



SUSTAINABLE COMMUNITIES IN THE BRONX:

LEVERAGING REGIONAL RAIL FOR ACCESS, GROWTH & OPPORTUNITY





NEW YORK & CONNECTICUT SUSTAINABLE COMMUNITIES

This study was funded through a U.S. Department of housing and Urban Development (HUD) Sustainable Communities Regional Planning Grant to the New York - Connecticut Sustainable Communities Consortium

NYCPLANNING
DEPARTMENT OF CITY PLANNING CITY OF NEW YORK

SUSTAINABLE COMMUNITIES IN THE BRONX:

LEVERAGING REGIONAL RAIL FOR ACCESS, GROWTH & OPPORTUNITY

The City of New York
Bill de Blasio, Mayor

The Department of City Planning
Carl Weisbrod, Director

May, 2014



Dear Fellow New Yorkers,

As we strive to improve the lives of millions of New Yorkers by creating more affordable housing as well as good jobs and economic opportunities, this plan for the neighborhoods around the Metro-North Stations in the Bronx offers a blueprint for how these citywide goals can be accomplished on the neighborhood level. Implementing these recommendations would be a major step toward realizing the program set forth in Mayor Bill de Blasio's ambitious Housing New York: A Five Borough, Ten Year Plan.

The NYC Department of City Planning is pleased to share Sustainable Communities in the Bronx: Leveraging Regional Rail for Access Growth and Opportunity, which presents a vision for a more sustainable and equitable Bronx. This report is the culmination of a two-year community engagement process examining the potential for transit oriented development around existing and proposed Metro-North stations in the Bronx. Together with Bronx communities we identified potential for growth around underutilized transit resources and built relationships with local organizations and leaders ready to help realize a new vision for the borough.

After extensive consultation with community members, the Department of City Planning has laid out a framework for growth that will allow the Bronx to achieve residents' expressed goals of new and diverse housing options, more retail services, local jobs, and healthy and safe communities.

Metro-North corridors in the Bronx present a rare opportunity to harness the assets of historically underutilized regional transit. Every station in the study can be better linked to the surrounding community through improvements to the pedestrian environment, signage and station visibility. The areas around existing stations like Melrose and University Heights present opportunities for both housing growth and economic development. The two proposed stations in the study, Parkchester/Van Nest and Morris Park present rare opportunities to plan for new transit assets and completely transform the areas around those stations. There are opportunities to create, strengthen or preserve affordable housing through land use actions or infrastructure enhancements.

As New York City works to achieve our ambitious goals to build or preserve 200,000 units of affordable housing, create good jobs, and generate economic development, physical and social infrastructure enhancements must be coordinated. This plan for the Metro-North stations in the Bronx offers a model for how these multiple objectives can be achieved to improve the quality of life for Bronxites.

Better connecting the Bronx to the region will require sustained commitment of political will and public resources and a close working relationship between disparate government agencies, including Metro-North and communities in the Bronx. The Department of City Planning looks forward to implementing the recommendations in this report. We must work together to do so.

Sincerely,

Carl Weisbrod
Director, Department of City Planning
Chairman, New York City Planning Commission

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Bronx Community Board 1
Bronx Community Board 3
Bronx Community Board 5
Bronx Community Board 6
Bronx Community Board 7
Bronx Community Board 9
Bronx Community Board 11

Albert Einstein College of Medicine
Belmont Business Improvement District
Boricua College
Bronx Chamber of Commerce
Bronx Community College
Clay Avenue Historic District
Church of Saint Nicholas Tolentine
Dreamyard Project
Fordham Hill Owners Corporation
Fordham Road Business Improvement District
Fordham University
Friends of University Woods Park
Harlem River Working Group
Hutchinson Metro Center
James J. Peters VA Medical Center
Monroe College
Montefiore Medical Center
Morris Park Alliance

Morris Park Community Association
Morrisania Air Rights Resident Association
New York Botanical Gardens
Northeast Bronx Association
Nos Quedamos
New York University Schack School of Real Estate
Parkchester Preservation Management
Phipps Houses
Presbyterian Senior Services
Roberto Clemente State Park
Saint Raymond's Church
South Bronx Overall Economic Development Corp.
Tremont Business and Community Development Corp.
Van Nest Neighborhood Alliance
Welcome2Melrose.com
Westchester Square Business Improvement District
Wildlife Conservation Society - Bronx Zoo
Womens Housing and Economic Development Corp.
(WHEDco)



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SUSTAINABLE COMMUNITIES

ABOUT THE STUDY

This study was enabled by a regional planning grant under the U.S. Department of Housing and Urban Development (U.S. HUD) Sustainable Communities Initiative. This report examines how communities neighboring Metro-North Stations in the Bronx can use Transit Oriented Development to maximize their relationship with transit assets, thus creating more vibrant, complete and livable communities.

PARTNERSHIP FOR SUSTAINABLE COMMUNITIES

In June 2009, U.S. HUD, together with U.S. Department of Transportation (US DOT) and the Environmental Protection Agency (U.S. EPA), formed the Partnership for Sustainable Communities. The Partnership's mission is to coordinate federal housing, transportation, water, and other infrastructure investments nationwide that will improve access to affordable housing, increase transportation options, and lower transportation costs while protecting the environment.

The foundation of the Sustainable Communities Initiative is defined by **six Livability Principles**:

- 1 Provide more transportation choices
- 2 Promote equitable, affordable housing
- 3 Enhance economic competitiveness
- 4 Support existing communities
- 5 Coordinate policies and leverage investment
- 6 Value communities and neighborhoods

The New York-Connecticut Sustainable Communities Consortium, an unprecedented, bi-state collaboration of 17 cities, counties and regional planning organizations, was formed in June 2011 through funding provided under the Sustainable Communities Regional Planning Grant Program. The NY-CT Consortium launched a series of local and regional planning initiatives, geographically aligned by the region's robust commuter rail network, to expand housing and transportation options and foster healthy, safe, and walkable neighborhoods throughout the region.

New York City received funding for **three initiatives** under the NY-CT Consortium Sustainable Communities work program:

- **The Bronx Metro-North Study**, the subject of this report, which examined neighborhoods proximate six existing and two proposed Metro-North Stations to define targeted strategies for land use, transportation and urban design improvements that support transit-oriented development, expanded opportunities for housing, jobs and economic growth, and promote walkable, livable neighborhoods.
- A comprehensive land use and sustainability study of **East New York**, Brooklyn that capitalizes on the area's rich transit access by identifying opportunities for new mixed-income housing, improved access to job centers, and a host of sustainability measures that will improve environmental quality and energy efficiency and enhance the quality of life for neighborhood residents.



FIGURE 1 | New York-Connecticut Sustainable Communities Consortium, a bi-state collaboration of 17 cities, counties and regional planning organizations, formed in June 2011 through funding provided under the Sustainable Communities regional grant program.

- **Citywide climate resilience studies** resulting in reports, technical analysis and policy recommendations that informed “A Stronger, More Resilient New York” (June 2013), New York City’s comprehensive plan with actionable recommendations both for rebuilding communities impacted by Hurricane Sandy and increasing resilience of infrastructure and buildings citywide.

Two reports produced by NYC DCP under the Sustainable Communities grant include:

“Urban Adaptive Waterfront Strategies:” a systematic assessment of the coastal flood hazards that face New York City, a thorough survey of coastal protection and adaptation strategies that may be suitable for different shoreline and neighborhood types, and a framework for evaluating coastal protection alternatives.

“Designing For Flood Risk:” key principles to guide design of new buildings in flood zones within high density urban environments to promote construction that can not only withstand coastal flood events, but also support the vibrancy of the urban public realm.



SUSTAINABLE COMMUNITIES

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY



INTRODUCTION

In the fall of 2011, the Bronx Office of the Department of City Planning (DCP) initiated the Sustainable Communities Metro-North Corridor Transit-Oriented Development Study. The Bronx is currently growing at a rate unseen since the 1940s and is projected to grow by 14% by 2040, the fastest of any borough. This study makes recommendations that will foster sustainable growth in the borough by expanding transit-oriented development opportunities to create housing affordable at a range of incomes, improve job access for residents, and grow the overall economy of the Bronx, strengthening its position within the city and region. Eight study areas surrounding existing and planned Metro-North rail stations were selected for evaluation to determine strategic land use, transportation, and pedestrian realm actions to accomplish these objectives.

To achieve its goals, DCP undertook an extensive community outreach process focused on education, visioning, and implementation. Because the project study area was geographically dispersed over a large portion of the Bronx, DCP developed an array of educational tools such as graphics depicting the elements of successful neighborhood streets and the potential relationships between land use and TOD. These general tools as well as more targeted site-specific information were used to engage stakeholders within communities for each of the station study areas. They provided a common language to help facilitate discussion of objectives and development of strategies. As part of this process, DCP held

more than 40 community/stakeholder meetings in a variety of formats. DCP's extensive site-specific analyses combined with input gathered through partners and general outreach provided the groundwork for recommendations around each station area.

This study identifies transit-oriented development (TOD) strategies and recommendations that will:

- Capitalize on Bronx Metro-North stations by integrating them into Bronx neighborhoods, creating safer streets and expanding access to housing, transportation, and jobs
- Spur investment in lively, sustainable, mixed-use neighborhoods by permitting additional density and land uses with a focus on new mixed-income housing opportunities and a broad range of retail and neighborhood services
- Connect both Bronx residents to local and regional job centers, and regional workforce to Bronx job centers
- Improve station visibility, pedestrian access, and intermodal connections around selected Bronx Metro-North Stations to support access and ridership



FIGURE 1 | Successful TOD communities in New York City ensure that areas with good transit access can accommodate future growth. This type of development is created by allocating the highest and best land uses within close proximity to the station, creating a safe pedestrian environment, and providing a highly integrated multi-modal transit system.

- 1 High density mixed-use development with both employment and affordable living opportunities
- 2 Seamless transition between different modes of transit
- 3 Successful pedestrian streets

STUDY APPROACH & FINDINGS

The six existing and two proposed Bronx Metro-North station areas include:

- Melrose
- University Heights
- Morris Heights
- Tremont
- Williams Bridge
- Fordham
- Morris Park (*proposed*)
- Parkchester (*proposed*)

These station areas were selected based on an evaluation of **four key factors**: (1) potential to accommodate future growth, (2) lack of station visibility, (3) overall accessibility, and (4) opportunity to improve connections between modes of transit.

The Melrose and University Heights Stations were chosen for more detailed study because their surrounding areas have the most potential to accommodate future growth. The planning process for these stations included a comprehensive land use study and a more intensive public outreach process.

The report is divided in **two sections**: (1) Strategies for TOD around commuter rail in the Bronx, and (2) Station Area Studies. The findings are summarized in the following section.

SECTION 1 | STRATEGIES

DCP identified a number of common challenges to successfully integrate Metro-North stations into the complex and distinct fabric of Bronx neighborhoods. In order to address these challenges, DCP developed a set of general strategies applicable to all study areas within the Bronx Metro-North corridor. These strategies, while developed through studying the eight Metro-North station areas, have potential applicability to commuter rail stations locally, regionally, and beyond. The strategies are described in four categories as indicated below:

(1) LAND USE AND ZONING

A framework for addressing outdated zoning, fostering appropriate mixes and densities of uses, and bolstering regional centers that will allow Bronx neighborhoods to better capitalize on transit assets.

(2) WALKABILITY

Best practices to improve safety, street life, and walkability of neighborhood streets that connect Bronx residents with jobs, retail and services, and mass-transit options.

(3) INTERMODAL CONNECTIVITY & COMMUTER RAIL STATIONS

Improvements to create seamless connections between Metro-North and other modes of transit will provide greater accessibility for Bronx residents and local and regional workers, and improve overall ridership.

(4) RAIL-ADJACENT LOTS

Improvements to create seamless connections between Metro-North and other modes of transit will provide greater accessibility for Bronx residents and local and regional workers, and improve overall ridership.

SECTION 2 | STATION AREAS

The study includes individual area studies for each station. It focuses on challenges and opportunities to strengthen these areas through targeted regulatory changes and physical improvements, and it offers for each area a set of recommendations developed in concert with stakeholders.

EXISTING STATIONS

University Heights: “Balancing Access Needs and Development Potential”

The University Heights station sits on the Fordham Road Corridor between an undeveloped portion of the Harlem River Waterfront and the Major Deegan Expressway. The area has the potential for significant housing and retail growth that would open up the waterfront to the community; however, its potential is significantly limited by barriers to access.

Recommendations

- Implement phased access, safety, and pedestrian improvements to the intersection of Fordham Road and the Major Deegan Expressway and surrounding sites
- Develop a comprehensive approach to redevelopment of the waterfront area with zoning that permits a balance of land uses tied to infrastructure improvements
- Strengthen pedestrian amenities along the Fordham Road corridor

Melrose: “Tying it all together”

The Melrose station area played a key role in the storied history of the South Bronx and has been the target of significant and successful public investment. Despite the area’s assets and recent revitalization, the area lacks cohesive urban fabric.

The Melrose station area played a key role in the dynamic history of the South Bronx and has been the focus of significant and successful public investment where more than 3,500 new units of affordable housing have been created in the last fifteen years with significant additional units planned. Despite the area’s assets and recent revitalization, the community lacks a cohesive urban fabric.

Recommendations

- Create a consistent pedestrian environment along the 161st Street corridor
- Create a gateway to the Metro-North station area on 161st Street through phased capital improvements to existing neighborhood amenities
- Adopt a long-term land use strategy that knits together recent investments by providing additional retail opportunity, encouraging additional housing options in special mixed use districts

Morris Heights: “Connecting the Island”

The Morris Heights Metro-North Station and its surrounding features, which include Roberto Clemente



FIGURE 2 | Streetscape exercise at a Melrose community workshop. Community participation was a central part of the planning process for this study, with over forty community meetings held in various formats. The NYC Department of City Planning also lead neighborhood tours to both engage and educate the public on issues of walkability, intermodal connection, land-use, and TOD principles in the Bronx.

State Park, are isolated from the community largely by topographical changes and a major highway. There is an opportunity to increase usage of the park and station, as well as increase access to the Harlem River Waterfront and River Park Towers housing development.

Recommendations

- Enhancements to pedestrian pathways to reconnect amenities to the surrounding community, increase safety, and promote usage of the park and station
- Promote Cedar Avenue as a mixed-used commercial corridor through land use actions
- Create a safe and attractive gateway to the station, park, and waterfront along West Tremont Avenue through coordinated design of pedestrian crossings and pathways, step-street improvements, signage, and lighting

Tremont: “Emerging Commercial Corridor”

The Tremont Metro-North Station is located along the re-emerging East Tremont Avenue commercial corridor. The area was recently rezoned to promote

housing and retail growth; however, gaps in street trees, lighting, and inconsistent pedestrian paths result in a disjointed corridor.

Recommendations

- Implement comprehensive streetscape improvements to East Tremont Avenue in coordination with emergent Business Improvement District to capitalize on the recent 3rd Avenue/ East Tremont Rezoning and support additional mixed-income housing along the corridor
- Streamline connections to mass transit and strengthen access to local employment centers and community and retail amenities

Williams Bridge: “Completing Connections”

The Williams Bridge Metro-North station sits along a busy corridor, has convenient intermodal connections, and is near a major medical facility that is one of the Bronx’s largest employers. A recent rezoning provides opportunity for additional growth and ridership. However, poor visibility and connectivity present challenges to achieving a strong mixed-use retail corridor.



Recommendations

- Complete pedestrian connections from station area to Gun Hill Road and Webster Avenue retail corridors, area employers, and recreational amenities
- Support the goals of the recent rezoning for Webster Avenue as a neighborhood main street

Fordham: “Taking the Next Steps”

The Fordham Station area is home to a number of regional attractions and institutions including Fordham University, the Bronx Zoo, New York Botanical Garden, Little Italy, and one of the busiest retail corridors in the city, Fordham Road. With high ridership today, it has potential to become a stronger regional hub of activity.

Recommendations

- Strengthen pedestrian connections between area attractions, surrounding neighborhoods, and transit assets
- Improve coordination between area attractions, institutions, and retail corridors
- Adopt land use policy that supports additional growth around transit and retail corridors and facilitates uses such as office, regional retail, and hotels, typical of commercial business districts

PROPOSED STATIONS

MTA Metro-North Railroad has developed an overall concept to provide additional regional rail service by linking its east-of-Hudson service directly to Penn Station. It includes two proposed stations on the West Side of Manhattan, and four new stations in the East Bronx. This study examines two of the proposed Bronx station areas with the greatest potential for long-term transit-oriented growth.

Parkchester/Van Nest: “Overcoming Dividers”

The proposed Parkchester/Van Nest station is located along East Tremont Avenue between the Parkchester planned community and Van Nest neighborhood. The proposed station will help establish a new center for these neighborhoods, but currently it is characterized by inactive uses, difficult crossings, and general lack of pedestrian amenities.

Recommendations

- Re-examine zoning along both sides of East Tremont Avenue to encourage the development of a mixed-use retail corridor and pedestrian activity, and to re-orient the community towards the corridor and proposed station area

- Implement comprehensive streetscape improvements to both sides of East Tremont Avenue which include activating rail adjacent lots and revisiting the street alignment to allow for wider sidewalks and pedestrian safety

Morris Park: “Regional Professional Employment Center”

As the home to a number of large professional institutions and planned development, Morris Park is a regional center for employment and education. The proposed station currently lacks pedestrian infrastructure and commercial uses to support the institutions’ needs. The new station would help bolster the area’s status as a regional employment center and be an asset to the community.

Recommendations

- Re-examine zoning to permit retail and a range of housing options on both sides of the rail line
- Identify long-term improvements to pedestrian and vehicular access to improve circulation
- Explore opportunities to brand the area through increased partnerships between institutions

IMPLEMENTATION

Throughout this study DCP built strong partnerships with stakeholders who are rooted in these communities. These partnerships have expanded opportunities for implementation of recommendations identified in this report, and in some cases, existing efforts have already jump-started action. To realize the full potential of recommended improvements, implementation will require:

- Land use actions and zoning changes with a focus on an appropriate mix of uses and a wide range of affordable housing options
- Prioritization of capital projects to promote safer, more walkable streets and smooth transfer between various modes of transportation
- Continued coordination with city agencies and community stakeholders

Together the application of these strategies will create a more livable Bronx by increasing access to jobs and neighborhood amenities, providing mixed-income housing options for residents, and creating more sustainable communities surrounding Bronx Metro-North stations.



SUSTAINABLE COMMUNITIES

INTRODUCTION



SUSTAINABLE COMMUNITIES

INTRODUCTION



TRANSIT-ORIENTED DEVELOPMENT IN NEW YORK CITY & THE BRONX

With some of the highest densities and most robust transit networks in the western hemisphere, New York City is the apex of what transit-oriented development can achieve. Not only does the vitality of Grand Central Terminal and Penn Station support one of the largest Central Business Districts in the world, these regional transportation nodes anchor an enormous transit shed which extends throughout the tri-state area. While not every neighborhood in New York City is as intimately linked to transit as those in Manhattan, outer borough communities still have good transit access and low levels of vehicle ownership when compared to most other American cities.

Similar to transit access, the scale of development in New York City varies widely. Much of Manhattan, the core of the city, is characterized by high-density development. As one moves outward from the core, into the outer boroughs, density tends to decrease as transit options diminish and distance from core Central Business Districts increase, until neighborhoods are almost suburban in character. Similarly other outer borough neighborhoods characterized by low density residential development tend to be further from mass transit options and are often reliant upon vehicles, as seen in Figure 3. Conversely, outer-borough neighborhoods with higher density were often built because of their proximity to mass transit, especially elevated rail or subway lines. The South Bronx, with convenient mass transit options and proximity to Manhattan, tends to have higher densities than the rest of the borough.

In the Bronx, population growth initially followed a pattern of concentration near the subway lines and elevated rails out of the city center. The Metro-North lines historically did not experience the same population concentration along its rail corridors as the subway, as they predated development and were often located away from residential uses. Both of these trends can be clearly seen in Figure 3. Because of this, Bronx Metro-North stations have typically not been properly integrated into the traditional population centers.

As Figure 2, Population in New York City, 1850-2010 highlights, population in the Bronx has been historically tied to transportation access. The construction of the Subway system brought dramatic growth to the Bronx in the early 20th century, while the highway system in the 1950s coincided with a shrinking population and disinvestment. The Bronx today, however, is rapidly transforming; after decades of decline, investment is growing, crime is at an all time low, the median income is rising, and it is projected to be the fastest growing borough in the City in next twenty five years.¹

FIGURE 1 | (Top) River Avenue at 161st Street circa 1900. Elevated trains were some of the first forms of public transportation, greatly impacting the development and density of New York City. (Bottom) River Avenue today. The Bronx's neighborhoods were particularly shaped by large transportation projects following the 1950s that emphasized ease of access for vehicles.

Source: © The Museum of the City of New York



METRO-NORTH IN THE BRONX

This growing borough requires greater intermodal connectivity and expanded transit access to continue this momentum. Currently the Subway lines, MTA bus routes, and thirteen Metro-North stations provide concentrated access to certain areas in the Bronx. In addition, two new Select Bus Service (SBS) routes, Bx12 and Bx41 streamline access along key Bronx corridors. A comprehensive network that connects these various transit modes within the borough, to the City, and to regional job centers is critical to the development and quality of life in the Bronx. Re-assessing the role of underutilized resources like Metro-North can go a long way toward reconnecting Bronx residents and employees to viable transit assets.

The Metro-North commuter railroad provides service and access to job centers in Manhattan, Upstate New York, and Connecticut at thirteen stations in the Bronx, as seen in Figure 8. Strengthening Metro-North's connections in the Bronx holds considerable promise to help meet current transit and future access needs, to job opportunities within the Borough, the Manhattan Core and to employment centers north and east of the city. Additionally, the Penn Station Access Study currently underway by Metro-North would potentially provide access to the eastern Bronx with service on Amtrak's Hellgate Line

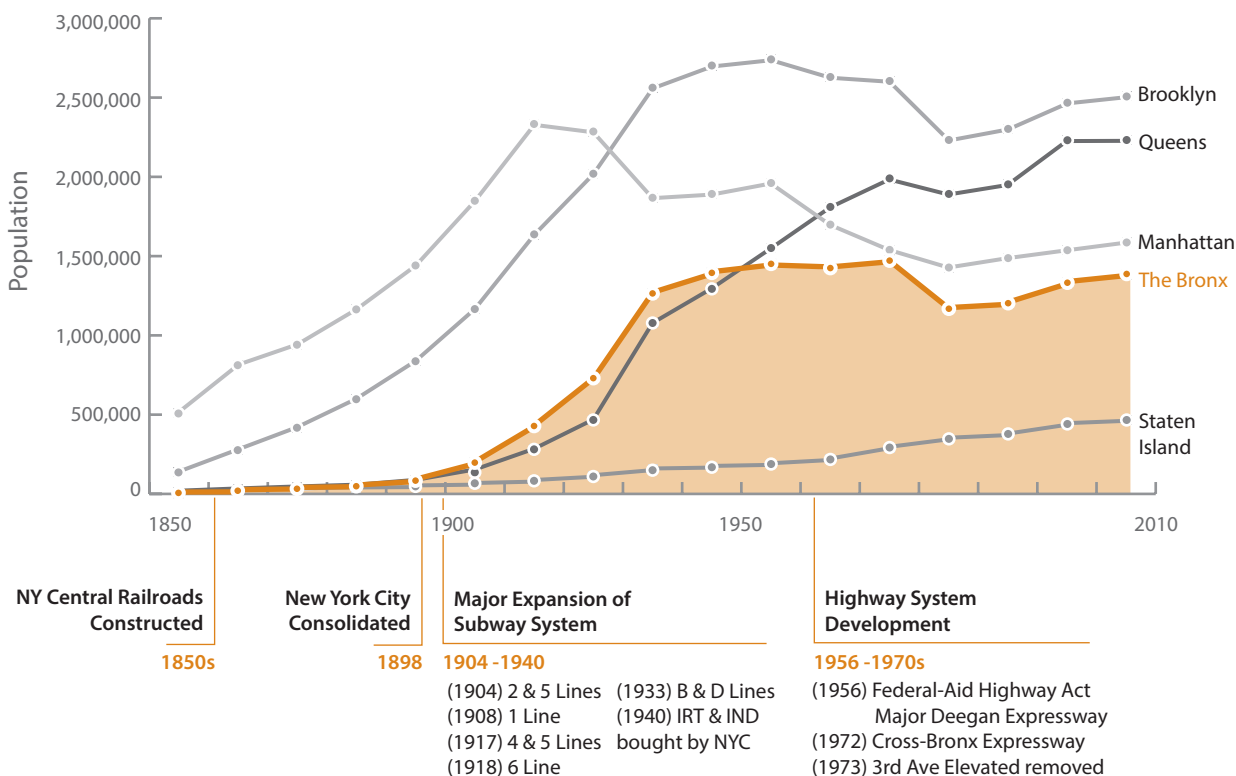


FIGURE 2 | Population of New York City, 1850-2010. The outer boroughs saw explosive growth following the construction of the Subway system, as many left crowded Manhattan in search of better living conditions. The period between the 1950s and 1970s saw a shift to suburban development, followed by an inner-city population decline due to disinvestment, slow economic growth, and a rise in crime. Renewed investment and interest in urban living have led to the current trend of steady population growth.

Note: all Subway lines listed refer to current Subway lines in the Bronx; originally, these were either Interborough Rapid transit Company (IRT) or Independent Subway System (IND) private lines. Sources: US Census, Wikipedia, Population 1790-1960: The World Almanac and Book of Facts. Evelyn, Gonzalez. Bronx: A History. 2004.

POPULATION DENSITY IN THE BRONX

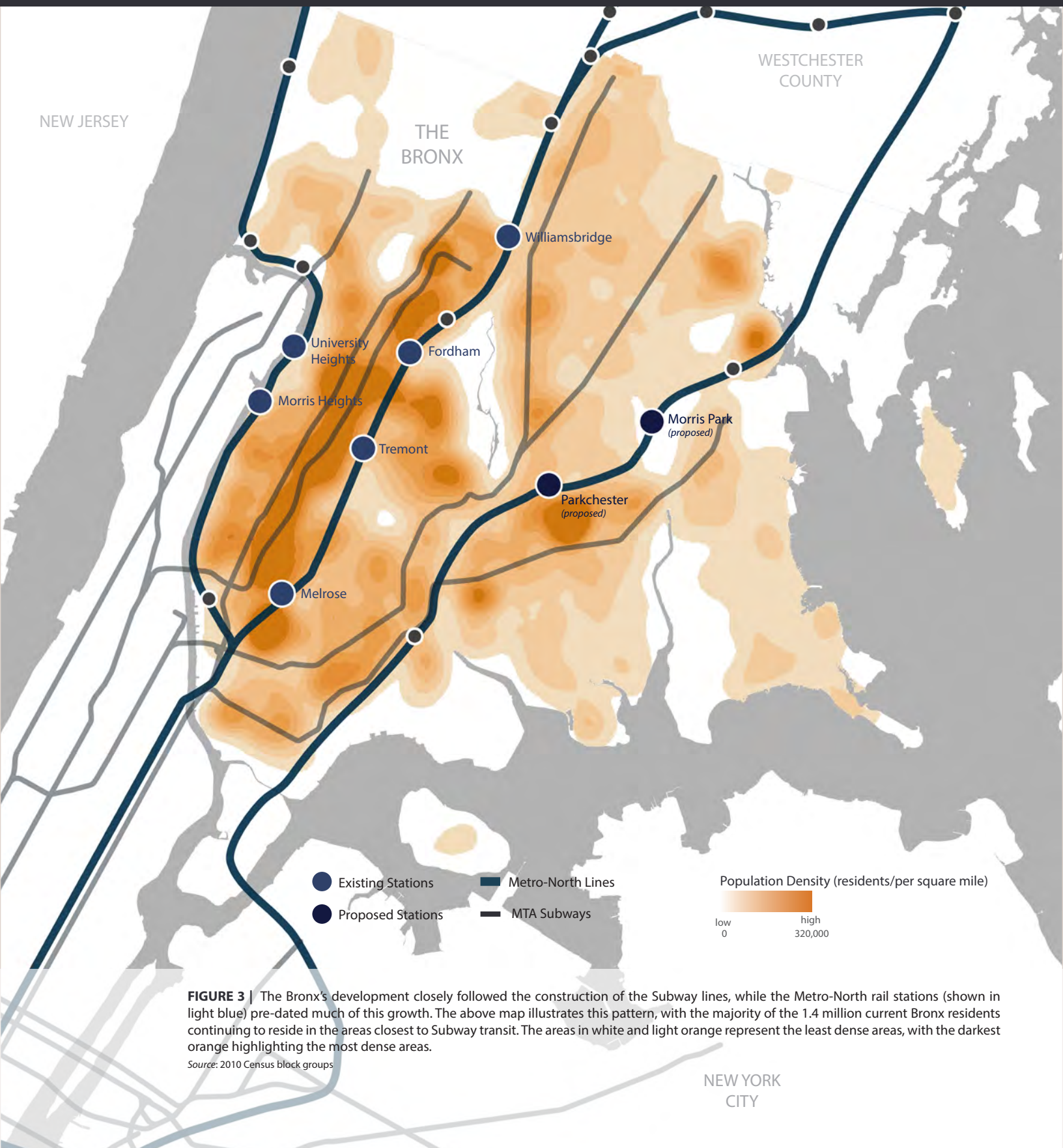


FIGURE 3 | The Bronx's development closely followed the construction of the Subway lines, while the Metro-North rail stations (shown in light blue) pre-dated much of this growth. The above map illustrates this pattern, with the majority of the 1.4 million current Bronx residents continuing to reside in the areas closest to Subway transit. The areas in white and light orange represent the least dense areas, with the darkest orange highlighting the most dense areas.

Source: 2010 Census block groups

which would stop at four new stations in the Bronx. Ridership at Bronx stations has increased 150% since 1990; however, outside of a few select stations, such as Fordham, ridership remains very low at many of the Bronx stations, as shown in Figure 4.

In fact, many of these stations have some of the lowest ridership in the system despite being in some of the densest neighborhoods served by Metro North. This may be a product of many factors: price; service and frequency; difficult intermodal and pedestrian connections; lack of surrounding amenities; and incompatible land uses. Due to these challenges, the existing stations are not designed to meet the needs of urban commuters and are therefore underutilized by Bronx residents

Cost can be a deterring factor for Bronx residents especially for inbound trips where the shorter commutes to Manhattan do not necessarily outweigh paying the higher Metro-North price. Redundan-

cies along inbound routes, such as subway and bus lines into Manhattan, deter Metro-North from lowering costs as Metro-North is not designed to compete with these transit options. Many inbound Metro-North trips also require an additional transfer on a subway or bus to reach a final destination. Outbound rides are priced much more favorably for Bronxites. For example, while a weekday fare traveling inbound from Melrose to Grand Central Terminal costs \$8.25, the outbound cost from Melrose to White Plains is only \$3.50, despite being more than twice as far away.² However, despite price favorability, as transit patterns for these outbound users are typically the reverse of the majority of rush hour commuters into Grand Central Terminal, train service is less frequent. Additionally, outbound ridership is very reliant on the accessibility and connectivity of the station to their final destination, the so called "last mile". Distant office parks which do not provide shuttle service may be inaccessible to transit riders.

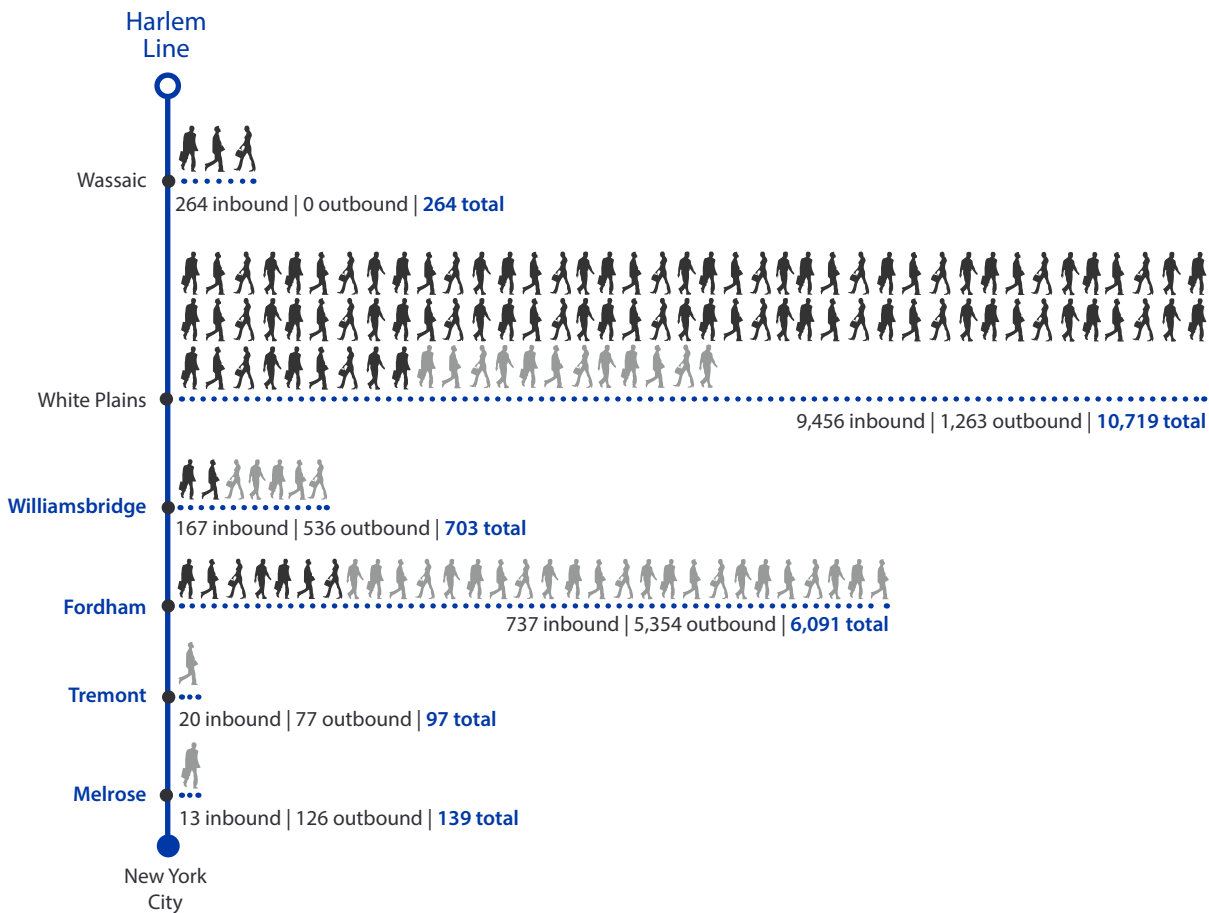


FIGURE 4 | Metro-North station boardings for select stations, per weekday. The six current stations in this study are bolded in color, and (with the Fordham Station as an exception) have some of the lowest ridership rates in the system. (Left) Harlem Line. (Opposite) Hudson Line. Source: MTA, 2011.

Finally, through our community outreach process we also heard that residents around Metro-North stations were unaware of schedule, service or even location of the station. Often this is due to station layout, design and lack of way-finding and integration with surrounding uses. Nonetheless, despite all the current deterrents and low ridership levels, according to Metro-North, the outbound commute from Manhattan and Bronx stations represents the largest rail reverse commute market in the country.³ This figure would undoubtedly rise exponentially if the ridership levels of Fordham could be reproduced in other station areas.

BRONX COMMUTING PATTERNS

Figure 7 depicts where Bronxites travel for employment. In 2011, of the roughly half a million Bronx residents working, almost 40% of them are working in Manhattan, while roughly a quarter remain in the Bronx. Although trips to Manhattan still account for

the majority of the Bronx commute share, trips to the outer boroughs and destinations outside of the city are a substantial and growing share. In fact, the number of Bronx residents commuting to adjacent counties grew at an explosive 38% between 1990-2008.⁴ As of 2011, about 10% of Bronx residents commute to Brooklyn, roughly 8% commute to Westchester, and another 7% commute to Queens for work.

Figure 7 also demonstrates that roughly a quarter million people work in the Bronx. Of this total, almost half are living in the Bronx as well. Nearly 10% of Bronx employees live in Westchester County, which constitutes a greater segment of the number of Bronx employees than those that live in Manhattan, Queens or Brooklyn, respectively.

Similar to much of New York City, Bronx residents rely heavily on public transit to make their commutes, with roughly 65% using public transit daily. However,

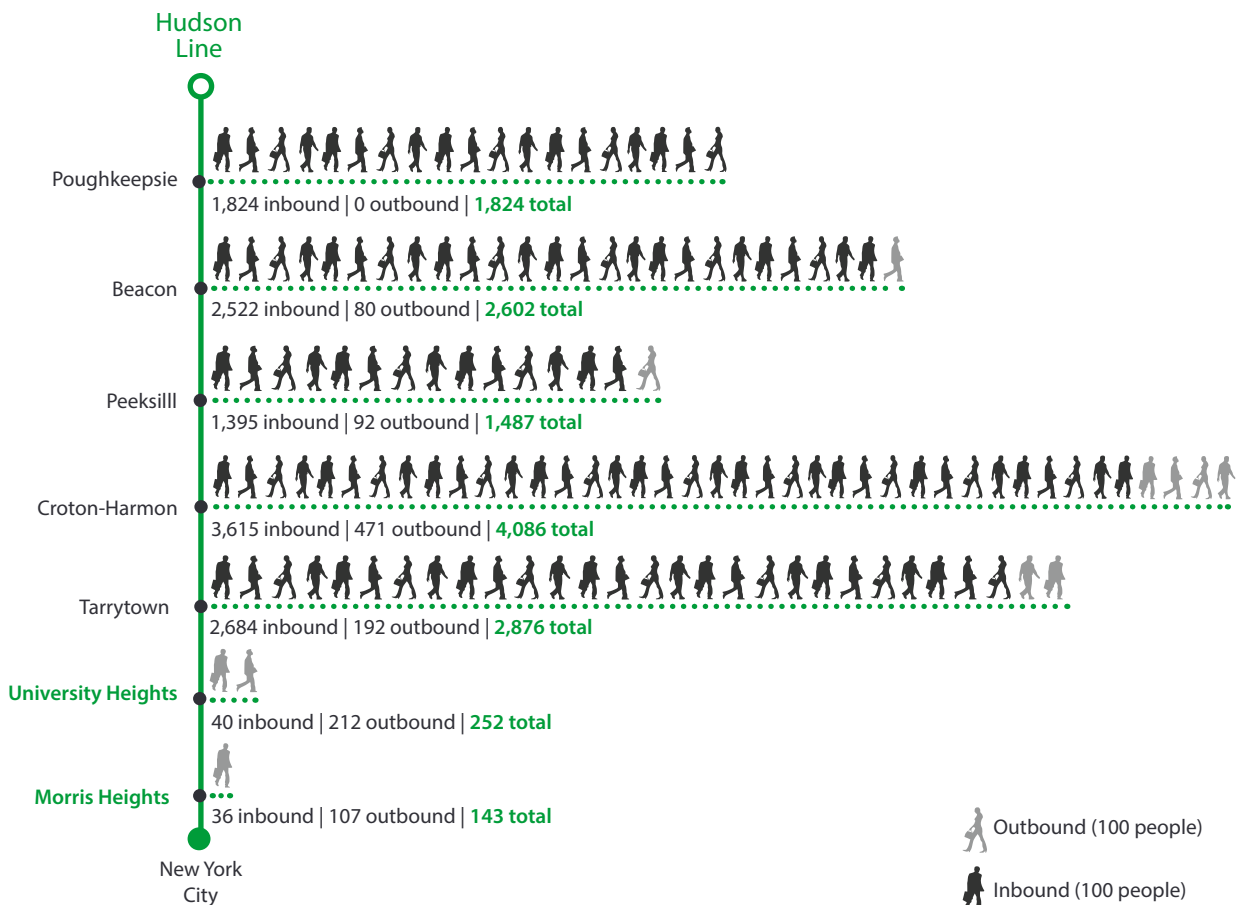




FIGURE 6 | Fordham Metro-North Station on the Harlem Line, one of the busiest stations in the system. Many Bronx residents depend on this public transportation option to commute to and from work.

er, in the Bronx the percentage of transit riders using different transit modes, or the mode split, is different from other boroughs, and varies greatly depending on destination. For example, while inbound trips to Manhattan are made largely through subway, at percentages comparable to other boroughs, Bronx commuters depend on buses more than other city residents, especially commuters who live and work in the Bronx, which was indicated in DCP's 2010 Peripheral Travel Study and evidenced during our outreach process.⁵ Similarly, many commuters traveling from one part of the Bronx to another, or traveling to and from adjacent counties are likely to rely on vehicles for their journey.

Within this group of commuters traveling to Upstate New York and Southern Connecticut for work, most commuters are driving to their destinations, despite the existence of Metro-North.⁶ The same is true of Upstate New Yorkers that are working in the Bronx. While there have been steady increases in Metro-North ridership, specifically in reverse commuters, there still remains a gap between ridership and potential demand. A larger portion of this demand could be captured through Metro-North.

WHY METRO-NORTH

With thirteen existing Metro-North stations and four additional planned, Bronx residents have unique access to growing job markets and amenities in northern suburbs. Like other transit modes, Metro

North plays a critical role in bolstering and sustaining the economic health of the Bronx. Whereas the subway and bus lines make connections largely to other neighborhoods and adjoining boroughs, the Metro-North offers connections to a much larger transit shed, including locales in up-state New York and southern Connecticut; Figure 8, highlights these major job centers with Metro-North access which include White Plains and Yonkers in New York and Stamford, Bridgeport and New Haven in Connecticut. This means that the Metro-North could play an integral role in connecting Bronxites to job opportunities outside the city, and, reciprocally, could shuttle residents in the region to jobs and other destinations within the Bronx.

Figure 8 demonstrates that the transit shed of Metro-North does in fact connect the Bronx to several major employment centers, each with varying economic bases and dominant sectors. Several of these cities have dominant sectors with strong multiplier effects, meaning that for every job directly created by a sector, jobs in another sector may be indirectly created. For example, high-tech companies like IBM near Poughkeepsie contribute to the local economy not only by hiring well-paid software developers, but also by indirectly contributing to the myriad of retail services and products these employees consume. Highly educated individuals procuring high salaries, such as financial services employees in Stamford, CT and these high-tech employees in Poughkeepsie, generate a large demand for retail

COMMUTING PATTERNS IN THE BRONX

472,210 Bronx working population (2011)

- 23.3% (109,860) work in Bronx
- 38.7% (182,617) work in Manhattan
- 18.3% (88,775) work in other NYC boroughs
- 9.1% (37,112) work in Upstate New York
- 4.4% (20,775) work in Long Island
- 3.3% (15,657) work in New Jersey
- 0.7% (3,187) work in Connecticut
- 2.3% (10,645) work in other locations

240,309 people work in the Bronx (2011)

- 45.7% (109,860) live in Bronx
- 9.6% (23,042) live in Manhattan
- 17.3% (41,526) live in other NYC boroughs
- 13.4% (32,201) live in Upstate New York
- 5.5% (13,324) live in Long Island
- 5.1% (12,200) live in New Jersey
- 0.8% (1,837) live in Connecticut
- 2.63% (6,319) live in other locations

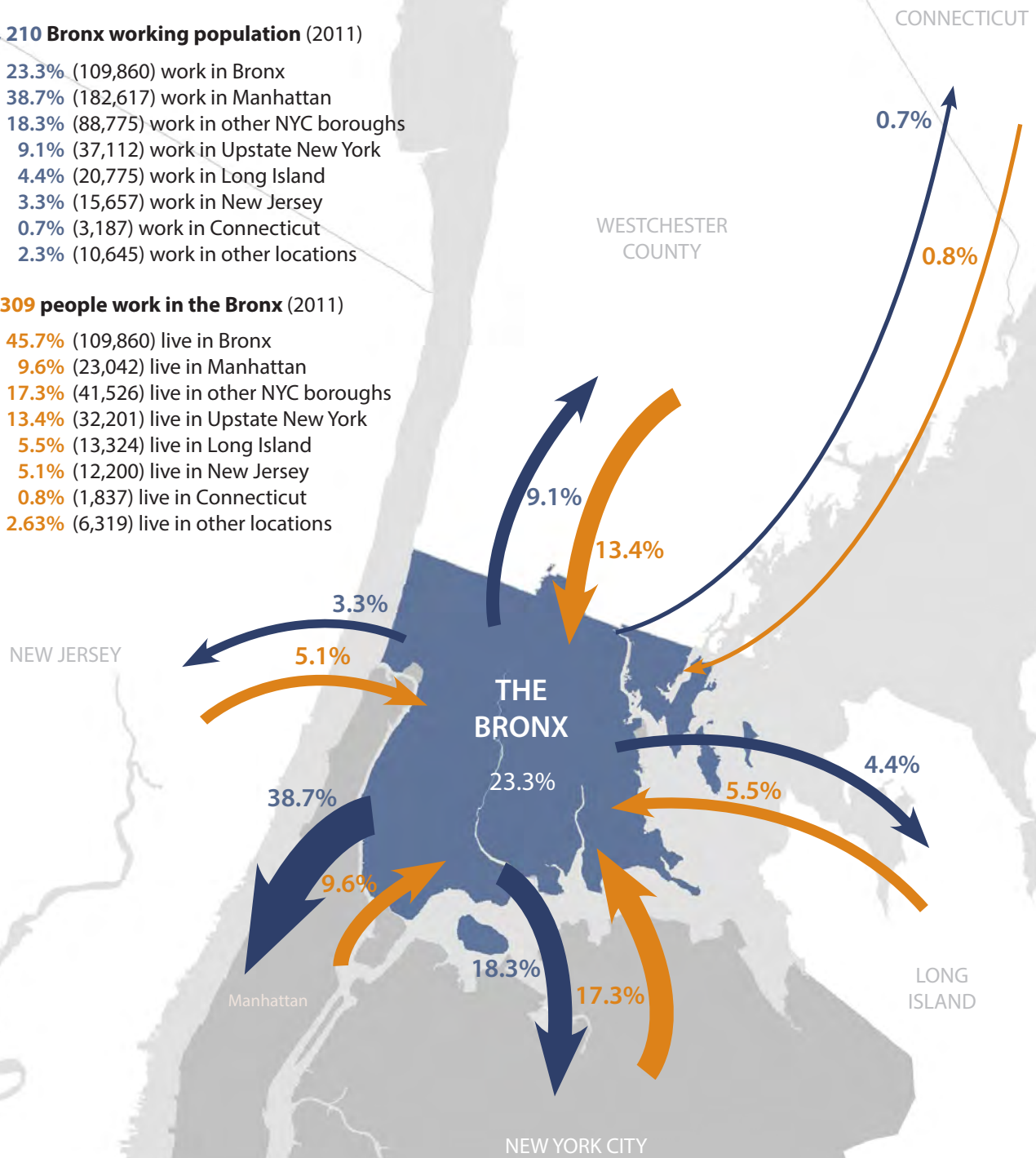


FIGURE 7 | Commuting patterns originating and ending in the Bronx. Although a majority of Bronx residents currently work in New York City, the borough has seen the largest expansion of reverse commuting in the country over the past two decades. This trend could be expanded with greater use and improved access to the Metro-North rail lines. Metro-North also provides a convenient transportation option for those living outside of the city to the Bronx's many job centers, hospitals, and attractions.

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2011).

REGIONAL JOB DENSITY ALONG METRO-NORTH CORRIDOR

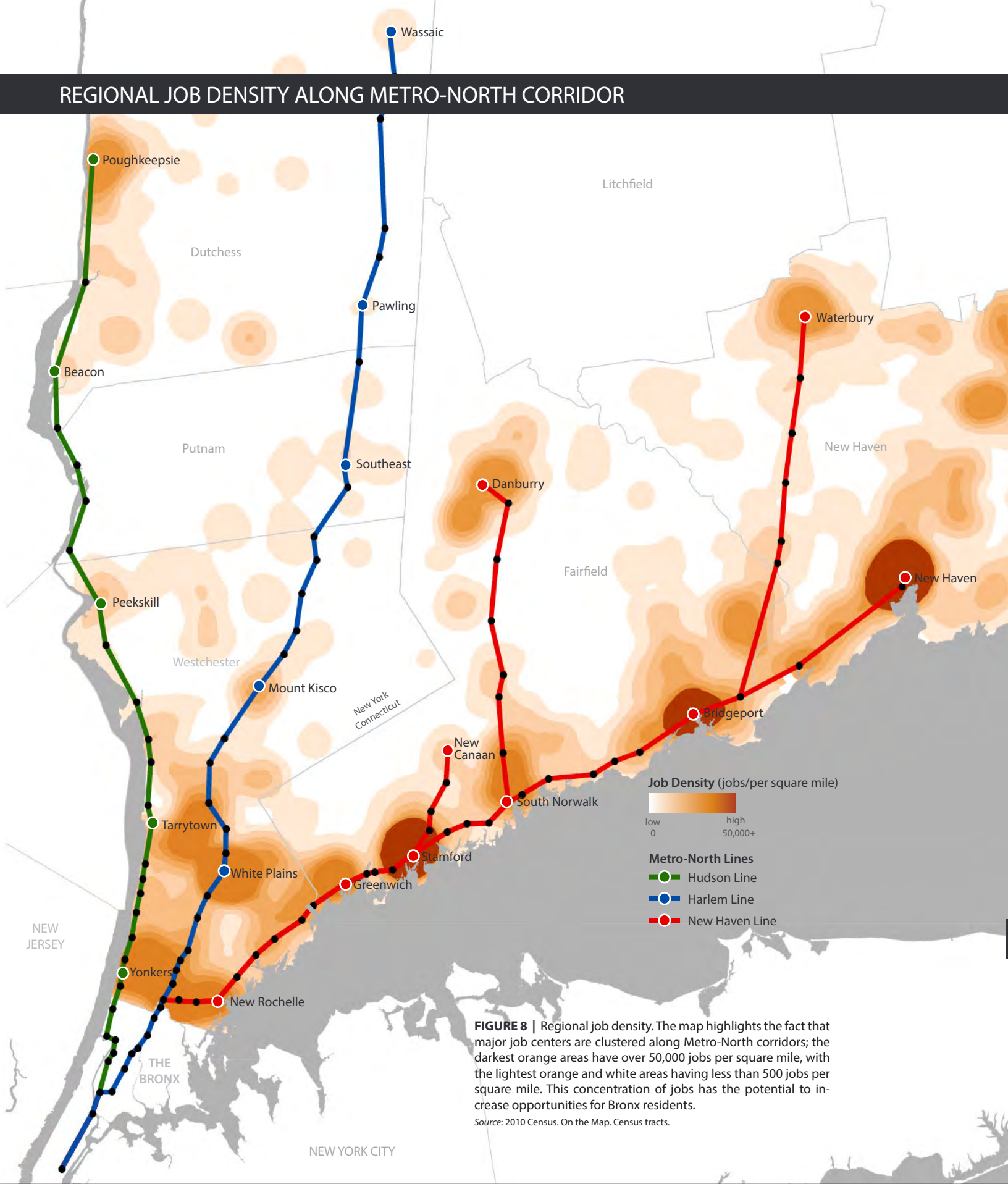


FIGURE 8 | Regional job density. The map highlights the fact that major job centers are clustered along Metro-North corridors; the darkest orange areas have over 50,000 jobs per square mile, with the lightest orange and white areas having less than 500 jobs per square mile. This concentration of jobs has the potential to increase opportunities for Bronx residents.

Source: 2010 Census. On the Map. Census tracts.



FIGURE 9 | Stamford Transportation Center. The Metro-North station is near many employment centers in the city including UBS, Royal Bank of Scotland, Thomson Reuter, and Stamford Town Center.

Source: Noroton/CC-BY-SA-3.0, via Wikimedia Commons from Wikimedia Commons

products and services, which in turn will generate employment opportunities -- be it for doctors, nurses, architects, construction workers, baristas, waiters or retail clerks. This increased demand lifts the average wages of employees across all sectors in the local economy -- even for employees without a college education.

These are opportunities that Bronxites should capitalize on, and Metro-North is a unique resource in that it provides affordable access to a variety of economic centers in the region. Increased accessibility to regional employment centers improves economic opportunity for Bronx residents, and access to a regional workforce improves business opportunities in the Bronx

CONCLUSION

Metro-North corridors in the Bronx currently represent an untapped resource to support the borough's growth and access to jobs and the region. As the Bronx continues to grow, providing job opportunities at a regional scale is increasingly important. Capitalizing on the access afforded by Metro North service connects the Bronx to the larger regional economy, and has the potential to increase job and

housing opportunities for Bronx residents, strengthen access for commuters to and from the Bronx, and help strengthen the surrounding neighborhoods.

The following section identifies TOD strategies to support these corridors and maximize them as assets for the Bronx. This includes strategies for supporting walkable pedestrian environments, providing access to community amenities, ensuring a highly integrated multi-modal transit system, and ensuring the highest and best land uses are located within close proximity to the station.

SOURCES

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² Fares & Ticket Information. MTA. <http://web.mta.info/mnr/html/fares.htm>

³ Metro-North Presentation. March 2013. <http://web.mta.info/mta/planning/psas/pdf/CT-presentation.pdf>

⁴ "Behind the Curb". Center for an Urban Future. February 2011. http://nycfuture.org/pdf/Behind_the_Curb.pdf

⁵ "Peripheral Travel Study." NYC DCP. 2010. http://www.nyc.gov/html/dcp/html/transportation/td_peripheral_study.shtml

⁶ U.S. Census Bureau, 2006-2010 American Community Survey



Grand Central Terminal

STRATEGIES

LAND USE & ZONING



LAND USE & ZONING

STRATEGIES

INTRODUCTION

There is a strong correlation between transit and neighborhood development. Land use strategies for TOD need to ensure the appropriate density and mix of uses around transit stations based on the existing context and level of transit access. Zoning is the primary means by which the City of New York, through the Department of City Planning (DCP), regulates land uses and building bulk. Zoning helps shape how the City develops. Zoning designations determine the location of residential neighborhoods, where local retail can support these neighborhoods and where major regional job centers are best located. Without appropriate zoning, transit-oriented development is not possible, as zoning regulations establish the basic framework as to where different uses are permitted and the intensity to which they are developed.

A zoning district designation is not a static determination. Cities are constantly changing and zoning must accordingly respond. In the past eleven years, over 38% of New York City has been rezoned, attesting to both the need for updating the regulations and the ability of zoning to be responsive to and promote community change. Even some of the most vibrant and successful areas of the City need periodic adjustments.

The Bronx is growing; from 2000 to 2010, the borough added approximately 52,000 people. The DCP projections estimate the Bronx will need to accommodate an additional 194,000 people by 2040. Because the areas around many of the Metro-North stations are underutilized, the station areas present a significant opportunity to accommodate growth in the Bronx near existing transit, without displacing current residents. The first steps that need to be taken in the station areas are to improve connections to transit. Over time, the communities will develop around their transit resources in areas where zoning allows it, or is changed to accommodate growth.

While the most basic function of zoning is regulating land uses, DCP has innovatively utilized zoning to address a number of policy objectives, neighborhood conditions and growth trends.. Recent zoning initiatives have, for example, encouraged affordable housing and fresh food stores. Where unique neighborhood characteristics warrant special provisions, special purpose zoning districts have established regulations that directly address specific policy goals. The intent of special purpose districts range from preserving unique building form, such as in the Special Grand Concourse Preservation District in the Bronx; to promoting specific uses, such as in the Special Hunt Point District, which promotes food related businesses.

Many Bronx communities have density levels that support mass transit; however, this density is typically not concentrated around or even near Metro-North stations. In fact, stations are located at the periphery of many communities.

The history of the commuter rail development in the Bronx has much to do with the current configuration and location of the rail lines. The current Metro-North Harlem Line was formerly the New York and Harlem Railroad, one of the first railroads in the country (the line was built in stages from 1832 to 1852). The current Metro-North Hudson Line was formerly the Hudson River Rail Road, built in 1851 as an extension connecting New York City with Albany. Finally, the Hellgate line was built in the early 20th Century as a connector between the New Haven Railroad serving New England and the Pennsylvania Railroad serving New York and destinations to the west and south. This history is important to the current land uses as the lines predated the subway system and the development associated with it. All of the lines were conceived as serving locations beyond the Bronx and not providing transit access to the borough (two of the lines pre-date the incorporation of the borough).

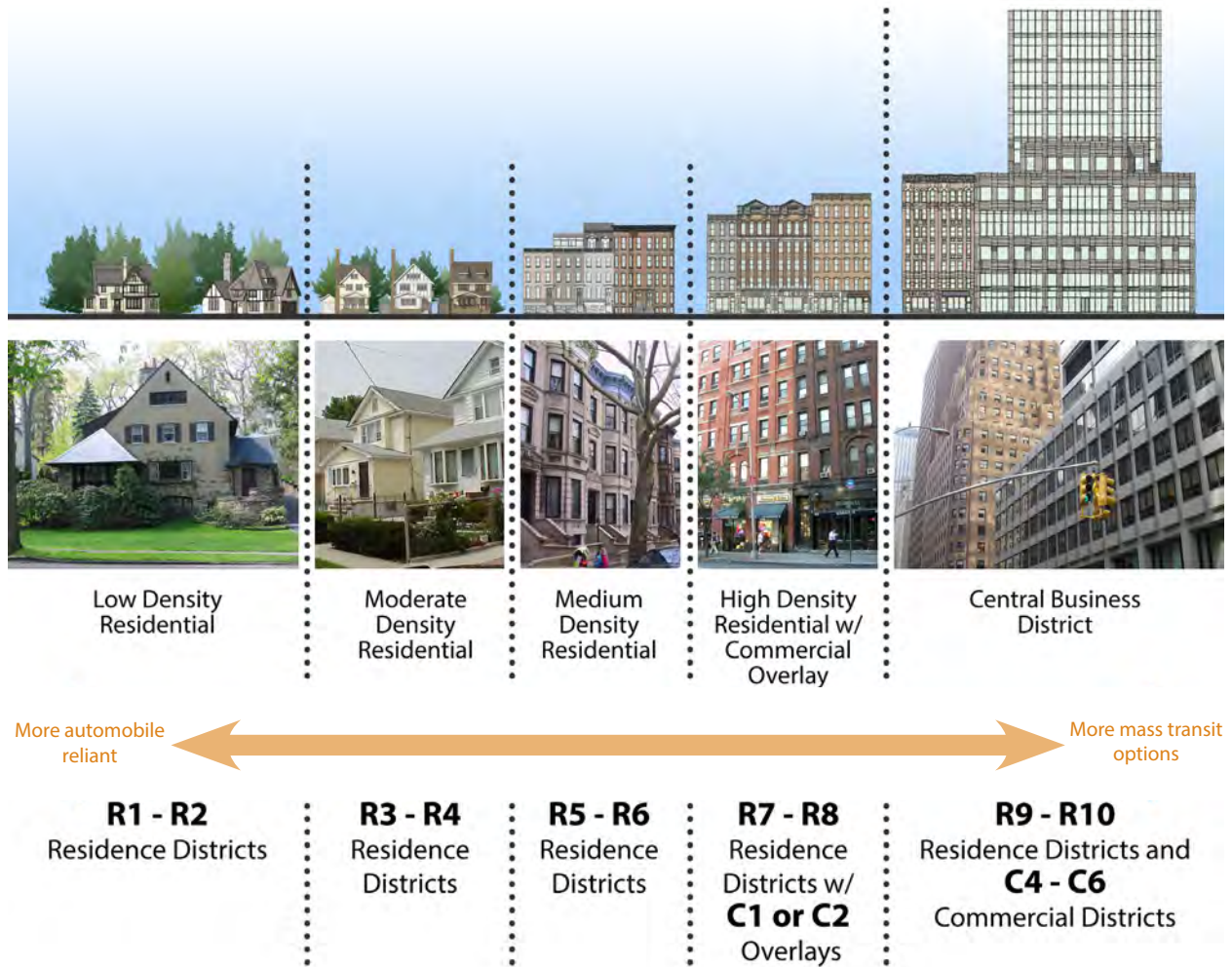


FIGURE 1 | Zoning, mass transit, and development in New York City. Neighborhoods characterized by low-density residential development are often reliant upon vehicles and tend to be further from mass transit opportunities. Conversely, neighborhoods with higher density were often built because of their proximity to mass transit.

For ease of construction the lines are built along the waterfront, near river beds, or along flat, low-lying land. Many of these areas were subsequently developed with industrial uses for ease of access or simply due to its location away from population centers. In 1916, when zoning was first conceived in New York City and in 1961, when the current zoning resolution was established, these areas were zoned for manufacturing, logically since industry already existed in many of these areas and rail lines were considered noisy and noxious. Recently, industry has waned in the City, prompting DCP to reexamine many former industrial areas for other uses. Additionally, train and building technologies have improved so that rail lines are not the nuisance they once were to adjacent communities.

The following strategies for zoning and land use around commuter rail stations are geared toward three different contexts. The **first section** addresses strategies applicable to stations located in industrial areas, which may have underutilized land or buildings. The **second section** describes strategies for mid-density neighborhoods with local retail and challenges of visibility and connection to the station. The **third section** provides strategies for stations in or near borough business districts with regional shopping and employment centers, with multiple modes of transit. Each station may have more than one of these conditions, for example the Melrose Station is adjacent to an industrial area that may provide opportunities for growth while it is close to the Bronx Civic Center an important shopping and employment area. Strategies can be mixed and matched across categories.

STRATEGIES

(1) UNDERUTILIZED LAND & MANUFACTURING ZONING

As described above, the current and proposed Metro-North lines are located in areas that historically coincide with industrial development. Over the last thirty years, the economics of industry has changed in the City as have the built form requirements of industrial uses. In some areas of the Bronx, for example Hunts Point and Bathgate, industry has flourished with high intensity uses located in new or renovated warehouse type buildings. In other areas, unfortunately, industry has lagged leaving behind vacant or underutilized lots and buildings with low employment, such as parking or self storage facilities. While the former can be an asset to a transit station raising ridership with commuters, the latter is a liability, presenting blank street walls and creating an uninviting pedestrian environment.

Manufacturing zoning districts do not typically allow a wide variety of uses: residential use is not permitted, and commercial and community facility uses

are limited. This protects industry from having to compete for space with large retail establishments and housing; but in areas where industry has already waned, this policy impedes viable redevelopment. Zoning changes to allow a wider variety of uses, particularly residential and commercial uses, can spur redevelopment of underutilized industrial areas.

Rezoning strategies for former industrial areas need to be carefully tailored toward existing conditions and policy goals. Special Mixed Use districts, as described in the Case Study on page 32, can strike a balance between permitting residential uses and preserving industry. They can also serve as good buffer and transition areas between active and heavy industrial uses and residential areas. In areas where industry is no longer appropriate, for example along a non-working waterfront, commercial or residential districts may be best applied. Building bulk and height are also important considerations. In general, higher bulk and density are appropriate along wide streets near transit with respect to building heights and configurations in adjacent neighborhoods.

In some areas, there are existing industrial loft buildings. This built form is no longer the ideal of modern industrial uses, which need larger floor-plates all on



FIGURE 2 | Low-density manufacturing uses along Bassett Avenue in the Bronx are located adjacent to the Amtrak Hellgate line and the proposed Morris Park Metro-North station.

a single level. These loft buildings, however are desirable for other uses. Companies, like Google and JetBlue, have re-purposed former industrial buildings in other parts of the City for high employment office uses. In the Bronx, the Bank Note Building in Hunts Point has successfully converted to office and studio space. Zoning strategies in areas with existing loft buildings suitable for conversion should consider districts with lower permitted bulk to discourage teardowns and promote conversion.

(2) MEDIUM DENSITY RESIDENTIAL & RETAIL CORRIDORS

Some of the station areas are in or near medium density residential areas with local retail corridors. In these areas care must be taken that the surrounding zoning permits the appropriate density and uses to support walkable, transit-oriented neighborhoods. While supportive retail should be considered within the stations themselves, retail in proximity to commuter rail stations provides convenience to commuters and increases the perception of safety with better lighting and street activity. In some cases, such as Fordham Road, the station is a prominent feature on a busy commercial shopping thorough-

fare. Where this is not the case, paths between commercial uses and the station should be considered. To achieve this, options include extending retail to the station or allowing commercial uses closer to the station. The Melrose Station and the Morris Heights Station are two examples where this strategy is recommended. More strategies for improving walkability are discussed in the Walkability Section of this report.

Many neighborhoods in the Bronx are characterized by five to eight-story apartment buildings, a development pattern that predates World War II and has been continued since the late 1990s in places like Melrose Commons and Morrisania. This medium density development is ideal for transit-oriented development. Coupled with relatively low car ownership rates in much of the Bronx, these densities mean that a large number of people are walking to and from transit in their daily commute and while running errands. Medium density residential use should be considered in the immediate area around each of the areas studied -- in some such as University Heights it is not currently permitted.

The strategy of applying medium density residential zoning districts near transit is simply extending the



FIGURE 3 | Long Island City, Queens. This area has been widely redeveloped, emerging from its industrial past to attract large national employees and new residential developments. Jet Blue Airlines opened its new offices in April of 2012 off the Queensborough Bridge.

CASE STUDY | Port Morris MX-1 District

The Port Morris neighborhood in the Bronx was the site of the first special mixed use district (MX-1) in New York City. Port Morris lies between the Major Deegan expressway and the Harlem and East Rivers, in the South Bronx. The area was once a strong manufacturing and warehousing district specializing in furniture and piano manufacturing, but following the Great Depression little growth occurred in the neighborhood. In the 1950s, housing was cleared for the Triborough Bridge and the Bruckner and Major Deegan Expressways, leading to a gradual decline in industrial uses. Zoning in Port Morris limited permitted land uses, leaving many buildings partially or entirely vacant when industrial companies left the area. In the 1980s and 90s, the neighborhood began to transform, as industrial buildings were renovated along Bruckner Boulevard for non-manufacturing uses, and a new “Antique Row” emerged.

In 1997, DCP established the first special mixed use district along five-blocks in Port Morris as a way to revitalize this manufacturing mixed-use waterfront area and support recent changes in the neigh-

borhood. The rezoning helped to strengthen the emerging antique business area, facilitated new ground floor retail and exhibit spaces to open, and reactivated many upper floors through the creation and renovation of 185 residential units. Overall, the zoning enlivened the old industrial neighborhood and promoted a sense of community by providing opportunities for light industrial, housing, retail and other services. The MX-1 zoning was expanded in 2005 to eleven blocks. The changes facilitated the development of additional 264 units of housing and supported new retail and restaurants in the neighborhood. Additionally, industrial businesses, like S&J Sheet Metal have remained and expanded in Port Morris.

MX districts can help manufacturing and residential uses coexist. Like Port Morris, many of the station study areas zoned for manufacturing have become inactive overtime. Establishing an MX district can promote a transition to a mix of uses, helping to foster residential growth and revitalization.



FIGURE 4 | Port Morris, an area in the South Bronx, has recently begun to experience renewed investment and growth. (Left) New residential development. (Right) “Antique Row.”

historic development pattern for much of the Bronx. While this is not a new concept in these areas it does come with many refinements based on the local context. One such refinement is contextual building regulations, requiring that buildings meet the street line and have predictable height and setback regulations. These rules help the street feel safer by bringing eyes on the street and preserving light and air at the street level for pedestrians.

Parking is another area where a more modern and thoughtful approach is necessary. In many prewar buildings no parking is provided, but high parking requirements raise the cost of new development and can negatively affect the built form with unsightly parking lots or blank walls on structured parking. It is important that the required parking match the demand for parking in the area. This may mean selecting the correct zoning designation; it may also require DCP to examine parking requirements in certain areas based on data in the Inner Ring Parking Study.

Finally, the application of the incentive programs, such as the Inclusionary Housing and the FRESH program is important to consider, where appropriate. These are important tools to ensure the provision of affordable housing and the availability of fresh food to residents, respectively, and many of the Metro-North Stations in the Bronx are in eligible areas (see the Case Study on Zoning Incentives, pg.34).

(3) REGIONAL TRANSIT HUBS & BOROUGH EMPLOYMENT CENTERS

In station areas, such as Fordham, that serve in a regional capacity as a Central Business District, Regional Employment Center or Transit Hub, the zoning may require evaluation to ensure that the proper mix of uses and densities are permitted. These areas differ from the local retail corridors and medium density residential areas discussed above in that they attract people from all over the borough and beyond through a combination of employment centers, commercial office or community facilities and large regional retail. They also typically have multiple modes of transit, including commuter rail, subway service and high capacity bus service, such as the Select Bus Service on Fordham Road or Webster Avenue.

Zoning strategies for these areas must account for the existing context and policy goals. If the area is experiencing demand for commercial office uses, full commercial districts that permit a range of

commercial uses in a single building, as opposed to a commercial overlay, might address the area's future growth best. It is important that if an office district and retail district overlap, that the permitted commercial FAR is large enough to comfortably accommodate both. If a hospital or other medical facility is driving growth in the area, zoning districts that favor community facilities may be appropriate. Medical facilities require a flexible building envelope to accommodate modern medical equipment with greater floor to ceiling heights. Colleges and other educational institutions may also have special needs that will vary and dialogue with these institutions is essential.

Housing is an important element in the land use mix in these areas. It supports office employers, educational institutions and medical facilities by allowing their employees, students, staff and patients to live near where they work, study or receive treatment. It keeps streets active and safe after 5:00 PM when office workers have left the area for the day. Finally, it further strengthens the retail in the area by attracting additional shoppers at varying times of the day and throughout the week. Zoning districts that permit housing at relatively high densities should be considered in Central Business Districts. Inclusionary Zoning can be an effective tool for ensuring an appropriate mix of incomes and encouraging new housing construction in highly transit-oriented, accessible and desirable areas.

Retail in high traffic regional employment centers is essential. Larger, national retailers are often attracted to these areas and they can serve as anchors for a dynamic retail environment. In New York City these regional hubs can often support second floor retail, there are several such stores around the Fordham Station. Full commercial districts need to be in place to permit this configuration. Mandatory active ground floor uses, limits on residential lobby size and glazing requirements are some of the zoning tools that can be considered in these areas. Care must be taken that the retail market is strong enough to respond to these regulations appropriately. Proven retail corridors like Fordham Road may benefit from these enhancements as the area continues to develop. Nascent retail areas like East 161st Street near the Melrose Station may require a lighter touch, with stronger incentives for retail and fewer restrictions to avoid vacant ground floor space. Parking restrictions should be limited to an appropriate amount beyond the street wall.

Balancing parking requirements in regional busi-

CASE STUDY | Zoning Incentives

Zoning incentives provide a bonus to the amount of floor area a developer can build in exchange for public amenities or another desired outcome. There is typically a nexus between the additional development and the amenity being provided. There is also a geographic limit to locating the amenity, sometimes in the same building or on the same lot as the development but occasionally in a defined neighborhood. Zoning incentives can also be paired with tax incentives or special financing to further enhance their impact. New York City has a long history of zoning incentives, going back to the plaza program in the original 1961 zoning resolution. Three recent innovations are described below.

The Inclusionary Housing Program (IHP) is a zoning tool that can be applied to promote economic integration in areas of the City undergoing substantial new residential development by offering an optional floor area bonus in exchange for the preservation or creation of permanently affordable housing units, on or within one-half mile of the bonused development, principally for low-income households. In designated areas, the base FAR is lower than the FAR allowed in the same zoning district outside the designated area, which encourages the developer to contribute to the stock of affordable units. A 2009 amendment to the program established a home ownership option for residents of the affordable

units, and unit values would appreciate at a fixed level, allowing low-income residents to attain equity and a stake in the future of the neighborhood.

The program has proven effective in preserving the affordability of neighborhoods and has netted 2,769 affordable housing units since 2005. IHP designated areas have been mapped in the Bronx near the East Tremont, Melrose, Williamsbridge and Fordham Metro-North stations. Its continued use in station areas will ensure that with continued neighborhood growth, current and future housing stock remains affordable to a wide range of income levels.

The Food Retail Expansion to Support Health Program (FRESH) provides development incentives for opening grocery stores in New York City communities with limited access to fresh food. The program offers zoning incentives that increase the allowable floor-area-ratio (FAR) in mixed use buildings, reduce the parking requirements, and permit larger grocery stores as-of-right in light manufacturing districts, provided that a grocery store allocates at least 6,000 square feet towards grocery products, and, of which, at least 500 square feet is dedicated to fresh produce. The program also includes significant tax incentives to FRESH stores. Much of the South Bronx is in a FRESH designated area and the Borough has seen a number of new and expanded stores because of the program.



FIGURE 5 | Food Bazaar Supermarket, part of the FRESH zoning and tax incentive program, in the Melrose neighborhood's Concourse Plaza. To date, the Bronx has five approved FRESH projects, three of which have opened.

ness centers is essential. As with any neighborhood, parking regulations should match demand. However, given the high levels of access to transit and to goods and services that these areas provide to residents and employees, a careful study of journey to work data and automobile usage is helpful. A resident with a car who only uses it on the weekend for errands and commutes by transit to and from work the rest of the week, or employees who car-pool, change the way parking is used. This presents both challenges and opportunities in striking the right balance on parking. Institutional uses, office buildings and anchor retail stores will often have their own parking facilities, which are not always fully utilized. Allowing accessory parking to be used as shared commercial parking may be a good strategy to fully leverage parking resources in these areas.

Open parking lots are rare in these higher density districts and are now required to be planted and screened in commercial and community facilities, per a 2007 DCP zoning text amendment. Structured parking presents issues with blank walls at street level, encouraging or mandating ringed parking structures with ground floor retail, especially along major commercial corridors addresses this issue. At the very least, structured parking should be visually open, well lit and attractively designed.

CONCLUSION

In order to thrive as transit-oriented developments, the areas surrounding rail stations in the Bronx require zoning that supports a variety of uses. Addressing areas with underutilized land and buildings, ensuring that local retail and residential densities support transit stations, and targeting regional centers with potential for growth will allow the Bronx to better capitalize on its Metro-North commuter rail stations, as well as provide additional housing opportunities to accommodate future growth.



FIGURE 6 | Pre-fabricated apartment units in the Inwood neighborhood of Manhattan. Designs that integrate residential and commercial uses are key in developing vibrant high-density areas.



Arthur Avenue, the Bronx

STRATEGIES

WALKABILITY



WALKABILITY

STRATEGIES

INTRODUCTION

SYNOPSIS

The relative walkability of a community plays a critical role in underpinning the success of Transit-Oriented Development. A welcoming, walkable, pedestrian environment utilizes many tools along its streetscape, which, in the aggregate, increase safety and activity amongst its users, and ultimately works to establish a sense of 'place' within the larger community. Its importance was recently highlighted in New York City's latest addition to its Active Design series: *Shaping the Sidewalk Experience*, which provides a framework for thinking about sidewalks as well as tools to inform sidewalk design.¹ In his recent book, *Walkable City*, Jeff Speck states that "a walk has to satisfy four main conditions: it must be useful, safe, comfortable and interesting. Each of these qualities is essential and none alone is sufficient."² An aesthetically appealing commercial corridor is not going to succeed if there is no reason to go there or no way to get there, and an extremely useful corridor will not be memorable for repeat visits if it not interesting.

Many successful neighborhoods, such as Greenwich Village or the Belmont neighborhood in the Bronx, have bolstered and preserved their pedestrian amenities, retail and service establishments and community assets to the extent that their name becomes synonymous with, and evocative of, a unique, pleasurable walking and strolling experience. The quality of this experience in turn reinforces the use of mass transit to and from the neighborhood, as the abundance of amenities within the neighborhood reduces the need for trips outside, and necessity of a vehicle. The appeal and desirability of these neighborhoods also serves as a continuing catalyst for renewed private investment and development.

This section discusses the barriers to walkability currently faced by many Bronx neighborhoods, and discusses the components which are often found in the City's most walkable streets. When these components are comprehensively applied to major corridors, in a unique and compelling manner, they can facilitate a more walkable, more sustainable community which marries its transit assets into the pedestrian fabric.

FIGURE 1 | East side of Amsterdam Avenue between 107th and 108th Streets in Manhattan. This highly walkable street contains active retail along the ground floor, street trees, continuous street wall, contextual buildings that also have varying articulation and nuances.



BACKGROUND

Given the robust transit network within New York City, this relationship between transit and the pedestrian environment is more pronounced than most other American cities. The walkability of the streets in a community is often a deciding factor in how users choose to get to their destination. If neighborhood amenities like grocery stores, convenience stores and other retail and service establishments do not exist within a walkable radius, or are in areas perceived to be unsafe, then a resident will likely drive to another neighborhood. If the route to a subway or mass-transit station from home or a place of employment is not populated with convenient amenities, like places for coffee and newspapers, or is perceived as unsafe, it may prompt commuters to change their mode of transit to vehicular, or avoid a particular mode of transit. Not only is this walkability critical to promoting neighborhood sustainability (by reducing emissions resulting from vehicular trips) but it is also vital to promoting and sustaining local economic development. Streets with large amounts of pedestrian activity feel safer and vibrant, promoting more pedestrian activity and stimulating local businesses. The inverse can occur on sterile and desolate corridors.

Many Bronx neighborhoods blossomed and flourished on the basis of their transit connectivity. Subways, commuter rails and trolley cars crisscrossed the borough, and a wide variety of neighborhood and civic amenities within walking distance made many Bronx neighborhoods stately, middle-class enclaves for upwardly mobile immigrants. A complicated history of neighborhood decline in conjunction

with transit disinvestment has made walking around some neighborhoods difficult. At the same time development patterns around commuter rail lines have created isolated areas around some stations which are disconnected from traditional pedestrian pathways. This has created gaps in streetscape amenities, vacant lots, and land uses with unwelcoming building frontages which ultimately create an environment that is unfriendly for pedestrians and discourages ridership.

This study provides an opportunity to re-examine these neighborhoods and address walkability gaps. Through this study we have identified key pedestrian routes in each community, those which commuters utilize for transfers between modes of transit as well as day-to-day activities. Issues and opportunities related to the pedestrian environment were identified along these routes, and upon analysis, a pattern emerged that many neighborhoods suffered from the same deficiencies and lack of pedestrian infrastructure. This section identifies best practices for addressing some of these issues in order to reestablish walkable corridors, which reconnect neighborhoods, employment centers, and civic amenities to the mass-transit options they were built upon. Together they are intended to promote ridership, safety, increased pedestrian activity and create a more walkable and complete community.

Figure 3 shows images of contrasting streets blocks. The block along 161st in the Melrose neighborhood lacks a continuous street wall, has inactive ground floor uses, surface parking abuts the pedestrian realm; it lacks amenities, and has drastically varying building scale. The image along Amsterdam Avenue and similarly along 149th Street in the Bronx, con-



CASE STUDY | Enhanced Commercial Districts

In order to facilitate the development and preservation of quality streetscapes, the Department of City Planning has devised a zoning tool called an Enhanced Commercial District (EC District). This special district can be mapped anywhere within the city, and the discrete tools that it offers can be customized to meet the specific needs of a given commercial corridor.

The first EC District was established on Fourth Avenue in Brooklyn in 2011. Since the neighborhood was rezoned in 2005 as part of the South Park Slope contextual rezoning, Fourth Avenue has been evolving from automotive and commercial uses to a more mixed use thoroughfare with residential and retail establishments. However, since this is an emerging corridor, the ground floors of many new developments have been built to be primarily occupied by public parking garages, resulting in mostly blank walls against the sidewalk. This was especially troubling since modifying a parking garage is not a simple task like renovating a retail interior to another use.

Guided by the community, the Department of City Planning created an EC District to require future developments provide a minimum percentage of the ground floor be occupied by more active retail uses, and requiring all parking to be beyond 30 feet of the street wall. Pedestrian impediments such as curb cuts for parking must be located on side streets, and minimum levels of ground floor level transparency are required. A similar EC District was established for

an emerging retail corridor along Broadway in Bedford-Stuyvesant, where sections of it were paired with a special elevated rail district to accommodate the needs of lots adjacent to the elevated rail line. In combination, these rules will ensure that as the corridors continue to emerge, quality retail space is provided to serve the needs of the growing population.

In the Upper West Side in Manhattan, the city devised two distinct EC Districts in 2012 to address community concerns about changes to the retail landscape and character of the neighborhood. The Upper West Side, a highly dense residential area with limited commercial space, requires retail diversity to serve the needs of its large population. In order to address the unique conditions of the particular commercial avenues, the modifications to Amsterdam and Columbus differed from those on Broadway. The EC District along Amsterdam and Columbus Avenues addressed concerns about large frontages that have opened along the commercial avenues. Here, regulations which establish maximum frontage widths and minimum number of stores per block will help to ensure that the diverse array of storefronts is maintained in this area. Along Broadway, the commercial stores are of a regional character, and restrictions are specifically targeted to stem the proliferation of banks along the corridor. Both corridors utilize minimum levels of ground floor level transparency. These rules will ensure future growth mimics the rich urban fabric which has evolved in these neighborhoods.



FIGURE 2 | Fourth Avenue, Brooklyn; the first EC District was established here in 2011.



FIGURE 3 | Street blocks in the Melrose neighborhood, Bronx. (Top) 161st Street and Concourse Village East. Surface parking abuts the pedestrian realm, creating a break in the street wall. (Bottom) Arthur Avenue, Belmont. This successful retail corridor has a diversity of ground floor uses, street trees, continuous street wall, and contextual buildings.

tains active retail along the ground floor, street trees, continuous street wall, contextual building that also have varying articulation and nuances. The contrasting images illustrate how a block with an unsuccessful streetscape, in the case of 161st street, can serve as a barrier to pedestrian activity. The Melrose section of this report further details how integral this is to a thriving retail corridor.

STRATEGIES: COMPONENTS OF WALKABLE STREETS

Walkable streets begin with the sidewalk and how a pedestrian experiences the street. Sidewalks are integral places on every street, in every community. We use this place for transport, for shopping, and for socializing. Creating a pleasurable sidewalk experience, you also increase staying power, the qualities that persuade people to stay and enjoy a place. The sidewalk is also a critical juncture between the street

and the built environment, and typically serves as the threshold between private development and the public right of way. It is the portal to connect to transit, to retail and service establishments, to places of employment and to recreational amenities. The sidewalk has incredible potential in a community as both a social and economic engine.

What follows are a list of components identified by both practitioners and by community members which should be integrated into major corridors to facilitate greater walkability within the neighborhood and to mass transit resources.

INTEGRATED MASS-TRANSIT

Ideally, mass-transit stations are well-integrated into walkable, vibrant corridors. Irrespective of the type of transit, riders benefit from the convenience of having retail establishments at their disposal, and most people feel safer waiting for service in well-lit, well-populated places. Fronting on or having visibility from a major corridor benefits the transit by encouraging riders.

Traditionally, many Metro-North stations had prominent stations along major corridors, as currently can be found at the Fordham station along Fordham Road. As the Bronx progressed from a suburban

borough into an extension of urban Manhattan, the relevance of Metro-North waned for decades as the northern extension of the subway system made them somewhat redundant. The relatively expensive inbound ticket price, considering the relatively low-income population, furthered station decline and capital improvements were rarely warranted.

However, the outbound price of Metro-North ticketing is considerably less expensive and since jobs have steadily moved to the suburbs, a new reverse commuting trend in the Bronx has begun to emerge since 1990 to the extent that the Bronx constitutes the largest reverse-commute pattern on any commuter rail line in America.³ This increase of service warrants re-examining and improving station conditions, especially where old stations have been removed and entrances relegated to secondary streets.

BUILDING STREET WALL

Building façades not only have the challenge of being attractive and well-designed at the building scale, but should also work to be relatively harmonious with other buildings on the block. Attention should be paid to how much a building entrance is setback from the street, how high it rises, and what is the overall height of buildings. Ideally, a series



FIGURE 4 | Bus stop near the Fordham Metro-North Station. Easing transfers between different modes helps create a more comprehensive public transit system, and, in turn, supports the growing reverse-commute pattern in the Bronx.



FIGURE 5 | Attributes of successful pedestrian streets.

- ① A well-defined street wall abutting the sidewalk edge; scale of new development should blend with existing context
- ② Streets can safely accommodate multiple modes of transit (buses, bikes, etc.) safely; limit curb cuts
- ③ Short blockfronts with well-defined crosswalks

of prominent facades will line up along the street, forming in the aggregate, a street wall. A well-defined street wall which abuts the sidewalk edge will form an uninterrupted and protected pedestrian zone. It can set up a visual corridor that allows the pedestrian to see what is next. The scale of new development should blend with the existing context of the existing area. Minimum and maximum building heights should be included to create this feel. The exception to this is institutional buildings, like houses of worship, museums and schools, which typically, and purposefully, exceed the size and scale of other surrounding buildings to announce their importance.

This is not to say that all non-institutional buildings should be the same, but quite the opposite. Monotonously monolithic developments with regimented heights and façade treatment spanning the entire block can produce bland, and uninspiring blockfronts. Minimum and maximum street wall height, with 2-3 stories of difference, can create subtle variations in height, adding interest and variety to intrigue the pedestrian. Permitted recesses and dormers allow for articulation on the façade which adds a subtle, but noticeable, undulation to the block-

front, pulling the pedestrian down the block. Subtle variations at routine intervals are another street wall element that make many New York City blocks so walkable. The traditional New York City block originally subdivided into several lots which were sized around 20-feet wide with a depth of 100 feet. This facilitated the fastidious development of brownstones at the time, one after the other, block after block. Subtle variations exist between each building, and over time, renovations, additions, and enlargements have made these organic changes even more pronounced. In the aggregate, this balance between consistency and variety makes a tremendous walking experience as slight variations in heights, articulation, transparency, materials, plantings and colorations at 20-30 foot intervals all combine to keep the pedestrian engaged.

In many of our study areas the street wall has been interrupted by vacant parcels and erratic and inconsistent development. Buildings built after the 1960s were often setback far from the street and tower over the existing buildings. In the early part of the twentieth century, the Swiss architect, Le Corbusier espoused a new form of urbanism which radically departed from its past and would be defined by



FIGURE 6 | Attributes of successful pedestrian streets.

- 1 Street trees at regular intervals, with adequate tree pits
- 2 Street lamps at regular intervals, including crosswalks; ensures safety
- 3 Ground floor level has appropriate balance of transparency and articulations, with signage well incorporated into the façade
- 4 Way-finding signage is clearly visible
- 5 Variety of ground floor uses with multiple stores per block
- 6 Bus shelter, seating, and other street furniture where appropriate
- 7 An adequate clear paths on the sidewalk assures ample room for pedestrians

large towers placed in sprawling parklands. The theory became so popular that in 1961, when New York City rewrote its Zoning Resolution, its bulk regulations encouraged the ‘tower in the park’ sort of development through ‘height factor zoning’. The practicality of incorporating this type of built form into an existing fabric had undesirable consequences, distancing activity from the street, and much of the development of the 1960s and 1970s severed much of the pre-existing fabric by encouraging buildings which ignored the existing location and heights of all the surrounding buildings.

Realizing the drawbacks of ‘height factor zoning’, in the 1980s the Department of City Planning estab-

lished the ‘Quality Housing Program’. This program works in conjunction with the mapping of ‘contextual zoning districts’ and either incentivizes or requires positive street wall elements, including stringent street wall location rules which often require new buildings to line up with existing buildings, allowances for recesses and dormers to add articulation and variety, minimum and maximum street wall heights before setback and overall building heights. Contextual districts which require these elements have been mapped in areas where appropriate over the last twelve years to re-engage the built fabric of New York with the public realm.



FIGURE 7 | Pop-up cafe on Pearl Street in downtown Manhattan.
Source: © NYC Department of Transportation

GROUND FLOOR USES

The built environment and the pedestrian realm are necessarily connected. The type of use that occupies the ground floor of a building defines the user and activity generated. Elements like the type of use of ground floor stores, width, signage, the number of stores per block, and transparency -- the ease a pedestrian has to view into a store -- are critical in facilitating a successful pedestrian experience.

The quality of the pedestrian experience is greatly enhanced through an array of active ground floor uses and the efficiency in which sidewalks can connect users to their destinations. Just as a variety of buildings makes a block interesting, a multitude of ground floor establishments engages a given passerby. These places could be special destinations like museums and movie theaters, or routine shopping trips to retail and services, like grocery stores, and laundromats. The more retail and service uses that are located within the community itself, the more efficiently and effectively community members can shop within their neighborhood. This in turn can produce a virtuous cycle where a successful corridor begins to attract new retailers and shoppers from outside the community.

To ensure that retail corridors are filled with vibrant, active uses, the amount of street wall frontage allocated to uses which generate minimal amounts of

foot-traffic should be limited. These less active uses might include residential lobbies, certain community facility uses, and the front office of banks.

Signage and awnings along retail corridors can clearly communicate the individual identity and purpose of a business and at the same time project a consistent theme which conveys the neighborhood identity. This should be stated without obscuring windows or covering architectural elements of the building. While DCP regulates elements of signage, local Business Improvement Districts can work with business owners to set guidelines to create a cohesive experience as well as offer incentives to assist with compliance.

Healthy streetscapes foster vibrant, active streets which in turn attract other, sometimes larger, retailers, including larger department stores and national chains. Many community members have negative reactions to big-box development, thinking of suburban strip malls with large open parking lots. This is a valid concern, as some poorly designed larger storefronts can take away from walkability block after block with long, blank street walls. However, there are several cases of large retail stores adapting to urban markets and promoting healthy commercial strips by becoming destinations unto themselves and function as micro-economic engines that bring more potential customers into a neighborhood.



FIGURE 8 | Pervious pavers can be used to connect street tree pits in areas with heavy pedestrian traffic. (Left) Grand Concourse north of 161st Street, Bronx. (Right) Decorative tree guards add visual interest and protect street trees.

Examples of this success can be seen in the Bronx at the River Plaza and Bronx Terminal developments, as well as along Fordham Road, where large retail developments are often located on the second floor and basement. In order to maximize the potential value these stores add to a neighborhood and minimize the potential negative effects, additional controls can be established. An increased commercial floor area ratio (FAR) may encourage these stores to be located on second stories, allowing for an array of retail sizes to be retained on the ground floor. Lower parking requirements and screening requirements can minimize concerns over traffic congestion and strip malls. Finally, in small-scaled neighborhoods with a well-established variety of retail sizes, maximum store widths can protect this neighborhood character by shepherding large portions of these stores to the second floor, the basement, or behind other retail uses to minimize their impact.

The transparency of store fronts and show windows serve to engage with pedestrians and provide them with a sense of safety and security. Furthering the feeling offered by these uses is the glow at night from open stores spilling out into the sidewalk, a large improvement when compared to shuttered stores or blank walls. Urbanist Jane Jacobs noted this correlation between ground floor activity and vitality, and how this activity could passively reduce crime simply by having more ‘eyes on the street.’ Such design measures have been shown to significantly deter crime.⁴

Any potential frontage restrictions in the Bronx should be carefully calibrated to the specific needs of a community, and the relative health and vitality of their retail corridors. For example, any restriction on banks in certain emerging Bronx neighborhoods may be inappropriate as they suffer from a dearth of financial services institutions. Offices should be discouraged from the ground floor as the limited hours and limited foot traffic they generate does not enhance the vitality of the commercial thoroughfare. Parking garages and their entrances should front on side streets and be located behind retail frontages whenever possible.

The Department of City Planning, recognizing the importance of all these elements, has incorporated several elements into neighborhood rezonings. Since no solution should be ‘one size fits all,’ a variety of zoning tools have been used throughout the city, tailoring solutions on a block-by-block basis, depending on the relative health and stability of the neighborhood.

CLEAR PATH

Sidewalks should maintain a clear path with adequate room for pedestrians. Wide sidewalks with well defined amenity strips can provide a buffer and reinforces the pathway for pedestrians.

Amenity strips could utilize a separate material, such as permeable pavers, to differentiate themselves from a clear path. Permeable pavers have the added

benefit of absorbing and filtering storm water prior to going into a catch basin.

Oftentimes, retail uses spill out into the sidewalk. Grocery stores often place produce onto sidewalks to attract customers and restaurants often provide sidewalk cafes to offer fresh air and sunlight to patrons. These contribute to the general ambiance of a successful sidewalk and should be encouraged where there is ample room. The Department of City Planning establishes streets where sidewalk cafes are permitted in commercial districts and has established a minimum clear path requirement of eight feet to ensure there is not a conflict between the functionality of the sidewalk and the wait staff and patrons of the restaurant. The Department of Consumer Affairs issues permits for cafes which meet these locational and clear path requirements. Sidewalk cafes often bring vibrancy and life to streets and unenclosed cafés should be permitted and encouraged where there is ample sidewalk room.

Conversely, inappropriate uses along commercial corridors can spill out across the pathway, adding little value to the pedestrian experience. In close proximity to several station areas, for example, automobile sales and repair shops have vehicles, tires and vehicle components spilling into if not blocking the public right of way. Not only does this limit the

functionality of the sidewalk, but it detracts from the potential vibrancy of the streetscape.

STREET TREES

Throughout our community outreach process, community members consistently identified streetscape components that they liked and felt benefited the community and those that did not. Amongst the features that are most desired on sidewalks are street trees. Street trees provide countless benefits for residents, pedestrian passersby, and the city as a whole. Street trees provide shade in the hot summer months to not only those on the street, but nearby residential units. This makes the sidewalk a more attractive place for pedestrians, and lowers energy costs for nearby residents. (New York City estimates that all urban trees combined result in a total energy-cost savings of \$3.41 per resident).⁵ Street trees also benefit a city's infrastructure. They divert gallons of rainwater that otherwise would mix with raw sewage and flow into our waterways.

Street trees also immensely improve the aesthetics of a particular street by softening the hardscape of urban neighborhoods. The positive effects of trees, including their value to surrounding real estate, has been understood for centuries.



FIGURE 9 | Privately Owned Public Space (POPS) Plaza, 6th Avenue Manhattan.

Source: © NYC Department of Transportation



FIGURE 10 | DOT traffic-calming measures have helped improve the pedestrian experience, as shown here at the Hub in the Bronx (Left). At the West Side Highway and Warren Street in Lower Manhattan. (Right)

Source: © NYC Department of Transportation

Adequate tree pits are required to ensure that trees will mature properly and to prevent the sidewalk from uplifting. Decorative pavers or tree pit guards can be coordinated by BID's and contribute to consistent design. Detailed standards can be found in the NYC Department of Parks and Recreation's 2013 *Tree Planting Standards*.⁶ It is important that once trees are planted, that the tree pits are maintained. Oftentimes in Bronx neighborhoods, trash and debris can collect within them, which defeats the purpose of the amenity providing aesthetic enjoyment. Several BIDs maintain their communities tree pits, and often plant them with flowers or ground cover to deter litter.

New developments and enlargements to existing buildings are required to provide street trees in 25-foot intervals along their street frontage pursuant to the NYC Zoning Resolution. As developments and renovations occur in station areas, new street trees will follow. Other areas may be eligible for the Million Trees NYC initiative, which allows residents to request a street tree for their block or property. In both situations, street trees are maintained by the Department of Parks and Recreation, unless planted on private property or adopted through Million Trees NYC. To request a street tree, call 311 or visit: <http://www.nycgovparks.org/trees/street-tree-planting/request>

BENCHES

Strategically-spaced, weatherproof benches were also noted by community members as desirable

sidewalk amenities. When benches are made of the right materials and placed in the right places, they can greatly enhance a space. People are much more likely to stay and enjoy the day, and increased faces on the street promote community and deter crime. This is also an important amenity for physically impaired or elderly people as it allows for breaks in walking. Benches located along busy retail corridors serve as a resting place for patrons, and along transit stops they serve as auxiliary waiting areas for riders, greatly increasing their appeal. The NYC Department of Transportation's CityBench program installs attractive and durable benches around the city, particularly at bus stops, retail corridors, and in areas with high concentrations of senior citizens. The goal is to have more than 1,000 additional benches across the city by 2015.⁷ To request a CityBench in your neighborhood visit: <http://www.nyc.gov/html/dot/html/pedestrians/citybench.shtml>

PUBLIC SPACES

Public spaces that include public and private plazas, seating and outdoor cafes can provide respites for users and serve attractions to the area they are in. When located along a pedestrian corridor they can double as a meeting place, waiting area, and promote local businesses. At key intersections these spaces can serve as an entranceway to or connection between communities, which can help to define it as a place. As identified in this study across much of the Bronx successful public plazas are lacking, although additional sites have been identified. NYC DOT's pla-

za and street seats programs provide opportunities for businesses and community organizations to activate spaces along pedestrian pathways.

PARKING & CURB CUTS

As the name suggests, curb cuts are gaps in the continuity of the curb to allow for vehicular driveways. The very nature of these allow for automobiles to drive onto the curb, defeating the purpose of the sidewalk as a pedestrian refuge and creating dangerous conflicts between drivers and pedestrians. Vehicles attempting to egress a parking facility often lurch out into the sidewalk to establish if they may safely merge into traffic, prompting hazardous conditions for pedestrians. This ingress of merging vehicles into traffic flow can also exacerbate traffic congestion on major arterials.

Since most curb cuts access parking spaces or loading docks required by the Department of City Planning typical solutions on major streets involve a combination of prohibiting curb cuts on major avenues and commercial streets and pursuing zoning districts along commercial corridors which have lower parking requirements, especially in areas well served by mass transit, as it will increase a property's ability to waive out of the requirement. Where parking is provided, it should ideally be enclosed and located beyond other uses. Entrances and exits to the parking facility should be located on side streets with fewer pedestrians and potential mode conflicts.

STREET LAMPS

Getting people to stay on the streets during the daytime can be a difficult task in itself, let alone at night. Well-lit sidewalks and public spaces are integral in bringing more people to enjoy sidewalks and the places they connect with-- be they recreational, entertainment or shopping related. Well-lit, active spaces are not conducive to crime, so pro-actively creating active, bright, bustling sidewalks is one method that vulnerable communities can take to reduce crime. When people aren't afraid to travel at night, the image and safety of a community dramatically improves.

Not only is lighting important, but the typology itself and any associated community-specific banners is important in establishing and reinforcing community assets and pride. The New York City Department of Transportation utilizes a variety of street lamps to respond to differing needs and communities. For example, highways and major arterial roads typically

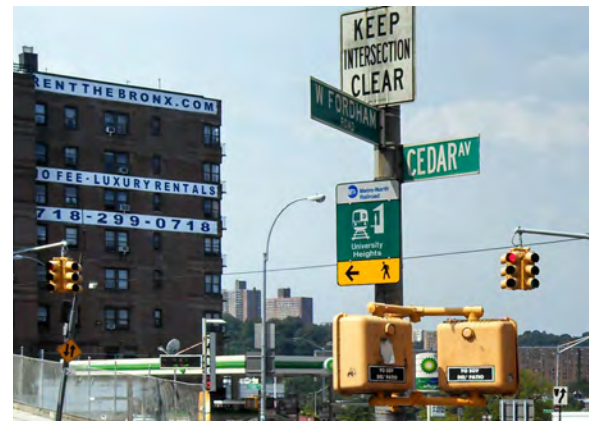


FIGURE 11 | (Top) NYC DOT neighborhood signage at Worth and Mulberry Streets in Manhattan, installed in 2013. (Bottom) Metro-North sign in the University Heights neighborhood in the Bronx.



FIGURE 12 | Step Streets at 232nd Street and Broadway incorporate design and landscape to add to a unique pedestrian environment.

use cobra head lamps. These work well for vehicular environments but would seem cold and impersonal on quiet pedestrian streets. Many historic districts and BID's utilize unique lampposts that can be adorned with banners or planters to emphasize a common theme. Pedestrian scale lighting can be used to supplement street lighting along key pathways, bikeways, plazas and parks.

PEDESTRIAN CROSSINGS

Well-marked and signed crossings enable pedestrians to feel comfortable en route to their destination. Routes between transit points and key community amenities should aim to minimize crossings. Where crossings are required at key points a number of measures can be implemented to make a more comfortable crossing:

- **Curb extensions** or bulbouts are extensions of the curb line to shorten pedestrian crossing are an effective tool in reducing speed, lessening the

crossing distance, and sheltering/reinforcing the parking lane. Typically these would be found in commercial corridors or difficult crossings such as on East Tremont Avenue.

- **Textured or painted crossings** can significantly reduce speed and indicate a safe crossing zone for users. While speed tables or humps can be more effective in reducing speed, along busier routes textured crosswalks can be less prohibitive and have a similar effect.
- **Walk timers** assure pedestrians of their crossing and encourage safe crossing.
- **Pedestrian routes**, as seen on Fordham Road and the Grand Concourse around our study areas, often coincide with wide streets or boulevards. Generally high volume roads dominated by cars can be intimidating for pedestrians. **Landscaped medians** can slow traffic by creating a boulevard effect and gaining the drivers attention. **Pedestrian refuges** allow for cross-

ing large intersections without having to run all the way across. As shown in Figure 10, additions such as bollards can reinforce the safety of the refuges.

- **Guidelines** for these and many other streetscape amenities can be found in the NYC DOT *Street Design Manual*.⁸ NYC DOT has several safer streets programs including Neighborhood Slow Zones and Safe Routes to Transit which focus on implementing safer pedestrian crossings in areas of need. Their Rapid Response Toolkit offers light infrastructure solutions such as pavement markings, signal timing, new signage, painted and/or textured surfaces, and flexible delineators as lower cost pedestrian solutions.

WAYFINDING SIGNAGE

The lack of pedestrian scale signage is an issue that was identified around many of our station areas. When a neighborhood offers convenient signage including distances or travel times, visitors are much more likely to explore that neighborhood knowing they can quickly and safely return to where they started. Signage which directs transit users to connections can down commute times and encourage multi modal transit. Neighborhood signage reinforces a sense of place and promotes community amenities. DOT's neighborhood signage program, piloted in 2013, is well served for communities that attract regional users. The Fordham station area would be an ideal candidate for this program as it could denote several world-class institutions like the Bronx Zoo, the New York Botanical Gardens, as well as regional destinations like Little Italy and the Fordham Shopping District.

STEP STREETS

Step streets are a unique feature that can enhance the pedestrian experience in Bronx neighborhoods. They create a distinctive identity and, by nature of being pedestrian only, provide unique urban design opportunities. Step streets can be utilized to provide pedestrian access in areas where steep grades can create longer pedestrian routes along the traditional pedestrian pathway.

It is unlikely that new step streets will be built due to ADA compliance concerns and cost, however the Bronx currently has 63 stepstreets. The majority of these features fall under the responsibility of NYC DOT and occasionally DPR, however the surrounding community must play a part in their upkeep as

well. Step streets that are underutilized or perceived as unsafe can turn into loitering areas and collect trash. It is important they are well lit, maintained and tied into the pedestrian fabric. Where appropriate, retail uses should abut steps and landscaping or public art should be incorporated.

CONCLUSION

While each of our study areas possesses strong assets and transit amenities, they are often disconnected and underutilized, which provides an opportunity to increase usage and improve connections. Changes in land use and commute patterns have created gaps in pedestrian infrastructure creating disconnected pedestrian pathways that result in overall diminished walkability. Pedestrian pathways need to be reevaluated to adapt to these changes. As evidenced in this section, the concept of a walkable community is a combination of multi-disciplinary elements that include land use, streetscape, transportation and community amenities. There are components of these strategies that could enhance the pedestrian environment of each station area; however, we have identified priority areas as examples to show how these can be applied to create more walkable and complete communities that maximize transit assets.

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Long Island City, Queens

STRATEGIES

INTERMODAL CONNECTIVITY & COMMUTER RAIL STATIONS



INTERMODAL CONNECTIVITY & COMMUTER RAIL STATIONS

STRATEGIES

INTRODUCTION

The safe and efficient movement of passengers between modes of transportation—or intermodal connectivity—is paramount to creating complete and livable communities. New York’s mass transit network moves more people than any other city in the nation. In New York, residents have an extensive range of public transportation options to make their daily commute, including subways, local, express and select buses, commuter rail, and ferry service. Many commuters combine one or more of these mass-transit modes with walking, bicycling or using a vehicle— be it a taxi, rental car, or personal vehicle. While cost is a critical factor in choosing a transit mode, comfort, convenience, consistency and speed are also important elements which influence the choice a commuter makes for their mode of transit. Along regional commuter rail systems such as Metro-North, stops are less frequent and stations are more interspersed than those associated with bus or subway service. While this allows commuter trains to cover great distances, it may also require secondary means of transit to shuttle passengers to and from the station, or feeder systems, especially in neighborhoods which are outside of the walkable radius and reliant on mass-transit.

Many Metro-North stations throughout the regional rail network have a layout and function created for a suburban ridership pool which is accustomed to fixed arrival and departure schedules and convenient station parking for their vehicles. Bronx commuters differ from this template though, as they are generally walking to and between modes of transit and are typically not driving to the station. In fact,

none of the Metro-North stations in our study area have station parking. The threshold for waiting is likely lower for Bronxites since they are not limited to one mode of transit as suburban commuters may be. Since the manner in which Bronxites access and utilize their stations differs greatly from their suburban neighbors, Bronx stations should reflect this difference in the manner in which they are designed and integrated into the urban fabric.

While the communities we studied all have unique qualities, there are a number of common issues surrounding the successful integration of Metro North stations into the complex fabric of Bronx neighborhoods. The streets surrounding transit stations not only need to support multiple divergent and potentially conflicting transportation modes (automobiles, buses, pedestrians, and bicyclists), they simultaneously need to do so in a safe and fluid manner. The relative disconnect most Metro North stations have from other modes of transit and the neighborhood proper surrounding land uses prevent stations from reaching their full potential. This in turn prevents Metro-North ridership from becoming integrated with the NYC mass transit system and from becoming a viable alternative for most Bronx commuters. Improvements to the connections between Metro-North and other modes of transit will ensure greater accessibility for Bronx residents and workers and improve overall ridership. The following section identifies some of the strategies for creating more seamless intermodal transit connections and integrating commuter rail stations into local transit networks.

STRATEGIES

SUBWAYS

The subway system is a relatively fixed feature of the New York City environment. It is the most extensive subway system in the world, and the most utilized and efficient mode of transit in the city. The initial construction of the subway lines facilitated a de-concentration of population intensity from Lower Manhattan, especially the Lower East Side. Through the following decades, the lines accommodated rapid movement through quickly growing population centers and sparked new residential, retail and employment centers in its vicinity.

As neighborhoods have evolved throughout the decades, station entrances are still predominantly located along retail corridors and active pedestrian pathways. Subway entrances are typically embedded into the surrounding streetscape, with simple entrances either on the sidewalk or adjacent buildings, yet, despite a small street presence, the consistent signage and fixtures, like the prominent globe lamps, make stations easily recognizable throughout the city. All subway stops near Metro-North stations should include wayfinding signage, schedules and geographic locators to Metro-North which are easily readable and consistent.

Efforts at connectivity typically involve working to create more seamless connections between different subway lines at major transfer stations. In Court Square in Queens, for example, where the below-grade G train intersects with the below-grade E and M trains and the above-grade 7 train, a recently constructed passageway has allowed transfer between lines without having to leave the transit system, removing an additional step from many passengers' commute. While buses and Metro-North transfers are unlikely to have this level of connectivity with subway lines, similar measures should be included where reasonable overlaps occur. This could include enhanced pathways, signage, as well as fare and schedule coordination. Additional entrances to subway stops should be explored where they can increase proximity to Metro-North Station entrances.

BUSES

Buses are an integral part of the commuter landscape in the Bronx. Within our study areas they are often the initial transit mode for commuters, and frequently provide connections to subways and commuter rail. As non-fixed modes of transit, population



FIGURE 1 | New York City's transportation mode choices: the subway, bus system, bike lanes, and taxi services give residents options throughout the five boroughs. Commuter rail increasingly plays a large role within the transportation network.

Source: ZZZ/ CC-BY-SA-3.0, via Wikimedia Commons from Wikimedia Commons



FIGURE 2 | Efficient and reliable transfers between different public transportation modes improve the commuting experience, and increase the likelihood of usage. (Left) The Long Island Rail Road station in Queens connects users to the E and J subway lines, buses, and to John F. Kennedy Airport. (Right) The 125th Metro-North station in Harlem provides easy access to LaGuardia Airport, connecting buses, and the 4, 5, 6 subway lines.

growth patterns have not traditionally followed bus corridors. Traffic and crowding can lead to fluctuating schedules, and slow, erratic service. Combined with the lack of fixed station amenities this detracts from the potential for transit-oriented development around them. While the relative flexibility of bus service and lower capital cost provides an opportunity to adjust routes, schedules and stops to meet local needs, bus service remains one of the least efficient transit modes in terms of commute times.

Recently several Select Bus Service (SBS) routes were created in the Bronx to begin to remedy this inefficiency. SBS includes dedicated bus lanes, prepaid ticketing, and fewer stops, the combination of which is intended to decrease commute times. Future SBS routes should be carefully planned to ensure a streamlined transfer between modes and, where feasible, should ensure bus stops are correlated with subway and Metro-North stations. The Fordham, University Heights, Williamsbridge, Melrose, and Tremont stations all have SBS stops within a ¼ mile of their respective Metro-North stations, and this constitutes a tremendous step towards intermodal connectivity. The flexibility of bus routes and stops should be utilized to ensure maximum overlap with commuter rail and subway stations.

Current SBS lanes in NYC operate curbside or within a lane offset from the curb and although these have produced reductions in travel time of up to 20%, they have yet to meet the definition of true Bus Rapid Transit according to the Institute for Transportation and Development Policy.^{1,2} This is due to a combination of mode conflicts, turning lanes, general traffic volume and boarding delays. Bus routes which operate in a center lane or routes which have a physical barrier separating the bus lane from other traffic can provide the best opportunity to dramatically increase speeds. These options minimize conflicts with other vehicles, parking and right turns as well as allow for faster floor level boarding where raised boarding platforms allow riders to step on the bus at grade. Center lane options were considered along the Webster Avenue SBS BX41, and both options should continue to be considered and implemented wherever possible to continue to reduce transit times for Bronx residents.

Bus stop amenities not only provide shelter and rest for riders; they create a more stable atmosphere which projects safety. While full shelters and seating are unlikely for every bus stop, most should have some combination of amenities. NYCDOT has embarked on an ambitious program to have 3,500 to-

tal shelters installed by 2013. The NYCDOT bench program is another option to provide supplementary seating where narrow sidewalks and other constraints prevent the placement of shelters. Detailed information on street furniture and the dimensional criteria needed for a potential shelter location can be found on the NYC DOT website.³ Shelters should not impede walkability and a clear path through the sidewalk should be maintained. To facilitate the variety of streetscapes found in NYC, NYCDOT provides four shelter categories, which vary in width and length.

Finally, announcements should consistently be made at the applicable bus stops where subway and/or Metro-North service is available. Wayfinding signage, as recently implemented in University Heights, should direct potential subways and rail users from bus stops to the station.

BICYCLE NETWORK

Bikes are an integral part of the transportation network, and as bike infrastructure has become a city-wide priority, ridership in New York City has been consistently rising. According to the U.S. Bureau of the Census, bikers in New York City recently accounted for roughly 36,000 daily commuters.⁴ Bikes can inexpensively fill a gap in transit connections or replace an inefficient mode. This is especially relevant in our study area where buses are often the first line of transit for many inter-borough trips or further connections, and some of these trips could be replaced by a simpler, more convenient bicycle trip. Bike share programs will help facilitate this, as the flexible systems allows bike removal and return at different locations, and allows users to avoid the inconvenience of taking a bicycle on a subway or rail car.

CASE STUDY | Citi Bike

In May 2013, Citi Bike, New York City's bike share program, was launched. Citi Bike is the largest bike sharing system in the country and has had great early success.¹ The program helps fill gaps in public transit service, and provides short rides intended for commuting, running errands, and traveling the "final mile" to a destination.

The fleet of 4,300 bikes can be accessed at 330 docking stations in Manhattan south of 59th street and in Brooklyn north of Atlantic Avenue and west of Nostrand Avenue, with several docks in North Williamsburg.² As of November 8th 2013, riders had already taken 5 million trips and ridden over 10 million miles. Riders can sign up for an annual membership with unlimited 45 minute rides, or purchase a weekly or daily pass with unlimited 30 minute rides.

Citi Bike has been successful in large part due to the 350 miles of bike lanes added over the past decade; in the Bronx alone, there are now over 88 miles of bike lanes, with 56 miles added since 2006.³

The bike lane network in NYC has made cycling safer and a more desirable mode of transportation across all boroughs. Increasingly, cycling has become a practical way for Bronx commuters to reach their final destinations, or provide a connection to subway service from a Metro North station. The next phase of Citi Bike will bring docks to 79th street in Manhattan,

parts of Queens, and additional neighborhoods in Brooklyn increasing the number of docks and bicycles system wide to 600 and 10,000 respectively. As Citi Bike continues to grow, bike share will strengthen transportation options for Bronx residents and Metro North riders.

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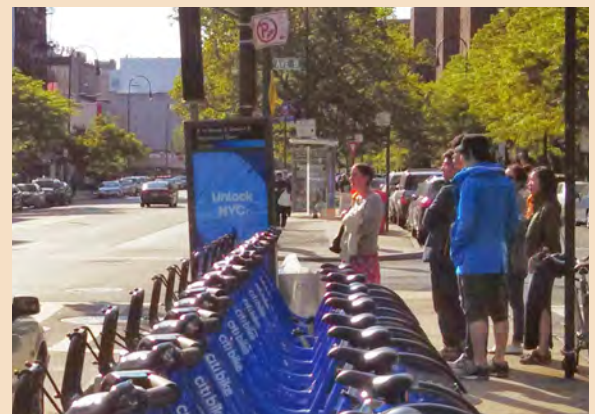


FIGURE 3 | Citi Bike, the largely successful bike-sharing program launched in 2013.

A fully connected bikeway system is the first element in encouraging bike use. Gaps in existing bikeways in the Bronx are still abundant and are a strong deterrent to riders. Local bikeways should connect to regional trail systems and recreational pathways. Institutions, attractions, retail and transit points need to be accessible by bike path from population centers. Bike share locations at the Fordham Station and the Bronx Zoo, for example, would allow Manhattanites to take Metro-North to the Bronx, obtain a bike at the station and ride the ½ mile down Fordham Road and Southern Boulevard to the zoo entrance while avoiding the often crowded #12 or #9 buses.

All Metro-North rail stations should have bike racks to encourage bike usage, and locations should be provided within rail cars to store bicycles. Adding bike racks near the stations would give cyclists a place to lock their bike before boarding a train and could incentivize new riders to take advantage of Metro-North. Currently, bringing a bike on the train requires a permit which can be bought only at Grand Central Station. A less restrictive system could encourage bike usage, specifically where the train provides a connection to regional trails. Multi mod-

al transit hubs or connections to attractions, which have the potential to generate bike demand should have additional bike amenities that may include protected bike parking and bike stations. The surrounding zoning should permit bike repair shops.

ALTERNATIVE TRANSPORT

Transportation choice is an important element of a livable community, and it is an advantage New York City maintains over other cities. However, despite the plethora of options, gaps remain between multiple modes of mass transit. Alternative transit options such as ferry service, car and bike share, as well as for hire vehicles, can supplement these gaps, and increase the ease of commuting.

FERRY SERVICE

The East River Ferry pilot program began in 2011, and provides regular ferry service between seven stops in Manhattan, Queens, and Brooklyn. The service has been a resounding success with the pilot only halfway through ridership, 1.4 million passengers, already exceeding the total projected ridership

FIGURE 4 | The East River Ferry provides regular ferry service between seven stops in Manhattan, Queens, and Brooklyn.



of 1.6 million. Additionally, 69% of riders identified themselves as commuting, solidifying the idea that the service is not a tourist attraction, but a viable mode of transport for daily commuters. Ferry locations are flexible, and service requires little capital investment when compared to modes like subway extensions.

The location of commuter rail lines along waterways, specifically Metro-North's Hudson Line, provides an opportunity to connect Metro-North stations to ferry stops as service increases. As waterfront demand continues, and development opportunities increase, ferry service along the Harlem or Hudson River provides an opportunity to expand service to reach new population centers and connect to commuter rail lines. The city's Economic Development Corporation (EDC) completed a study in 2011 analyzing the possibility of expanding existing ferry lines.⁵ As residential population in areas along the Hudson Line continues to expand, ferry service in this area should be considered.

CAR SHARE & RENTAL CARS

In 2010, the Department of City Planning passed a zoning text amendment allowing car share ser-

vice parking in off-street parking garages and lots in suitable locations and zoning districts. Since almost 62% of Bronx residents do not have access to a personal vehicle, car share services such as Zip Car can provide access for occasional users without the burden of car ownership.^{6,7} Locations should be accessible by public transit and low emission vehicles should be the standard. Additionally, car share would have the benefit of freeing up neighborhood parking spaces.

TAXI & LIVERY SERVICE

For hire cars provide residents with a flexible option to reach areas that are either inconvenient or inaccessible through public transit. The outer boroughs, however, have historically had little access to for hire services, depending on public transit, private vehicles, or walking long distances. In 2013, the NYC Department of Transportation launched a new fleet of inter-borough taxis aimed at addressing this growing need for services outside the Manhattan core.

The new green metered taxis pick up customers in northern Manhattan, the Bronx, Brooklyn, Queens, and Staten Island. Over 18,000 of these new taxis will be available over the next three years, greatly in-



creasing the access of for hire services to Bronx residents. This expansion of services provides an opportunity to increase the use of Metro-North stations, as addressing the gap between stations and neighborhoods becomes increasingly more convenient.

COORDINATION OF SERVICE

SCHEDULES

Real time travel information is often a deciding factor in making your next commuting decision. An increasing amount of smart phone applications provide instantaneous information on when the next bus, subway or train is coming. Accurate real time technology not only reduces commuting stress, but allows users to consider additional options. This is especially true around commuter rail stations where trains are less frequent. Countdown clocks have become more commonplace at transit stations across the city. Programs such as Nextbus, CooCoo, and Bus Time are effective examples and should continue to expand.⁸ Real time transit schedules should be accessible by all users through an easy to understand platform.

Time coordinated schedules to connect subways and buses with Metro-North is difficult and less necessary due to the frequency of service. However announcements, schedules or countdown clocks at subway and bus exit points adjacent to Metro-North stations provides riders with a feeling of continuity between modes.

FARES

Wherever possible, fare coordination should be implemented. Major gaps in connections to mass transit at the end or beginning of these commutes, known as the “last mile” should be identified. Programs such as Hudson Raillink, which is operated by Metro-North, provides service from the Riverdale neighborhood to the Metro-North stations.⁹ Tickets for the service can be purchased at a discount in unison with Metro-North weekly and monthly passes or by swiping a Metro Card. The service eases the commute to Riverdale passengers where there is a lack of connecting transit options and a steep grade to climb. Similar programs could be operated by private entities or major employment centers where businesses can partner to provide connecting service for employees.

SIGNAGE

Wayfinding signage guides users and allows them to map out a route for their commute to local amenities. Consistent signage is identified with a transit agency or mode and serves as a visual cue for users to look out for and trust. Signage should be located on pedestrian level at entry and exit points and indicate transit connections, station amenities, local attractions, schedule and fare.

STATION DESIGN & AMENITIES

Many of the Metro-North stations examined in this study are plagued by minimal and inconvenient ac-

FIGURE 5 | (Left) The former station on Melrose Station; the active use provided amenities to passengers and local residents. (Right) Current view across from stairway to platform; the empty space provides not streetscape amenities and breaks up the street wall of the retail corridor.

Source: @ The Museum of the City of New York



cess points, sparse amenities, and a perception of being unsafe. This contributes to community members under-utilizing this transit resource, and generally being unaware of the location, frequency and extent of Metro-North service. A convenient, pleasant and secure station is one with features such as comfortable waiting areas, vendors selling refreshments and periodicals, adequate lighting, and clean washrooms. Commuter rail passengers are likely to spend more time in stations compared to subway passengers. While many rail passengers in suburban communities have schedules committed to memory and thus may not spend much time waiting for trains, passengers who are unfamiliar with schedules, or transferring from other modes of transit may spend considerable time waiting in transit stations. According to research done by the Victoria Transport Policy Institute, approximately 10-30% of travel time for a typical transit trip is spent waiting.¹⁰ With up to 1/3 of their journey spent waiting in stations, passengers can be particularly sensitive to the environment where they wait.

New York City transit riders are generally used to stations located along busy pedestrian pathways with multiple access points. Pedestrian access from multiple points integrates the stations into the fabric of the neighborhood, provides convenience and a sense of safety. Many Metro-North stations are by-products of the rail corridor they sit upon. Whether the route is below-grade, at-grade, or along the waterfront will have large effects on how a station can negotiate access both to the platform and the neighborhood. The following elements should be considered for urban commuter rail stations: ease of access, design, comfort and safety, and integration into the local surroundings.

INTEGRATION INTO LOCAL ENVIRONMENT

Commuter rail stations should blend cleanly into the urban environment which surrounds it. An ideal situation can be seen at a station like Grand Central Terminal where the rail runs underground and connects seamlessly to a multimodal access point. For over 50 blocks north of the terminal, the Metro-North rail cut is decked over, and above, Park Avenue lends its name to some of the most expensive real estate in the world. The decking of the rail cut not only facilitates the reconnection of the grid and urban fabric, it significantly bolstered land values by capping the negative externalities associated with intensely used train corridors. Retail amenities and residential uses are not affected by the rail line, and can facilitate a pleasant walking experience to the terminal.

In the Bronx, the Metro-North Corridor runs mostly below or at grade and is generally an open cut. Decking over the rail line entirely can be prohibitively expensive or impossible. However, as land values continue to increase, air rights over rail lines could become an unutilized asset not being used to its potential. In the interim, targeted opportunities to reconnect streets and provide access to pedestrians over rail corridors should be examined specifically where stations are located.

Where the rail cut is below-grade, partial decking over the rail line can allow for a larger, more prominent station house to front along an existing retail corridor, and could allow for additional amenities to be provided, such as retail, or public open space. Multiple entrances to the platform can be provided without the need to cross busy intersections. Mixed development can continue without the nuisance of a rail line, but with the benefit of easy transit access. This can be seen around the Fordham Metro-North station where current redevelopment of the public plaza, which sits above rail line, will allow for retail vendors, public open space, and direct connections to multiple bus lines.

Along Tremont Avenue, for example, where station access points are located along a rail overpass, which sits at a prominent location within the neighborhood, opportunities should be studied to construct decking over the rail cut in order to facilitate continuity with the streetscape character on blocks adjacent to the station. The rail overpass and associated open rail cut, disrupts the retail corridor and discourages walkability. Partially decking over the rail cut, especially at portions adjacent to the sidewalk, can provide an opportunity for a more prominent station (with more passenger amenities), a more continuous street wall, and opportunities where retail and transit supportive uses can be located in proximity to the station entrance.

In other locations, where the Metro-North rail corridor is relatively close to grade level in the Bronx, at-grade crossings are unusual and vehicular overpasses and underpasses are limited. This results in large stretches of streetscape without pedestrian access to the other side of the tracks. Since pedestrian crossings are a costly option to connect a neighborhood, it is imperative that when built these walkways are designed in a manner that ensures free-flowing and safe access for pedestrians and potential riders. More pedestrian crossings will better knit together neighborhoods on opposite sides of the tracks, and will help to alleviate the harsh conditions cre-



FIGURE 6 | Klyde Warren Park in Dallas, Texas. The popular 5.2 acre park's innovative design was created by decking over the Woodall Rodgers Freeway, connecting two previously fragmented areas of the downtown.

ated by the rail line, but the design of these crossings is essential to their success. The clear path must be wide enough, 15 or 20 feet ideally, to allow groups of people to pass; the sides must be visually porous so that users are visible to those outside; there must be lighting; and the bridge must be aesthetically pleasing. Gradual ascents leading up to pedestrian bridge are critical to maintain sightlines, and to improving accessibility. Allowing people to see up and down elevation changes increase perceptions of safety.

DESIGN

MTA subway stations are an iconic symbol which is identified with mass transit. The globe lanterns at station entrances in particular, are a renowned, easily recognizable fixture to the urban environment which, despite their small size, can be seen from a considerable distance. New York City bus stops now have a sleek modern design which patrons are coming to recognize with a more efficient bus system. Consistent and recognizable design, in this case by world-renowned architect Nicholas Grimshaw, has improved the waiting experience for bus riders. Additionally, through a contract with the Spanish ad-

vertising company Cemusa, the shelters have been designed, installed, and manufactured at no cost to city in exchange for advertising rights.³ Commuter rail stations should have similar high standard and recognizable designs which can be associated with its service. Innovative funding programs (like the bus shelter program) that procure high-quality capital investments for little taxpayer money should be explored. Continuity amongst stations provides visual cues to announce their presence.

Elements of this should include:

- The use of high quality and durable materials which are complementary to the surrounding area, yet functional and identifiable.
- Appropriately scaled and well integrated amenities which are sensitive to local context.
- Landscaping or streetscaping in and around the station, where appropriate, which is well maintained and attractive.
- Design which considers how color, sightlines, lighting and acoustics can enhance user experience and usability. For example, subtle reinforcements of the color of the Metro-North line

- (blue for Harlem, green for Hudson, red for New Haven) help with station and service recognition. Lighting and improved sightlines improves station functionality as well as perceptions of safety, and acoustic controls improve passenger comfort while waiting.
- Open air design, which allows natural light and emphasizes transparency.
 - Considering interesting form or iconic design where feasible.

ACCESS

- Station entrances should be oriented toward to the pedestrian pathway and located in areas that maximize connections between activity centers and intermodal transit routes.
- Multiple entrances provide a wider pedestrian coverage and enhanced flow in and out of station.
- Access paths and platforms should be wide and unobstructed to accommodate passenger flow during peak hours.

STATION AMENITIES & SAFETY

All stations should include:

- Comfortable seating that allows for a range of users and is located at several points along the platform or within the station house.
- Consistent and well placed wayfinding which provides information beyond the footprint of the station.
- Sheltered waiting areas should include seating, transparency, heat and lighting.
- Trash and recycling bins should be provided at several points along the platform and within the station.
- Schedules and ticket machines should be included in visible areas both inside and at station entranceways.
- High quality lighting, transparency and sightlines that allow for visibility at all points of the station.
- A standard kiosk which includes information on connecting transportation, local map, and area attractions.

As station typologies move towards transit hubs with higher ridership, increased intermodal transit connections, commercial and employment centers, and regional attractions additional amenities should

be considered to support commuter needs that include:

- A well designed station house with informational, newspaper or refreshment kiosks.
- Security cameras which are linked to local authorities.
- A station agent and/or security service during station hours.
- Restrooms and water fountains that are accessible during station hours.
- Additional retail and shopping that supports transit users and surrounding uses.

CONCLUSION

New York City's extensive transit network provides multiple options for commuters, creating seamless connections between these modes will improve usage, access and overall quality of life. Metro-North commuter rail corridors will continue to play a larger role in the scheme of available transportation options, especially as existing routes continue to build capacity; alternative transportation choices grow with the addition of ferries, bike share, and rapid bus service; and technological advances provide instantly accessible information. Integrating these assets into the transportation network will increase the access for Bronx residents to new job centers and streamline existing commutes. Reconnecting these corridors will increase livability, opportunities and create more complete neighborhoods.

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STRATEGIES

RAIL ADJACENT LOTS



RAIL ADJACENT LOTS

BEST PRACTICES

INTRODUCTION

SYNOPSIS

A commuter rail line running at or below grade often creates atypical lots adjacent to the rail corridor. This is a prevalent issue surrounding many of the focus stations of this study, and may be a common externality around the city and country where rail or other transit corridors run at or below grade. Lots that are difficult to develop are frequently vacant, fenced off and ultimately left to collect trash. This, combined with the often elongated, uninterrupted lengths, yields unattractive, poorly lit, inactive pedestrian environments. This often reinforces edge conditions, serving to separate and even isolate neighborhoods,

and when these expanses are located adjacent to stations areas, it could affect ridership, as safety concerns could easily emerge.

Development of these rail adjacent lots is impeded due to a combination of challenges, including irregular size and shape, issues of noise, safety, and vibrations associated with proximity to a rail line. Additionally shallow sites are impractical for the development of income generating uses. These best practices explore design options that will best utilize rail adjacent lots within the context of TOD.



FIGURE 1 | Vacant lots between Amtrak Hell Gate Line and Tremont Avenue.



FIGURE 2 | Materials storage abutting rail lines in Morris Park.

The goal is to foster innovative design and uses for these types of lots that will reclaim the unproductive space and provide amenities for transit riders.

BACKGROUND

In this section we have identified three basic categories of lots which are adjacent to rail lines, based on their depths. While there is overlap across the categories, typically the lots examined in our study fit within one. The three categories are as follows:

Category 1 refers to a lot with a depth less than 15 feet. Lots within this category are typically small strips of land immediately bordering rail lines, and are often part of a rail right-of-way owned by the rail company. These lots have the least likelihood of development as they are too shallow to accommodate most income generating enclosed uses. Typically they are vacant lots, and even where they are utilized, it is typically for a non-active uses like material storage. Security fencing is often found at the front property line as it meets the sidewalk, and beyond, the lots are often unkempt and littered with debris. Due to the pervasive inactivity and little development, sidewalks adjoining the lots are routinely substandard and lack amenities like lighting and street trees. This further contributes to the isolation

and safety concerns, which pedestrians face when walking along these lots.

Category 2 refers to a lot with a depth ranging from 15 to 30 feet. Lots within this category are generally too small for standard commercial development, as even maximizing the lot depth would often leave an insufficient and un-practical retail space to lease. Residential development is also not practical due to the lack of marketability directly adjacent to rail lines and open space requirements for legal windows, which generally requires 30' of depth just for the rear yard. These lots are typically vacant, or where occupied they are utilized by inactive uses like materials or vehicle storage, or where deeper, by manufacturing uses like vehicle repair shops. Security fencing is a frequent sight in these areas, and around repair shops, roll down gates and debris (such as tires and automobile parts) routinely deter pedestrians out of safety concerns. Vehicle parts left in open storage can also create environmental impacts on the site which may deter future development.

Category 3 refers to a lot with an average depth of 30 to 60 feet. Lots within this category are capable of some standard commercial development, although it may only be feasible at a lower scale of one to two stories due to commercial rear yard requirements,

STRATEGIES

In this section we have used the three categories of lot depth to create hypothetical development scenarios. Each scenario portrays a variety of best practices which would correlate with that specific category. Generally, the deeper a lot extends, the more options are available on that site. Recommendations for each category are not meant to be mutually exclusive, and, as we portray, a Category 2 or 3 lot could easily accommodate some of the beautification measures discussed in the best practices for Category 1. Similarly, irregularly shaped lots could apply various attributes of multiple categories, as applicable.

CATEGORY 1

Parcels in this category are generally not large enough to accommodate development. Therefore, solutions are targeted towards establishing a better appearance on the lot, specifically in the vicinity of the station; and establish amenities which facilitate pedestrian connections within and between neighborhoods. This will work to reduce the effects of the edge condition which is inherent to rail adjacency. Specific solutions include:

- 1 Replacing security or barbed wire fence with decorative or vegetative fencing. Decorative fencing may also include opportunities for murals or community history or information. Fencing should be placed at the rear lot line so as to elongate the sidewalk and provide room on the lot for other amenities.
- 2 Lighting should be incorporated at regular intervals, either into the amenity strip of the sidewalk or into the fencing itself.
- 3 Seating and planting should be on the parcel. Incorporated at different intervals, and at varying degrees of intensity and scale, to create places of relaxation and visual interest for pedestrians. This is important on larger width parcels where the monotony of super blocks can be especially burdensome for pedestrians.
- 4 Ensure that sidewalks have adequate sidewalk widths, and are clear of vegetative growth and debris from adjacent lots.
- 5 Street trees should be planted at regular intervals on the amenity strip of the sidewalk.

Although not depicted in the image, parcels in closer proximity to the station should also serve auxiliary station functions, such as taxi stands or passenger drop-off points.

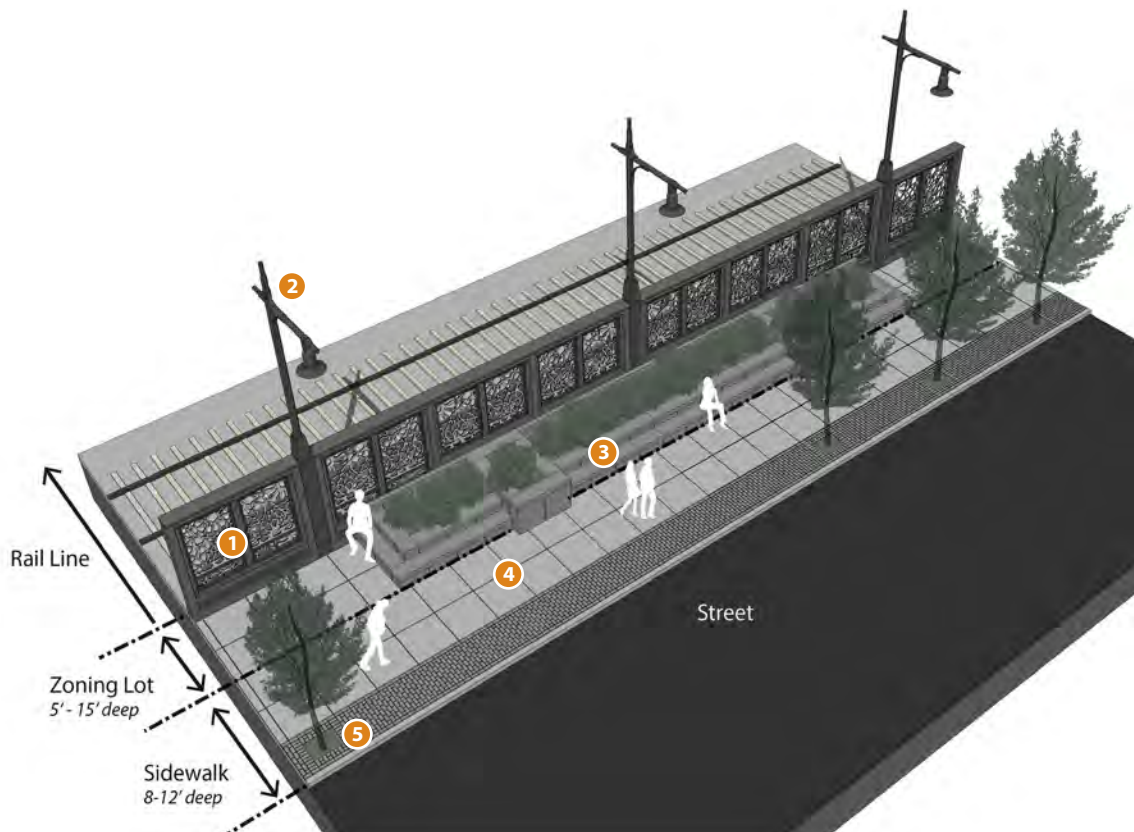


FIGURE 3 | Example of a Category 1 lot type.

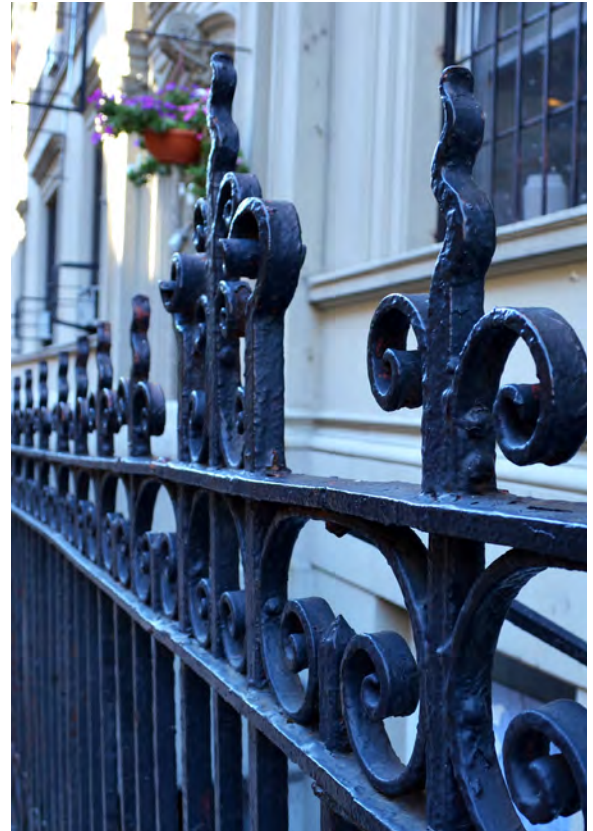


FIGURE 4 | (Left) Community improvements along Amsterdam Avenue, (right) decorative iron fence.



FIGURE 5 | Entrance to 96th Street IRT station, showing seating amenities.

CATEGORY 2

Parcels in this category are generally still not large enough to accommodate development, but may be able to accommodate kiosks or information booths. Therefore, solutions are targeted towards building on the improvements in Category 1 by introducing more active uses, especially in locations near station areas. In addition to the measures discussed in Category 1, specific solutions include:

- 1 Introduce small scale commercial uses such as food kiosks or pop-up markets. The activity associated with these uses will dramatically enliven the streetscape, and add a greater sense of safety for pedestrians in the area. This will also necessitate that commercial uses are a permitted use within the respective zoning district.
- 2 Adding moveable tables and chairs in conjunction with food kiosks. This will facilitate opportunities for flexible socializing and, when compared with permanent seating around planters, will add more variety to seating types available.

- 3 At greater depths, larger more permanent commercial structures may be viable, such as converted shipping containers.
- 4 For wider lots, kiosks could be interspersed to add variety and visual interest. In addition to food kiosks, information booths, pop-up galleries and other types of retail kiosks should be considered, although they may not have the activity associated with food service. Seating, planting, and other amenities should also be strategically distributed.

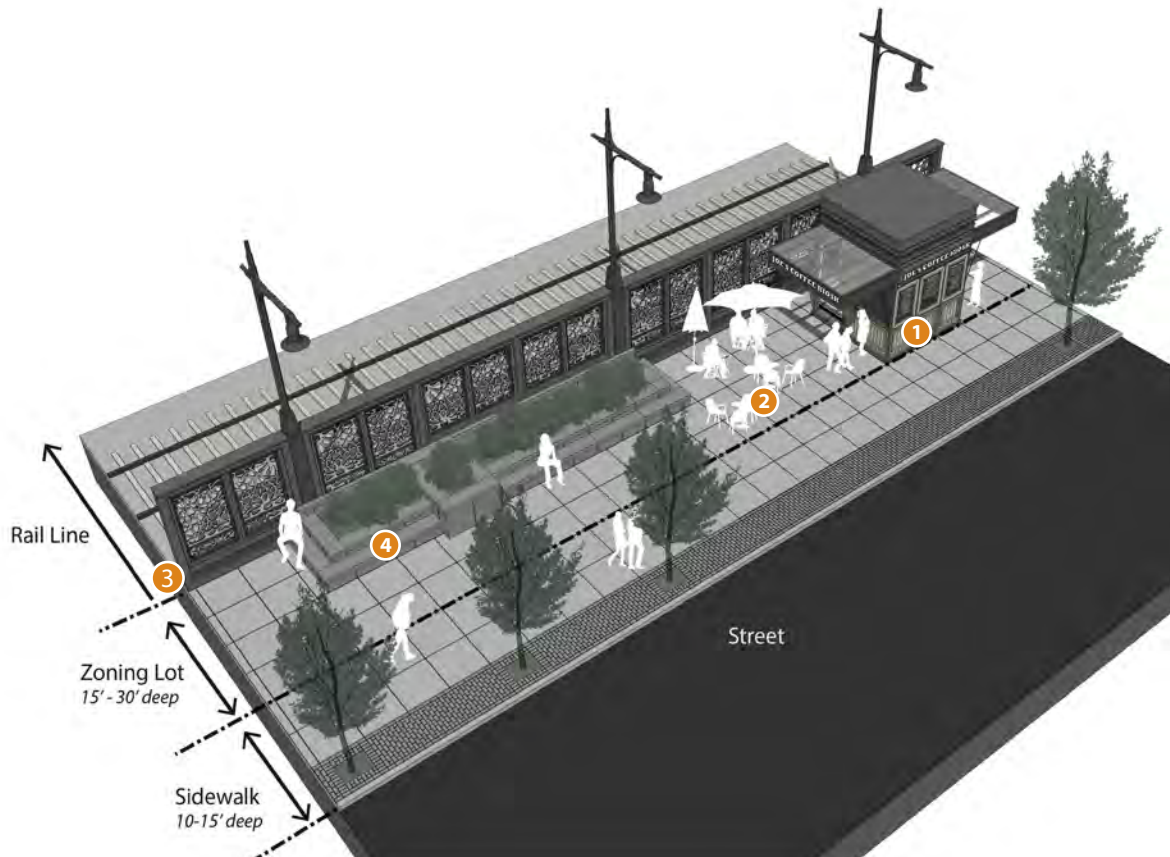


FIGURE 6 | Example of a Category 2 lot type.



FIGURE 7 | Retail space in shipping containers, DeKalb market, Brooklyn Source: @ NYC Economic Development Corporation



FIGURE 8 | Food carts buffering municipal parking lots in Portland, Oregon. Source: Visitor7, CC-BY-SA-3.0, via Wikimedia Commons from Wikimedia Commons

CATEGORY 3

Parcels in this category are approaching a depth which may be able to accommodate one or two story commercial development. Where feasible, this should be promoted as the scale and pedestrian traffic associated with a store could easily be more beneficial for the streetscape than the small-scale kiosks recommended in Category 2. They will also buffer some of the nuisances associated with rail lines from the street itself, especially noise. In addition to the measures discussed in Category 1 and Category 2 specific solutions include:

- 1 Introduce commercial development, which maximizes the potential of the lot. At heights above 23 feet a rear yard may be required, so buildings taller than two stories may not be feasible. To facilitate this development a commercial district would be needed, there should be no parking required, especially in station areas.
- 2 Community facility uses would be permitted, but should not be encouraged on the ground

floor as they typically do not generate the pedestrian foot traffic of retail uses. However, since retail often becomes difficult above the ground level, community facility, office and fitness centers would make ideal second story uses.

- 3 Since depths are restricted a tendency may emerge to construct wide floor plates. This should be counter-balanced by encouraging a multitude of individual establishments along the street, and by interspersing some of the amenities discussed in categories 1 and 2 at routine intervals. This becomes especially important where block-fronts start to exceed a width of 250'.
- 4 Lots at this depth warrant the sidewalk amenities associated with a typical street. Street lamps trees, and street furniture incorporated at routine intervals.



FIGURE 9 | Example of a Category 3 lot type.

CONCLUSION

The nature of commuter rail lines in the Bronx has created lots which are difficult to effectively use in a way that complements transit oriented development principles and often produces undesirable outcomes. However the uses on these lots, specifically as they are closer to transit stations, play an important role in creating a healthy pedestrian environment and providing amenities to transit users. While these lots have constraints and are prone to uses which are inappropriate, there are practical options for their development to enhance the surroundings. Subsequent sections of this report demonstrate specific applications of these solutions.

The recommendations and best practices described above represent a limited and clearly defined approach to the issue of rail-adjacent lots. This issue could benefit from a broader and deeper exploration of the problems and solutions. Zoning alone could be studied to examine changes to building envelopes, yards and ground floor configurations (like

glazing, required number of entrances or minimum number of establishments per block). Such a study could also explore similar issues which create the same kind of awkward and difficult lots like lots next to highways and elevated rail lines. This can be already be seen in 'L' suffix districts located along some elevated rail lines. For example, along the Broadway JMZ elevated rail line in the Bedford-Stuyvesant neighborhood of Brooklyn, a C4-4L commercial district on top so it has mandatory ground floor use and transparency measures attached to it. Additionally, conditions in the Bronx differ from those in the other boroughs – a City-wide study of rail adjacent lots could develop a comprehensive set of tools to tackle these issues.

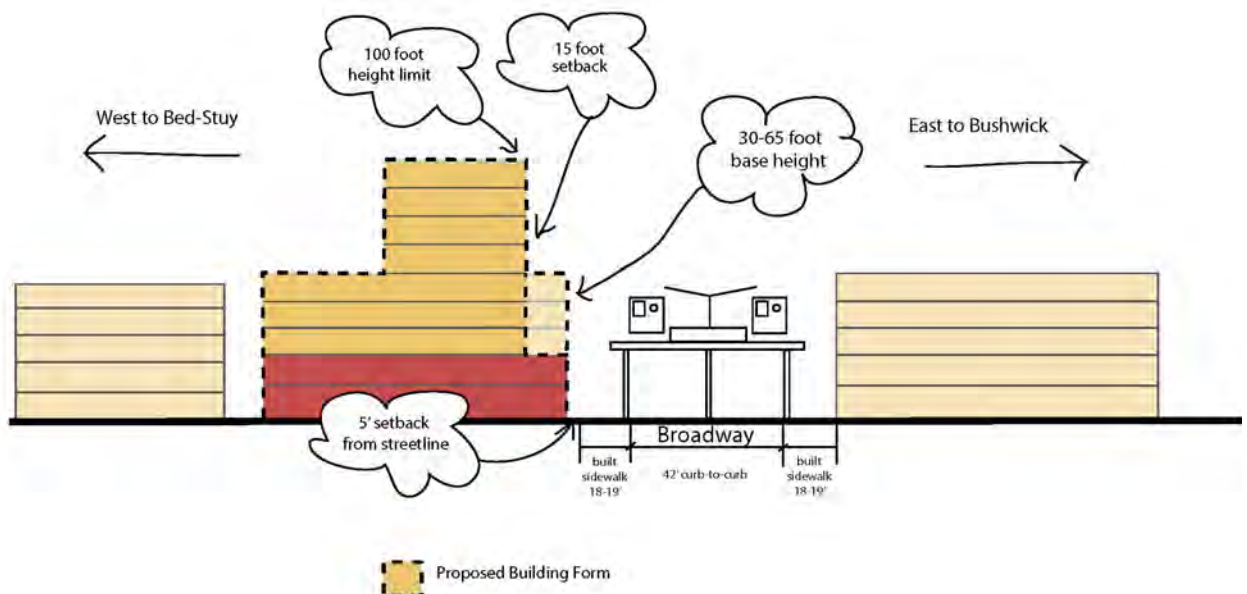


FIGURE 10 | C4-4L zoning district adopted along Broadway elevated corridor in Bedford Stuyvesant neighborhood of Brooklyn.

Source: The Department of City Planning



NEW JERSEY

WESTCHESTER COUNTY

THE BRONX

NEW YORK CITY

- Empire Connection | Hudson Line
- Amtrak's Hell Gate | New Haven Line
- Harlem Line
- Existing Study Station
- Proposed Station

FIGURE 1 | Select Existing Stations

Source: Penn Station Access Study, MTA, 2013.

SUSTAINABLE COMMUNITIES

EXISTING STATIONS:

UNIVERSITY HEIGHTS

MELROSE

MORRIS HEIGHTS

TREMONT

WILLIAMS BRIDGE

FORDHAM



EXISTING STATIONS

INTRODUCTION



EXISTING STATIONS

As detailed in the Introduction section of this report, the thirteen Metro-North stations that currently serve the Bronx provide access to growing regional job centers and position the Bronx as a northern gateway to the city. Metro-North corridors in the Bronx currently represent an underused asset. Many of these stations have low ridership and are disconnected from the surrounding community; however there has been a steady increase in ridership over the past several decades. The corridors adjacent to Metro-North stations provide an opportunity for sustainable growth that could support retail and affordable housing demand in the Bronx. Strengthening these corridors will help meet current transit access needs in the Bronx, both to the job opportunities in the Manhattan Core and to employment centers north of the city, and play a critical role in bolstering and sustaining the economic health of the Bronx.

The next sections review six selected existing Metro-North Stations, as shown in Figure 1: Select Existing Stations, to identify land use opportunities; pedestrian pathways between amenities; and connections to intermodal transit options based on the Transit-Oriented Development Strategies, outlined in Section 1: Strategies. Each of these station areas is within a distinct neighborhood that has their own

unique set of stakeholders, issues, politics and on the ground conditions. As a result a multi-faceted approach to outreach that maximized our effort was required.

Individual outreach methods had different levels of effectiveness in each area. However, DCP was able to find common threads and use successful techniques in working with existing grassroots organizations, partnering with agencies that have similar interests and building a consensus around priority issues. This has provided a framework for implementation that will continue on after this report.

As part of the process DCP held more than 40 Community/Stakeholder Meetings in a variety of formats:

- Community tours
- Public workshops/Visioning Sessions
- Focus groups and stakeholder interviews
- Presentations to stakeholder groups
- Community Surveys
- Interagency coordination
- Email blasts, website updates and social media



FIGURE 2 | Outreach workshop for the University Heights station area, January 2012.

The Department of City Planning developed a set of educational tools that focused on characterizing the principles of TOD around commuter rail stations in the Bronx and similar higher-density urban areas. These graphics depicted the correlation between land use and transportation options, as well as the relationship between successful pedestrian streets and transit usage. The feedback we received as part of this process helped to inform the study and the identification of opportunities and challenges summarized in the next section.

The following sections identify recommendations to address the challenges around these six existing Bronx Metro-North stations which support the Metro-North corridor and maximize it as an asset for the Bronx.



FIGURE 3 | Outreach exercise for the Melrose station area, Fall 2012.



University Heights Metro-North Station

EXISTING STATIONS

UNIVERSITY HEIGHTS

UNIVERSITY HEIGHTS

BALANCING ACCESS NEEDS & DEVELOPMENT POTENTIAL



INTRODUCTION

SYNOPSIS

The University Heights Metro-North Station is located along West Fordham Road on the western border of the Bronx. Its location at the base of the University Heights Bridge on the Harlem River Waterfront provides easy access to Manhattan and sets it up as an important entranceway to the Bronx. It is in close proximity to the Fordham Road shopping district, one of the busiest in the city, and several major institutions including Bronx Community College. Despite these assets the area around the station and waterfront remain underutilized and inaccessible to the community. Various community stakeholders have weighed in with visions for the waterfront and ideas for its many vacant sites. However, it is unlikely a vision for the area will be able to materialize without significant improvements to access.

This section examines the relationship between these access problems and the future of the surrounding land uses. The objective is to identify scenarios where access and land use solutions support each other to create an environment that will unlock the waterfront and the station area in the best interests of the community. This station is one of our “land use” station areas, for which a comprehensive outreach process was undertaken to examine the role access improvements could play on potential land uses and future development of the area.

AREA CHARACTERISTICS

The University Heights neighborhood is generally defined as the area bounded by West 190th Street to the north, Jerome Avenue to the east, West Burnside

Avenue to the south, and the Bronx border at the Harlem River to the west. While the station has been active in some form since the 1890's, substantial population growth in the area began primarily due to several other key events. In 1894, New York University began moving their undergraduate school to the site on top of the heights overlooking the Harlem River, eventually becoming the namesake for the neighborhood itself. During its time in the Bronx the campus became known for its world class architecture and the University influenced the form and function of buildings many of which can be seen today around the campus along University Avenue. It now thrives as the campus of Bronx Community College but its location on the hill is disconnected to the station area.

In the early 1900's, the IRT #1 and #4 train stations were established a half mile west and east of the station, in 1906 and 1917, respectively. Rapid transit to job centers in Manhattan enabled the working middle class to populate the area. Density was formed around these transit corridors and Fordham Road quickly became an important retail corridor.

As a mass transit corridor, the Hudson Line was not built with the same intentions as the subway lines, and it did not have the same effects on development patterns. In fact, the station area has never properly established connection to the subway mass transit system and residential density of upland neighborhoods. Built along the low flat land adjacent to the Harlem River in the 1850's, the Hudson Line provided commuter and freight access between Albany and New York. The rail corridor's location along

“ The Harlem River waterfront is an incredible asset to the Bronx. Enhancing public waterfront access, including connections to upland neighborhoods, transit and institutions will improve overall quality of life for Bronx residents. ”

| Chauncy Young, *Community Organizer, Harlem River Working Group* |



FIGURE 1 | Entrance to University Heights station, West Fordham Road and Major Deegan Expressway.

COMMUNITY CHARACTERISTICS | University Heights Study Area

Metro-North Station Weekday Ridership (2011)



40 inbound passengers
212 outbound passengers

NYC Subway Station Daily Ridership (2012)*

- 4** Fordham Road: 12,560 weekday | 14,757 weekend
- 1** 207th Street: 6,954 weekday | 8,484 weekend
- A** Inwood-207th: 8,717 weekday | 11,333 weekend

- The area has a very high percentage of rental units, and relatively inexpensive monthly rental costs. The average rent in July of 2013 was \$1,150 (\$1.50/per square foot), while the adjacent Inwood neighborhood in Manhattan had an average rent of \$1,450 (\$2.12/per square foot).³
- The population is predominately Hispanic, with 42% foreign-born; the neighborhood has a large amount of recent immigrants, often serving as a “stopgap” for this community until a more permanent neighborhood is found.

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Hispanic	68%	53%	29%
Per Capita Income	*\$14,878	\$17,992	\$31,417
Renter Occupied Units	85%	79%	68%
Housing Units with No Access to a Vehicle	70%	59%	56%
With Access to One Vehicle	24%	30%	31%
Take Public Transit or Walk to Work	72%	64%	67%
Population Density (per square mile)	18,958	32,536	26,953
Unemployment Rate (2010)	11%	12%	11%
TOTAL POPULATION	42,708	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the University Heights station. ² United States Bureau of the Census, 2006-2010 American community Survey 5-Year Estimates. ³ Zillow Neighborhood Overview, 2013.

* MTA Subway Ridership, 2012. http://www.mta.info/nyct/facts/ridership/#chart_s

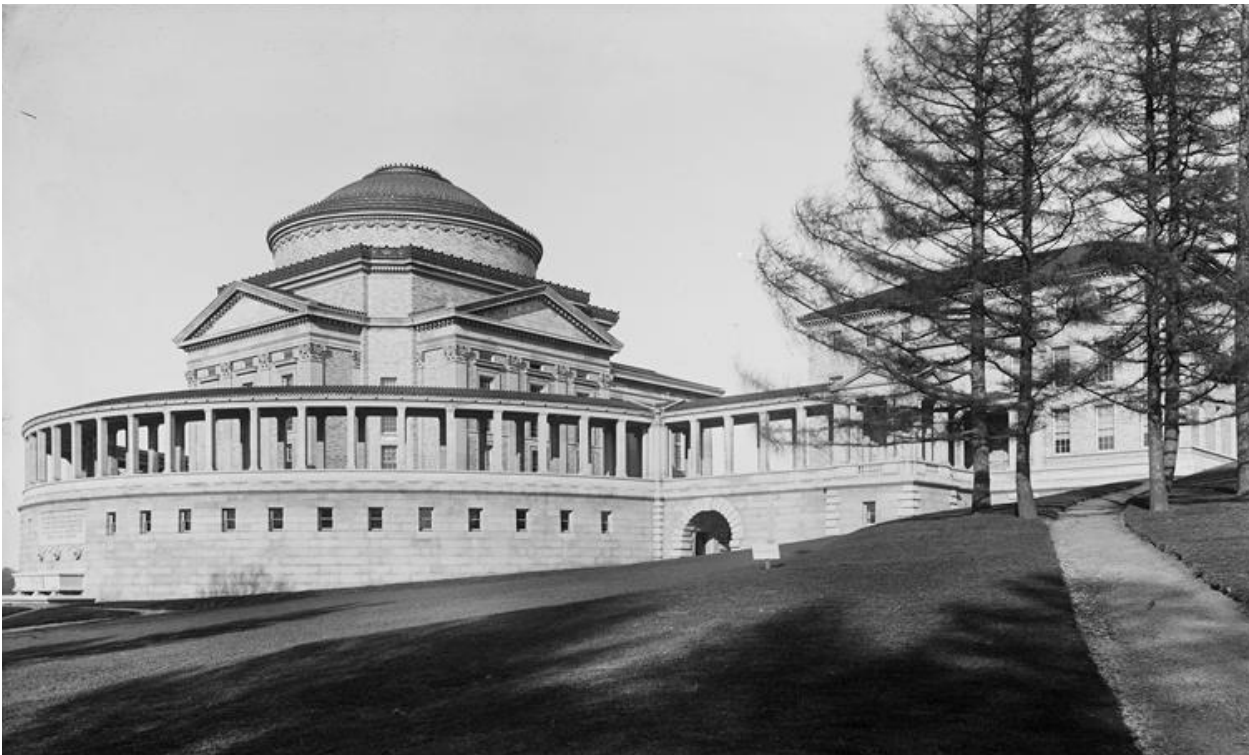


FIGURE 2 | New York University, circa 1900. NYU relocated its campus to University Heights in 1894, and sold it to the City University of New York in 1973. The campus now houses the Bronx Community College.

Source: © The New York Public Library. www.nypl.org

the waterfront complemented industrial development, which was often water dependent. As freight shipping began favoring highway access over water-borne and rail access, the proximity of the Major Deegan Expressway filled the void, allowing light manufacturing uses, such as distribution and storage, to continue to operate as they do today.

The Major Deegan Expressway increased vehicular access to and through the area. Its waterfront location along the Harlem River however, perpetuated the separation first initiated by the Hudson Line, further cutting off the waterfront from the upland community. Construction of the highway began in

the 1930's and was extended by Robert Moses in the 1950's to connect with the New York State Thruway in Westchester County. The northbound and southbound sections were built at different levels to assure unobstructed views of the Harlem River for vehicular users.

The University Heights Bridge was floated down the Harlem River and opened in its current location in 1908, providing vehicular and pedestrian access across the Harlem River between the Bronx and northern Manhattan. The bridge was landmarked by the state in 1984 and rebuilt in 1990.

The University Heights area has a significant grade

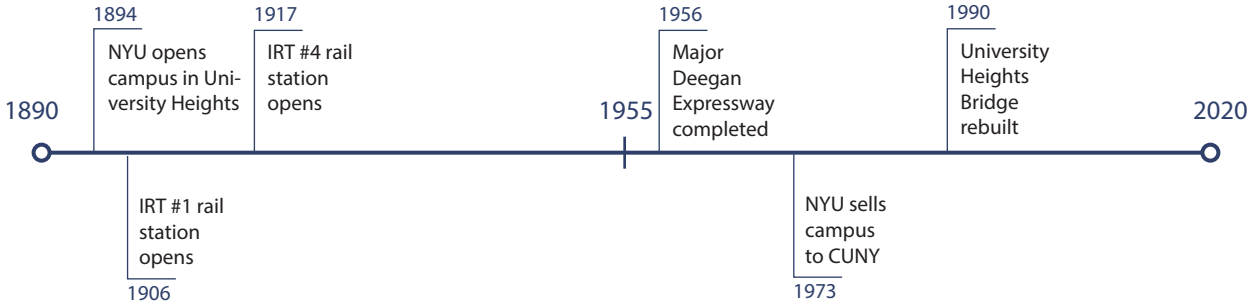


FIGURE 3 | University Heights Neighborhood timeline

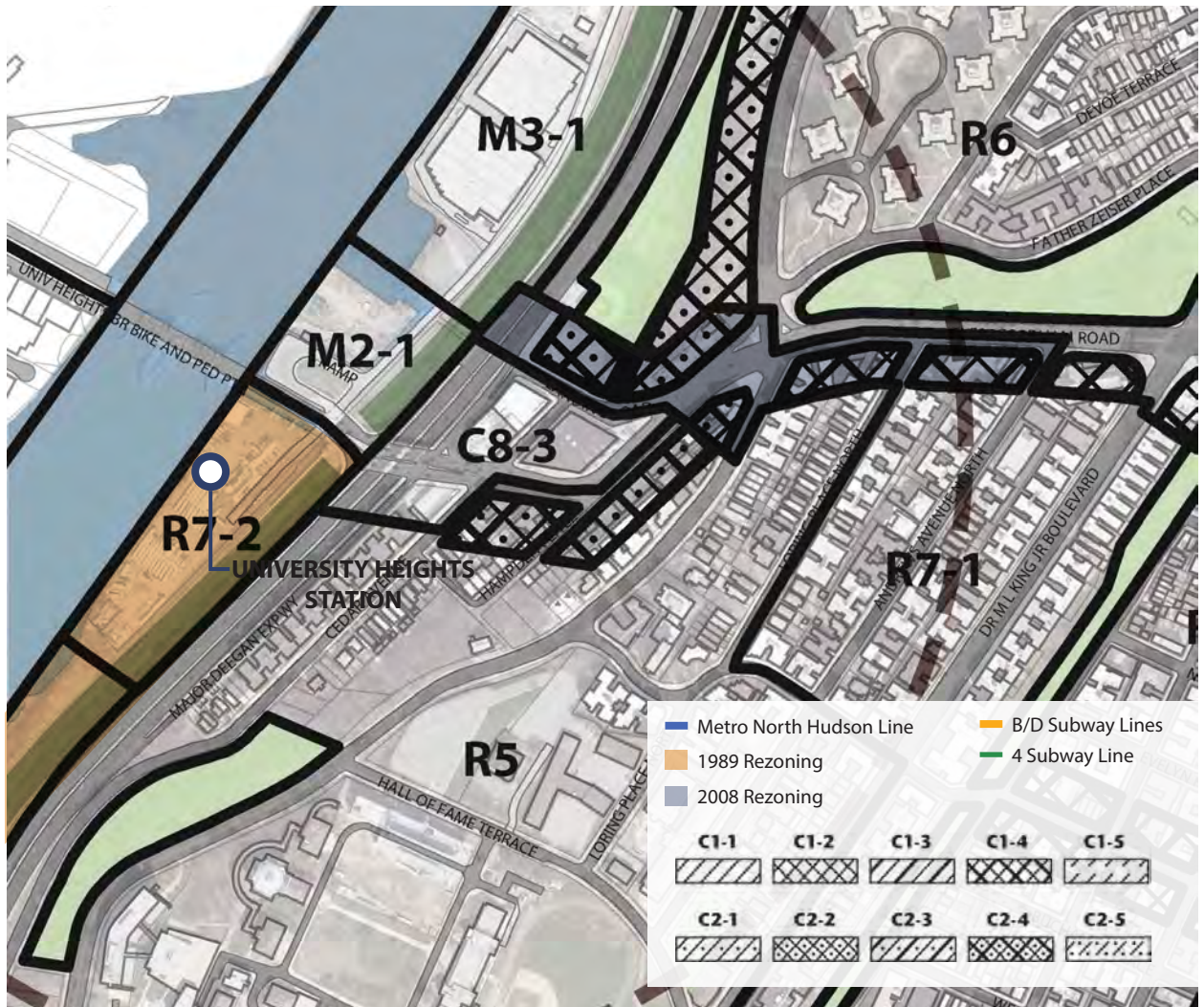


FIGURE 4 | University Heights zoning boundaries. The waterfront area is currently zoned for manufacturing, limiting potential development.

change sloping upwards to the east with the station area itself sitting below the neighborhood at the bottom of a steep embankment. This grade change interrupts the street grid causing limited residential development west of Cedar Avenue and presents additional challenges to pedestrians walking upland from the waterfront.

The Inwood neighborhood in Manhattan is located directly west across the Harlem River from the University Heights station. It is easily accessible by pedestrians and vehicles across the University Heights Bridge. The portion of Inwood east of Broadway is relatively flat with little grade change between 10th Avenue and the University Heights Bridge. This makes pedestrian access to the station from Manhattan easier than from Bronx. Significant retail amenities are located along Broadway and the area has seen recent investment in market rate housing.

TRANSPORTATION

The station itself has a single entrance located on the south side of W Fordham Road where it meets the University Heights Bridge. There is handicap access via an elevator to a single center platform. The station provides access south to Grand Central Terminal in 18 minutes, and provides access north all the way to Poughkeepsie with key stops at Yonkers, Tarrytown, and Croton Harmon. Transfer is also available to Amtrak routes at Yonkers, Croton Harmon and Poughkeepsie. Despite the area's relative density, ridership is very low; in fact it has the second lowest weekly boardings on the Hudson Line of full time stations. The majority of its users are reverse commuters, with 84% of boardings going outbound.²

Overall the area is relatively transit rich. The #1 Subway line in is located in Manhattan a quarter mile across the University Heights Bridge, and an A sta-



Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Metro North Hudson Line
- B/D Subway Lines
- 4 Subway Line
- Bus Routes

Notable Land Uses Features:

- ① The waterfront area is currently occupied by a mix of manufacturing uses, including storage warehouses and a cement factory.
- ② A variety of residential uses are found south of Fordham Road, including large pre-war buildings and smaller single-family homes.
- ③ Many large institutions, such as the Bronx Community College, are present in the area.

tion is located at 207th Street and 10th Avenue. In addition, the #4, B/D (Bronx) and A (Manhattan) trains all have station locations within a mile from the station. The Select Bus Service BX12 bus line runs along Fordham Road providing connections between all of these stations.

The Major Deegan Expressway runs adjacent to the Metro-North rail line and the Harlem River with north and southbound exit and entrance ramps on Fordham Road. The expressway connects to I-287 to the north, where it crosses the Tappen Zee Bridge before continuing north to Albany. Going south it connects to I-278 providing access to Queens, Brooklyn and Staten Island. Vehicular and pedestrian access is available to the Inwood neighborhood of Manhattan via the University Heights Bridge.

LAND USE & ZONING

Fordham Road is a commercial corridor with C1-4 and C2-4 commercial overlays over residential zoning and several C8-3 parcels. This corridor has a mix of commercial uses, but is limited by the overlay. The Fordham Road BID ends at Jerome Avenue, even though the commercial overlay extends to Landing Road on the north side and Cedar Avenue on the side of Fordham Road. Several surface parking facilities and a car dealership are located within the commercial overlay.

Excluding the waterfront area, the residential zoning off Fordham Road consists of R5, R6, and R7-1 zoning districts, and has a mix of different residential building typologies. The older housing stock consists mostly of large pre-war buildings or smaller single family homes, while newer developments are characterized by lower density one and two family buildings. Fordham Hill Co-operative consists of nine tower-in-the park style residential buildings located at Fordham Road and Sedgwick Avenue. There are 1,130 apartments on the 7 acre site. Some major institutions lie within these residential areas, with Bronx Community College to the south, and the Veterans Affairs Hospital to the north, adjacent to the Fordham Hill Co-op.

Along the waterfront, the La Sala site, directly south of the bridge and adjacent to the station, was rezoned in 1989 from manufacturing to residential (R7-1) as part of a development plan that was not constructed. The site currently operates as a distribution center for milk trucks. The rest of the waterfront is zoned and operated as some form of manufacturing. This includes a Department of Transportation staging site, a small Con Edison site, a cement

factory, a scaffolding company headquarters and a storage facility.

NEIGHBORHOOD PROFILE

The Fordham Road shopping area generally begins at Jerome Avenue about a half mile west of the station and runs east to 3rd Avenue. It is a diverse mix of more than 300 stores, and, according to the Fordham Road Business Improvement District, it is the 3rd busiest shopping district in New York City.

Bronx Community College occupies the former main campus of New York University less than a quarter mile south of the station and has an enrollment of over 11,000 students. It is part of the City University of New York (CUNY) system and is almost exclusively a commuter college. Monroe College has a campus that occupies several buildings on Jerome Avenue near Fordham Road.

The James J Peters VA Medical Center has more than 1900 employees and is located on several acres along the east side of Sedgwick Avenue and south of Kingsbridge Road, approximately one-third of a mile north of the station.

The Kingsbridge Armory site, located at Kingsbridge Road and Jerome Avenue, a little of a half mile from the station is currently planned to develop as the Kingsbridge National Ice Center. The 750,000 square foot site, which includes a 50,000 square foot community center, will generate significant revenue and jobs for the area. It is intended to be completed in 2019.

The area contains a number of NYC Department of Parks and Recreatesites including:

- Devoe Park is a 5 acre recreation site with playground along Fordham Road between University and Sedgwick.
- Aqueduct Walk is a trail through the study area along the site of the former Croton Aqueduct, west of Jerome Avenue. It is part of a larger trail that connects to the High Bridge to the south and continues along the Aqueduct site north.
- University Woods is a former British Revolutionary War site that now occupies 4 acres of the forested slope between Sedgwick and Cedar Avenue south of Fordham Road. It is currently undergoing renovations through Department of Parks and Recreation.
- Fordham Landing Playground lies adjacent to the Major Deegan Expressway north of Landing Road. Its 3.9 acre site contains renovated ball

fields and is one of six disconnected parks adjacent to the expressway. It is highly isolated and underused.

CHALLENGES & RECOMMENDATIONS: OVERVIEW

The University Heights Metro-North station is located between subway lines with access to Manhattan and busy commercial corridors along Fordham Road as well as 207th Street and Broadway in the Inwood neighborhood of Manhattan. However, ridership at the station has remained low and the Harlem River waterfront, adjacent to the station, has remained undeveloped. Land along the Harlem River is a mix of mostly non-water-dependent storage and industrial uses. Changes in the zoning framework would permit larger more suitable types of development, but these would still face significant access issues. Without major access improvements, any significant waterfront development in the area may be unlikely to occur. The Metro-North rail line, the Major Deegan Expressway and its ramps, and a significant grade change down the Harlem River's embankment all

combine to create a prohibitive environment for pedestrians. During meetings with community stakeholders and through internal analyses, a number of issues, opportunities and constraints were identified. For the purpose of this Section, these challenges are discussed in **three focus areas: (1) the upland Fordham Road Corridor** from Jerome Avenue to west Hampden Place, **(2) the lower Fordham Road area** around its intersection with the Major Deegan Expressway, and **(3) the Harlem River Waterfront**.

CHALLENGES & RECOMMENDATIONS: UPLAND FORDHAM RD. CORRIDOR

The Fordham Road shopping district east of Jerome Avenue is constantly buzzing with pedestrian traffic but west of Jerome Avenue pedestrian traffic thins out along Fordham Road and after University Avenue it becomes insignificant. There are a number of influences which discourage foot traffic from continuing west along Fordham Road. Inactive uses along Fordham Road south of Sedgwick discourage pedestrian activity. This includes surface parking lots

FIGURE 5 | Recommendation areas in University Heights.
Source: © 2011 Pictometry International Corp.



located on the north side, automotive uses and a car dealership; followed by a large self storage facility. These occur as the slope steepens and a sharp turn takes out pedestrian sight lines which adds to what is an already long walk. Pedestrian amenities disappear after Sedgwick Avenue and connections between the bus, subway lines, and Metro-North are poorly marked and exacerbated by difficult crossings and a steep grade.

Some zoning in the area surrounding this section is not reflective of the principles of transit-oriented development or walkable communities. Portions of important pedestrian corridors prevent residential uses and allow semi-industrial uses, which deter the establishment of more active retail uses. Other portions of the surrounding neighborhood generate development which is far smaller than the historic context. Not only do these uses and restrictive bulk envelopes stifle the walkability of the neighborhood, they prevent a density and mix of uses which is critical to support successful TOD.

FORDHAM ROAD COMMERCIAL OVERLAY

Currently, there is a commercial overlay along the entirety of Fordham Road except for several parcels closer to the waterfront, as seen in Figure 4 Zoning Map. The overlay does not extend all the way to the University Heights Bridge.

East of Cedar Ave and Hampden Place, a C2-4 commercial overlay is mapped over a R5 residential district until Loring Place, where the underlying district changes to an R7-1. Higher density in the underlying R5 residential district should be explored along the corridor. Lots along the north side of Fordham Road between Hampden and Sedgwick are constricted by shallow depth and grade. Additional restrictions should be introduced along the corridor such as adding screened and enclosed permitted uses like public parking, establishing minimum levels of transparency, and dedicating a percentage of the block front to active uses.

East of Sedgwick Avenue, a C1-4 commercial overlay is mapped over both R7-1 and R6 residence districts. This commercial overlay has a limited range of uses, allowing only local retail or hotels and does not per-

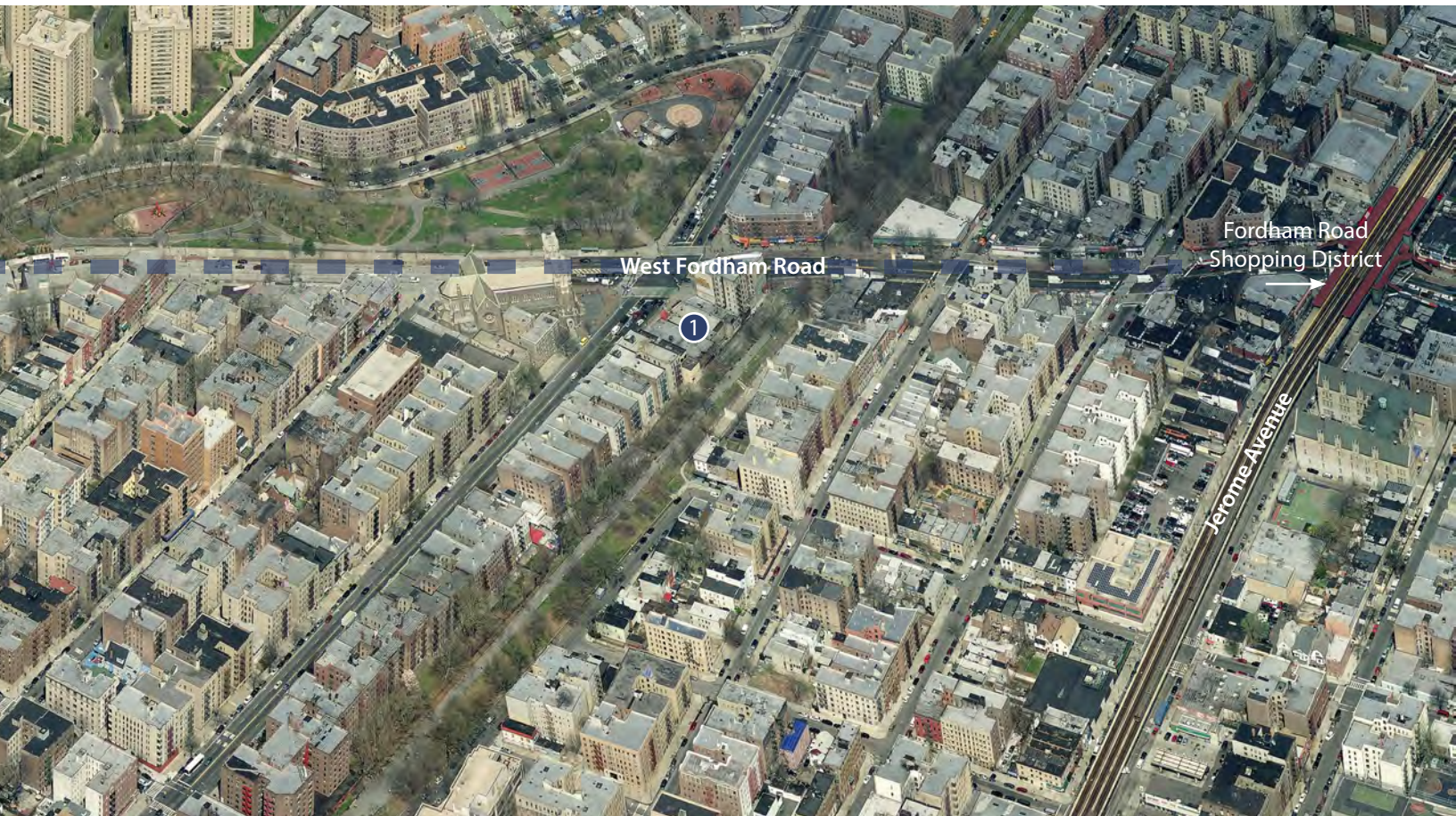




FIGURE 6 | (Top) Existing Conditions on Sedgwick Avenue, with R5 zoning. (Bottom) Mid density contextual zoning could create additional density, a more predictable building form, and a stronger streetwall.

Figure 6 Existing Conditions

- 1 Existing zoning creates large portions of the block which are non-complying
- 2 Existing zoning produces a building type with a low overall height that is not in context with the surrounding neighborhood
- 3 Street walls are typically set back from the street
- 4 Parking requirements are high

Figure 6 Potential Improvements

- 1 Pursue a zoning district comparable to the higher densities to bring them into compliance
- 2 Establish street wall requirements, min and max base heights and, after setback, maximum building heights
- 3 Enhance streetscape through measures like street trees
- 4 Reduce parking requirements

mit uses like catering establishments or bicycle rental. A future rezoning should explore a less restrictive district paired with possible requirements for active ground floor uses, curb cut prohibitions and enclosed and/or screened parking to further promote an active retail corridor.

Recommendations

- Higher density in the underlying R5 residential district should be explored along the corridor. Additional restrictions should be introduced along the corridor such as screening public parking where provided, establishing minimum lev-

els of transparency, and dedicating a percentage of the block front to active uses.

- Future rezoning may wish to explore a less restrictive commercial overlay, paired with additional commercial requirements to encourage a mix of uses. Adding additional layers of regulations on primary commercial corridors, such as curb cut prohibitions and other restrictions previously identified to further promote active retail corridors. Grade and lot depth should be taken into consideration along this stretch of Fordham Road.

R5 DISTRICTS

R5 districts are a low-mid-density zoning district that typically serves as transition from lower to higher density neighborhoods. However, the R5 residential zoning districts prevalent south of Fordham Road and west of University Avenue are not serving that purpose and do not match the historic development in the area.

Community members voiced concerns during the outreach process that the buildings being constructed in the R5 districts do not fit within the established context and character of the pre-war era buildings in the community. The district often produces two, three or four story, attached or semi-attached housing that is set back from the street with parking in the front. Since R5 districts have lower minimum lot width requirements than their lower-density counterparts, the streetscape suffers from more curb cut interruptions. Much of building stock in the R5 zoning district that the community favors is made up with six to seven story buildings constructed prior to the enactment of the 1961 Zoning Resolution (and the mapping of the R5 designation). These buildings are deemed non-compliant with current bulk regulations because they are denser and taller than would be permitted today. This can be seen in Figure 6: Portion of Sedgwick Avenue mapped as map R5 which shows the typical disparity between build-

ings built prior to the designation of the district, and those built after.

Future zoning changes in this area should consider mapping medium-density contextual districts in this neighborhood, especially in the portions closer to Fordham Road and mass-transit. Contextual zoning districts will create a more predictable building form, prominent street walls and parking requirements that better match demand.

Recommendation

- Future zoning changes in this area should consider mapping higher-density contextual districts in this neighborhood, especially in the portions closer to Fordham Road and mass-transit. Contextual residential zoning will preserve character and create bulk regulations which promote a more predictable building form, prominent street walls and slightly lower parking requirements.

THE FORDHAM ROAD STREETScape

The Fordham Road BID is currently implementing a long term streetscape plan for the Fordham Road Shopping District which will help to create a sense of place and enhance the experience for shoppers. While the boundaries of the BID currently end at Jerome Avenue, elements of this plan should be mim-

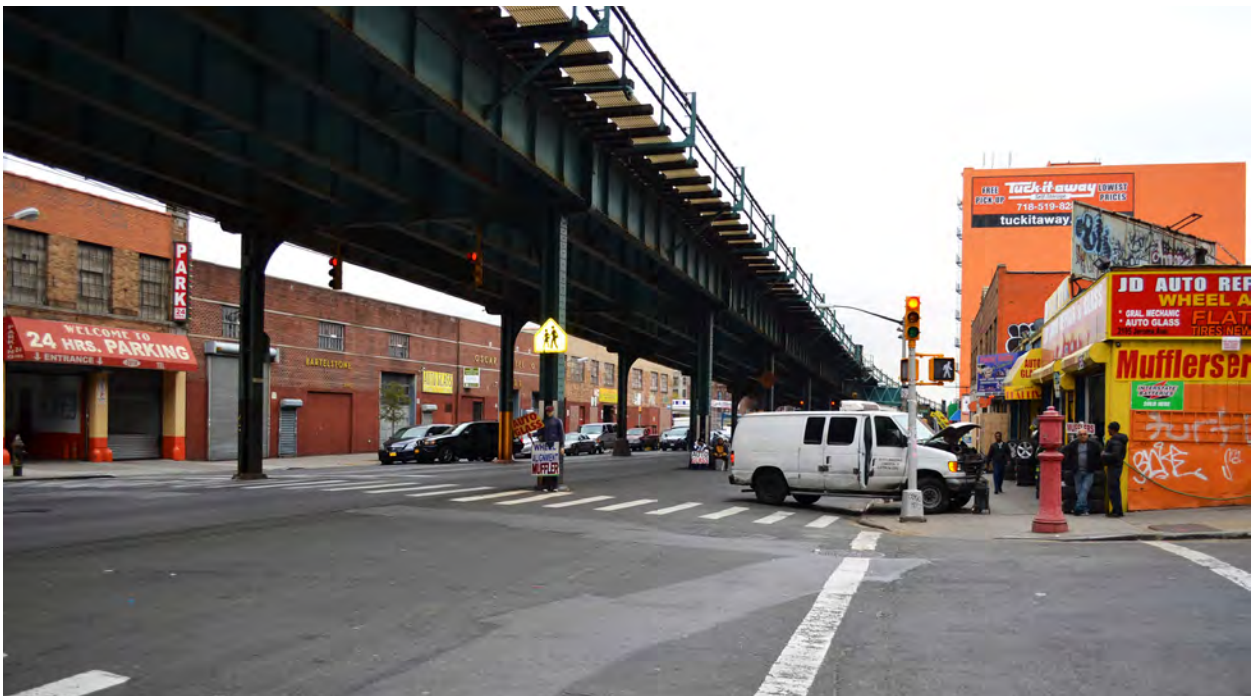


FIGURE 7 | Elevated #4 train, Jerome Avenue. This area has developed many auto-dependent uses, in part due to location along elevated rail



FIGURE 8 | (Top) Devoe Park on West Fordham Road. Although well-maintained, the park has limited points of access. Programming could activate the space, connecting the activity from the Fordham Shopping District further west. (Bottom) Steps through University Woods.

icked along Fordham Road west of Jerome to create a consistent corridor.

Recommendations

- Future rezoning studies should explore contextual zoning along the corridor which have stronger streetscape requirements for new development.
- Identify opportunities to extend the Fordham Road streetscape plan either through expansion of the BID or coordination to create a consistent theme. Specifically along Fordham Road this includes benches, street trees, wayfinding signage as well as additional pedestrian amenities as identified in *Section 1: Strategies for Walkability*.

JEROME AVENUE CORRIDOR

The elevated #4 train running along Jerome Avenue has subway stops at Fordham Road, 183rd Street and Kingsbridge Road that are located approximately ½ mile from the station area. Each of these stations generates high volumes of pedestrian traffic. The Fordham Road stop has more than 4 million annual riders and an additional 5 million annual riders use the Kingsbridge and 183rd Street stations.³ Auto-dependent uses organically aggregated in the portion south of West 184th Street, where a C8-3 Commercial District is mapped. North of this, medium density residential districts are continuously mapped along Jerome Avenue all the way to Kingsbridge Road, while Commercial Overlays are only intermittently mapped in various block-fronts. During our community outreach it was indicated that this area should be strengthened as a retail corridor. A continuous Jerome Avenue commercial corridor would serve to connect the Fordham Road Corridor to Kingsbridge Road and newly proposed Kingsbridge National Ice Center at the former Kingsbridge Armory and Burnside Avenue to the south.

In some areas of the city, 'L' suffix contextual districts have been mapped along elevated rail lines. These 'L' districts establish special bulk envelopes tailored for their adjacency next to elevated trains and feature setback requirements at a lower level to protect residential uses from the noise of the elevated train, as well as some additional bulk envelope flexibility to account for this greater initial setback.

Recommendation

- Explore a medium density residential district with an 'L' suffix and continuous C2 commercial overlays along the portion of Jerome between

Fordham Road and Kingsbridge. This would allow for a wider range of uses than the existing zoning and provide more flexibility in mixed-use building design to facilitate the encumbrances inherent in developing next to an elevated rail line.

PARKS AND OPEN SPACE

There are several parks located along the corridor, however they seem disconnected from each other and the Fordham Road corridor. An integrated system of local parks could connect to larger regional trail networks such as the Croton Aqueduct and the proposed Harlem River Greenway.

Devoe Park borders the north side of Fordham Road between University and Sedgwick Avenue and has a fence with few entrances which limits the interaction between the park and the pedestrian realm. While this section of Fordham Road has a wide sidewalk with amenities the park acts like a blank wall creating a vacant feel to the area. Active programming, such as a farmers market at Devoe Park, could be a draw to bring shoppers from the Fordham Shopping District.

The stepstreets through University Woods are the most direct pedestrian route from Bronx Community College to the station area. Until recently the steps had fallen into disrepair and the park was underused creating a perception that it is unsafe. Recent efforts from the Friends of University Woods, through a \$500,000 grant from the Mayor's Office, and coordination with the NYC Parks Department have included reconstruction of the stepstreets and park.

Aqueduct Park is a significant asset and important pedestrian route which connects the Fordham Road Corridor to the community and to the larger regional Aqueduct trail.

The Kingsbridge National Ice Center will be a regional asset which generates jobs and brings visitors the area. Its proximity to the station area and waterfront provide opportunity for partnerships with the local community as it is completed.

Recommendations

- Identify opportunities for active programming in Devoe Park, such as a freshmarket which would serve as an amenity to the community and visitors to the Fordham Shopping District.
- Coordinate amenities such as lighting, benches and street trees between the park and Fordham Road to create a more seamless connection between the two.

- Encourage pedestrian routes to the station through the park and BCC with wayfinding signage. Additional programming in coordination with BCC and the community would create additional activity to enhance safety.
- Enhance signage connecting Aqueduct Park to regional trails including the soon to re-open Highbridge Park. Landscaping and connectivity to its surrounding amenities would increase usage.
- Explore enhanced connections and partnerships with KNIC and the assets in University Heights.

CHALLENGES & RECOMMENDATIONS: LOWER FORDHAM RD. CORRIDOR

Figure 9, Fordham Road Intersection, demonstrates that the portion of Fordham Road between Cedar Avenue and the Metro-North station presents a number of challenges. Pedestrians are faced with multiple crossings, poor signage, inadequate refuge space, and an unwelcoming hardscape. Multiple lights, inadequate queuing space for turning lanes and faded striping exacerbate traffic volumes and create a feeling of general chaos for pedestrians. Limited and separate access points to the waterfront, station and University Heights Bridge discourage connections between these assets, as going from the waterfront to the station for example, would require a pedestrian crossing through this difficult intersection. This not only discourages ridership at the station, but prevents usage of the waterfront and pedestrian access to and from Manhattan.

This corridor is an important gateway to the Bronx and key to the future of the waterfront. Short-term improvements and mid to longer term improvements contingent on different levels of development are identified.

C8 LOTS

There are several large and prominent parcels zoned as a C8-3 commercial district along Fordham Road immediately east of the station. C8 zoning districts typically serve as a transition between manufacturing and commercial uses. Typical uses in these districts include auto-oriented uses or storage sites, as seen on Fordham and Landing Road. Most notably for this area, C8 districts do not permit residential uses, and therefore are not ideal district designations for parcels immediately abutting a regional rail station.

Recommendations

- The zoning should be reconsidered to allow both commercial and residential uses where appropriate.

HAMPDEN PLACE

Hampden Place currently dead ends north of Fordham Road and cars, often livery cabs, turn off to avoid going over the bridge. The street only has room for one way traffic and does not have a proper turnaround. At the end of Hampden Place there is a stairway which is privately owned and closed off.

Recommendations

- Explore opening this as a pedestrian route could provide additional access to the upland community.
- Explore modifying Hampden Place as a through street to Cedar Avenue or adding a turn-around to improve circulation along Fordham Road. Grade changes may make this difficult.

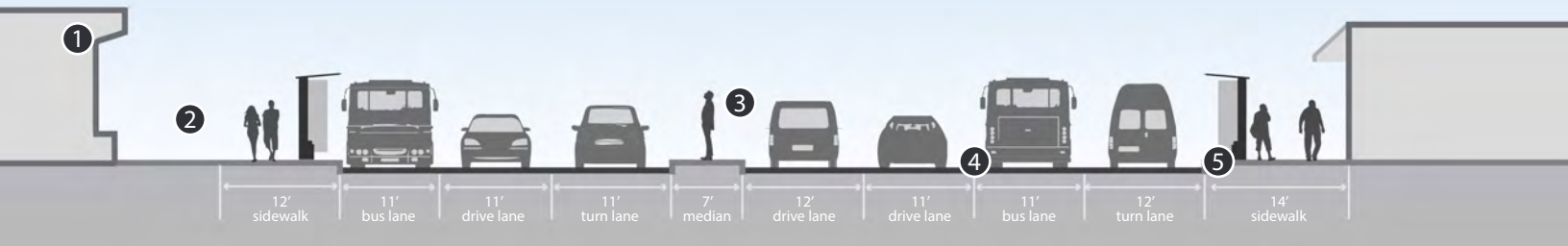
LANDING ROAD

Landing Road, which branches right off of Fordham Road west of Sedgwick and dead ends just before the northbound ramp of the Major Deegan Expressway, has little connectivity to the street network and is rarely used. Cedar Avenue comes to a dead end south of Fordham Road at Landing Road. Exploring the opportunities to utilize these roads differently could enhance access to the waterfront and station area.

Recommendations

- Study de-mapping the section of Cedar Avenue between Landing and Fordham Road. This would remove a turn off of Fordham Road and could provide either a larger parcel for development or a pedestrian arcade with active uses fronting upon it.
- Explore utilizing Landing Road as a bike route as the area develops which could connect to the waterfront and the proposed Harlem River Greenway. This would remove the need for bike lanes along this stretch of Fordham Road which are problematic with turning lanes to Major Deegan ramps, and cause potential conflicts with BX 12 Select Bus Service. As a long term recommendation this could connect to a pedestrian bridge to the waterfront or to additional access to the north side of the University Heights Bridge removing the need to cross Fordham Road.

EXISTING CONDITIONS



POTENTIAL IMPROVEMENTS

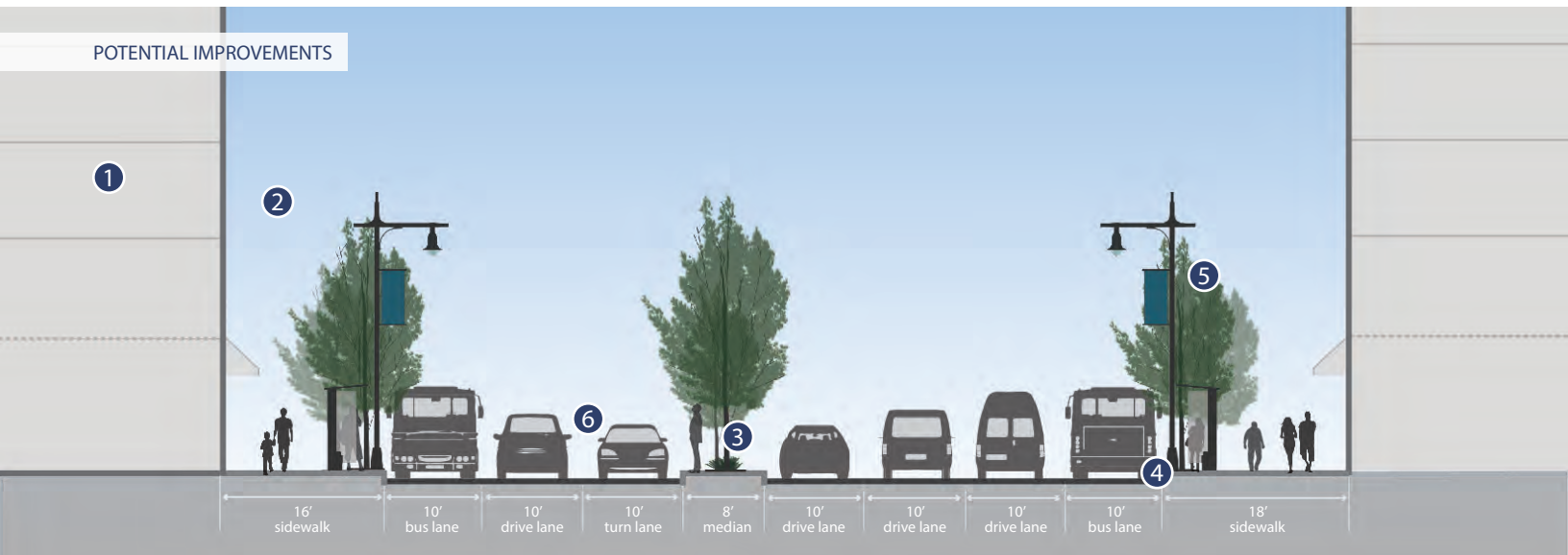


FIGURE 9 | (Top) Existing Conditions on Fordham Road, between the Major Deegan Expressway and Cedar Avenue. (Bottom) Potential pedestrian improvements; changes include expanding vegetated medians, planting street trees, expanding sidewalks, and building greater density in the area.

Figure 9 Existing Conditions

- ① Inconsistent street wall and low-scale building bulk
- ② Few street amenities for pedestrians
- ③ Hardscape medians
- ④ Large and inconsistent driving lanes
- ⑤ Poorly marked pedestrian crosswalks

Figure 9 Potential Improvements

- ① Increase building bulk for a consistent street wall
- ② Improve pedestrian experience through lamps and banners
- ③ Enlarge vegetated medians
- ④ Enhance pedestrian crosswalks
- ⑤ Plant street trees
- ⑥ Create consistent and well-marked driving lanes

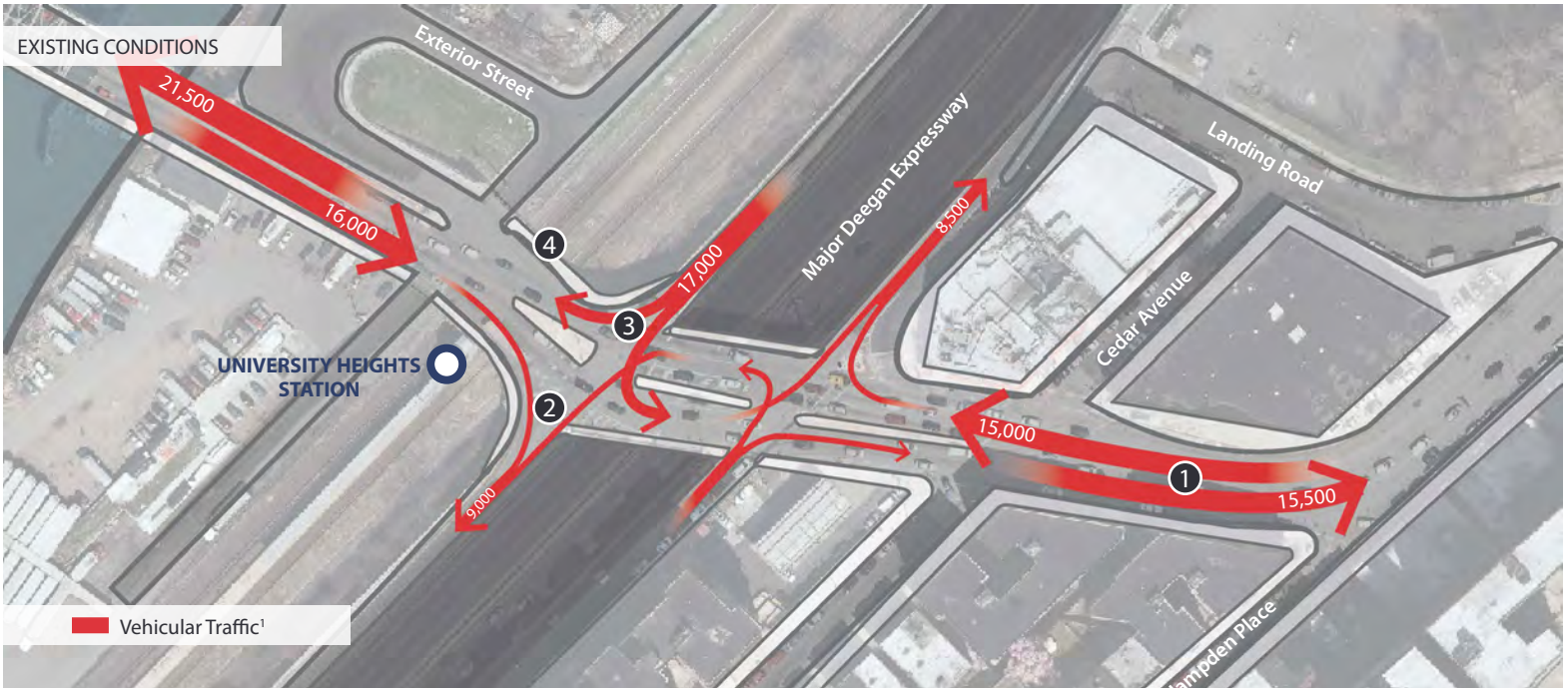


FIGURE 10 | Existing conditions, intersection of Fordham Road and Major Deegan Expressway. Pedestrians currently encounter several congested street-crossings with few pedestrian amenities. The large volume of traffic at key crossings create an unsafe and unappealing experience, discouraging pedestrians and potential cyclists from using the station and surrounding amenities.

Source: ¹Average Annual Daily Traffic (AADT); figures refer to the average daily number of vehicles passing through each intersection

Existing Conditions

- ① Insufficient traffic-calming medians
- ② Difficult pedestrian crossings
- ③ High traffic volumes; issues with pedestrian safety
- ④ Limited access across Major Deegan and the waterfront

FIGURE 12 | University Heights station entrance, at the intersection of West Fordham Road and the Major Deegan Expressway.





FIGURE 11 | Potential pedestrian improvements to the University Heights station. Through simple pedestrian amenities—such as vegetated medians and newly marked crosswalks—the safety and experience of reaching the entrance to the University Heights station could be greatly improved. The figure above shows specific short-term improvements, as well as potential long-term development.

Potential Short-Term Improvements	Potential Long-Term Improvements
1 New traffic-calming vegetated medians	5 Potential waterfront access from station & Landing Road
2 New crosswalk island	6 Platform extension for north-side access
3 Enhanced pedestrian crossings	7 Separated bicycle lane
4 Expanded median to channelize turning traffic	8 Cedar Ave vehicular closure; commercial use or joined lot



- If the waterfront area were to develop a pedestrian bridge extending down Landing Road over the Major Deegan and down to the waterfront could have several benefits. It would remove pedestrians from the Fordham Road intersection, connect with access to the rail station from the north side of the bridge (Figure 9: Pedestrian Enhancement), link the Fordham Landing Playground to recreational spaces on the waterfront, and link upland and waterfront development. This would have high capital costs and would only be feasible in conjunction with substantial investment in the Harlem River waterfront.
- If substantial development occurs along the waterfront north of the University Heights Bridge: Extending or moving the current Metro-North platform north should be explored. This would provide direct access to new development on the waterfront and could also be tied to future pedestrian access over the Major Deegan. This would create seamless access from the station to both the upland and waterfront communities.
- Development on the La Sala site south of the bridge should be leveraged to include access improvements which provide direct access to the station, waterfront and bridge. Zoning on the site should be revisited to determine any restrictions that have prevented development since its rezoning in 1989, as well as study the possibility of applying a special district or waterfront access plan to the entire waterfront, which could include specialized controls on bulk envelopes, tower orientation, and open space locations

PEDESTRIAN STATION ACCESS

The University Heights Metro-North Station is currently only accessible through the south side of the University Heights Bridge from which you cannot access the waterfront. Pedestrians can only access the waterfront from the north side of the bridge via a sidewalk alongside the vehicle ramp. Access to Manhattan is only available from the south side of the bridge. The combination of these access limitations are a significant deterrent to pedestrians and require a number of difficult crossings shown in Figure 10.

Recommendations

- Comprehensive wayfinding should clearly indicate pedestrian routes to and from the Metro-North station to limit difficult pedestrian crossings around Fordham Road. Metro-North has already installed pedestrian scale signage from the station to the Cedar Avenue BX12 SBS stops as a result of community input during this project. This effort should be continued to integrate station signage into the vicinity of surrounding subway lines and community assets such as Bronx Community College, the Fordham shopping district, and the VA Hospital. Reciprocally, the station area could include signage directing passengers to these assets.
- Providing pedestrian access along the north side of the University Heights Bridge would: remove the need to channel pedestrians (and potentially bike traffic) all to the south side of the Bridge to make a Manhattan crossing, allow easier connections from Manhattan to the waterfront without crossing Fordham Road, and, if paired with station access on the north side of the Bridge, remove additional pedestrians from Fordham Road crossings. The bridge is landmarked which must be considered as part of any modification.

FERRY SERVICE

Current East River Ferry service has been incredibly successful thus far, specifically in those areas where recent waterfront development was coupled with limited subway access. The University Heights Bridge should be considered as a future stop as ferry service grows and the waterfront develops.

Recommendations

- Ferry service here could connect commuters to northbound stops along the Hudson Line, waterfront development, and amenities such as BCC and the Fordham Shopping District.

CHALLENGES & RECOMMENDATIONS: HARLEM RIVER WATERFRONT

The University Heights portion of the waterfront along the Harlem River is cutoff from the surrounding community by layers of access problems that deter redevelopment. Currently, access to the waterfront is only available from the north side of the bridge through a circuitous ramp clearly designed to accommodate the large truck traffic serving the light industrial, non-water-dependent uses currently dominating the waterfront. While access makes the waterfront difficult to develop, the Manufacturing District zoning designations mapped north of the



FIGURE 13 | (Left) University Heights Bridge, crossing from Manhattan’s Inwood neighborhood to University Heights; the bridge provides a valuable pedestrian connection between the boroughs and striking views of the Harlem River. (Right) View of Harlem River from the Bridge.

bridge prohibit residential development and limit the type of commercial uses.

These challenges together combine to: limit development along the Fordham Road corridor and the Harlem River waterfront, restrict access to the Harlem River waterfront and Manhattan for neighborhood residents, and discourage ridership at the University Heights Metro-North Station. The following section addresses specific issues related to these challenges through the application of best practices.

EXISTING PLANS

Access to and utilization of the Harlem River waterfront is a priority for stakeholders in the Bronx and Manhattan. In University Heights, Community District 7 has identified several goals to reclaim the neighborhood’s underutilized waterfront. Their plan calls for the waterfront to be a destination with opportunities for active water recreation, and they feel that waterfront development should reflect the

context of the community. Additional goals include restoring and preserving natural areas, improving access and connectivity to Manhattan, and economic development. The waterfront is currently inaccessible to pedestrians and there is limited clean and quiet open space for people to enjoy, as private parcels and vacant lots disrupt the continuity of the area. Community District 7’s plan puts forth recommendations to improve the condition of and access to the waterfront. The plan promotes the redevelopment of private parcels through zoning changes or land swaps. For example, the uses on the La Sala site, located just south of the University Heights Bridge, could be moved to a more practical area. It also suggests redeveloping the current City DOT staging site north of the bridge as “Regatta Park” and connecting Roberto Clemente State Park through the La Sala site. Finally, the plan recommends a pedestrian bridge over the Major Deegan Expressway at Baily Road for walking access.

Community District 7’s goals are aligned with previ-

ous plans for the Harlem River waterfront. The Harlem River Brownfield Opportunity Area Plan from 2007, put forth by the Bronx Council on Environmental Quality, identified the goal of creating a continuous waterfront greenway that connects the upland to the waterfront, and using the bridges between Manhattan and the Bronx to connect waterfront parks. The study recognized that the Major Deegan Expressway presents a challenge for pedestrian entrance to the waterfront, and recommends using improvements to existing transportation infrastructure to alleviate this difficulty. A 1988 rezoning for a proposed development on the La Sala site north of the bridge looked to create a residential complex in University Heights with a publicly accessible esplanade. The proposal was justified based on the need for housing in the area and that the site was vacant for over a decade. While the plan did not come to fruition, waterfront utilization and access has been a priority in University Heights and throughout neighborhoods along the Harlem River.

POTENTIAL DEVELOPMENT SCENARIOS

The following three potential waterfront scenarios were identified based on community outreach, existing plans for the area, and internal analysis. They range from maintaining the status quo, to substantial land use and access changes. Each scenario describes the resulting density, land use, and infrastructure ramifications for each scale, along with the potential community benefits

The purpose of these scenarios is to expand the dialogue on the University Heights Waterfront in a comprehensive manner that takes into consideration access and infrastructure needs, land use and zoning, as well as the community vision for the waterfront. It is important that the future of the area is thought about in a way that weighs how different levels of development require different levels of investment to succeed. While a specific development scenario is not endorsed it is likely that a phased and balanced approach, which considers these options will lead to a waterfront that has the best outcome for the community.

SCENARIO 1

Scenario 1 depicts the University Heights waterfront if few changes are made to land use and infrastructure framework. The only significant development shown is the potential development of Regatta Park on the current City DOT staging site located just north of the University Heights Bridge. The Manufacturing Districts retain their zoning and continue to

SCENARIO 1

- 1 Current grandfathered manufacturing uses remain. No waterfront public access required.
- 2 Current manufacturing zoning district remains. No waterfront public access required.
- 3 Potential location of Regatta Park.
- 4 Potential up-zoning to permit mix of commercial and residential use.
- 5 If waterfront public access is not required along the waterfront, capital investment into pedestrian connections to upland community may be unlikely.
- 6 Service increases unlikely if current density remains the same.

SCENARIO 2

- 1 Potential development utilizing current permitted bulk and density for residential development. Waterfront zoning rules require developments to provide visual corridors and significant public access improvements.
- 2 Potential acquisition, and remediation of manufacturing parcels into parkland.
- 3 Potential location of Regatta Park.
- 4 Potential up-zoning to permit mix of commercial and residential use.
- 5 Significant capital investment into parkland acquisition and development may limit likelihood or expediency of pedestrian connections to upland community.
- 6 Moderate increase in density and regional park may warrant very modest increases in train service, but may not increase likelihood of ferry service.

SCENARIO 3

- 1 Potential up-zoning to permit higher density residential development. Specially crafted bulk rules could create orientation and width rules for towers.
- 2 Waterfront zoning rules require developments to provide visual corridors and significant public access improvements. This could eventually connect to adjacent waterfront esplanades.
- 3 Potential location of Regatta Park.
- 4 Potential up-zoning to permit mix of commercial and residential use.
- 5 If significant waterfront development occurs, could explore substantial pedestrian improvements, including bridge over expressway and rail corridor, and improvements to University Heights bridge.
- 6 If significant waterfront development occurs, increased density could warrant increased train service and increase likelihood of other transit modes, such as ferry service.



FIGURE 14 | SCENARIO 1 | Continued manufactured uses & Regatta Park



FIGURE 15 | SCENARIO 2 | As-of-right residential development and regional recreation



FIGURE 16 | SCENARIO 3 | Higher density mixed-use development & Waterfront Access Plan

One tool that several New York City neighborhoods have used to re-envision how their waterfront can be used and enjoyed is a Waterfront Access Plan (WAP). Waterfront zoning regulations requires most new private development along the waterfront to provide visual corridors to the water at routine intervals and to provide public access along the shoreline. A WAP is a plan for the waterfront that is embedded in the zoning code, and includes special provisions controlling the location and dimensions of view corridors; and the number and type of amenities in the required waterfront public access. In University Heights, a WAP could be used to plan how to make the waterfront accessible and inviting and accommodate the unique site conditions and constraints.

In 2005 the Department of City Planning rezoned the Greenpoint-Williamsburg waterfront and developed a WAP for the area. The objective was to encourage redevelopment of the former industrial waterfront and create opportunities for public waterfront access. Greenpoint and Williamsburg were developed in the mid 19th century as a bustling industrial area with a variety of manufacturing units, oil refineries, and shipyards. With the changing economic base of the City, the industrial businesses retreated, which lead to a decline in the condition of the waterfront. By the time of the rezoning, residential conversions were already occurring throughout waterfront portions of the neighborhood. The proposal codified this transformation, enabling the growth of new waterfront communities.

The rezoning strategically located density along the shoreline by mapping most development parcels

with a combination of higher density and moderate density districts. This zoning strategy was combined with a WAP that includes robust design standards to ensure that high-quality public space with a variety of amenities can consistently be enjoyed along the waterfront. The plan is expected to result in the creation of over 50 acres of new parkland over the East River waterfront including new parks on city-owned land, as well as shore public walkways, and supplemental access areas on privately owned parcels. The WAP demarcates locations where upland connections and visual corridors should be established, and created a detailed set of design standards and required amenities for waterfront public access areas and visual corridors. These design standards included specific reference standards for paving, seating, lighting, and guardrails to ensure visual continuity throughout the 1.6 mile continuous esplanade being created.

The Greenpoint-Williamsburg plan allowed for the successful creation of the waterfront esplanade and waterfront access. The rezoning has attracted many developers to the area, resulting in substantial amounts of new housing construction, and the WAP has ensured the provision of quality public space along the water. This influx of new housing has facilitated the piloting of East River ferry service, providing supplemental transit options for these new communities. As University Heights has a similar industrial history, the Greenpoint-Williamsburg rezoning and WAP have important lessons for the future of the area.



FIGURE 17 | Greenpoint waterfront.

operate as is, and the La Sala site continues to have access issues which prevent development despite the Residential District zoning designation. Access to the area is poor right now, and without the possibility of leveraging new waterfront development, the waterfront will likely remain inaccessible to the community. The acquisition of large parcels to create additional parkland would require significant public investment. Likely infrastructure gains from such investment would be minimal since no residents would live directly along the waterfront. It is unlikely additional train service would materialize without the creation of additional riders.

Short-term pedestrian safety improvements, identified in Figure 9: Pedestrian Enhancements could be implemented to improve access to the station and improve access to the waterfront park. Significant usage of the waterfront park, such as during events, may require additional pedestrian and traffic enhancements, such as a traffic agents.

SCENARIO 2

Scenario 2 depicts a combination of as-of-right high-density residential development and a regional park. The residential development is shown south of the bridge on the La Sala site which is currently mapped as an R7-2 district. It should be noted that without additional bulk controls (such as one might find in a special district or a waterfront access plan); the current zoning envelope may create a building which limits view corridors. Waterfront zoning rules would require public access on any development, and better access to the University Heights station could be incorporated into the development. North of the bridge, the waterfront is depicted as a regional park akin to what the community has envisioned. The difficult aspect of this scenario is that, aside from the DOT staging site, the parkland includes private parcels which the city would need to acquire. Such an endeavor would be costly, especially if environmental remediation is necessary. Additionally, if this park were realized, it would require significant capital outlays to link the upland community to the parkland. Additionally, parkland development without a critical mass of residents in close proximity and fluid access will not ameliorate the isolation, detachment and safety concerns that are currently faced along the waterfront.

SCENARIO 3

Scenario 3 depicts higher density mixed use residential and commercial development north and south of the bridge. A rezoning would be required

to allow residential uses on the parcels north of the bridge. The scenario also shows how additional bulk controls which could be established as part of a special district or waterfront access plan can preserve views to the waterfront from the upland community by shifting density into targeted locations and layering additional controls on tower locations and orientation. Higher density residential development triggers significant waterfront public access requirements as part of the waterfront regulations in the zoning resolution. Developments would need to provide continuous access and open space along the shoreline, including a significant mix of public amenities like seating, planting, and lighting, and would need to link these spaces to the community through upland connections. A series of continuous developments could therefore create a contiguous esplanade to connect with the Harlem River Greenway to the south. This scenario would generate high volumes of pedestrian and vehicular traffic and require significant improvement to the lower Fordham Road corridor. However, the higher the density along the waterfront, the more likely that waterfront development could be leveraged to help with improvements to pedestrian access to waterfront open space. Also, if waterfront park space was established without public investments from the city, then more money may be available for access improvements. The density and activity of the development could also warrant additional train service or new service such as a ferry.

The future development of the University Heights Waterfront will likely be best suited for a scenario that includes a balance of mixed-use development and open space. Higher density development is already contingent upon being able to provide high quality waterfront public access. Pairing this type of development with the necessary access improvements that support enhanced access for potential waterfront residents, the upland community, and those coming into the community will be a win/win scenario for the community and waterfront development. This will require improved regional rail access as well as better connections to existing mass transit. A comprehensive approach which looks at the upland sites, regional amenities and the Manhattan waterfront will be the most successful. Other waterfront communities have seen successful waterfront development using a Waterfront Access Plan (WAP) to tailor the requirements to match the needs of the specific waterfront community.

CONCLUSION

The University Heights Metro-North station and waterfront area has been at looked through a number of lenses. This includes a community visioning process; this transit-oriented development analysis as part of the Sustainable Communities program; and through the efforts of several well-known institutions. The common theme is that in order for the area to reach the highest and best development potential it will need to be viewed holistically by taking into consideration both the Bronx and the Manhattan sides of the river. This will require further developing and integrating the recommendations that came out of the aforementioned studies into the context of larger vision for the Harlem River waterfront. These include: exploring innovative pedestrian access and circulation improvements to accommodate development and users from both sides of the river; evaluating the feasibility of mixed use regional retail which accommodates the open space requirements of the community; and encouraging new waterfront development within the context of the waterfront revitalization program and the post-Sandy environment.

Maximizing the potential of the University Heights station area to the greatest benefit of the community is contingent upon significant improvements to access and infrastructure over a sustained period of time. This level of improvement is most likely to be achieved through an approach that includes varying the permitted densities of mixed use development carefully. Development along the waterfront, through land use and zoning policies, can: assure public access, attract services and amenities, preserve view corridors, and at the same time, leverage the development to provide the significant transportation improvements needed.

REFERENCES

- ¹ Dolkari, Andrew. *Guide to New York Landmarks*. 1998.
- ² 2012 Metro-North weekly boarding supplied by Metro-North railroad.
- ³ MTA Subway Ridership, 2012. http://www.mta.info/nyct/facts/ridership/#chart_s

PRIORITY RECOMMENDATIONS SUMMARY

- Re-examine zoning along the Fordham Road corridor from Jerome Avenue to the waterfront to identify districts which will best support walkability, appropriate density around transit, and strengthen connections between commercial corridors.
- Explore a long term plan for significant improvements to the intersection of the Major Deegan Expressway and Fordham Road.
- Develop a comprehensive approach to the waterfront which includes upland sites along Fordham Road, and considers the Manhattan Harlem River waterfront, which includes a balance of land uses that will best provide the community with access while generating significant transportation improvements.



Morrisania Air Rights Housing Development

EXISTING STATIONS

MELROSE

MELROSE

FILLING IN THE GAPS



INTRODUCTION

SYNOPSIS

The Melrose Metro-North Station is located along East 162nd Street between Park and Courtlandt Avenues at the edge of the Morrisania, Melrose and Concourse Village neighborhoods of the Bronx. It is located approximately midway on the 161st /163rd Street corridor spanning from Jerome Avenue on the west and Westchester Avenue on the east. This corridor was identified in PlaNYC as one of the Bronx's three primary business districts, and contains many regional attractions and civic amenities including Yankee Stadium, the Bronx County Courthouse, and the Bronx Hall of Justice. A large portion of the station area is located within the Melrose Commons Urban Renewal Area, and has seen tremendous growth and reinvestment in the past decades, with Courtlandt Corners, Boricua College, Boricua Village and the future Bronx Music Heritage Center all within a close proximity of the station. The station area is also approximately half a mile from the Hub, another of the borough's primary business districts. Despite these assets and recent revitalization, years of uncoordinated public and private investment have created an incohesive urban fabric.

Significant improvements throughout the corridor could bolster land uses, access, and bridge the gap between neighborhoods, community assets, and business districts. This section examines these potential improvements in an array of categories, and identifies several linchpin sites critical to the future success of the corridor and accessibility to the station.

“ The South Bronx is undergoing an incredible transformation. The longest and most community-driven part of this transformation is in the Melrose neighborhood which is rich in history and culture. WHEDco is honored to bring life the fruits of a decades-long planning effort with its new Bronx Commons project.”

| Nancy Biberman, CEO, Women's Housing and Economic Development Corporation (WHEDco) |

HISTORY

The history of the Melrose area is particularly important not only because it is representative of the story of the South Bronx, but because it shaped the physical form and features which are Melrose today.

The area surrounding the Melrose station was originally part of the vast Morris family estate. In the mid-nineteenth century, the family granted railroad access through the estate to the New York and Harlem Rail Road (the predecessor to the Harlem Line). In the 1870s, this part of the Bronx was annexed into New York City, and the Third Avenue Elevated was soon extended to the area. Elevated and subway mass transit prompted large population growth in the neighborhood, and soon 5-6 story tenements replaced one- and two-family homes.

Typical of the Bronx, a majority of this growth was comprised of immigrant populations, namely Irish, Italian and Jewish Americans. This time period, the early decades of the twentieth century, also coincided with the construction of Yankee Stadium and the Bronx County Courthouse along 161st Street, establishing the corridor—especially at its intersection with the Grand Concourse—as one of the most vital in the Borough. After World War II, the immigration patterns into the Bronx began to shift; whereas the families leaving the Bronx were generally middle income, new residents and those that stayed were generally lower income. The combination of these demographic shifts left the City with a shrinking tax base and less monetary resources to allocate



FIGURE 1 | Melrose Station platform, East 162nd Street between Park and Courtlandt Avenue.

COMMUNITY CHARACTERISTICS | Melrose Study Area

Metro-North Station Weekday Ridership (2011)



13 inbound passengers
126 outbound passengers

NYC Subway Station Daily Ridership (2012)*

- D 161st St-Yankee Stadium: 27,604 weekday | 35,820 weekend
- 2 3rd Ave-149th St: 24,580 weekday | 25,356 weekend
- 4 149th St-Grand Concourse: 13,599 weekday | 13,024 weekend

- Melrose has a strong presence of subsidized and public housing; Melrose Houses has 2,670 residents, Andrew Jackson Houses 2,570 residents, and Morrisania Air Rights 1,952 residents.⁴ This is also evident in the high renter occupied unit percentage, 89%.
- The area has a large African-American community compared to the Bronx at large.
- The Melrose neighborhood has seen a dramatic increase in population, growing faster than the overall city average.

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Hispanic	58%	53%	29%
African-American	47%	35%	22.8%
Renter Occupied Units	89%	79%	68%
Housing Units with No Access to a Vehicle	74%	59%	56%
With Access to One Vehicle	23%	30%	31%
Take Public Transit or Walk to Work	76%	64%	67%
Population Density (per square mile)	68,800	32,536	26,953
Unemployment Rate (2010)	9%	12%	11%
TOTAL POPULATION	42,708	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the Melrose station. ² United States Bureau of the Census, 2006-2010 American community Survey 5-Year Estimates. ⁴ NYCHA. http://www.nyc.gov/html/nycha/html/developments/dev_guide.shtml
* MTA Subway Ridership, 2012. http://www.mta.info/nyct/facts/ridership/#chart_s



FIGURE 2 | Charlotte Street in the South Bronx, circa 1980. The South Bronx, including the Melrose neighborhood, became a national symbol for urban decay during the 1970s and 1980s due to the rise in vacant lots, fires, drugs, and violence.
 Source: John Fekne / CC-BY-SA-3.0, via Wikimedia Commons from Wikimedia Commons

towards public services. By the late 1970s, New York City was on the brink of bankruptcy, the 3rd Avenue Elevated Rail ceased operations in the Bronx, and the South Bronx became a national symbol of urban decay. This trend continued in Melrose through 1980's. In the late 1980s and early 1990s, several community groups and grassroots organizations rallied to bring new life and resurgence to the South Bronx. The Melrose Commons Urban Renewal Area was established for large portions of the neighborhood through col-

laboration between community groups and the City of New York. Over the past few decades, with sustained investment from the city and private sectors, Melrose has experienced an amazing rebirth. Blocks where only one or two buildings remained in the early 1980s have been completely transformed and reconstructed. Community groups and affordable housing developers, working in collaboration with the City, have resurrected large areas. Along 161st Street,

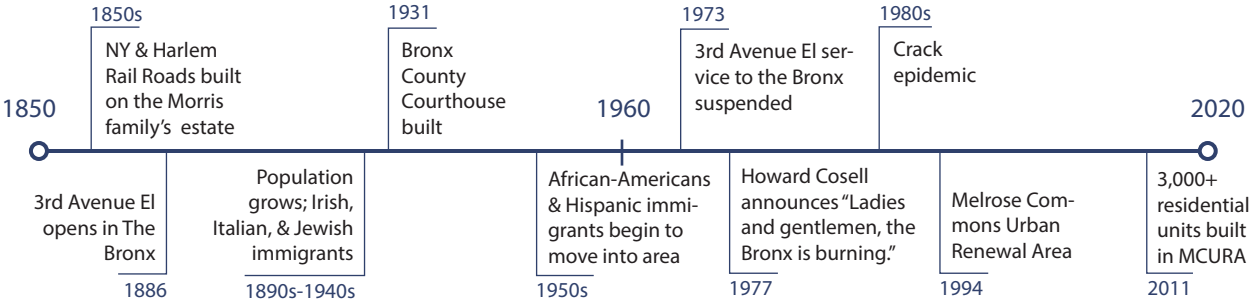


FIGURE 3 | Melrose Neighborhood timeline.



FIGURE 4 | Hayden Lord Park reconstruction in 2013. DreamYard, a local youth advocacy arts group, led the initiative to rehabilitate the park, adding mosaics, landscaping, and farming. The Melrose neighborhood has transformed in large part due to local and youth-based initiatives. Source: DreamYard. <http://dreamyardproject.wordpress.com/>

new capital investment can be seen in the Bronx Hall of Justice, reconstruction of Yankee Stadium and the new Yankees 153rd Street Metro-North Station, as well as the numerous mixed use developments within the Melrose Commons URA.

KEY FEATURES

The Melrose Metro-North Station is located one block from the East 161st Street commercial corridor which has been identified in PlaNYC as one of the borough's three primary business districts. The sections below discuss the key features in and around the corridor.

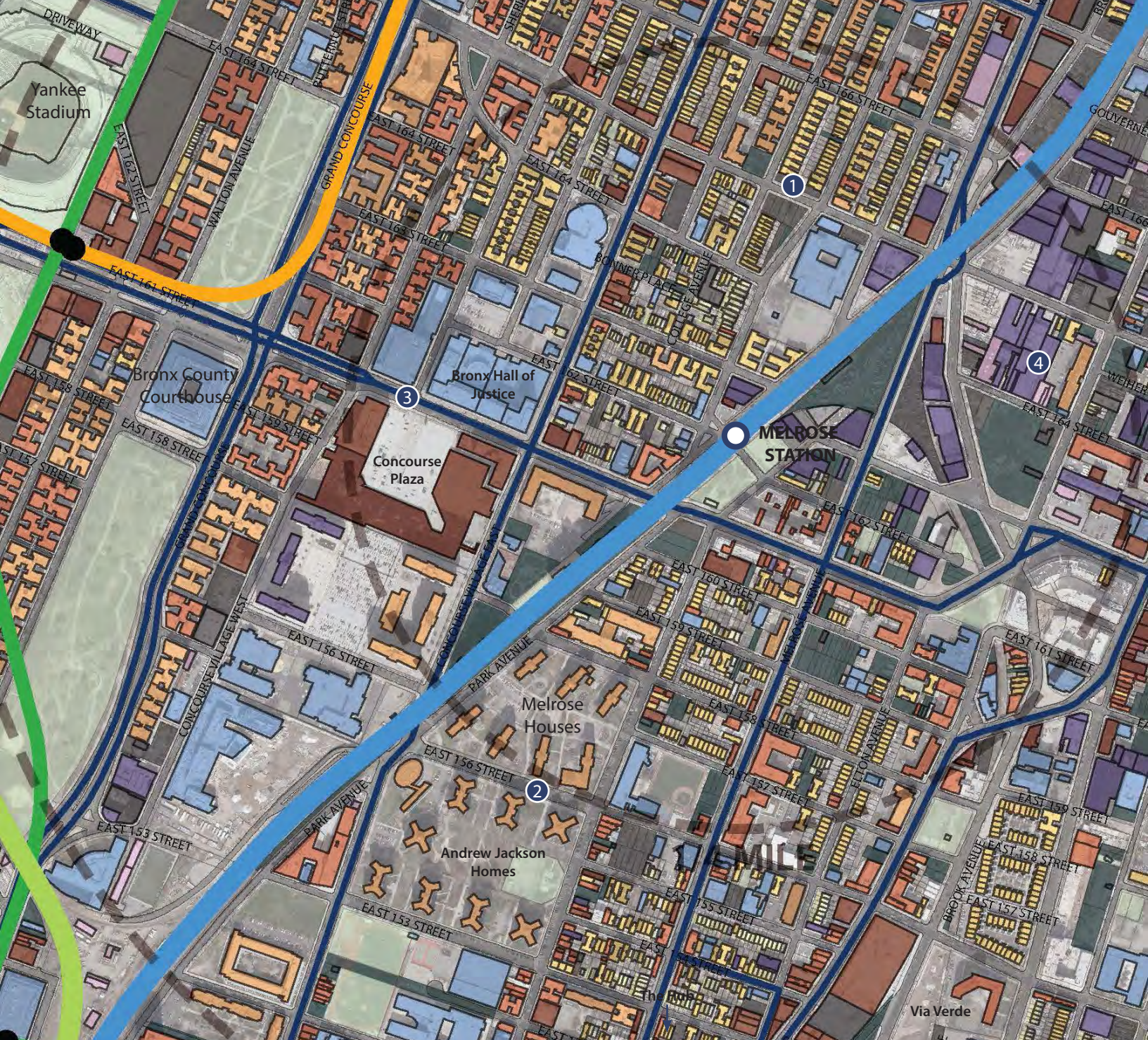
Public Housing

The Morrisania Air Rights facility is a series of three New York City Housing Authority (NYCHA) public housing towers, 19, 23 and 29 stories tall. They are unique in terms of location because, as the name suggests, they were built utilizing the 'air rights' from MTA's Metro North rail corridor, and are located directly above the tracks, immediately south of the station entrance. Completed in 1980, the project consists of 843 apartment units and roughly 1,834 residents.

Aside from Morrisania Air Rights, several other NYCHA housing projects are within walking distance of the Melrose Metro North station. The largest of these includes President Andrew Jackson Houses and Melrose Houses, both located south of the station. Completed in 1952, Melrose Houses is a complex composed of eight 14 story buildings. Its 1,019 apartments house approximately 2,476 people. Roughly a decade later Jackson Houses was completed, in 1963. This project has seven 16 story buildings with 868 apartment units, and houses about 2,354 people.

Institutional Buildings

West of the station, East 161st Street hosts multiple institutional buildings near its intersection with the Grand Concourse, including the Bronx Supreme Court, the Bronx Criminal Court, the Bronx Hall of Justice, as well as several government offices, including those of the Borough President. The courts employ roughly 1,500 people within the area, and bring over 3,000 additional people into the area daily through routine jury duty and other legal obligations.



Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Metro North Harlem Line
- B/D Subway Lines
- Bus Routes
- 4 Subway Line

Notable Land Uses Features:

- ① Multi-family walkups north of the station, in addition to a mix of commercial buildings
- ② High density residential buildings, particularly along East 156th Street
- ③ Commercial and institutional buildings west of the station, especially along Concourse Village East
- ④ Manufacturing buildings east of the station

Melrose Commons Urban Renewal Area

The Melrose Commons Urban Renewal Area plan, is a community development plan established in the 1990s (see Figure 6). City owned properties which have been redeveloped under the Urban Renewal Plan have resulted in more than 25 new residential and mixed-use developments which have resulted in the construction of over 3300 residential units, affordable units for seniors, permanent housing for previously homeless New Yorkers, the development of Boricua College and Boricua Village, and will soon include the Bronx Music Heritage Center and affordable housing for musicians.

Commercial Hub

South of the station area, the Hub is located at the confluence of 3rd Avenue, 149th Street, Melrose Avenue and Westchester Avenue, making a 'bow-tie' intersection. The Hub has historically been the largest shopping district in the Borough. In the depression-era it was characterized by many movie palaces and vaudeville theaters, including the Bronx Opera House and the Jackson Theater. Today it has a number of stores at various scales, housing both local businesses and national chains.

Yankee Stadium

Further down the 161st Street Corridor, west of the station area and the Courthouses, Yankee Stadium sits between the Harlem River and the 4 train on River Avenue. This stadium, the home of the New York Yankees, was opened in 2009 across the street from the original Yankee Stadium. It houses roughly 81 home games a year between April and September, and additional games in October when the Yankees make the playoffs. The stadium has a capacity of roughly 50,000, and attracts over 3.2 million spectators annually.¹ Additionally, the stadium has hosted large scale concert venues.

TRANSPORTATION

The Melrose Metro-North station is located on East 162nd Street, between Park Avenue and Courtlandt Avenue. It is separated from the primary commercial corridor, East 161st Street, by the Morrisania Air Rights housing project and Railroad Park. Prior to the NYCHA housing, the station was located along 161st Street, and even afterwards had a presence along the corridor, with station entrances located under the plaza along the north side of the street. The station was shifted northward in 2006 because of community concerns over safety. While the plat-

form now benefits from daylighting, the location of the entrance is isolated from the activity provided by the corridor.

The station provides access south to Grand Central Terminal in roughly 19 minutes, and provides access north all the way to Wassauc, with key stops at Bronxville, Mount Vernon West, Scarsdale and White Plains. Transfer is available at the Fordham Station to the Metro-North New Haven Line and then at New Rochelle to the Northeast Corridor of Amtrak.

Similar to other Bronx Harlem Line stations, the majority of users are reverse commuting, and ridership remains very low. In fact, over 90% of riders are going outbound at the Melrose station. The Melrose Station is not handicapped accessible, and like several other Bronx stations, the platform can only accommodate the first 2 cars of the train.

Aside from Metro-North, the area has many transit options. Approximately half a mile west of the station, the B, D and 4 trains can be accessed at River Avenue and East 161st Street, adjacent to Yankee Stadium and in close proximity to the Bronx Supreme Court. The B/D can also be accessed along the Grand Concourse, northwest of the station, at 167th Street. South of the station, the area benefits from its proximity to the Hub, which is roughly half a mile away. The 2 and 5 trains are accessible at 3rd Avenue and 149th Streets, and the 4, 2 and 5 trains can be accessed at Grand Concourse and East 149th Street near Lincoln Hospital and Hostos Community College. East of the station, subway access is more difficult as the previous service along 3rd Avenue (the 3rd Avenue El), was removed in the 1970s. Now the nearest subway east of the station is the 2, 5 with stops at Jackson Avenue, Prospect Avenue, and Intervale Avenues, all closer to a mile away.

Bus service is heavily utilized in the community, and several options are available. The Bx6 runs along East 161st and 163rd Streets between Hunts Point Food Center in the Bronx and Riverside Drive in Manhattan. The Bx41, which has just obtained Select Bus Service (SBS), runs along Melrose and Webster Avenues, between the Hub and East Gun Hill Road. The Bx15, which offers a limited-stop service as well, runs along 3rd Avenue between Fordham Plaza and 125th Street in Manhattan. Bx21 runs along Third Avenue and Boston Road between Westchester Square and Port Morris. The Bx32 runs along Morris and Jerome Avenues between the VA Medical Center in University Heights, and Port Morris. The Bx1 and Bx2 run along the Grand Concourse between Mott Haven and Riverdale, or Sedgwick Avenue, respec-



FIGURE 5 | (Top) Hall of Justice and Concourse Plaza on East 161st Street. (Bottom) The Hub, East 149th Street and 3rd Avenue. Greater connectivity within the Melrose neighborhood would create a more united sense of character and create opportunities for residential and commercial development.

Source: @ New York City Department of Transportation

MELROSE COMMONS URBAN RENEWAL AREA

By the early 1990s, with home to fewer than 6,000 residents, the 33-block area encompassed by the Melrose Commons Urban Renewal Area had experienced significant population loss. In 1992 the community learned the city had designated Melrose Commons as an urban renewal area and had plans for redevelopment that would displace the current population. In response, a grassroots community organization called Nos Quedamos (We Stay) was founded, whose name became synonymous with its mission. The organization was comprised of home owners, business owners, and tenants with the mission to stop the Urban Renewal Plan's certification. In 1993 with the help of a community and city government partnership, certification was ceased, and worked to create an alternate redevelopment plan. The partnership, led by Nos Quedamos, was given six months to redraft the Urban Renewal Plan which was signed into law in 1994.²

Eight goals were identified to inform the new version of the Urban Renewal plan. These goals addressed resident concerns about the affordability

of new developments, opportunities for expansion of existing businesses, inappropriate use of public open space, and issues with proposed street alignment. The first goal was to ensure that there was no involuntary displacement of the existing community. The plan also sought to allow for mixed income development and affordable housing appropriate to the scale of the neighborhood. Another goal was to make sure the plan was environmentally conscious and sustainable, and that it included open space and addressed concerns about safety. The plan respects the street and movement patterns of the community and allowed for an appropriate distribution of commercial space. These principles have guided the physical development of the neighborhood over the last 19 years resulting in new sustainable mixed use development which reflected urban design guidelines. This growth has been accommodated without any displacement of the community. Since its inception, the plan has been amended twice to facilitate additional opportunities, and its final sites will soon be developed.



FIGURE 6 | The Melrose Commons Urban Renewal Area Plan, developed by Magnusson Architecture and Planning (MAP) and the local community group Nos Quedamos in 1994. The Plan continues to evolve, with many new projects being constructed or in development in recent years (labeled with red letters on figure 5).

Sources: Melrose Commons Urban Renewal Plan, New York City Department of Housing and Urban Development, 1994. Congress for New Urbanism. <http://www.cnu.org/resources/projects/melrose-commons-lead-neighborhood-development-2012>

tively. The Bx1 has Limited-stop service. Additionally, the Bx19 can be accessed at the Hub for service along Southern Boulevard to the Botanical Gardens, and the Bx13 service can be accessed near Yankee Stadium for service between Gateway Mall and the George Washington Bridge Bus Station.

LAND USE & ZONING

Aside from the Urban Renewal Area, the land use in the Melrose and Morrisania neighborhoods is governed by zoning regulations which can be seen in Figure 8. Zoning in and around 161st Street corridor generally permits mid to high-density residential uses with commercial uses permitted along most of the corridor itself. A diverse mix of affordable housing can be found throughout the area from large tower-in-the-park NYCHA developments; smaller semi-detached and attached housing; and the new mid-density housing seen as part of the Urban Renewal Area.

The station, and adjacent properties high-density housing communities, including the Morrisania Air Rights and Morrisania II Apartments along East 161st

Street, are zoned with a higher -density residential district. No commercial overlay has been mapped on these particular housing parcels, so commercial uses are not permitted. Moving east from the station, the 161st Street corridor generally maintains this high-density zoning district designation, except that commercial overlays, permitting local commercial uses, are mapped nearly contiguously to Third Avenue. A mid-density regional commercial district is mapped at the intersection of 3rd Avenue. Parking requirements in the area are relatively low.

West of the station, along the East 161st Street corridor between Grand Concourse and Concourse Village East, there is a mix of regional commercial districts and high density residence districts with commercial overlays.

Continuing west towards Yankee Stadium, at the junction of East 161st Street and the Grand Concourse, is the Special Grand Concourse District (C), created in 1989 to protect the art deco style and scale of the area's apartment buildings. This special district designation and landmarks designation limits ground floor retail uses outside aside from a few prominent intersections including 161st.



FIGURE 7 | A *casita* ("little house" in Spanish) in the Melrose neighborhood. These neighborhood gardens and public spaces were developed from vacant and abandoned land by Puerto Rican and Dominican groups to help improve their community.

CHALLENGES & RECOMMENDATIONS: OVERVIEW

The Melrose and Morrisania neighborhoods have witnessed an extraordinary grassroots transformation utilizing a substantial mix of public and private investment. Despite the unique assets of the community and the significant reinvestment seen in the last two decades, there are many challenges facing the 161st Street corridor and the surrounding areas. The station area and the center of the 161st Street corridor sits on the fringe of several community boards, council districts and police precincts, resulting in several portions of the neighborhoods which manifest this 'edge' condition through a lack of cohesiveness and interconnectedness with surrounding areas. Even the 161st Street Business Improvement District (BID) ends at Morris Avenue, leaving out more than half of the corridor. As a result, the corridor is a piecemeal collection of developments which vary widely in scale, activity, quality, maintenance, relationship to the street, and in the provision of streetscape amenities.

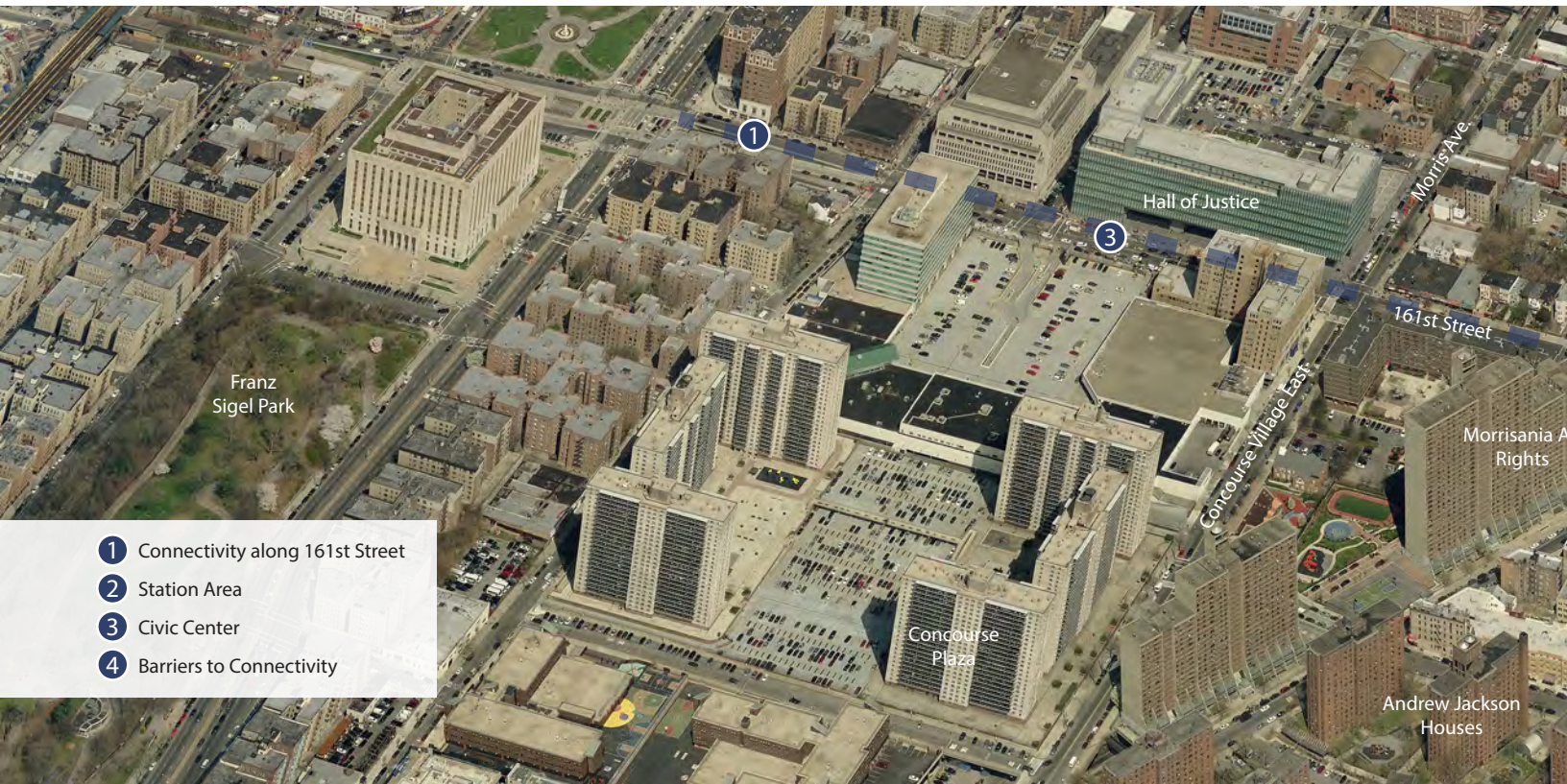
One of the major challenges for the Melrose community is achieving continuity, whether along the 161st Street corridor, or between this corridor into adjoining neighborhoods and between borough

business districts. While many blocks have an ideal density and environment conducive to walkability (as described in the TOD Strategies section), often an adjoining block does not achieve these goals, causing the corridor, as a whole, to fall short of being a successful, walkable commercial corridor.

For the purpose of this section, these challenges and recommendations are discussed in four focus areas (see Figure 9):

- 1 General connectivity problems faced along the 161st Street Corridor
- 2 Station area challenges, including specific impediments along the 161st Street corridor between Morris and Melrose Avenues
- 3 Civic center challenges in a portion of the 161st Street corridor, generally between Yankee Stadium and Morris Avenue
- 4 Barriers to connectivity with other neighborhoods, including:
 - Intersection of 161st Street with Third Avenue
 - Manufacturing districts located northeast of the station area; NYCHA housing to the south of the station

FIGURE 9 | Recommendation focus areas in Melrose.
Source: © 2011 Pictometry International Corp.



CHALLENGES & RECOMMENDATIONS: CONNECTIVITY ALONG 161ST STREET

The low ridership of the Melrose Station reflects how little it is used to support the economic development of Melrose. Improved frequency, service options, and access to the station could bolster service to the many legal professionals employed in the courthouses, serve a role to reverse commuters similar to the Fordham station, serve as regional access to the Hub, and could also serve as an auxiliary station to access Yankee Stadium on game days. Service aside, the lack of cohesiveness along the corridor poses a significant barrier which prevents full station utilization.

The opening of the Bronx Hall of Justice represented a significant investment in the community. The addition to existing courts and related civic institutions housed along 161st Street will help to maintain and increase the large number of jobs associated either directly or indirectly with the courts. For example, the large supply of lawyers, judges, court officers, and jurors within the courthouses present local restaurants and delis with a constant supply of patrons. Despite this obvious co-dependency, the area lacks the number and diversity of retail and service amenities that would be expected from such an em-

ployment generator. Not only does the lack of retail limit economic growth of the corridor, it limits its walkability as few venues are bustling with activity. While the Hall of Justice sits just a block west of the station, few of its employees utilize the convenience of the station. The walk is brief, but requires walking by the Morrisania Air Rights, the Morrisania II Apartments, and a strip of neglected homes and an underutilized, poorly maintained commercial strip. The 161st Street Business Improvement District (BID) ends at the courthouse, so typical BID activities like public realm maintenance, and pedestrian improvements stop abruptly at the BID boundary. East of the BID boundary, sidewalks are poorly maintained and there are problems with sanitation. Several small walkability problems in this area combine to create an unpleasant pedestrian experience and thus pedestrian traffic drastically drops east of Morris Avenue. Both portions of 161st Street also lack streetscape amenities which would lend consistency to the corridor.

A similar phenomenon limits the potential of the station to serve Yankee Stadium. The new 153rd Street station is a great asset to serve game day passengers, however it is limited in that it only serves passengers along the Hudson Line. The Melrose Station could serve a much wider regional transit network as both the Harlem and New Haven lines pass





FIGURE 10 | (Top) Banners at Boricua College help guide pedestrians. (Bottom) Plazas surrounding the Air Rights buildings largely remain abandoned and under-utilized.

through the station. Unfortunately, the New Haven line currently does not stop at Melrose station, and the Harlem line only stops with local service. Currently, many game day passengers riding into the city via Metro North, from Connecticut for example, must currently overshoot the stadium, exit at Harlem 125th Street station and either return north by way of the Metro North Hudson Line or the 4 subway train, one block east of the 125th Street station. This is a missed opportunity to conveniently deliver passengers without the double-back, and to capitalize on the additional foot traffic. Amenities such as restaurants, hotels and apparel spaced intermittently along a walkable 161st Street corridor could serve passengers, and would bring in a lot of additional revenue to the corridor. Service is only part of the problem, as 161st street does not cohesively support the pedestrian traffic that would be associated with such a service change.

Vacant lots, vacant ground floors, and inconsistent provision of streetscape amenities all deter walkability along the corridor. While the western half of the corridor has antique themed street lamps, these switch abruptly at Melrose Avenue to cobra-head lamps. Conversely, Boricua College lamp banners are a welcomed amenity on the east side of the corridor, but institutional or BID markers are not found on the western portion. Street tree planting is piecemeal. While some blockfronts contain a well-maintained, closely spaced new canopy of trees, others have very haphazard placements or only one or two trees per blockfront. These nuances and variation all combine to subtly convey shifts in community pride, investment, and ownership, limiting the potential for 'place-marking' and a holistic corridor. General recommendations along the corridor are addressed below, and more specific recommendations for individual parcels are addressed in subsequent sections.

Recommendations

- Expanding the 161st Street Business Improvement District (BID) eastward along the corridor to include more parcels.
- Conducting a market study along the corridor to determine the unmet demand for various retail and office uses. This data could be shared with property owners in the BID to solicit new tenants and explore higher density development, as applicable.
- Exploring a zoning special district, such as an Enhanced Commercial District, to map over the entire 161st Street corridor. This would ensure that significant portions of the ground floor are

CHALLENGES & RECOMMENDATIONS: STATION AREA

Figure 11 shows the critical components surrounding the station area in the vicinity of the 161st Street Corridor. This section details specific challenges which are generated by each of these components that must be remedied in order to make a cohesive corridor.

METRO-NORTH STATION

The entrance to the station, located on 162nd between Park and Courtlandt, as shown in Figure 11, is hidden and uninviting. 161st street is a main neighborhood arterial, and despite its proximity, the station is currently invisible to both pedestrians and vehicles traveling down the 161st Street corridor. There is limited way-finding signage and furthermore, the Metro-North right-of-way travels under the decking of the Morrisania Air Rights at this point, thus riders cannot see the tracks or hear the train to guide them to the station. The station lacks a singular formal

- allocated to retail and service uses both as it develops, and potentially, as uses change. This district could also ensure parking is screened, and that minimum amounts of transparency are provided for retail uses. Increasing the amount of commercial uses along the corridor was a high priority to the community. Ensure that sidewalk cafes are permitted.
- As new retail stores are developed and vacant stores are occupied, explore developing design guidelines for storefronts, signage and awnings to develop continuity along the commercial corridor. This could be coordinated through a BID or community organization.
 - Develop consistent streetscape along the corridor to unite the various elements. Antique themed lamps should be continued to 3rd Avenue. Lamppost banners could be implemented west of Boricua for different institutions. Street trees should be evenly spaced throughout the corridor for continuous canopy. Crosswalks could be inlaid with a decorative theme. Sidewalks should be consistently well-maintained.

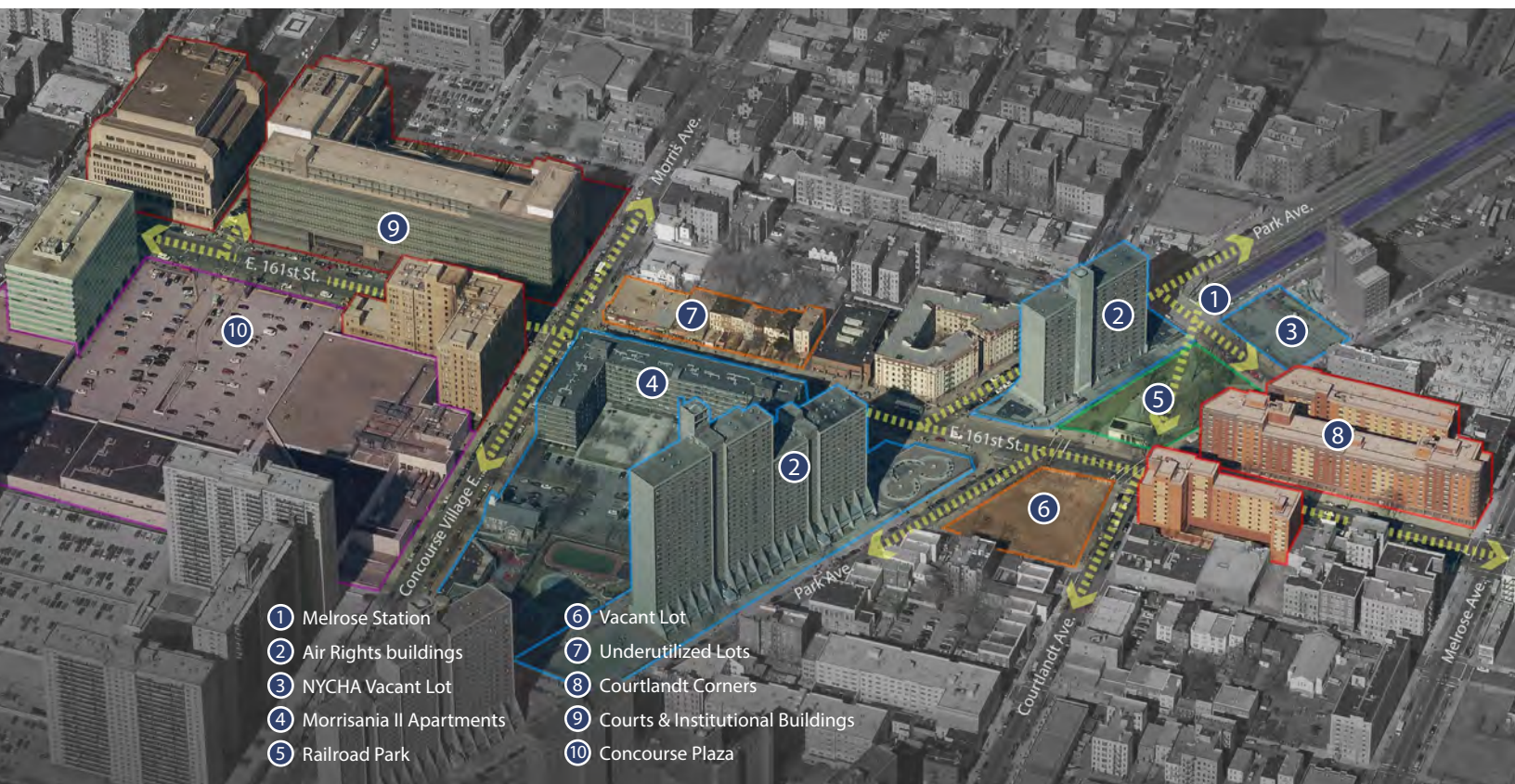


FIGURE 11 | Key sites in the Station Area; the recommendation section analyses current issues and provides potential recommendations for these sites. *Source:* © 2011 Pictometry International Corp.

building or structure to house ticketing machines, schedules, a waiting area, and an elevator for handi-cap access to the platforms.

Perceived safety around the station suffers due to this isolation away from the corridor, as well as a lack of lighting around the station and adjacent parcels that do not support transit activity. Adjacent to the station, the New York City Housing Authority (NYCHA) controls a vacant lot used for trash storage, and across the street, the Morrisania Air Rights blank concrete walls serve as an unfriendly greeting to the neighborhood. Diagonally from the station sits Railroad Park which serves as a de-facto gateway to the station for those who know it's there.

Recommendations

- Improve signage to the station from local attractions, and vice versa.
- In the short term, exploring the display of train arrival and departure times in a prominent location closer to 161st Street, possibly within Railroad Park.
- In the mid-term, explore moving primary inbound and outbound platform access onto 161st Street. This could be done within the Morrisania Air Rights plaza on the north side of 161st Street.
- In the long term, explore a more formal station structure which consolidates station amenities such as a warming hut, shelter, ticket dispensing, and arrival/departure times into a prominent location. The current station entrances on 162nd street could be retained as secondary access.

MORRISANIA AIR RIGHTS

At all community outreach events, the challenge that received the most attention and discussion was consistently the Morrisania Air Rights public housing complex, owned and managed by the New York City Housing Authority (NYCHA), shown in Figure 12. The buildings' challenges have also been widely acknowledged by NYCHA; the City needs to provide support in efforts to address these issues.

Upon arrival to the Melrose station, the windowless 19 story façade of the northernmost tower is the first vista of the neighborhood. The orientation of the three buildings follows the railroad, and each tower spans nearly the entire length of their respective blocks, essentially creating a three block-long, 20-story wall. Instead of serving as a gateway, the

Figure 12 Existing Conditions:

- 1 Morrisania Air Rights facade provides little visual interest and performs poorly in energy efficiency
- 2 Large blank walls are a bleak gateway into the neighborhood and deter from the pedestrian experience
- 3 Limited wayfinding signage to the station
- 4 Un-utilized ground floor spaces and niches at Morrisania Air Rights
- 5 Lack of connection to the 161st Street corridor
- 6 Under-utilized Morrisania Air Rights plaza needs better amenities and better connection to the street
- 7 Station entrance along 161st was closed and relocated to 162nd street out of safety concerns
- 8 Pedestrian crossings and sidewalk are in need of maintenance

Figure 12 Potential Improvements:

- 1 Add panels to Morrisania Air Rights facade to improve building aesthetics and energy performance
- 2 Incorporate artistic murals on the ~20 story blank facades of Morrisania Air Rights
- 3 Continue to add pedestrian way-finding signage to the station
- 4 Create unified 161st Street streetscape theme, and incorporate street lamps, banners, etc. Switch litter receptacles to solar trash compactors
- 5 Redesign Morrisania Air Rights plaza and gradually incorporate station entrances and station functions
- 6 Permit commercial uses so that ground floors of the Morrisania Air Rights are able to provide more active uses
- 7 Improve crosswalks and add pedestrian countdown timers at intersections

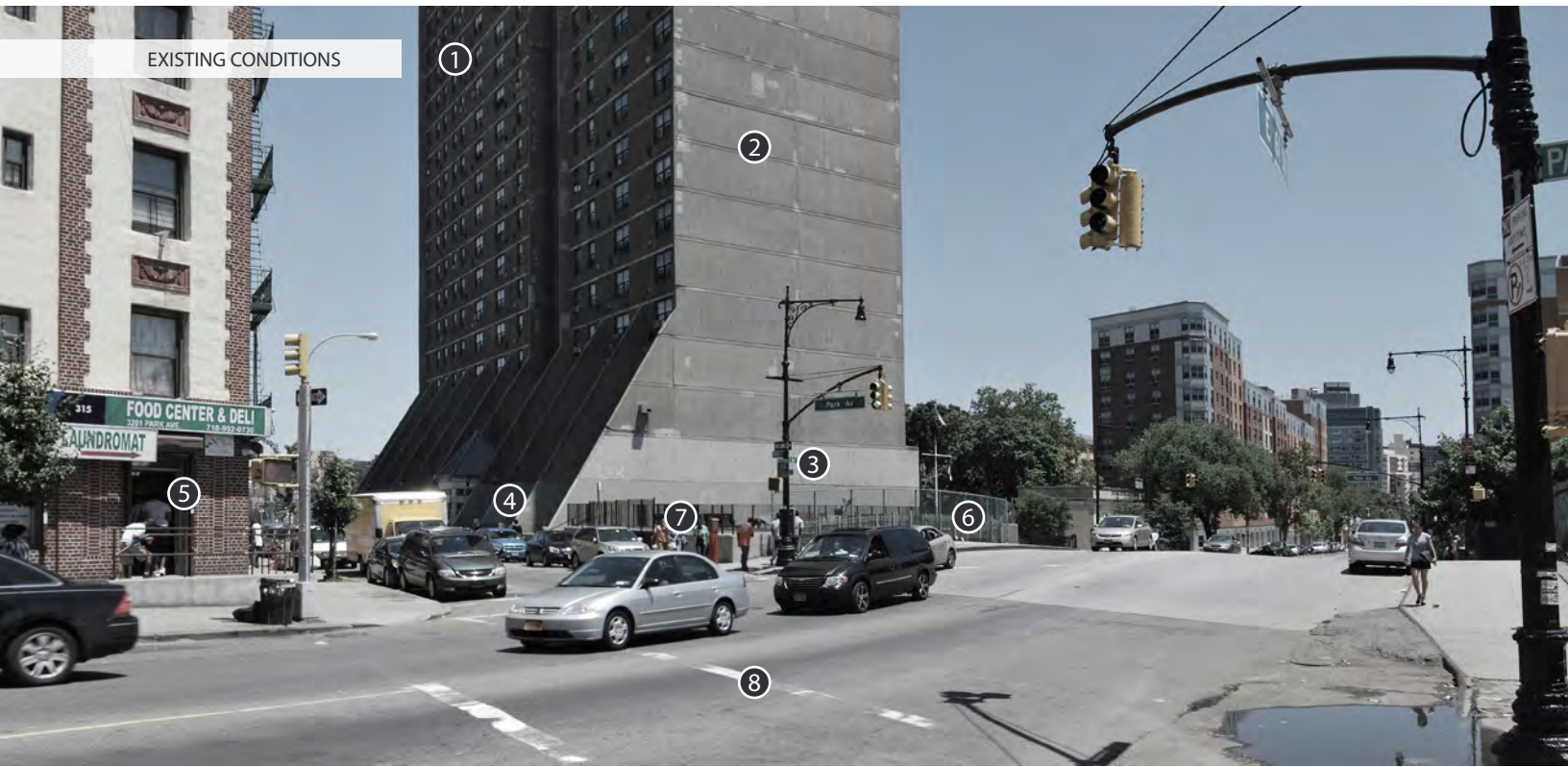


FIGURE 12 | Morrisania Air Rights, at the northeast intersection of 161st Street and Park Avenue. (Top) Current conditions; (bottom) potential improvements.

size and scale serve more as a visual barrier between Concourse Village and the Morrisania and Melrose neighborhoods along 161st Street.

The spare design of such a large series of buildings contributes to the complex's notoriety. Not only is the narrow tower face oriented towards the Melrose Station windowless, each subsequent tower façade, including those fronting on the north and south side of 161st Street, is also windowless, from the ground to the roof. Large brick expanses, small windows, exposed concrete floor slabs and structural walls with few other articulations or adornments make for a spare design. From the pedestrian experience, this is exacerbated by monumental concrete formwork extending from the building base into the tower. Since the entire tower is setback from the street, this repetitive structure (which is evocative of flying buttresses in medieval cathedrals) results in bleak, abandoned niches along the entire broadside of the tower. A long-abandoned community center occupies much of the ground floor of the tower closest to the station and its vacant/unused front faces Railroad Park. Unfortunately the combination of these windowless, underutilized spaces, setback from the street and devoid of activity results in a desolate streetscape that many community members avoid because of safety concerns.

Each tower's narrow face is flanked by underutilized open space in the form of playgrounds, plazas, or former basketball courts. In general, open spaces that are easily seen and accessible from sidewalks, and have a mix of amenities and planting typically are utilized more than those which are elevated, offer few amenities and suffer from an overabundance of hardscape. Unfortunately, most of the open spaces associated with Morrisania Air Rights are in the latter category, and are disconnected from the sidewalk and community activity with tall, unwelcoming security fences, and are often elevated above street to the extent that the open space is no longer visible. Along 161st and 162nd streets, these open spaces are physically separated from the sidewalk by ventilation shafts from the Metro North train. Trees and planting beds, as well as a mix of seating options, are essential amenities in any urban plaza, yet here the plazas are almost entirely hardscape with few if any plantings, thereby encouraging very little pedestrian activity.

Adjacent to the station, on the east side, NYCHA also retains a vacant lot which has periodically been used as a storage site for the trash of the entire complex, which can negatively affect the station with odors.

Recommendations

- Support NYCHA's interest in improving building aesthetics. Explore the feasibility of placing public art or murals on the blank walls on the north and south facades of the buildings in the short term. A mural program could be pioneered on those facades facing the station and 161st street first, and then expand to other facades in the mid-term. This effort could involve NYCHA residents and local grassroots organizations in a mural which displays the deep cultural history of the area. In the long-term, NYCHA and community groups could explore funding opportunities to make 'green retrofits' to the building. Exposed concrete floor slabs typically result in poor thermal performance. Adding an additional façade and insulating layer could improve building performance and, if panels alternated color tones at 20-40' intervals, could provide needed aesthetic variation at the same time.
- Explore the feasibility of placing commercial uses in the ground floors and in under-utilized plazas, and create an income generator for NYCHA. If feasible, the areas should be rezoned to permit commercial uses. A mid-term solution could be to place pre-fabricated commercial kiosks into the structural bays along Park Avenue and the plazas at the ends of the Air Rights buildings. Lights from stores and activity from customers could help community members feel safer walking through the area, and station passengers would have amenities more conveniently accessible. Long term solutions would be to formalize these commercial uses with more permanent structures;
- If commercial uses in the structural niches prove unfeasible, consider incorporating terraced planting into the niches to break down the scale and harshness of concrete or consider using these niches to daylight the platform with glazing that mimics the diagonal of the structure.
- In a Metro-North and NYCHA collaboration, explore re-opening the entrances to the Metro North platform in the Air Rights plaza on the north side of 161st Street. In the mid-term, explore renovating the plaza to be publicly accessible and contain amenities found in more successful public plazas, such as trees, planting and a variety of seating types. In the long term, a pavilion-like structure could be added to serve as a more formal station house for Metro-North ac-



FIGURE 13 | Courtlandt Corners on 161st Street and across the street from Railroad Park, is a new development completed in 2011. The apartments present a new architectural and economic model for affordable housing in the area.

cess, and to break-up the scale of the Air Rights building.

- Improve the connection of the Air Rights tower with Railroad Park by exploring the feasibility of removing the physical barriers that divide the open spaces. In the long term, a community facility tenant might be sought to re-occupy the ground floor side of the Air Rights building. This use could serve as a de-facto patrol on the park, provide an additional amenity to residents and generate income for NYCHA.
- With regard to the vacant lot adjacent to the station, short term improvements would include cleaning the trash from the lot, as the proximity to the station makes it highly visible and odorous to passengers. Mid-term solutions could

ensure that the ideal zoning is in place on the vacant lot so that when development occurs, it results in desirable forms and mix of uses. This development could potentially be leveraged to provide handicap access to the station.

RAILROAD PARK

Railroad Park, as shown on Figure 11, is a half acre park located just east of the northernmost Air Rights tower between 161st Street and 162nd Street. While the name suggests its role as a sort of ancillary station amenity, several challenges limit its full potential as a gateway to the station. Although the park is relatively well-maintained by the Department of Parks and Recreation, it is perceived to be unsafe by residents. Poor lighting and a lack of surrounding ac-

tivities contribute to this sentiment. A former comfort station at the park entrance serves as a stately entry point, but does not maximize its functionality or street presence by offering more active uses. Rigid barriers between the park and the Air Rights development leave a harsh edge condition. The center of the park, an ellipse with two surrounding paths, has a forlorn tree stump surrounded by dead grass.

Recommendations

- Renovate and repurpose the comfort station to allow commercial uses. This will enliven the park, improve the streetscape and could provide needed amenities for rail passengers like coffee, snacks, and newspapers. The South Bronx Overall Economic Development Corporation (SOBRO) had success utilizing the former comfort station in Keltch Park in the Bronx as a Wendy's restaurant.⁵
- Change the name of the park from 'Railroad Park' to 'Melrose Station Park' to reflect its importance as a gateway to the station. Displaying this name change on the repurposed comfort station, as well as posting station information and schedules would reinforce this notion.
- Add more lighting to the park and keep it lit during hours of station operation.
- Remove the stump in the open space, and explore a redesign of the central open space. To ameliorate the underutilized patch in the center of the park, explore either re-orienting the paths around the oval (to reflect the worn dirt path that bisects the open space directly to the station), or explore improving the central oval with planting and seating.
- Remove the barriers, which are not serving a need, between the Air Rights towers and the park in the long-term so that the open spaces can be connected seamlessly.

VACANT LOT

Across from Railroad Park sits a privately owned vacant lot along 161st Street, which can be seen on Figure 11. Vacant lots are generally unsightly, and in the case of the South Bronx, serve as a reminder of previous abandonment. The site is a critical connection between the heart of the 161st Street Corridor and Melrose Commons/Boricua Village. There has been recent interest to develop this privately owned and its prominent location and size make it a crucial development parcel.

Figure 14 Existing Conditions:

- 1 Vacant lot discourages connectivity along the thoroughfare
- 2 Limited streetscape and pedestrian amenities
- 3 Comfort station in Railroad Park is underutilized
- 4 Railroad Park is in need of more active programming
- 5 Railroad Park and the Morrisania Air Rights plazas are separated by large concrete walls
- 6 No place-making or way-finding signage

Figure 14 Potential Improvements:

- 1 Develop strong street wall along southern side of 161st Street
- 2 Add street trees and street lamps at regular intervals
- 3 Explore Enhanced Commercial District to ensure active uses are provided on the ground floor
- 4 Renovate comfort station in Railroad Park to provide active uses. Change name to 'Melrose Station Park'
- 5 Improve connection between Morrisania Air Rights plaza and Railroad Park
- 6 Improve crosswalks and add pedestrian countdown timers at intersections
- 7 Incorporate way-finding signage and banners which promote a sense of place

EXISTING CONDITIONS



POTENTIAL IMPROVEMENTS



FIGURE 14 | Vacant lot, at the northeast intersection of 161st Street and Courtlandt Avenue. (Top) Current conditions; (bottom) potential improvements.

Recommendations

Community organizations and city agencies should work to ensure that the development provides:

- a mixed-use, high density building which adheres to the best practices for walkability, includes provision of a strong street wall and a balance of articulation and variation;
- a well-considered façade with quality materials and ample transparency in the residential units;
- active and transparent ground floor retail spaces which are built to meet the needs of potential tenants; and
- streetscape amenities, like street trees. Benches and bus shelters could be requested, where appropriate.

COURTLANDT CORNERS

Moving east of the vacant lot, the Courtlandt Corners development shown on Figure 13 spans most of the north and south block frontages along 161st Street between Courtlandt Avenue and Melrose Avenue. This particular development serves as a fine prototype for future development in the neighborhood.

Prominent street walls ranging from eight to ten stories cradle the sidewalk, and material changes and articulation every 20-30 feet add an attractive mix of variety to the façade. Street trees were planted at the appropriate intervals in front of the building. However, despite all these achievements, the ground floor commercial space remains largely vacant. This is harmful to the walkability of the corridor for several reasons. Not only is there no pedestrian traffic generated by the retail, there are no tenants and buzzing activity to lend an air of safety over the surrounding streets. This ground floor vacancy is most likely not due to an over-saturation of retail space in the area. In fact, market data demonstrates that significant retail demand exists in nearly every retail segment (see Figure 16). The explosive population growth in the area has likely outpaced the provision of retail and service amenities which would meet the demand of these growing neighborhoods.

Recommendations

- Address the ground floor vacancies. If a 161st Street corridor market study were conducted, the findings could highlight several viable tenants. This should be done in coordination with



FIGURE 15 | Morrisania II Apartments on 161st Street, west of the station. Although scaled in greater context with adjoining developments than Morrisania Air Rights, the design and inactive street uses are still challenges for the neighborhood. Across the street from the apartments, low-scaled buildings and underutilized lots contribute to the lack of activity.

MELROSE MARKET DEMAND

With approximately 68,800 people per square mile, the Melrose neighborhood in the Bronx is extremely dense. An estimated 62,000 people live within a half mile from the Melrose Metro-North station and it is projected that by 2018 the population will grow by 3.84%. In Melrose, over 6,000 residential units have recently been planned, completed, or are under construction. In addition to the growing population, Melrose receives many visitors each year. The Bronx Hall of Justice court house one block west of the Metro-North station includes 47 court rooms, and nearby Yankee Stadium attracts over 3.2 million spectators annually.

With a large population and visitor base, there is a great opportunity for the 161st Street retail corridor to capture consumer spending. However, based on 2013 Claritas retail opportunity data within a half mile of the station area, residents are shopping elsewhere for a variety of goods including clothing, furniture and food services.⁴ Of the over \$630 million in resident expenditures for all retail sales including food establishments, only \$326 million are being spent locally, leaving a gap of over \$304 million. The retail establishments in the area are not meeting the consumer demand.

The Melrose Retail Strategy (MRS), a collaboration between the New York City Department of Housing Preservation and Development (HPD) and the New York City Economic Development Corporation (NYCEDC) focuses on strengthening retail corridors in the Melrose neighborhood by providing a wider selection of retail to the community. A study conducted in 2007 pointed to the area's high density, the demand for a variety of retailers including restaurants, name brand stores and bookstores, and an expected 58% increase in retail expenditure per square mile from 2006 to 2010. Even though Melrose is a lower income area, purchasing power is high and spending often exceeds reported income. MRS reached out to retailers and brokers to increase awareness of the neighborhood's spending power and leasing opportunities in order to encourage retailers to locate in Melrose.

Strengthening the 161st Street corridor would provide convenient amenities for the population, hold money in the local economy, and capture spending from visitors. In addition to drawing attention to Melrose's retail potential, EDC is evaluating the feasibility of transit and street improvements for pedestrian access as a way to help transform a retail corridor.

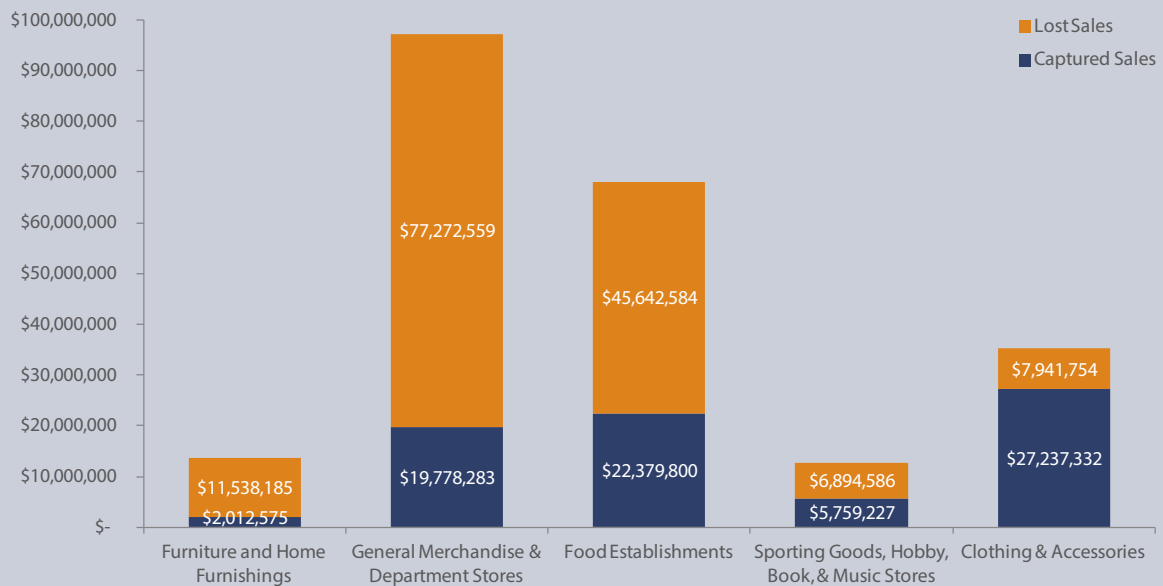


FIGURE 16 | 2013 Claritas Melrose market study findings. Consumer spending by Melrose residents, notably general merchandise & department stores and food establishments, largely occurs outside the neighborhood. Although a low-income community, Melrose has large purchasing power; by increasing local amenities and commercial development, Melrose has the potential to keep a greater amount of this consumer spending within the neighborhood.

HPD, the NYC Office of Small Business Services (SBS), Phipps and other developers.

- Expand the Business Improvement District (BID) to include these parcels, as it might help with marketing and tenanting retail space.
- Encourage the attraction of several tenants, at various sizes, with an array of uses, and differing signage and window displays in order to lend a new vibrancy to this part of the corridor.

MORRISANIA II APARTMENTS

Moving west along 161st Street from the station area, one encounters the Morrisania II Apartments, as shown in Figures 11 and 15. This building is also under NYCHA control, and while it has a similar material aesthetic to the Air Rights towers, it is scaled more in context with adjoining developments on adjoining blocks, and has a vastly better relationship to the street than its neighbor. The building is used for senior housing, which serves an important need in the community. While its facade does have minor articulation, in the form of fluctuating recesses every 20 - 30 feet, the monotony of materials, exposed concrete slabs, small irregularly shaped windows, and largely inactive ground floor helps contribute to the lack of pedestrian activity east of the civic center.

Recommendations

- Explore utilizing the fenced-in setback areas for passive recreational uses that benefit seniors, such as seating areas and tables.
- Explore the feasibility of commercial uses or community facility uses where it will not eliminate residences. The former would require a commercial overlay. Retail uses and community facilities could benefit seniors and area residents by providing additional amenities in close proximity.
- Renovations and commercial retrofits could generate additional revenue to the building and vastly improve the streetscape.

UNDERUTILIZED LOTS

Across the street from Morrisania II Apartments, the northern block frontage of 161st Street closer to Morris Avenue is vastly underutilized considering the potential sizes and range of uses. One story 'tax-payers', or simple structures whose revenue serve to pay the taxes on a property while the owners wait to develop a larger building, occupy the western half of this block-front. Three story homes occupy the cen-

tral portion of the block. These low-scaled buildings are in stark contrast to the permitted scale seen on at the Hall of Justice on the adjoining block, and the poor level of maintenance and lack of upkeep evidenced on these properties is a barrier to the connectivity of the corridor.

Recommendations

- Conduct a 161st Street corridor market study to explore the feasibility of different development scenarios. These parcels were recently rezoned in 2009, and there is potential to develop a significant commercial or mixed-use development.
- Improve streetscape. Redevelopment would trigger the provision of certain amenities, like street trees. Community groups could request other amenities, such as benches and a bus shelter, from DOT, where appropriate.
- Expand the Business Improvement District (BID) over these lots to encourage better sidewalk maintenance and help with attracting potential retail tenants.

Figure 17 Existing Conditions:

- 1 Large-scale institutional presence provides little ground floor retail
- 2 Concourse Plaza surface parking lot fronts the 161st Street retail corridor
- 3 Large void in the street wall
- 4 Gate is cold and unwelcoming
- 5 Few streetscape amenities provided along the block-front
- 6 Curb cuts create an interrupted and dangerous pedestrian experience

Figure 17 Potential Improvements:

- 1 Promote ground-floor retail with ample amounts of transparency
- 2 Promote redevelopment; recent rezoning permits a substantial building with required street walls
- 3 Eliminate curb cuts from 161st Street.
- 4 If large scale commercial redevelopment is infeasible in the short-term, promote temporary uses along the parking lot edge, such as food trucks and fruit carts, to activate the sidewalk
- 5 Improve streetscape with amenities such as street trees and benches placed at regular intervals

CHALLENGES & RECOMMENDATIONS: CIVIC CENTER

Figure 17 highlights the challenges associated with major elements of the civic center of 161st Street west of the station area. This section describes the specific challenges which are generated by each of these elements. In order to make a cohesive corridor which connects with the station area and other major assets, these challenges must be mitigated.

COURTHOUSES & INSTITUTIONAL BUILDINGS

The civic center on 161st Street, west of the station area, as shown on Figure 11, has a number of courts and institutional buildings. Owing to their various eras of construction, each has a unique architectural style, ranging from Neoclassical, to Art-Deco, to Bru-

talist, to the modern Hall of Justice. Despite these various architectural styles implemented over many years, they all share a commonality: the ground floor of each institutional building lacks retail uses. This is pronounced by the large scale of these buildings, and the extensive spans of blank walls that many of them exhibit at the street level.

While some degree of this inactivity is presumably due to security concerns in a post - 9/11 era, it has dire consequences for the walkability and mix of uses in the neighborhood. During business hours, hundreds of lawyers, police officers, and other professionals can be found meeting with their clients in front of each courthouse. Thousands of professionals, public servants, legal clientele and jurors walk through these blocks every day. The life they bring to the street is ample to support a whole host of retail and service establishments; however, there are extremely few shops to grab lunch in, few sit down restaurants, and few other forms of retail and ser-

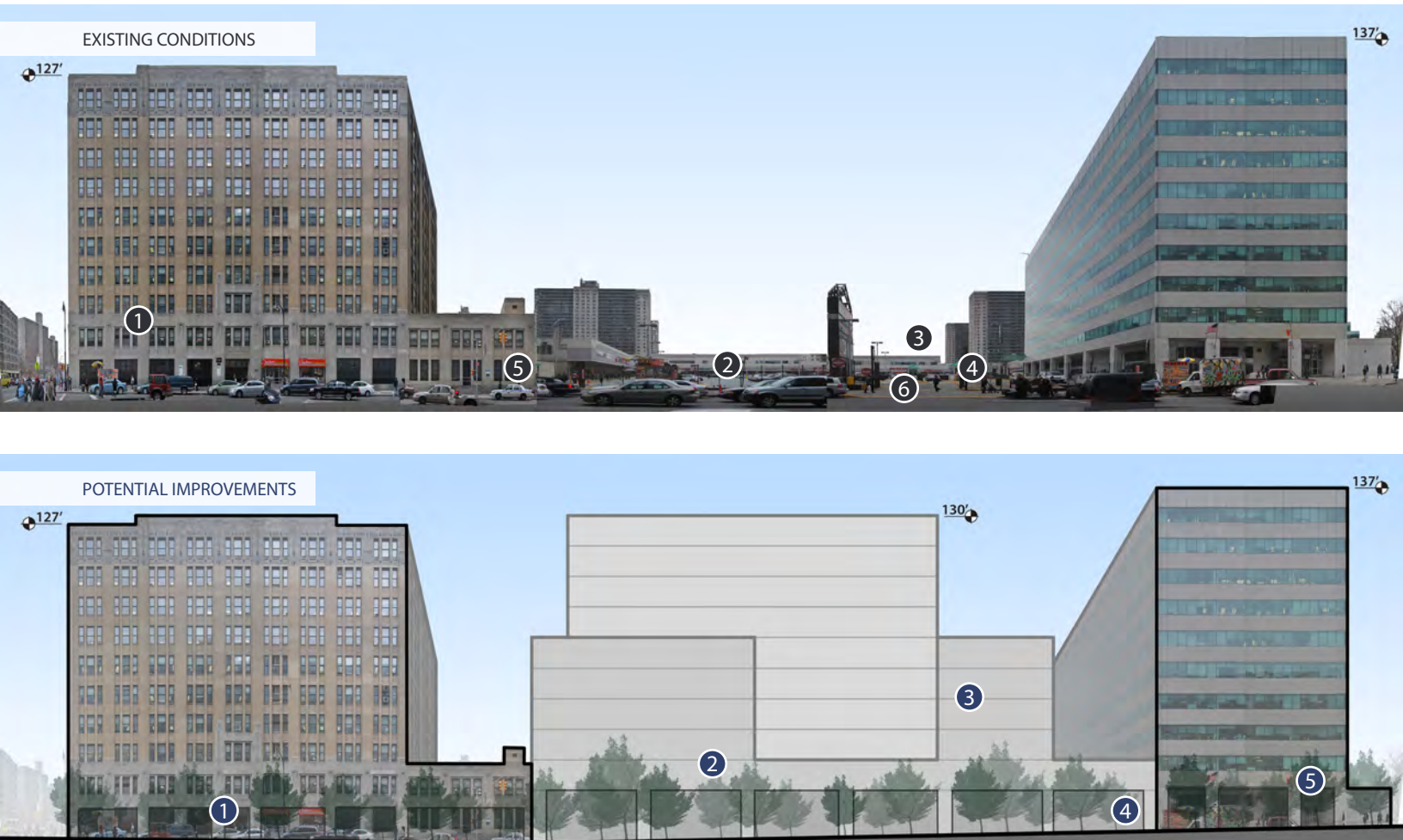


FIGURE 17 | Recommendation for increasing building block in Concourse Plaza. (Top) Current conditions; (bottom) potential improvements.



FIGURE 18 | Concourse Plaza, across the street from the Bronx Hall of Justice on East 161st Street. The low-scale buildings and large parking lot are largely out of context in the area, prioritizing automobile access to these amenities over pedestrian access

vices to support daily activities. These are critical amenities not only to sustain daily activities, but also to enliven the corridor beyond business hours into the night. Streetscape amenities like benches, street trees and cafes are also notably lacking, and would contribute immensely to these block-fronts, especially given their high levels of pedestrian traffic, where sidewalk widths can accommodate them.

Recommendations:

- Explore the regulatory hurdles to providing retail uses and streetscape amenities (such as street trees and benches) in and around these buildings, especially the courthouses. In some institutional buildings, such as the Melrose Central building, ground floor retail is already being introduced through retrofits. If feasible, this type of re-purposing should be encouraged.
- If renovating ground floors and providing streetscape amenities in and around the courthouse buildings proves infeasible due to regulatory barriers, explore providing artwork to break up the blank walls, especially on the criminal court building.

- Explore the provision of civic or BID related lamppost banners around this portion of the corridor.
- Improve crosswalks in the mid-block in front of courthouse. Explore the feasibility of ground-plane decorative inlays which would further connect pedestrians to the public plaza behind courthouse. This would be an ideal high-traffic area to pilot these inlays before implementing throughout the corridor.
- Implement recommendations from the DCP Transportation study, East 161st Street and River Avenue Corridors Transportation Study.

CONCOURSE PLAZA

Concourse Plaza, located across the street from the Bronx Hall of Justice, as shown on Figure 17, is a jarring counterpoint to the high-density, pedestrian-oriented institutional buildings surrounding it. Built on a former rail yard, the plaza is designed like a quintessential suburban strip mall, replete with large amounts of parking between the building and the sidewalk. The plaza consists of several

one story shops with a central food court and a theater. While the retail and entertainment amenities are sorely needed in the community, the design is from a different era. At the time built, the plaza was a great investment for the community; however, urban regional shopping and the neighborhood have since transformed. Buffered from the street by iron gates, and few entrances to a sea of parking, the plaza clearly was designed with the vehicle, not the pedestrian, in mind. This type of strip mall development was typical of when Concourse Plaza was built; however urban regional shopping centers near transit amenities should be designed to seamlessly fit into the pedestrian environment and utilize transit options. The automobile-oriented design of this strip mall seems out of place in such a prominent location, and detracts from its context.

Recommendations:

- Conduct a 161st Street corridor market study to explore the feasibility of different development scenarios on these lots. These parcels were recently rezoned in 2009, and there is potential to develop a significant commercial or mixed-use development.
- Promote large-scale redevelopment using findings of the market study. Several of the current uses in the mall could be retained in a reconfigured building. Redevelopment would trigger the provision of certain amenities, like street trees. Community groups could request other amenities, such as benches and a bus shelter, from DOT, where appropriate.
- In the interim, promote temporary uses such as food trucks along the parking lot edge. This will generate activity, screen the parking lot, and, if lined along the sidewalk edge, give some semblance of a street wall.

CHALLENGES & RECOMMENDATIONS: CONNECTIVITY

Figure 11 shows the major connectors, or walkable thoroughfares, both to other neighborhoods and to other business districts from the 161st Street corridor. In many of these connectors, significant obstructions occur that must be remedied in order to cohesively interweave differing neighborhood fabrics, resources and economic activities. This section details specific obstacles to the success of seamless pedestrian connections to the Hub and to other neighborhoods from 161st Street.

OLD COURTHOUSE

The Beaux-Arts style old Bronx County Courthouse is positioned prominently at 161st Street and 3rd Avenue. It was completed around 1915, and only functioned as the county courthouse for roughly two decades when those functions were moved to a newer county courthouse along the Grand Concourse. Listed on the National Register of Historic places in 1982, the building suffers from disrepair and abandonment. This is made all the more significant by recent redevelopment all around the old courthouse in the form of Boricua College and Boricua village.

The bleakness of the courthouse is made worse by an empty plaza in front as 3rd Avenue intersects Brook Avenue and 161st Street. The bend in 3rd Avenue showcases this intersection prominently in the sight lines north of the Hub. Improving the state of the courthouse and the surrounding plaza would help in the connectivity and walkability of the thoroughfare.

Recommendations:

- Renovate and adaptively re-use the old courthouse.
- Locate a public plaza in the open space in front of the courthouse. Its prominent sight line along Third Avenue makes it an ideal focal point for a structure. A kiosk programmed with an active use could draw people into and through the space. This could spur interest and support the feasibility of the courthouse re-use. Amenities in the plaza should include planting, trees, and a variety of seating. The plaza came under HPD ownership as part of the Melrose Commons URA. If ownership was transferred to City Department of Transportation, the site could be developed through the City DOT plaza program.
- Explore the feasibility of closing the portion of Brook Avenue north of 3rd Avenue to vehicular traffic. This could be converted to a pedestrian walkway that connects the open spaces in and around Boricua Village.
- Strengthen the Third Avenue corridor by ensuring new development will have prominent street walls and active ground floor uses. Typical streetscape amenities should be consistent and compatible with those on 161st Street.
- Program the open spaces around the courthouse in Boricua Village with events and activities.

MANUFACTURING DISTRICTS

North of the Melrose Station, several properties are located within a manufacturing district. Due to their relatively low density, of all the areas located within a half-mile radius of the station, this area has the most potential for new growth.

Currently businesses within this area include low-intensity uses like junk yards and storage space. Not only are these open industrial uses detrimental to the environment, they employ relatively few people. Additionally, although current zoning permits less intensive commercial uses, few operate in this area. Since these districts do not permit residential use, fewer people are on the streets at a given time. This absence of commercial and residential uses makes for an inactive area, which makes residents passing through feel unsafe. With low permitted densities and restricted uses, reinvestment is scarce, and unkempt poorly maintained lots are prevalent. Even sidewalks are poorly maintained and devoid of streetscape amenities. This area not only serves as a large barrier between the Melrose station area and the growing Morrisania neighborhood to the northeast, but also is a north-south barrier between the Concourse Village neighborhood and the Morrisania neighborhood.

Recommendations:

- Explore the expansion of the existing Mixed – Use district (MX-7) westward to include the area zoned M1-1. This would permit light manufacturing uses, and their associated jobs, to remain, while permitting most commercial, community facility and residential uses to be located in the area. This could spur new development and investment, increase density, and improve the perception of safety for new residents, workers and patrons walking the street.
- Study the Manufacturing District to consider the following:
 - appropriate floor area for commercial and manufacturing uses;
 - appropriate parking requirements;
 - an appropriate contextual Residential District to pair with to ensure new buildings are developed with prominent street walls; and
 - reducing the scale of proposed Residence Districts in the vicinity of the lower residential context in the area of the Clay Avenue Historic District

- Create an area-specific strategy to address potential development difficulties due to unique site geometry, such as zoning lots where the street lines creates lot angles less than 75 degrees. Examples could include liberalizing the maximum residential lot coverage requirements on corner zoning lots, and the minimum rear yard equivalents for residential uses on through lots
- Eliminate the special permit required to develop along rail-right-of ways. The abandoned rail spur to Port Morris is not an active rail spur, and sites along it already have considerable hurdles such as irregular site geometries and the need for environmental remediation.

Figure 19 Existing Conditions:

- 1 Abandoned Courthouse perpetuates feeling of disinvestment in the surrounding area
- 2 Few retail uses or attractions to generate pedestrian activity
- 3 Empty asphalt triangle at prominent sight line in front of courthouse triangle
- 4 No ground-floor activity to connect with commercial uses along 3rd Avenue
- 5 Side street is disconnected from 161st Street and Boricua Village

Figure 19 Potential Improvements:

- 1 Close down this portion of Brook Avenue to vehicular traffic. Resurface and add moveable tables and chairs, umbrellas and planters. Opportunity for bike share location
- 2 Define southern end of plaza with kiosk structure. Program with active use. Add permanent stadium style seating on top of kiosk
- 3 Configure a plaza space on axis with courthouse entrance
- 4 Add street trees and antique street lamps at regular intervals. Street lamps could have decorative banners. Add bus shelter. Potential to remove on-street parking and add planting or bioswale
- 5 Strengthen Third Avenue corridor by ensuring new developments will have prominent street walls and active ground floor uses
- 6 Renovate and adaptively re-use old courthouse



FIGURE 19 | (Top) The Old Bronx Courthouse, 161st Street and 3rd Avenue, current conditions. (Bottom) Potential improvements.



FIGURE 20 | Melrose Houses, 156th Street to 153rd Street and Morris Avenue to Cortlandt Avenue. The large NYCHA property created “superblocks,” cutting off residents from the street grid and decreasing neighborhood connectivity.

OTHER NYCHA PROPERTIES

The Andrew Jackson Houses and Melrose Houses also controlled by NYCHA provide serious obstacles to connectivity. Located roughly halfway between the 161st Street corridor and the Hub, they should lend themselves to cohesively stitching these neighborhoods together, yet, because of their ‘tower-in-the-park’ design, they have little relationship to the street and the surrounding urban fabric.

Along Courtlandt Avenue for example, one side of the street is characterized with moderate density three to five story buildings built at regular intervals with ground floor commercial uses while the NYCHA side is characterized by superblocks, monotonous 15-16 story towers set back from the street and surrounded by gated off open space. Ground floor commercial on this side of the street is neither provided nor permitted. Considerable portions of this side of the street are also allocated to on-street parking, with parking spaces turned diagonally.

All of these combine to disconnect the NYCHA complexes from the neighborhood fabric, and serve as a barrier between two business districts rather than a connector.

Recommendations:

- Explore options to develop prototypes for ground floor commercial infill development along the avenue frontages. If this was feasible, a commercial overlay would need to be mapped to permit commercial uses along the avenues.
- Explore the opportunity to re-establish the grid through the properties. This would break up the superblocks, and allow for more infill development to line the streets in the long-term.

CONCLUSION

The Melrose and Morrisania neighborhoods have proved tremendously resilient through the past few decades. Not only have they survived, they have thrived to become one of the fastest growing neighborhoods in the city. Pockets of vitality are numerous, and if these could be interwoven into a more cohesive and consistent urban fabric, the neighborhood would be poised to thrive.

The strategies suggested in this Section will bolster connectivity along the 161st Street corridor as well as with other neighborhoods, and will help reinforce a walkable community that is intricately connected to its transit resources. The continued transformation of the community will not only improve the quality of life for current residents, employees and visitors of the Melrose and Morrisania neighborhoods, but will continue to lay the groundwork for a community integral to the future of the Bronx.

SOURCES

¹ ESPN. <http://espn.go.com/mlb/attendance> <http://espn.go.com/mlb/attendance>

² Melrose Commons Urban Renewal Plan, New York City Department of Housing and Urban Development, 1994.

³ 2013 Nielsen Company.

** Nielsen' RMP data is derived from two major sources of information. The demand data is derived from the Consumer Expenditure Survey (CE Survey), which is fielded by the U.S. Bureau of Labor Statistics (BLS). The supply data is derived from the Census of Retail Trade (CRT)*

⁵ Keltch Park. <http://www.nycgovparks.org/parks/keltchpark/facilities/restaurants>

PRIORITY RECOMMENDATIONS SUMMARY

- Create a consistent pedestrian environment along the 161st Street Corridor that focuses on gaps in walkability and creates stronger connections to the Hub and Yankee Stadium/Civic Center areas.
- Implement phased improvements to create a gateway from the station area to the surrounding community. This should include DCP, NYCHA, Parks, NYC DOT and Metro-North enhancements with the goal of creating 360 degrees of activity around the station area.
- Adopt a long-term land use strategy which helps to knit together recent investments in the community. This strategy should:
 - Identify opportunities to incorporate additional commercial uses along commercial corridors
 - Re-examine manufacturing districts, especially those in close proximity of the station area
 - Identify additional opportunities for mixed use development



River Park Towers looking north along Metro-North Hudson Line

EXISTING STATIONS

MORRIS HEIGHTS STATION

MORRIS HEIGHTS

CONNECTING THE ISLAND



INTRODUCTION

SYNOPSIS

The Morris Heights Metro-North Station and its surrounding features, which include Roberto Clemente State Park, Public School 230, and the River Park Towers development, are isolated from the surrounding community largely due to their separation from the upland community by the combination of the Metro-North rail corridor and the Major Deegan Expressway. This separation is to the degree that an 'island effect' has emerged between the area west of the station and the larger community. This isolation has been compounded by a period of disinvestment and high crime rates, which, while improving, in the aggregate, have contributed to low rail ridership, underutilized park facilities, and inadequate community amenities. This section examines the issues which contribute to the area's isolation and identifies best practice solutions that can be applied to mitigate them.

AREA CHARACTERISTICS

The Morris Heights Metro-North Station is located on the north side of W. Tremont Avenue on an overpass which spans both the Metro-North corridor and the Major Deegan Expressway. The overpass is also the entrance point to Roberto Clemente State Park (RCSP) and the center platform of the station itself is adjacent to RCSP parking lot.

As one of our "access stations" the focus is generally on the area within the quarter mile radius of the station. In this particular focus area, four key features are clustered between the Harlem River and Major Deegan Expressway. These features include:

- The Morris Heights Metro-North station, which provides southbound access to Manhattan's Grand Central Station in 17 minutes as well as northbound access to Yonkers, Poughkeepsie and Upstate New York. As of 2012, it had the lowest total boardings of all full time Hudson Line Stations.
- Roberto Clemente State Park, established along the Harlem River in 1973, which is a regional recreation asset that is unfortunately isolated from many potential users in the upland community. The Park serves as a key public access point to the waterfront and a critical link in the potential Harlem River Greenway.
- River Park Towers was built in 1974, as part of the Mitchell-Lama middle income housing program, and consists of two towers, forty-two and forty-four stories, totaling 1654 units. The property sits on the Harlem River in Roberto Clemente Park, next to PS 230 and the Metro-North station. In 2013 the property was purchased by a private management firm whose intentions include adding more than 1500 security cameras and other various improvements.

“ Roberto Clemente State Park is a vital resource to the surrounding West Bronx community in providing recreational and cultural resources. Annual attendance is 1.3 million. The Park has also long been the only access point to the water on the Bronx side of the Harlem River. However, much could be done to improve physical connections between the park the community, and to improve streetscape around the Park. ”

| David Brito, Deputy Regional Director NYS Parks |



FIGURE 1 | Entrance of Morris Heights station area, intersection of West Tremont Avenue and Cedar Avenue.

COMMUNITY CHARACTERISTICS | Morris Heights Study Area

Metro-North Station Weekday Ridership (2011)



36 inbound passengers
107 outbound passengers

NYC Subway Station Daily Ridership (2012)*

4 176th St: 5,623 weekday | 6,598 weekend
4 Burnside Ave: 11,387 weekday | 12,070 weekend

- Most residents do not have access to a vehicle, either walking or taking public transit to work; this points a great need for more pedestrian crossings and inter-modal access to public transportation
- Local residents generally have a low per capita income, and a very high rate of renter-occupied units; improved public space amenities would provide opportunities for greater physical and street activity, increasing the perception of safety in the neighborhood

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Hispanic	65%	53%	29%
Per Capita Income	\$12,258	\$17,992	\$31,417
Renter Occupied Units	96%	79%	68%
Housing Units with No Access to a Vehicle	70%	59%	56%
With Access to One Vehicle	25%	30%	31%
Take Public Transit or Walk to Work	69%	64%	67%
Population Density	70,637	32,536	26,953
Unemployment Rate (2010)	13%	12%	11%
TOTAL POPULATION	48,141	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the Morris Heights station

² United States Bureau of the Census, 2006-2010 American community Survey 5-Year Estimates

* MTA Subway Ridership, 2012. http://www.mta.info/nyct/facts/ridership/#chart_s



Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Metro North Hudson Line
- B/D Subway Lines
- Bus Routes
- 4 Subway Line

Notable Land Uses Features:

- ① Parkland west of Major Deegan Expressway, with the exception of River Park Towers residential development to the southeast.
- ② Several institutional uses in the form of primary and secondary schools, as well as religious buildings
- ③ Mid-density residential to the east in Morris Heights neighborhood

- Public School 230 (Roland N. Patterson) is a 447 student K-5 elementary school, situated immediately over the rail corridor, and between the two Major Deegan overpasses. PS 230 is being phased out and replaced due to poor performance in 2016. The Department of Education has proposed to open and co-locate a new district elementary school in the building.

Subway access to the area is limited with the #4 at Jerome Avenue, and Burnside Avenue or 176th Street, and the B/D lines at the Grand Concourse and Tremont Avenue. However, the #4 train is more than a half-mile from the Metro-North station, and the B/D line is more than one and a half miles away. Significant grade changes between the station area and the upland community make the prospect of walking directly to these transit lines unlikely. The portion of the community west of Major Deegan is therefore highly reliant on the bus and commutes can often involve multiple modes of transit. Automobile ownership rates are lower than other portions of the Bronx and the City as whole.

CHALLENGES & RECOMMENDATIONS

The Morris Heights Metro-North station is located on a small prolongation of West Tremont Avenue that also serves as an overpass over the Major Deegan Expressway and connector to Roberto Clemente State Park and River Park Towers. Pedestrian connection to the station is unpleasant, as the overpass is largely unshielded, is poorly lit, and provides no streetscape amenities. PS 230, which fronts the overpass across from the station is separated from street level and has little transparency facing the street.

Beyond the West Tremont Ave overpass, access to station from the upland neighborhood faces similar challenges. The lowland area of the neighborhood to the west is largely cut off from the upland neighborhood of Morris Heights due to a variety of factors that include the Major Deegan Expressway and the Metro-North rail corridor, and significant grade changes. In addition to these issues, the separation between the neighborhoods is exacerbated by the poor pedestrian environment between them. The primary streets which connect these areas, including Cedar Avenue, the step street along West Tremont Avenue, and parts of Sedgwick Avenue, lack pedestrian amenities that would ideally serve as the connective tissue between these neighborhoods. Without them, these streets further isolate the area west of the station from the surrounding community and its resources.

Currently there is a lack of commercial services in the area for residents and visitors to the park. Active retail, service and entertainment establishments, in addition to meeting the everyday needs of residents and visitors bring activity to the streets. Shoppers going in and out of stores, ambient light shining on the street in the evening, lend a healthy vibrancy and security to the street.

There is also a lack of streetscape amenities such as street trees, pedestrian lighting, benches and well demarcated bus stops. This coupled with the lack of retail makes pedestrian navigation around the neighborhood very difficult. The pedestrian environment is further degraded by features such as the Major Deegan Expressway, which limits development, and even a sidewalk, along the west side of Cedar Ave. Lack of pedestrian amenities makes connections between the community west of the Deegan and the community east very poor. Bus service lacks

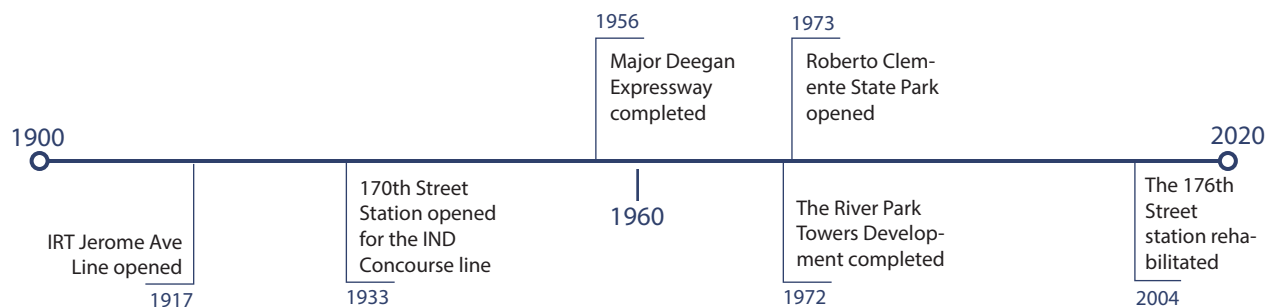


FIGURE 2 | Morris Heights Neighborhood timeline.

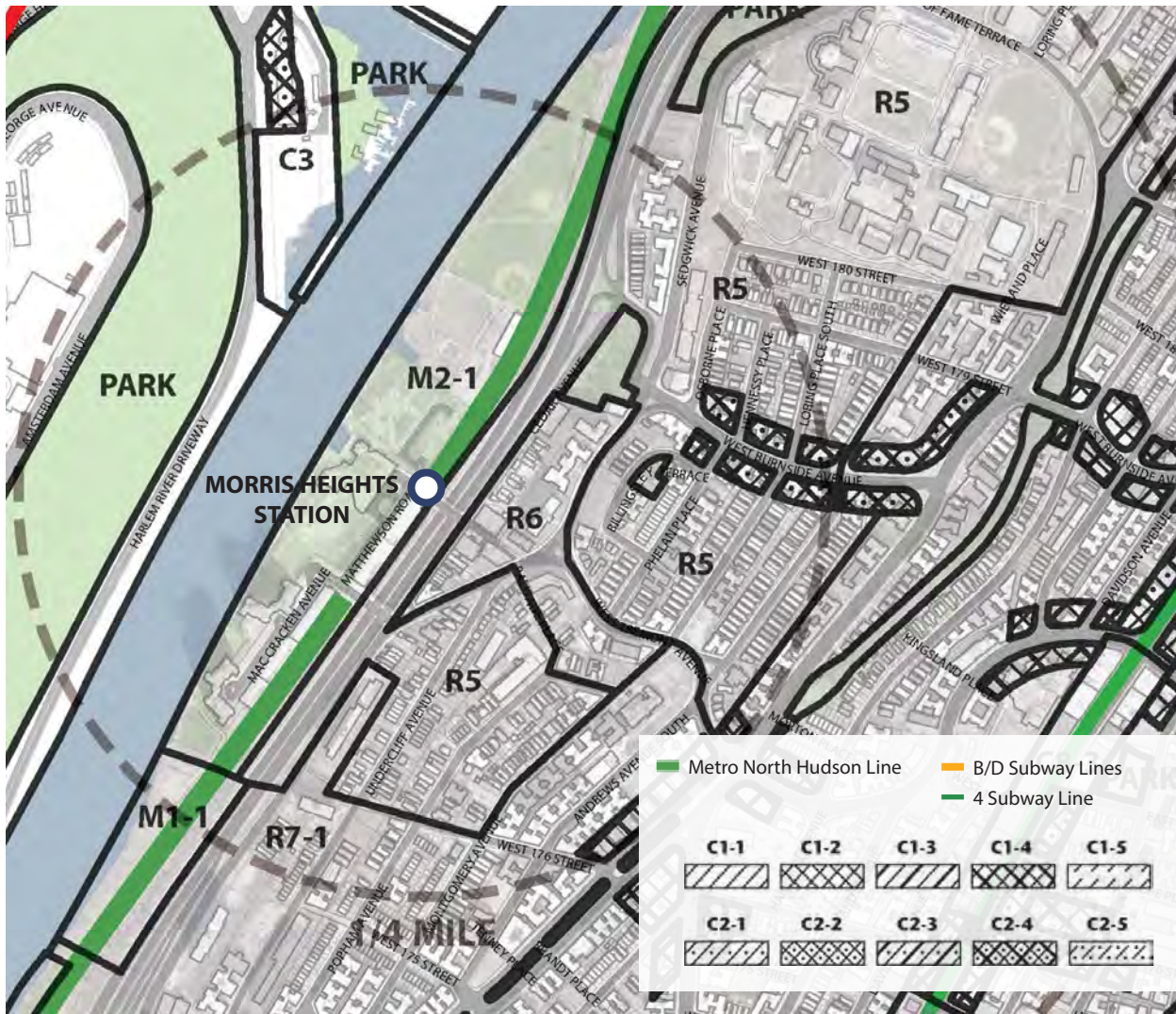
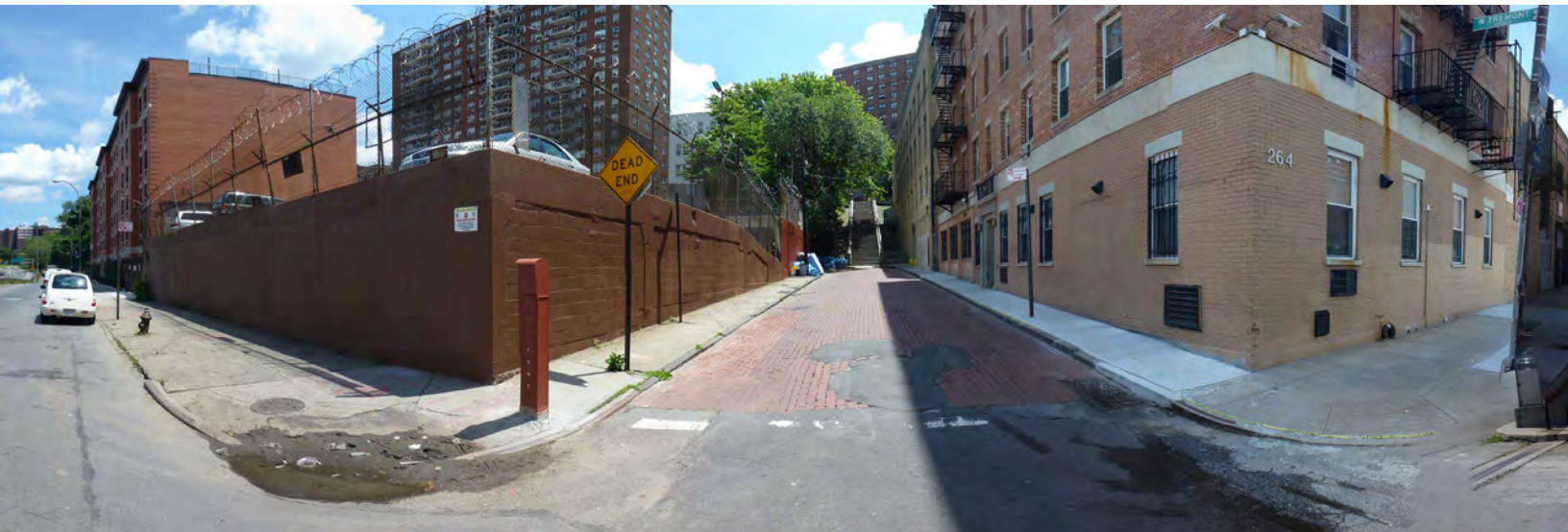


FIGURE 3 | (Top) Zoning around the Morris Heights station area; the waterfront area is largely zoned for manufacturing uses, with the surrounding areas predominately zoned as residential. This currently limits commercial uses, and local economic activity.

FIGURE 4 | (Bottom) Cedar Avenue and West Tremont Avenue; ground floor uses are largely inactive with little commercial development and foot-traffic around the station entrance.



amenities, such as benches, lighting and shelters and the Metro-North station has very low ridership, which provides no incentive for increased service or investment.

River Park Towers could serve as a sustainable Transit Oriented Development as was perhaps envisioned during its planning. It is adjacent to commuter rail and located within a regional recreation area. It includes its own commercial uses located on the ground floor of its own parking as well as a K-5 public school. However, the result has been far from what was intended. The aforementioned pedestrian challenges isolate the development from the surrounding neighborhood and services. Its isolation has been detrimental to the residents, park usage, Metro-North ridership and the surrounding land uses.

Ongoing efforts by Roberto Clemente State Park and the Harlem River Working Group coupled with the reopening of Highbridge Park present an opportunity to rethink the area, especially since Roberto Clemente State Park is currently one of the few public access points to the Bronx side of the Harlem River. The Harlem River Greenway Vision Plan recommends making Roberto Clemente State Park the premier gateway to the river and Greenway, and proposes improved signage, a bike path, increased access to the water, improved programming, and the implementation of storm water capture devices. Roberto Clemente State Park is currently in the process of designing entranceway enhancements and has identified the intersection of Cedar Avenue and West Tremont Avenue as a key entranceway to the park. The Highbridge is a pedestrian access point across the Harlem River a 157th Street. It has been closed

since the 1970's and is scheduled to re-open in the Winter of 2014.

As part of this effort DCP coordinated closely with the Harlem River Working Group and Roberto Clemente State Park to identify priorities and depict the application of best practices. These improvements are intended to enhance connectivity and support pedestrian activity.

The following recommendations are focused on access improvements to the station area along West Tremont Avenue, and improvements to Cedar Avenue. There are two key access points to the Park and the residential community from Cedar Avenue: one at the intersection of Sedgwick Avenue with the overpass over the Major Deegan Expressway; and the second at the intersection of West Tremont Avenue. East of the intersection, West Tremont Avenue becomes a step street to connect to Sedgwick Ave above. DCP chose to show an application of TOD Best Practices using West Tremont Avenue since the main entrance to RCSP and the Metro North station are located here. However, many of these same principles can be applied to the intersection of Sedgwick and Cedar.

EXISTING CONDITIONS

Figure 4 shows the current state of West Tremont Avenue as it crosses Cedar Avenue looking east from the station entrance. The following issues were identified during the planning process:

- Cedar Avenue is currently underdeveloped. Current land uses on Cedar include parking lots, a mix of two to six story commercial, residential



EXISTING CONDITIONS



FIGURE 4 | Existing Conditions at Cedar Avenue and West Tremont Avenue

Figure 4 Existing Conditions

- ① Inconsistent base heights, setback, and building heights
- ② Inactive ground-floor uses; currently commercial uses are not allowed
- ③ Isolated and underutilized stepstreet
- ④ Dead-end street is open to vehicular usage, limiting the area as public space
- ⑤ Uninviting entranceway to Roberto Clemente Park over the Major Deegan Expressway

and light industrial. The blocks just east of the station along Cedar Avenue are currently zoned as an R6 Residence District, which only permits residential and community facility uses. This Residence District does not permit commercial uses and does not mandate that the height and scale of new buildings align with the surrounding context. Current commercial and light manufacturing uses located there are non-conforming and are grandfathered, and many buildings have blank walls on the ground floor, offering no pedestrian activity or security. Without changing the zoning, new development would be limited to residential or community facility uses,

and the form would not be predictable. Numerous curb cuts, inactive uses, blank walls, narrow sidewalks and a lack of sidewalk amenities like street trees, benches, and lighting discourage pedestrian activity.

- Since Cedar Avenue runs parallel to the Major Deegan Expressway, vehicles tend to travel in excess of posted speed limits. There is no stop sign or traffic light at the West Tremont Avenue intersection, and pedestrian crossing is difficult and even dangerous.
- The West Tremont Avenue step streets are in a



FIGURE 5 | Potential Improvements at Cedar Avenue and West Tremont Avenue

Figure 5 Potential Improvements

- ① Develop contextual maximum base heights and, after setback, maximum building heights
- ② Permit commercial uses so that ground floors are able to provide more active uses
- ③ Refurbish step street and incorporate artwork along pathway from the community to the park to make a more inviting gateway
- ④ Close dead end street to vehicular usage to allow for pedestrian and commercial activity
- ⑤ Hide the expressway below with a more decorative screen which incorporates planting, seating and street lamps.

state of disrepair, are poorly lit, and have few active uses in the immediate vicinity. All of this combines to create an unsafe perception and discourage its use.

- The West Tremont Avenue overpass, which provides access to the station and park, has no lighting or other street amenities to invite pedestrians, and the noise associated with the Major Deegan Expressway below is poorly screened.
- Residential uses are not necessarily desirable at the ground floor level, especially where the building is fronting upon the highway, so in the absence of a commercial overlay, ground floors

are prone to have blank walls and security grills on windows. Inactive uses combined with a lack of lighting re-enforce an environment that is perceived as unsafe.

Figure 5 identifies potential improvements that promote West Tremont as an inviting entranceway to the RCSP, the Metro-North Station. These improvements are numerically identified as:

- ① Apply contextual zoning to the area to establish predictability and an appropriate scale to future development in the area. Contextual zoning districts typically allow slightly more development rights, higher lot coverage and prescribe maxi-

EXISTING CONDITIONS



POTENTIAL IMPROVEMENTS

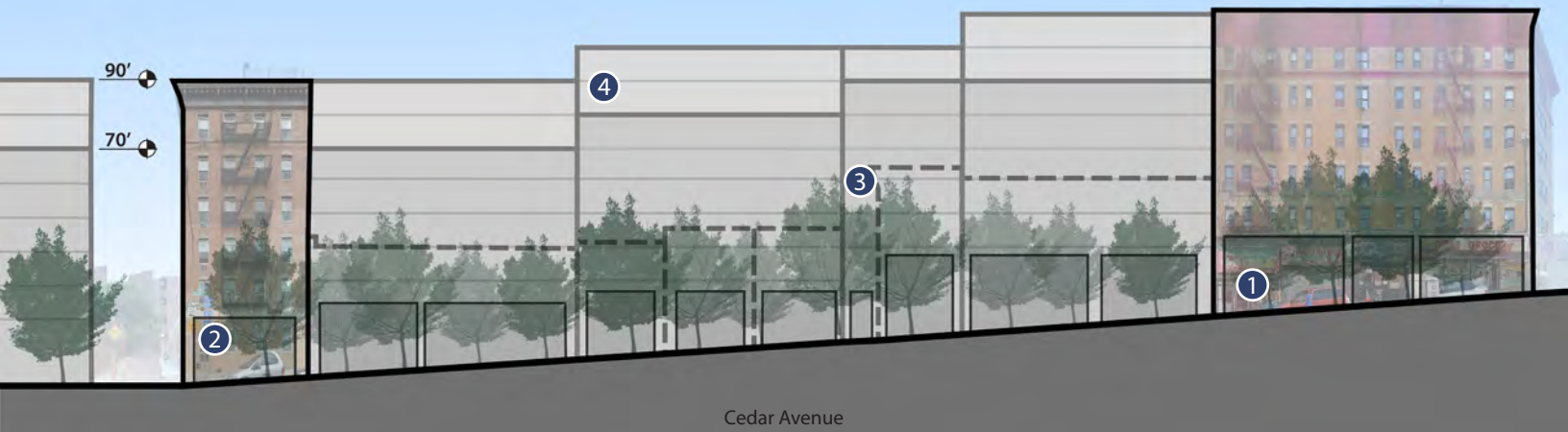


FIGURE 6 | (Top) Existing Conditions along Cedar Avenue. (Bottom) Proposed Improvements along Cedar Avenue.

Figure 6 Existing Conditions

- ① Currently zoned as a residence district. Commercial and manufacturing uses are non-conforming.
- ② Curb cuts disrupt continuous pedestrian clear path.
- ③ Inconsistent building heights.
- ④ Large expanses of blank walls on ground floor.

Figure 6 Potential Improvements

- ① Explore mapping a commercial overlay onto Cedar Ave to bring commercial uses into conformance.
- ② Permitting commercial uses will bring larger amounts of transparency and active uses. This will support station and park usage.
- ③ Add street trees at regular intervals. Eliminate curb cuts.
- ④ Explore contextualizing the residence district to establish maximum base heights, and after setback, maximum building heights.

mum base heights and, after setback, maximum building heights.

- 2 Add a commercial overlay along Cedar Avenue to permit commercial uses on the ground floors. This will bring existing commercial uses, mostly neighborhood retail, into compliance and allow this section of Cedar Avenue to develop as a supportive commercial corridor. Ground floor commercial uses will not only provide additional amenities to residents and visitors, it will all generate pedestrian activity and eyes on the street.
- 2 Contextual zoning along the corridor would require the provision of some streetscape amenities, like street trees, as new development occurs.
- 3 Refurbish step street and incorporate artwork into street-bed to make an inviting gateway to the park. This will create a key connection from the Harlem River to the upland community with attractive sightlines. Close dead end street to allow for more pedestrian activity to create a comfortable space that complements the park and station. For example, it would be an ideal location for a sidewalk café.
- 4 Implement measures to slow traffic along Cedar Avenue. Establishing safe pedestrian crossings along Cedar Avenue to encourage usage by park users, train riders and students.
- 5 Hide the expressway below with a more decorative fence which incorporates planting, seating and street lamps. A continuous theme will lead users to the station and park while providing a space to relax.

CONCLUSION

The combination of all of these recommendations would allow Cedar Avenue to develop as a commercial and pedestrian corridor that better supports the surrounding uses.

The area around the Morris Heights station has the potential to be a sustainable transit oriented neighborhood. The commuter rail, regional park and high density housing are important assets for the area. An improved pedestrian environment, including lighting, street trees, benches and bus shelters along with additional local retail would enhance access to the station, park and residential west of the rail line.

Recent investments at Roberto Clemente State Park; an effort to create a continuous greenway along the Harlem River and increase public access to the waterfront, and the reopening of the Highbridge provide an opportunity to further connect this area. The recommendations identified in this section are intended to complement existing efforts to enhance access, increase pedestrian activity and maximize the station and park as an asset to the community.

PRIORITY RECOMMENDATIONS SUMMARY

- Enhance pedestrian pathways that cross Cedar Avenue at W. Tremont and Sedgwick Avenues to reconnect amenities to the surrounding community.
- Study zoning along Cedar Avenue to promote a mixed used commercial corridor that supports residents, commuters and park patrons.
- Develop pedestrian infrastructure to increase activity to promote usage of the station and park.



E Tremont Av

531 **AISHA FOOD MARKET**
NEWSPAPER CIGARETTE HOT & COLD CUTS Cold Drinks & Sandwiches WIC FOOD STAMPS

OPEN 24 HRS. ATM WIC & EBT BEER-SODA-COLD CUTS

ATM

SIMPLE Mobile

EastTremont and 3rd Avenue

EXISTING STATIONS

TREMONT

TREMONT

EMERGING COMMERCIAL CORRIDOR



INTRODUCTION

SYNOPSIS

The Tremont Metro-North Station is located along the re-emerging East Tremont Avenue vibrant commercial corridor. While the corridor currently has extremely dynamic pockets of business activity, remnants from a turbulent past have left the corridor with erratic development patterns and haphazard streetscape amenities, ultimately creating a disjointed corridor which does not encourage additional development. Area stakeholders are currently working to form a Business Improvement District which will provide an opportunity to take a comprehensive look at the needs of the corridor and begin to address these gaps. This section examines the current pedestrian environment and recommends implementable solutions to create a successful corridor which supports access to current transit resources.

The Tremont Metro-North Station is located on Tremont Avenue between Park Avenue North and South. There are separate northbound and southbound entrances on the south side of the East Tremont Avenue overpass. Tremont is one of three “access stations” and we chose to focus on pedestrian access along the East Tremont Avenue commercial corridor.

HISTORY

The East Tremont neighborhood, generally bounded by East 183rd Street to the north, Crotona Avenue to east, the Cross-Bronx Expressway to the south and Webster Avenue to the west, has a complex history. Tremont’s growth was built around transit, with the former 3rd Avenue elevated rail line running through the heart of the neighborhood. Tremont Avenue was established as a commercial corridor that served the neighborhood early in its development. The neighborhood was also a center of civic activity, with Bronx Borough Hall located in Tremont Park (formerly named “Old Borough Hall” Park) from

1897 until 1969, at which time it was demolished. It functioned as the main Bronx Borough Hall until 1935, when its functions were consolidated into the Bronx Courthouse on the Grand Concourse.

With the development of the elevated rail line, immigrants poured into the neighborhood, oftentimes escaping the crowded tenements of the Lower East Side. Ethnic groups cycled through the neighborhood, mirroring larger demographic shifts in many other urban areas: first Italian and Irish immigrants, then Jewish, and after World War II, African Americans and Hispanics. Unfortunately, the latest phase of immigration, both in the Bronx and in many other inner cities, coincided with several decades of urban turmoil beginning in the latter 1960s. This period was prompted by the combination of several factors, including the continued loss of residents to suburban areas, the growing decline of US manufacturing jobs in urban areas, and the gradual shift of job opportunities to suburban communities. These changes in urban centers resulted in high unemployment, and little tax revenue to support public services like education, police and fire services, and public assistance.

In Tremont these larger societal shifts were compounded by two key events: (1) the construction of the Cross Bronx Expressway, and (2) the discontinuation of the 3rd Avenue Elevated Rail service. The Cross Bronx construction would last from 1948 to 1963 and cut through the heart of the neighborhood. Its route would displace thousands of residents and create a difficult divide in the tight knit community. During this same period continuing 3rd Avenue rail service to Manhattan was phased out, with Manhattan access completely ending in 1955, and in 1973 the remaining Bronx service was completely discontinued. These two events directly contributed to further decline in the neighborhood and to Tremont Avenue as many moved away or were



FIGURE 1 | Entrance to Tremont station, intersection of East Tremont Avenue and Park Avenue.

COMMUNITY CHARACTERISTICS | Tremont Study Area

Metro-North Station Weekday Ridership (2011)



20 inbound passengers
77 outbound passengers

NYC Subway Station Daily Ridership (2012)*

D Tremont Ave: 8,882 weekday | 10,412 weekend
B 174-175th St: 4,706 weekday | 5,833 weekend

- The majority of local residents either walk or take public transportation to work; implementing street furniture and providing appropriate street lighting increase the safety of the neighborhood
- The high unemployment rate highlights the need for economic development; the recent rezoning of the area helps address this job shortage and increase local businesses

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Hispanic	65%	53%	29%
Per Capita Income	\$13,789	\$17,992	\$31,417
Renter Occupied Units	88%	79%	68%
Housing Units with No Access to a Vehicle	53%	59%	56%
With Access to One Vehicle	5%	30%	31%
Take Public Transit or Walk to Work	70%	64%	67%
Population Density (per square mile)	60,296	32,536	21.6%
Unemployment Rate (2010)	16%	12%	11%
TOTAL POPULATION	77,660	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the Tremont station

² United States Bureau of the Census, 2006-2010 American community Survey 5-Year Estimates

* MTA Subway Ridership, 2012. http://www.mta.info/nyct/facts/ridership/#chart_s



FIGURE 2 | View from 3rd Avenue (circa 1900) looking west across East Tremont Avenue.

Source: @ The Museum of the City of New York

displaced during construction associated with the Cross Bronx, and remaining residents were disconnected from the means to access job opportunities outside their neighborhood when the 3rd Avenue El was demolished. During this period, the economic vitality of the neighborhood, and the Tremont Avenue retail corridor, suffered greatly. This period of crisis and turmoil in the neighborhood has only recently begun to stabilize.

AREA CHARACTERISTICS

This history is significant because it demonstrates the interdependence between the neighborhood and its infrastructure, clearly demonstrating that the stability and health of a neighborhood is deeply connected to the accessibility and quality of transportation assets. Their fortunes rise and fall together. As the community has stabilized in the last decade, the importance of the re-establishing the Tremont Avenue corridor as a means to re-connect to other transit options, other job opportunities and other neighborhoods is paramount to a sustained recovery. In addition to the vibrant commercial corridor

along Tremont Avenue, the neighborhood currently benefits from the following assets:

- The **Metro-North rail station** located on East Tremont Avenue which provides commuter rail service along the Harlem Metro North line, and provides access to Manhattan to the south, and to the north, access to stations as far north as Dutchess County, including Mount Vernon and White Plains.
- Access to the **B/D subway lines** at Tremont Avenue and the Grand Concourse and to the #4 line at either Jerome Avenue and 176th Street or Burnside Avenue. The B/D station is approximately a quarter mile from the Metro North Station, and either #4 station is approximately a half mile away.
- Entrances to the **Cross Bronx Expressway** which are accessible through Webster, 3rd and Arthur Avenues. The expressway generates peak hour traffic along the Tremont Avenue corridor.

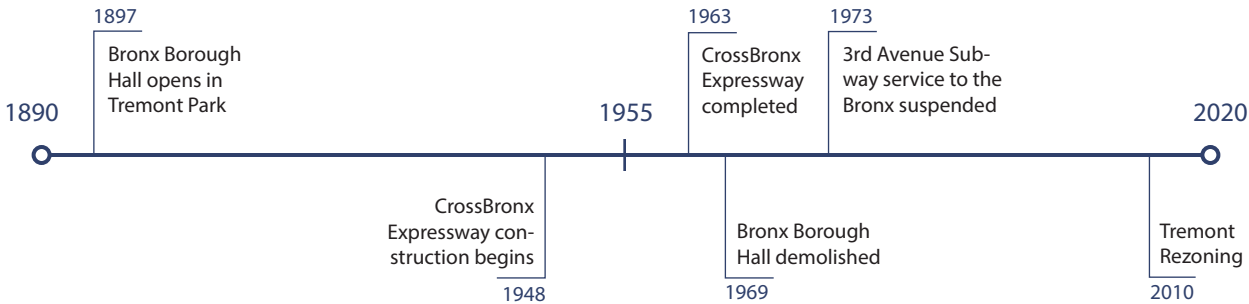


FIGURE 3 | Tremont Neighborhood timeline.

- The growing **Bathgate Industrial Business Zone** which is located south of East Tremont Avenue generally between Washington Avenue and Anthony Avenue, extending south beyond the Cross Bronx Expressway. It is administered by the South Bronx Overall Economic Development Organization (SoBRO) and it employs approximately 3,000 employees.
- A robust network of bus transportation including a new **Select Bus Service (SBS)** along Webster Avenue. When the 3rd Avenue elevated rail ceased service completely in 1973, transit service was replaced by a series of bus lines that now include the Bx40/Bx42, Bx36, Bx41, Bx15/Bx55. Select Bus Service on the BX41 along Webster Avenue began in the spring of 2013.
- **Tremont Park** is a 15-acre open space and recreation area once part of the larger Crotona Park to the south, prior to the development of the Cross Bronx Expressway. It occupies the entire southern side of Tremont Avenue between 3rd and Arthur Avenue.
- In 2010, portions of the corridor were rezoned as part of the 3rd Avenue/Tremont Avenue re-

zoning which aimed to facilitate increased development potential along the Tremont Avenue commercial shopping corridor. The current zoning allows for flexibility in terms of building mixes, as one could build a significant purely commercial building, or a mix of residential and commercial uses. In order to unify the corridor and improve walkability, new developments facing Tremont Avenue now have minimum and maximum height limits to ensure a sense of enclosure for the pedestrian realm, as well as ground floor commercial and transparency requirements to help ensure the corridor is populated by vibrant and active uses. This zoning allows for substantial growth along the corridor and the access solutions identified in this section are complimentary to its salient features (see Figure 4).

East Tremont Avenue has long served as a commercial corridor which provides goods and services to the surrounding community. As development patterns and transportation options have changed, gaps along the corridor have materialized. This has created an inconsistent and uncomfortable pedestrian environment which discourages healthy resi-

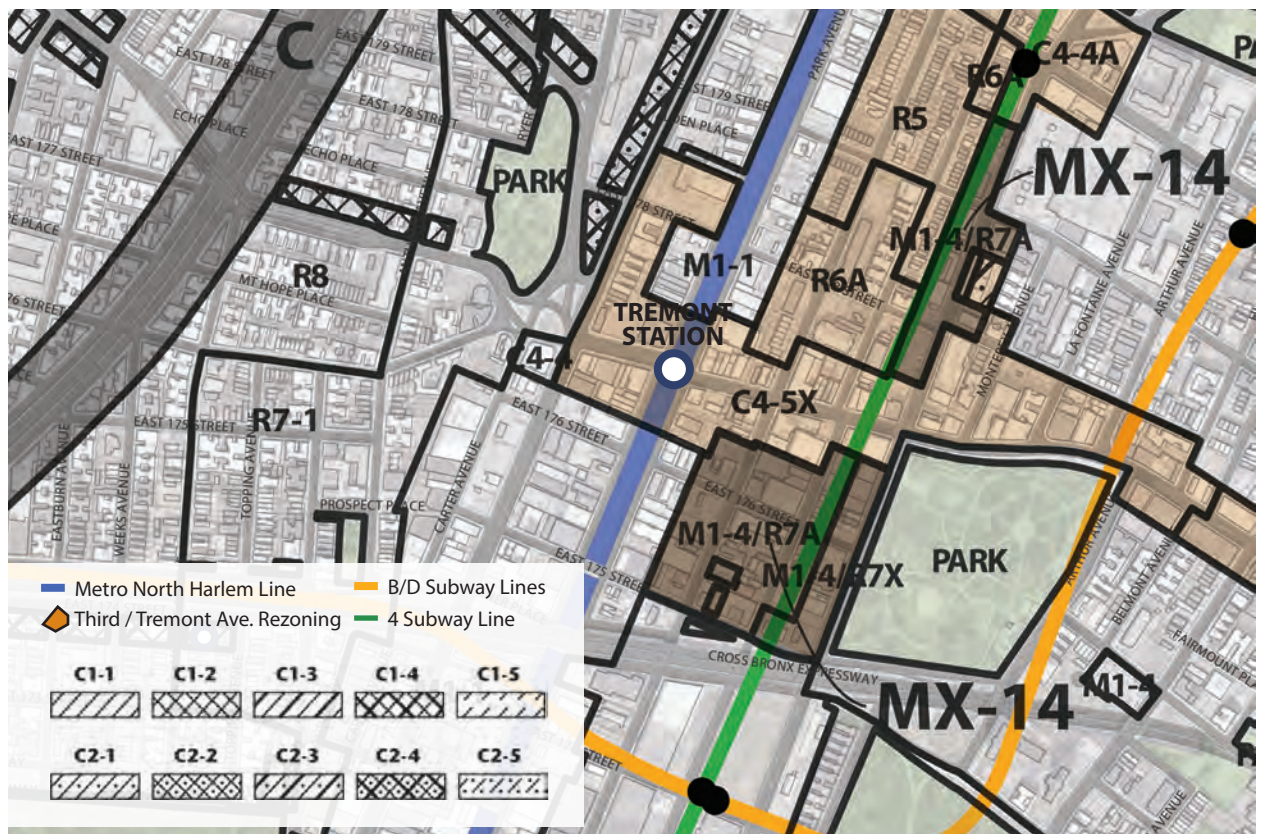
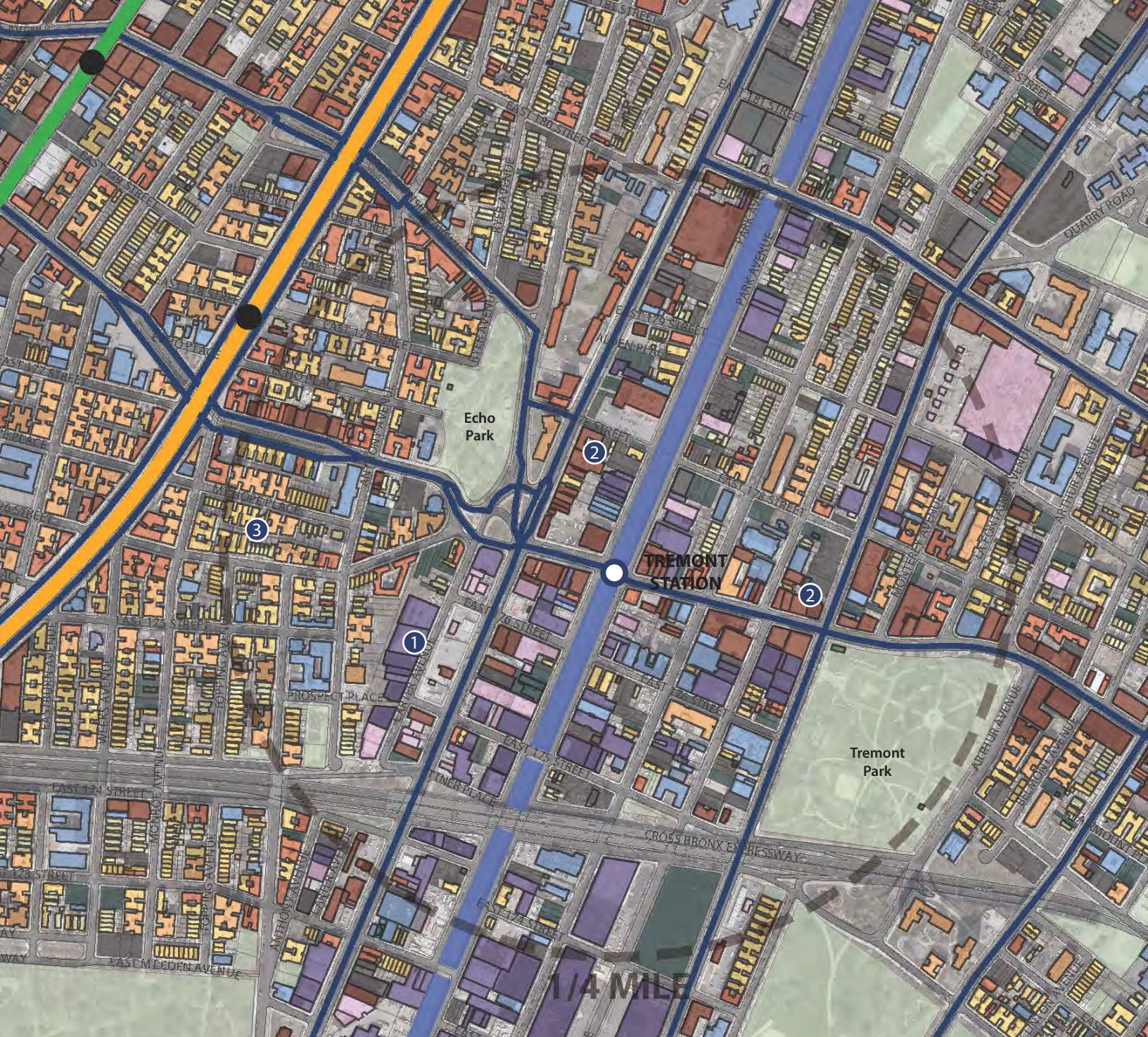


FIGURE 4 | Rezoning of Tremont Avenue (shown in blue) from C4-4 to C45X. The rezoning increased the development potential of the Downtown of Tremont.



Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Metro North Harlem Line
- B/D Subway Lines
- Bus Routes
- 4 Subway Line

Notable Land Uses Features:

- ① Manufacturing and institutional uses east of Webster Avenue and along Carter Avenue
- ② Several commercial buildings along Webster Avenue north of Tremont Avenue, and along Tremont Ave east of Park Ave (Tremont Commercial Corridor)
- ③ Residential and Mixed Commercial/Residential uses west of Webster Avenue

dential and commercial growth along the corridor. Pedestrian routes no longer support efficient inter-modal transit connections, resulting in undesirable commutes. As a result, the corridor feels disjointed and does not provide a sense of place for its users.

CHALLENGES & RECOMMENDATIONS

Some of these challenges include:

- **Sidewalks** are often not wide enough, which restricts pedestrian flow. There is limited room for a dedicated strip to accommodate amenities like street trees and street lamps. Uses which add tremendous value to the pedestrian realm, such as sidewalk cafés, are largely infeasible.
- There is a critical **lack of lighting** along the entire corridor, contributing to the perception of the area as unsafe. This discourages patrons from spending time on the corridor after dark, which in turn forces businesses to close in the evening. With these ground floor uses closing, the ambient light and pedestrian activity associated with them disappears, reinforcing this perception.
- There are **inactive ground floor uses** and blank walls scattered throughout corridor. This limits walkability, reduces the continuity of ground floor commercial uses (and thereby continuous shopping experience), reduces ambient lighting at night and limits the potential of shop-keepers or store patrons to keep their 'eyes on the street'.
- A **lack of street furniture**, such as bus shelters and benches, discourages users from lingering on the corridor or using mass transit.
- **Tremont Park** is located on a steep grade as it approaches 3rd Avenue. This causes its amenities, namely its lighting, to be distanced from the street, creating an uncomfortable pedestrian experience at night along the park's edge. The comfort station at the corner of 3rd Avenue and East Tremont is inactive and the grand steps on 3rd Avenue south of Tremont lead to an empty space where the former Bronx Borough Hall existed until 1969.
- **Densities** along the corridor are not built to capacity, reducing the number of residents or employees that live or work in the community who will walk to shops, amenities and transit resources. Greater densities and a larger variety



FIGURE 5 | Tremont Park, intersection of East Tremont and Monterey Avenues. The steep grade of the park (left) and blank street walls (right) are challenges for the community.

Figure 6 | Streetscape Recommendations

- 1 Space is marked by striping, but does not seem to serve any function. Could be used as a compliment to station uses.
- 2 Where street trees are provided, the locations are often sporadic and trees vary in size. Continuity should be improved.
- 3 Several blocks have no street trees along the entire frontage. Plant trees at regular intervals, with adequate tree pits.
- 4 Incorporate bus amenities where appropriate.
- 5 Widen clear path on sidewalk to minimum of 10 feet for pedestrians where vehicular right of way permits.
- 6 Clear sidewalk of store merchandise to provide adequate clear paths.
- 7 Create well-defined crosswalks to ensure pedestrian safety.
- 8 Repurpose structure at northwest corner of Tremont Park as a food kiosk or similar active use.
- 9 Eliminate blank walls, and tenant ground floors with active uses which provide ample amounts of transparency.
- 10 Explore locating a civic or amusement use in the former Borough Hall site to promote activity and increase safety.
- 11 Support re-development of lower scaled properties (pursuant to recent rezoning) to create more continuous scale of building while maintaining historic fabric.
- 12 Vacant lots or parking lots fronting the street are especially disruptive of street wall continuity.
- 13 Provide additional street lamps. Explore themed lamps and banners to contribute to a destination feel.
- 14 Add supplemental lighting along Tremont Park and Metro-North Station as these areas lack ambient light produced by buildings.

FIGURE 6 | Tremont Avenue, between Park Avenue and Arthur Avenues.

Source: Pictometry



of shops and services within the neighborhood will promote its walkability and vehicle dependency will be reduced.

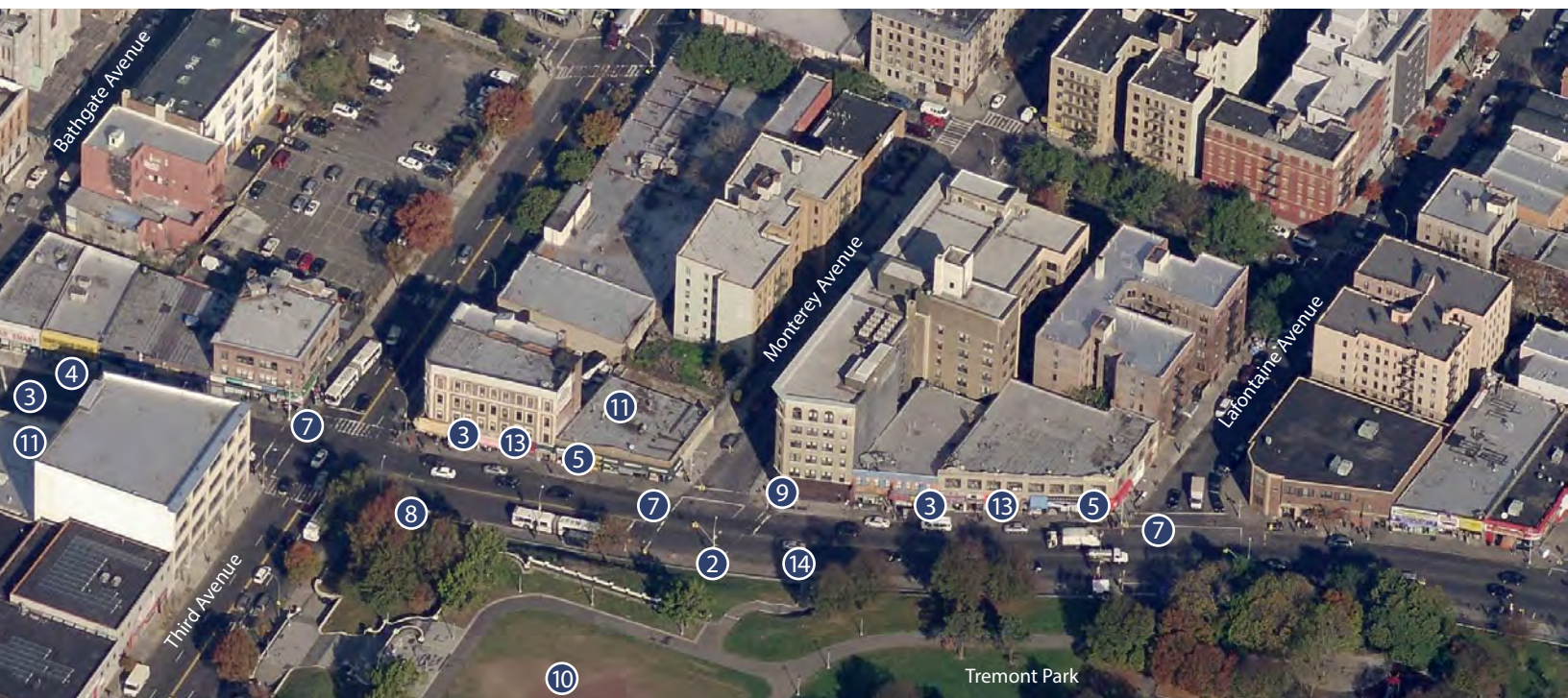
- There is **no signage** along the corridor to identify transit resources, the Industrial Business Zone, Tremont Park or the corridor itself. This does not support transit connections or create a sense of place along the corridor.
- **Current ridership** at the Tremont Metro-North station is one of the lowest in the system for full time stations, with less than one hundred total weekday boardings recorded in 2012. Currently only twenty-eight (12 inbound, 16 outbound) trains stop at the station daily, which equates to a train arrival generally every half-hour during peak times and up to two hours between arrivals the rest of the day. The stations low ridership does not justify increases in service. The entrance itself, while located in the middle of the commercial corridor, lacks connecting signage and specifically real time travel information for pedestrians along the corridor.

Despite these challenges, the recent rezoning of the corridor-paired with the ongoing effort of the Tremont Business and Community Organization—present an opportunity to revitalize the corridor with a multi-faceted approach. The 3rd Avenue/Tremont Avenue rezoning provides an opportunity to capitalize on new density potential. Current land uses on

East Tremont Avenue include a mix of two to six story commercial, community facility, and residential uses. The new C4-5X zoning permits a wide range of commercial, residential and community facility uses. The zoning mandates a predictable building form with street walls and height limits up to a relatively high density. As sites develop taking advantage of the new regulations additional streetscape improvements will compliment it and accommodate the increased pedestrian traffic. More residents walking to corridor amenities and transit resources would result in a decreased dependency on automobile usage, and reduce existing congestion.

The Tremont Business and Community Organization formed as non-profit organization to organize area merchants with the goal of forming a Business Improvement District (BID). A Tremont BID has the potential to help provide services such as streetscape improvements, sanitation, maintenance, security and marketing for the neighborhood. The BIDs could also provide stability attractive to developers, create consistent neighborhood themes that aid in placemaking, and draw new businesses to strengthen the corridor.

These two efforts are complimentary, and with the simultaneous approach can be of significant benefit to the East Tremont Corridor. Through this study the Department of City Planning worked closely with the Tremont Avenue Business Improvement District planning committee to maximize the impact of this



EXISTING CONDITIONS



EXISTING CONDITIONS



FIGURE 7 | Existing Conditions, northwest along East Tremont Avenue, half a block east of Tremont Station.

Figure 7 Existing Conditions

- ① Uneven street wall along Tremont Avenue
- ② Inconsistent building typology and design
- ③ Few streetscape amenities
- ④ Inactive ground uses and limited transparency
- ⑤ Little transportation signage, awnings, and window displays
- ⑥ Unkempt and uneven sidewalks



FIGURE 8 | Potential improvements, northwest along East Tremont Avenue, half a block east of Tremont Station.

Figure 8 Potential Improvements

- ① Develop strong street wall along both sides of Tremont Avenue
- ② Incorporate existing buildings to create visual interest between old and new buildings
- ③ Add street trees and street lamps at regular intervals
- ④ Promote active ground uses, ample transparency; limit size of residential lobbies and community facility uses
- ⑤ Coordinate signage, awnings, and window displays; add street banners along corridor
- ⑥ Improve and extend sidewalk width where vehicular right of way permits
- ⑦ Add street furniture like bus shelters and benches

study. The results of this approach are described in the following section.

Our recommendations are focused on the pedestrian environment along the East Tremont Avenue commercial corridor. A streetscape inventory was performed using several site visits and coordination with local business owners who confirmed and helped to identify deficiencies along the corridor. As a result of this effort, a number of persistent issues, opportunities and constraints were found throughout the corridor (see Figure 8).

Our analysis focused on the section of East Tremont Avenue from Park Avenue to Arthur Avenue. This stretch of East Tremont Avenue includes the Tremont Metro-North Station and then continuing east to Arthur Avenue where Tremont Park is located on the south side. It was chosen as a typical section of the corridor as it contains a variety of land uses and development types, including a number of underdeveloped parcels.

The principles described in *Section 1: Strategies for Walkability*, were applied to identify the gaps along the corridor. These principles were explained to stakeholders in the community during the process in order to emphasize their importance and serve as a model during the streetscape inventory.

In addition to this analysis, Figures 7 and 8 depict the transformation along a sample stretch of Tremont Avenue if some of the potential improvements identified along the corridor were implemented.

Figure 7 shows the current state of East Tremont Avenue looking west from 3rd Avenue. Figure 8 identifies potential improvements that promote a vibrant pedestrian environment along East Tremont Avenue and displays the development potential of recent zoning changes.

Recommendations:

- Work with private developers to promote the development of vacant or underutilized sites along the corridor where new zoning requirements will create a stronger street wall and continuous pedestrian path along the corridor.
- Promote the incorporation of existing historical buildings, whenever viable, to create visual interest between new and old buildings. This maintains some of the history and highlights the unique character of the area.
- Add street trees and street lamps at regular intervals. This provides shade, a buffer from the vehicular pathway and a lit pathway at night.
- Continue to promote active ground floor uses with ample transparency and limit the size of residential lobbies and community facility uses. Additional eyes on the street increase safety and lighting. Commercial uses typically provide additional amenities, transparency and lighting. Explore doing this through enhanced commercial requirements.



FIGURE 9 | Parking lot, Tremont. Underutilized lots and limited streetscape amenities are challenges for the neighborhood, and present opportunities for commercial, residential, and mixed-use redevelopment.

- Coordinate signage, awnings, and window displays. Add street banners to the full corridor. This establishes the theme of East Tremont Avenue, developing a sense of place. This could be coordinated through a BID.
- Improve and extend sidewalk width. This provides room for streetscape amenities and allows ample space for pedestrian flow.
- Add street furniture such as bus shelters and benches. These amenities encourage the use of transit and for shoppers to linger within the commercial corridor
- Redevelop the comfort station in Tremont Park at the corner of 3rd and Tremont Avenue to strengthen the intersection and park as an anchor for the corridor.
- Provide consistent neighborhood way-finding signs depicting contextual location to key area destinations, transportation options, and informational maps. This could be a future candidate for the WalkNYC DOT neighborhood signage program and could be coordinated through the proposed Tremont BID.

CONCLUSION

East Tremont Avenue is poised to re-emerge as a vibrant neighborhood commercial corridor. The simultaneous effect of the rezoning combined with the formation of a business improvement district could spur new development, attract new businesses, and create a pedestrian environment which establishes a sense of place. As these improvements occur along East Tremont Avenue it will spur increases in transit ridership which will justify investments in additional service, generate additional pedestrian activity providing increased revenue for businesses, and attract preferred jobs into the IBZ. All of these in combination would attract new residents, employees and visitors to the Tremont neighborhood, and would underpin a vibrant, sustainable future.

PRIORITY RECOMMENDATIONS SUMMARY

- Improve the walkability of the East Tremont Avenue Corridor from Southern Boulevard to Webster Avenue by implementing consistent streetscape improvements working in conjunction with the local business community and grassroots efforts.
- Capitalize on the recent 3rd Avenue/East Tremont Rezoning to strengthen East Tremont Avenue as a neighborhood retail corridor and promote additional residential density.
- Improve ridership on the Tremont Metro-North station through:
 - Enhancements to the surrounding retail corridor which generate additional activity
 - Streamlining connections to subway, bus and select bus service
 - Strengthening access to local employers and community amenities



EXISTING STATIONS

WILLIAMS BRIDGE

WILLIAMSBRIDGE

COMPLETING CONNECTIONS



INTRODUCTION

SYNOPSIS

The Williamsbridge Metro-North station is located near the intersection of Webster Avenue and Gun Hill Road. It has moderate ridership, due to a high number of reverse commuters, with a total of more than 530 outbound daily weekday boardings. The station lies a quarter mile from the Gun Hill Road 2/5 subway line and a half mile from the Montefiore Medical Center, the flagship hospital of the largest private employer in the Bronx¹. The Department of City Planning has recently rezoned much of the area to strengthen surrounding neighborhoods and retail corridors. Parts of the Gun Hill Road, Webster Avenue, and the White Plains Road corridors maintain high levels of pedestrian activity, but in the area immediately leading up to the Metro-North station, this is not the case. Networks of open space and recreation surround the area, but lack sufficient access from the station and to each other. Its location, assets and proximity to additional mass transit provide an opportunity to increase usage; however pedestrian and intermodal connections from the immediate station area to area assets and retail corridors are not made. This section examines challenges and identifies recommendations that complete connections around the Williamsbridge station area.

AREA CHARACTERISTICS

The study area consists of the half mile radius around the Metro-North station with the primary focus area roughly bounded by Jerome Avenue to the west, Woodlawn Cemetery to the north, White Plains Road to the east, and 207th Street to the south. Area demographics in this area closely resemble Bronx-wide demographics. Much of the housing stock predates 1939 (1,176 units of 1,644 total units; or 71.5%), older than the Bronx average. A significant portion of area residents rent are renters. Racial and ethnic demographics are in line with Bronx averages. Unemployment in the area is lower than both the city and the Bronx, at 7%. The majority of Williamsbridge households do not have access to a vehicle and residents take public transportation or walk to work at a higher percentage than the average for the borough. 64% of housing units do not have access to a vehicle and 28% have access to just one vehicle, (Bronx is 59% and 30%), and 69% of workers take public transit or walk to work (Bronx overall is 64%).

KEY FEATURES

The Montefiore Medical Center. Montefiore Medical Center is located a half mile from the Metro-North station. It is a teaching hospital and one of the fifty largest employers in New York State with more than

“ Together, we envision Webster Avenue as a place where people live, work, shop, and enjoy unique cultural experiences – and a hub for entrepreneurs, researchers, and students to foster new businesses and academic collaborations. ”

| Webster Avenue Vision Plan, NYC Economic Development Corporation, April 2013 |



FIGURE 1 | Entrance to Williamsbridge station on East Gun Hill Road.

COMMUNITY CHARACTERISTICS | Williamsbridge Study Area

Metro-North Station Weekday Ridership (2011)



167 inbound passengers
536 outbound passengers

NYC Subway Station Daily Ridership (2012)*

- 2 Gun Hill Road: 7,212 weekday | 7,899 weekend
- 4 Mosholu Parkway: 9,596 weekday | 9,261 weekend

- The majority of local residents either walk or take public transportation to work.
- The low unemployment rate reflects the stability of the surrounding community and significant employment opportunity in the area.

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Hispanic	47%	53%	29%
African-American	40.2	35%	22.8%
Renter Occupied Units	87.5%	79%	68%
Housing Units with No Access to a Vehicle	64%	59%	56%
With Access to One Vehicle	28%	30%	31%
Take Public Transit or Walk to Work	69%	64%	67%
Population Density (per square mile)	12,359	32,356	26,953
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TOTAL POPULATION	77,660	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the Williamsbridge station

² United States Bureau of the Census, 2006-2010 American community Survey 5-Year Estimates

* MTA Subway Ridership, 2012. http://www.mta.info/nycct/facts/ridership/#chart_s

17,000 employees at this location. The grade of Gun Hill Road increases significantly as one travels west from Webster Avenue and large tracts of land offering recreation and open space. The Gun Hill Road Corridor from Webster Avenue to Jerome Avenue is served by the Jerome-Gun Hill Business Improvement District. Webster Avenue runs adjacent to the Metro-North Rail line and connects to the busy Fordham Road Corridor further south.

LAND USE AND ZONING

The neighborhoods that surround the station area are primarily comprised of a mix of single and two family residential and multi-family residential buildings. Mixed-use buildings and commercial buildings are concentrated primarily along Gun Hill and White Plains Road. Large institutional uses like Montefiore Hospital occupy a large section of Gun Hill Road west of the station area, while the Gun Hill Houses NYCHA complex, the Immaculate Conception Church and its parochial school, and the Evander Childs Educational Campus occupy a large stretch of the corridor east of the Metro-North and 2/5 stations. Webster Avenue is currently characterized by a mix of commercial, low-intensity manufacturing, auto-related uses and vacant lots, especially on the portion of the street adjacent to the rail corridor. Several parks and open spaces are located throughout the area.

The Norwood neighborhood is almost triangular and is surrounded by Woodlawn Cemetery to the north, Van Cortlandt Park to the northwest, Moshulu Parkway to the west where it meets the New Botanical Gardens, and the Bronx River Parkway to the east. In the center of the neighborhood is the Williamsbridge Oval.

The Williams Bridge station is surrounded primarily by medium to higher density residential districts, with commercial districts concentrated along Webster Avenue, White Plains and Gun Hill Road. The highest density commercial district is located around the intersection of Webster Ave and

Gun Hill Road. A semi-industrial commercial district (that does not permit residential uses) is located on

Webster Avenue, south of the station area.

Two rezonings have recently been completed by DCP within close proximity of the station area. The Williamsbridge / Baychester Rezoning, adopted in October of 2011, and the Webster Avenue / BedfordPark / Norwood Rezoning, adopted in March of 2011, contextually up-zoned and added commercial overlays to major corridors (including Webster Ave-

nue, Gun Hill and White Plains Road), east and south of the station area; and contextualized or preserved lower-scale portions of the surrounding residential neighborhood.

TRANSPORTATION

The Metro-North station is located on East Gun Hill Road between Webster Avenue and the Bronx River Parkway. It has two short platforms which allow ingress and egress from four passenger cars. Northbound and southbound access to the station are only available from the north and south side of Gun Hill Road respectively.

The Gun Hill Road subway station began operating on March 3, 1917 and is served by the 2 and 5 trains. The 5 train runs only during peak service. Formerly served by the 3rd Avenue Elevated Rail on a lower platform, the platform was removed as part of improvement begun in 2004. Additional station enhancements included a new station house with an entranceway at Gun Hill Road, aesthetic improvements and elevator/escalator access.

Seven bus routes—the Bx41, Bx55, Bx38, Bx30, Bx28, Bx39, and BxM11—all lie within the Williamsbridge neighborhood; the first five being within a three minute walk from the Metro-North station and the other two within a seven minute walk. The Bx41 Select Bus Service route which runs along Webster Avenue commenced operation on June 30, 2013. There is a stop at the intersection of Gun Hill Road and Webster Avenue.

Webster Avenue is one of the longest north-south thoroughfares in the Bronx; the stretch of it near Williamsbridge follows closely alongside of the Bronx River Parkway and the Metro-North Harlem line.

The Bronx River Parkway runs between the Kensico Circle in North Castle, Westchester County and Story Avenue in the Neighborhood of Soundview in the south Bronx. There is an exit from the Bronx River Parkway onto Gun Hill Road very close to the Metro-North station entrance.

Regional bike paths run along the Moshulu Parkway and within Bronx Park along the Bronx River. There are no on-street bike routes that connect these to the surrounding neighborhoods or to Gun Hill Road and Webster Avenue.



FIGURE 2 | Zoning in the Williamsbridge neighborhood.

EXISTING PLANS

In addition to the recent rezonings, several recent planning initiatives have been completed in the area which includes:

WEBSTER AVENUE VISION PLAN (EDC)

The New York City Economic Development Corporation released a vision plan in April 2013 for the Webster Avenue Corridor from Fordham Road to Gun Hill

Road. The plan was done in collaboration with community stakeholders and area institutions including The New York Botanical Garden, Fordham University, Montefiore Medical Center and the Bronx Zoo. The process facilitated a targeted planning process to re-ignite Webster Avenue as a neighborhood “main street,” capitalizing on its proximity to the anchor institutions and a 2011 rezoning that projects 430,000 square feet of new commercial development and more than 950 additional residential units². 204th Street and Gun Hill Road were both identified as neighborhood centers along Webster Avenue.



Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Metro North Harlem Line
- D Subway Lines
- Bus Routes
- 2/5 Subway Line

Notable Land Uses Features:

- ① Medical around Montefiore Hospital and large areas of openspace with parks along the north-south corridor and Woodlawn cemetery north of Gun-Hill Road.
- ② Commercial corridors on Gun Hill Road west of Webster Avenue, along 204th Street in Norwood, and along White Plains Road.
- ③ Low to mid-density residential uses west of Webster Avenue and south of Gun Hill Road.



FIGURE 3 | Renovated East Gun Hill Road subway station.

BX41 SELECT BUS SERVICE (NYCTransit)

A study of select bus service along the 5.3 mile long Webster Avenue Corridor was initiated in 2012 and service began in June of 2013. The service connects from the 2/5 Gun Hill Road Station to the Hub at 149th Street and 3rd Avenue in the South Bronx, with stops at stops at 204th, Gun Hill Road and Webster Avenue, and the Gun Hill Road 2/5. The project includes pedestrian safety improvements along sections of Webster Avenue.

GUN HILL ROAD CONGESTED CORRIDORS

As part of the Citywide Congested Corridors Project New York City DOT is studying the East Gun Hill Road Corridor from Jerome Avenue to White Plains Road. The goals of the program are improving mobility, air quality, safety, and the quality of life for all of the street's users, as described in PlaNYC³. The city held several community meetings to discuss the corridor and project throughout 2013. Ideas to alleviate congestion have included removing on-street parking

to allow for an extra traffic lane during peak hours; implementing left or right only turn signals; pedestrian safety enhancements; altering stoplight timing; and changing bus routes and stops. Implementation will begin in 2014.

CHALLENGES & RECOMMENDATIONS

Located near a busy intersection between a major employment center and the recently renovated 2/5 subway station at White Plains Road, the Williamsbridge Metro-North Station has potential for additional ridership. While strong pedestrian retail corridors are located along Gun Hill Road to the west; White Plains Road to the east; and a growing Webster Avenue as it approach Fordham Road to the south, none of these corridors extend to the immediate station area itself. Many of the deficiencies seen around the Williamsbridge station area are typical of those seen around other Bronx Metro-North stations, which include a lack of visibility and discon-



FIGURE 5 | Webster Avenue, between East 205th and 207th Streets.

nection from surrounding neighborhoods and inter-modal transit. Thus, similar strategies to enhance walkability, visibility, and activity along the Gun Hill Road Corridor and Webster Avenue Corridor will help integrate the Metro-Station into the surrounding neighborhoods and grow the area according to the vision set forth by the community.

For the purpose of this Section, the challenges and recommendations are discussed in two focus areas: (1) the Gun Hill Road Corridor, primarily between Webster Avenue and White Plains Road, (2) and the Webster Avenue Corridor, generally north of 204th Street to Gun Hill Road. The recommendations take a look at both short-term and long-term ideas that will connect and grow the Webster Avenue and Gun Hill Road corridors.

WEBSTER AVENUE CORRIDOR

As part of a recent rezoning and EDC's Webster Avenue Vision Plan the Webster Avenue Corridor is envisioned as a vibrant mixed use corridor which acts as a neighborhood main street and provides resources for the surrounding community and area

institutions. The results of these efforts and the new Bx41 Select Bus Service can already be seen through recent developments and pedestrian enhancements along the corridor. However major gaps between active uses and pedestrian amenities remain in the area north of the Moshulu Parkway. There is no bus shelter built on the east side of Webster Avenue at Gun Hill Road for the new Bx 41 SBS. This stop is located on the same block as the southbound Metro-North station entrance, but there is no signage or coordination between them.

While the New York Botanical Gardens is a major tourist attraction and active community stakeholder, it does not have a presence north of its station and entranceway at Bedford Park Boulevard. Walkability along Webster Avenue becomes increasingly difficult continuing north to Gun Hill Road as sidewalks narrow and pedestrian activity dissipates. Along the west side of Webster Avenue, Parkside Place branches up into the Norwood neighborhood and runs parallel to Webster along a ridge descending back down before Gun Hill Road, show in Figure 5. In doing so, a sliver of land is created which is fenced off on the Norwood side and presents a steep and



FIGURE 6 | Norwood neighborhood.

overgrown rock face along Webster Avenue. There are no sidewalks along the west side of Webster Avenue during this stretch. On this same section on the east side of Webster Avenue, narrow sidewalks run alongside lots located adjacent to the rail line which are difficult to develop as active uses. This combination creates a pedestrian dead zone between 204th Street and Gun Hill Road.

Several underutilized lots are located along Webster Avenue, just south of Gun Hill Road. At the intersection of Gun Hill Road and Webster Avenue are located the Metro-North station and new Select Bus Stop; the Montefiore Medical Center and Gun Hill Road-Jerome Corridor to the west; and the and White Plains Road Corridor to the east. The intersection should be a prominent pedestrian gateway to these features. It is zoned as C4-4 which is intended for regional commercial and permits mid-density residential uses, but currently is characterized by low density uses which do not support transit. Significant additional floor area is permitted for community facility uses in this commercial district.

Since the adoption of the Webster Avenue/Bedford

Park/Norwood Rezoning, in 2011, the corridor has already seen development activity. This is an emerging corridor and some of the early development consists of supportive housing or community facilities with inactive ground floor uses. The community has expressed concern that if this development pattern grows and it would not support the long term vision of the corridor as a “neighborhood main street”. The recommendations below are intended to help the community achieve their vision which includes active ground floor retail and a range of affordable housing options.

Recommendations:

- Guide the development of the Webster Avenue Corridor to reflect the vision of the community and strengthen the rezoning area:
 - o Coordinate local stakeholders, businesses, institutions, and city agencies to ensure best resources are available as development opportunities arise. This could be coordinated through the community board or a merchant’s organization, such as the recently formed 204th Street Merchants Association.

- o Create a set of consistent guidelines for development which meets the communities vision and work closely with developers to share these guidelines
- Encourage the development of the vacant lots adjacent to the station and along Webster Avenue. Apply the principles of Rail Adjacent lots, as outlined in Section 1 Strategies, where these difficult lots exist.
- Identify opportunities to provide access to the Metro North station from Webster Avenue. This could be done as part of the development of rail adjacent lot sites. This would provide enhanced access to the upland Norwood neighborhood and create additional pedestrian activity on Webster Avenue.
- Widen the sidewalks to allow for pedestrians; leverage the Bx41 SBS project to include additional improvements.
- Improve sight lines from Webster Avenue to the Norwood neighborhood along Parkside Place to decrease the sense of isolation for pedestrians and connect the neighborhood to the corridor. This includes removal of the unsightly chain-link fence along Parkside Place and landscaping

improvements to the overgrown area between Webster and Parkside.

- Identify opportunities for improved or additional pedestrian access points to the Norwood neighborhood from Webster Avenue.
- The bus stop for the SBS Bx41 at Gun Hill Road is in close proximity the southbound Metro-North entrance. A shelter would enhance visibility and serve as an amenity for the SBS and Metro-North station. This would create a more seamless transfer for commuters.
- Eliminate gaps in bike paths to create connections to the regional bike network at Bronx Park and Mosholu Parkway.

GUN HILL ROAD CORRIDOR

The area west of Gun Hill Road leading up to Montefiore is generally a strong retail corridor with pedestrian amenities. Much of this can be attributed to the Jerome Gun-Hill BID and the presence of Montefiore itself. However the area east of the station leading up to White Plains Road faces some challenges.

East of Webster Avenue the entrances to the Metro-North Station for the northbound and south-



FIGURE 4 | East Gun Hill Road.

bound platforms lack of visibility and signage which hinders station utilization. East of the station towards the 2/5 subway stop pedestrians must cross consecutively over the rail line, the Bronx River Parkway, and the Bronx River. The Bronx River Park below is a regional recreation space, however there is no signage and poor access from the north side of Gun Hill Road although several well worn paths can be seen.

Recommendations:

- Explore ways to increase ridership for employees of Montefiore Hospital Center by increasing the speed and frequency of transit between the Jerome Avenue 4 and the 2/5 and White Plains Road. This could include a private shuttle coordinated through Montefiore or a partnership with Metro-North similar to the Metro-North Rail Link⁴ at Riverdale station.
- Increase accessibility to and visibility of the Bronx River through signage, paths and activities in coordination with the Bronx River Alliance.
- Enhance the aesthetics of the portion of Gun Hill Road that spans the Metro-North tracks and the Bronx River Parkway through the use of improved screening, murals, or lamp post banners.
- Improve station visibility by placing signage with the name of the station at the station entrance.
- Provide consistent neighborhood way-finding signage that provides directional and contextual information, e.g. signage that depicts current location in relation to key area destinations and transportation options.
- Provide way-finding signage at the 2/5 train station including information on how to get to the Metro-North station and Montefiore.
- Explore additional platform access to eliminate unnecessary crossings of Gun Hill Road. A North-

bound platform access ramp from the south side of Gun Hill Road is partly constructed.

- Explore the feasibility of developing the sites located between the rail line and Bronx River Parkway, just south of Gun Hill Road. The current zoning on these sites permits residential uses. A review of the access needs and feasibility of residential uses on these sites should be completed.

CONCLUSION

The Williams Bridge Metro-North station sits along a busy corridor, has convenient intermodal connections, and is near a major medical facility and one of the Bronx's largest employers. A recent rezoning and community vision plan has spurred interest and development activity along the Webster Avenue Corridor. The continued development of Webster Avenue will create an important connection to Gun Hill Road, Montefiore Medical Center and regional amenities in the surrounding area such as the Fordham Road Commercial Corridor and the New York Botanical Gardens. A consistent coordinated approach that includes the community, city agencies, local stakeholders and institutions to guide the development Webster Avenue and continued pedestrian enhancements along Gun Hill Road will create a well connected retail corridor which serves the community and increases station usage.

SOURCES

- <http://www.montefiore.org/communitydevelopment>
- <http://www.nycedc.com/project/webster-avenue-vision-plan>
- <http://www.nyc.gov/html/dot/html/motorist/corridorintro.shtml>
- <http://web.mta.info/mnr/html/raillink/raillinkpage.htm>

PRIORITY RECOMMENDATIONS SUMMARY

- Complete pedestrian connections from station area to Gun Hill Road and Webster Avenue retail corridors, area employers, and recreational amenities
- Support the goals of the recent rezoning for Webster Avenue as a neighborhood main street through close coordination with community stakeholders and agencies



Fordham Road at 3rd Avenue

EXISTING STATIONS

FORDHAM



FORDHAM

TAKING THE NEXT STEPS



INTRODUCTION

SYNOPSIS

The Fordham Metro-North Station is located on the Fordham Road Corridor, a bustling center of activity and one of the primary business districts in the Bronx. A number of significant regional attractions surround the station area, including the Bronx Zoo, the New York Botanical Garden, the Fordham Road Shopping District and Arthur Avenue/Little Italy. Fordham University is adjacent to the station, adding pedestrian activity and transit ridership. Additionally, the surrounding area has been part of three recent rezonings which have helped to strengthen and stabilize neighborhoods and connections.

While most of the existing stations in this study suffer from lack of ridership, the Fordham Metro-North station is the 3rd busiest station in the system outside of Manhattan, serving as a hub for New Yorkers who reverse commute. Other station areas struggle to build complete retail corridors that support large amounts of pedestrian traffic. The Fordham station area, however, is a model for how mass-transit stations can successfully compliment and integrate transit into the fabric of the surrounding community. The Fordham Shopping District is one of the City's most active and vibrant retail stretches, and begins immediately outside the station.

The unique success of the Fordham Station poses its own singular question: how to build on these strengths? While Fordham Road is identified as a Borough Business District for the Bronx in *PlaNYC*, it is primarily a retail district.¹ The high intensity blend of office, residential and retail uses that characterizes many successful business districts is not present. With its diverse attractions, retail amenities, and unique transit options, Fordham has the potential to become a more prominent Central Business District for the northern section of the city and surrounding suburbs. Increased coordination amongst major institutions, a nuanced re-examination of land uses, and continued improvements to the walkability and cohesiveness of the Fordham Corridor will make large strides to this end. This section examines and identifies improvements that will enable Fordham to take the next step in becoming a regional hub of activity, and a stronger economic engine for the Bronx and New York City.

AREA CHARACTERISTICS

Fordham Station provides commuter rail access to Manhattan and upstate New York via both the Harlem and New Haven Metro North lines, and to Connecticut via the New Haven line. Most significantly,

“ Fordham Road is the third largest commercial corridor in New York City and the premier shopping destination in the Bronx....Enhancing our public transportation system will immediately address the need of the residents and workers, diversify visitorship, and boost economic and business growth... ”

| Wilma Alonso, Executive Director, Fordham Road BID |



FIGURE 1 | Fordham station entrance.

COMMUNITY CHARACTERISTICS | Fordham Study Area

Metro-North Station Weekday Ridership (2011)



51 inbound passengers
3,055 outbound passengers (New Haven and Harlem lines)

NYC Subway Station Daily Ridership (2012)*

D Fordham Road: 11,521 weekday | 14,157 weekend
4 Fordham Road: 12,560 weekday | 14,757 weekend

- Most residents do not have access to a vehicle and either walk or take public transit to work
- The area has a very high rate of renter occupied units; and a very low per capita income
- The area is predominantly Hispanic, 15% higher than the Bronx overall

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Hispanic	68%	53%	29%
Per Capita Income	\$11,685	\$17,992	\$31,417
Renter Occupied Units	95%	79%	68%
Housing Units with No Access to a Vehicle	75%	59%	56%
With Access to One Vehicle	22%	30%	31%
Take Public Transit or Walk to Work	75%	64%	67%
Population Density (per square mile)	35,997	32,536	26,953
Unemployment Rate (2010)	15%	12%	11%
TOTAL POPULATION	83,763	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the Fordham station

² United States Bureau of the Census, 1006-1010 American community Survey 5-Year Estimates

* MTA Subway Ridership, 2012. http://www.mta.info/nycct/facts/ridership/#chart_s



Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Metro North Harlem Line
- B/D Subway Lines
- Bus Routes

Notable Land Uses Features:

- ① Highly active commercial uses along Fordham Road to the west.
- ② Emerging commercial along Webster Avenue.
- ③ Belmont commercial uses primarily service-based retail located on or around Arthur Avenue.
- ④ Major institutional uses along Fordham Road to the east.
- ⑤ Residential uses west of Webster Avenue, with lower densities further north.

it is the only Bronx station with direct access to the New Haven Line. The station is located at Fordham Road between Third and Webster Avenues. The station house entrance is on the north side of Fordham Road between Webster Avenue and Fordham University. An additional entrance to the station is in Fordham Plaza on the south side of Fordham Road.

The Fordham station is the most successful station in the Bronx, and the third busiest station in the system outside of Manhattan in total boardings. Fordham Station is also the busiest reverse commute station in the system outside of Manhattan. With more than 3,000 total outbound daily riders during the week, the station has experienced a tenfold increase in ridership since 1982. The station does not have any parking on-site.

The Fordham area is predominately Hispanic, with a 15% higher Hispanic population than the Bronx overall. The per capita income for the area is \$11,685, lower than the \$17,992 per capita income for the Bronx. More residents in the area walk or take public transportation to work than in the Bronx and the

City, as most residents do not have access to a vehicle. The area's population density is higher than the Bronx overall. However the areas populations density is lower than other areas across the city considered Borough Business Districts, or even more so Central Business Districts.

KEY FEATURES

Substantial ridership can be partly attributed to active commercial and retail uses and nearby attractions. The Fordham Shopping District is the 3rd busiest in the city and has more than 300 retail stores.² Approximately 80,000 pedestrians come through Fordham Plaza daily, with 88% of pedestrians arriving by foot or public transit.³ Arthur Avenue, the home of the Bronx's Little Italy, is part of the Belmont BID with 352 primarily food-service oriented businesses.⁴ Additionally, Webster Avenue is an emerging commercial corridor.

The presence of strong institutions makes the area lively and attractive to visitors. Fordham University has over 3,700 students living on campus with an



FIGURE 2 | The Fordham Road Shopping District, intersection of Grand Concourse and Fordham Road. With over 300 retail stores, the area is the third busiest shopping district in the City.

other 3,300 commuting from off-campus.⁵ The Bronx Zoo has more than 2 million visitors annually and the Botanical Garden each year has over 825,000 visitors, making these attractions some of the most popular in the borough and in the City (see pgs. 10-11).^{6,7}

EXISTING PLANS & UPCOMING PROJECTS

Several current and future projects will help contribute to strengthening the area. These include the following:

- The Fordham station renovation began in 2013. This \$18 million project will provide vital amenities for this transit hub including: widening the platforms, adding new canopies, and installing real-time train information monitors in the station.⁸
- The reconstruction of Fordham Plaza is currently under way. The project is a partnership between the Economic Development Corporation and the NYC Department of Transportation. It is intended to transform Fordham Plaza into a world-class public space.⁹

- The New York City Economic Development Corporation completed in April 2013 the *Webster Avenue Vision Plan*, proposing to support Webster Avenue as a neighborhood main street. The recommendations are focused on the following: support business development and local entrepreneurship, create destinations and enhance neighborhood centers and to improve pedestrian connections and mobility.¹⁰ The final plan can be seen here: <http://www.nycedc.com/project/webster-avenue-vision-plan>.

LAND USE & ZONING

Around the Fordham Station area, there is a wide mix of uses that include a variety of retail uses, significant land dedicated to institutional uses, fledgling office uses, and a mix of residential uses located in neighborhoods off of the retail corridor. Along the corridor west of the station, generally within the boundaries of the Fordham BID at University Avenue, the area is characterized by intense retail activity. Retail options include department stores such as Marshalls, Sears, and the recently opened TJ Maxx and Burlington Coat Factory, smaller scale clothing

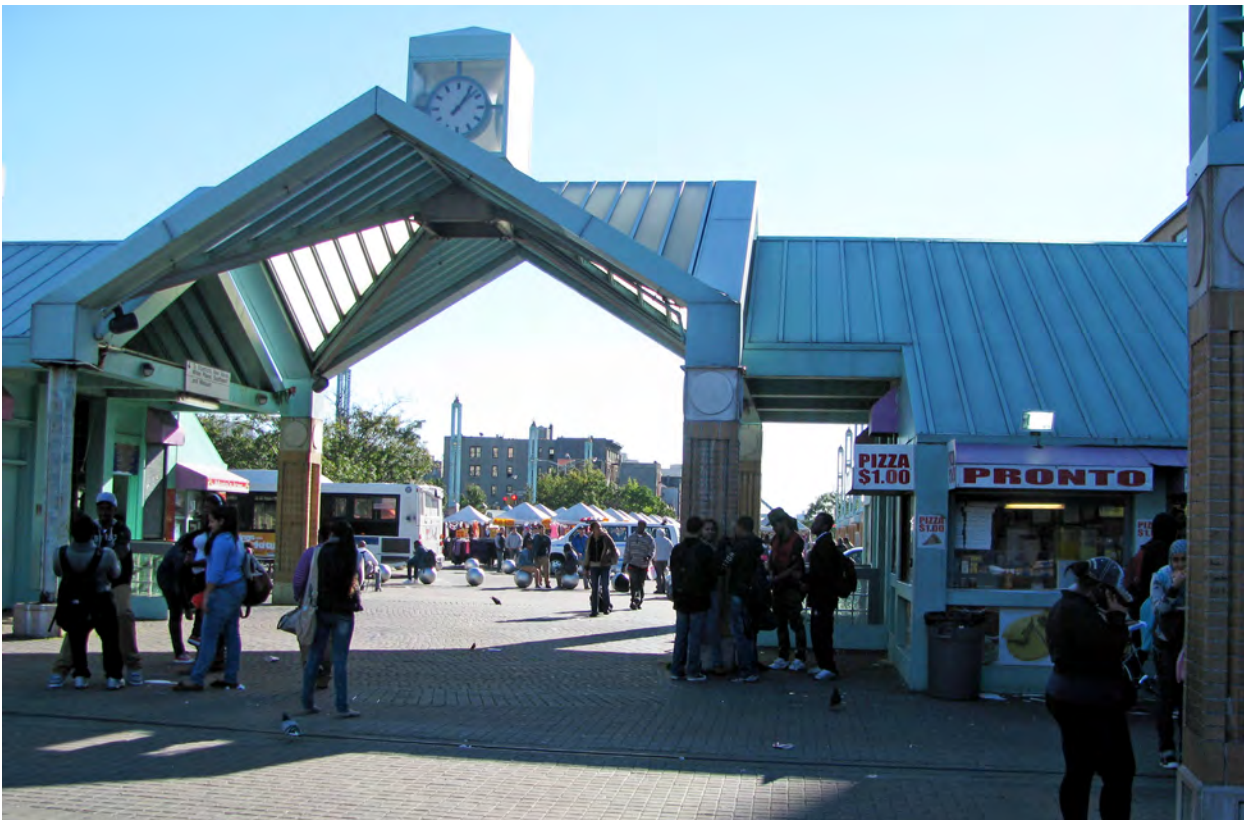


FIGURE 3 | Metro-North station entrance at Fordham Plaza. The Plaza is currently under reconstruction as part of a EDC and NYC Department of Transportation partnership.

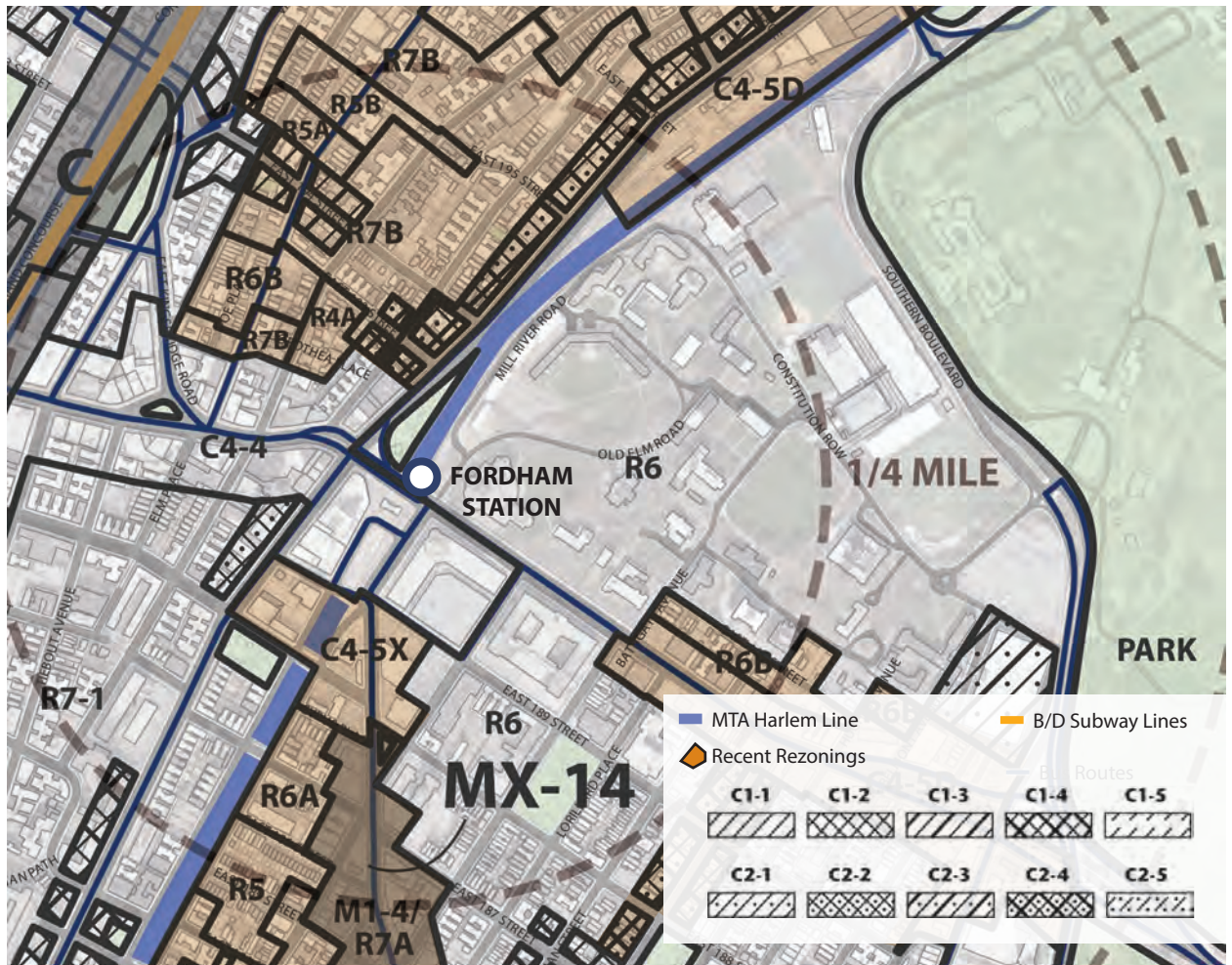


FIGURE 4 | Zoning map of the Fordham neighborhood.

stores including The GAP, Foot Locker, Dr. Jay's, Jimmy Jazz, Modell's, and American Eagle, electronic stores like Best Buy and PC Richard and Son, as well as a variety of smaller retailers focused on consumer goods. The Bronx Library Center, located on Kingsbridge Road just north of Fordham Road, serves as the Bronx's central library and was opened in 2006. To the east of the station along the Fordham Road Corridor, major institutional uses are interspersed with a hodge-podge of community facility, auto-related services, and sporadic retail space.

Along Webster Avenue, both north and south of the station area, a recent rezoning is supporting an emerging commercial district. West of Webster Avenue, north of the Fordham Road corridor, consists of mid to low-density residential uses. Southeast of the station, the Belmont neighborhood contains retail businesses and services centered around Arthur Avenue with low to mid-density residential buildings surrounding and supporting the corridor.

Zoning along the Fordham Road Corridor is mapped primarily as a higher-density commercial district. The station itself and the Fordham University campus are zoned as R6 residential. A C4-4 district is mapped on the western end of the corridor, which permits a 3.4 Commercial FAR and 3.4 Residential FAR. The district has a residential equivalent of R7. Slightly higher density C4-5X is mapped south of Fordham Plaza and C4-5D is mapped along the recently rezoned section of the corridor to the east of the station area. Along the recently rezoned portions of Webster Avenue, north of the station, contextualized medium-density residential with commercial overlays are mapped. Mid-density residential, in the form of R6 and R7-1, is generally mapped south of the Fordham Road corridor. A mixed-use (MX) district along Third Avenue promotes medium-density residential while still allowing light manufacturing and most commercial uses. In recent years, much of the area has been rezoned to promote growth along major corridors and protect neighborhood character.

FORDHAM AREA ATTRACTIONS | By the Numbers*

*Sources page 19

B/D & 4 FORDHAM STOPS

7,602,632 annual ridership (2012)



B/D, 2/3, 4/5, & N/Q/R ATLANTIC AVE-BARCLAYS CENTER STOP
11,526,090 annual ridership (2012)



 1,000,000 riders

FORDHAM SHOPPING DISTRICT

300+ retailers

\$439 million annual retail spending
(1 mile radius of Fordham Plaza)

3rd busiest shopping district in New York City

FORDHAM PLAZA

80,000 pedestrians cross through daily



SOHO
48,940 pedestrians cross through daily



HERALD SQUARE
94,730 pedestrians cross through daily



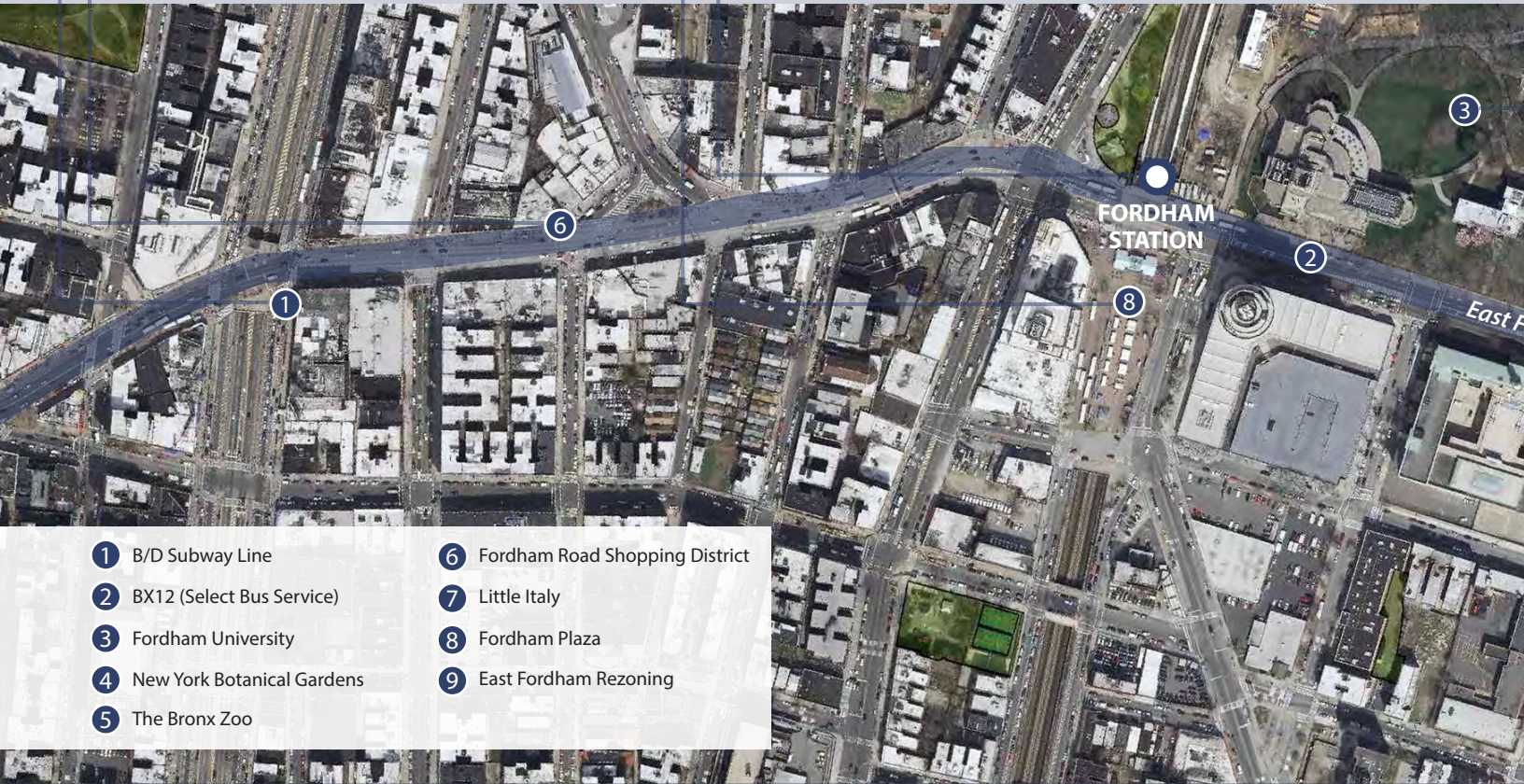
FLUSHING MAIN STREET
97,290 pedestrians cross through daily



 10,000 pedestrians

FORDHAM STATION

2,985 weekday boardings
(3rd busiest station outside Manhattan)



- 1** B/D Subway Line
- 2** BX12 (Select Bus Service)
- 3** Fordham University
- 4** New York Botanical Gardens
- 5** The Bronx Zoo
- 6** Fordham Road Shopping District
- 7** Little Italy
- 8** Fordham Plaza
- 9** East Fordham Rezoning

FORDHAM UNIVERSITY

6,869 students (Rose Hill campus)

MONROE COLLEGE

4,725 students (Bronx campus -Jerome Ave)

LITTLE ITALY | ARTHUR AVENUE

352 food-related businesses



LITTLE ITALY | MANHATTAN
41 food-related businesses



50 businesses

REZONINGS

167 blocks in 3 DCP led rezonings

3rd Avenue
Webster Avenue
East Fordham Road

NEW YORK BOTANICAL GARDEN

850,000 annual visitors

BRONX ZOO

2,000,000 annual visitors



BROOKLYN BOTANIC GARDEN
725,000 annual visitors (2012)

PROSPECT PARK ZOO
234,000 annual visitors (2007)

BROOKLYN MUSEUM
340,000 annual visitors (2010)



200,000 visitors



Source: Orthophoto Base Map Copyrighted by the New York City Department of Information Technology and Telecommunications. All rights reserved.



FIGURE 5 | R6 Zoning on Decator Avenue.

RECENT REZONINGS

Three rezonings were recently completed by DCP and approved. Each of these effects major portions of the study area and contain elements that strengthen the Fordham Road Corridor. These include:

Webster Ave./Bedford Park/Norwood Rezoning

Approved in March 2011, the rezoning covers much of the Bedford Park and Norwood neighborhoods and allows for mid-density housing and retail along Webster Avenue. The rezoning is intended to help this corridor become a vibrant and walkable mixed residential and commercial avenue. Under the rezoning, most new developments are required to include ground floor commercial to increase retail options and services available to the residents on Webster Avenue and the neighboring communities. Height limits and contextual requirements in the Bedford Park and Norwood neighborhoods shift development incentives from these low-density neighborhoods to Webster Avenue, helping to strengthen it as a mixed-use corridor. Additionally, incentives to develop affordable housing within the corridor are provided under the Inclusionary Housing Program.

Tremont & Third Avenues Rezoning

In October 2010, New York City Council approved a rezoning of Tremont Avenue and Third Avenue, two diverse intersecting corridors. The goal of the rezoning was to strengthen these vital avenues, and promote a mix of uses. Height limits were put in place to preserve neighborhood character. Along Third Avenue, an MX district was mapped from 184th to 188th street adjacent to the Fordham area which allows for new housing and commercial opportunities, with light industrial uses permitted in limited locations. Finally, the Inclusionary Housing Program provides incentives along these corridors to develop affordable housing.

East Fordham Road Rezoning

In October 2013, East Fordham road was rezoned to strengthen its existing commercial character and unify the look and feel of this prominent corridor. The area includes a twelve block section of East Fordham Road along the Gateway to Arthur Avenue and previous C8 zoning did not permit residential uses. The rezoning promotes opportunities for new commercial and community facility development. Height limits were set to help unify the corridor and



FIGURE 6 | Fordham Road, towards Grand Concourse. Lack of street amenities enhance the shopping experience are one of the major challenges for the Fordham Shopping District.

ensure predictable development. Similar to Webster Avenue and Tremont/Third Avenue, the rezoning established the Inclusionary Housing Program to provide incentives for the creation and preservation of affordable units along the corridor.

TRANSPORTATION

In addition to Metro-North, the area is also accessible by the B/D subway at the intersection of Grand Concourse and Fordham Road, as well as the 4 subway at Jerome Avenue and Fordham Road. These subway stations are each about a half mile from the Fordham Metro-North station. The 2/5 Pelham Parkway stop is about a mile east of the station.

Fordham Plaza is a hub for bus lines, with 15 bus lines passing through the station area. The BX12 Select Bus Service (SBS), the first SBS in the city, began in 2008 providing service along Fordham Road, and the BX41 SBS, the most recent in the city, began in 2013, providing service along Webster Avenue. These lines have increased ridership and connectivity between the station area and other major corridors in the Bronx. The Westchester Department of

Transportation Bee-Line bus offers connecting service into Westchester County, using a Metro Card, via the 60/61/62 lines, which run down Fordham Road and have a stop close to the Metro-North station. The Bronx River Parkway, a north-south commuter route, is also easily accessible from Fordham Road.

CHALLENGES & RECOMMENDATIONS

With a wide variety of regional attractions, shopping options, a cultural and food destination in Arthur Avenue, and 20 minute direct access to Grand Central Terminal, the Fordham Area should be a major shopping, dining, and entertainment destination for visitors, and would be capable of supporting hotels as well. These amenities, combined with easy access to Manhattan, upstate New York, and Connecticut should also make the Fordham Area a highly desirable place to live and work. However, there are still opportunities to improve connections and coordination between institutions and to promote higher-density growth in supportive sectors along the corridor. This could help the Fordham area become a more dynamic central business district.

For the purpose of this section, the challenges and recommendations are discussed in **four focus areas: (1)** the Metro-North Station and Plaza Area, **(2)** the Fordham Road Corridor West of the Station, **(3)** the Connections to the Fordham Road Corridor, and **(4)** Area Wide recommendations. The recommendations take a look at both short and long term ideas that will enable Fordham to take the next step.

(1) STATION AND PLAZA AREA

The Fordham Metro-North station is already extremely successful, but there are opportunities to build on this success. The station currently lacks many of the amenities typically provided at regional transit hubs. Currently there is insufficient signage to indicate the direction and distance of area destinations including the Botanical Gardens, Bronx Zoo, Fordham University, and shopping and restaurant districts. This kind of wayfinding signage would help visitors navigate the area and increase awareness of additional destinations. Lack of signage not only discourages use of mass transit, but limits the potential for overlapping destinations as disoriented visitors may be unaware of or unfamiliar with additional attractions outside of their planned destination.

Many commuters arriving to the station through modes other than personal vehicle will require a transfer to their final location once they disembark from Metro-North service. There are a number of available connections to bus (local and select) or subway lines; however, a lack of real time information, schedules and way-finding create a stressful connection for visitors unfamiliar with the area. Additionally, there are limited bike facilities and limited connections to the local network of bicycle routes. Improving these facilities and connections would provide additional access to area institutions and recreational uses.

Fordham Plaza, which is decked over the Metro-North Rail line, ends at 189th Street. The street wall along 189th between 3rd Avenue and Park Avenue is discontinued which discourages activity at the south end of plaza. This is an important connection to both 3rd and Webster Avenues and the residents entering from the south.

Recommendations:

- Provide consistent neighborhood way-finding signs depicting contextual location to key area destinations, transportation options, and informational maps. Fordham would be an ideal candidate for the new DOT neighborhood signage program which is 80% funded by the Fed-

eral Department of Transportation (FDOT). This could be coordinated through the Fordham BID.

- Provide intermodal transit schedules and information on electronic boards and clocks on the outside of station entrances or in the plaza.
- Identify opportunities to increase station area amenities. This could be at the Metro-North Station itself as well as part of the Fordham Plaza improvements and partnerships with DPR to better utilize Rose Hill Park, which occupies the northeast corner of Fordham Road and Webster Avenue. Typical amenities include more indoor/sheltered space, station supportive retail and information kiosks, and adequate maintenance and security features. These amenities were detailed in *Section 1: Strategies for Intermodal Connectivity and Commuter Rail Stations*.
- Provide inbound access to Fordham Station from Webster Avenue from a new entrance at or around 193rd Street. This would improve connectivity to surrounding neighborhoods, the Botanical Gardens, and BX41 Select Bus Service on Webster Avenue. In combination with the additional station improvements currently underway this would improve flow in and out of the station during peak hours. This would require access through Rose Hill Park. As of this report Metro-North is currently exploring this as part of the current station improvements and is coordinating with Department of Parks and Recreation.
- As a long-term option, an additional east/west connection across Metro-North tracks, directly connecting Fordham University and Webster Avenue, would increase activity and provide opportunities for student supportive uses and neighborhood retail along Webster Avenue.
- Provide sufficient bike facilities and/or a dedicated space for the next phase of the City's bike sharing program in a centralized area such as Rose Hill Park.
- Eliminate gaps in bike routes. Specifically the route that currently terminates at Park Avenue and 187th to connect to the regional bike paths at Mosholu Parkway. Explore a neighborhood comprehensive bike plan that links points of interest with transportation centers
- Identify strategies to extend the street wall on the south end of Fordham Plaza. Utilize best practices identified by this report in *Section 1: Strategies for Intermodal Connectivity and Commuter Rail Stations*.

CASE STUDY | University City District, Philadelphia

The University City neighborhood in West Philadelphia is home to several world-class institutions including the University of Pennsylvania, Drexel University, the University of the Sciences in Philadelphia, several major hospitals and the Philadelphia Zoo. In 1997, institutions led by the University of Pennsylvania created the University City District (UCD), a non-profit organization that is responsible for several district improvement programs. UCD started as a small organization but has grown to include many paid staff and volunteers, and has earned a positive reputation from institutions and the community. UCD partners with several organizations, small businesses, and residents with the goal of improving the quality of life in the area and creating economic opportunity. To accomplish these goals, UCD maintains clean and safe streets, links institutions to community residents for skills training and job placement, connects the area to world-class arts and culture amenities, and makes improvements to transit and public open spaces like plazas. This holistic approach

to community building leverages institutional assets to improve the entire community. UCD relies on annual donations from institutional partners. As a partner and generous donor, the University of Pennsylvania has become an active participant in the revitalizing University City Area.

Fordham Plaza sits at the heart of the Fordham neighborhood in the Bronx. The area is home to many world-class institutions and active community organizations. The Bronx Zoo, the New York Botanical Garden and Fordham University are already engaged with groups like the Fordham BID and Belmont BID. The planned improvements to Fordham Plaza will help to activate the space, but management, maintenance and programming will be essential to ensuring its success. A partnership of local institutions and businesses around the plaza similar to the University City District efforts would complement the improvements and contribute to the neighborhood's continued success.



FIGURE 7 | University City, Philadelphia. Source: RowEpic/ CC-BY-SA-3.0, via Wikimedia Commons from Wikimedia Commons



FIGURE 8 | One Fordham Plaza, across from Fordham University. This office building is one of the few C4-4 zoned buildings in the area.

(2) FORDHAM ROAD CORRIDOR WEST OF THE STATION

As indicated, the Fordham Road Shopping District is one of the busiest in city, but it is lacking the blend of retail, office, entertainment, community facility and residential uses that characterizes many successful business districts. Zoning along the retail corridor west of the station has permitted a variety of ground floor retail uses to flourish. As one of the Borough's three primary business districts, the area should be able to accommodate office space or hotel rooms without sacrificing retail space on the first and second story.

The retail corridor maintains a constant buzz providing an excellent climate for retailers and shops. However, for shoppers and visitors passing through the area, this can at times be an intimidating and exhausting experience. Difficult crossings across a wide and busy street combined with a steep grade add to this experience. There is insufficient green space, tree plantings or seating to provide a respite from shopping, and the lack of wayfinding signage discourages visitors from exploring beyond the corridor.

Recommendations:

- Support the Fordham Road BID streetscape plan. The next step in the plan is to explore funding opportunities to facilitate implementation of the un-financed phases. Identify opportunities to add seating, street tree planting and green space through this process.
- Connect the retail corridor as part of a consistent neighborhood signage program which identifies attractions and transit.
- Identify opportunities to incorporate more diverse uses along the corridor, such as coffee shops or sit down restaurants that will allow for patrons to relax during a shopping visit, and encourage a longer stay from visitors and tourists.
- Conduct a feasibility study along Fordham Road to examine the market demand for office, retail and hotel density. The study could highlight any retail gaps, and could illuminate why office space is not more successful. This should be done in close coordination with the Fordham BID, local community boards, and residents in order to determine how the area can thoughtfully take the next step. The results of this study may suggest future land use and zoning chang-

es, to be explored in consultation with relevant stakeholders. Examples of zoning recently mapped in other borough business districts can be seen along 161 Street and in the Hub.

(3) CONNECTIONS

Despite consistent high pedestrian volumes along sections of Fordham Road, other portions of the corridor to the east, as well as adjacent connector streets, lack pedestrian amenities. The vibrant shopping district along Fordham Road west of the station is disconnected from the regional amenities to the east. New York Botanical Garden and The Bronx Zoo are major destinations that see more than 2.8 million combined visitors annually. Arthur Avenue and the surrounding Belmont neighborhood are regional restaurant and food destinations. However, these destinations are difficult to access for pedestrians arriving on public transit or attempting to walk between multiple destinations.

The development of the Select Bus Service (SBS) along Webster Avenue, in addition to the existing BX 12 SBS along Fordham Road, provides an opportunity to improve regional connections and local streetscape improvements. Sidewalks on the east side of Webster Avenue between 193rd and 197th Streets are inadequate, and SBS improvements including a planned 8-foot median could reduce remaining area within the public right-of-way for future sidewalk widening.

The BX 12 SBS, the first in the city, has boosted ridership and enhanced commutes along Fordham Road, but heavy traffic and multiple bus lines using the same lane often leaves the SBS bus blocked or slow moving, limiting the line's effectiveness.

Zoning lots along the east side of Webster Avenue north of Fordham Road about the Metro-North rail line and are difficult to develop or undevelopable, for reasons discussed in *Section 1: Strategies for Rail Adjacent Lots*. Many of the lots are vacant or unkempt and take away from walkability and development potential along Webster Avenue.

The Belmont neighborhood has architectural character which defines it, but it does not currently have contextual zoning to preserve this identity. A few out-of-context developments could negatively affect this delicate fabric. There have been numerous rezoning and programmatic efforts to maximize contextual development potential in the Fordham Area. The transition of these zonings into the Belmont neighborhood require careful consideration

to maintain its character as the area continues to develop.

Recommendations:

- Add sidewalk improvements and additional amenities to connect Fordham Road to areas east of the station, between the Station Area and the Bronx River Parkway. This should include where the on and off ramps cross Fordham Road.
- Widen bus lanes along the west side of Webster Avenue between 193rd Street and Bedford Park Boulevard to provide flexibility in potential future sidewalk widening.
- Announce area destinations on buses that stop near the station, specifically on SBS routes along Webster Avenue and Fordham Road.
- Install signage at bus stops indicating direction and distance of area destinations.
- Enforce dedicated bus lanes along Fordham Road. Automobiles routinely stop in and block the current bus lanes.
- Explore opportunities to enhance or develop lots adjacent to the rail line on the east side of Webster Avenue. Utilize strategies indicated in *Section 1: Strategies for Rail Adjacent Lots*.
- Study the Belmont area to identify zoning which preserves neighborhood character and allows it continue to thrive as a regional attraction and food destination.
- Monitor and evaluate Webster Avenue and 3rd Avenue corridors as new development occurs to determine effectiveness of re-zoning and support development consistent with re-zonings.

(4) AREA WIDE

As indicated, the Fordham Area has significant cultural and community attractions that draw tourists, families, shoppers and diners. It has mass transit options that provide easy access to other portions of the Bronx, Manhattan, upstate New York, and Connecticut. While the individual institutions in Fordham attract a large number of visitors each year, there is a lack of cohesion between them that would make Fordham a singular destination. There are currently few options or incentives for visitors who may be interested in visiting multiple attractions in the area to use the Fordham area as a stay-over or even a base for their New York City visit.

Fordham Station has more than 3,000 daily out-



FIGURE 9 | Arthur Avenue in the Belmont BID, home to a vibrant Italian neighborhood with over 300 food-related businesses.

bound commuters and is a gateway to job centers north of the city. There are gaps in transit connections for commuters, or “last mile” issues, that slow commutes and discourage additional usage. Identifying key destination points for Bronx residents and intermodal “last mile” improvements would ease the commute for Bronx residents.

Community amenities should be considered for improvement to support existing regional attractions. The Edgar Allen Poe Park visitor’s center, northwest of the station along the Grand Concourse, is housed in a state of the art facility. Unfortunately, it is understaffed and underutilized by visitors. Bryan Park, which sits in the heart of the Fordham shopping district, is currently under renovation and could offer an excellent break for shoppers.

Recommendations:

- Promote the creation of an unaffiliated community development organization that works with existing institutions and encompasses a distinct boundary or “Fordham District”. This organiza-

tion could establish and oversee the following:

- A cooperative parking strategy that better utilizes unused parking spots between the various institutions, and their events, seasons and peak hours which fluctuate between uses.
- Offers that incentivize patronage at multiple area destinations.
- Oversee establishment of Trolley or shuttle system that promotes access to and between regional institutions.
- Support marketing programs for neighborhood businesses and promote area as a singular regional destination.
- Explore potential for hotels within the neighborhood could promote the area as a base to visit multiple attractions city-wide.
- Utilize existing open space to meet the needs of residents and visitors. This includes Poe Park, Bryan Park, and improving connections to Bronx River Park and Mosholu Parkway. The new Bry-

- an Park should include programming such as diverse food trucks, pop-up markets, green or fresh food markets, outdoor seating and other opportunities to enhance the shopping experience and promote the area's assets.
- Identify job markets and key destination points along Metro North Rail corridor as opportunities for residents of the study area. Identify intermodal "last mile" improvements to ease the commute for Bronx residents.

CONCLUSION

The Fordham Metro-North Station is not only extremely successful, it has incredible potential for additional growth and to serve as a centerpiece in the future of the Fordham Area. Popular institutions and attractions, recent rezonings, ongoing improvements to both the plaza and station, and new SBS service in addition to existing regional transit options are all catalysts for the area to take the next step as regional Business District and transit hub. Identifying areas where recent rezonings, station upgrades and plaza improvements can dovetail with pedestrian enhancements will create better connections to area attractions. A unified approach to promote its cultural, educational, retail, and professional attractions, paired with amenities that allow visitors to better take advantage of multiples attractions, will benefit the entire area and allow for its continued success.

SOURCES

- ¹ PlaNYC. http://nytelecom.vo.llnwd.net/o15/agencies/planyc2030/pdf/full_report_2007.pdf
 - ² Fordham Road BID. <http://www.fordhamroadbid.org/752.html>
 - ³ Fordham Plaza Study. <http://www.nycedc.com/resource/fordham-plaza-conceptual-design-study>
 - ⁴ Bronx Little Italy. <http://www.bronxlittleitaly.com/>
 - ⁵ Fordham University. http://www.fordham.edu/discover_fordham/facts_26604.asp
 - ⁶ Bronx Zoo. <http://www.nycgovparks.org/about/history/zoos/bronx-zoo>
 - ⁷ http://www.nybg.org/about/mission_and_history.php
 - ⁸ <http://new.mta.info/press-release/metro-north/mta-metro-north-railroad-buy-land-expand-platform-fordham-station>
 - ⁹ <http://www.nycedc.com/resource/fordham-plaza-conceptual-design-study>
 - ¹⁰ <http://www.nycedc.com/project/webster-avenue-vision-plan>
- * *Fordham Area Attractions By the Numbers:*
- Brooklyn Museum Visitors. http://www.nytimes.com/2010/06/15/arts/design/15museum.html?pagewanted=all&_r=0
- Monroe College Students. <http://www.campusexplorer.com/colleges/E62478E0/New-York/Bronx/Monroe-College-Bronx/>
- MTA, Annual Subway Ridership. http://www.mta.info/nyct/facts/ridership/ridership_sub_annual.htm
- Prospect Park Zoo Visitors. http://en.wikipedia.org/wiki/Prospect_Park_Zoo
- Brooklyn Botanic Garden Visitors. http://www.bbg.org/press/capital_campaign

PRIORITY RECOMMENDATIONS SUMMARY | Fordham Study Area

- Strengthen connections between area attractions, surrounding neighborhoods and transit assets by identifying where pedestrian improvements can tie into recent rezonings, plaza and station enhancements, and new SBS routes.
- Improve coordination between area attractions to encourage visits that take advantage of the diverse options the area offers.
- Identify land use policies which promote additional growth near transit, along important retail corridors and includes opportunity for a diverse mix of uses typical of regional business districts.



- Empire Connection | Hudson Line
- Hell Gate Line | New Haven Line
- Harlem Line
- Proposed New Station Location
- * Visioning Station

Source: Penn Station Access Study. MTA. 2013.

SUSTAINABLE COMMUNITIES

PROPOSED STATIONS:

Parkchester / Van Nest
Morris Park



PROPOSED STATIONS

INTRODUCTION



PARKCHESTER & MORRIS PARK

The thirteen Metro-North stations that currently serve the Bronx are an incredible asset, however large portions of the eastern Bronx lack both convenient subway service to Manhattan and mass transit options to the north. At the same time commuting patterns remain similar to the rest of the Bronx, where generally about 35-40% of residents commute to Manhattan and 10% to north for work. While commute times are longer, more expensive and require more transfers the majority of residents still rely on public transit. As part of their Penn Station Access study, Metro-North Railroad proposes to add four new stations in the eastern Bronx. These proposed Bronx stations include Co-op City, Morris Park, Parkchester and Morris Park as show in Figure XX: Penn Station Access Study . They would be part of a new service which would run along the existing Amtrak Hellgate Line. New rail service is a rarity these days and in fact the Bronx has not seen new rail service, since through service to Manhattan began on the White Plains Road Line at 180th Street in 1957. The impact of Metro –North service on these communities can be tremendous.

As of this study, MTA Metro-North Railroad is preparing environmental analyses to examine the potential benefits and impacts associated with providing additional regional rail service within the New York

Metropolitan Area from Metro-North's east-of-Hudson service territory to Penn Station, New York, and the west side of Manhattan. The Proposed Penn Station Access service would be provided primarily by using existing infrastructure, with some capital improvements. As part of the effort, six (6) new intermediate stations would be constructed: two (2) on the West Side of Manhattan and four (4) in the East Bronx . The expected completion date of the Environmental Assessment is at the end of 2013 and service could be introduced upon the opening of the Long Island Railroad East Access service to Grand Central Terminal as early as 2019.

The Penn Station Access project would generate economic development around the proposed stations; strengthen existing commercial centers; and simplify access to employment centers making them more attractive to job seekers. Already Metro-North boardings in the Bronx have grown exponentially in the past 25 years and Metro-North currently connects 5,000 Bronx residents to suburban jobs, making the borough the nation's largest rail reverse commute market. The MTA estimates that 4,000 daily riders would use the new service. As an example, for commuters from Morris Park area currently taking the subway or express bus to Manhattan the ride is currently more than an hour. Estimated com-



FIGURE 1 | Outreach meeting for the proposed Morris Park station, September 2012. ****More on outreach****

mute times from the proposed Morris Park station to Penn Station would be approximately 25 minutes and if priced structure is similar to current Bronx Metro-North stations it would be more in line with the cost of the express bus. Additionally the Penn Station Access Project would improve reverse commute service to Westchester County and Connecticut with approximate commute times from Morris Park to Stamford about 35 minutes where currently mass transit options would take upwards of an hour and a half.

The next sections review two of the proposed station areas, Morris Park and Parkchester, to identify land use opportunities; pedestrian pathways between amenities; and connections to intermodal transit options. It is a proactive approach will provide an opportunity to take a look at what communities can do now to prepare for proposed rail service and a new station. As part of our analysis the Department of City Planning teamed with Metro-North Railroad and the Bronx Borough President's Office present-

ed jointly to community stakeholders during Open Houses on both communities during the fall of 2012. The well attended events allowed communities in the proposed station areas to understand both the details of the proposed rail service and how the principles of Transit-Oriented Development could be implemented now to begin planning for the proposed service. The feedback we received helped to inform the study and the identification of opportunities and challenges this new rail station may present.

The following sections apply both lessons learned from our analysis of the areas around existing Bronx Metro-North stations and with the application of Transit Oriented Development Strategies, outlined in Section 1, to help the communities begin to plan for this incredible opportunity. While the impetus for studying these specific locations was the proposed stations, the recommendations are intended to create enhancements that are beneficial to the communities in their current state as well.

“The expansion of Metro-North service to the East Bronx has the potential to transform not just the Bronx, but the entire region...the most important transportation investment in the Bronx since construction of the subways during the early 20th century.”

| Ruben Diaz, Jr. Bronx Borough President |



East Tremont Avenue and Unionport Road

PROPOSED STATIONS

PARKCHESTER/VAN NEST



PARKCHESTER/ VAN NEST

Proposed

OVERCOMING DIVIDERS



INTRODUCTION

SYNOPSIS

The proposed Parkchester/Van Nest Metro-North station would be located on East Tremont Avenue just east of Unionport Road. Amtrak's Hell Gate rail line, the rail corridor of the proposed service, runs along East Tremont Avenue and currently serves as a major barrier between the neighborhoods of Parkchester and Van Nest. The station would provide commuter rail access that would link these neighborhoods to important regional job centers, including midtown Manhattan to the south and Westchester County and southwest Connecticut to the north. This service would dramatically improve access for residents and public feedback to the proposed station and rail service has been overwhelmingly positive.

While East Tremont Avenue is a key east/west corridor in the many parts of the Bronx, and bustling with vibrant commercial activity in many areas, this stretch is home to auto intensive low scale uses, parking lots, vacant land and vacant buildings. There is also a lack pedestrian infrastructure that, when combined with the low-intensity quasi-industrial uses, all contributes to a harsh streetscape that is largely un-walkable. This is understandable in its current state as the edge of two communities, but with a new station on the horizon, this corridor will be transformed into the gateway for the two communities, and walkability will be paramount. The proposed Metro-North station is an opportunity to transform East Tremont Avenue into a medium density mixed-use commercial corridor. Improvements to key areas along the East Tremont corridor could facilitate cohesion between the Parkchester and Van Nest neighborhoods around a new transit asset.

PARKCHESTER AREA

Parkchester is largely comprised of the planned residential community that was built in 1942 by the Metropolitan Life Insurance Company. The neighborhood is bounded by the following: East Tremont Avenue to the north, Castle Hill Avenue to the east, the Cross-Bronx Expressway-Westchester Avenue to the south, and White Plains Road to the west. The Parkchester complex is situated on 121 acres and is composed of over 160 multi-story buildings, 12,200 apartments with more than 35,000 residents and various retailers. The complex is divided into two separate entities, the Parkchester North Condominiums and the Parkchester South Condominiums, which are not-for-profit corporations that work cooperatively to manage the complex.¹

The Parkchester complex was originally constructed as part of an effort to provide high quality housing that would be affordable for middle-income New Yorkers. It was constructed concurrently with Peter Cooper Village and Stuyvesant Town in Manhattan following Le Corbusier's 'tower in a park' model. Combining large parcels of land into a superblock, and constructing large towers in the open space provided residents with generous landscaping, playspace and access to light and air. Two through streets cut across the complex, Metropolitan Avenue and Unionport Road, which are lined with commercial uses. 'Metropolitan Oval,' a large water fountain surrounded by landscaping sits at the center of the complex. About one-third of the Parkchester complex was converted to condominiums in 1974, with the rest converted in 1986.^{2,3}

Zoning within the Parkchester complex is largely comprised of an R6 Residential district, with Commercial Overlays mapped intermittently along



FIGURE 1 | Proposed location of Parkchester station.
 Source: © 2011 Pictometry International Corp.

COMMUNITY CHARACTERISTICS | Parkchester Study Area

NYC Subway Station Daily Ridership (2012)*

- 6** Parkchester: 15,190 weekday | 16,260 weekend
- 2** Bronx Park East: 2,811 weekday | 2,880 weekend
- 6** Castle Hill Avenue: 7,567 weekday | 7,956 weekend
- 2** East 180th Street: 6,832 weekday | 7,154 weekend

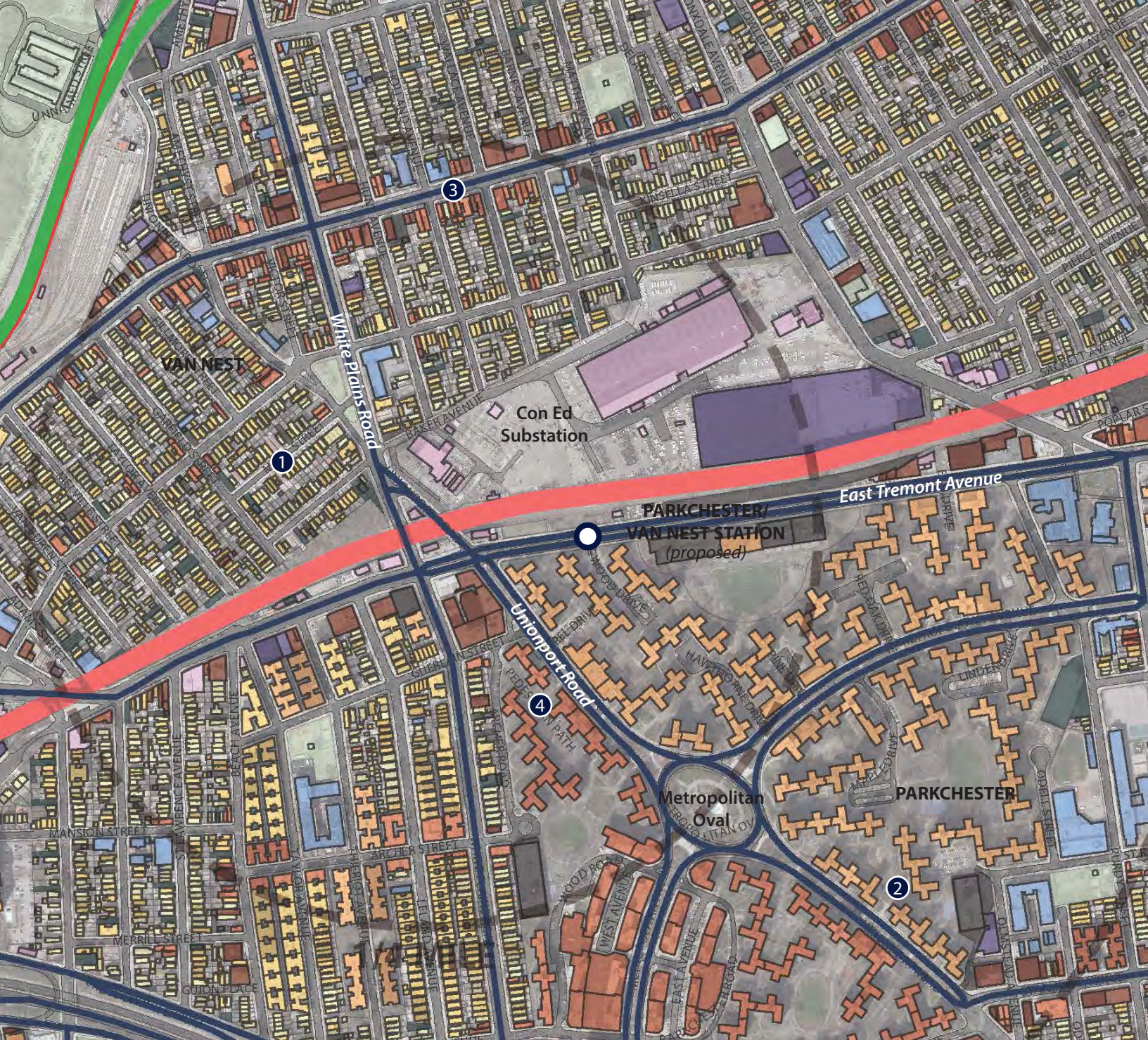
- The neighborhood is largely dependent on public transportation, particularly the nearby subway lines
- Parkchester is highly diverse; the area has one of the highest concentration of Bangladeshi population in the city, approximately 2,600 people
- The relatively low unemployment rate of the area and presence of the large Parkchester condominium complex (home to approximately 40,000 residents) underscores the stability of the community

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Hispanic	48%	53%	29%
African-American	35%	35%	27.3%
Renter Occupied Units	76%	79%	68%
Housing Units with No Access to a Vehicle	56%	59%	56%
With Access to One Vehicle	34%	30%	31%
Take Public Transit or Walk to Work	62%	64%	67%
Population Density (per square mile)	24,859	32,536	26,953
Unemployment Rate (2010)	7%	12%	11%
TOTAL POPULATION	58,305	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the proposed Parkchester/Van Nest station

² United States Bureau of the Census, 1006-1010 American Community Survey 5-Year Estimates

* MTA Subway Ridership, 2012. http://www.mta.info/nycct/facts/ridership/#chart_s



Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Amtrak's Hell Gate Line
- B/D Subway Lines
- 4 Subway Line
- Bus Routes

Notable Land Uses Features:

- ① Lower density housing west of White Plains Road, and north of Baker Avenue.
- ② Multi-family elevator buildings south East Tremont Avenue, east of Unionport Road.
- ③ Commercial buildings along Morris Park Ave.
- ④ Mixed commercial/residential buildings south of the station, west of Unionport Road.



FIGURE 2 | The Metropolitan Oval, located at the center of the Parkchester complex. The 121-acre complex has over 160 multi-story buildings, 12,200 apartments and various retailers.

Source: Wikimedia Commons

Unionport and Metropolitan Avenues, as well as along some of the peripheral roads. A C4-2 Commercial District is mapped in the southwest section, which permits higher intensity commercial uses such as department stores. Along East Tremont Avenue, a C8-4 district is mapped over the location of the complex's parking garage. In addition to this underlying zoning, the complex is mapped within a special purpose district, one of the 4 Special Planned Community Preservation Districts (PC) that have been mapped within the City to protect the unique character of communities that have been planned and developed as a unit. Accordingly, a special permit is required from the City Planning Commission in order to make changes to the complex, including any demolition, new development, enlargement, and any alteration of landscaping or topography.

In the area surrounding the Parkchester complex on East Tremont Avenue, zoning designations reflect

the proximity of the railroad and range from C8-1 between St Lawrence Avenue and White Plains Road to M1-1 north of the Parkchester Complex. These districts permit low-intensity industrial and auto-repair uses and are characterized by low development potential and high parking requirements. East of Castle Hill Road, the rail line veers north and East Tremont Ave returns to Residential District designations with continuous commercial overlays on East Tremont.

In the triangular area west of the Parkchester complex between East Tremont Avenue and the Cross Bronx Expressway, the density generally decreases as one moves further from White Plains Road. The area between White Plains Road and Beach Avenue is zone R6 and has a mix of densities ranging from one and two family homes to 6 and 7 story apartment buildings. A commercial overlay is mapped on Archer Avenue, in the middle of the neighborhood, to permit mixed-use, higher-density buildings. West



FIGURE 3 | Zoning map of the Parkchester/Van Nest neighborhood.

of Beach Avenue, the neighborhood becomes primarily low-density residential houses. The notable exception to this is the Noble Mansion apartment complex that is roughly 17 stories at the western edge of the neighborhood adjacent to the Bronx River Parkway.

Parkchester is served by the Parkchester, Castle Hill and Zerega Avenue stops on the 6 train, which runs along the southern border of the neighborhood. Additionally, the 2 & 5 trains stop at East 180th Street and the Bronx Park East station along the western border of the study area. Several buses, including

the B11, B21, B22, B39, B40, B42, B21, Q44 local buses and the BxM6, B4A, BxM10, BxM11 express buses serve the area. The Cross Bronx Expressway and the Bronx River Parkway are also easily accessible by automobile.

VAN NEST

The Van Nest neighborhood is located on the north side of East Tremont Avenue and the Amtrak Hellgate rail line. About one square mile in size, the neighborhood is bounded by Bronxdale Avenue to



FIGURE 4 | Low-density development on White Plains Road in the Van Nest neighborhood.

the northeast, the Amtrak train line to the southeast, and the edge of Bronx Park to the west. Van Nest Station on the New York, New Haven and Hartford Railroad which ran from 1872 to 1986 was named after the father of Abraham R. Van Nest, a director of the railroad. It later became the name of the neighborhood.

The community is mapped mostly as an R5 zoning district, which permits lower density residential uses. A C1-2 commercial overlay is mapped along Morris Park Avenue, near the center of the neighborhood, between Unionport Road and the edge of the neighborhood at Bronxdale Avenue. A large M1-1 District is mapped along the rail line between Unionport and Bronxdale Avenue.

This lower density neighborhood is comprised of mostly single family homes with some multi-family units throughout. Morris Park Avenue serves as the main commercial corridor for the neighborhood and is home to more than 300 mostly small scale “mom and pop” type stores. The Morris Park Merchants Alliance was formed in 2007 and has been working to strengthen the corridor. Con Edison’s Van Nest Service Center has been located in the former mainte-

nance buildings for the old railroad line and occupies a large piece of land adjacent to the rail line in the Manufacturing District between Unionport Road and Bronxdale Avenue. Van Nest Park, at the intersection of Van Nest Avenue, Victor Street and Unionport Road, was recently renovated.

Van Nest is served by several local bus routes including the Bx21, Bx22, Bx39, Bx40 and the Bx42, as well as an express service to Midtown Manhattan on the BxM10 line. There is also service to the Bronx Park East station for the 2 & 5 trains.

CHALLENGES & RECOMMENDATIONS

The Parkchester and Van Nest neighborhoods differ greatly in both retail and residential character, nonetheless, each could benefit greatly from a vibrant East Tremont Avenue that is centered around a regional rail station. In its current state, East Tremont Avenue functions like the backdoor to these neighborhoods, as the neighborhoods are understandably centered on their respective subway stops and neighborhood commercial corridors.



FIGURE 5 | (Top) Sidewalk on East Tremont Avenue, adjacent to the rail line. (Bottom) Curb-cuts and auto-related uses are common throughout East Tremont Avenue. The areas surrounding the rail lines present a challenge to the communities and the future Metro-North station.

The addition of a potential rail station provides an opportunity to re-examine East Tremont Avenue and its role in each of these neighborhoods. In order for a potential rail station to thrive, significant improvements are needed along the pedestrian pathways which connect these community's to East Tremont Avenue and the proposed station area. For the purpose of this section, the challenges and recommendations are discussed in **three focus areas: (1) the Tremont Avenue Corridor, (2) the Parkchester Planned Community, (3) and the Van Nest community.**

(1) TREMONT AVENUE CORRIDOR

The Amtrak Hellgate line rail cut that runs along the northern edge of East Tremont Avenue from roughly East 180th Street to Bronxdale Avenue, creates small, awkward lots that, given their shallow depth, are difficult for large-scale mixed-use development. The majority of these lots fit into the categories discussed in the *Section 1 Strategies: Rail Adjacent Lots*. As indicated in that Section, the difficulty in development often leads to a vacant or underutilized status. This inactivity is not conducive to a walkable mixed use corridor.

The proposed station location is currently located in an M1-1 Manufacturing District. M1-1 districts are the lowest intensity Manufacturing District and are characterized by low scaled development and high parking requirements. Light manufacturing, auto repair, warehousing and storage are common uses in these districts. The south side of East Tremont Avenue generally serves as the back side of the Parkchester Planned Community. Several piecemeal commercial overlays permit commercial at Unionport, Commonwealth and just west of Purdy. These are inconsistent and disconnected. There are two C8 districts: one across from the proposed station area which contains Parkchester's parking garages; and another west of White Plains Road that currently contains a number of vacant retail parcels. C8 zoning districts typically serve as a transition between manufacturing and commercial uses. Similar in character to M1-1 districts, typical uses in C8 districts include auto-oriented uses or storage sites, as seen on the north side of East Tremont and in many lots where surface parking is fronting vacant retail. Most notably for this area, C8 districts do not permit residential uses, and are therefore not ideal zoning districts to support transit-oriented development. This is especially true on the south side of the East Tremont Avenue, where adequate parcel depth could support mixed-use development.

Pedestrian infrastructure along the corridor is severely lacking, to some degree as a result of the conditions described above. Continuous, well-connected and safe pedestrian infrastructure is a critical component to supporting a successful transit station. Since the station is proposed across from the Parkchester complex, additional foot traffic will be generated with increased pedestrian crossings of East Tremont Avenue. Vehicular traffic along East Tremont Avenue can be very fast and there are long stretches in between legal street crossings. As a result, pedestrian crossings along East Tremont Avenue are currently difficult, and exacerbated by poorly marked crosswalks and lack of pedestrian refuge zones, especially at prominent intersections like Unionport and White Plains Road (*see Figure 6*).

Narrow sidewalks along the north of side East Tremont Avenue, especially west of White Plains Road, discourage walking and preclude streetscape amenities. Auto related uses which often spill out onto the adjacent sidewalk create obstacles and can force pedestrians to walk in the street at times. There are several bus stops along the corridor that lack amenities adding to an already difficult environment for riders.

Recommendations:

- Implement comprehensive streetscape improvements along East Tremont Avenue that connects the neighborhoods and both sides of the corridor. Prioritize intersection of White Plains/Unionport Roads (*see Figure 6*).
- Work with the Parkchester Planned Community to re-examine the C8-4 District across from the proposed station and identify appropriate zoning which will generate uses that support a proposed station and the PC.
- Study zoning along East Tremont Avenue that would permit both commercial and residential uses in mixed-use development along the south side of the corridor. Insufficient lot depth and rail adjacency may restrict residential uses on the north side, but inactive manufacturing, repair and storage uses should be prevented given the proximity of the new station.
- Identify opportunities to implement strategies for Rail Adjacent Lots along East Tremont Avenue using proposed station as a catalyst. Try to promote development of active retail wherever possible, even if only 1 or 2 stories are feasible (*see Figure 6*). Development could be interspersed with open space, artwork and other pe-

destrian amenities at regular intervals to break up the super-block effect created by the rail line.

- Study the street design to identify where side-walk widening can occur to provide additional pedestrian amenities.
- Apply the principles for station design and amenities as indicated in *Section 1 Strategies: Inter-modal Connectivity and Commuter Rail Stations* to a proposed station. These include best practices for station access, design, amenities, and integration into the local environment. This will create a station which is a prominent fixture in the community; is accessible and connected to other modes of transit, and seamlessly fits into a vibrant East Tremont corridor.

(2) PARKCHESTER AREA

The Parkchester Planned Community and adjacent communities is a mid to high density population center crucial to the success of a new rail station on East Tremont Avenue. Currently, however, the area feels cutoff from East Tremont Avenue. Parkchester has its own retail and open space, but these are largely oriented away from East Tremont Avenue. The complexes parking garage fronts along East Tremont Avenue, but this is inactive and deters walkability along the corridor. The Parkchester #6 subway stop is currently more than ½ mile from the proposed station and this will likely put some residents outside of the range of what is typically walkable. The area west of White Plains Road is bounded by both the Cross Bronx Expressway and Bronx River Parkway, which, at their intersection, leaves it quite isolated. The current zoning designation does not support some of the unique residential conditions in this area.

Recommendations:

- Re-examine bus routes to connect directly from the subway to proposed station. Study the feasibility of a shuttle connecting the development and proposed station to maximize usage.
- Study zoning in the area immediately west of White Plains Road. West of Beach Avenue this may include contextualizing the current zoning to preserve some of the unique conditions and prevent undesirable building forms that have been seen around other station areas.
- Explore opportunities to create additional mixed use density closer to commercial corridors and transit.

Figure 6 Existing Conditions:

- ❶ Lack of pedestrian amenities along East Tremont Avenue
- ❷ Fast moving traffic makes pedestrian crossing area feel unsafe
- ❸ Excessive curb cuts make for an unsafe pedestrian environment along East Tremont Avenue
- ❹ No place-making or wayfinding signage
- ❺ Vacant and difficult to develop lots along rail corridor deter walkability

Figure 6 Potential Improvements:

- ❶ Incorporate street lamps, street trees and benches at regular intervals
- ❷ Eliminate curb cuts along East Tremont Avenue
- ❸ Add vegetated median to slow vehicular traffic
- ❹ Enhance crosswalks, add bollards and pedestrian refuge zone for improved pedestrian safety
- ❺ Where feasible, develop rail adjacent lots with active uses, even if only 1-2 stories is possible
- ❻ Develop strong street wall with ample amounts of transparency along East Tremont Avenue
- ❼ Include uses that support an active pedestrian environment throughout the day
- ❽ Add wayfinding signage to point pedestrians to the station

EXISTING CONDITIONS



POTENTIAL IMPROVEMENTS



FIGURE 6 | Unionport Road. (Top) Current conditions; (bottom) potential improvements.



FIGURE 7 | R5 zoning in the Van Nest neighborhood.

- Strengthen signage and pedestrian amenities on pedestrian pathways leading into the community from East Tremont Avenue.

(3) VAN NEST

The Van Nest community is currently disconnected from the proposed station area by the rail cut, the large Con Ed facility, and a disjointed East Tremont Corridor. South of Van Nest Avenue, the street grid stops at the rail line. Access over the rail line to Van Nest is available through two adjacent bridges, at Unionport and White Plains Roads. This is an opportunity to enhance access; however, both currently have limited accessibility for pedestrians from the station area. The new station should be as visible and accessible as possible from this side of the tracks. As we have seen in other station areas, this is vital to the success of the station area.

Morris Park Avenue is a neighborhood commercial corridor which could complement existing needs in the area, but becomes isolated on its western edge. Housing stock in the area is aging and residential options in the area are limited.

The area immediately around the Bronx Park East 2/5 elevated subway stop is currently a mix of uses, some of which are not supportive of transit, or of each other. The range of uses immediately surrounding the station include low and mid density residential buildings, sporadic retail stores, surface parking, materials and vehicle storage and auto repair shops. Some of this incongruity can be attributed to the mix of zoning districts that converge around the station, which include: lower density residential (R5 and R4-1), mid density residential (R7-1 and R6), as well as light manufacturing (C8-1 and M1-1). The inconsistent district mapping creates a hodgepodge of unrelated uses directly around the stop.

Recommendations:

- Support the efforts of the Morris Park Merchants alliance to strengthen the corridor and form a Business Improvement District.
- Strengthen the Unionport Road Bridge as a pedestrian gateway in the Van Nest neighborhood from East Tremont Avenue and the proposed station area.
- Identify opportunities for mixed use residential

and commercial uses along commercial corridors and transit stops which will provide a wider variety of housing options.

- Study the zoning around the Bronx Park East 2/5 subway station to identify a district which is supportive of mixed-use residential and commercial uses adjacent to the station while attentive to the nuances of the elevated rail line and surrounding manufacturing needs.

RESOURCES

¹ *New York Times*. "Model of Housing Displayed At Fair." 5 May 1939. (p.47).

² Parkchester Apartments. <http://www.parkchesternyc.com/>

³ McNamara, John (1993). *History in Asphalt: The Origin of Bronx Street and Place Names*. Bronx County Historical Society. (p. 204).

CONCLUSION

The Parkchester and Van Nest communities each have strong commercial and residential assets, but limited access and long commutes to job centers and regional destinations have led to stagnated growth. In its current condition, East Tremont Avenue is currently a barrier between these communities. Comprehensive improvements to the pedestrian infrastructure along East Tremont Avenue and a re-examination of land use policy can create a vibrant commercial corridor which strengthens both communities. A proposed station along East Tremont Avenue is an opportunity to take a proactive approach in implementing long-term improvements which will benefit the entire area and lay the groundwork for a successfully integrated rail station.

PRIORITY RECOMMENDATIONS SUMMARY

- Re-examine zoning along both sides of East Tremont Avenue to permit a mix of uses which encourages pedestrian activity and re-orient the surrounding communities towards East Tremont and the proposed station.
- Implement comprehensive streetscape improvements to both sides of East Tremont Avenue which focus on pathways from the proposed station area to the surrounding neighborhood centers and their transit assets.
- Maximize the usage of a proposed station through improved intermodal connections between the proposed station area and surrounding neighborhood centers.



Albert Einstein College of Medicine taken from Hutchinson Metro Center

PROPOSED STATIONS

MORRIS PARK



MORRIS PARK

REGIONAL PROFESSIONAL EMPLOYMENT CENTER



INTRODUCTION

SYNOPSIS

As the home to a number of large professional institutions and a site for significant additional planned development, Morris Park is a growing regional center for employment and education. The proposed Metro-North station site is located along Amtrak's Hell Gate Line, near the intersection of Morris Park Avenue and Basset Avenue. Access to subways and buses is limited in the area, and many employees drive to job centers as a result of these limited transit options and potentially long commutes. A new Metro-North station will help cement the area's status as an economic engine by providing access to employees, employers, students and the community to Manhattan, Westchester and Connecticut. In order to fully capitalize on this potential asset, modifications to current land use regulations and improvements to pedestrian accessibility will be necessary around the proposed station to successfully integrate it into the community.

AREA CHARACTERISTICS

The Morris Park neighborhood lies east of the Bronx Zoo in the eastern part of the Bronx, and is bounded by Pelham Parkway to the North, East Tremont Avenue to the south, and the Hutchinson River Parkway to the east. The area has a significantly higher per capita income than the Bronx overall, and a lower rate of unemployment. More than 16,000 people come into the area to work every day within the half-mile radius of the proposed station area. Morris Park has a high rate of home ownership compared with the city, and residents use vehicles more and public transportation less compared with the city averages. The area is also less dense than the Bronx

overall at about 18,000 people per square mile compared with more than 32,000 in the Bronx overall. This can be attributed to both the significant land occupied by office parks and institutional campuses as well as the primarily 1-3 story residential portion of the neighborhood.

LAND USE & ZONING

West of the proposed station area, low density residential uses make up the Morris Park neighborhood. Along Eastchester Road there is a high concentration of single story uses, generally consisting of light manufacturing. To the east and west of Basset Avenue are a number of medical and educational institutions, as well as office space. Calvary Hospital, Bronx Psychiatric Center, Mercy College and the Hutchinson Metro Center are to the east of the Amtrak Line and to the west are Albert Einstein College of Medicine, Jacobi Medical Center, Modell's Warehouse and Montefiore Medical Center. These institutions draw over 16,000 employees and students, and the medical centers have the capacity for over 2,700 hospital patients (see Figure 3).^{1,2}

There is no significant public open space in the area directly around the station. The Hutchinson River Greenway starts at the Bronx and Pelham Parkway and runs alongside Hutchinson River Parkway.

The zoning designation immediately east and west of the rail corridor is an M1-1 manufacturing district, which permits light manufacturing uses and is characterized by a low development potential and relatively high parking requirements. Large portions of the Hutchinson Metro Center, east of the rail line, including the Bronx Psychiatric site and institution-



FIGURE 1 | Proposed entrance area to Morris Park Station, located where Morris Park Avenue meets Amtrak's Hell Gate Line at Bassett Avenue. The station would provide east-west pedestrian access over the rail which currently does not exist.
 Source: © 2011 Pictometry International Corp.

COMMUNITY CHARACTERISTICS | Morris Park Study Area

NYC Subway Station Daily Ridership (2012)*

- 5 Pelham Bay Park: 6,516 weekday | 6,688 weekend
- 5 Morris Park: 2,083 weekday | 1,255 weekend

- 2 Pelham Parkway: 9,228 weekday | 10,246 weekend
- 6 Buhre Avenue: 3,418 weekday | 2,837 weekend

- The area has significantly higher per capita income and lower unemployment rate than the Bronx
- Morris Park has a high rate of homeownership compared to citywide; there is also a greater rate of car dependence, with less use of public transit

	STUDY AREA ^{1,2}	THE BRONX	NEW YORK CITY
Population Density (people/per sq. mile)	18,443.9	32,536.6	27,532
Per Capita Income	\$24,980	\$17,992	\$31,417
Renter Occupied Units	64%	79%	68%
Housing Units with No Access to a Vehicle	34%	59%	56%
With Access to One Vehicle	42%	30%	31%
Take Public Transit or Walk to Work	52%	64%	67%
Population Density (per square mile)	18,443	32,356	26,953
Unemployment Rate (2010)	9%	12%	11%
TOTAL POPULATION	27,445	1,365,725	8,336,697

¹ The study area is based on select Census tracts within a 1/2 mile radius of the proposed Morris Park station

² United States Bureau of the Census, 1006-1010 American community Survey 5-Year Estimates

* MTA Subway Ridership, 2012. http://www.mta.info/nyct/facts/ridership/#chart_s



PSAC II
(2015)

Land Uses

- One and Two Family Homes
- Multi-Family Walkups
- Multi-family Elevator buildings
- Mixed Com/Residential Buildings
- Commercial Buildings
- Institutional Buildings
- Manufacturing Buildings
- Transportation/Utility Buildings
- Park/Open Space
- Parking Lots
- Vacant Land

Transportation

- Amtrak Hell Gate Line
- B/D Subway Lines
- 4 Subway Line
- Bus Routes

Notable Land Uses Features:

- ① High concentration of small single story uses generally consisting of light manufacturing uses along Eastchester Road.
- ② Significant amount of institutions east and west of Bassett Avenue. This is generally medical/educational on the western side and medical/office space on the eastern side at Hutchinson Metro Center.
- ③ Low density residential in the neighborhoods north and west of the station area.
- ④ No significant commercial uses within the 1/4 mile radius of the proposed station.

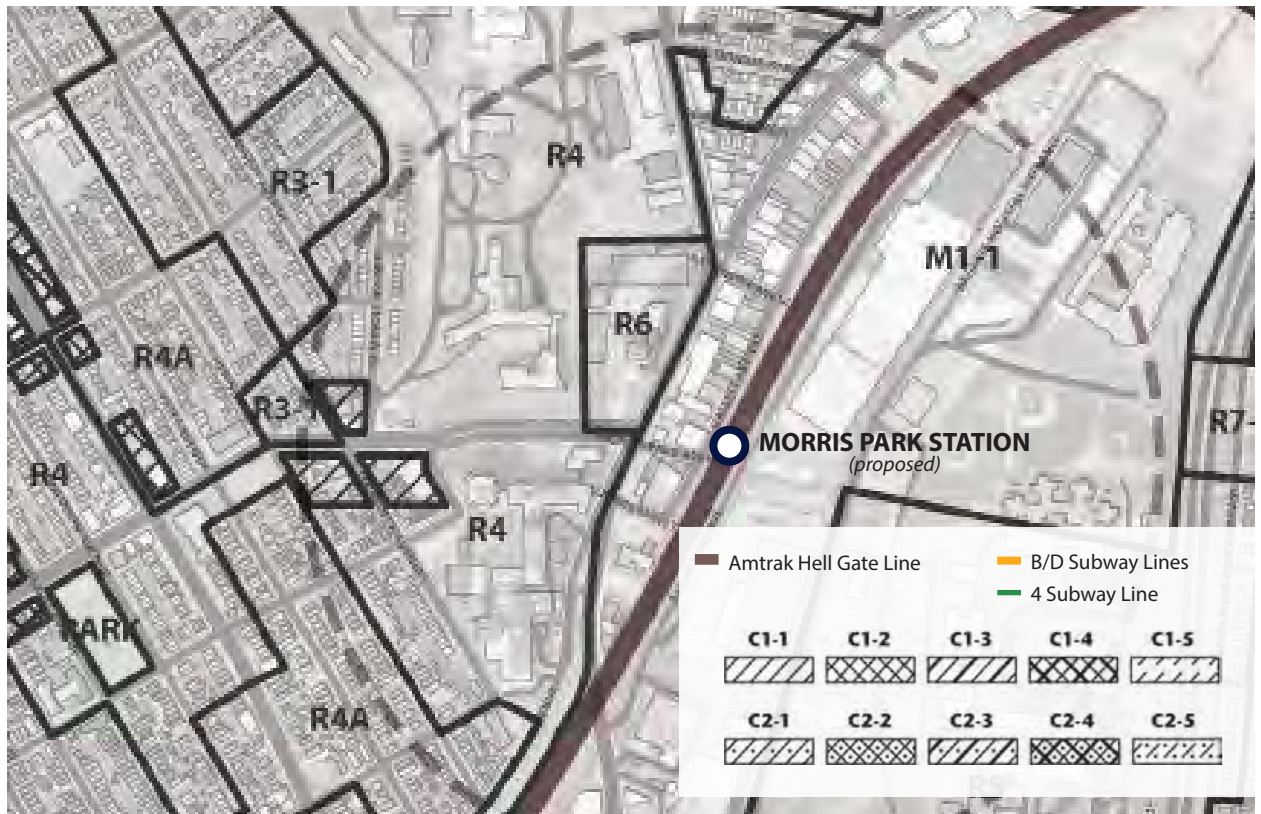


FIGURE 2 | Zoning map of the Morris Park neighborhood.

al uses west of the rail line are zoned as residential. The Morris Park neighborhood, west of the rail line and the medical institutional facilities, is comprised of zoning which permits low density residential uses. Parts of the neighborhood were rezoned in 2005 to preserve residential character.

CURRENT & PLANNED DEVELOPMENT

There is significant planned development in the area. The Hutchinson Metro Center Office Complex is a 42-acre suburban-style campus located between the Hutchinson River Parkway and the Hell Gate rail line. Currently home to office and commercial uses, the complex employs over 4,000 people and has future plans of including over 1.9 million square feet of office and commercial space with over 4,500 employees. There are 1,100 parking spaces located within the center. The future developments include Towers 2 and 3 to be located adjacent to existing Tower 1 and the Metro Center Atrium under construction on Marconi Street near Waters Place. Future development will consist of more than 600,000 square feet of office and medical space and includes a Marriott Hotel.^{3,4}

The Public Safety Answering Center II (New York City Police Department), also known as PSAC II, is located at the intersection of the Hutchinson River and Pelham Parkways. It is situated just north of and adjacent to the Hutchinson Metro Center. The 8.9-acre site will be used as office/government space, and will employ an estimated 850 total employees working twenty four hours in three eight hour shifts. The 14-story building will have a total of 550,000 square feet, with 493,500 square feet of office space. An above-grade three-level parking garage will house 500 accessory parking spaces to serve the development. The development is targeted for completion in 2015.⁶

The Bronx Psychiatric Medical Center occupies 35 acres. The New York State Office of Mental Health's (OMH) plans to redevelop this site include the creation of six new buildings to replace the existing buildings. The new buildings are to be sited close to Waters Place (southern portion of site). The site will feature a total of 350,000 square feet of adult and children inpatient and outpatient mental health care facilities, including a Safe Horizon/Haven House, a transitional living residence, studio apartments and 590 parking spaces. This portion of the development

is targeted for completion in 2015-2016. The northern portion of the property is to be sold after reconstruction of the southern portion.

TRANSPORTATION & ACCESS

Morris Park is served by the BX21, BX31, BXM10 Express, and BX12 Select Bus Service at Pelham Parkway. Subway access is limited to the #5 train, accessible at Morris Park Avenue and Pelham Parkway, as well as the #6 train at Westchester Square and Middledtown Road. Each of these station stops are about a mile walk from the proposed station site. Several free shuttle buses operated by area institutions connect employees to these transit stops.

The Hutchinson River Parkway borders the eastern side of the Hutchinson Metro Center. The highway directly connects the Bronx to both Westchester

County and Queens, and crisscrosses and merges with several interstates, indirectly offering further connections to New England, the New York State Thruway, New Jersey and other NYC Boroughs.

While the majority of residents utilize public transportation in their commute to work, the percentage of people who drive alone to work is significant, almost 10% more than the Bronx overall. Additionally, commuting patterns around the proposed Morris Park Station area show that a higher percentage of the neighborhood population works either in the Bronx or in areas to the north than the Bronx average. The new station would be a convenient option for commuters in the area. Current commute times from Morris Park to Manhattan can be longer than an hour, with no direct service to employment centers outside the City.

MAJOR EMPLOYERS IN MORRIS PARK

Albert Einstein College of Medicine at Yeshiva University | 2,764 employees



Bronx Psychiatric Center | 590 employees



Calvary Hospital | 764 employees



Hutchinson Metro Center Office Complex | 4,500 employees



Jacobi Medical Center | 3,519 employees



Morris Park Alliance | 609 employees



Montefiore Medical Center - Albert Einstein College of Medicine | 2,000 employees



New York Westchester Square Medical Center | 552 employees



PSAC II (Projected 2015) | 850 total employees



FIGURE 3 | Major employers in the Morris Park area. The various medical and business institutions employ over 16,000 people.



FIGURE 4 | Montefiore Medical Center on Eastchester Road. Morris Park has a strong medical presence, with several hospitals, research centers, and doctors' offices clustered in the area.



FIGURE 5 | The Public Safety Answering Center II (PSAC II), currently under construction. When it opens its doors in 2015, it will house approximately 850 employees.

CHALLENGES & RECOMMENDATIONS

The area around the proposed Morris Park station is a growing employment center and economic engine for the Bronx and the region. Its proximity to adjacent counties, specifically Westchester, makes it an attractive employment destination as indicated in Figure 3; however, transit access north of the Bronx is currently limited and many commuters are inclined to access the area by vehicle. Its location near the end of the subway system results in longer distances before connections to other lines, limited express opportunities, and therefore longer commutes to and from Manhattan and other boroughs.

Our outreach process around the proposed station included: a joint open house with Metro-North railroad and the Bronx Borough President's Office; individual stakeholder interviews; and targeted community meetings. Through this process we were able to identify challenges and opportunities related to transit-oriented development around the potential Morris Park Metro North station. The recommendations section discusses long term strategies to address these challenges and maximize opportunities. They are focused on identifying proactive solutions related to land use and walkability that will allow the area to maximize the benefits of a not only a potential rail station, but practical recommendations that support strengthening the area as a growing regional employment and educational center for the Bronx. For the purpose of this Section, the challenges and recommendations are discussed in **four focus areas: (1) the Station Area West** including Eastchester Road and the medical institutions, **(2) the Station Area East**, including the Hutchinson Metro Center, **(3) the Westchester Square area** and **(4) Area Wide** recommendations.

(1) STATION AREA WEST

Eastchester Road Area

Like many areas abutting railroads in the Bronx, the Morris Park neighborhood currently turns it back on the railroad (as it has no station or way to utilize it), and low-scale, manufacturing and warehousing uses are located along its edge. These mostly single-story buildings are an unrelated assortment of uses, and their inactivity and general lack of pedestrian infrastructure creates an empty and difficult walking environment. The current zoning designations mapped along Eastchester Road do not accommodate mixed use development that could support a mix of retail

and housing needs of the institution, the community, or other station users. However, with a new station area proposed, the neighborhood must face the task of re-orienting itself towards the rail. In this scenario, Eastchester Road between Pelham Parkway and East Tremont Avenue will become an important pedestrian pathway that links major corridors and has the potential to serve as a retail corridor for the surrounding institutions.

Recommendations:

- Explore establishing active ground floor use and transparency requirements, as part of a zoning study (see Figure 8).
- Create coordinated streetscape improvements which promote a consistent theme for the area.
- Explore zoning along Eastchester Road and Bassett Avenue between Pelham Parkway and Williamsbridge Road to support additional mid to high density mixed use development around the station (see Figure 11).
- Identify zoning appropriate for current institutional uses that will continue to support them and additional mixed use contextual growth. Explore contextual zoning districts that establish street wall requirements as well as minimum and maximum base requirements and building heights as part of a zoning study.

Bassett Avenue pedestrian improvements

Bassett Avenue runs parallel to the Hell Gate rail line and would be the gateway to the neighborhood from the proposed station area. As mentioned there is no pedestrian infrastructure and the uses on the west side of the street are the backs of low-intensity, non-active industrial and warehouse buildings along Eastchester Avenue. The side of Bassett Avenue abutting the rail line consists of lots varying from five to thirty feet in width that are generally used for: material storage, surface parking, or are vacant. Many of these lots collect trash and have unattractive fencing.

Recommendations:

- Develop the street network around the station area to include sidewalks and streetscape improvements (i.e. seating, lighting, street trees).
- Activate uses at the pedestrian level by encouraging ground floor retail through zoning district modifications. These could further be enhanced by facilitating mixed-use developments to generate more foot traffic around the clock.



FIGURE 6 | Eastchester Road. The area surrounding the proposed Morris Park station currently has few pedestrian amenities and limited east-west access across the railroad tracks.



FIGURE 7 | Bassett Avenue. Many of the lots adjacent to the railroad, varying from five to thirty feet in width, are used for material storage, surface parking, or have remained vacant.

- Pursue the continuation of Bassett Avenue as a through street to Pelham Parkway as pedestrian and/or vehicular access. This would allow for additional access from Pelham Parkway and transit stops as well as improve general circulation around the sites.
- Identify opportunities to develop or enhance lots to support the proposed Metro-North station and a walkable pedestrian environment along Bassett Avenue. As indicated, in *Section 1 Strategies: Rail Adjacent Lots*, there are a number of improvements that can be made to lots of varying sizes located along rail lines. The proposed station provides an opportunity re-examine the uses of these lots, many of which are adjacent to the site.

(2) STATION AREA EAST

Significant development is proposed within the current manufacturing and residential districts located in the station area. While the current M1-1 zoning designation has permitted significant as-of-right development, these districts limit density, and preclude the development of residential uses. The current zoning is not intended to support mixed-use development nor does it encourage the type of development that supports a walkable environment. Continued development under the current zoning will not allow the area to reach its potential as an employment center that provides the ability to live, work, shop and dine all within a close proximity to each other.

Vehicular access in and out of Hutchinson Metro Center is limited to southern end of the site. At current capacity, these access points often back up during peak times, causing delays for commuters and public/private buses. The rail line to the west, Hutchinson River Parkway to the east and security concerns with the new PSAC II call center on the northern end of the site create additional barriers to access solutions. Other than the proposed metro-north station, mass-transit to Hutchinson Metro Center is limited. As of this study, no other forms of public transit extend into the Hutchinson Metro Center site.

Recommendations:

- Explore potential short and long term solutions to provide additional access in and out of the Hutchinson Metro Center. These could involve studying: additional access points to the site on or along the Hutchinson River Parkway; opportunities on the north side which meet the secu-

Figure 8 Existing Conditions:

- 1 Low density single story uses along Eastchester Road approaching proposed station site
- 2 Lack of pedestrian amenities along Eastchester Road and Bassett Avenue
- 3 No pedestrian access over rail line to connect educational and medical uses to Hutchinson Metro
- 4 Ground floor uses do not support surrounding facilities or encourage pedestrian activity
- 5 Difficult crossings at Morris Park Avenue and Eastchester Road

Figure 8 Potential Improvements:

- 1 Develop contextual maximum base heights and, after setback, maximum building heights. Establish more prominent street wall with opportunities for articulation
- 2 Incorporate street lamps and street trees at regular intervals
- 3 Incorporate pedestrian overpass on Morris Park Avenue over Amtrak rail lines
- 4 Ensure ground floor establishments have active uses and ample transparency
- 5 Improve crosswalks and street network

EXISTING CONDITIONS



POTENTIAL IMPROVEMENTS



FIGURE 8 | Morris Park Avenue at Eastchester Road. (Top) Current conditions; (bottom) potential improvements.

rity needs of PSAC II; and long term solutions where vehicular, public transit and pedestrian access could be created over/under rail line.

- Further study circulation within the Hutchinson Metro Center, potentially as part of a master plan, to explore improvements to pedestrian and vehicular circulation which will accommodate current use and future growth. This could include strategies to re-orient and better connect the station area with the existing and proposed development.
- Re-examine bus routes to extend into Hutchinson Metro Center and coordinate with potential Metro-North station (UPDATE: NYCTransit announced the extensions of Bx24 bus service into Hutchinson Metro Center to begin in mid-2014)
- DCP should study the zoning east of the station area around the station, which includes the Hutchinson Metro Center, to identify zoning appropriate for current uses and supportive of additional mixed use sustainable development.

East-West Pedestrian Access

Current east-west access over the Hell Gate rail line is limited. Pedestrians attempting to traverse from the intersection of Morris Park Avenue and Eastchester Road, near the entrance to Albert Einstein, to the main entrance of the Hutchinson Metro Center (1200 Waters Street) must walk a full mile.

Recommendations:

- The proposed station should incorporate east-west pedestrian access over the rail which currently does not exist. At railroad stations, a pedestrian bridge serves as a pathway from one side of the tracks to the other when crossing at grade is not possible. Here a pedestrian bridge can also be a vital crossing point for non-riders, as pedestrians and cyclists may need to access the other side of the tracks. This dual usage helps to create an activity node that can support additional amenities such as retail or public space and enhances overall safety. If it is perceived as inconvenient or unsafe it is likely



FIGURE 9 | Metro-North pedestrian bridge. In 2009, a Metro-North station opened at 153rd street to serve the new Yankees Stadium and the Highbridge neighborhood in the Bronx. The new station includes an enclosed pedestrian bridge that bypasses roadways and other pedestrian implements to ease pedestrian access from the station to the stadium and other destinations to the east. The sleek design and wide stairway entrances are inviting to pedestrians. The Arts for Transit mosaics which line the interior walls of the structure provide interest along the 450-foot corridor.

Source: WikiMedia

CASE STUDY | MetroTech Center

MetroTech Center, located in downtown Brooklyn is a 16-acre center for industry, innovation and education, and an exemplary model of how a cluster of strong institutions can partner together to build a cohesive economic center that is embedded within the larger neighborhood of downtown Brooklyn. The ten block area is home to Polytechnic Institute of NYU, as well as a range of organizations including: MakerBot Industries (producers of 3D printers), Empire Blue Cross Blue Shield, and JP Morgan Chase.

The idea for MetroTech was conceived in the late 1970s by the Brooklyn Borough President Howard Golden and Polytechnic University President George Bugliarello, envisioning it as a research center akin to Silicon Valley in California. The Stanford Research Park in Palo Alto, California was an extremely successful model, where the dean of the electrical engineering school, Frederick Terman, sought to marry the institutional knowledge of the classroom with innovation in industrial technology. Hewlett Packard, formed by two of Terman's students, General Electric, Fairchild Semiconductor and Lockheed were among the early tenants to play a role in the transformation of the area into Silicon Valley.

In the 1980s, when large-scale development was occurring in downtown Brooklyn, the City's Public Development Corporation designated Polytechnic University as the urban renewal sponsor for the Metro-Tech urban renewal area, and together they picked Forest City Ratner as the developer to create a campus-like area for back office spaces. This was intended to create a place where graduates could live and start businesses as well as to be a catalyst for a larger revitalization of downtown Brooklyn.

The Downtown Brooklyn Partnership (DBP), a local development corporation was vital to the integration of MetroTech Center with downtown Brooklyn. DBP works with the three business improvement districts in the area including the MetroTech BID, the Fulton Mall improvement Association, and Court-Livingston-Schermerhorn BID. DBP's goals include attracting businesses to the area and maintaining and improving the public spaces and streetscape. Their comprehensive website promotes the attractions, services, and shopping in the area and provides up-to-date information on arts, cultural events, as well as new projects and initiatives coming to downtown Brooklyn. The DBP promotes the area as a college town, because of the 11 colleges and universities, and hosts events for all students in the area. They

also created a shared job database with Brooklyn businesses to connect students with jobs in Brooklyn. Additionally, the DBP keeps track of city-owned properties to use as arts spaces, and advocates for infrastructure improvements and long-term planning.

DBP has been integral in facilitating improvements to the area which have created a connected downtown that leverages the potential for future investment. The cluster of medical and educational institutions in Morris Park, similarly, can come together to create a strong identity that would promote the area and spur local investment. Currently, however, the organizations in the area are disconnected from one another and the neighborhood lacks a unified vision. While the Hutchinson Metro Center Office Complex is set to add new commercial, office, hotel and fitness facilities, this campus is also disconnected from the other institutions in the area. The Downtown Brooklyn Partnership and MetroTech is an example of ways to create partnerships between organizations, promote an area, and make improvements.

Source: Downtown Brooklyn Partnership. <http://downtownbrooklyn.com/>



FIGURE 10 | MetroTech Center in Downtown Brooklyn. The area provides a successful model for integrating industry, innovation and education.

Source: *Jim.henderson* / CC-BY-SA-3.0, via *Wikimedia Commons* from *Wikimedia Commons*



FIGURE 11 | Potential Mixed Use Density Massing. By taking advantage of the many institutions and business already present, this scale of development would encourage more pedestrian use and provide greater connection to the entire area.
Source: © 2011 Pictometry International Corp.

to go unused. The placement of the pedestrian bridge, entrance locations and signage are necessary to ensure that non-riders know they can take advantage of this feature. Other considerations should include:

- o An open and airy feel through the use of transparent materials
- o Unconfined passageway
- o Gradual ascent and descent
- o A unique design which shows investment and thoughtful consideration
- Additionally, Morris Park Avenue should continue as a vehicular and pedestrian connection from Basset Road to Marconi Street on the west side of the tracks. It is not currently mapped as a city street, but is scheduled to re-open after completion of the Metro Center Atrium.

(3) WESTCHESTER SQUARE AREA

Williamsbridge Road between Eastchester Road and East Tremont Avenue is an important retail corridor connecting the station area to Westchester Square.

Current zoning permits low density residential and commercial uses. The area along Blondell Avenue between Eastchester Road and Fink Avenue is a connection between Morris Park and Westchester Square. Currently it is zoned as Manufacturing; however, there has been significant interest in additional mixed-use development which is currently not permitted.

Recommendations:

- Strengthen this section of Williamsbridge Road as a contextual mixed use retail corridor and pedestrian pathway connecting the proposed station area to Westchester Square.
- Identify opportunities to strengthen the pedestrian environment along Blondell Avenue to create additional connectivity to the area.
- Enhance pedestrian crossings along East Tremont near Westchester Square #6 subway stop to identify improvements.

(4) AREA-WIDE

The area is a locus of economic development and existing organizations have major expansion plans underway. The institutions and offices alone account for more than 16,000 employees and 3,500 hospital beds. The ability to attract employees, tenants and residents to the area is an important element in the success of a proposed station and the continued growth of the area as an economic center. However, the area is rarely referred as a singular place such as “Morris Park Professional Employment and Medical Center,” which is recognized for its significance in the Bronx economy similar to Hunt’s Point. Several institutions operate private shuttle service which connects employees and visitors to public transit, but it is not sufficient and lacks centralized organization.

Recommendations:

- Identify opportunities for area branding to promote to developers, employees and commercial retailers as indicated in the MetroTech Case Study.
- Centralize private shuttle service to efficiently service gaps in public transit. Service could coordinate with commercial centers such as Westchester Square BID.

CONCLUSION

In using this opportunity to take an early look at the proposed station area, there are a number of initiatives that can begin now that will benefit residents, employers, employees and visitors to this area. Identifying areas where zoning solutions can provide supportive commercial uses and additional residential density can dovetail with enhancements to pedestrian infrastructure. Looking at the area holistically as a major regional professional employment center will make it a more attractive place for employers, employees, tenants and investors. Leveraging stakeholder support to work with Metro-North as the proposed project progresses can ensure that the station is integrated into the fabric of the area in a way the both promotes ridership and benefits stakeholders.

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PRIORITY RECOMMENDATIONS SUMMARY

- Re-examine zoning to permit mixed use development on both sides of the rail which gives more flexibility to existing uses and encourages transit-oriented additional growth.
- Identify long-term improvements to pedestrian and vehicular access which promote circulation between development centers and both sides of rail line.
- Explore opportunities to brand the area through increased partnerships between institutions; encouraging additional residential, office and retail uses as well as research and development; and promotion as an easily accessible professional employment center in a complete community.