

ANIKA TSAPATSARIS CAPSTONE PROJECT I SPRING 2025 MASTER OF SCIENCE IN REAL ESTATE DEVELOPMENT COLUMBIA UNIVERSITY





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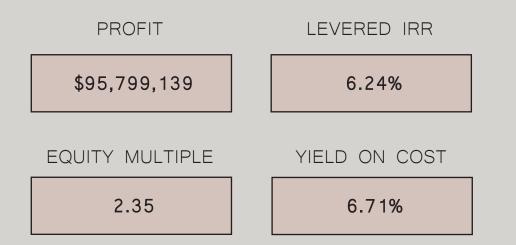
EXECUTIVE SUMMARY

AFFORDABILITY, CARE, AND CULTURE CONNECTED BY TRANSIT.

With an increasingly large and diverse population generating the need for a more sustainable, hybrid, and equitable urban environment, **affordability** and **transit connectivity** in New York City are more important than ever. Prioritizing spatial **locality** and temporal **longevity** as its key long-term goals, **Erzulie Plaza** seeks to pioneer the positive impact of mixed-use developments on existing variegated and disconnected neighborhoods.

Located in East Flatbush, Brooklyn, Erzulie Plaza hybridizes grocery-

anchored affordable housing with a 9,000 SF child care center, 11,000 SF healthcare clinic, and 14,000 SF job training and adult education center. A node within a circuit of uses and users, and integrating a larger infrastructural, residential, and transportational network, the project incorporates the IBX as part of an inclusive, regenerative, and communityled system, extending and inviting users of both the transit platform and the public space adjacent and below to interact with each other and enact the transit-tocommunity connection.



Erzulie Plaza will be financed through a combination of **debt**, **tax credits**, **equity contributions**, and a **deferred developer's fee**, blending public incentives with private debt and equity to maximize affordability while preserving financial feasibility. With a **\$7.6 million** acquisition cost and **\$95.8 million** profit at sale, the project returns a **6.24%** levered IRR, **2.35** equity multiple, and **6.71%** yield on cost, making it a highly productive investment.

VISION AND CONTEXT

Drawing its name from the Haitian spirit associated with womanhood, Erzulie Plaza embraces East Flatbush's Caribbean cultural heritage, inviting residents and workers from both within and outside of the community district to cooperate in the project's housing, retail, and transit-based opportunities.

Supplying reliable access to transit through transitoriented development while reducing rent burden

THE THE TREE TO CHESS

Providing equitable healthcare options for a community that exceeds Brooklyn's average in avoidable child hospitalizations, premature births, and lack of prenatal care; partnership with Caribbean Women's Health Association

VALUE PROPOSITION

Alleviating urban heat island effect through the implementation of smart and sustainable building solutions; partnership with New York City's Urban Forestry Workforce Training and NYC CoolRoofs 08 CREAT Creating jobs in construction and retail; providing entrepreneurial opportunities for small businesses (M/WBE); partnership with Brooklyn TRUE BOUNERLAND Workforce Innovations

The upcoming implementation of the 14mile Interborough Express (IBX) line, a light-rail project aiming to connect underserved areas of Brooklyn and Queens, promises to significantly reduce travel times and enhance accessibility for up to 900,000 residents and 260,000 workers along the corridor, as well as provide growth of **41,000** residents and **15,000** jobs by 2045; however, it is the spaces that will intersect and be built around this new transit line that will determine its success and sustainability. Attracting approximately 115,000 daily weekday riders, the IBX will be an impetus for the development of uses that not only cater to commuters, but also supply residents and businesses in surrounding areas with a sustainable living and working infrastructure that feels simultaneously expansive and local.

Erzulie Plaza represents a mutually wide range of stakeholders in its partnership structure, working in concert with community development corporation (CDC) and land trust **Brooklyn Level Up ("BKLVLUP")** to maximize access and build community through the project. As part of its mission to "build grassroots wealth and power,"



Proposed IBX line.

BKLVLUP prioritizes partnerships with entrepreneurs who "have a personal stake in the health of the block"; when developers' profits respond to rather than obscure the needs of local residents, local activity — which, by virtue of the project's connection with the IBX, becomes regional activity — can flourish. As a CDC, BKLVLUP brings local knowledge, community relationships, and expertise in navigating local regulations and accessing funding sources to the partnership which, when paired with Erzulie Plaza's development team's expertise in real estate financing, the development process, and market demands, allows for mutual benefits that make the project significantly more sustainable and successful. The partnership includes:

1. A **development agreement**, which will formally outline the roles, responsibilities, and benefits of each party, including project scope and timelines;

This is of particular importance given the site's major risk of a potentially shifting IBX delivery timeline.

2. A means by which Erzulie Plaza's development team can gain knowledge on and acquire subsidies, given the CDC's knowledge of locale-specific government funding;

This includes Low-Income Housing Tax Credits (LIHTC) and New Market Tax Credits (NMTC), among others.

3. A focus on affordable housing development, as the allocation for affordable housing subsidies is a highly competitive process and requires the knowledge and experience of local stakeholders; and, Maintaining full affordability is critical for securing the requested subsidies and government support.

4. An emphasis on **social services**, which comprise a majority of the project's non-residential activities, and the provision of programming that invites both local and external users to engage with the project.

This is imperative to ensuring long-term engagement with the space and a steady revenue stream that supports both our financial investors and those investing time in the project — whether they work in the grocery store, child care center, healthcare clinic, or job training center or live in or near the project.



The ground-level light rail platform is designed for seamless pedestrian access, integrating with the surrounding buildings to enhance walkability, promote connectivity, and ensure maximum accessibility. Sheltered waiting areas with seating, lighting, and transit displays improve visibility, while designated pedestrian crosswalks increase safety, making a previously precarious urban setting a conduit for safe urban flow.

IBX x INCREASED CONNECTIVITY

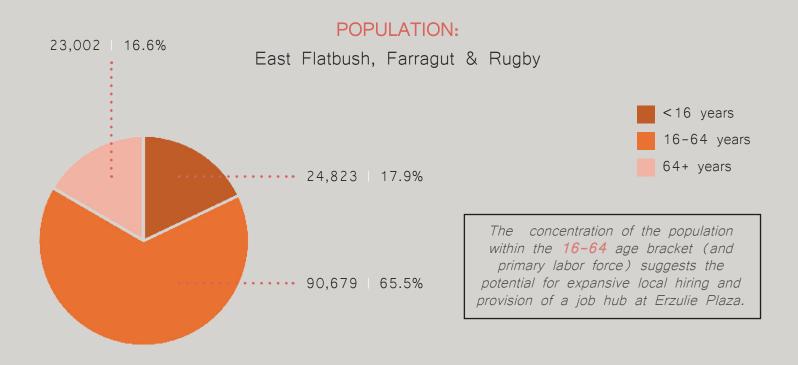
Catalysts

- + Expanding affordable transit options for working-class residents
- + Supporting the existing informal transit economy in the neighborhood
- Improving accessibility for seniors, students, and essential workers traveling across Brooklyn and Queens

Impacts

- Attracting small businesses and retail in and around the transit hub, providing new job opportunities, and activating vacant and underutilized space
- + Encouraging foot traffic, which benefits existing neighborhood businesses
- Incorporating affordable and accessible commercial spaces for local entrepreneurs and customers, ensuring that long-time business owners are not priced out

MARKET ANALYSIS



ACCESS TO OPPORTUNITY:

| ACCESS TO JOBS | |
|------------------------------|--------|
| Total jobs within 30 minutes | 57,050 |

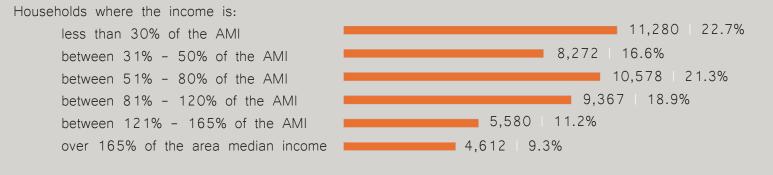
ACCESS TO TRANSIT *

| Residents living within | 1/4 mile of | Select Bus Station or subway station |
|-------------------------|-------------|--------------------------------------|
| Residents living within | 1/4 mile of | ADA accessible subway stations |

| COMMUTE | ACS PUMS, 2008-12 | ACS PUMS, 2017-21 |
|--|----------------------|-------------------|
| Total workers 16 years and over •••••• | 63,789 | 64,195 |
| Drove or carpooled to work | ••••••17,911 ••••••• | •••••16,888 |

The region has experienced a slight (0.6%) increase in total workers and a decrease (5.7%) in individuals who drove or carpooled to work over the last decade, suggesting a potential augmented demand for additional and improved commuter infrastructure in the area in tandem with the development of the IBX. This is particularly important to consider when anticipating the influx of new jobs and employee draw that Erzulie Plaza will create, as well as the added population that will be commuting through the project on their way to other jobs. Erzulie Plaza also enhances current access to transit conditions by providing a new transit node and safe transportation hub in a previously poorly-connected and hazardous area.

HOUSEHOLD ECONOMIC SECURITY:



Approximately 20% of Erzulie Plaza's 150 total residential units are within the 40% AMI band, 20% are within the 60% AMI band, and 60% are within the 80% AMI band, catering to the above household economic demographics.

LABOR FORCE:

73.4% of the region's population aged 16 to 64 years old are in the labor force.

The civilian employed population aged 16 to 64 years primarily falls into the following occupations:

| Service jobs | 21,643 34.5% |
|--|----------------|
| Sales or office jobs | 14,349 22.9% |
| Production, transportation, or material moving jobs | 5,695 9.1% |
| Management, business, science, or arts jobs | 16,120 25.7% |
| Natural resources, construction, or maintenance jobs | 4,849 7.7% |
| | • |

Management, science, business, and arts jobs increased by 20.7% from the previous census recording whereas sales and office jobs decreased by 13.7%, indicating a favorable environment for Erzulie Plaza's provision of jobs at its healthcare center and retail facilities.

The submarket also experienced a notable **38.5%** decrease in manufacturing activity and a **35.8%** increase in wholesale trade activity, suggesting that:

1. The rezoning of the site from M1-1 to R7-D is appropriate and favorable, and

2. The project's plethora of retail spaces can benefit from wholesale trade and other business-to-business (B2B) activity.

* IBX MTA Transit Connections:

Subway: Up to 17 subway lines (N/R/D/B/Q/2/5/L/3/J/Z/A/C/M/7/E/F) Bus: 51 current bus routes Long Island Rail Road: Connection at Atlantic Ave/East New York Station

SENSITIVITIES

OPERATING COSTS

Operating costs are important to sensitize given the project's mixed use and potentially variable timeline. This timeline will both inform and be informed by vacancy rates, which are particularly critical to consider in the case that the IBX delivery timeline changes and influences the integration of the project's mixed uses.

| Rate | | Commercial Vacancy Rate | | | | |
|------------|------|-------------------------|--------------|--------------|--------------|--------------|
| | | 3.0% | 4.0% | 5.0% | 6.0% | 7.0% |
| Vacancy | 7.0% | \$ 3,127,414 | \$ 3,123,900 | \$ 3,120,386 | \$3,116,871 | \$ 3,113,357 |
| /aca | 6.0% | \$ 3,130,303 | \$3,126,789 | \$ 3,123,274 | \$ 3,119,760 | \$ 3,116,246 |
| | 5.0% | \$ 3,133,192 | \$ 3,129,677 | \$ 3,126,163 | \$ 3,122,649 | \$ 3,119,135 |
| ntia | 4.0% | \$ 3,136,080 | \$3,132,566 | \$ 3,129,052 | \$ 3,125,537 | \$ 3,122,023 |
| esidential | 3.0% | \$ 3,138,969 | \$ 3,135,455 | \$3,131,940 | \$3,128,426 | \$ 3,124,912 |

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CAPITALIZED VALUE

Rapidly changing market dynamics will influence assumptions driving the project's capitalized value, as well as its potential risks and returns.

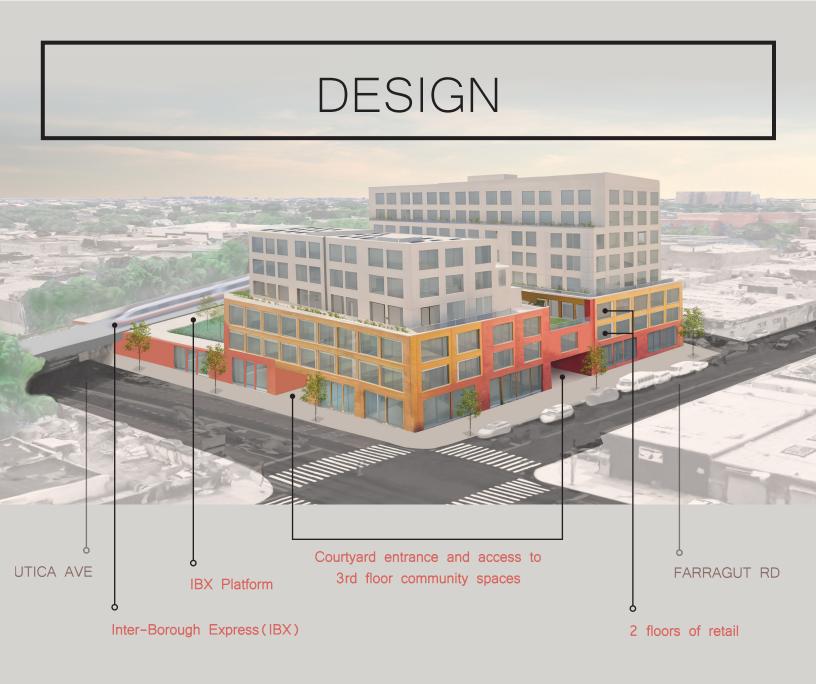
| Ð | | | Reside | ential Cap Rate | | |
|--------|------|---------------|---------------|-----------------|---------------|---------------|
| Rate | | 4.0% | 4.5% | 5.0% | 5.5% | 6.0% |
| ap | 7.4% | \$155,390,614 | \$150,155,912 | \$145,262,403 | \$140,677,782 | \$136,373,696 |
| C - | 6.8% | \$163,018,524 | \$157,266,791 | \$151,907,099 | \$146,900,686 | \$142,213,738 |
| cial | 6.2% | \$171,433,980 | \$165,084,644 | \$159,188,827 | \$153,699,613 | \$148,576,344 |
| ner | 5.6% | \$180,765,588 | \$173,720,419 | \$167,203,809 | \$161,158,424 | \$155,534,937 |
| Ш | 5.0% | \$191,171,564 | \$183,309,562 | \$176,068,672 | \$169,378,088 | \$163,177,371 |
| ŏ | | | | | | |

YIELD ON COST

The impact of expense and cap rate assumptions are particularly important in assessing the project's potential profitability and the feasibility of the underwritten project metrics.

| | 1.0% | 1.5% | 2.0% | 2.5% | 3.0% |
|-------|-------------------------|--|---|---|--|
| 6.75% | \$90,693,460 | \$85,881,917 | \$81,070,374 | \$76,258,831 | \$71,447,288 |
| 6.25% | \$96,660,593 | \$90,565,596 | \$84,470,598 | \$78,439,592 | \$73,421,514 |
| 5.75% | \$108,577,447 | \$102,146,352 | \$95,715,256 | \$89,284,160 | \$82,853,064 |
| 5.25% | \$116,341,259 | \$110,792,094 | \$105,242,930 | \$99,693,765 | \$94,144,601 |
| 4.75% | \$120,920,903 | \$115,056,845 | \$109,192,788 | \$103,328,730 | \$97,464,672 |
| | 6.25% 5.75% 5.25% | 6.75%\$90,693,4606.25%\$96,660,5935.75%\$108,577,4475.25%\$116,341,259 | 1.0% 1.5% 6.75% \$90,693,460 \$85,881,917 6.25% \$96,660,593 \$90,565,596 5.75% \$108,577,447 \$102,146,352 5.25% \$116,341,259 \$110,792,094 | 1.0% 1.5% 2.0% 6.75% \$90,693,460 \$85,881,917 \$81,070,374 6.25% \$96,660,593 \$90,565,596 \$84,470,598 5.75% \$108,577,447 \$102,146,352 \$95,715,256 5.25% \$116,341,259 \$110,792,094 \$105,242,930 | 1.0% 1.5% 2.0% 2.5% 6.75% \$90,693,460 \$85,881,917 \$81,070,374 \$76,258,831 6.25% \$96,660,593 \$90,565,596 \$84,470,598 \$78,439,592 5.75% \$108,577,447 \$102,146,352 \$95,715,256 \$89,284,160 5.25% \$116,341,259 \$110,792,094 \$105,242,930 \$99,693,765 |

Expense Escalator

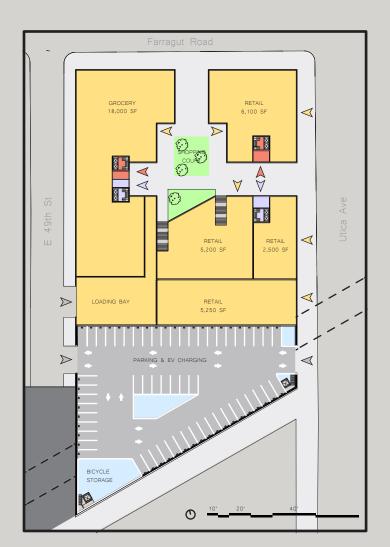


VERTICAL CONNECTIVITY x PUBLIC ACCESS

The project's program is informed by two major forces on the site: **locality**, which drives the presence of neighborhood-led community spaces, and **mobility**, which encourages non-local users to engage with the space via its integration with the IBX. The site is positioned to serve both Utica Avenue and Farragut Road, two high-traffic streets with dense pedestrian activity.

Two floors of **retail** line Utica Avenue and Farragut Road, with ground-level entrances on both streets to enhance pedestrian permeability and flow to the central connected courtyard, terrace, and IBX platform. The third floor is designated for **community space**, atop which sit four floors of **affordable residential** units. With a dozen IBX stations set to open around Brooklyn, Erzulie Plaza will serve as a model for future transit-oriented development projects.

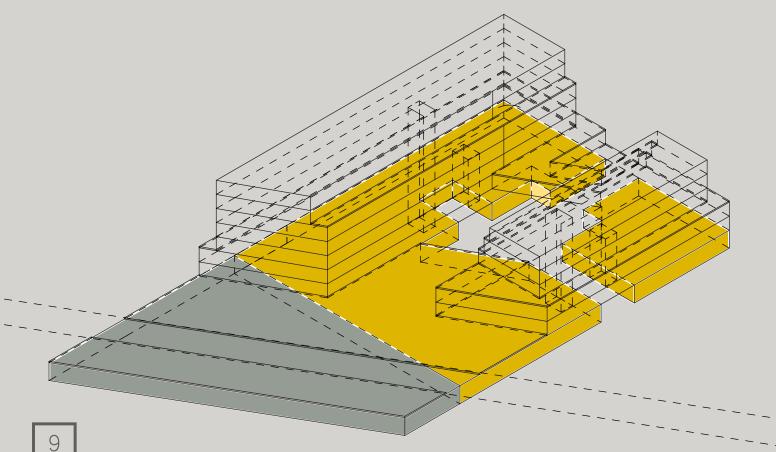


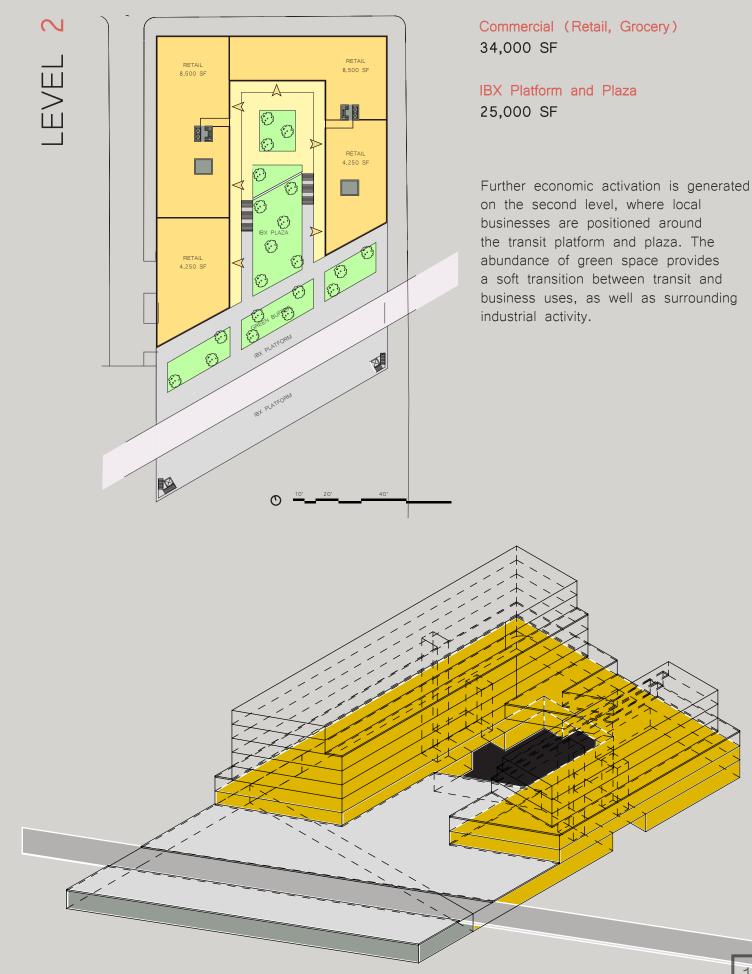


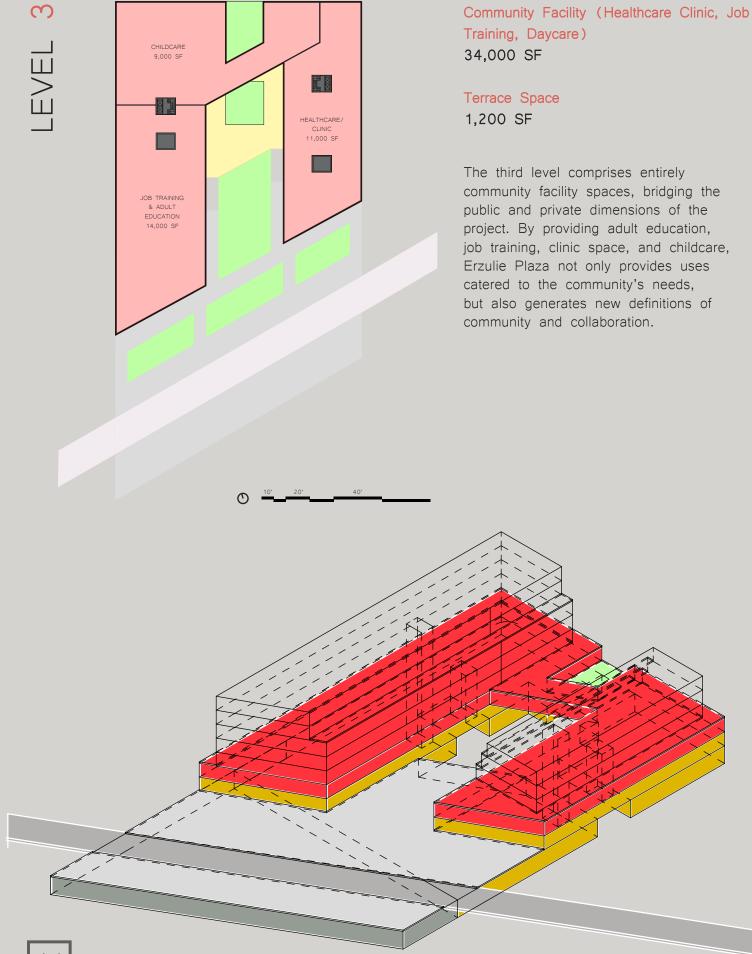
Commercial (Retail, Grocery) 38,000 SF

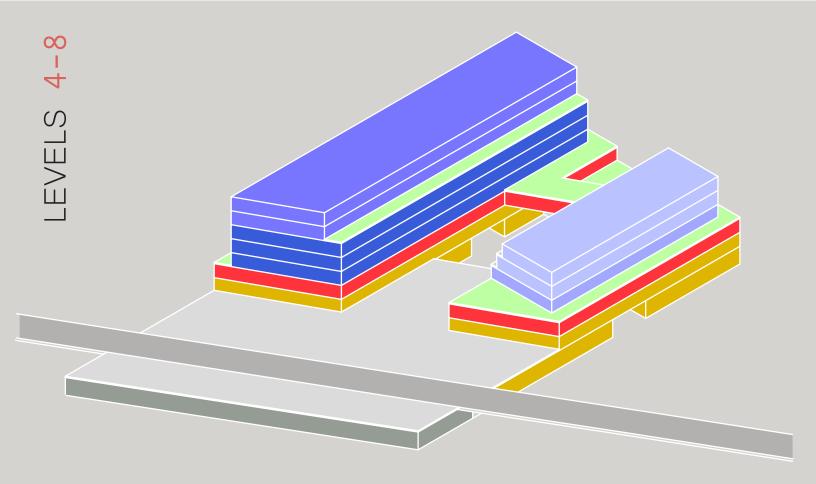
Garage (Vehicle Parking, Bicycle Storage, and EV Charging) 28,000 SF

The ground level hosts primarily commercial grocery and retail activity, with an emphasis on local businesses. Vehicle parking, bicycle storage, and EV charging stations are provided underneath the IBX platform, expanding the transit hub's reach to accommodate a broader last-mile transportation system. Due to its width and proximity to industrial warehouses, East 49th street hosts the loading zone and parking access. The building's ground-level openings invite passersby into the plaza and shopping court, connecting the commercial ground plane to the IBX transit platform above.









Residential (Studio to 3-Bed Units, 30% to 80% AMI) 96,000 SF

Terrace Space 13,000 SF

RENTAL ASSUMPTIONS

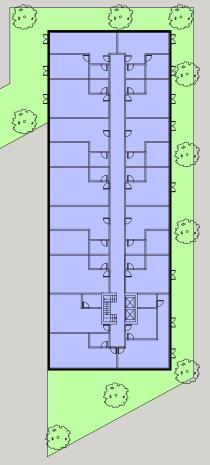
| | 40% AMI | 60% AMI | 80% AMI |
|--------|---------|---------|---------|
| STUDIO | \$815 | \$1,630 | \$2,174 |
| 1 BED | \$1,165 | \$1,747 | \$2,330 |
| 2 BED | \$1,398 | \$2,097 | \$2,986 |
| 3 BED | \$1,615 | \$2,422 | \$3,230 |

LEVELS 4-8

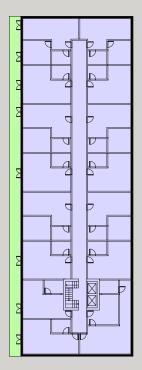
The fourth level and above are reserved for high-quality, 100% affordable housing, a significant community need. Double-loaded corridors and ample terrace space allow for breathable units that benefit from natural light and air.

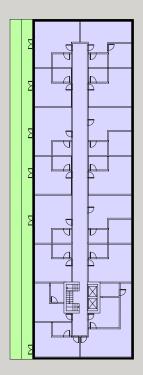






Lever J







16'

4'

 \bigcirc

8'

The rezoning of the site from M1-1 to R7-D permits a significant increase in buildable area, allowing for a total of 230,600 SF — only 8 SF under the zoned limit.

Activating both the immediate site and the neighborhood around it, Erzulie Plaza aesthetically and programatically reflects the character of the community. Simultaneously supporting current community goals and ancitipating the future IBX line and related transportation needs, the project facilitates a long-term approach to transit planning and design that is reinforced by diverse living and working communities.

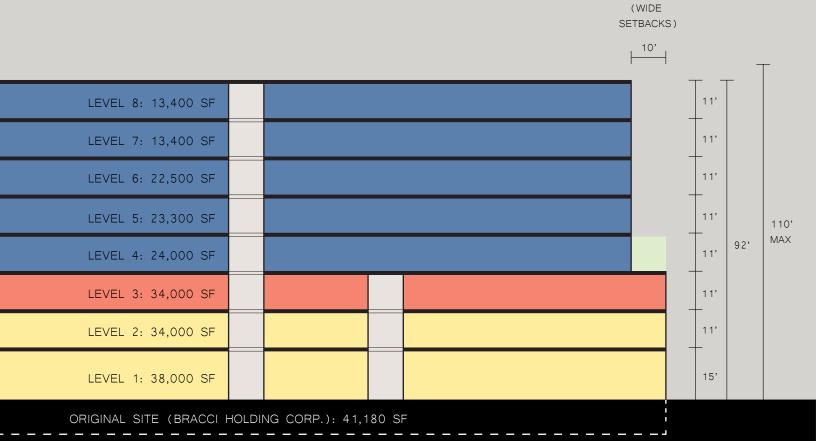
| ROOFTOP US | SES |
|------------|-----|

CITY OWNED LAND: 20,000 SF

| 25,000 SF | 34,000 SF | 59,000 SF | 28,000 SF |
|--------------|-----------|-----------|-----------|
| IBX PLATFORM | GREEN | TOTAL | PARKING |
| & PLAZA | TERRACE | | |

LEVEL 2: 25,000 SF

LEVEL 1: 28,000 SF



PROGRAM USES

| 72,000 SF | 34,000 SF | 96,600 SF | 230,600 SF | 230,608 SF |
|------------|-----------------------|-------------|------------|------------|
| COMMERCIAL | COMMUNITY FACILITY | RESIDENTIAL | TOTAL | ZSF MAX |

CASH FLOW ANALYSIS

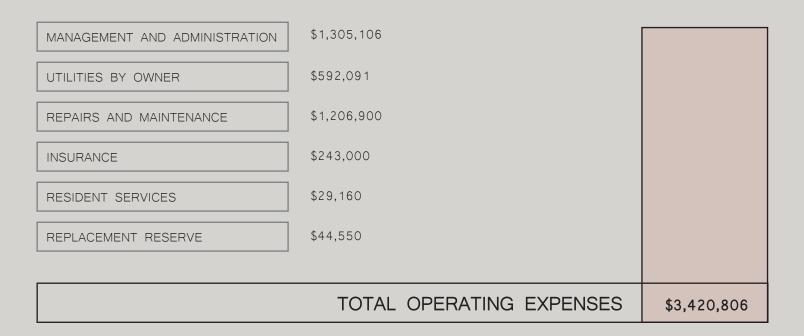
| INCOME | | | | | |
|---------------------------------------|---|--|---|-------------|--|
| | UNIT TYPE | NO. OF UNITS | MONTHLY RENT/UNIT | | |
| 40% AMI | Studio 1 Bedroom 2 Bedroom 3 Bedroom | 5 7 10 9 | \$815 \$1,165 \$1,398 \$1,615 | | |
| 60% AMI | Studio 1 Bedroom 2 Bedroom 3 Bedroom | 5 7 10 9 | \$1,630 \$1,747 \$2,097 \$2,422 | | |
| 80% AMI | Studio 1 Bedroom 2 Bedroom 3 Bedroom | 19 19 29 21 | \$2,174 \$2,330 \$2,986 \$3,230 | | |
| TOTAL RESIDENTIAL INCOME | | | | \$3,466,431 | |
| | TENANT | SF | RENT/SF | | |
| GROCERY | Grocery Local Business 1 Local Business 2 Local Business 3 Local Business 4 | 18,000 6,078 8,375 2,530 5,242 | \$65.00 \$57.00 \$57.00 \$57.00 \$57.00 | | |
| COMMUNITY FACILITY | Local Business 5 Job Training Clinic Daycare | 12,000 10,000 20,000 4,000 | \$55.00 \$40.00 \$40.00 \$30.00 | | |
| | \$4,104,177 | | | | |
| LAUNDRY 150 units * \$17.20 per month | | | | | |
| PARKING | 56 spaces * \$1,000 per month | | | | |
| 17 TOTAL OTHER INCOME | | | | \$787,315 | |

EFFECTIVE GROSS INCOME

\$8,357,924

Incl. vacancy and credit loss.

EXPENSES



STABILIZED YEAR NOI

\$4,937,117

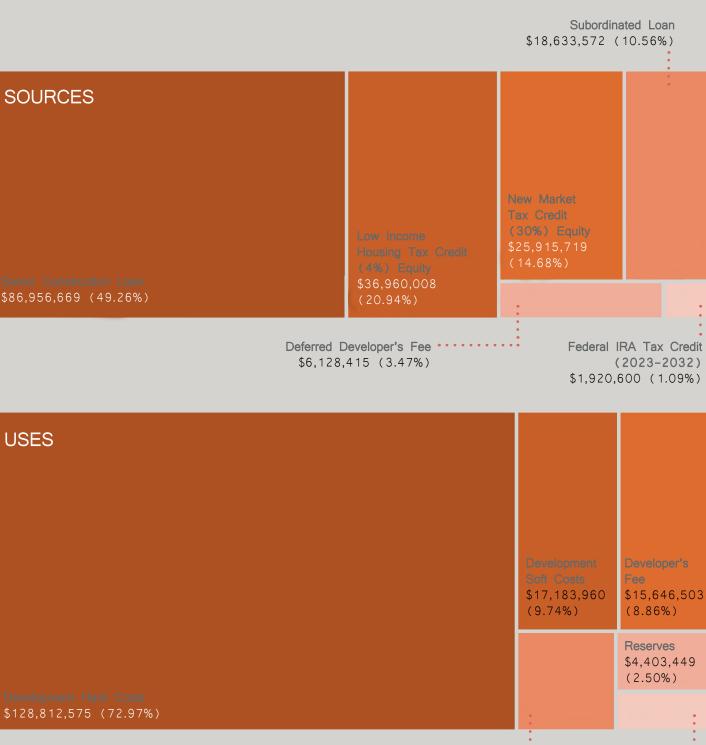


RISKS AND MITIGANTS

Below are four primary risks that the project could encounter — the delivery timing of the IBX, the project's commitment to 100% affordable housing, detrimental peripheral traffic conditions resulting from the implementation of the IBX, and the possibility of a rejected rezoning — as well as propose potential mitigants.

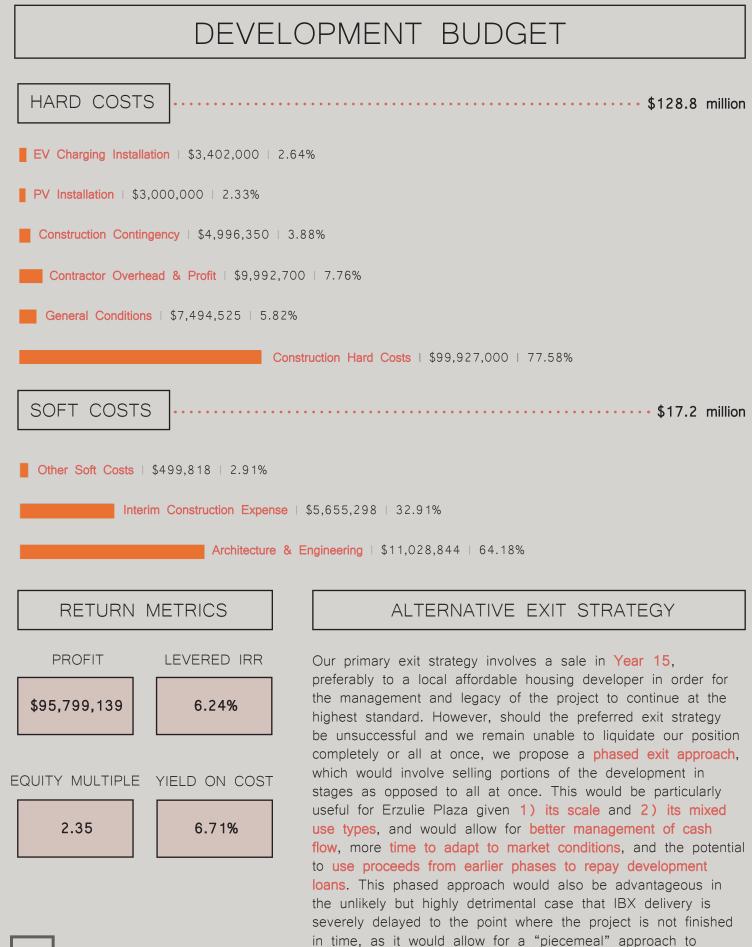
| | IBX DELIVERY | AFFORDABLE HOUSING | TRAFFIC CONDITIONS | REZONING |
|-----------|---|---|---|--|
| RISKS | Depending on when the land is purchased, hefty carrying costs — including mortgage payments, property taxes, insurance, utilities, and maintenance — could be incurred, and progress could be stalled if the IBX is not delivered on time. | Within today's sociopolitical context, the project's commitment to 100% affordable housing could be jeopardized by rising construction costs, the potential for gentrification, and difficulties securing funding and navigating regulatory hurdles. | Increased traffic congestion due to a higher commuter volume to and from the IBX could create potentially hazardous street conditions and vehicle flow, which would be exacerbated by both an influx of drivers using the space around the station as a "Park and Ride" and the need for dedicated transit lanes. | Despite clear demographic- and industry-related markers signaling the phaseout of manufacturing activity in East Flatbush, rezoning the district from M1-1 to R7-D could present community resistance, lengthy approval processes, and market saturation if too many new developments enter the market simultaneously. |
| MITIGANTS | The project might consider a phased approach which both aligns with the confirmed plans of the IBX and anticipates its tentative developments. With a forecasted delivery in 2028, and using 2028 to 2030 as an ambitious-to- conservative range, cost assumptions can be made that consider both ends of the time spectrum. | It will be imperative that the project strike a balance between honoring its commitment to affordability and anticipating areas in which this commitment may threaten its social and economic success. | The project will carefully assess the open space and parking conditions surrounding the site, especially given that despite being a primarily car-centric neighborhood (with almost all residents owning and depending on one for mobility), East Flatbush has a lack of adequate parking. | To identify potential obstacles and ensure transparency, the development team will collaborate with local authorities early in the process, proactively addressing community concerns through open communication and showcasing long-term benefits, as well as calculatedly planning to minimize potential impacts on existing infrastructure and transportation systems. |

INVESTMENT STRATEGY



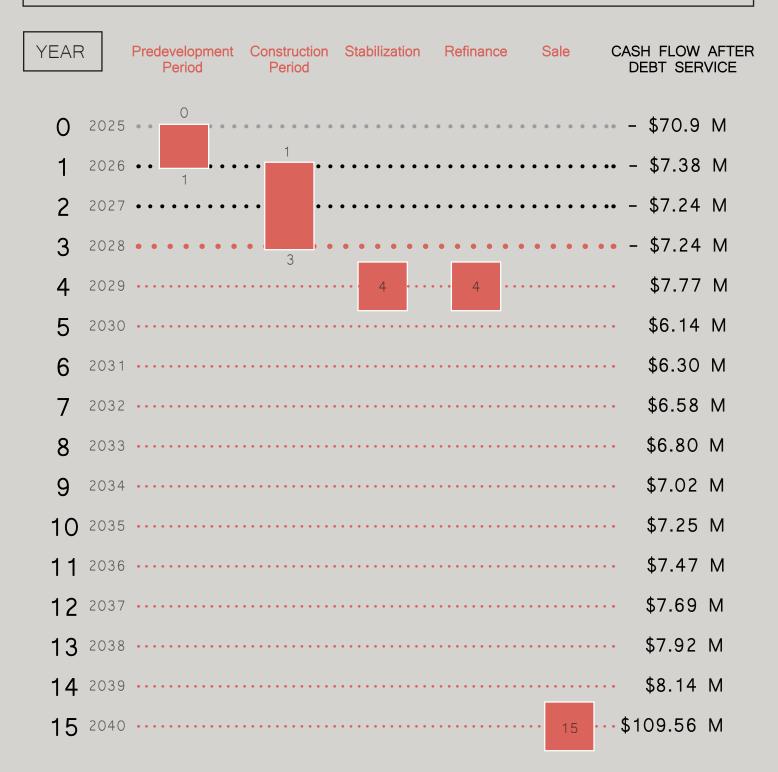
\$7,562,707 (4.28%)

Acquisition Cost Financing Fees & Expense \$2,905,789 (1.64%)



phasing out that would not be too financially damaging.

DEVELOPMENT TIMELINE AND CASH FLOW



••••• Commencement of formal environmental review process for the IBX

- • • IBX design phase
- • • Anticipated IBX and project delivery

PARTNERSHIP AND IMPACT

In partnership with Brooklyn Level Up, Erzulie Plaza will fortify the relationship between spaces for living, working, and commuting to transform the urban dynamic in East Flatbush and offer residents, workers, and visitors a well-connected and diverse hub.



Catalyzing positive change in its immediate and extended surroundings, Erzulie Plaza offers a model for urban development: Understanding both the responsibilities and challenges Erzulie Plaza might face as a result of its integration with a mass-transit network, the project strikes a balance between **conceiving** of novel design strategies and **conserving** the existing systems in place in the neighborhood. From the immediate provision of jobs and a local community infrastructure to the long-term — and geographically-expansive — benefits of a mass transit-oriented development, Erzulie Plaza **celebrates diversity, promotes sustainability,** and **creates lasting value and a legacy** for the East Flatbush community and beyond.





