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, 2006-1010 American community Survey 5-Year Estimates. [3]Zillow Neighborhood Overview, 2013.
* MTA Subway Ridership, 2012. http://www.mta.info/nyct/facts/ridership/#chart_s

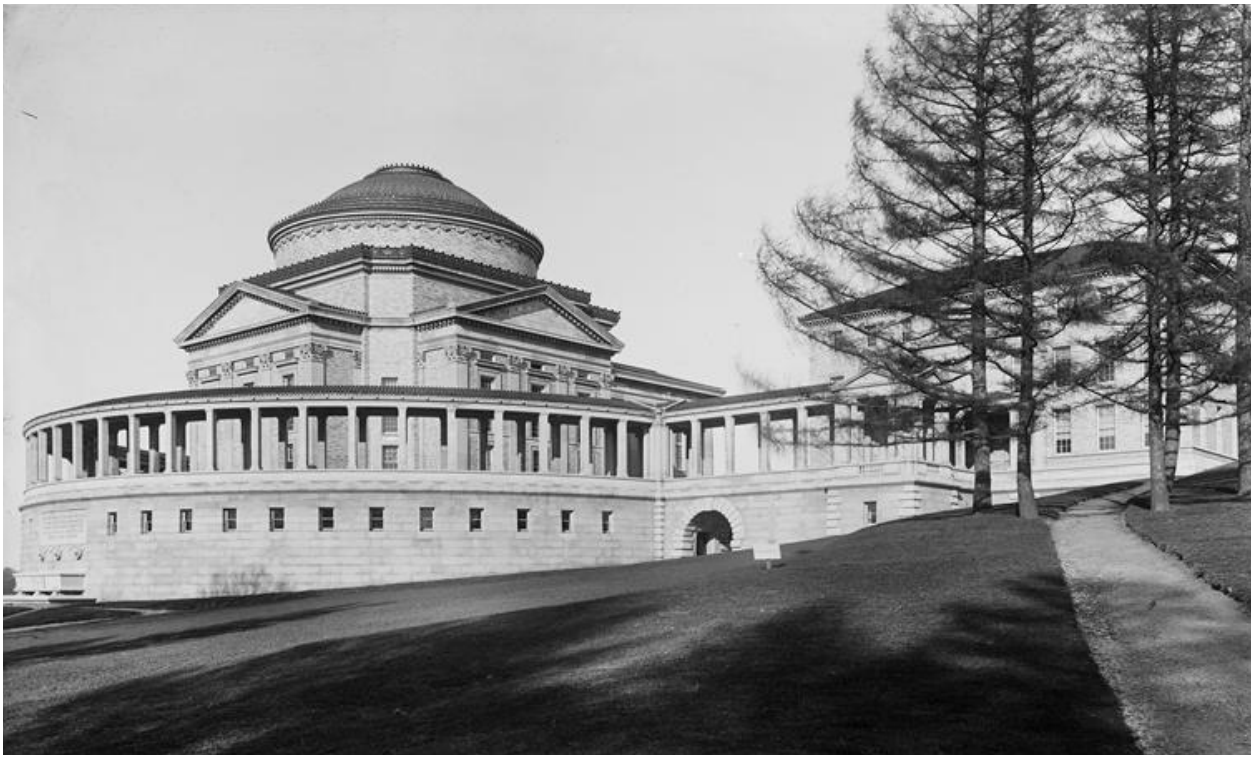

FIGURE 2 | New York University, circa 1900. NYU relocated its campus to University Heights in 1894, and sold it to the City University of New York in 1973. The campus now houses the Bronx Community College.

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

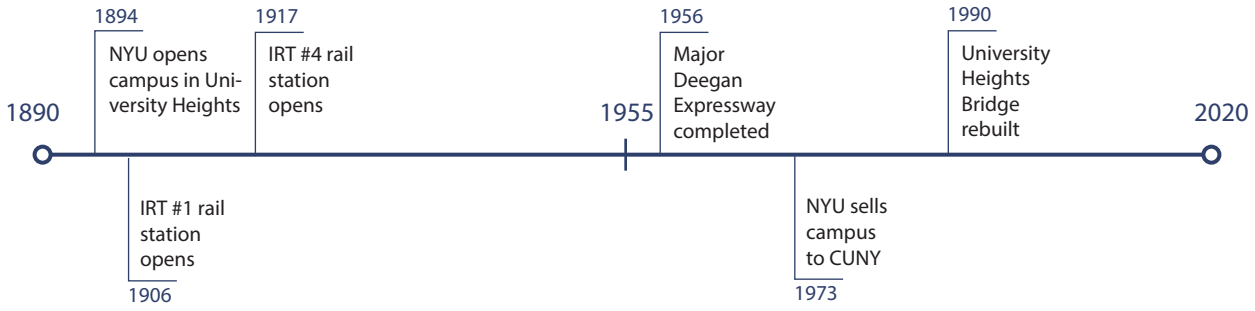

FIGURE 3 | University Heights Neighborhood timeline

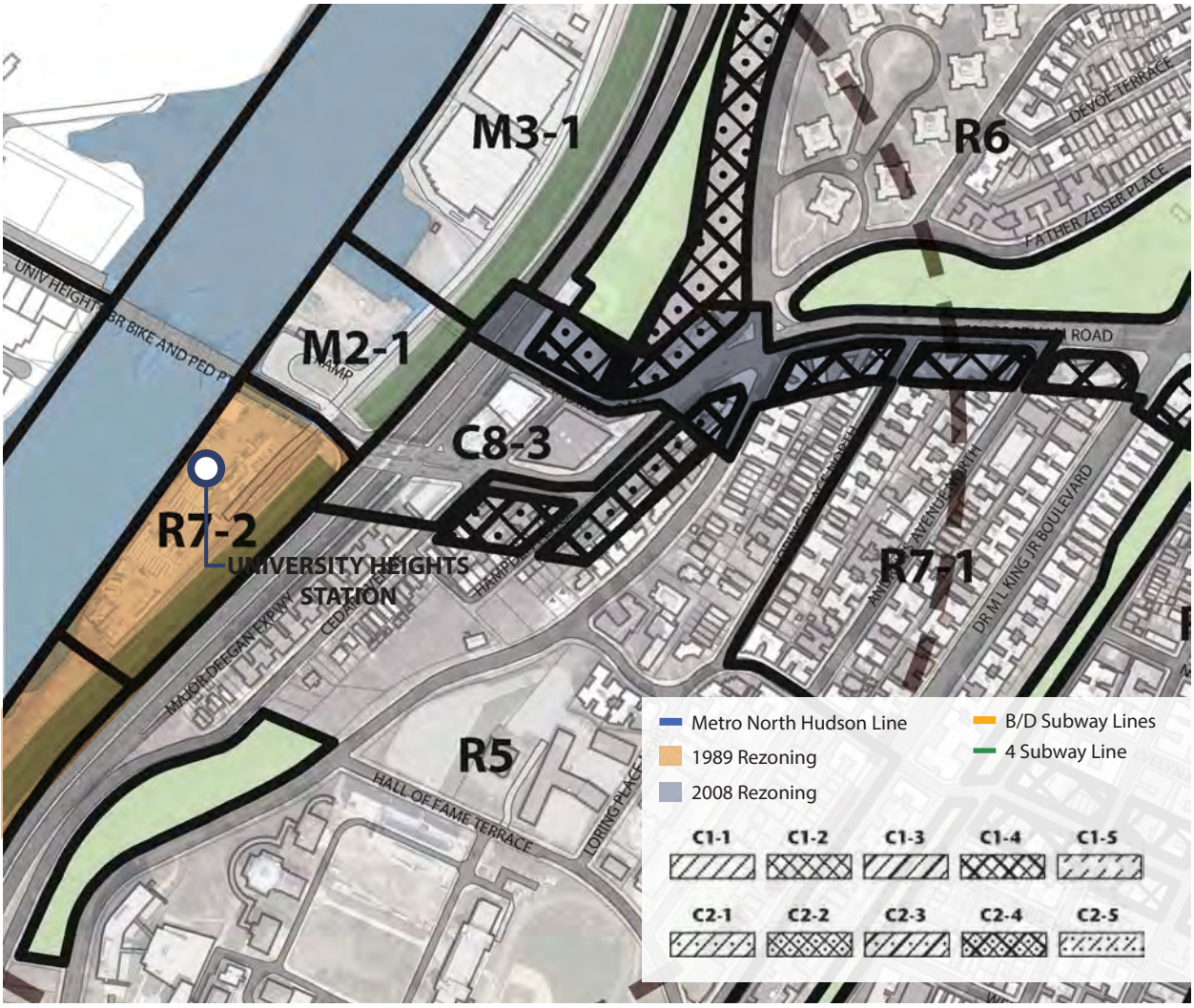

FIGURE 4 | University Heights zoning boundaries. The waterfront area is currently zoned for manufacturing, limiting potential development.

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
- Bus Routes
- B/D Subway Lines
- 4 Subway Line

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 Recreatsites 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-

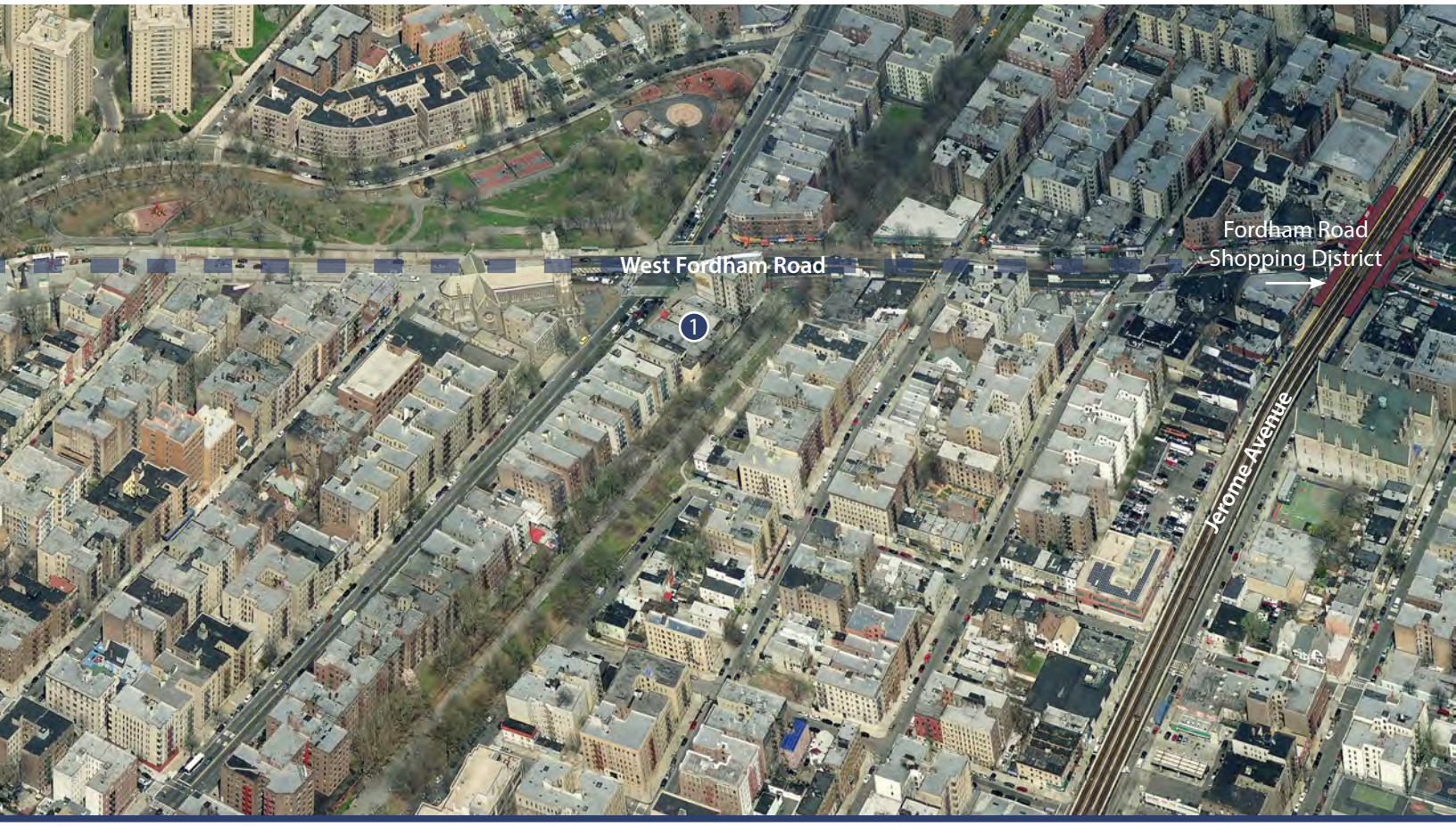

FIGURE 6 | (*Top*) Existing Conditions on Sedgwick Avenue, with R5 zoning.
(*Bottom*) Mid density contextual zoning could create additional density, a more predictable building form, and a stronger streetwall.

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 screeing public parking where provided, establishing minimum levels 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 buildings 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-

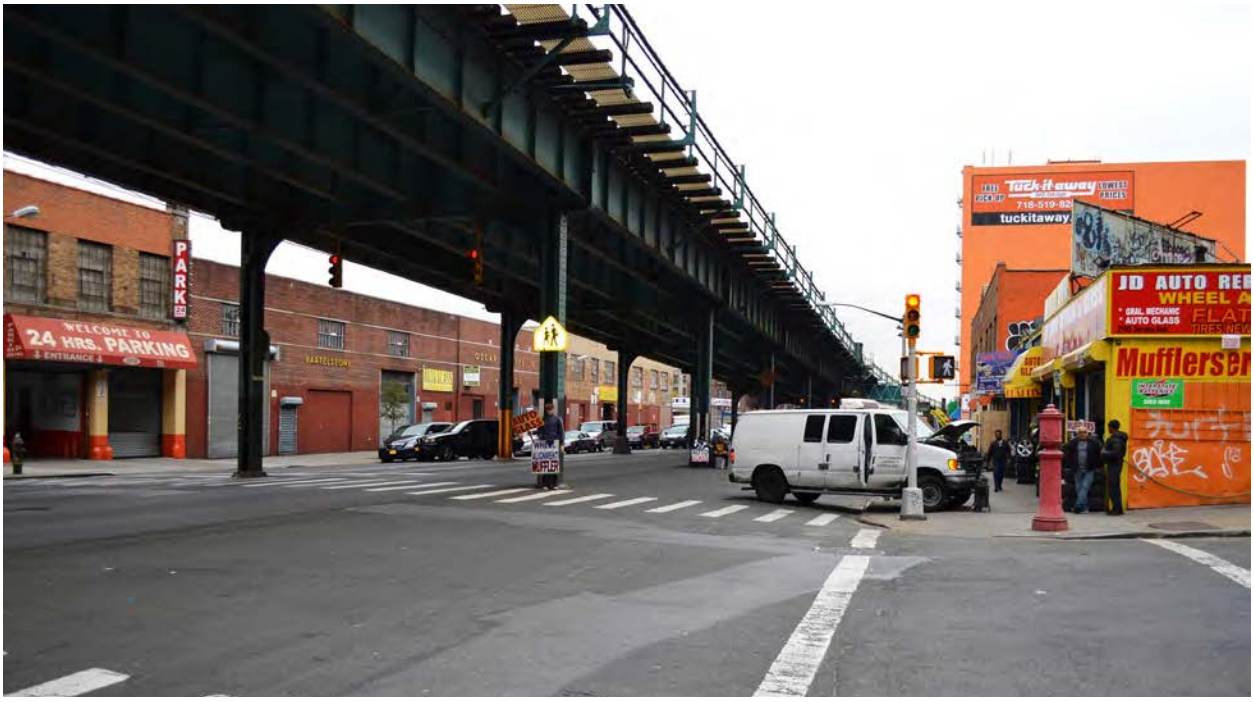

FIGURE 7 | Elevated #4 train, Jerome Avenue. This area has developed many auto-dependent uses, in part due to location along elevated rail

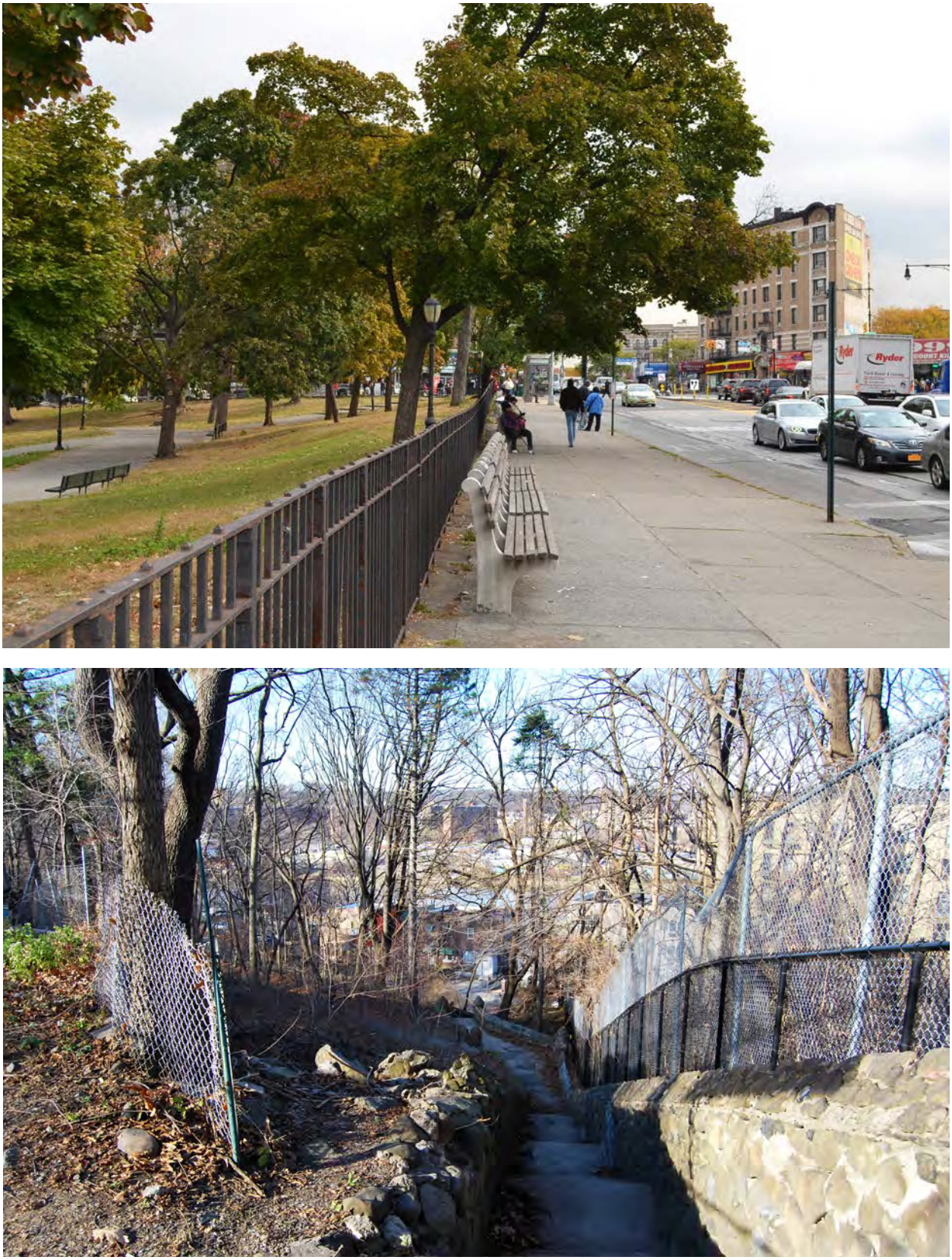

FIGURE 8 | (*Top*) Devoe Park on West Fordham Road. Although well-maintained, the park has limited points of access. Programming could activate the space, connecting the activity from the Fordham Shopping District further west. (*Bottom*) Steps through University Woods.

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 storages 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.

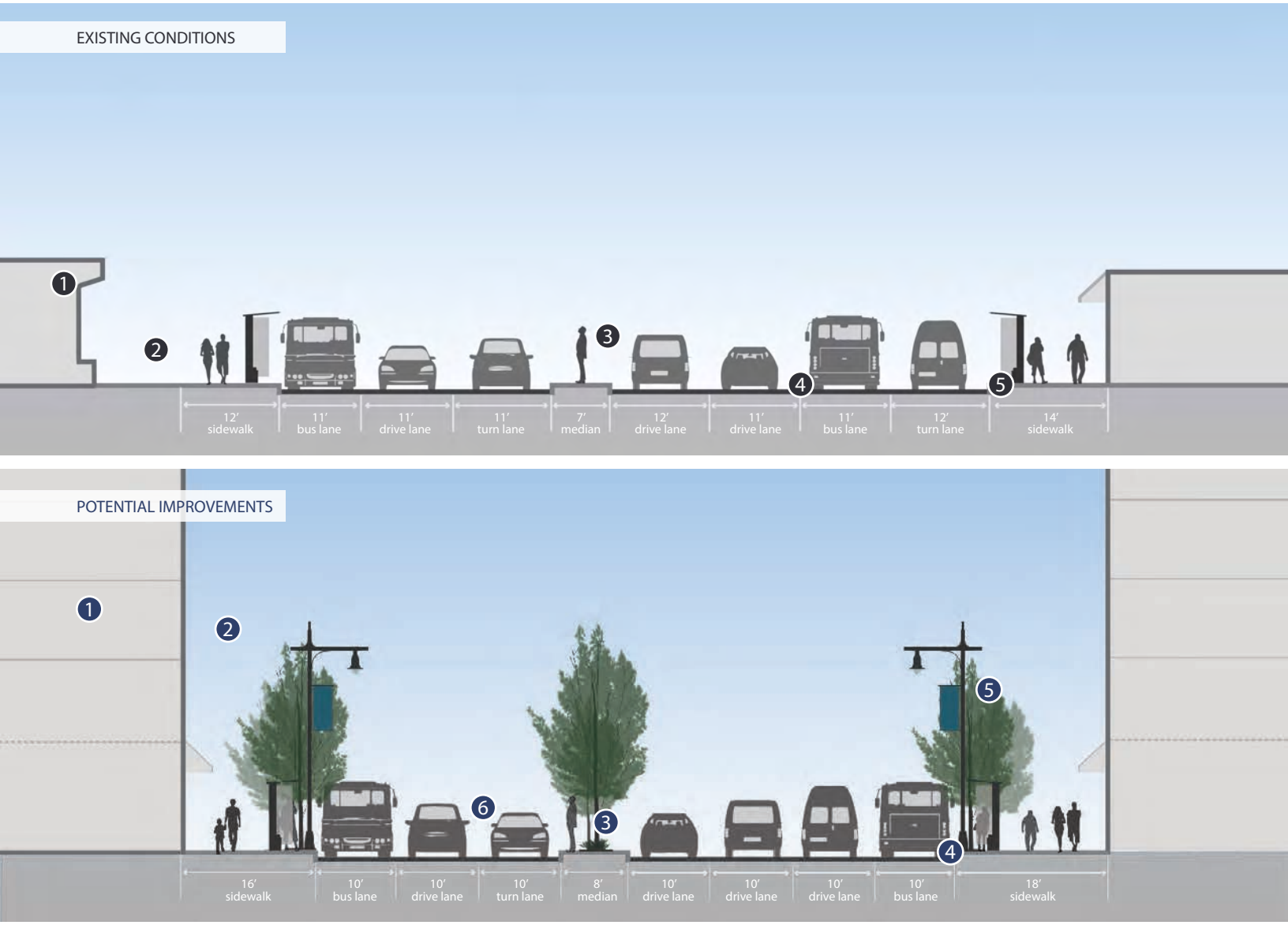

FIGURE 9 | (*Top*) Existing Conditions on Fordham Road, between the Major Deegan Expressway and Cedar Avenue. (*Bottom*) Potential pedestrian improvements; changes include expanding vegetated medians, planting street trees, expanding sidewalks, and building greater density in the area.

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

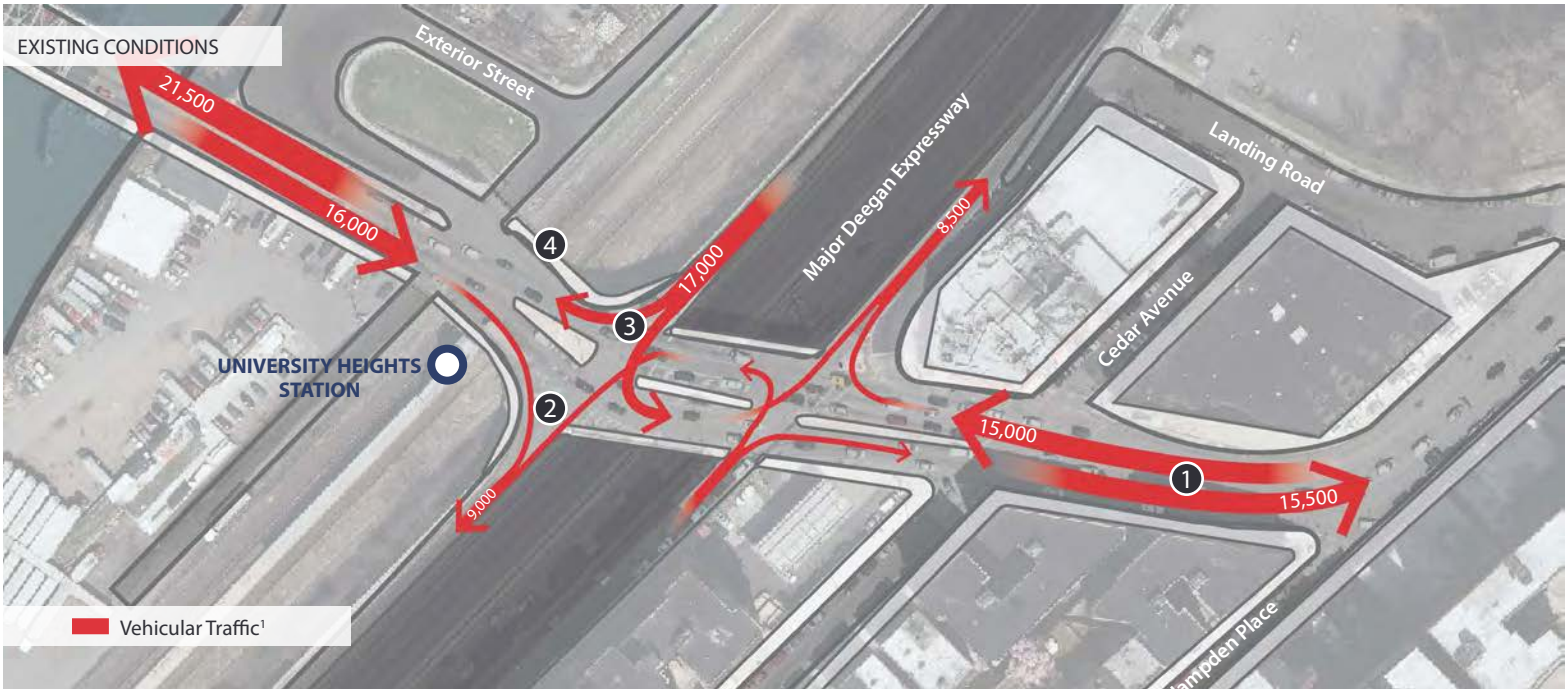

FIGURE 10 | Existing conditions, intersection of Fordham Road and Major Deegan Expressway. Pedestrians currently encounter several congested street-crossings with few pedestrian amenities. The large volume of traffic at key crossings create an unsafe and unappealing experience, discouraging pedestrians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

Source: [1]Average 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

1. New traffic-calming vegetated medians
2. New crosswalk island
3. Enhanced pedestrian crossings
4. Expanded median to channelize turning traffic

Potential Long-Term Improvements

5. Potential waterfront access from station & Landing Road
6. Platform extension for north-side access
7. Separated bicycle lane
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.

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.
- 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

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

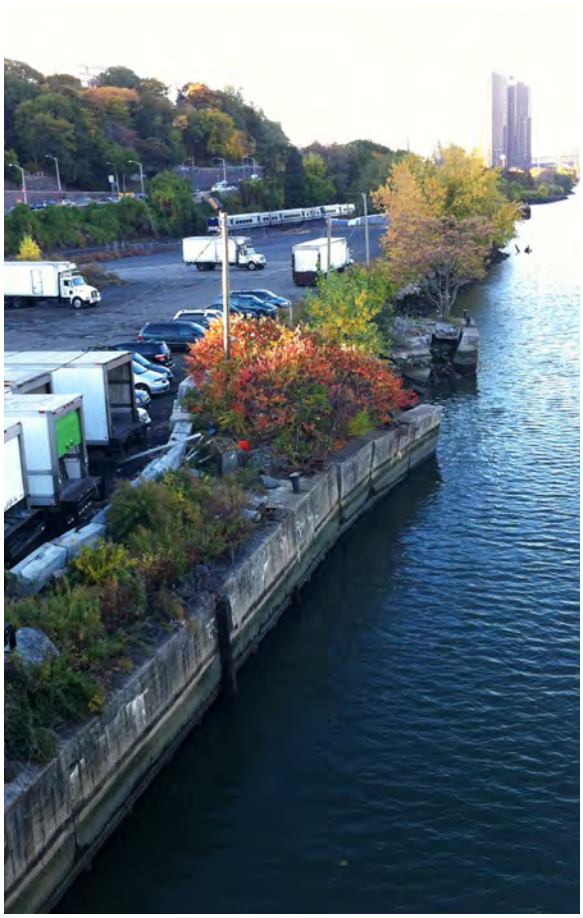

FIGURE 13 | (*Left*) University Heights Bridge, crossing from Manhattan's Inwood neighborhood to University Heights; the bridge provides a valuable pedestrian connection between the boroughs and striking views of the Harlem River. (*Right*) View of Harlem River from the Bridge.

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

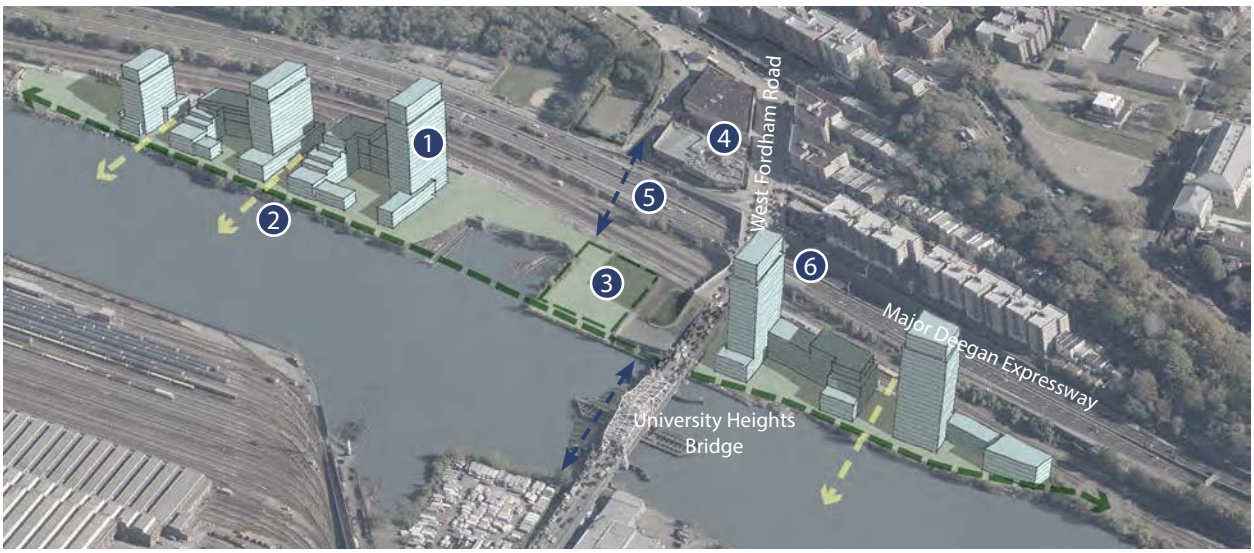

FIGURE 16 | SCENARIO 3 | Higher density mixed-use development & Waterfront Access Plan

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 water front 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.

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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.