

IBX Case Study

Expanding service for wider reach in Brooklyn and Queens



Proposed IBX station platform rendering

The proposed Interborough Express (IBX) light rail service would offer nearly 1 million riders quicker transit options and expanded access to jobs and economic opportunities.

What is IBX?

IBX is a proposed light rail transit line that would travel a 14-mile route along an existing freight line to connect eastern Brooklyn and central Queens. This transformative rapid transit project would serve nearly one million people, many in historically underserved neighborhoods that offer limited transit options.

From Bay Ridge, Brooklyn to Jackson Heights, Queens, the IBX would create greater access to employment, healthcare, and other economic opportunities, while creating new affordable and sustainable travel options without the burden of lengthy commutes.

The proposed IBX route line and stops connecting Brooklyn and Queens



New transit connections

Today, the majority of Brooklyn- and Queens-bound work trips are made by car. Those who do travel by subway are often forced to take indirect routes to their destination: currently half of all subway trips between Brooklyn and Queens require an unnecessary detour through Manhattan.

IBX would eliminate this trip inefficiency, making transit a more convenient and attractive choice that saves time for riders, decreases crowding on Manhattan-bound subway service, and reduces traffic and vehicle emissions.

While many passengers will reach their destinations in a single IBX ride, the route also provides connections to 17 subway lines already serving Brooklyn and Queens, multiple bus routes, and an existing LIRR stop at the Atlantic Av-East New York Station.

The IBX will benefit traditionally underserved communities.

7 in 10
People of color

3 in 10
Households below 150% of the poverty line

1 in 2
Zero-car households

1 in 4
Residents with limited English fluency

Transformative transit connections for disconnected communities

IBX would connect adjacent neighborhoods that are inadequately linked by existing transit, even as the number of people traveling between them rises.

Today, it takes a Midwood resident a minimum of 40-50 minutes and multiple/various transit options to reach Broadway Junction—which is less than 6 miles away. Their trip begins on the Q train, which they can take to LIRR or to the Franklin Avenue Shuttle, which places them at the A train for the final leg. If connections between these services are out of sync, their trip could take longer than estimated.

The same trip on the IBX would provide a single train ride and cut travel time in half. Similar stories would be repeated across the entire 14-mile length of the line. Overall, the IBX would create a new transit option for close to 900,000 residents who live in the neighborhoods along the route, along with 260,000 people who work near the project corridor.

A significant portion of these residents would see their regular commutes transformed: more than 55% of Brooklyn residents and 40% of Queens residents who live within the IBX corridor currently commute within and between these boroughs.

IBX Case Study

IBX would support communities who need it most

IBX would support the MTA's goal of increasing equity in our transit system by targeting new investment and services in communities that need it most.

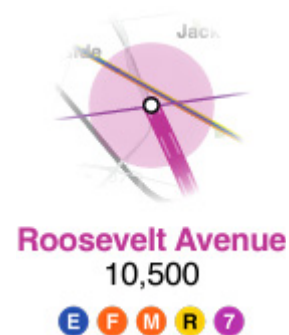
Almost three-quarters of the population served by the IBX are people of color and one in four people has limited fluency in English. One-third of these households are below 150% of the poverty line and half of them do not own a car. The neighborhoods along the proposed route also include high numbers of our most essential workers, who kept us going through the peak of the COVID-19 pandemic and work shifts throughout the day and night.

Providing these populations with additional reliable, high-frequency transit options would help increase their mobility and improve their access to economic opportunities.



Neighborhoods within .5 miles of the IBX line. Riders in these neighborhoods will no longer have to travel towards or through Manhattan to reach other parts of Brooklyn and Queens.

Some prospective transfer stations with highest projected IBX ridership



An efficient, cost-effective plan

The IBX project was designed to maximize efficiency and cost-effectiveness, while providing the most benefits. That includes using:

Existing infrastructure

The route runs along the LIRR-owned Bay Ridge Branch and CSX-owned Fremont Secondary freight line. Using existing infrastructure will result in lower construction costs and a shorter implementation timeline than if we built something from scratch.

Light rail

We selected light rail as the transportation mode after extensive planning, analysis, and public engagement determined that it would provide the best service for riders at the best value, and would be the most adaptable to the existing freight rail line. Light rail's faster implementation timeframe would also allow us to start service more quickly.

Today

Getting from home in east Bushwick to your class at Brooklyn college could take you an hour. You're routed with two transfers and one is out of system!

Wilson Avenue Station (L)

Flatbush Avenue - Brooklyn College (2, 5)

You could have a slightly faster route... but that requires transferring to an infrequent bus.

With the IBX

With a high-frequency transit line built along the IBX, you could have a one-seat ride from home to work, eliminating the time currently spent transferring between trains and reducing time spent waiting on the platform or in motion.



That's a week and a half work of travel time saved!

Substantial investments required for stations, railcars, and reconstruction

While the choices above have minimized the costs, the project still requires significant new infrastructure, including new track, new stations, and new light rail vehicles.

In addition, the IBX will require reconstruction of a substantial number of bridges throughout the corridor, as well as track widening and tunnel rehabilitation. We will also need to build traction power and distribution substations, state-of-the-art communications and signaling systems, and a new maintenance facility to store and maintain the new light rail vehicles.

It's a complex project, but one that will deliver a better quality of life to hundreds of thousands of riders.



20-Year Needs Assessment

Appendix

APPENDIX



01 New York City Transit

- Subway cars, maintenance facilities, and yards
- Buses, depots, and bus maintenance facilities
- Passenger stations
- Subway infrastructure systems: Line structures, track, signals, traction power, line equipment, and communications infrastructure

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- Key program highlights
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- Passenger vehicles and yards
- Passenger stations
- Right-of-way
- Signals, power, and communications

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03 Metro-North Railroad

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Comparative Evaluation summary table

Score	Icon
<20	○
20-39	◐
40-59	◑
60-79	◒
>=80	●

Projects	Cost Effectiveness	Ridership	Equity		Geographic Distribution	Sustainability	Resiliency	Capacity	Network Leverage	Total Riders (Daily 2045)	Construction Cost (\$M 2027)
	Cost/Time Saved (30 yrs) (\$/min)	Total Riders	Total Riders from Equity Areas	% Riders from Equity Areas	Regional Accessibility	Change in Vehicular Miles Traveled	Subway/Rail Services < 0.5 miles (NYC) < 5 miles (suburbs)	System Crowding - Passenger Hours in Crowded Conditions	% of Project ROW on MTA, Public or Private Land		
Danbury-Southeast Connection	\$6.35	○	○	○	◐	◐	○	◐	◐	2,600	\$820
Elmhurst Station (LIRR)	No Time Saved*	○	○	●	○	○	○	○	●	3,100	\$210
Harlem Line Capacity Improvements	\$2.46	◐	◐	◐	◐	○	◐	○	●	83,700	\$1000
Hudson Line to Penn Station	\$4.54	○	○	◐	◐	◐	●	◐	●	18,900	\$750
Inner New Haven Line Yard	\$5.07	○	○	◐	○	○	○	○	●	6,000	\$390
Interborough Express LRT (IBX)	\$1.29	●	●	●	●	●	●	◐	●	118,700	\$5,540
Lower Montauk Branch Reactivation	\$62.41	○	○	◐	○	◐	◐	○	●	9,200	\$4,230
New Lots Ave No 3 Line to Flatlands	\$8.64	○	○	●	○	○	○	○	◐	8,600	\$1,780
Port Jefferson Branch Capacity Improvements	\$6.18	◐	○	◐	●	◐	○	◐	●	27,900	\$3,120
Port Jervis Line Capacity Improvements (MP Yard)	\$40.46	○	○	◐	○	○	○	○	○	11,000	\$360
Ridgewood Busway	\$0.0**	○	○	●	○	○	○	○	◐	8,900	\$30
Rockaway Beach Branch (NYCT)	\$6.72	◐	◐	●	○	◐	◐	○	◐	39,200	\$5,940
Second Ave Subway South to Houston	\$4.47	●	●	◐	○	○	●	◐	◐	230,400	\$13,500
Second Ave Subway West to 125th/Bdwy	\$1.43	●	●	●	○	◐	◐	●	◐	239,700	\$7,550
Speonk-Montauk Capacity Improvements	\$13.66	○	○	○	○	○	○	○	●	1,500	\$260
Staten Island North Shore BRT	\$1.46	◐	○	◐	◐	○	○	○	◐	32,000	\$1,300
Staten Island West Shore BRT via Korean War Vet Pkwy	\$1.95	○	○	○	●	◐	○	○	◐	16,900	\$1,870
Stewart Airport Commuter Rail	\$10.65	○	○	◐	○	●	○	○	○	4,300	\$1,400
Sunnyside Station (LIRR)	No Time Saved*	○	○	◐	●	◐	◐	○	○	7,900	\$490
Tenth Ave Station on No 7 Line	\$81.29	◐	○	◐	○	○	○	◐	●	55,000	\$1,900
Utica - Nostrand Junction Capacity Improvements	\$0.28	●	●	●	●	◐	○	●	●	319,900	\$410
Utica Alt A - BRT	\$0.32	◐	◐	●	◐	◐	◐	○	◐	71,900	\$220
Utica Alt B - Subway to Kings Plaza	\$4.80	◐	◐	●	◐	◐	○	●	◐	55,600	\$15,860
Utica Alt C - Subway to Church Ave + BRT	\$1.59	◐	◐	●	◐	◐	◐	●	◐	81,200	\$6,780
W Line to Red Hook	\$90.46	○	○	○	○	○	○	●	◐	7,600	\$11,210

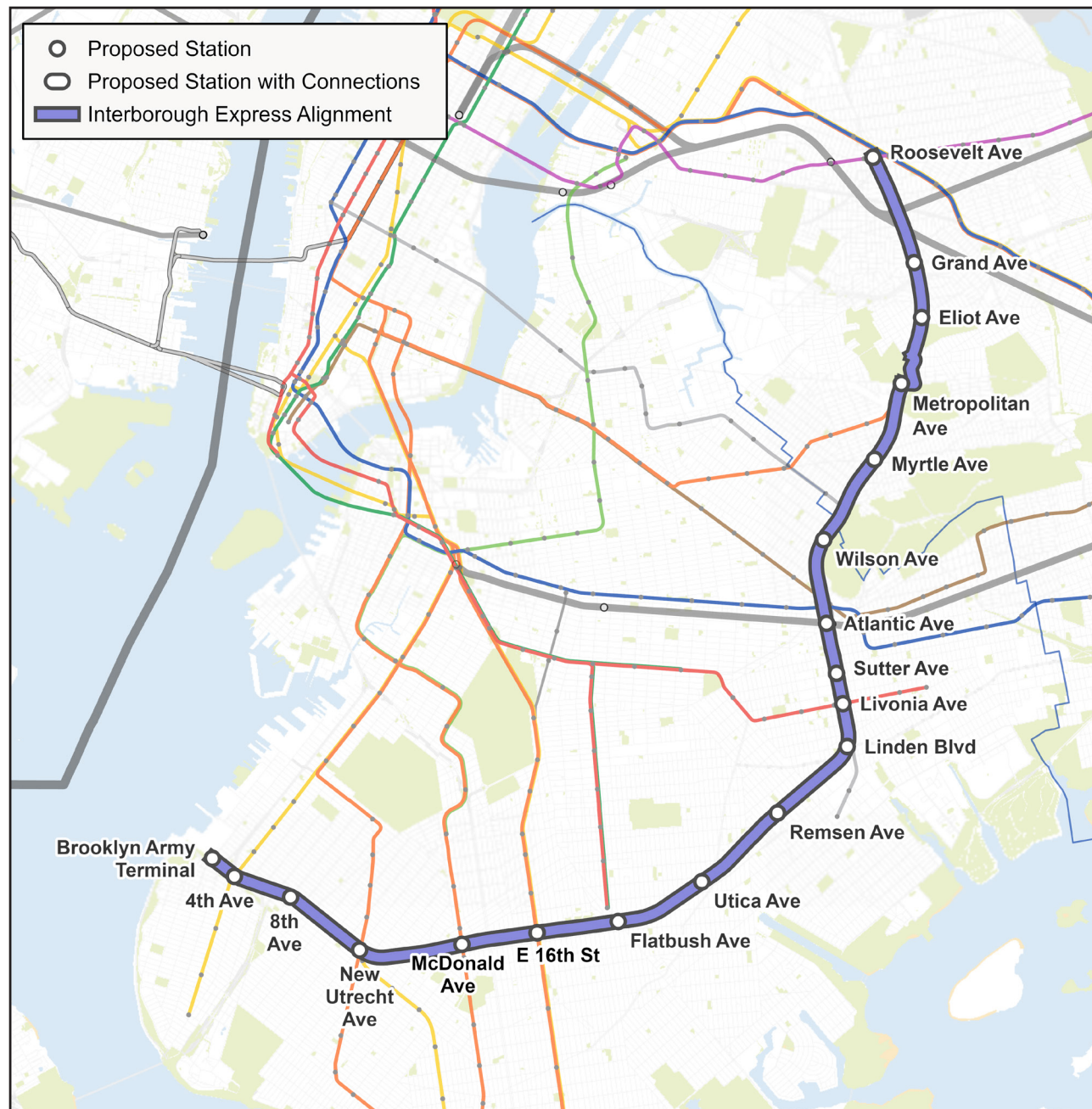
Notes: *Elmhurst and Sunnyside have no overall time savings due to increased travel time for existing customers.

**Ridgewood Busway operational savings over project lifetime exceed capital costs

Interborough Express Light Rail Transit

Description: A new transit line between Queens and Brooklyn along an existing freight corridor, connecting to 17 subway lines (2 3 5 7 A B C D E F J L M N R Q Z), and the Long Island Rail Road (LIRR), serving areas of Brooklyn and Queens.

Project objectives: Reduce travel times on transit between Brooklyn and Queens and divert trips from overburdened Manhattan-bound subway lines.



Above, Interborough Express LRT (IBX)

Evaluation results

Construction Cost (2027): \$5.5 billion

Fleet Cost (2027): \$432million

Annual O&M Cost (2027): \$83 million

Daily Ridership (2045): 118,700

New Daily Riders (2045): 13,200

Riders from Equity Areas (2045): 112,440

Travel Time Saved Per Trip (minutes): 5.9

Special Considerations:

Light Rail Transit (LRT) would be a new and stand-alone mode for MTA.

Street-running required (<1 mile) in Middle Village, Queens.

Requires coordination and concurrence with the following entities:

- CSX, which owns northern three miles of right-of-way
- PANYNJ for the Cross Harbor Freight Program (CHFP)
- EDC and City Hall, for the maintenance & storage facility (MSF) and terminal station at Brooklyn Army Terminal.

Findings

This project scores well in many metrics, including cost effectiveness. It serves a large number of new and total riders, especially from equity areas, and provides connections to many other transit lines, using an existing right-of-way.

The Interborough Express scores well in almost all metrics. High ridership and significant time savings make it cost effective. It does well in equity because it serves a large number of riders from equity areas. Similarly, it scores well in resiliency and sustainability by greatly reducing vehicle usage and providing multiple connections to the subway (up to 17 lines) and LIRR. It scores well in geographic distribution by improving regional access and it gets a high score for network leverage with 11 of its 14 route miles owned by the MTA. It does not score as well in capacity in relation to other projects because it acts as a feeder to existing subway lines, increasing crowding on some that are at, or close to, capacity (i.e. Queens Blvd Line).



Scorecard			
Criteria	Metrics	Result	Score (0-100)
Cost, Ridership & Time Savings	Cost/Time saved (30 years)	\$1.29/min	98
Equity	Percent of riders from Equity Areas	95%	94
Sustainability	Change in daily vehicle miles traveled	-72,687	100
Resiliency	Rail connections within ½ mile (NYC) or 5 miles (suburbs)	18	100
Capacity	Change in passenger hours of crowding systemwide (AM peak period)	-2,375 hours	57
Geographic Distribution	Change in regional accessibility	-47,557 hours	100
Network Leverage	Weighted average of MTA, Public and Private ROW	86%	82