul style="list-style-type: none"> Federal loan with favorable interest rates based on Treasury rates (plus 1 bp statutory margin) Flexible capitalization/amortization terms and 35-year term beyond project completion Caps loans at 33% of eligible project costs Federal government subsidizes credit risk; investment-grade rating required 	 <p>Moynihan Train Hall</p>
Railroad Rehabilitation & Improvement Financing (RRIF)	<ul style="list-style-type: none"> Federal loan with favorable interest rates based on Treasury rates (plus 1 bp statutory margin) Flexible capitalization/amortization terms and 35-year term beyond project completion Can finance 100% of eligible project costs Credit Risk Premium ranging between 0% and 5+%, depending on the credit risk of the project 	 <p>Gateway: Hudson Tunnel (plan)</p>
Tax-Exempt Bonds	<ul style="list-style-type: none"> Current low-yield environment helps to reduce overall financing costs Not subject to cap requirements Term of bonds limited by useful life of projects Financing must include public payments or public use 	 <p>Extension of the 7 Line</p>

Case Study: Moynihan Train Hall



Key Takeaways:

- Newly opened rail station for Amtrak seen as first step in the redevelopment of the Empire Station Complex
- Project funded from multiple sources, including upfront and long-term developer payments, federal grants, federal loan and direct state contributions
- Despite strong developer and strong commercial incentives to complete, MTA backstop for debt service reserve needed to achieve investment-grade rating

Project Sources		\$m	Project Uses		\$m
TIFIA loan	526.1		Moynihan Train Hall Phase 2	1,260.0	
ESD	475.3		Project Management & Other Costs	334.0	
Developer payment	230.0		DS Reserves / Financing Costs	24.4	
PANYNJ	150.0				
Amtrak	105.0				
Federal CMAQ & Resiliency	62.2				
MTA	54.9				
PILOT during construction	14.9				
Total	1,618.4		Total	1,618.4	

Development revenues committed to project:

- Recurring: PILOT
- One-time: Up-front lease payment

Case Study: Denver Union Station



Key Takeaways:

- Newly configured transit hub in Downtown Denver which included substantial real estate development on former freight rail yard
- Project funded by development-related revenues, grants and local stakeholder contributions
- TIFIA and RRIF financing structure utilized annual obligations from transit agency (RTD) and City of Denver contingent support to improve financing credit profile

Project Sources		\$m	Project Uses		\$m
RRIF loan	155.0		Bus terminal	185.0	
TIFIA loan	146.0		Streets & public spaces	162.0	
Federal grants	79.0		Light rail	70.0	
RTD FasTracks	51.0		Commuter rail	64.0	
Land sale / other	29.0				
State grants	21.0				
Total	481.0		Total	481.0	

Revenues committed to project:

- Recurring: FasTracks sales tax; District property taxes
- One-time: Property take downs

Case Study: Hudson Yards/7 Line Extension



Key Takeaways:

- Development-related revenue provided substantial funding for the extension of the 7 Line
- Revenue bonds issued for the project were backed by future development-related revenues, which necessitated credit support to appeal to investors
- Interest Support Payments (ISP) from the City provide support on interest payment shortfalls for the bonds (subject to annual appropriation).

Project Sources *		\$m	Project Uses		\$m
Tax-exempt bonds	3,000.0		7 Subway extension & amenities	2,879.4	
Bond premium	133.8		TDR purchase	200.0	
			Issuance costs	37.4	
			HYDC expenses	17.0	
Total	3,133.8		Total	3,133.8	

Development revenues committed to project:

- Recurring: PILOT, Tax Equivalency Payments (TEP)
- One-time: District Improvement Bonus (DIB), Transferable Development Rights (TDR) payment, PILOMRT

* Sources & Uses table reflects consolidated project budget using 2007 and 2012 financing statements

Potential Development-Related Revenues for NY Contribution

The following categories of revenues could be used toward the required NY contribution to the Penn Projects and GPP transit improvements.

Land value payments: Upfront and/or periodic payments received through long-term lease agreements (Sites 1-3)

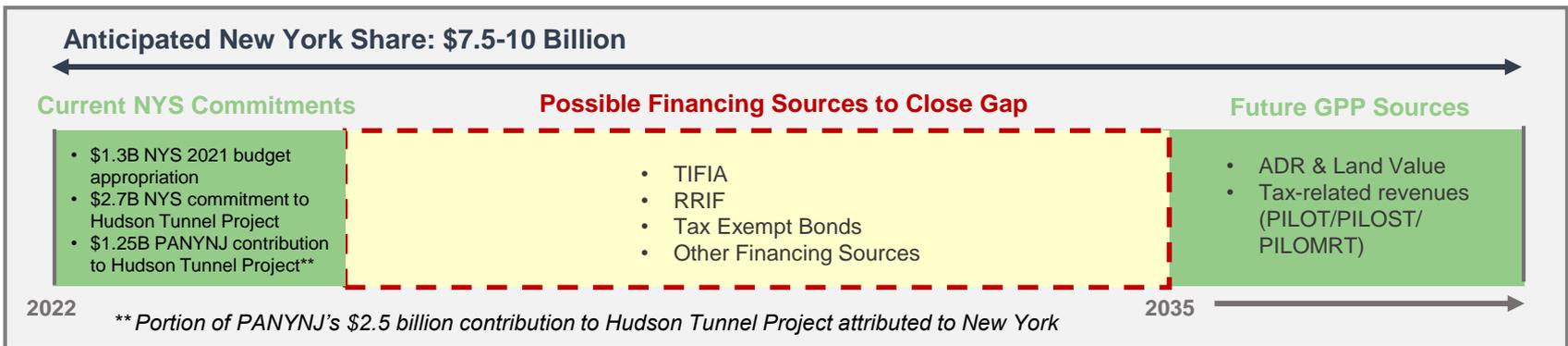
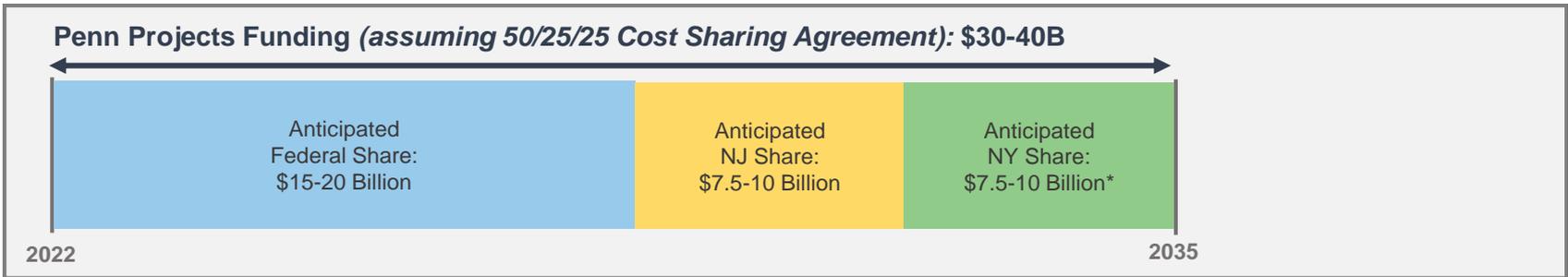
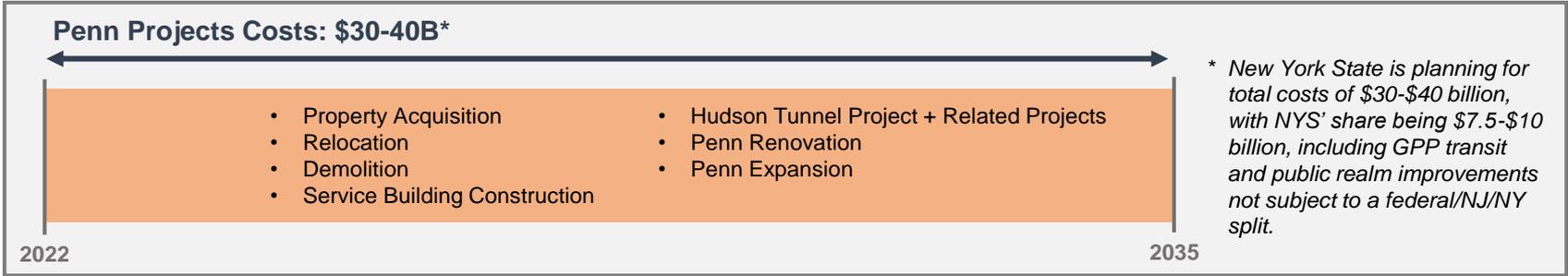
Additional development rights (ADR) value: Payments for additional development rights to be used on privately-owned sites (Sites 4-8)

Payments in lieu of taxes (PILOT): Ongoing payments in lieu of ad valorem property taxes (potentially all sites)

Payment in lieu of mortgage recording tax (PILOMRT): One-time payment in lieu of mortgage recording tax (potentially all sites)

Payment in lieu of sales tax (PILOST): One-time payment in lieu of sales and use tax on construction materials for development (potentially all sites)

Challenge: Fully Funding New York's Share



Conclusions



Best case scenario: a portion, but not all, of the billions of dollars necessary for New York's share could be generated by GPP real estate revenues.



A portion of the early funds would be dedicated to the GPP's transit and public realm improvements.



The urgency of the GPP is highlighted by the timing gap between when funds are needed to construct the Penn Projects and when real estate revenues are generated.



The funding gap caused by this timing problem would be closed, at least in part, by financing against future revenues, particularly PILOT.
