

**A Better**

# **Billions**

**By Franklin Tang, Andrew Lynch, Elif Ensari, Alon Levy, Nolan Hicks and Eric Goldwyn**

# Cost of living was the dominant issue in mayor's race

Zohran Mamdani toppled a political dynasty by focusing on affordability





Mamdani's transit platform:

**Make buses fast and free.**

**\$1,000,000,000**

**Free buses are expensive. Requires ~\$1 billion annually**



# Free bus pilot results were mixed:

MTA data showed:

- Ridership up (30%-38%)
- But 2/3d of new trips came from walking, other lines
- Bus speeds down

**Over 40 years that's...**

**\$40 billion**

*... which got us thinking ...*

*If cost is no object, what's the best way to get people onto transit?*

**Subways. They have speed and reliability needed for 'mode' shift.**

*What kind of transit expansion can help solve the housing crisis?*

**Subways. They have capacity needed for denser housing.**



***Q: How much new subway can \$40 billion buy?***



**A: The biggest subway expansion in 100 years.**

**41** *miles of new subway*

**64** *new subway stations*

**167,000** *new homes and  
apartments*



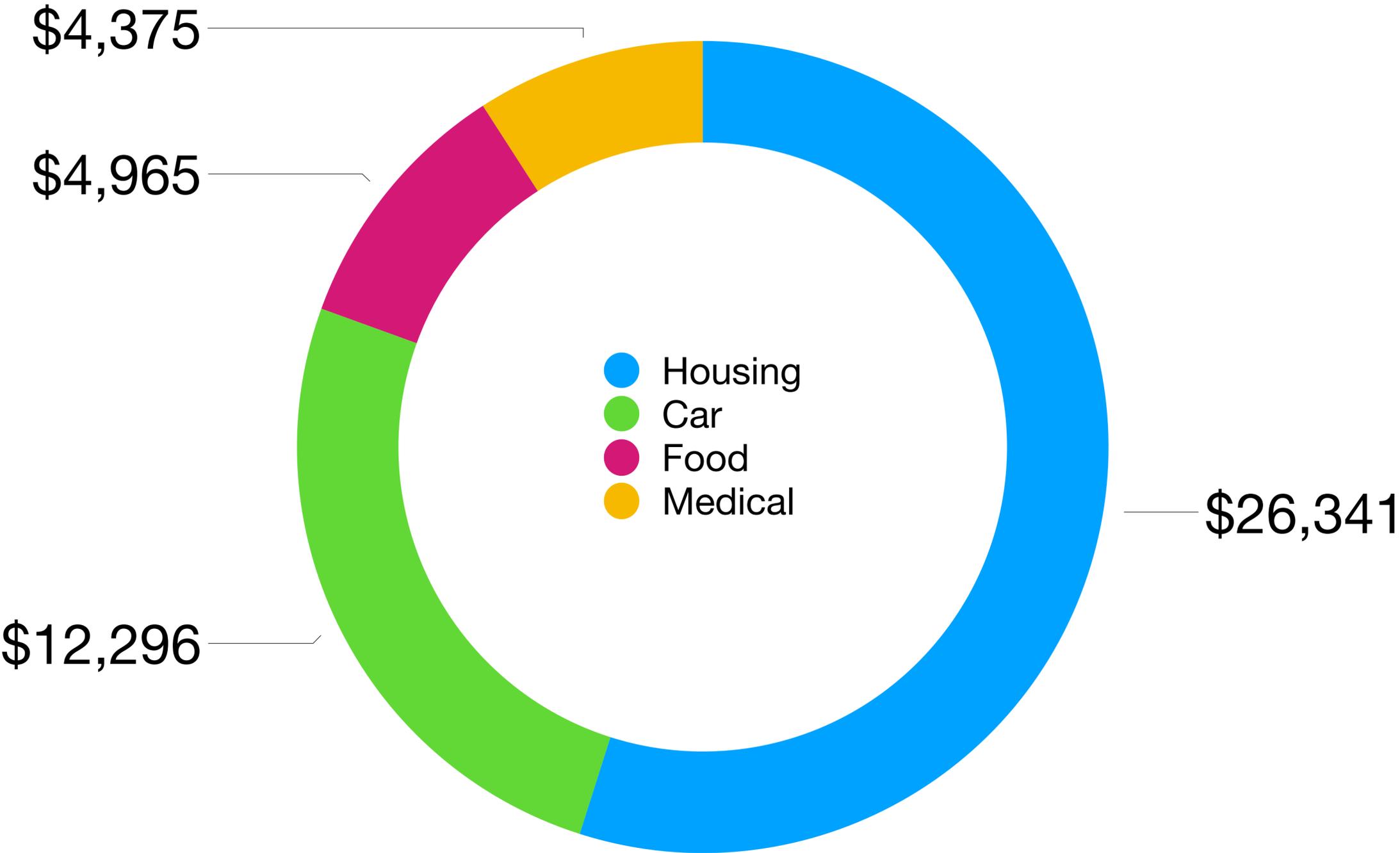
What is 'A Better Billion':

# Using subways to attack the cost-of-living crisis

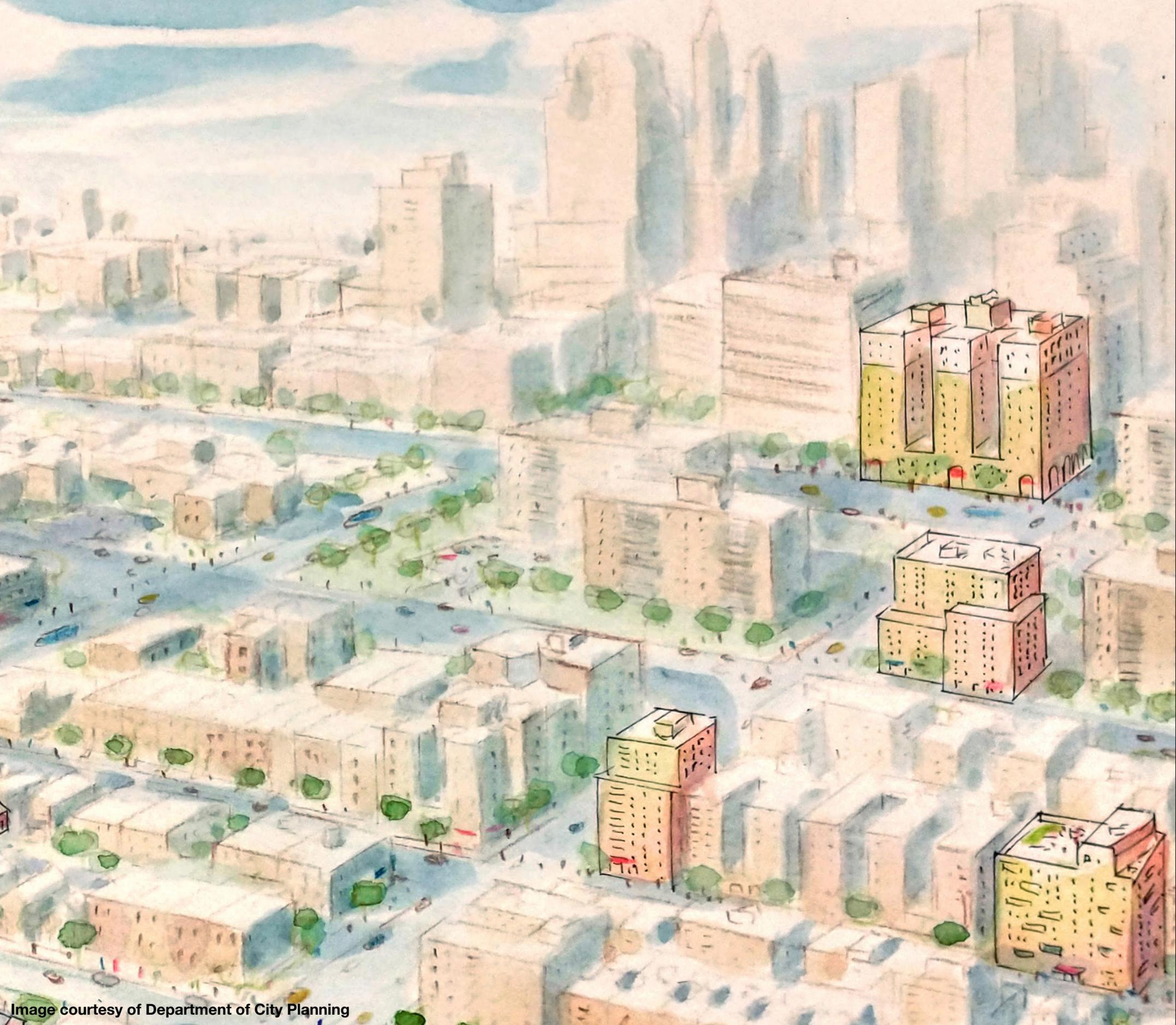
# Cost of living crisis, by the numbers:

Housing is the biggest budget line for residents in the New York-Newark metro.

Car is second biggest cost.



*Budget for a single-person household, per MIT  
Car ownership costs, per US DOT*

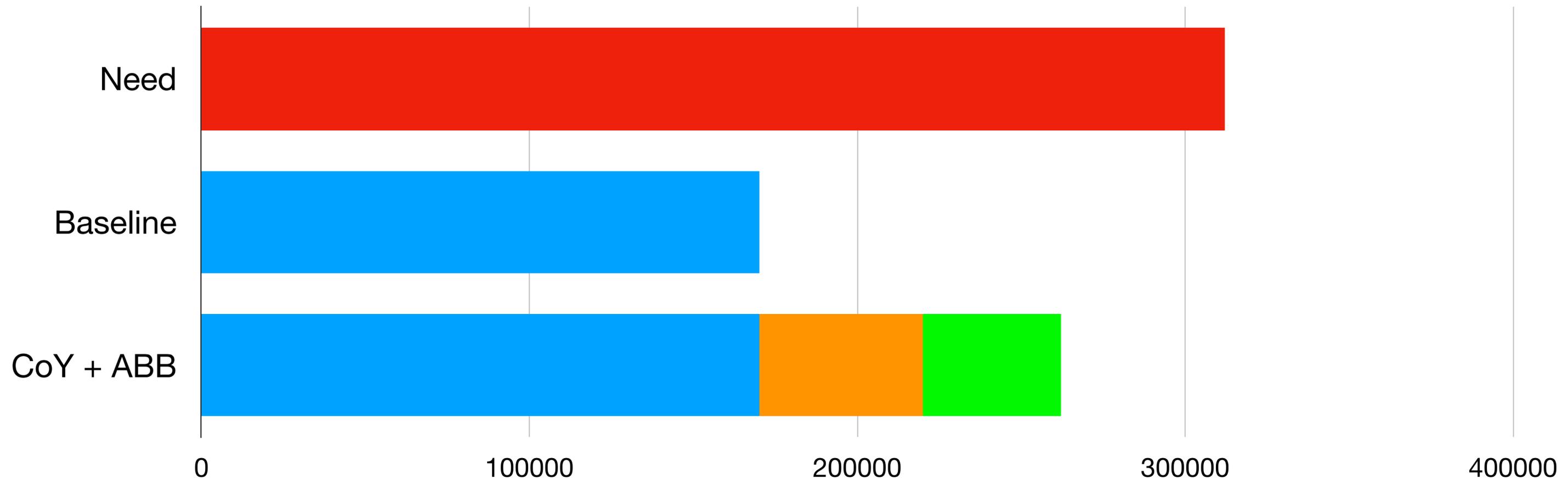


# New subways attack the housing shortage

- 167,000 units over 40 years
- Approximately 42,000 units/decade
- 'City of Yes' sized boost in production
- 20% increase in production

# Generational housing increase from subways

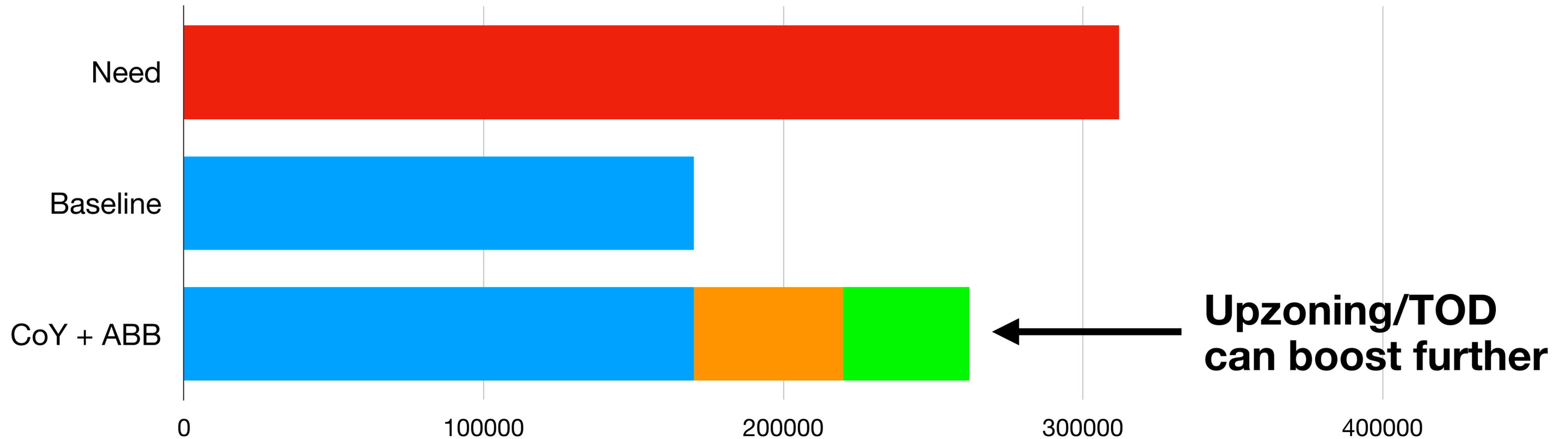
## 'A Better Billion' and City of Yes combo cut housing deficit by 65%



- Baseline housing figures compiled from Department of City Planning count of new units permitted from 2010-2019.  
- Need calculated from 2019 RAND report on metro housing deficit growth against city housing production baseline.  
Increases in suburban housing construction would also help attack this shortfall.

# These figures are based on current zoning

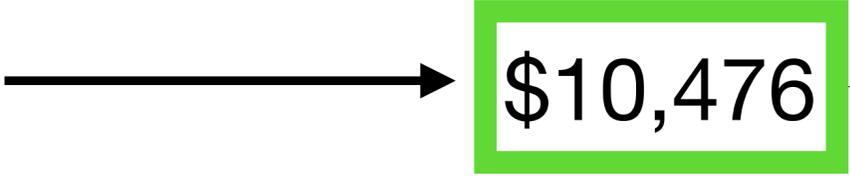
## Upzoning/expansion of TOD program would increase production



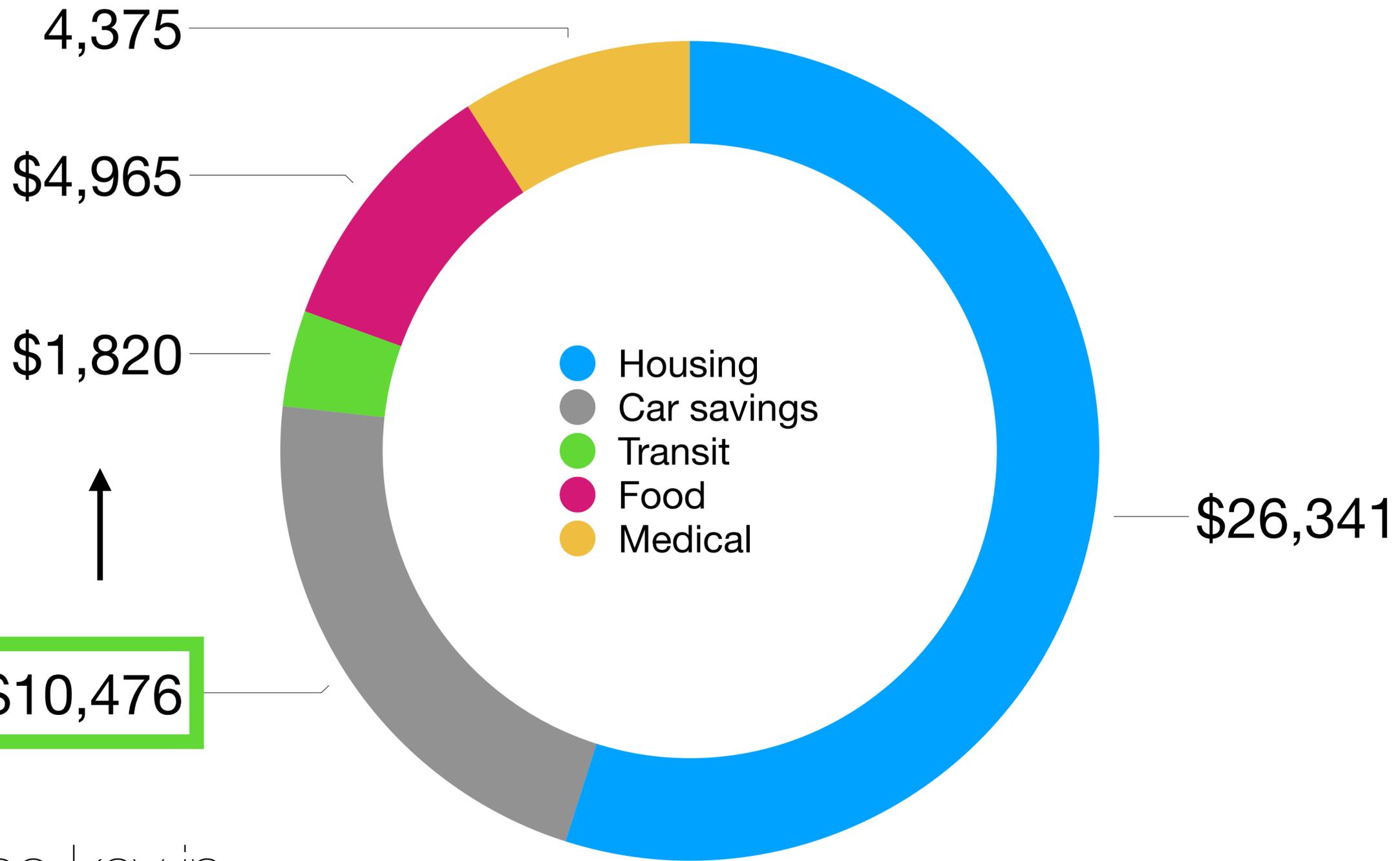
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# Better subways put \$10k in NYers pocket

New York's 24/7 citywide transit system saves NYers 10,000/yr.



Making cars optional is also key in attacking the cost of living



# Housing & transit



An aerial photograph of a city grid. A diagonal line, likely a transit line, runs from the bottom-left towards the top-right. Several streets are labeled with white text on black rectangular backgrounds. The main text is in a large, bold, italicized white font.

*Add subway and  
watch the city grow*

74th Street

86th Street

90th/Elmhurst

Junction Blvd.

10 c



# Add subway and watch the city grow

- Historically, subways catalyzed growth in NYC
- New, high-capacity transit has spurred development in London, Copenhagen, Vancouver, etc.
- Today: We build housing adjacent to our subways to tap into its development magic

# Queens before and during the initial build out of the subway

- Without easy access to jobs along the waterfront or in Manhattan, no impetus to build housing
- 284,041 people lived in Queens in 1910
- The subway supported and enabled Queens' growth





# Subway fueled early Queens development

- Subway construction largely stopped in 1940
- Queens had a population of 1.3 million
- Post-war growth followed expressways
- Traffic becomes horrific
- 2.4 million people live in Queens today



# Case study: Subways lead to significant housing growth

- Bronx's population grew 7-fold between 1900-1940
  - 1900: 200k
  - 1940: 1.4 million
- Development follows the subway in The Bronx:
  - An opportunity along the No. 6
  - Parkchester

Image courtesy of The Bronx County Historical Society



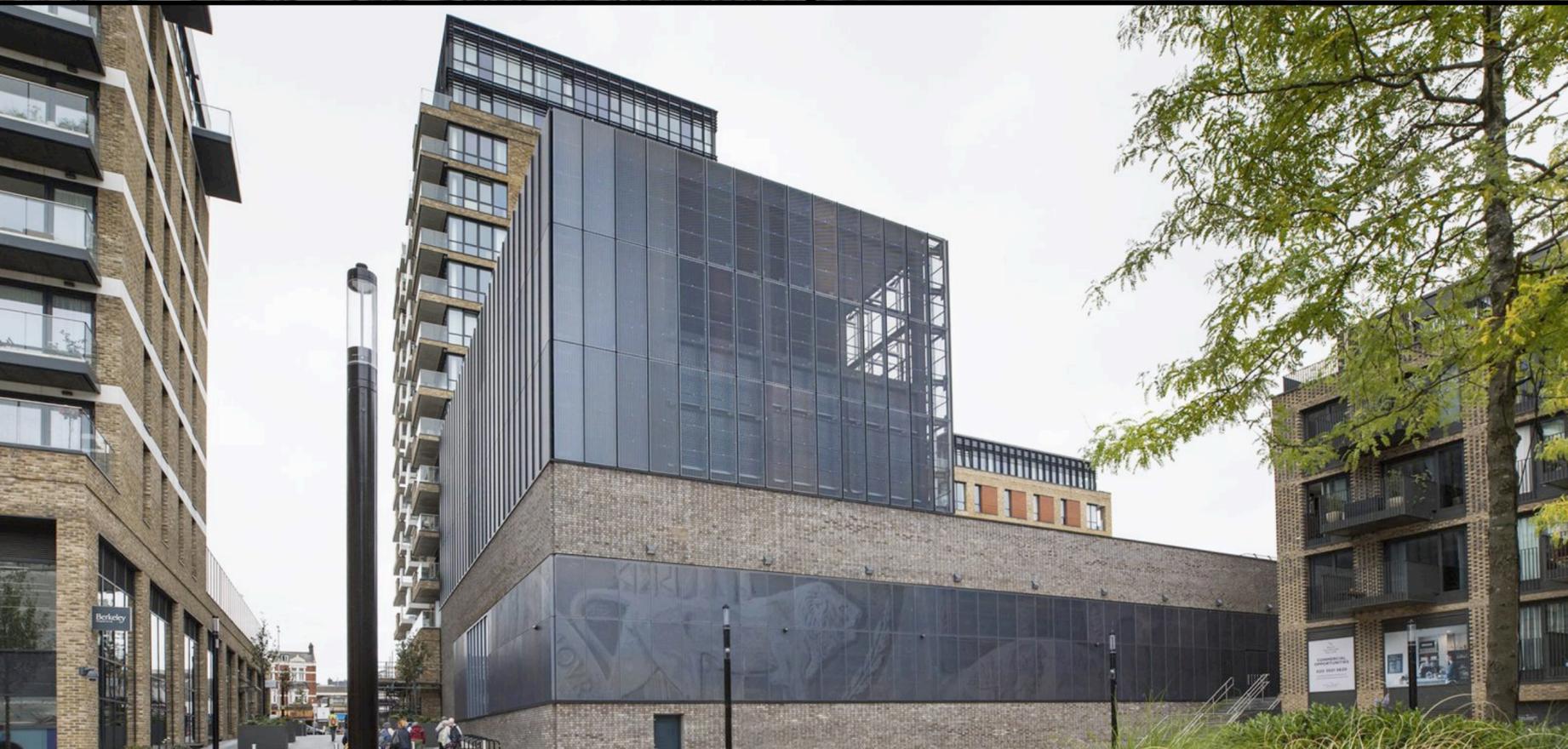
# The subway makes Parkchester possible

- 129 Acres, 12,275 apartments, 40,000 residents
- The largest housing complex in the US when built in 1942
- Dramatic density made possible by the subway
- This should be the model



# Crossrail delivering 140,000 units for London

- Crossrail serves parts of London beyond Tube
- Provides rapid, frequent service into city center
- Delivered major housing boom in outer London:
  - TfL says 71,000 units already built
  - 70,000 more in pipeline



*Woolwich station development*

# Case study: Downtown Brooklyn's transformation

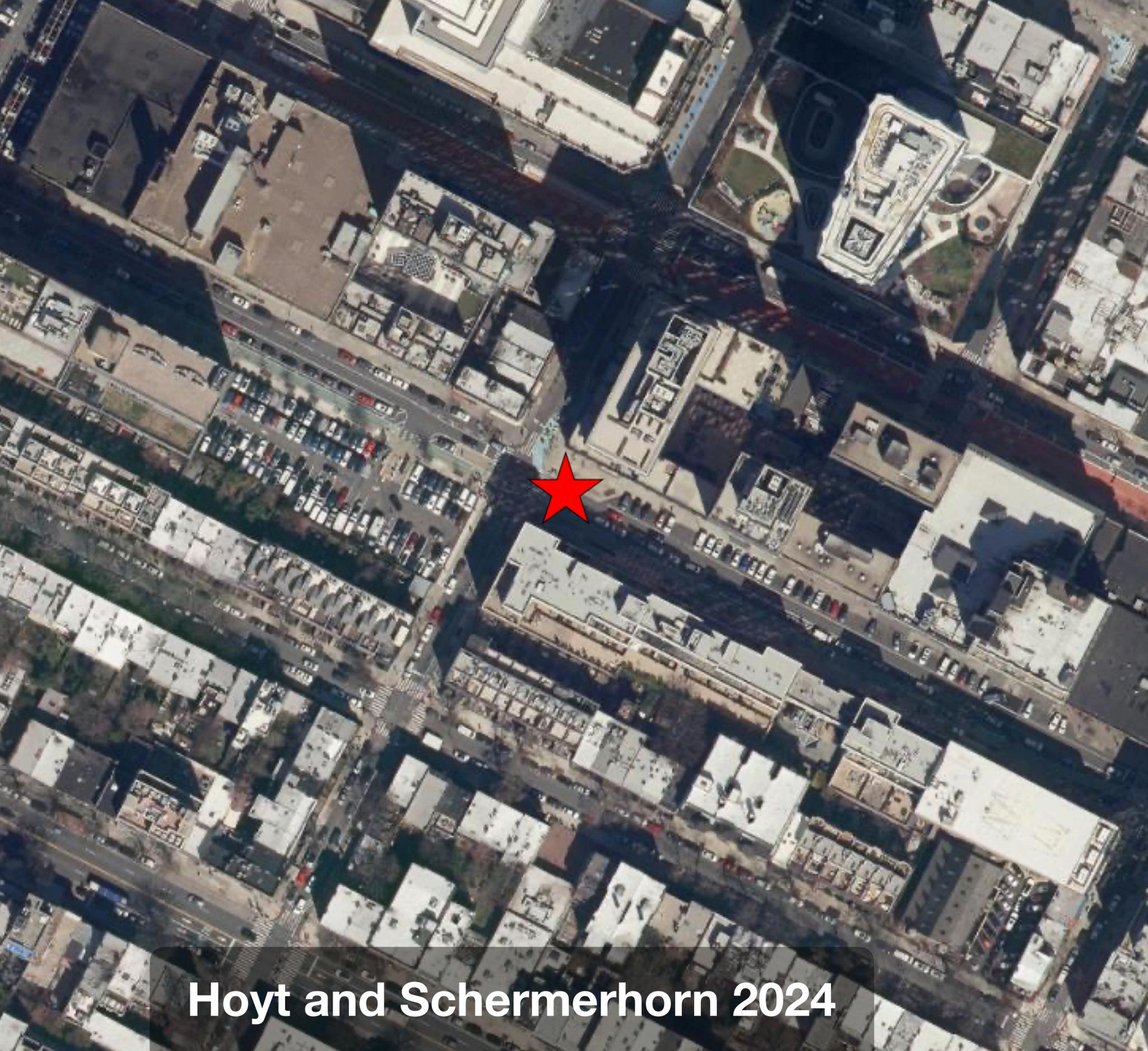
- Downtown Brooklyn originally featured a dense neighborhood and shopping district
- It's served by the A/C/F/G and 2/3 trains
- By the 1950s, buildings are being demolished for parking



Hoyt and Schermerhorn 1924



Hoyt and Schermerhorn 2004



# Case study: Downtown Brooklyn now densifying again

- Rezoning around downtown Brooklyn's subways has led to revival
- New mid and high-rise residential developments
- Population of CB2 is now 130,000 in 2020
- Up from just 99,000 in 2000 (+30%)

Hoyt and Schermerhorn 2024



# LIC, W'burg and downtown Brooklyn drove citywide production

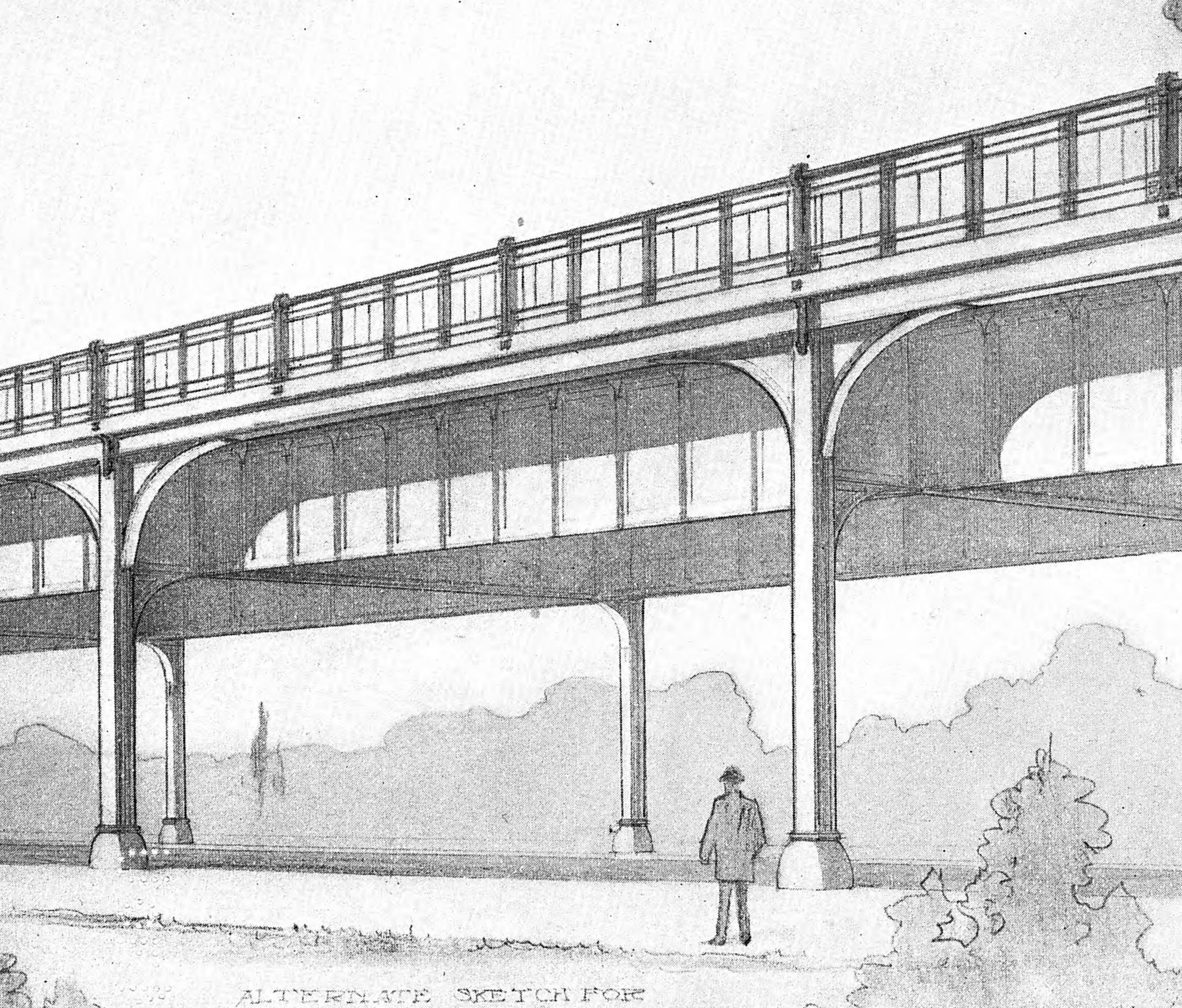
- These two districts saw 41,216 units of housing from 2010-2020.
- That's ~25% of all of the housing produced citywide
- Wasn't enough to meet demand

A photograph of a busy bus stop at dusk or night. A blue bus is stopped at the curb, and a large crowd of diverse people is waiting. The scene is illuminated by the bus's interior lights and the warm glow of streetlights and building lights. In the background, there are modern buildings with large windows and signs, including one for 'WALGREENS'. A digital display board shows bus arrival information for 'Queens Boulevard & 50 Street'.

Each proposed line was built around two criteria:

**1. Delivering housing**

**2. Improving transit for bus riders**

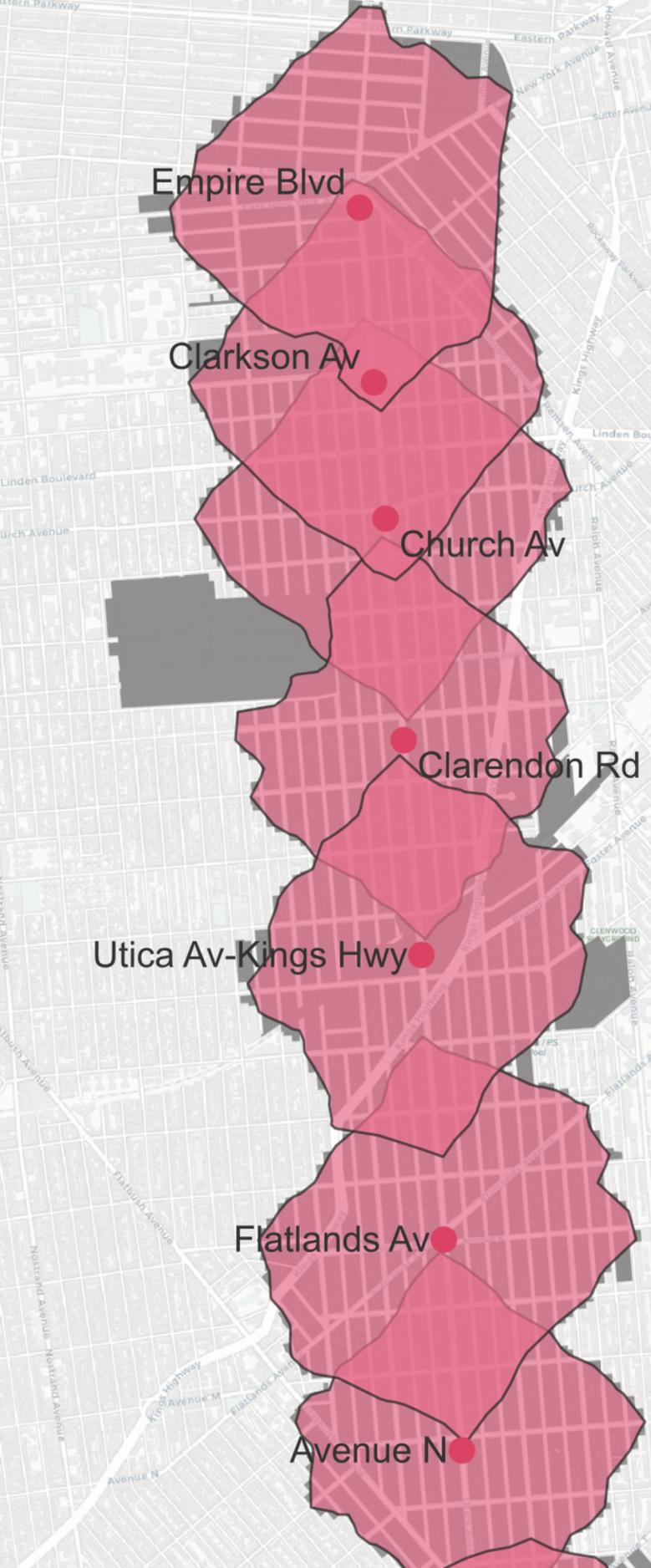


# The long-promised Utica Avenue line

- Discussed since 1917
- Heaviest bus ridership in Brooklyn (B46-SBS)
- Potential for 17,000 new homes
  - 1,500 below market
- Cost: \$5.9 billion

# Utica Ave. line would reshape corridor

The street is lined by low-slung commercial buildings. Here's how it could change.





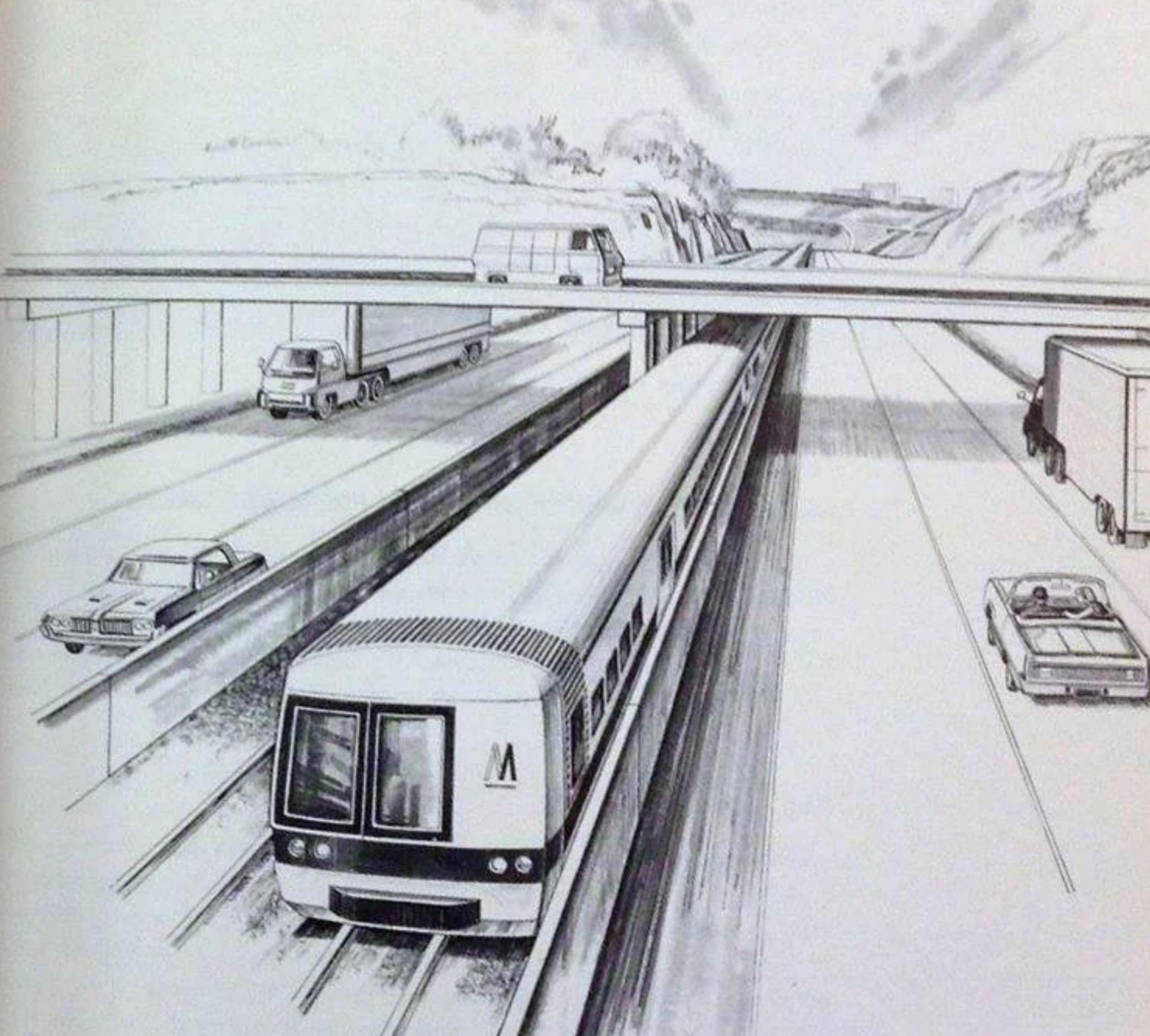
# Case study: Clarkson stop and Psych Center reuse

- Longstanding plans to redevelop Kingsboro
- Subway would help get project moving
- Western block alone would deliver 1,000 apartments
- Utica line would unlock reuse of whole complex



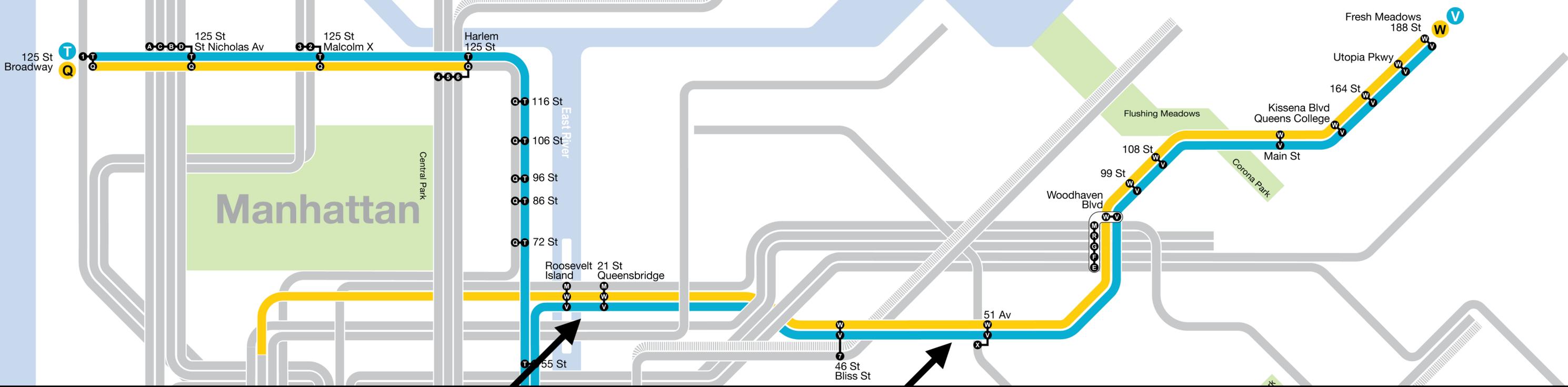
# F Line to extension to Queens Village

- 200,000 daily bus riders on Hillside Ave. beyond the F.
- Subway expansion provides riders much faster trips
  - Unclogs Hillside/179
  - Allows for more direct north-south bus routes
- 7,000 new housing units
- Cost: \$3.1 billion



# Attacking traffic with a LIE subway

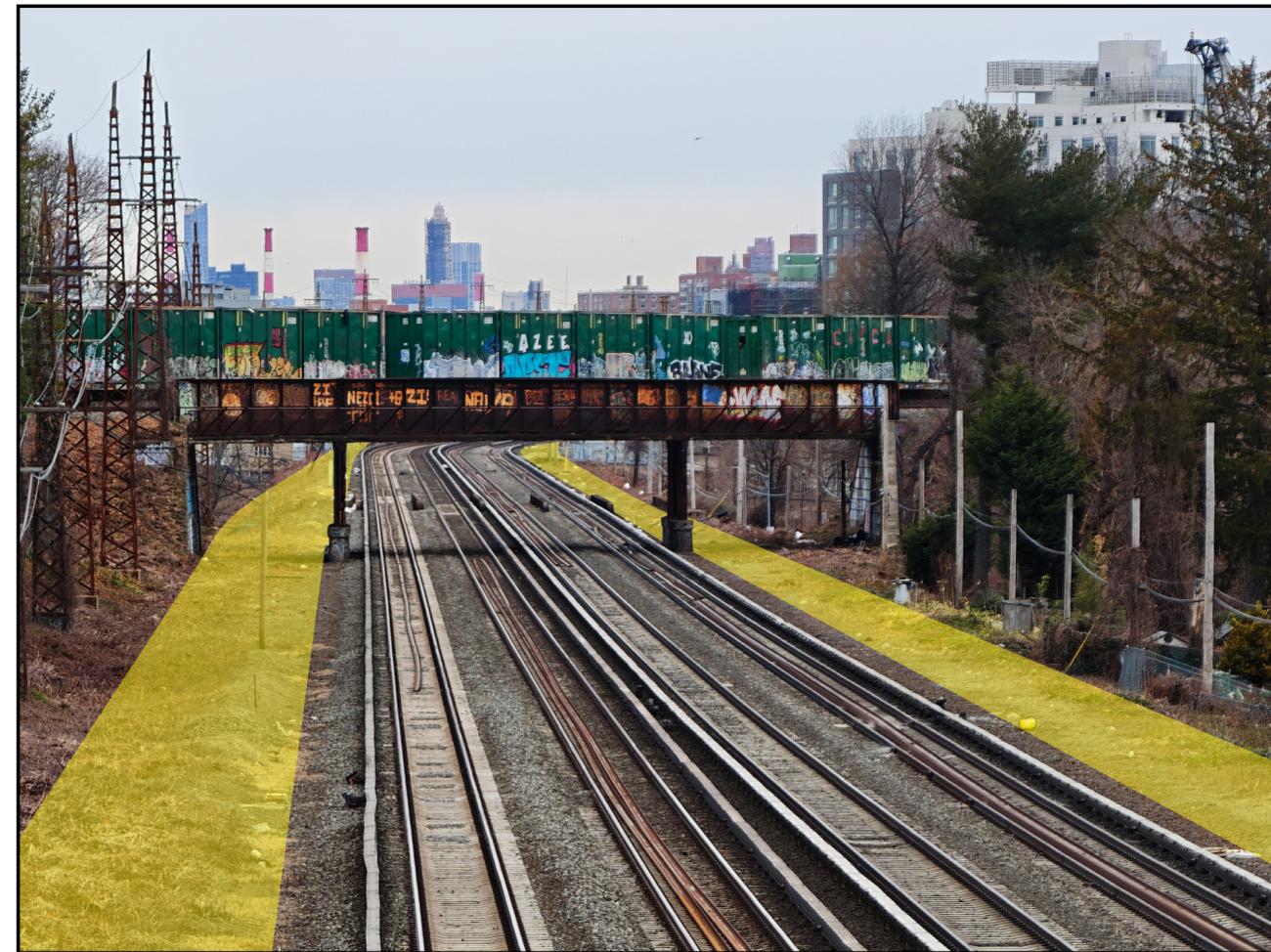
- Serve neighborhoods w/ high car ownership
- New stop at Queens College
- Relieves crowding on the No. 7 and Queens Blvd.
- Potential for 32,000 new homes/apts
  - 10,000 below market
- Cost: \$7.1 billion



*Utilizes 63rd Street tunnel*

*Utilizes 'Super Express' tracks*

**Delivering the LIE subway with lower costs through smart reuse**



The new Second Avenue Subway  
is part of the Metropolitan Transportation  
Authority's major program of transit  
improvements and expansion.

This new line will relieve  
transit congestion and provide improved  
access to Manhattan.

**122**

State of New York  
Malcolm Wilson, Governor  
City of New York  
Abraham D. Beame, Mayor  
New York City Transit Authority  
David L. Yunich, Chairman

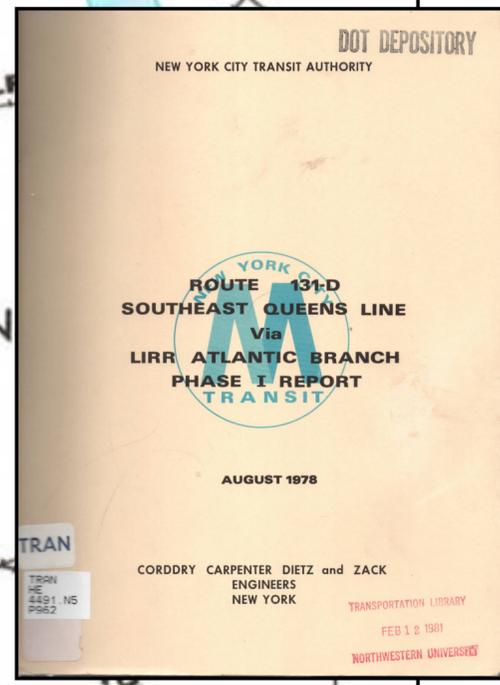
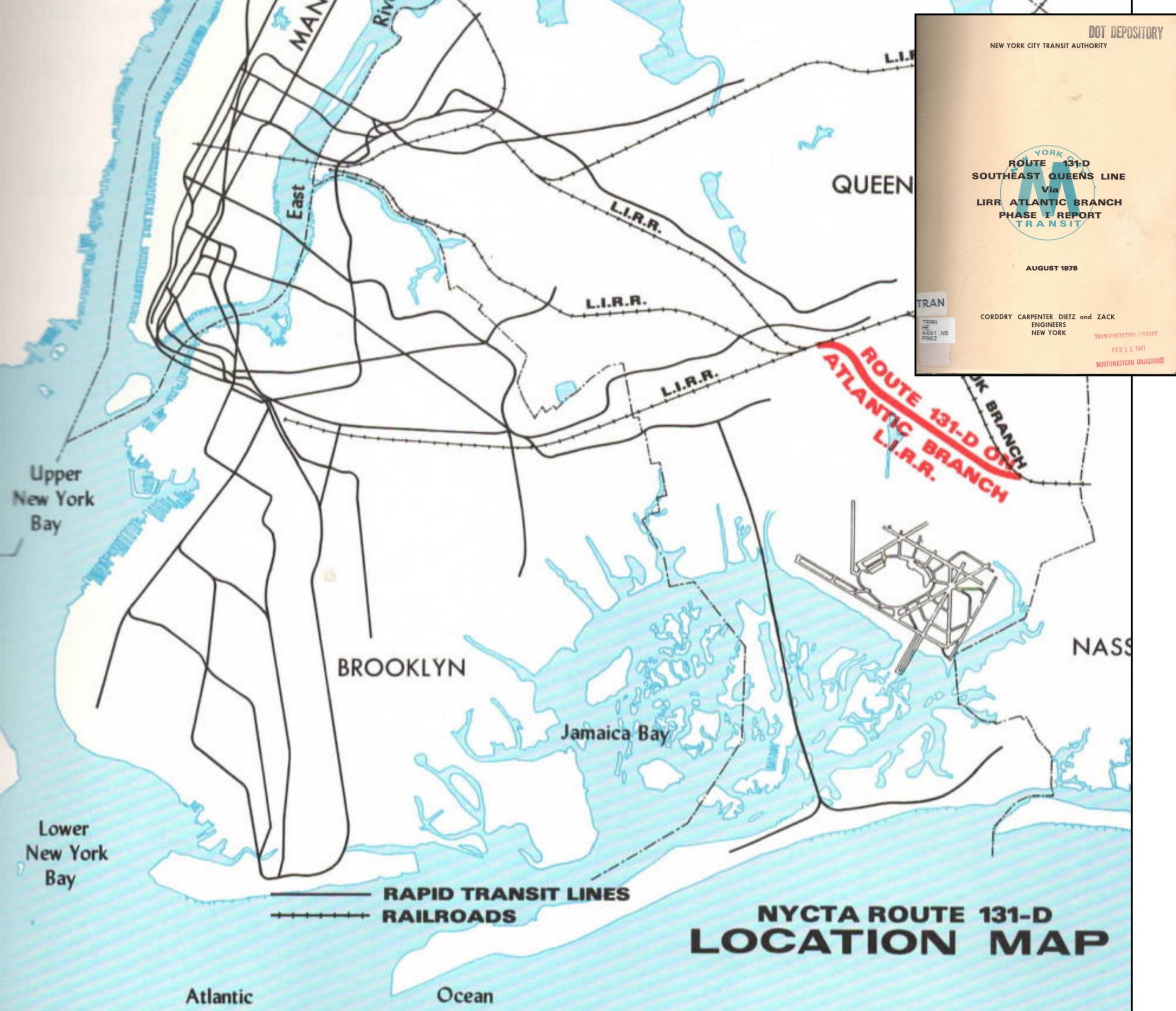
# Complete Second Ave to Lower Manhattan

- Promised in 1930s, 70s, 00s
- Still needed: Second Ave. has high bus ridership (M15)
- Would unlock potentially 20,000 new apartments
  - 5,000 below market
- Cost: \$9.3 billion
  - Lower than current estimates

# Saving billions by linking SAS to Nassau St. line

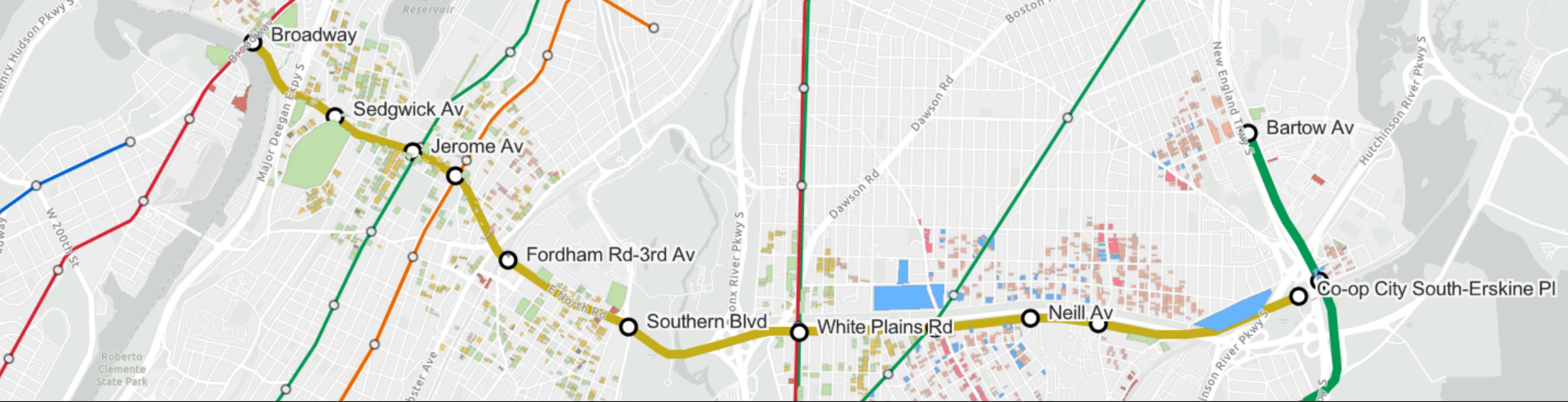


- We borrow from SAS P2 playbook to cut costs:
  - Reuses Chinatown tunnel
  - Links SAS to the Nassau St. line south of Chatham Sq.
  - Avoids two deep stations
- Benefits:
  - SAS gets Fulton St transfers
  - Brooklyn via Montague Tube
  - Chambers St. transformed into full and proper terminal for J/Z



# Innovative E Line extension to Laurelton

- Converts underutilized LIRR branch to subway
- 46,000 bus riders on Merrick/Guy Brewer
- Boosts E line with a new terminal and yard
- Unlocks 18,000 new homes/apts
- Cost: \$1.7 billion



# Cross Bronx: A rapid rail transit line tackles traffic

- Cross-Bronx buses are heavily used and slow
- Bx12 alone had 40,000 riders daily pre-COVID
- Potential for 36,000 new homes/apartments
- 11,000 below market
- Cost: \$6.4 billion



# Cross Bronx: A rapid, reliable, automated transit line

- Reduces costs:
  - Shorter trains running at very high frequency (2-5min)
  - Reduces station size/costs
- Examples:
  - Montreal: REM
  - Toronto: Ontario Line
  - Paris: Metro Line 14

A photograph of a subway station. In the foreground, a woman with dark hair in a ponytail, wearing a light blue denim jacket, sits on a wooden bench with her back to the camera. To her right, another person is partially visible, wearing a dark jacket with a light-colored quilted hood. In the background, a silver subway train is blurred as it moves past. The station walls are dark with a grid pattern. A blue metal pillar is visible on the left. A sign on the pillar reads "Canal St" and "CANAL STREET UPTOWN & ONE RIGHT TRK LEFT TRK". A red neon sign is visible in the background.

**Transit is the affordability *solution*,  
not the problem.**