



WHITE PLAINS TRANSIT DISTRICT STRATEGIC PLAN

MULTIMODAL TRANSPORTATION CENTER REDEVELOPMENT PROJECT

APPENDIX A

FINAL EXISTING CONDITIONS REPORT AND BASELINE STUDIES

WHITE PLAINS TRANSIT DISTRICT STRATEGIC PLAN

MULTIMODAL TRANSPORTATION CENTER REDEVELOPMENT PROJECT

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Prepared for:



Submitted by:



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1 FINAL EXISTING CONDITIONS REPORT

1.1 INTRODUCTION

1.1.1 PROJECT OVERVIEW

The City of White Plains is leading a strategic planning project to redevelop and transform the area around the White Plains Metro-North station and Westchester County Bee-Line Bus Station into a gateway connected to the downtown core. The Plan will address all modes of travel, address opportunities to maximize economic development potential, and identify new and important linkages to downtown. The City received grant funding for the project through the New York State Energy Research and Development Authority (NYSERDA). The project will incorporate sustainable design principles that are protective of the environment and promote energy efficiency.

The project provides an opportunity to address a pressing need for creating an integrated regional transportation hub in White Plains where BRT, commuter rail, local bus, taxis and shuttles riders can make efficient connections to and from White Plains, Yonkers, New Rochelle, Stamford, New York City and other local activity nodes. A modern, efficient and accessible public transit hub in Downtown White Plains is a critical component of a high performing regional multimodal transportation network designed to get people out of their private vehicles and onto public transit for trips between home, work, shopping, and recreation. It is anticipated that the project will drive further investment and redevelopment in the immediate station area and into the downtown core, and increase both commercial and pedestrian activity in the greater Downtown White Plains area and the surrounding street system.

The City of White Plains is committed to engage and work cooperatively with the project area stakeholders and the public to develop a short- and long-term vision for the project. The final Strategic Plan, expected to be complete in Fall 2016, will assess the existing conditions in the study area, establish the need for the project, define goals and objectives, define major plan elements, identify potential funding sources, and identify a plan of implementation.

1.1.2 STUDY AREA

The Multimodal Transportation Center Redevelopment Project Study Area is centered on the MTA White Plains Metro-North Station and the Westchester Bee-Line Bus Station. It extends approximately 0.35 miles around the Metro-North Station and includes the City of White Plains parking garage and surface lot, the White Plains Fire Department Station No. 2, the westerly portion of the downtown business

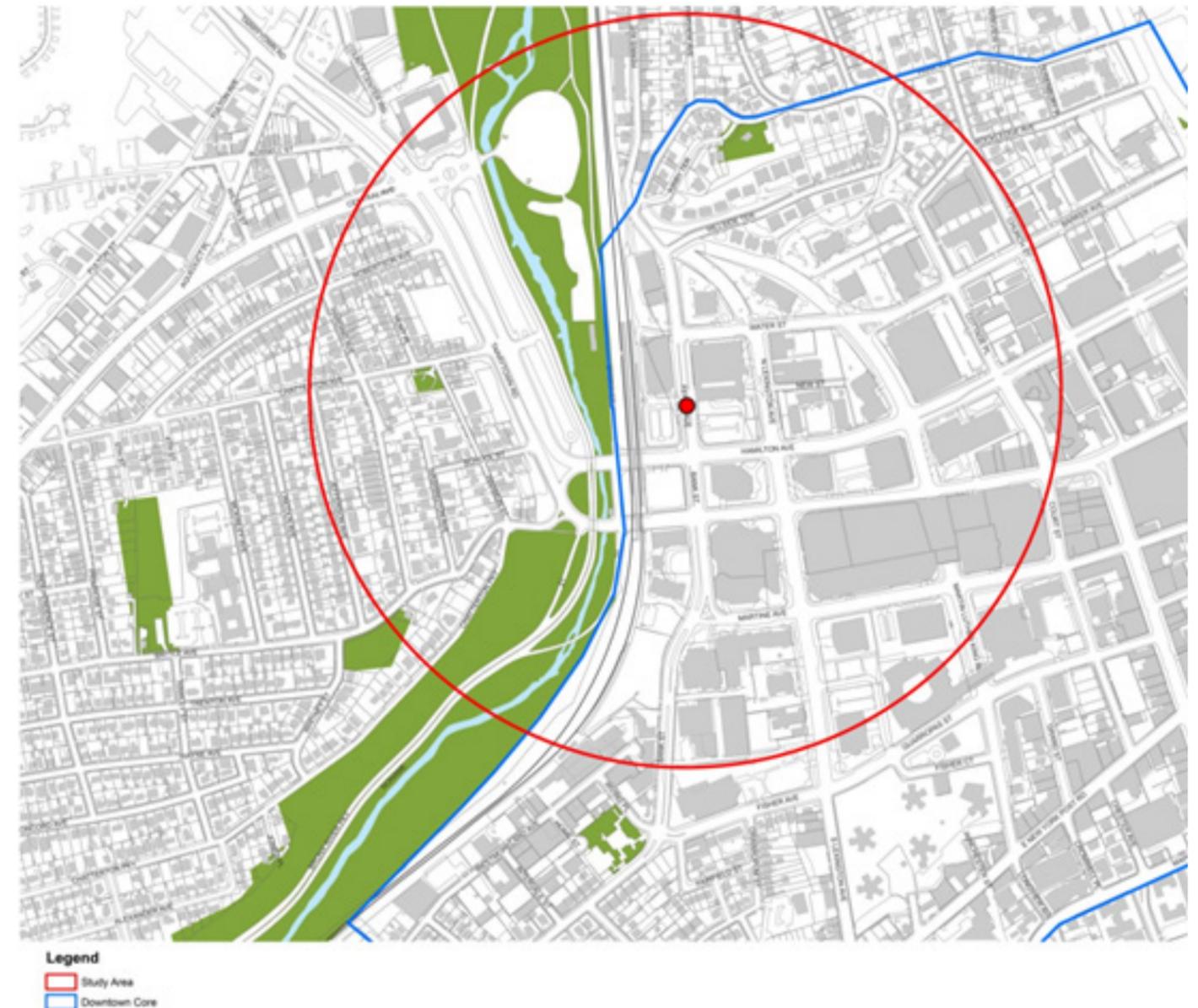


FIGURE 1: Study Area
Source: WSP | Parsons Brinckerhoff

district, the easterly portion of the Battle Hill neighborhood, the southerly portion of the Ferris-Church neighborhood, the Bronx River Parkway Reservation, and the Westchester County Center (Figure 1).

1.1.3 REPORT PURPOSE

Task 4.1 – Final Existing Conditions Report, summarizes the conclusions of the baseline studies and existing conditions analysis. This summary report will inform the development of the range of near- and long-term opportunities presented in the Final Strategic Plan

Location	AM In/Up	AM Out/Down	AM Total	PM In/Up	PM Out/Down	PM Total
Stair from Center Platform to Mott Street Tunnel	17	345	362	144	30	174
North Bridge, Side Platform to Garage	17	0	17	142	1	143
Main Entrance, Ground Level to Center Platform	836	220	1,056	681	165	846
Bridge from Center Platform to South End of Garage	1	153	154	76	2	78
Bridge from Side Platform to South end of Garage	76	2	78	147	4	151
Stair from Side Platform to Surface	2	640	642	8	676	684
Stair from Center Platform to South Side of Hamilton Ave.	137	226	363	127	116	243
Stair from Center Platform to South Side of Main Street	177	319	496	200	128	328

TABLE 1: Peak Hour Station Pedestrian Volumes (Arrival/Departure)
Source: WSP | Parsons Brinckerhoff Counts, Nov. 2015

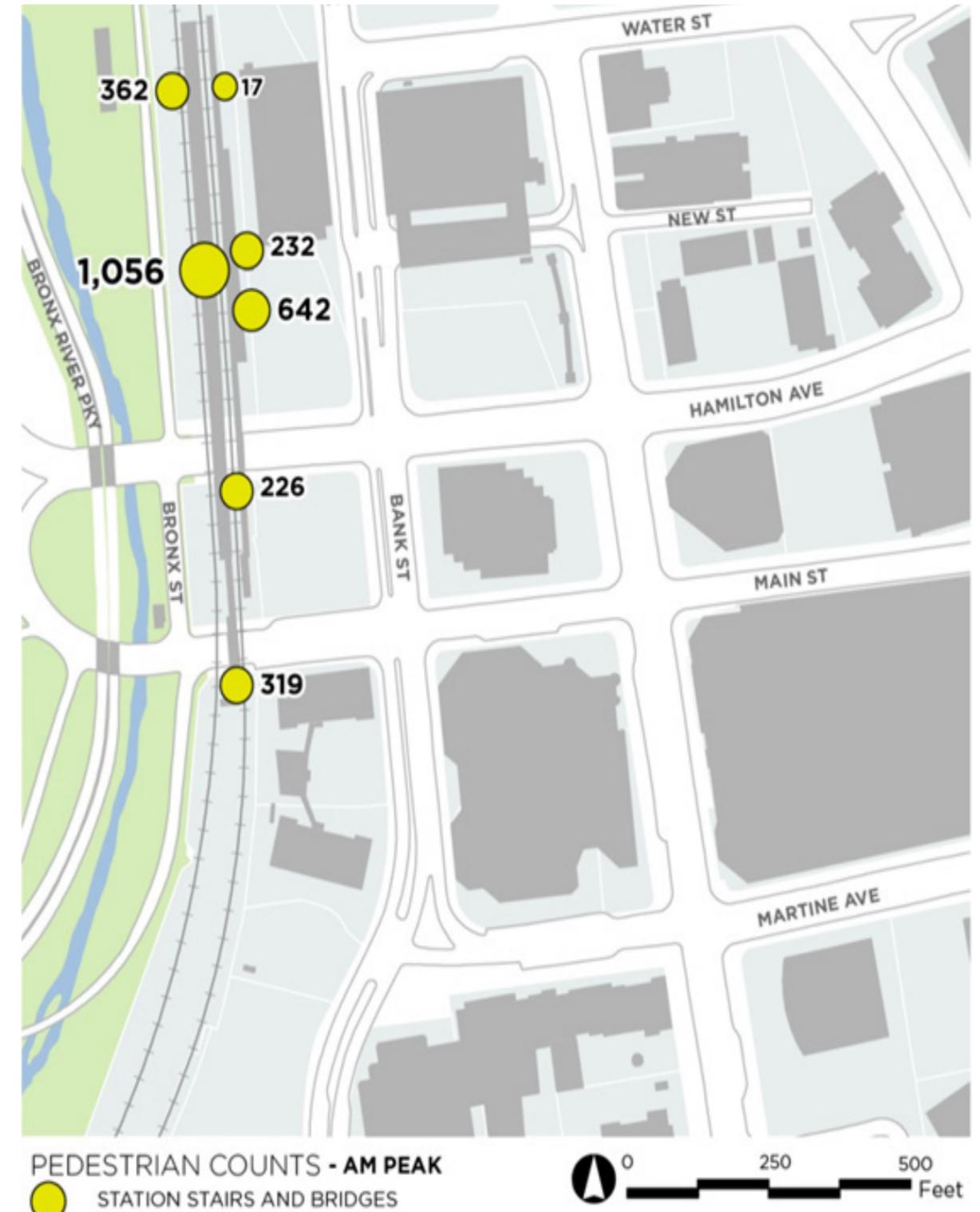


FIGURE 2: AM Peak-hour Total Volumes In and Out at Station Access Points
Source: WSP | Parsons Brinckerhoff

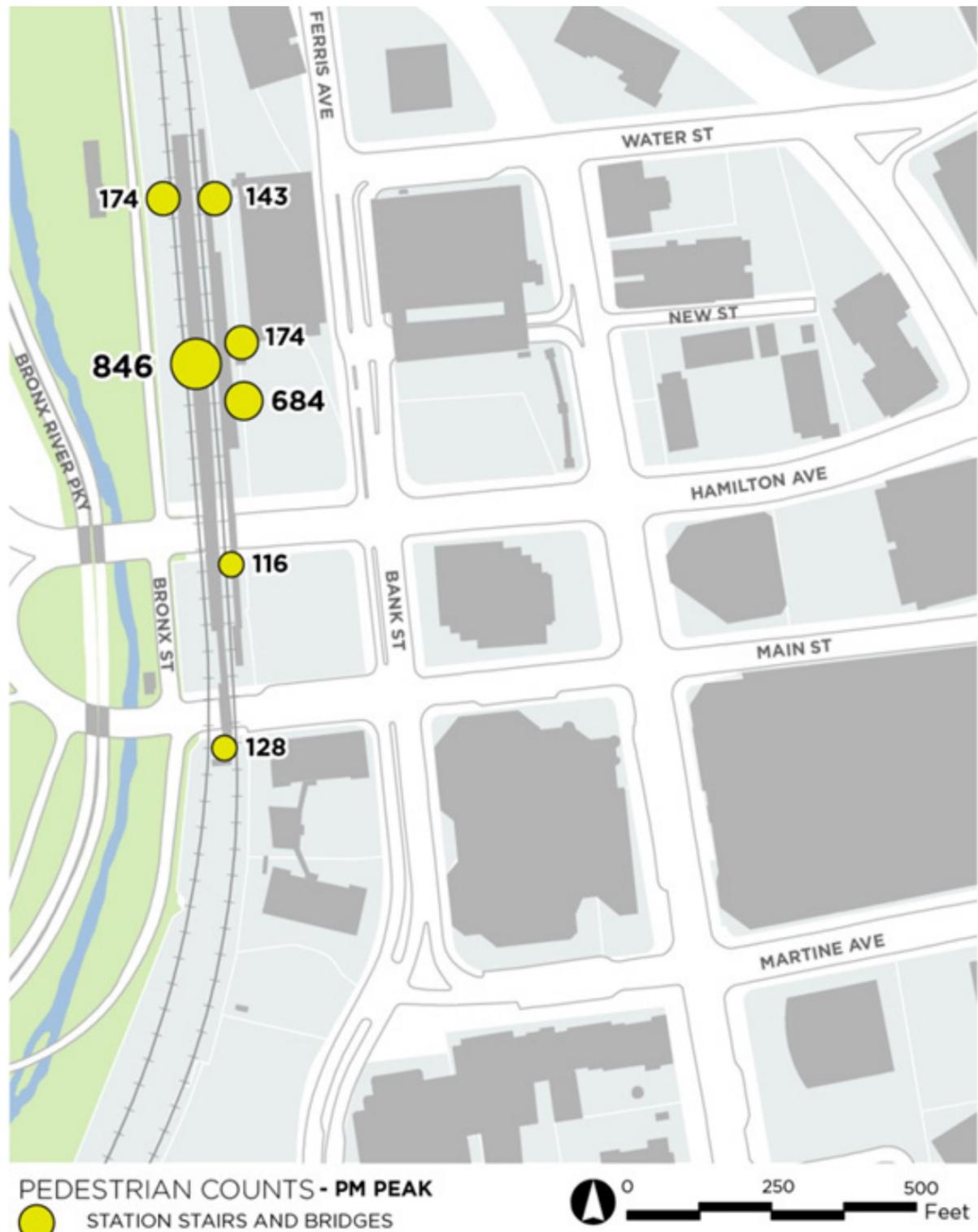


FIGURE 3: PM Peak-hour Total Volumes In and Out at Station Access Points
Source: WSP | Parsons Brinckerhoff

1.2 KEY FINDINGS

The findings of each respective Existing Conditions Baseline study as completed in Task 4.1C are presented in this chapter. The full reports, identified below and contained in Appendixes A-D describe the scope, methodology, and analysis used to derive each set of findings:

- » Appendix 1: Existing Pedestrian Conditions Baseline Study
- » Appendix 2: Traffic and Parking Baseline Studies
- » Appendix 3: Land Use, Urban Design & Development Baseline Study
- » Appendix 4: Market Conditions Assessment Baseline Study

1.3 PEDESTRIAN CONDITIONS KEY FINDINGS

The Pedestrian Conditions Baseline Study's scope includes new pedestrian counts, a survey of departing passengers at the station, observations of pedestrian movements, and examination of pedestrian circulation elements in the study area. After the completion of these observations and surveys, numerous analyses of travel patterns in and around the station area were developed.

A sample of the data analysis shown in Table 1, and on Figure 2 and Figure 3, indicates that most passengers enter and exit the White Plains Metro-North station from the main entrance at the foot of New Street. A significant portion of passengers also use the three stairways from the center platform down to the Mott Street tunnel, Hamilton Avenue, and Main Street.

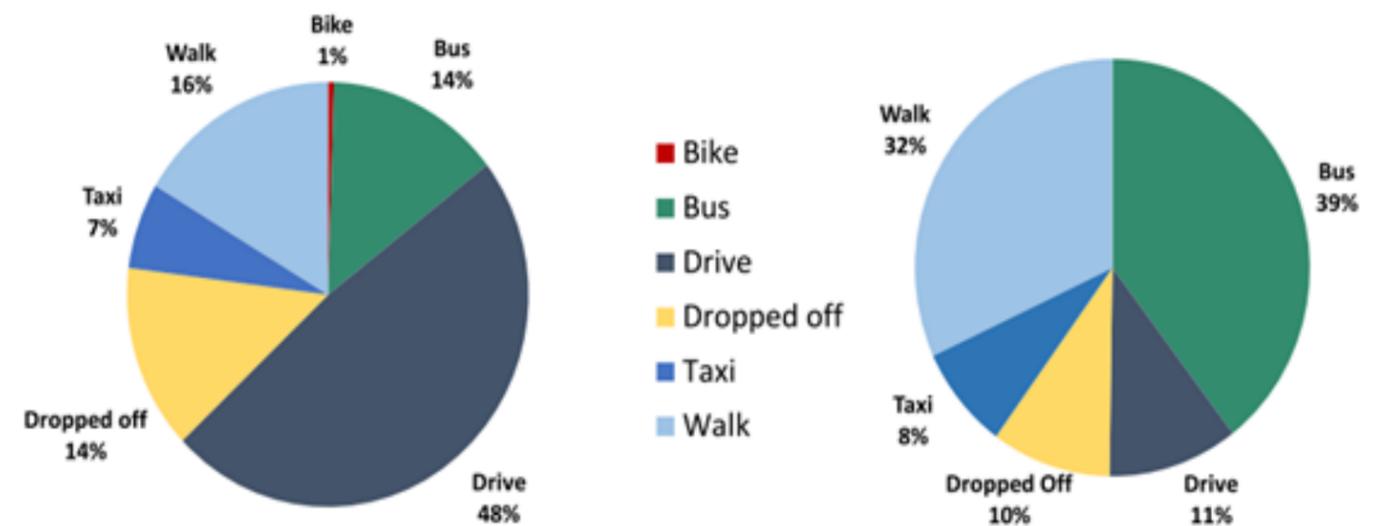


FIGURE 4: Mode of Access to the White Plains Metro-North Station
Source: WSP | Parsons Brinckerhoff

Interview surveys conducted on the White Plains Metro-North station platforms during the Pedestrian Conditions Baseline Study effort focused on assessing the mode of access to the station, vehicle occupancies, and the origins of trips to the station. Access modes are shown in Figure 4.

Following are the key findings related to pedestrian circulation in the study area.

- » Stairways, escalators, and pedestrian bridges in the White Plains Metro-North station are constrained and become busy immediately after trains arrive, but generally have sufficient capacity to serve existing passenger volumes and clear station platforms in a reasonable time after trains arrive.
- » Three of the stairways in the White Plains Metro-North station, down to the Mott Street tunnel, Hamilton Avenue, and Main Street pass through narrow “tunnels” that are unattractive and uncomfortable for pedestrians and constrain their capacity to handle increased volumes in the future, especially when people are moving in both directions on these stairs.
- » Sidewalks and crosswalks provide ample capacity for existing pedestrian volumes with excess capacity to accommodate growth in pedestrian activity.
- » Pedestrians cross at non formalized locations mainly because breaks in vehicular traffic allow them to do so, and the placement of the main access point to the station encourages a diagonal movement across the street grid.
- » Streets in the Study Area are designed for efficient movement of vehicles, with many lanes, broad lane widths, and signal timings that favor movement of vehicles, but are not as amenable to pedestrians.
- » Broad streets are less favorable to pedestrians due to increased walking distances and crossing times at crosswalks.
- » While pedestrian volumes west of the White Plains Metro-North station are relatively low, the layout of the roadways and intersections is unpleasant for pedestrians moving between the Battle Hill neighborhood and the station and downtown.
- » The character of Ferris Avenue north of the White Plains Metro-North station (between Water Street and Park Avenue) with features such as long blank walls and lacking retail opportunities creates an interface between the Ferris Avenue neighborhood and the station area that is not inviting for pedestrians.
- » Sidewalks and walking paths in the Study Area are generally adequate. However, the adjacent land uses and lack of engaging facades create an environment that is uninviting to pedestrians and contributes to an unsafe feeling for pedestrians during evening hours when the area is less active.
- » The volume of traffic turning left from Bank Street to Hamilton Avenue, associated need for three left turn lanes, and the general volume of traffic on Hamilton Avenue and Main Street as they cross Bank Street, negatively impacts the pedestrian character and linkages in the station area. An alternate vehicular crossing of the train tracks could divert some of this traffic and improve pedestrian conditions in the station area.



FIGURE 5: Parking Utilization at Off-Street Parking Facilities Within the Transit District
Source: WSP | Parsons Brinckerhoff

1.4 TRAFFIC AND PARKING KEY FINDINGS

The Traffic Baseline Study will lead to forming a fully effective, multimodal set of transportation improvements through analysis of the specific and detailed information about the condition and performance of the corridors leading to and from the current White Plains Metro-North station. Information on traffic includes an inventory of the physical layout of the corridor, data on travel volumes and times, and crash data. The typical weekday AM and PM peak periods represent the worst case scenario for baseline conditions, therefore the baseline traffic study focused on these time periods so that future improvement strategies will address the majority of the capacity constraints.

Traffic conditions around the station vary on a day-to-day basis, but for the most part are consistently worse during typical weekday commuting peak hours. Current traffic congestion is primarily a result of spikes in vehicular volumes attracted to downtown White Plains' office buildings and commercial retail destinations. During these peak hours of highest demand, capacity is maximized through the use of parking prohibitions, dedicated turning lanes, and actuated signal timings.

The Parking Baseline Study includes a parking utilization study of on-street and of the eleven off-street parking facilities' availability and utilization to understand current constraints on resources (See Figure 5 and Table 2). This information will inform the recommendations for the Strategic Plan. On-street parking is limited for daily parkers, primarily due to the prohibition of parking along most streets to accommodate an extra lane for vehicular traffic or deliveries/drop-offs. When available, most motorists use on-street parking for making quick stops at retail establishments during the midday and evening time periods. Observations also indicated that metered on-street parking is used heavily by contractor vehicles and delivery vans servicing nearby office buildings.

The highest demand for off-street parking is closest to the station itself, which can be attributed to the desire for most rail commuters to park as close as possible to the train. The largest off-street parking facility is located at the Galleria Mall. Although very close to the station and heavily used on weekends and during holiday shopping seasons, this facility is not attractive to daily rail commuters since it requires crossing two busy streets, Lexington Avenue and Bank Street, to access the station. As a result, approximately half of the available parking spaces sit unused during weekday business hours. Following are the key findings related to traffic and parking in the study area:

Following are the key findings related to traffic and parking in the study area:

- » Traffic conditions around the station are variable, but are generally consistently worse during typical weekday commuting peak hours.
- » Tarrytown Road and Hamilton Avenue/Main Street corridors are heavily used during the AM peak hour and sometimes see sizeable queues stretching back past upstream signals; however, those queues are infrequent and typically clear within one or two signal cycles
- » During the PM peak hour, traffic volume along Tarrytown Road becomes heaviest in the northwest direction, resulting in congestion along Tarrytown Road itself, the minor approaches, and some dedicated turn lanes.
- » The highest demand for parking in the Study Area is closest to the MTC itself.
- » The Westchester County owned parking lots, though located just west of the MTC, are extremely under-utilized.

ID ¹	Name	Type	Address	Licensed Capacity	Permit Sales (As of 12/2015)	Weekday Midday		
						Utilization Rate	Demand	Available Capacity
1	Lot 31 (Central-Tarrytown)	Municipal Lot	205 Central Ave	62	43	31%	19	43
2	Westchester County Parking Lot - East	County Lot	1 Chatterton Ave	600	N/A	75%	450	150
2	Westchester County Parking Lot - West	County Lot	1 Chatterton Ave	200	N/A	40%	80	120
3	Lot 21 (School St.)	Municipal Lot	9 School St	46	0	35%	16	30
4	Lot 5 (Bronx. St.)	Municipal Lot	3 Hamilton Ave	128	65	95%	122	6
5	TransCenter Garage and associated Park & Ride Lots	Municipal Garage	11 Ferris Ave	838	631	99%	830	8
6	Standard Parking	Private Lot	3 Ferris Ave	80	N/A	31%	25	55
7	LAZ Financial Center Garage	Private Garage	20 S Lexington Ave	194	N/A	70%	136	58
8	Lexington-Grove East & West Garages	Municipal Garage	100 Main St	2,788	801	50%	1,394	1,394
9	Library Garage	Municipal Garage	100 Martine Ave	568	85	45%	256	312
10	Public Parking	Private Lot	15 Water St	170	N/A	94%	160	10
11	Impark Parking	Private Lot	200 Hamilton Ave	350	N/A	N/A	N/A	N/A
Total				6,024	1,625	58%	3,488	2,186

Notes:

1. ID numbers correlate to Figure 5.

TABLE 2: Critical Off-Street Parking Facility Survey - 2015 Baseline Condition
Source: WSP | Parsons Brinckerhoff, 2016

- » Approximately half of the available parking spaces at the Galleria Mall sit unused during weekday business hours. This is the largest off-street parking facility in the Study Area.
- » On-street parking is limited for daily parkers, primarily due to the prohibition of parking along most streets to accommodate an extra lane for vehicular traffic or deliveries/drop-offs.

1.5 LAND USE, URBAN DESIGN, AND DEVELOPMENT KEY FINDINGS

The Land Use, Urban Design, and Development Study focused primarily on the physical design aspects of development and public streets and open spaces in the Study Area, and related qualities and policies. Major study questions were explored, and those answers will play an important role in shaping the ultimate plan for the area around an integrated White Plains Metro-North station. These questions explored topics such as understanding preferences and concerns about walking conditions and uses for ground-levels of buildings, as well as the amount of development allowed by current zoning policy on sites in the study area. A number of key findings were presented in the Baseline Study (See Appendix C). Some of the major emergent themes are as follows:

Placemaking (addressing study area identity)

- » Portions of the study area around the MTC notably lack sense of place. Street improvements and new mixed-use development that creates stronger relationships between streets and buildings, and establishes public spaces that invite social interaction, can effectively introduce sense of place in ways that build social community as well as real estate market potential (See Figure 6).
- » The study area contains important assets that can be leveraged to enhance sense of place. These include a relatively high density of people and mix of uses, that can intensify further; topography that introduces unique views within and beyond the area; and strong cultural life.

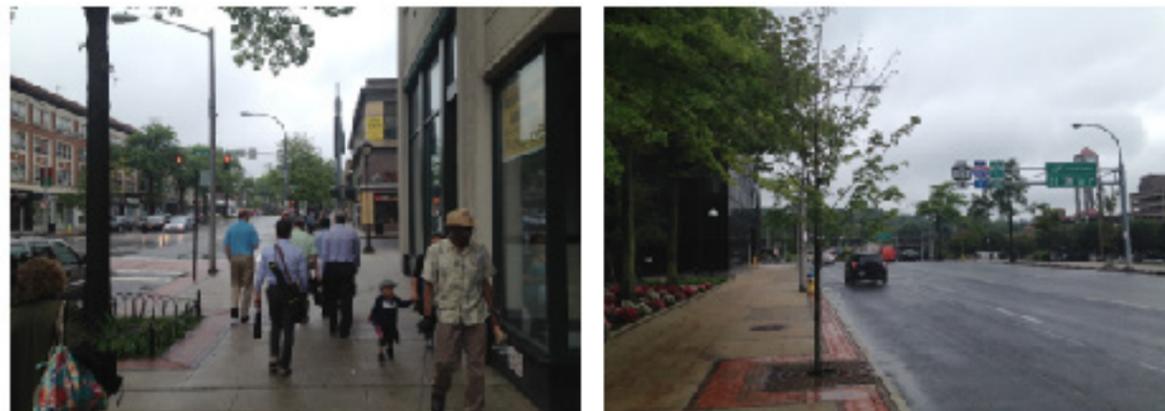


FIGURE 6: Mamaroneck Avenue Invites Pedestrians with Broad Sidewalks and a Variety of Retail Businesses (L) Hamilton Avenue as an Opportunity for Creating a Pedestrian Promenade (R)
Source: WSP | Parsons Brinckerhoff

Streets Designed For People (addressing ground level walking conditions and land use)

- » The area's basic street grid has street spacing and connections that generally support walkability. New walking connections through unusually long blocks could provide valuable new connections.
- » Retrofits or redevelopment of existing buildings and vacant lots could significantly improve walkability where most needed.
- » Street redesign that introduces more separation between pedestrians and traffic, and exchanges vehicular lane area for expanded walking and biking facilities where possible, would significantly improve walkability.

Development Capacity Estimate (including attention to full building retrofit opportunity)

- » Development scenarios for the study area indicate potential for roughly 4.75 million square feet or more of new development. This includes approximately 1.15 million square feet on four city-controlled parcels at or near the MTC, and 3.6 million square feet on 14 additional parcels owned by others.
- » Several office buildings dating from the 1970's and 1980's are physically suited for conversion to housing or other use, if economically feasible. Convertible floor area in these buildings totals roughly 480,000 square feet.

ZONING POLICY REVIEW (addressing capacity and design considerations)

- » The study area's predominant zoning district, CB-4, offers density, land use mix and dimensional characteristics that are generally consistent with goals and opportunities for transit-oriented development. However, certain development standards should be added or leveraged further to maximize the benefit of development in the MTC area.
- » These include design standards that promote pedestrian-friendly streets and attractive building forms suited to the scale of nearby buildings and public spaces.
- » Development policy can also yield better results if greater flexibility around density and/or height is allowed, in appropriate locations. This can help make new development fit better next to smaller-scale neighborhood contexts, and can also incent developer investment in infrastructure or other community benefits in return for additional development opportunity.

Overall, the physical form and typical activities of an environment strongly contribute to sense of place, conveying distinct identity. The Study Area, centered around the White Plains Multimodal Transportation Center, further exemplifies the importance of quality pedestrian access to transportation facilities, downtown destinations, neighborhoods and parkland means that a welcoming environment for people is particularly important to sense of place. Achieving a distinctive and memorable identity for the area that distinguishes it as a great place for people will enhance its market position for real estate development and enhance the appeal of downtown and its environs as a whole as a place to live, work and visit.

1.6 MARKET CONDITIONS

The Market Conditions Assessment Baseline Study includes a review of existing market conditions for market rate residential, office/flex space, and hotel sectors in White Plains and Westchester County. Key metrics for each product type to be evaluated included: existing market inventory in terms of square feet and/or units; average pricing/rents; current occupancy rates and market absorption; and development pipeline that will affect future space availability. The study includes the identification of current and future potential opportunities for land development that can serve to stimulate economic growth.

According to data from CoStar, rents for residential properties in Downtown have increased by 43 percent since 2000, as compared to 31 percent for the County as a whole. Average asking rents Downtown also reached \$3.00 per square foot per month in 2015, more than 40 percent higher than the multifamily buildings elsewhere in the County, as shown in Figure 7.

Based on the analysis of market data and interviews with stakeholders, Downtown White Plains is well-positioned to take advantage of the growing demand for walkable, live-work-play lifestyles.

- » Downtown has seen significant residential growth and boasts an increasingly vibrant retail and dining district. As demand for this type of environment continues to grow and New York City real estate prices continue to rise, Downtown White Plains has emerged as a more affordable option for young professionals and empty nesters who want an urban lifestyle but cannot afford New York City prices.
- » Given its accessibility and proximity to major hospitals, Downtown is also well positioned to capture some of the increasing demand for medical office space and health care facilities

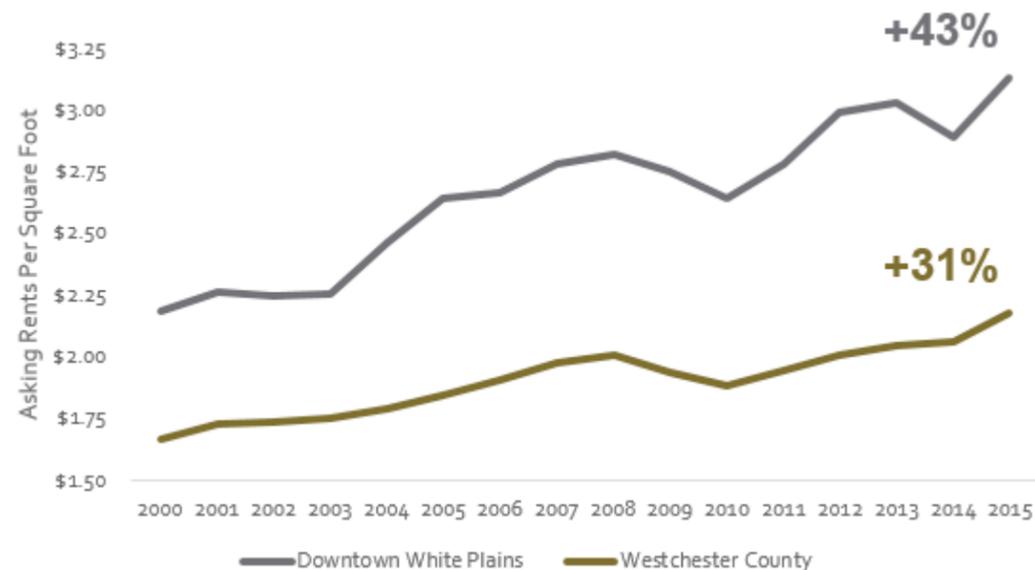


FIGURE 7: Historic Growth in Per Square Foot Asking Rates, Downtown White Plains and Westchester County Residential Rental Properties, 2000-2015

Source: CoStar

The Downtown Study Area faces several challenges that has prevented it from realizing its full potential.

- » Much of its office stock dates to the 1970s and 1980s and is increasingly obsolete. As a result, Downtown struggled to capture new office users who do not need to be close to the county seat, the court system or the hospitals.
- » The blocks immediately surrounding the White Plains Metro-North station are perceived as uninviting. Many buildings in the western half of Downtown lack street retail or present imposing blank walls that discourage pedestrian activity.
- » Interviews suggest that Downtown White Plains has failed to attract the same level of retail and entertainment options found in competitor cities such as Stamford or Jersey City. However, some stakeholders suggested that the addition of additional residential units could help create a critical mass of residents that would increase the viability of new street-level uses.

1.7 SUMMARY

The baseline reports provide an analysis of the multitude of considerations and existing issues facing the White Plains Transit District. Based on the findings of these studies, conversations with stakeholders, politicians, City staff, and members of the public, a series of near- and longer-term recommendations will be developed within the following broad categories, to integrate the topics as covered in these baseline studies in an effective and productive manner:

- » Station Site Circulation
- » Zoning and Development
- » Pedestrian/Bicycle/Wayfinding Improvements

Following completions of Task 4.1, the study progresses to Task 5 – Strategic Plan. Continued coordination with the Stakeholder Task Force and the public through meetings and website/social media feedback will inform the final recommendations to be presented in the Strategic Plan.

2 APPENDIX 1: EXISTING PEDESTRIAN CONDITIONS BASELINE STUDY

2.1 INTRODUCTION

2.1.1 PROJECT OVERVIEW

The City of White Plains is leading a strategic planning project to redevelop and transform the area around the White Plains Metro-North station and Westchester County Bee-Line Bus Station into a gateway connected to the downtown core. The plan will address all modes of travel, address opportunities to maximize economic development potential, and identify new and important linkages to downtown. The City received grant funding for the project through the New York State Energy Research and Development Authority (NYSERDA). The project will incorporate sustainable design principles that are protective of the environment and promote energy efficiency.

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2.1.2 STUDY AREA

The Multimodal Transportation Center Redevelopment Project Study Area is centered on the MTA White Plains Metro-North Station and the Westchester Bee-Line TransCenter bus station. It extends approximately 0.35 miles around the Metro-North Station and includes the City of White Plains parking garage and surface lot, the White Plains Fire Department Station No. 2, the westerly portion of the downtown business district, the easterly portion of the Battle Hill neighborhood, the southerly portion of the Ferris-Church neighborhood, the Bronx River Parkway Reservation, and the Westchester County Center (Figure 8).

2.1.3 REPORT PURPOSE

Task 4.1A - Review of Existing Studies and Reports and Task 4.1B - Existing Conditions Gap Analysis led to identification of data gaps and the development of baseline study scopes. The purpose of this report is to present the analysis and results of the Existing Pedestrian Conditions Baseline Study, which will inform the development of the Strategic Plan.

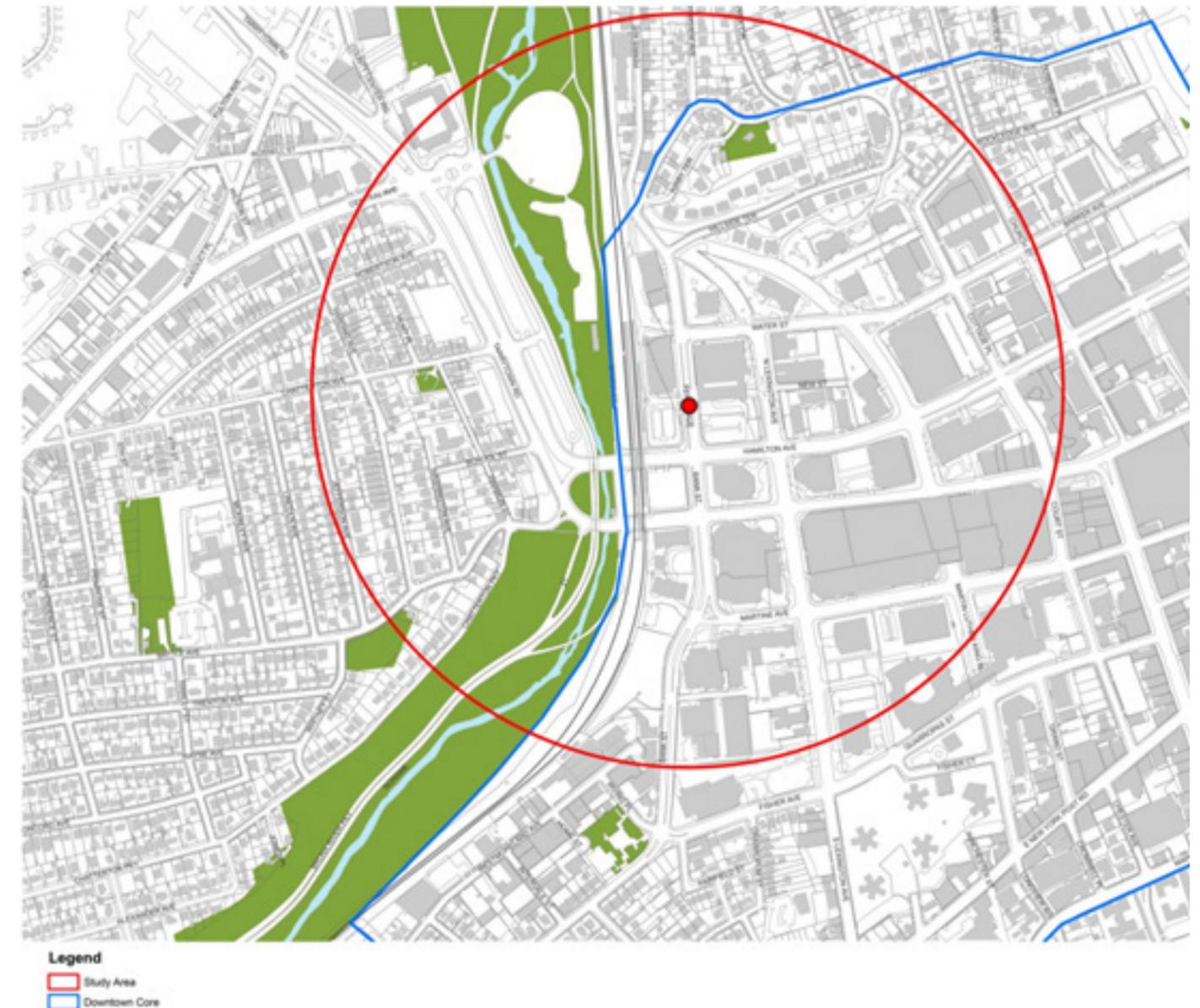


FIGURE 8: Study Area
Source: WSP | Parsons Brinckerhoff

2.2 BASELINE STUDY SCOPE

2.2.1 FIELD OBSERVATIONS OF PEDESTRIAN CIRCULATION

From the standpoint of pedestrian circulation, the study area can be divided into four sub-areas: the downtown core south and east of the station, the Bronx River Parkway Reservation area just west of the train tracks, the Battle Hill neighborhood west of the Bronx River, and the Ferris-Church neighborhood to the north of the station. The downtown core is characterized by a (largely) regular street grid providing multiple pedestrian paths between most origins and destinations. This area has much more pedestrian activity than the residential areas to the west and north of the station and is the destination for most people who walk in and out of the train and bus stations. The Metro-North railroad embankment creates a north-south barrier to east-west pedestrian movement through White Plains, passable only at Main Street, Hamilton Avenue, and the Mott Street Tunnel at the north end of the train station. The Bronx River Park creates a pleasant space for pedestrians during the day, but is quiet in the evening and is crossed by busy roadways with limited pedestrian crosswalks, creating a perceived pedestrian barrier, especially in the evening. The Battle Hill neighborhood, on the west side of the Bronx River is accessed primarily on Battle Avenue or Chatterton Avenue, which both climb steeply into the neighborhood. The Ferris/Church neighborhood is connected to the White Plains Multimodal Transportation Center via Ferris Avenue and Hillside Terrace, which also climb steeply into that neighborhood.

On-site observations of pedestrian circulation were conducted both within the White Plains Metro-North station and throughout the study area during the AM and PM peak periods and during off-peak periods. Observations of pedestrian movements were conducted on November 5, 2015, December 3, 2015 and January 20, 2016. Observations included walking through the White Plains Metro-North station to observe the movement of passengers entering the station, waiting for trains, and departing the station. Observations of pedestrian circulation around the study area included walking within the downtown core and into both the Battle Hill and Ferris Avenue neighborhoods. Broad observations of pedestrian movements in and out of the station were also made from the roof of the municipal parking garage next to the station, which provides a panoramic view of the area.

2.2.2 PEDESTRIAN COUNTS

New pedestrian counts based on observations of existing conditions, were conducted from 7:00 to 9:30 AM and 4:00 to 7:00 PM on November 18 and December 3, 2015. All counts conducted were bi-directional. Counts in the White Plains Metro-North station were recorded in 5 minute increments and sidewalk and crosswalk counts were recorded in 15 minute increments. Count locations within the station were chosen to count everyone entering and exiting the station at the points where they enter and exit. Count locations on sidewalks and crosswalks were chosen to count almost everyone who walks to and from the station at points that indicate their paths of access to the station.

All eight of the access points to the White Plains Metro-North station were counted, including:

- » South side of Main Street stair to center platform
- » South side of Hamilton Ave stair to center platform
- » Main Entrance, corridor leading to stairs/escalators/elevator to center platform

- » Stair to side platform south of the main entrance
- » Bridge from center of side platform to garage (mid-level)
- » Bridge between center platform and garage (upper level)
- » Bridge from north end of side platform to garage
- » Stair down to the Mott Street Tunnel

Pedestrian counts on crosswalks were conducted in conjunction with traffic data collection. The locations elected form a "cordon line" around the east side of the White Plains Metro-North station. In addition, crosswalk counts at two intersections one block further east along Lexington Avenue were counted as these represent key points along the main routes between the White Plains Multimodal Transportation Center and the downtown core. The following locations were collected by Miovision cameras in conjunction with intersection turning movement counts:

- » Ferris Ave. at Water Street
- » Ferris Ave. at New Street
- » Ferris Ave./Bank St. at Hamilton Avenue, including all four sides, even where no crosswalk
- » Bank Street at Main Street
- » N. Lexington Ave. at Hamilton Ave.
- » N./S. Lexington Ave. at Main Street

Counts were made along sidewalks east of Ferris Avenue / Bank Street and south of Main Street to form a "cordon line" around the east side of the White Plains Metro-North station, thus capturing the bulk of pedestrian activity moving to and from the station. The following sidewalk counts were collected by specifically placed Miovision cameras specifically placed for this purpose:

- » North side of Water Street, between Ferris and Lexington
- » South side of Water Street, between Ferris and Lexington
- » In and Out of Westchester Bee-Line TransCenter at Ferris and New Streets
- » North Side of New Street between Ferris and Lexington
- » South side of New Street between Ferris and Lexington
- » North Side of Hamilton Ave. between Ferris and Lexington
- » South side of Hamilton Ave. between Ferris and Lexington
- » North Side of Main Street between Ferris and Lexington

- » South side of Main Street between Ferris and Lexington
 - » West side of Bank Street, between Main and Martine
 - » East side of Bank Street, between Main and Martine
- Count locations in the White Plains Metro-North station, on nearby sidewalks, and at crosswalks are illustrated in Figure 9.

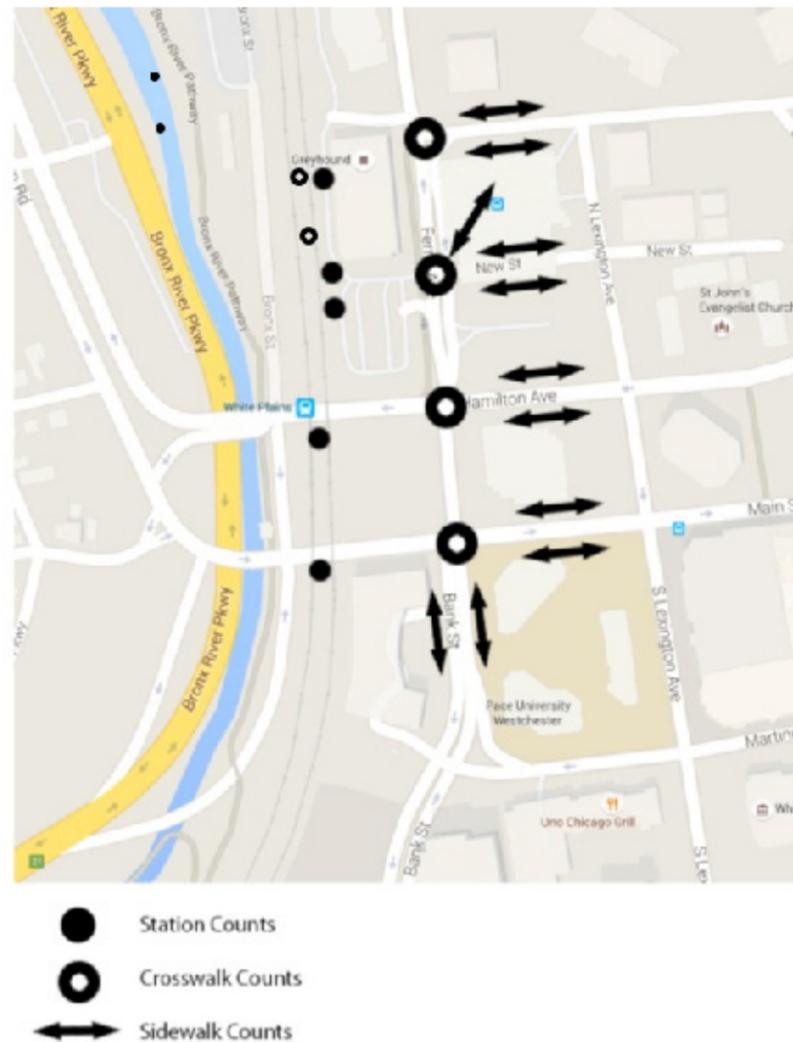


FIGURE 9: Pedestrian Count Locations
Source: WSP | Parsons Brinckerhoff

2.3 PASSENGER SURVEYS

In order to assess the transportation modes that people use to access the White Plains Metro-North station, vehicle occupancies, the type of origins for their trips, and the locations where they started, a survey of passengers departing from the station was conducted. The survey results will facilitate a better understanding of who uses the station and how they get there, and facilitate consideration of options to better serve these users. The survey was conducted by two staff people who moved around on both platforms at White Plains Metro-North station on December 3, 2015. The survey was conducted during the morning and evening peak periods (7:00 to 9:00 am and 4:30 to 6:30 pm) interviewing a random sample of as many people as possible while they waited for trains. Passengers getting off trains were not interviewed, but people who arrive in the morning typically depart in the evening, and vice versa, so everyone had an opportunity to be interviewed.

- » The surveyors asked people verbal questions and recorded the replies.
- » Only departing passengers were surveyed, as they had plenty of time to answer. The access patterns of arriving passengers can be inferred from these survey results.
- » Quick introduction: "Hello, we are taking a survey of passengers at the station today."
- » Question 1a: "How did you get to the station today?" ...walk, drove, dropped off, taxi, bus, etc.
- » Question 1b: if the answer to question 1 is car or taxi: "How many people were in the vehicle with you (not counting taxi drivers)?"
- » Question 2: "Did you come from work, home, shopping, school, etc?"
- » Question 3: "Can you tell me the address, building, or nearest intersection where that is?"
- » The surveyors recorded the time at the conclusion of each successful interview.

2.4 BASELINE STUDY ANALYSIS

2.4.1 PEDESTRIAN OBSERVATIONS

The following observations were noted by viewing and studying the pedestrian environment and pedestrian movement in and around the White Plains Multimodal Transportation Center.

1. Sidewalks in the downtown area generally have ample space and width for the pedestrian volumes that they currently carry and room for significantly more pedestrians, and sidewalk paving and crosswalk markings are generally good. However, many of the sidewalks have an unattractive character as they are fronted by "blank" facades or parking lots with little or no activity or visible connection between the sidewalks and activity within adjacent buildings.
2. Hamilton Avenue and Main Street are the only east-west vehicular crossings of the railroad in the downtown White Plains area. As a result, east-west traffic is particularly concentrated on these two roadways. Signal timings (cycle length and phasing) at intersections along these streets tend to favor the movement of vehicles over pedestrian comfort and convenience.

3. A large volume of traffic turns left from northbound Bank Street to westbound Hamilton Avenue to exit downtown (1457 vehicles in the PM peak hour). As a result, three left turn lanes are provided to handle the volume and no crosswalk is provided on the west side of the intersection of Bank Street and Hamilton Avenue. The lack of a crosswalk at this location reduces routing opportunities and flexibility for pedestrians since people who want to walk between destinations on the west side of Bank Street and Ferris Avenue have to cross to the east side of the street and back again, and pedestrians who wish to cross to the opposite corner of the intersection have only one option instead of two, which increases average crossing times as they more often have to wait for a walk signal. As noted in the traffic baseline report, this intersection also has the highest number of crashes in the study area.
4. The intersection of Hamilton Avenue and Bronx Street just west of the White Plains Metro-North station lacks north-south pedestrian crosswalks. However, some pedestrians were observed to cross Hamilton Avenue west of Bronx Street mainly to access the station stair on the south side of Hamilton Avenue. While relatively small in number, most of these people are coming from the permit parking lot on the north side of Hamilton Avenue west of the Bronx River Parkway.
5. The crosswalk across Hamilton Avenue just east of Tarrytown Road was never used by people observed to cross in this area—everyone either continued on the north side of Hamilton Avenue or J-walked across Hamilton Avenue near Bronx Street.
6. The main pedestrian access route between Battle Hill and both the White Plains Metro-North station and downtown core is along the south side of Main Street. This route is protected by crosswalks at Bronx Street, the southbound ramp to the Bronx River Parkway, and at Battle Avenue. However, these crosswalk markings were broken and faded. The crosswalk on the ramp to the Bronx River Parkway was observed to be somewhat awkward for pedestrians because traffic does not have to stop at this location unless a pedestrian is present. Due to the curvature of the approach to this ramp, the right side is not as visible to drivers who are more directly facing the left side of the crossing. The sign that says “Turning Traffic Must Yield to Pedestrians” is placed on the right side where it is not as visible to motorists, especially if they are focused on pedestrians at the crossing instead of the signage. 7. Both the Main Street and Hamilton Avenue stairs to the White Plains Metro-North station platform are well used. Both of these stairs are relatively narrow and uninviting as viewed from top or bottom.
7. A significant number of people walking from the White Plains Metro-North station to the downtown core exit via the stair from the side platform, walk south to Hamilton Avenue, then east along the north side of Hamilton Avenue. Many or most of these pedestrians cross Hamilton Avenue by J-walking in the block between Bank Street and N. Lexington Avenue. This is in part due to the lack of a crosswalk on the west side of Bank Street at Hamilton Avenue.
8. Some people walking between the station and the downtown core exit the White Plains Metro-North station via the stair to the south side of Hamilton Avenue, then cross the parking lot east of the station to reach Main Street. While this route requires crossing of Main Street for people continuing south, it is shorter than using the Main Street stair due to the diagonal crossing of the parking lot and most passengers encounter the Hamilton Avenue stair before the Main Street stair due to their positions on the platform.
9. The south end of most trains is in the vicinity of the stair to the south side of Hamilton Avenue, thus exiting passengers reach this stair before the Main Street stair.
10. Most passengers who walk in and out of the White Plains Metro-North station are moving to and from the downtown core to the southeast. Relatively small numbers of pedestrians walk between the station and Battle Hill to the west or the Ferris Avenue neighborhood to the north.
11. Sidewalks throughout the area have adequate capacity for existing pedestrian volumes and appear to have additional capacity to accommodate increases in pedestrian activity.
12. The portion of the parking garage that extends over New Street and the vertical curvature of New Street create poor sight-lines and an environment that is less attractive for pedestrians.
13. Many passengers moving between the White Plains Metro-North station and the Westchester Bee-Line TransCenter or New Street were observed to use the platform-level bridge to the parking garage, then the parking garage stair down to street level, instead of using the stair from the side platform as this route is slightly more direct.
14. The east end of New Street terminates at an office building parking lot without a connection to Dr. Martin Luther King Jr. Boulevard. A pedestrian connection at this location would better connect the pedestrian network in that area.
15. Many of the sidewalks in downtown experience higher winds, especially where medium-height or taller buildings channel wind along streets and where street trees and other wind breaks are limited or not present. The windy conditions make walking less pleasant on windy days.

2.5 PEDESTRIAN VOLUMES

Tables 3-5 and Figures 10 to 13 present summaries of the pedestrian counts conducted. Pedestrian levels of service, or the density of pedestrian flows, were observed to be good on area sidewalks and crosswalks. Stairs and walkways in the White Plains Metro-North station become congested immediately after trains arrive, but this condition is relatively brief and results in minimal delay for exiting passengers.

As shown in Table 3 and Figures 10 and 11, most passengers enter and exit the White Plains Metro-North station around the main entrance at the foot of New Street, including the passage leading to the stairs, escalator, and elevator to the center platform, the stair to the side platform, and two bridges connecting the station to the south end of the adjacent parking garage. A significant portion of passengers also use the three stairways from the center platform down to the Mott Street tunnel, Hamilton Avenue, and Main Street. The AM peak hour at the station was observed to be from 7:45 AM to 8:45 AM. The PM peak hour at the station was from 5:45 PM to 6:45 PM.

Table 2 and Figures 5 and 6 present peak hour pedestrian volumes on key sidewalks in the study area. The volumes demonstrate that pedestrians spread out on multiple streets and sidewalks as they move to and from the Multimodal Center, with the majority moving toward the southeast. The disparity between north and south or east and west sidewalks on each street indicate the influence of pedestrian choices as they encounter crosswalks and signal cycles along their walking routes, which for most people involves a zig-zag route through the downtown street grid. The AM peak hour on sidewalks where counts were made matched the peak in the station: 7:45 to 8:45 AM. However, the PM peak hour on the sidewalks, 5:15 to 6:15 PM, was earlier than for the station, reflecting the influence of employees leaving offices in White Plains, most of whom do not commute on the railroad.

Table 5 summarizes pedestrian volumes measured on each the crosswalks at each intersection along Ferris Avenue and Bank Street and two intersections on Lexington Avenue. The intersection of Hamilton Avenue at Ferris Avenue and Bank Street, does not have a legal crosswalk on the west side in order to facilitate a triple left turn for northbound vehicles to turn west onto Hamilton Avenue. However, a small number of people were observed to make the crossing. While the table shows no one making the crossing during the PM peak hour, a few people did make the crossing during the PM count period, but not during the peak hour.

Location	AM In/Up	AM Out/Down	AM Total	PM In/Up	PM Out/Down	PM Total
Stair from Center Platform to Mott Street Tunnel	17	345	362	144	30	174
North Bridge, Side Platform to Garage	17	0	17	142	1	143
Main Entrance, Ground Level to Center Platform	836	220	1,056	681	165	846
Bridge from Center Platform to South End of Garage	1	153	154	76	2	78
Bridge from Side Platform to South end of Garage	76	2	78	147	4	151
Stair from Side Platform to Surface	2	640	642	8	676	684
Stair from Center Platform to South Side of Hamilton Ave.	137	226	363	127	116	243
Stair from Center Platform to South Side of Main Street	177	319	496	200	128	328

TABLE 3: Peak Hour Station Access Volumes
Source: WSP | Parsons Brinckerhoff, Counts, Nov. 2015

Location	AM EB/NB	AM WB/SB	AM Total	PM EB/NB	PM WB/SB	PM Total
Water Street, North Sidewalk (Ferris to Lexington)	19	8	27	14	44	58
Water Street, South Sidewalk (Ferris to Lexington)	139	19	158	25	77	102
Enter/Exit TransCenter (EB = enter, WB = exit)	12	43	55	17	26	43
New Street, North Sidewalk (Ferris to Lexington)	15	55	70	35	23	58
New Street, South Sidewalk (Ferris to Lexington)	14	39	53	24	17	41
Hamilton Ave, North Sidewalk (Ferris to Lexington)	28	26	54	73	31	104
Hamilton Ave, South Sidewalk (Ferris to Lexington)	43	77	120	29	44	73
Main Street, North Sidewalk (Ferris to Lexington)	34	47	81	48	31	79
Main Street, South Sidewalk (Ferris to Lexington)	92	75	167	108	149	257
Bank Street, East Sidewalk (Main to Martine)	33	33	66	28	29	57
Bank Street, West Sidewalk (Main to Martine)	87	74	161	68	53	121

NB = northbound, SB = southbound, EB = eastbound, WB = westbound

TABLE 4: Peak Hour Sidewalk Volumes
Source: WSP | Parsons Brinckerhoff, Counts, Nov. 2015

Location	North EB / WB	South EB / WB	East NB / SB	West NB / SB
AM				
Water St. at Ferris Ave.	10 / 38	55 / 30	13 / 73	25 / 7
New St. at Ferris Ave.	8 / 34	17 / 17	25 / 33	11 / 9
Hamilton Ave. at Ferris/Bank	148 / 69	19 / 107	46 / 78	3 / 8
Main St. at Bank St.	53 / 27	78 / 127	25 / 10	12 / 11
Hamilton Ave. at Lexington Ave.	61 / 34	44 / 61	4 / 12	263 / 34
Main St. at Lexington Ave.	115 / 54	71 / 98	34 / 43	21 / 26
PM				
Water St. at Ferris Ave.	65 / 11	10 / 19	29 / 14	13 / 20
New St. at Ferris Ave.	1 / 2	19 / 17	19 / 23	3 / 5
Hamilton Ave. at Ferris/Bank	92 / 73	76 / 27	43 / 65	0 / 0
Main St. at Bank St.	25 / 68	119 / 141	27 / 22	15 / 8
Hamilton Ave. at Lexington Ave.	53 / 45	58 / 32	13 / 22	26 / 179
Main St. at Lexington Ave.	94 / 67	104 / 178	50 / 45	37 / 19

NB = northbound, SB = southbound, EB = eastbound, WB = westbound

TABLE 5: Peak Hour Crosswalk Volumes
Source: WSP | Parsons Brinckerhoff, Counts, Nov. 2015

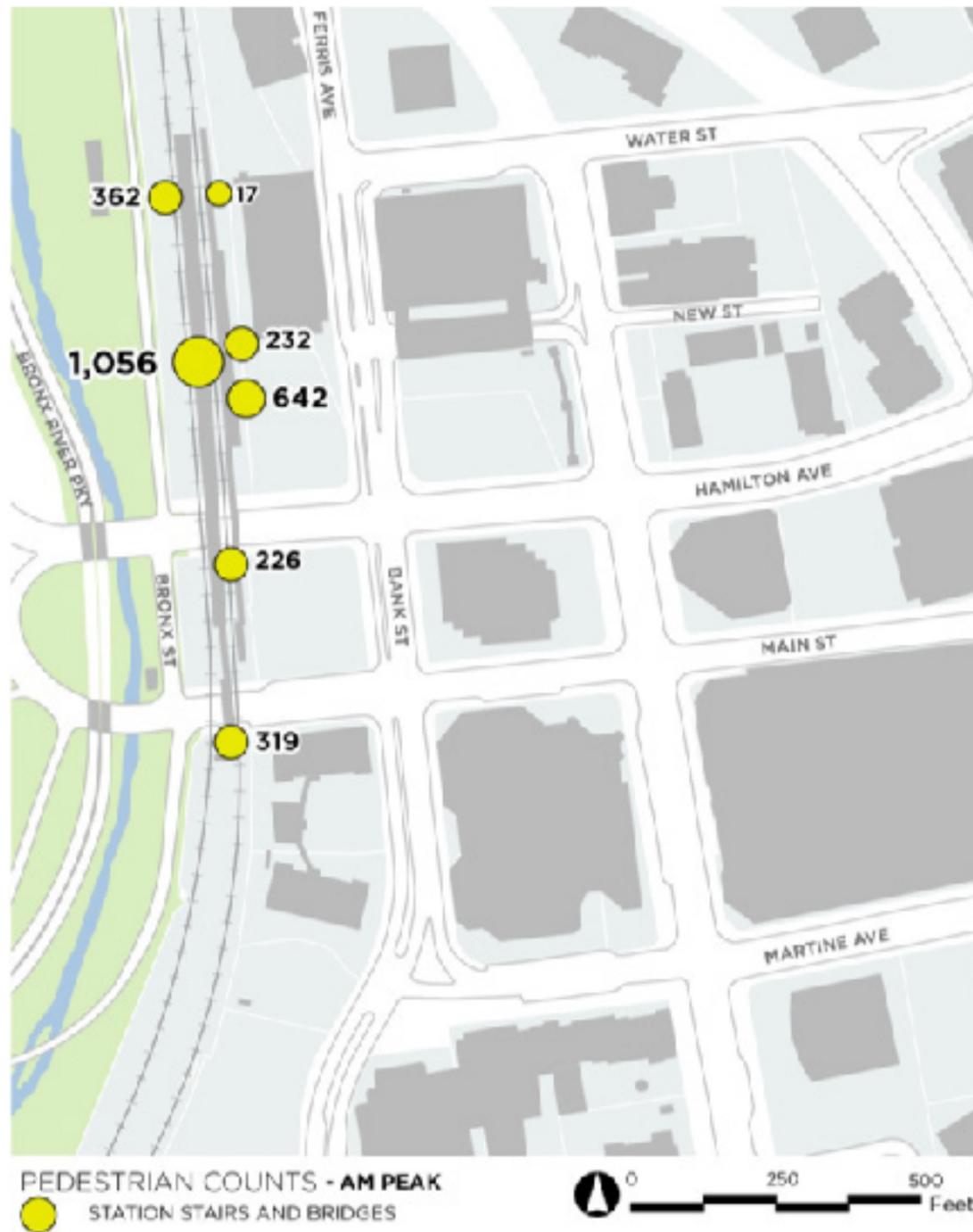


FIGURE 10: AM Peak-hour Volumes In and Out At Station Access Points
Source: WSP | Parsons Brinckerhoff

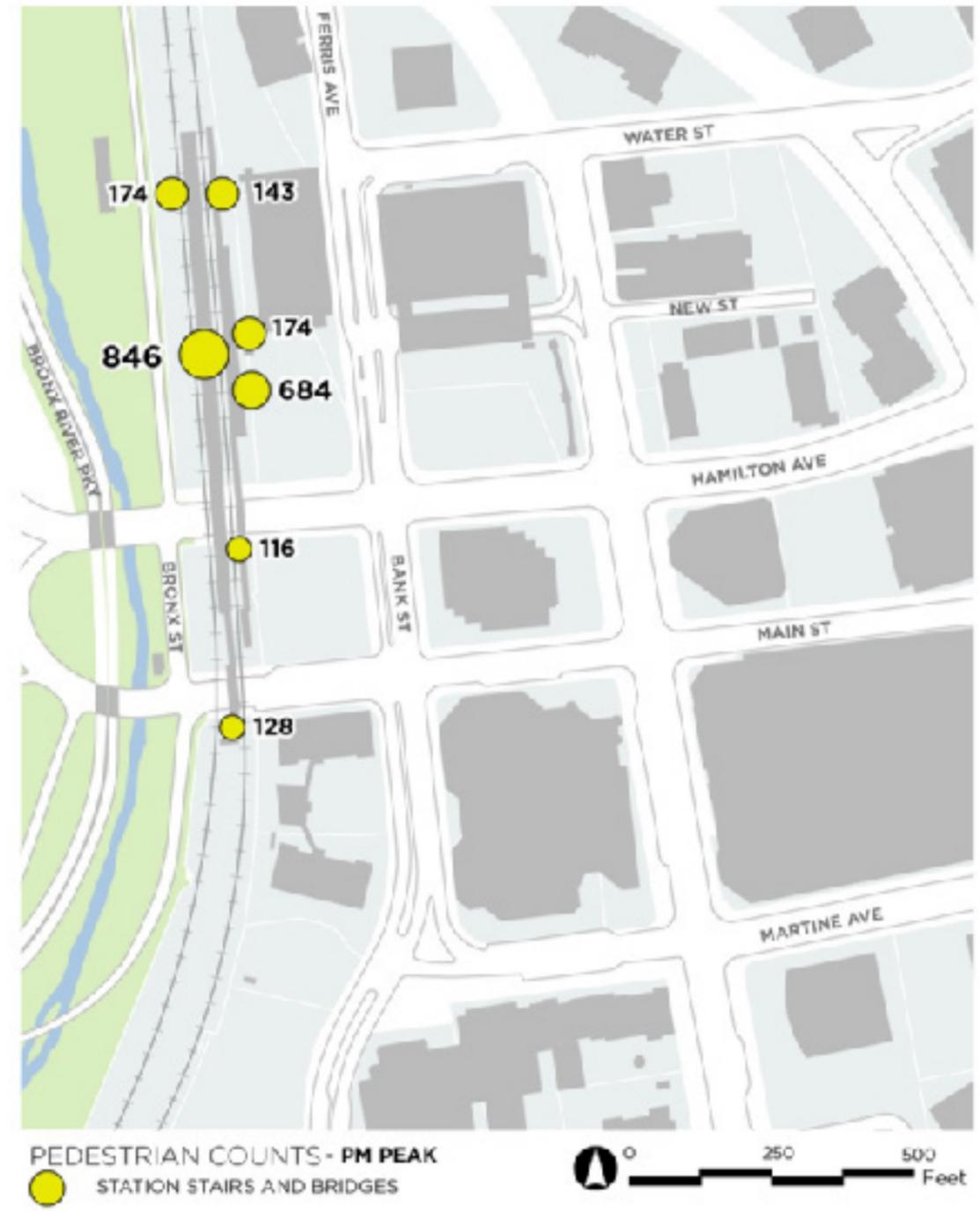


FIGURE 11: PM Peak-hour Volumes In and Out At Station Access Points
Source: WSP | Parsons Brinckerhoff

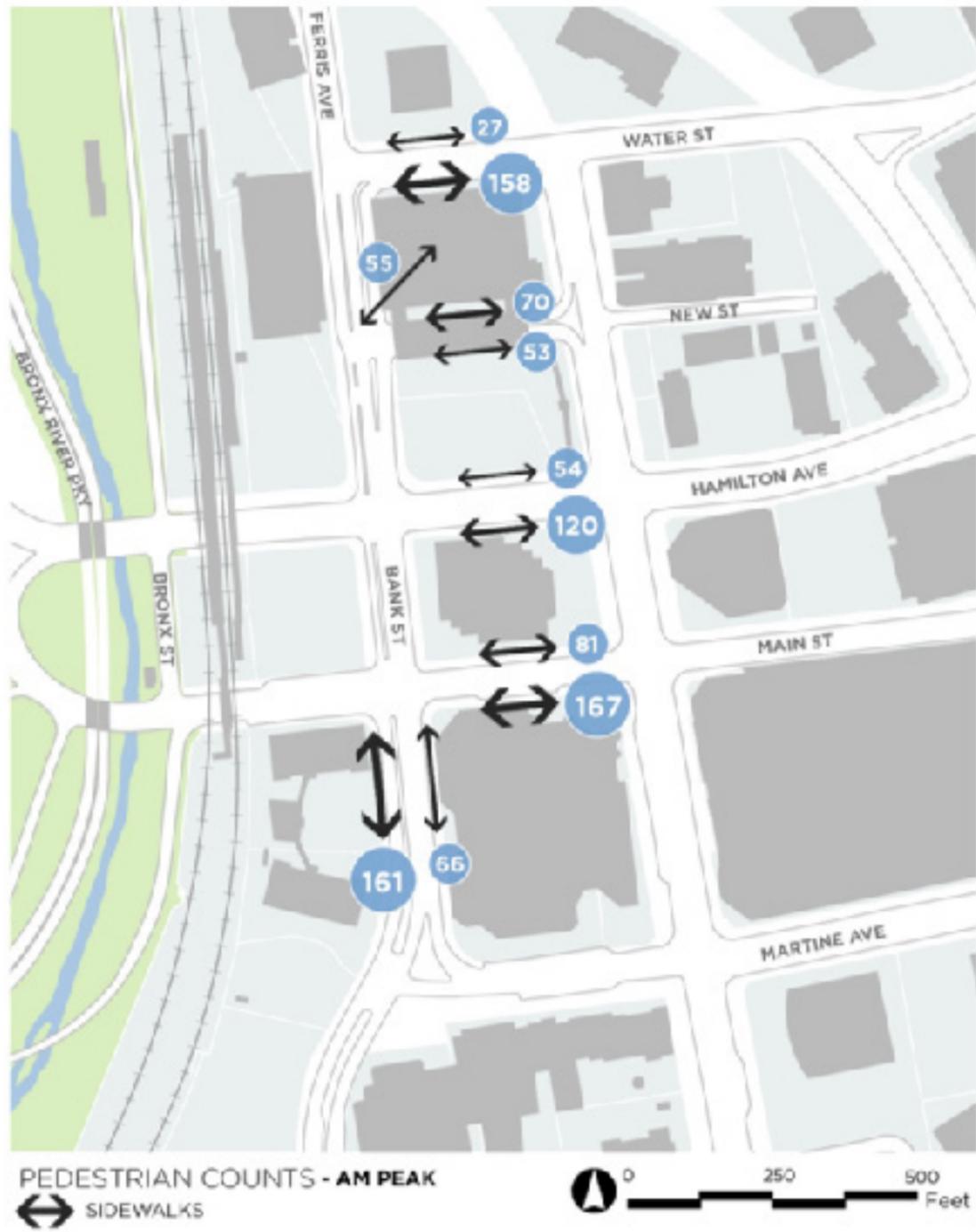


FIGURE 12: AM Peak-hour Bi-directional Volumes on Sidewalks
Source: WSP | Parsons Brinckerhoff

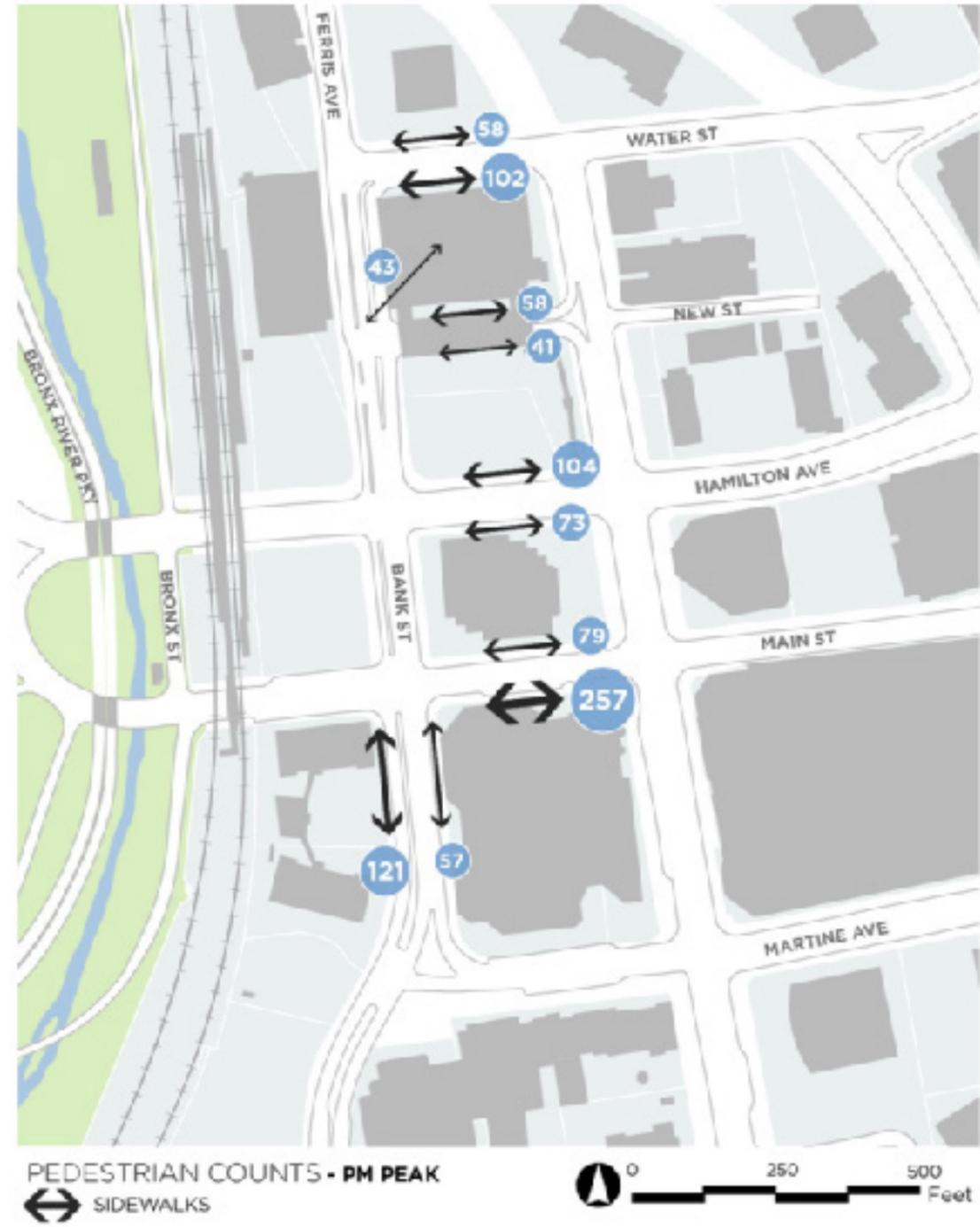


FIGURE 13: PM Peak-hour Bi-directional Volumes on Sidewalks
Source: WSP | Parsons Brinckerhoff

2.6 SURVEY RESULTS

The interview surveys conducted on the White Plains Metro-North station platforms focused on assessing the mode of access to the station, vehicle occupancies, and the origins of trips to the station. A total of 249 surveys were conducted during the AM peak period and 255 surveys were conducted during the PM peak period. Figures 14 and 15 present the mode of access for passengers waiting for trains in the morning and evening, respectively. Passengers waiting for trains in the morning are generally residents of White Plains and the surrounding areas who are commuting to jobs or appointments in Manhattan. These passengers will generally make the reverse trip in the evening and take the same modes away from the station when they return. Passengers waiting for trains in the PM peak period include people who work in White Plains and nearby areas and some residents who are taking a train into the city for evening recreation and entertainment.

In the morning, the largest group, 41 percent, travel to the station by car that they park in the area. Combining those that drive, those who are dropped off, and taxis represents 59 percent of the total. Fifteen percent of the passengers waiting on the platform reported arriving by train, representing passengers who transfer between local and express trains at the station in both directions. Fourteen percent of morning passengers walked to the station and 12 percent transferred from buses. Of the passengers who drove, 76 percent drove alone and 22 percent traveled with two people in the car.

In the evening, the largest group, 37 percent, travel to the White Plains Metro-North station by bus (including private employment shuttles). The second largest group, 29 percent walk to the station. The first group mainly represents people who take shuttle buses from employment along the I-287 corridor and the second group mainly represents people who work within downtown White Plains. In addition, 19 percent reported either driving or being dropped off at the station in the evening, and 7 percent arrived by taxi. As in the morning, some passengers, 8 percent in the evening, arrived by train and are transferring to another train at White Plains. Of those who drove to the station in the evening, 68 percent traveled alone, 20 percent traveled with one other person, and 12 percent traveled with three or more people in the car. During the AM peak period, 94 percent of respondents started their trip from home, 3 percent had departed from their workplace, and 2 percent indicated other places of origin. During the PM peak period, 65 percent of respondents had come to the station from work, 16 percent from educational facilities, 12 percent from home, 2 percent from shopping, and 4 percent from other places of origin.

2.7 KEY FINDINGS

Following are the key findings related to pedestrian circulation in the study area.

- » Stairways, escalators, and pedestrian bridges in the White Plains Metro-North station are constrained and become busy immediately after trains arrive, but generally have sufficient capacity to serve existing passenger volumes and clear station platforms in a reasonable time after trains arrive.
- » Three of the stairways in the White Plains Metro-North station, down to the Mott Street tunnel, Hamilton Avenue, and Main Street pass through narrow “tunnels” that are unattractive and uncomfortable for pedestrians and constrain their capacity to handle increased volumes in the future, especially when people are moving in both directions on these stairs.
- » Sidewalks and crosswalks provide ample capacity for existing pedestrian volumes with excess capacity to accommodate growth in pedestrian activity.
- » Pedestrians J-walk in specific locations mainly because breaks in vehicular traffic allow them to do so and because the placement of the main access point to the station encourages a diagonal movement across the street grid.
- » Streets in the study area are designed for efficient movement of vehicles, with many lanes, broad lane widths, and signal timings that favor movement of vehicles, but are not as amenable to pedestrians.
- » Broad streets are less favorable to pedestrians as they increase walking distances and crossing times at crosswalks.
- » While pedestrian volumes west of the White Plains Metro-North station are relatively low, the layout of the roadways and intersections is unpleasant for pedestrians moving between the Battle Hill neighborhood and the station and downtown.
- » The character of Ferris Avenue north of the White Plains Metro-North station (between Water Street and Park Avenue) creates an interface between the Ferris Avenue neighborhood and the station area that is not inviting for pedestrians.
- » Walkways in the area are generally adequate. However, the adjacent land uses and lack of engaging facades create an environment that is uninviting to pedestrians and contributes to an unsafe feeling for pedestrians during evening hours when the area is less active.
- » The majority of passengers who walk in and out of the White Plains Metro-North station travel to and from the southeast. However, the station’s main entrance is located more northerly at the end of New Street.
- » The volume of traffic turning left from Bank Street to Hamilton Avenue, and the associated need for three left turn lanes, and the general volume of traffic on Hamilton Avenue and Main Street as they cross Bank Street, negatively impacts the pedestrian character and linkages in the station area. An alternate vehicular crossing of the train tracks could divert some of this traffic and improve pedestrian conditions in the station area.

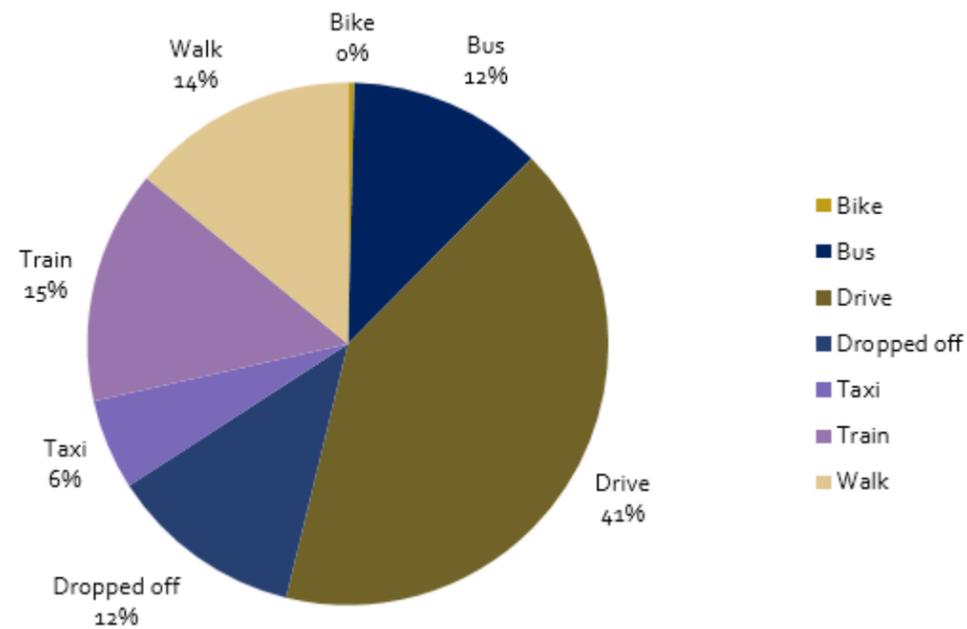


FIGURE 14: AM Peak Period Mode of Access to The Station
Source: WSP | Parsons Brinckerhoff Survey, Nov. 2015

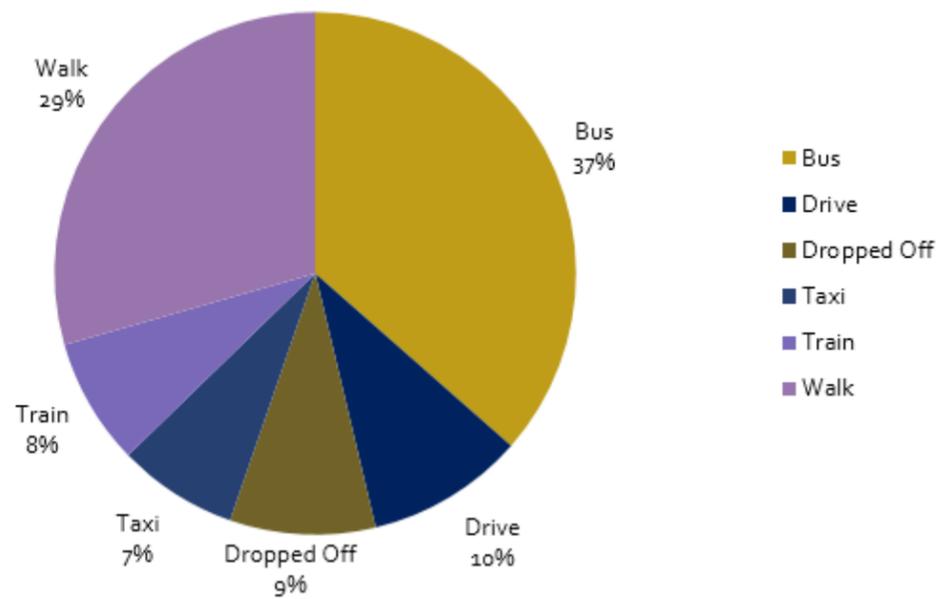


FIGURE 15: PM Peak Period Mode of Access to The Station
Source: WSP | Parsons Brinckerhoff Survey, Nov. 2015

3 APPENDIX 2:TRAFFIC AND PARKING BASELINE STUDIES

3.1 INTRODUCTION

3.1.1 PROJECT OVERVIEW

The City of White Plains is leading a strategic planning project to redevelop and transform the area around the Metro-North White Plains station and Bee-Line Bus Station into a gateway connected to the downtown core. The plan will address all modes of travel, address opportunities to maximize economic development potential, and identify new and important linkages to downtown. The City received grant funding for the project through the New York State Energy Research and Development Authority (NYSERDA). The project will incorporate sustainable design principles that are protective of the environment and promote energy efficiency.

The project provides an opportunity to address a pressing need for creating an integrated regional transportation hub in White Plains where BRT, commuter rail, local bus, taxis and shuttles riders can make efficient connections to and from White Plains, Yonkers, New Rochelle, Stanford, New York City and other local activity nodes. A modern, efficient and accessible public transit hub in Downtown White Plains is a critical component of a high performing regional multimodal transportation network designed to get people out of their private vehicles and onto public transit for trips between home, work, shopping, and recreation. It is anticipated that the project will drive further investment and redevelopment in the immediate station area and into the downtown core, and increase both commercial and pedestrian activity in the greater Downtown White Plains area and the surrounding street system.

The City of White Plains is committed to engage and work cooperatively with the project area stakeholders and the public to develop a short- and long-term vision for the project. The final Strategic Plan, expected to be complete in Fall 2016, will assess the existing conditions in the study area, establish the need for the project, define goals and objectives, define major plan elements, identify potential funding sources, and identify a plan of implementation.

3.1.2 STUDY AREA

The Multimodal Transportation Center Redevelopment Project Study Area is centered on the MTA White Plains Metro-North Station and the County of Westchester Bee-Line Bus Station. It extends approximately 0.35 miles around the Metro-North Station and includes the City of White Plains parking garage and surface lot, the White Plains Fire Department Station No. 2, the westerly portion of the downtown business district, the easterly portion of the Battle Hill neighborhood, the southerly portion of the Ferris-Church neighborhood, the Bronx River Parkway Reservation, and the Westchester County Center (Figure 16).

3.1.3 REPORT PURPOSE

The Task 4.1A Review of Existing Studies and Reports and Task 4.1B Existing Conditions Gap Analysis led to identification of data gaps and the development of baseline study scopes. The purpose of this report is present the analysis and results of the Traffic and Parking Baseline Studies, which will inform the development of the Strategic plan elements.

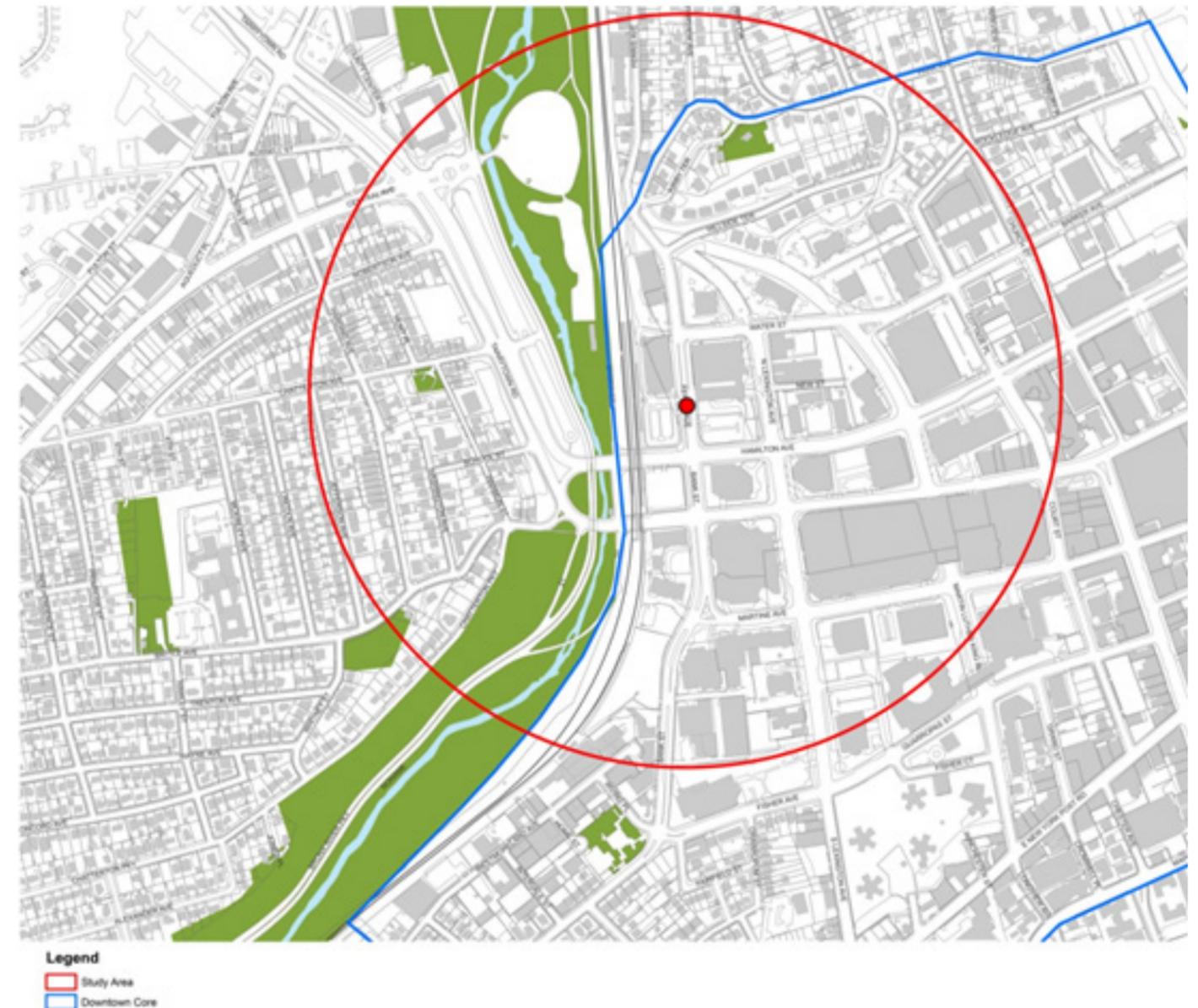


FIGURE 16: Study Area
Source: WSP | Parsons Brinckerhoff

3.2 BASELINE STUDY SCOPE

Understanding the traffic and parking conditions surrounding the existing Multimodal Transportation Center (MTC) in White Plains and along the connections into the downtown area plays a large role in the process of identifying strategic improvements that will enhance ease of access for all modes of transportation. The existing conditions will also have an impact on the feasibility of future development scenarios for the MTC and will serve as the baseline from which future plans for development are evaluated. The following sections present the scope of work for the baseline traffic and parking studies.

3.2.1 BASELINE TRAFFIC STUDY

To form a fully effective, multimodal set of transportation improvements, specific and detailed information about the condition and performance of the corridors leading to and from the current MTC needed to be identified. As part of this effort, previous studies and data were reviewed and data gathered where there were gaps. Information on traffic includes an inventory of the physical layout of the corridor, data on travel volumes and times, and crash data. The typical weekday AM and PM peak periods represent the worst case scenario for baseline conditions, therefore the baseline traffic study focused on these time periods so that future improvement strategies will address the majority of the capacity constraints.

3.3 BASELINE PARKING STUDY

3.3.1 OFF-STREET PARKING SUPPLY AND UTILIZATION

Readily available parking data was obtained from the City of White Plains and reviewed to assist in the process of identifying those facilities that currently experience capacity constraints and those that may be affected by a redeveloped MTC. Eleven facilities within ¼-mile radius of the existing MTC were identified for detailed study.

3.3.2 ON-STREET PARKING SUPPLY AND UTILIZATION

A qualitative analysis of on-street parking conditions in the study area was performed as part of the baseline analysis. For this task, the following was completed:

- » Qualitatively assessed on-street parking utilization levels
- » Identified areas where parking regulations are not enforced
- » Identified which types of vehicles are parking illegally
- » Identified the approximate percentage of time that parking regulations are not enforced

3.4 BASELINE STUDY ANALYSIS

3.4.1 TRAFFIC

Readily available traffic data and simulation models from the City of White Plains were obtained and reviewed to assist in the process of identifying intersections, streets, and corridors around the MTC with the most critical issues and capacity constraints. The study area, illustrated on Figure 17, was defined to include the intersections most likely to be affected by a redeveloped MTC and other proposed developments. The study area is roughly defined as a ¼ to ½ mile radius and includes major roadway corridors to/from highway access points and the MTC, adjacent circulation roadways surrounding the MTC, and any intersections within downtown White Plains that are considered critical to the functionality of the MTC.

3.4.2 ROADWAY NETWORK

Main Street and Hamilton Avenue are the main entry/exit routes to and from downtown White Plains, and specifically the MTC itself. Main Street and Hamilton Avenue operate as a one-way pair, with Main Street operating in the eastbound direction and Hamilton Avenue operating in the westbound direction between Tarrytown Road and Dr. Martin Luther King Jr. (MLK) Boulevard. West of MLK Boulevard, Hamilton Avenue widens and becomes a two-way roadway. Most of the streets within the study area operate in one direction, with exceptions made for buses along Bank Street adjacent to the MTC. Past studies focused on the extension of the roadway network to provide additional vehicular access to and from the downtown area via a connector from the Tarrytown Road/Central Avenue intersection to today's MLK Boulevard. Plans for this connector were abandoned, though the right-of-way required for the connector appears to be intact. It is clear that the geometry of the streets in downtown White Plains was designed with the automobile in mind. Wide multi-lane vehicular corridors and large plots of land dedicated to parking cater to drivers and create an unfriendly environment towards pedestrians. Recent trends suggest that automobile usage has declined in recent years, however.

3.4.3 TRAFFIC CONDITIONS

The City of White Plains Traffic Division has a central signal control system for over 130 signalized intersections in and around the city. This program provides real time information regarding traffic volumes/conditions, can be used to manipulate traffic patterns to accommodate emergency response vehicles, and can assist in incident management. According to the official signal timings received for all intersections within the study area, the vast majority of signals in White Plains are fully actuated, with detection carried out by underground loop detectors. Based on the 2005 Turning Movement Count Surveys and 2015 Detector Count Sheets provided from the City of White Plains, it was initially unclear whether volumes or traffic patterns had significantly changed over the last 10 years. A comparison of 2005 to 2015 data points yielded differences of varying degrees, and did not validate the assumption that volumes are approximately the same as they were when last counted for the 2005 Signal Re-timing project.

Given the limitations of the available traffic data, new traffic and pedestrian count surveys were conducted using both Automatic Traffic Recorder (ATR) machines and Turning Movement Counts (TMC) via MioVision cameras. A traffic count program was developed that included ATR counts at 14 locations strategically placed around the study area to cover all major approaches to the MTC. Based on this data, it was confirmed that traffic volumes are highest during the traditional commuter peak hours for most

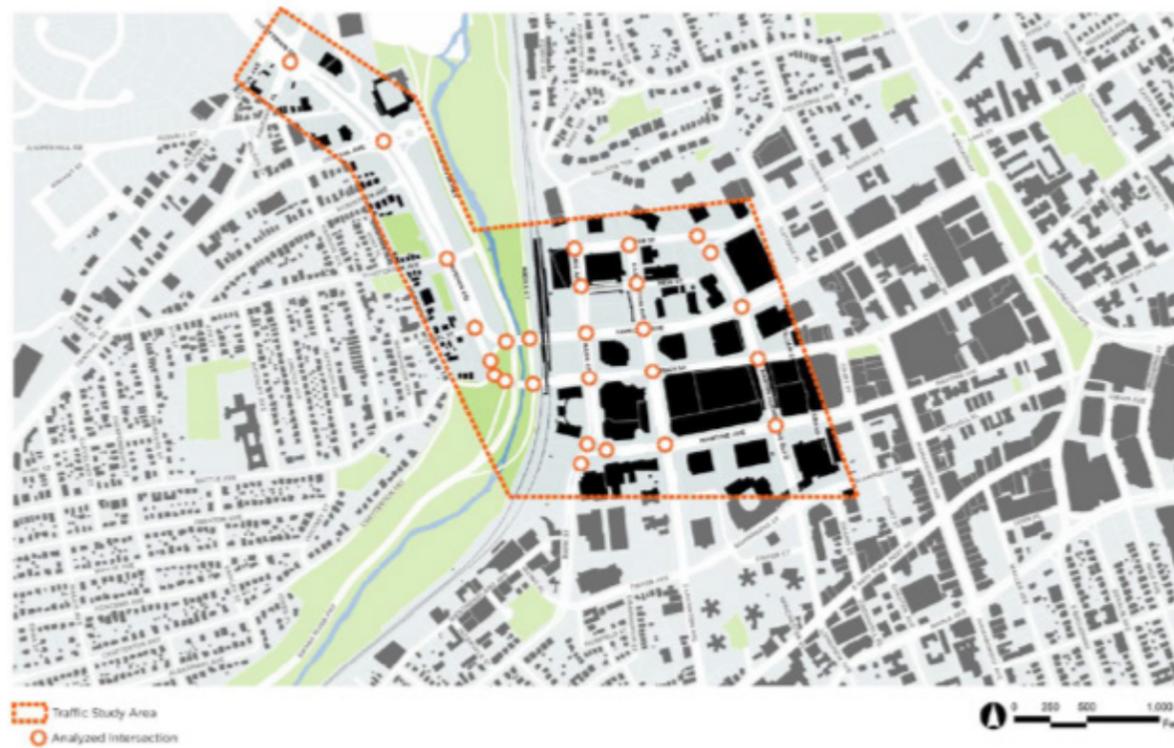


FIGURE 17: Traffic Study Area
Source: WSP | Parsons Brinckerhoff

roadways within the study area, specifically 8:00 AM – 9:00 AM in the morning and 4:45 PM – 5:45 PM in the evening. TMC counts were conducted at the following nine intersections during the two weekday peak periods:

1. Water Street @ Ferris Avenue
2. New Street @ Ferris Avenue
3. Hamilton Avenue @ Ferris Avenue/Bank Street
4. Hamilton Avenue @ N. Lexington Avenue
5. Hamilton Avenue @ Dr. Martin Luther King Jr. Boulevard
6. Main Street @ Bank Street
7. Main Street @ Lexington Avenue
8. Main Street @ Dr. Martin Luther King Jr. Boulevard
9. Martine Avenue @ Bank Street

Vehicles, pedestrians, and bicycle counts were conducted at these nine locations as they are likely to be influenced by the MTC. Vehicular counts were classified as Car, Truck, or Bus. Bicycle movements and conflicting pedestrians were counted simultaneously. The traffic volumes counted as part of this study were compared with the 2005 Synchro model provided by the City of White Plains and used to flesh out the remaining intersections in the study area described above. This was achieved by interpolating the latest ATR data in relation to the 2005 data and 2015 detector counts received from the City of White Plains. Additional observations were made to supplement the traffic count data at all study area locations and included the following:

- » Intersection layout (lane configuration, lane widths, physical / topographic constraints)
- » Speed limits, parking regulations, and signage
- » Active driveways or parking facilities affecting traffic flow
- » Queue sampling
- » Multimodal components (bike lanes, sidewalks, crosswalks, parking lanes / maneuvers)
- » Bus stop location and number of stops
- » Bicycle pathway pavement width, surface conditions, lighting coverage, illumination levels
- » Signage and way-finding to / from major attractors

Travel time data was collected during the two weekday peak periods along the Hamilton Avenue and Main Street corridors around the MTC using the floating car method. In addition, field reconnaissance surveys were conducted along the two corridors to identify major traffic progression issues.

3.4.4 CAPACITY ANALYSIS

The capacity analysis performed for the study area intersections was performed using Trafficware's Synchro Studio software (version 9). Synchro, the macroscopic analysis software application included in the software package, utilizes the Percentile method for determining intersection capacity. The Percentile method uses five sets of traffic volumes to obtain a weighted average of various traffic conditions. Synchro calculates a volume-to-capacity (v/c) ratio, delay, and queue length for each approach or lane group of a signalized intersection. The v/c ratio represents the ratio of the traffic volume on an approach/lane group to the approach/lane group's vehicular carrying capacity. A v/c ratio of between 0.95 and 1.0 represents near-capacity conditions and can cause delays that can become substantial. Ratios of greater than 1.05 indicate saturated conditions with vehicular queuing.

For signalized intersections, the 2010 Highway Capacity Manual methodology was used to calculate the quality of traffic flow in terms of level of service (LOS), which, for intersection analysis, is based on the average delay that a driver experiences in traveling through an intersection during the analysis period. The LOS measures for signalized intersections are reported by letter designations and range from LOS

A, representing minimal delay (10 seconds or less per vehicle), to LOS F, representing long delays (80 seconds or greater per vehicle).

Table 6 shows the LOS/delay relationship for signalized intersections using the HCM methodology. Levels of service A, B and C generally represent conditions that are extremely favorable for traffic flow; at LOS D, the influence of congestion becomes noticeable; LOS E is considered to be the limit of acceptable delay; and LOS F is considered to be unacceptable to most drivers.

For the traffic analysis conducted, each intersection's overall intersection delay, approach delay and, where appropriate, lane-group or movement delay (e.g., through, left turn, right turn) were evaluated. Official signal timings obtained from the City of White Plains were used in the analysis for all of the signalized intersections. Table 7 shows the results of the baseline conditions capacity analysis at study area intersections for the morning and evening peak hours. The tables identify intersection approaches, lane groups, or movements that currently operate at LOS E or F and/or at a v/c ratio of 0.90 or above (shaded in yellow). The maximum queue length is also provided to illustrate where congestion is most likely to result in vehicle spillback (shaded in red). Figure 18 and Figure 19 illustrate the volumes for each turning movement and overall intersection LOS for each of the analyzed intersections for the morning and evening peak hours, respectively.

As shown in Table 8, seven of the analyzed intersections contain at least one congested movement during the morning peak hour. As shown in Table 3, eight of the analyzed intersections contain at least one congested movement during the evening peak hour. Typically, the most congested intersections are located along Tarrytown Road and Hamilton Avenue close to the MTC.

Level of Service	Average Delay per Vehicle (seconds)
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

TABLE 6: Intersection Level of Service (LOS) Criteria
Source: Highway Capacity Manual, 2010

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	AM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
Tarrytown Road (N-S) @ Aqueduct Rd/ Old Kensico Road (E-W) [SIGNALIZED]	EB	350	L	1.04	101.7	F	226
		350	LTR	1.05	103.6	F	226
	WB	340	LTR	0.54	26.8	C	170
		110	L	0.18	44.2	D	109
	NB	720	TR	0.52	33.0	C	348
		200	L	0.60	62.2	E	239
	520	TR	0.64	22.5	C	411	
Intersection					41.3	D	
Tarrytown Road (N-S) @ Central Ave/County Center (E-W) [SIGNALIZED]	EB	260	L	0.17	39.3	D	70
		490	T	0.42	42.4	D	141
		250	R	0.61	11.0	B	130
	WB	100	L	0.45	35.4	D	115
		250	T	0.19	28.9	C	109
		100	R	0.86	56.6	E	120
	NB	600	L	0.40	25.4	C	146
		800	T	0.47	10.6	B	151
		820	R	0.02	0.0	A	0
	SB	500	L	0.40	57.6	E	224
		700	TR	0.86	41.0	D	392
Intersection					32.4	C	
Tarrytown Road (N-S) @ Chatterton Avenue (E-W) [SIGNALIZED]	EB	240	LTR	0.85	55.8	E	116
		110	L	0.83	60.7	E	141
	WB	110	LTR	0.83	59.5	E	141
		370	L	0.38	50.3	D	91
	NB	830	T	0.41	16.8	B	299
		380	R	0.18	3.0	A	120
	SB	180	L	0.10	56.0	E	149
810		TR	0.73	18.1	B	408	
Intersection					24.6	C	
Tarrytown Road (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	150	L	0.17	7.8	A	116
		150	T	0.30	9.5	A	144
	Intersection					9.1	A
Tarrytown Road (E-W) @ Battle Avenue/Hamilton Avenue (N-S) [SIGNALIZED]	EB	680	TR	0.68	15.7	B	205
	SB	100	L	0.67	65.3	E	134
Intersection					21.9	C	

TABLE 7: 2015 Baseline -- AM Peak Hour Traffic Conditions
Source: WSP | Parsons Brinckerhoff

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	AM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
Tarrytown Road (E-W) @ Bronx River Pkwy NB Ramp (N-S) [SIGNALIZED]	EB	230	T	0.74	10.8	B	124
	NB	500	R	1.03	77.4	E	203
Intersection					27.5	C	
Ferris Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	120	LTR	0.05	17.5	B	54
		260	LT	0.75	29.2	C	161
	WB	260	R	0.14	1.6	A	60
		210	L	0.14	7.3	A	73
	NB	210	TR	0.24	7.2	A	149
		210	R	0.24	3.1	A	84
	SB	290	LT	0.24	8.8	A	115
		290	R	0.04	6.6	A	59
Intersection					13.1	B	
N Lexington Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	260	LT	0.27	8.6	A	52
		260	R	0.13	4.7	A	63
	WB	350	L	0.14	2.1	A	98
		350	LTR	0.26	2.6	A	205
	SB	100	LTR	0.03	0.0	A	27
Intersection					4.9	A	
Martin Luther King Jr Blvd (N-S) @ Water Street/ Baker Avenue (E-W) [SIGNALIZED]	EB	340	LT	0.64	27.9	C	192
		430	TR	0.23	16.8	B	155
	NB	450	L	0.20	12.7	B	85
		510	R	0.14	0.2	A	145
	SB	100	LTR	0.03	29.0	C	21
Intersection					15.9	B	
Ferris Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	110	LT	0.68	28.1	C	134
		290	R	0.07	0.3	A	60
	NB	190	LT	0.25	6.7	A	188
		190	R	0.15	1.3	A	96
	SB	210	LT	0.01	3.8	A	62
Intersection					14.7	B	
N Lexington Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	270	R	0.31	0.8	A	141
		220	LT	0.11	8.9	A	132
	SB	230	R	0.02	1.1	A	0
Intersection					3.9	A	

TABLE 7: (Cont.) 2015 Baseline -- AM Peak Hour Traffic Conditions
Source: WSP | Parsons Brinckerhoff

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	AM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
Bank Street/ Ferris Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	300	TR	0.51	26.5	C	223
	NB	190	L	0.37	41.6	D	236
		190	LT	0.44	44.9	D	294
	SB	200	R	0.36	88.3	F	14
Intersection					30.4	C	
N Lexington Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	580	LT	0.44	19.6	B	173
	SB	270	T	0.51	39.6	D	126
		220	R	0.66	46.8	D	135
Intersection					27.8	C	
Martin Luther King Jr Blvd (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	390	TR	0.44	26.0	C	228
	NB	260	L	0.43	30.8	C	263
		260	LT	0.35	28.7	C	289
		260	R	0.40	18.2	B	243
Intersection					26.2	C	
Bank Street (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	160	L	0.52	7.8	A	104
		270	T	0.71	9.5	A	237
		210	R	0.54	8.2	A	92
	NB	410	TR	0.59	32.4	C	242
Intersection					13.6	B	
N Lexington Avenue (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	330	TR	0.92	16.2	B	808
		330	R	0.88	18.7	B	734
	SB	200	L	0.49	22.7	C	106
		200	LT	0.64	36.4	D	165
Intersection					19.8	B	
Martin Luther King Jr Blvd (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	610	L	0.46	6.5	A	230
		610	T	0.54	10.1	B	216
	NB	370	T	0.49	28.3	C	272
		370	R	0.37	28.3	C	170
Intersection					15.6	B	
Bank Street (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	EB	50	L	0.46	49.2	D	130
		50	R	0.13	0.9	A	48
	WB	420	LT	0.31	41.0	D	145
		380	R	0.31	18.8	B	140
	NB	300	LT	0.48	29.3	C	230
	SB	400	TR	0.21	0.9	A	160
Intersection					20.9	C	

TABLE 7: (Cont.) 2015 Baseline -- AM Peak Hour Traffic Conditions
Source: WSP | Parsons Brinckerhoff

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	AM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
N Lexington Avenue(N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	660	L	0.26	1.9	A	96
		660	T	0.18	13.4	B	126
	SB	430	T	0.41	17.0	B	199
		430	R	0.18	3.9	A	125
Intersection				13.5	B		
Martin Luther King Jr Blvd (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	450	T	0.28	19.4	B	168
		450	R	0.28	20.7	C	155
	NB	460	L	0.58	16.3	B	159
		460	T	0.34	22.8	C	271
Intersection				20.4	C		

Notes:

1. EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound, L - Left, T- Through, R - Right

TABLE 7: (Cont.) 2015 Baseline -- AM Peak Hour Traffic Conditions

Source: WSP | Parsons Brinckerhoff

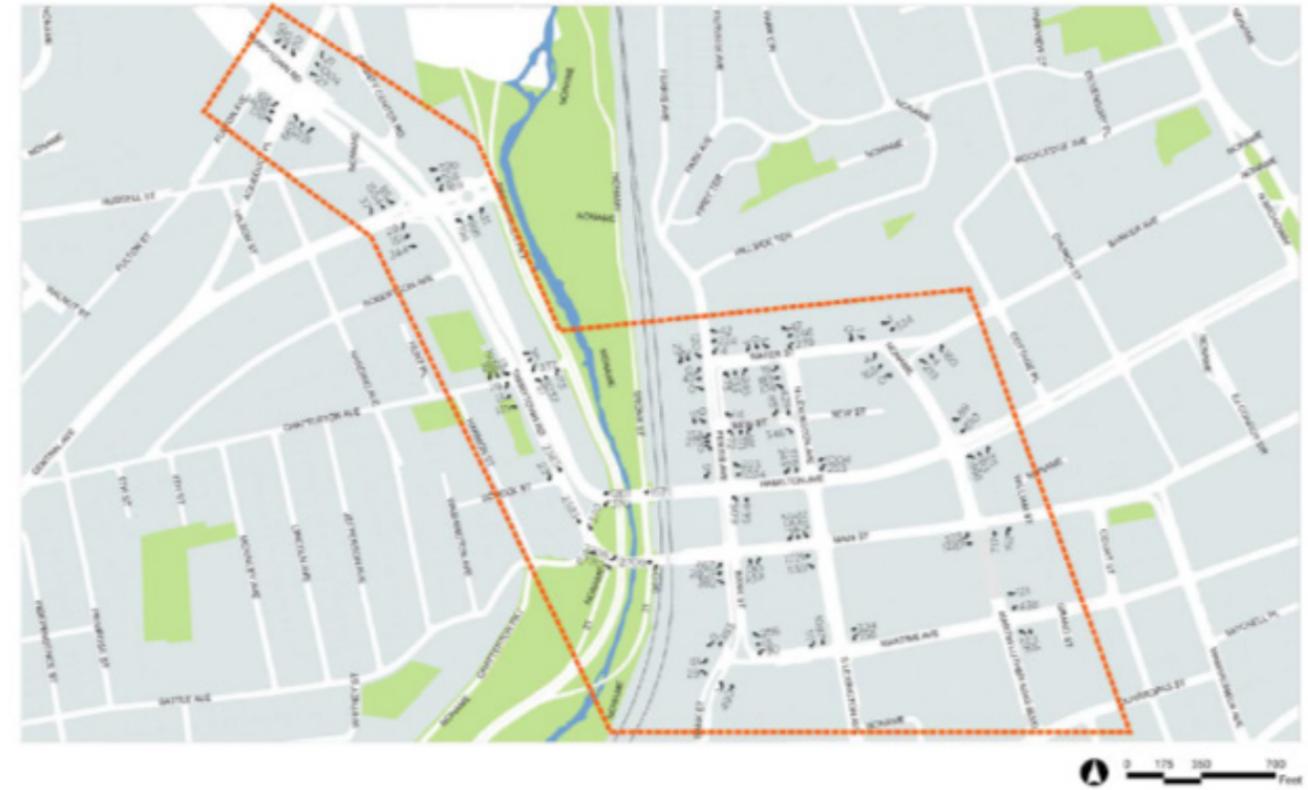


FIGURE 3: 2015 BASELINE - AM PEAK HOUR TRAFFIC CONDITIONS

FIGURE 18: 2015 Baseline -- AM Peak Hour Traffic Conditions

Source: WSP | Parsons Brinckerhoff

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	PM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
Tarrytown Road (N-S) @ Aqueduct Rd/ Old Kensico Road (E-W) [SIGNALIZED]	EB	350	L	0.99	89.6	F	226
		350	LTR	0.99	87.1	F	226
	WB	340	LTR	0.53	27.0	C	160
		110	L	0.28	40.6	D	110
	NB	720	TR	1.03	65.2	E	578
		200	L	0.53	57.7	E	187
	SB	520	TR	0.64	23.9	C	328
		Intersection				52.0	D
Tarrytown Road (N-S) @ Central Ave/County Center (E-W) [SIGNALIZED]	EB	260	L	0.33	42.6	D	91
		490	T	0.41	41.9	D	134
		250	R	0.56	10.3	B	115
	WB	100	L	0.23	34.1	C	84
		250	T	0.38	35.5	D	131
		100	R	0.69	49.4	D	125
	NB	600	L	0.90	33.9	C	210
		800	T	1.04	39.7	D	305
		820	R	0.13	0.1	A	0
	SB	500	L	0.56	57.2	E	194
		700	TR	0.56	39.2	D	294
	Intersection				37.0	D	
Tarrytown Road (N-S) @ Chatterton Avenue (E-W) [SIGNALIZED]	EB	240	LTR	0.69	45.8	D	116
		110	L	0.52	43.0	D	95
	WB	110	LTR	0.28	24.8	C	138
		370	L	0.58	32.1	C	216
	NB	830	T	0.99	25.0	C	320
		380	R	0.47	2.1	A	170
	SB	180	L	0.10	51.4	D	44
		810	TR	0.57	22.2	C	497
	Intersection				23.9	C	
	Tarrytown Road (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	150	L	0.49	7.1	A
150			T	0.77	8.5	A	140
Intersection				8.2	A		
Tarrytown Road (E-W) @ Battle Avenue/ Hamilton Avenue (N-S) [SIGNALIZED]	EB	680	TR	0.63	37.3	D	207
	NB	250	R	0.03	0.1	A	0
	SB	100	L	1.05	56.8	E	127
	Intersection				44.3	D	

TABLE 8: 2015 Baseline -- PM Peak Hour Traffic Conditions
Source: WSP | Parsons Brinckerhoff

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	PM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
Tarrytown Road (E-W) @ Bronx River Pkwy NB Ramp (N-S) [SIGNALIZED]	EB	230	T	0.44	7.3	A	118
	NB	500	R	0.64	36.1	D	176
	Intersection				12.9	B	
Ferris Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	120	L	0.05	30.0	C	26
		120	T	0.26	21.6	C	104
	WB	260	LT	0.62	38.6	D	152
		260	R	0.44	15.3	B	71
	NB	210	L	0.08	7.2	A	52
		210	TR	0.24	7.8	A	146
	SB	290	R	0.19	2.9	A	87
		290	LT	0.25	8.7	A	101
	Intersection				14.9	B	
	N Lexington Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	260	LT	0.22	8.8	A
260			R	0.24	2.6	A	118
WB		350	L	0.37	5.2	A	154
		350	LTR	0.27	3.4	A	318
SB		100	LTR	0.29	17.3	B	79
Intersection				5.6	A		
Martin Luther King Jr Blvd (N-S) @ Water Street/ Baker Avenue (E-W) [SIGNALIZED]	EB	340	LT	0.47	18.0	B	125
	WB	430	TR	0.28	17.3	B	204
	NB	450	L	0.26	15.5	B	90
		450	LT	0.22	14.7	B	153
	SB	510	R	0.10	0.1	A	0
		100	LTR	0.24	4.0	A	67
Intersection				13.7	B		
Ferris Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	110	LT	0.63	29.1	C	136
	WB	290	R	0.31	2.0	A	114
	NB	190	LT	0.17	5.2	A	138
		190	R	0.01	2.2	A	32
	SB	210	LT	0.02	3.7	A	55
Intersection				15.6	B		
N Lexington Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	270	R	0.36	2.7	A	202
	SB	220	LT	0.20	3.7	A	182
		230	R	0.10	0.4	A	10
Intersection				3.0	A		

TABLE 8: (Cont.) 2015 Baseline -- PM Peak Hour Traffic Conditions
Source: WSP | Parsons Brinckerhoff

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	PM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
Bank Street/ Ferris Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	300	TR	0.88	71.5	E	539
	NB	190	L	0.79	17.1	B	415
		190	LT	0.68	12.4	B	88
	SB	200	R	0.50	94.3	F	16
Intersection					43.7	D	
N Lexington Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	580	LT	0.94	40.1	D	450
	SB	270	T	0.48	34.4	C	117
		220	R	0.89	61.5	E	272
	Intersection					42.4	D
Martin Luther King Jr Blvd (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	390	TR	0.69	28.7	C	242
	NB	260	L	0.94	34.2	C	326
		260	LT	0.47	3.9	A	342
		260	R	0.43	1.7	A	177
Intersection					21.6	C	
Bank Street (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	160	L	0.44	22.2	C	195
		270	T	0.58	28.1	C	294
		210	R	0.58	25.9	C	235
	NB	410	TR	0.65	23.9	C	195
Intersection					25.7	C	
N Lexington Avenue (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	330	TR	0.62	20.4	C	427
		330	R	0.71	28.1	C	479
	SB	200	L	0.34	12.0	B	67
		200	LT	0.47	24.6	C	131
Intersection					22.2	C	
Martin Luther King Jr Blvd (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	610	L	0.49	18.3	B	460
		610	T	0.58	23.3	C	286
	NB	370	T	0.58	13.5	B	387
		370	R	0.29	11.2	B	96
Intersection					17.4	B	
Bank Street (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	EB	50	L	0.16	42.5	D	70
		50	R	0.03	0.2	A	29
	WB	420	LT	0.34	32.9	C	364
		380	R	0.90	30.9	C	423
	NB	300	LT	0.68	35.4	D	243
	SB	400	TR	0.16	17.0	B	152
Intersection					30.3	C	

TABLE 8: (Cont.) 2015 Baseline -- PM Peak Hour Traffic Conditions
Source: WSP | Parsons Brinckerhoff

Intersection	Approach	Distance of Streets and Storage Bays (ft)	Lane Group	PM Peak Hour			
				v/c	Delay (sec.)	LOS	Max Queue (ft)
N Lexington Avenue(N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	660	L	0.43	2.0	A	126
		660	T	0.45	10.7	B	756
	SB	430	T	0.40	21.6	C	312
		430	R	0.42	17.3	B	125
Intersection					13.6	B	
Martin Luther King Jr Blvd (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	450	T	0.48	22.4	C	234
		450	R	0.87	46.4	D	227
	NB	460	L	0.61	20.5	C	437
		460	T	0.46	21.0	C	440
Intersection					25.4	C	

Notes:

1. EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound, L - Left, T- Through, R - Right

TABLE 8: (Cont.) 2015 Baseline -- PM Peak Hour Traffic Conditions

Source: WSP | Parsons Brinckerhoff

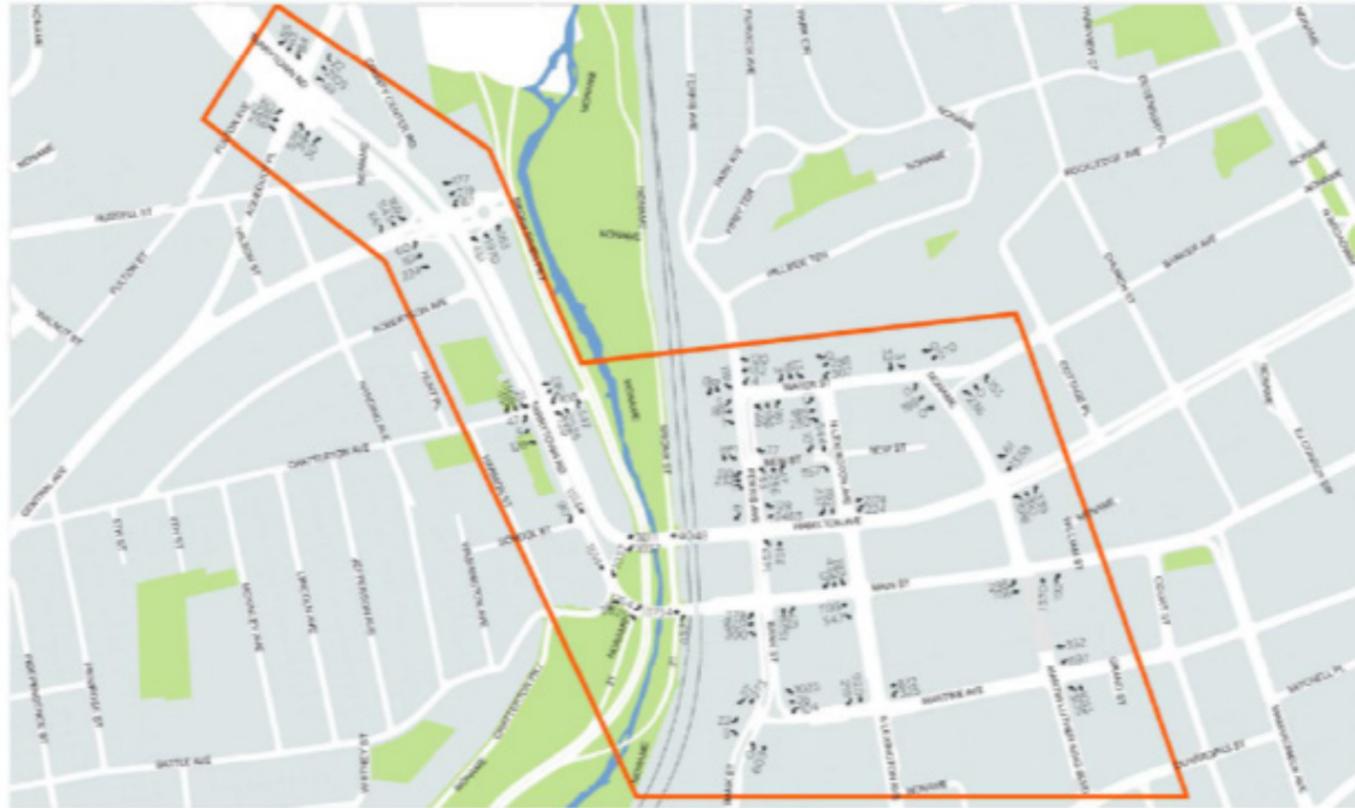


FIGURE 19: 2015 Baseline -- PM Peak Hour Traffic Conditions
Source: WSP | Parsons Brinckerhoff

3.4.5 CRASH ANALYSIS

Crash data for locations in the study area along the major approaches to and from the MTC were compiled from the most recent available City of White Plains records for the 3-year period from January 2012 to December 2014.

Table 9 summarizes the crash data for these locations. The data quantify the total number of reportable crashes (involving fatality and injury) during the 3-year period, and provide a yearly breakdown of pedestrian- and bicycle-related crashes at each location. For the purposes of this analysis, a high-crash location is considered to be one where there were 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicycle injury crashes in any consecutive 12-month period of the most recent 3-year period for which data are available.

During the 2012–2014 period, 915 reportable and non-reportable crashes (including 44 pedestrian or bicycle-related crashes), 1 fatality, and 195 injuries occurred at the study area locations. Based on the criteria, there is only one intersection that can be identified as a high-crash location in the 2012 to 2014 period. At the intersection of Ferris Avenue/Bank Street and Hamilton Avenue, a total of 48 crashes were reported in 2013 (Figure 20). A large number of these crashes were directly related to the northbound left turn movement where driver inattention and improper turning were the most common causes. Based on the accident reports received, it is possible that illegal pedestrian crossing maneuvers at the west side of the intersection were also a contributing factor.



FIGURE 20: Intersection of Ferris Avenue/ Bank Street and Hamilton Avenue, Considered a High Crash Location
Source: WSP | Parsons Brinckerhoff

Intersection		Study Period					Injury Crashes by Type					
North-South Roadway	East-West Roadway	All Crashes			Total Fatalities	Total Injuries	Pedestrian			Bicycle		
		2012	2013	2014			2012	2013	2014	2012	2013	2014
Ferris Avenue	Hillside Terrace	2	0	0	0	0	0	0	0	0	0	0
Ferris Avenue	Park Avenue	0	0	0	0	0	0	0	0	0	0	0
Church Street	Rockledge Avenue	0	4	3	0	4	0	0	0	0	0	0
Ferris Avenue	Water Street	4	2	3	0	3	0	0	1	0	0	0
N Lexington Avenue	Water Street	2	5	0	0	4	1	2	0	0	0	0
Dr. Martin Luther King Jr. Boulevard	Water Street/ Barker Avenue	1	0	2	0	2	0	0	0	0	0	0
Cottage Place	Barker Avenue	2	2	4	0	1	1	0	0	0	0	0
Church Street	Barker Avenue	0	3	0	0	1	0	0	0	0	0	0
Ferris Avenue	New Street	4	4	5	0	6	0	1	0	1	0	0
N Lexington Avenue	New Street	3	0	5	0	2	0	0	0	0	0	0
Bronx Street	Hamilton Avenue	1	1	5	0	2	0	0	0	0	0	0
Ferris Avenue/ Bank Street	Hamilton Avenue	36	48	30	1	14	0	1	2	0	0	0
N Lexington Avenue	Hamilton Avenue	19	23	20	0	11	1	3	1	0	0	0
Dr. Martin Luther King Jr. Boulevard	Hamilton Avenue	7	5	12	0	1	1	0	0	0	0	0
Cottage Place	Hamilton Avenue	5	13	16	0	10	1	0	2	0	0	0
Church Street	Hamilton Avenue	2	7	4	0	3	1	1	0	0	0	0
EJ Conroy Drive	Hamilton Avenue	6	4	1	0	2	0	0	0	0	0	0
Bronx Street	Main Street	9	6	4	0	3	0	1	0	0	0	0
Bank Street	Main Street	22	12	18	0	11	1	0	0	0	0	0
Lexington Avenue	Main Street	10	18	16	0	13	0	0	0	0	1	0
Dr. Martin Luther King Jr. Boulevard	Main Street	11	9	19	0	11	1	1	1	0	0	0
William Street	Main Street	0	0	0	0	0	0	0	0	0	0	0
Court Street	Main Street	9	21	10	0	12	1	2	1	0	0	0

TABLE 9: Summary of Crash Data
Source: City of White Plains, January 2012 to December 2014 Crash Data

Intersection		Study Period					Injury Crashes by Type					
North-South Roadway	East-West Roadway	All Crashes			Total Fatalities	Total Injuries	Pedestrian			Bicycle		
		2012	2013	2014			2012	2013	2014	2012	2013	2014
Mamoroneck Avenue	Main Street	18	10	7	0	2	1	1	0	0	0	0
Church Street	Main Street	5	8	3	0	1	0	1	0	0	0	0
Bank Street	Martine Avenue	7	3	8	0	3	0	0	0	0	0	0
S Lexington Avenue	Martine Avenue	2	8	4	0	7	0	0	0	0	0	0
Dr. Martin Luther King Jr. Boulevard	Martine Avenue	11	6	19	0	5	0	0	0	0	0	0
Court Street	Martine Avenue	3	4	6	0	4	0	0	1	0	0	0
Mamoroneck Avenue	Martine Avenue	8	17	11	0	10	2	1	2	0	0	0
Bank Street	Irving Place/ Fisher Avenue	4	2	3	0	3	0	0	0	0	0	0
S Lexington Avenue	Fisher Avenue/ Quarropas Street	2	2	5	0	2	1	0	0	0	0	0
Fisher Court	Quarropas Street	1	0	2	0	0	0	0	0	0	0	0
Dr. Martin Luther King Jr. Boulevard	Quarropas Street	5	6	4	0	3	1	0	0	0	0	0
Grand Street	Quarropas Street	0	0	1	0	0	0	0	0	0	0	0
Court Street	Quarropas Street	2	5	3	0	4	0	0	0	0	0	0
Tamytown Road	Aqueduct Road	0	0	0	0	0	0	0	0	0	0	0
Tamytown Road	Russel Street	1	1	0	0	0	0	0	0	0	0	0
Tamytown Road	Central Avenue	26	25	26	0	13	0	0	0	0	0	0
Tamytown Road	Robertson Avenue	0	2	0	0	1	0	1	0	0	0	0
Tamytown Road	Chatterton Avenue	19	12	11	0	12	0	0	0	0	0	0
Tamytown Road	School Street	0	0	0	0	0	0	0	0	0	0	0
Tamytown Road	Hamilton Avenue	3	2	2	0	1	0	0	0	0	0	0
Tamytown Road	Battle Avenue	4	10	12	0	7	0	0	0	0	0	1
Tamytown Road	Bronx River Parkway SB On-Ramp	9	9	7	0	1	0	0	0	0	0	0

TABLE 9: (Cont.) Summary of Crash Data
Source: City of White Plains, January 2012 to December 2014 Crash Data

3.5 PARKING

Readily available parking data from the City of White Plains were obtained and reviewed to assist in the process of identifying the parking facilities around the MTC with the most critical capacity constraints. The study area for the parking study, illustrated in Figure 5, was defined to include the parking facilities most likely to be effected by the redevelopment of the MTC. The study area is roughly defined as a ¼-mile radius centered on the MTC, a distance associated with the typical walking distance most drivers are willing to walk to/from parking locations.

3.5.1 ON-STREET PARKING

On-street parking is extremely limited in downtown White Plains and especially immediately surrounding the MTC (Figure 21). A large amount of on-street parking is prohibited to provide an additional lane of capacity or drop-off areas along many of the roadways surrounding the MTC and along the major Main Street and Hamilton Avenue corridors. Where there is metered parking, most spaces provide a one-hour parking limit during the day and therefore cater to drivers making quick stops at nearby office/retail locations. Observations of on-street parking within the study area were conducted in fall 2015/winter 2016 during the midday, the time for which parking demand related to the MTC is greatest. Based on these observations, the average overall weekday utilization for on-street parking appeared to be high during both time periods. Parking turnover appeared to be very low, with no more than one or two parking maneuvers occurring per hour.

3.5.2 OFF-STREET PARKING

Within the study area boundaries, there are a large number of off-street parking facilities, primarily located near the western half of the project site. There are approximately six public parking facilities owned and operated by the City of White Plains around the MTC. There is one Westchester-County owned and operated facility within walking distance to the MTC. The Westchester County facility contains three separate lots and is primarily used for visitors to the Westchester County Center. However, there are some commuters that park in this facility and utilize the direct pedestrian connection to the White Plains train station. In addition, there are a number of privately owned parking facilities within the study area.

The size of the off-street parking facilities varies greatly, with the largest having a capacity of approximately 2,788 vehicles. This facility, the E/F Galleria Garage located at 100 Main Street, was the subject of a detailed parking utilization study in 2013. According to the study, peak utilization on the days that expect that highest parking demand occurs from 1:00 PM to 2:00 PM on a typical Friday and from 3:00 PM to 4:00 PM on a typical Saturday. The Galleria Parking facility, which had a capacity of 2,837 vehicles at the time of this study, appears to fully accommodate the parking demand during these time periods.

As shown in Figure 22, there are 11 off-street public parking facilities that were identified as critical. These facilities were identified based on capacity, proximity to the MTC, and potential to cater to any development that could occur in the future. Overall, the average weekday utilization rate during the midday is 58 percent with 2,186 available spaces. The off-street parking utilization rates are provided in Table 10. At the time of this analysis, there was no information regarding the utilization of permit spaces versus non-permit spaces.



FIGURE 21: On-Street Parking on Martin Luther King Jr. Boulevard between Hamilton Avenue and Water Street
Source: WSP | Parsons Brinckerhoff



FIGURE 22: Parking Study Area
Source: WSP | Parsons Brinckerhoff

3.6 KEY FINDINGS

3.6.1 TRAFFIC

Traffic conditions around the MTC can vary on a day-to-day basis, but for the most part are consistently worse during typical weekday commuting peak hours. Traffic congestion experienced today is primarily a result of spikes in vehicular volumes attracted to downtown White Plains' office buildings and commercial retail destinations. During these peak hours of highest demand, capacity is maximized through the use of parking prohibitions, dedicated turning lanes, and actuated signal timings.

During the AM peak hour, traffic volume is higher traveling Southeast on Tarrytown Road towards the MTC. Signal timings are prioritized to provide sufficient green time to the major Tarrytown movements resulting in backups on the minor street approaches and some dedicated left turn movements. East of the Bronx River Parkway, near the MTC itself, traffic moves reasonably well along the East-West Main Street and Hamilton Avenue corridors, as illustrated in Figure 23. Both of these roadways are heavily used and sometimes see sizeable queues stretching back past upstream signals, though those queues are infrequent and typically clear within one or two signal cycles. Backups also occur on the north and south approaches to Hamilton Avenue where drivers are most likely to be traveling to/from the parking facilities near the MTC. During the PM peak hour, traffic volume along Tarrytown Road becomes heaviest in the northwest direction, resulting in congestion along Tarrytown Road itself, the minor approaches, and some dedicated turn lanes. As seen in Figure 24, there is slightly more congestion within downtown White Plains itself during the PM peak hour than in the AM peak hour, primarily due to the presence of more drivers traveling to and from retail destinations overlaying the commuter traffic. Along Hamilton Avenue, the main egress from the area around the MTC, large volumes of traffic leads to slow downs and occasional queue spillback. As a result, some motorists utilize Martine Avenue as an alternative westbound route to exit the downtown area.

ID ¹	Name	Type	Address	Licensed Capacity	Permit Sales (As of 12/2015)	Weekday Midday		
						Utilization Rate	Demand	Available Capacity
1	Lot 31 (Central-Tarrytown)	Municipal Lot	205 Central Ave	62	43	31%	19	43
2	Westchester County Parking Lot - East	County Lot	1 Chatterton Ave	600	N/A	75%	450	150
2	Westchester County Parking Lot - West	County Lot	1 Chatterton Ave	200	N/A	40%	80	120
3	Lot 21 (School St.)	Municipal Lot	9 School St	46	0	35%	16	30
4	Lot 5 (Bronx St.)	Municipal Lot	3 Hamilton Ave	128	65	95%	122	6
5	TransCenter Garage and associated Park & Ride Lots	Municipal Garage	11 Ferris Ave	838	631	99%	830	8
6	Standard Parking	Private Lot	3 Ferris Ave	80	N/A	31%	25	55
7	LAZ Financial Center Garage	Private Garage	20 S Lexington Ave	194	N/A	70%	136	58
8	Lexington-Grove East & West Garages	Municipal Garage	100 Main St	2,788	801	50%	1394	1,394
9	Library Garage	Municipal Garage	100 Martine Ave	568	85	45%	256	312
10	Public Parking	Private Lot	15 Water St	170	N/A	94%	160	10
11	Impark Parking	Private Lot	200 Hamilton Ave	350	N/A	N/A	N/A	N/A
Total				6,024	1,625	58%	3488	2,186

Notes:

1. ID numbers correlate to Figure 5.

TABLE 10: Critical Off-Street Parking Facility Survey -- 2015 Baseline Condition
Source: WSP | Parsons Brinckerhoff, 2016

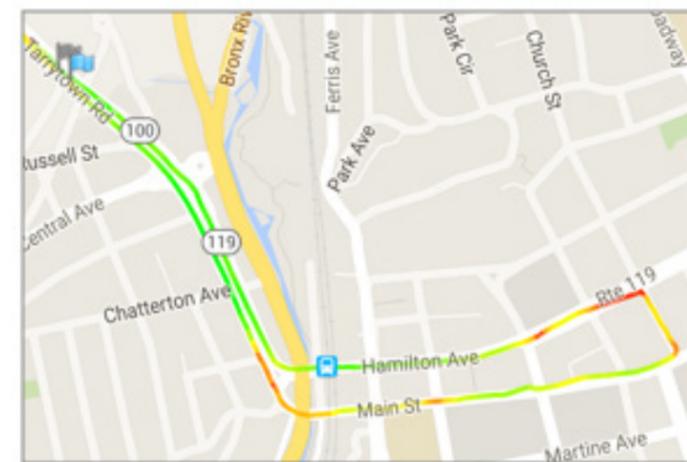


FIGURE 23: AM Peak Hour Speed Map
Source: WSP | Parsons Brinckerhoff

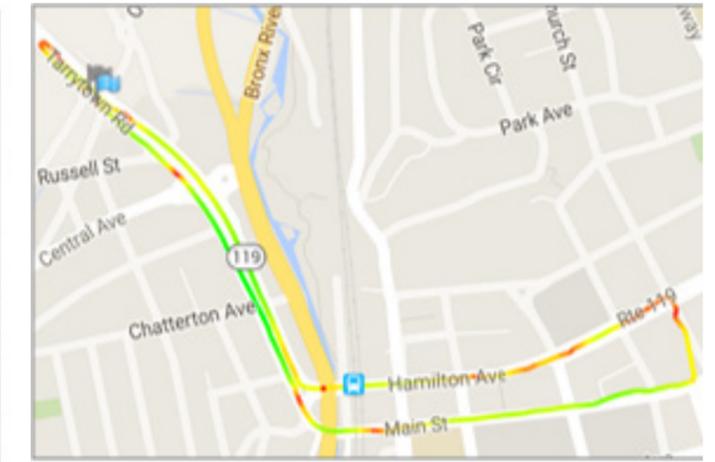


FIGURE 7: PM PEAK HOUR SPEED MAP

FIGURE 24: PM Peak Hour Speed Map
Source: WSP | Parsons Brinckerhoff

3.6.2 PARKING

Based on the parking utilization study conducted, it is clear that parking demand within the study area is not evenly distributed. The highest demand is closest to the MTC itself, which can be attributed to the desire for most rail commuters to park as close to the MTC as possible. Presently, there is no information posted at entrances to MTC garages related to the available capacity there. As a result, non-permit holders must enter the multi-level facilities and circulate, sometimes for long periods of time, before finding an available space (Figure 25).

The Westchester County owned parking lots, though located just west of the MTC, are extremely under-utilized. This can be a result of the poor pedestrian connections leading to and from the lots. According to the City of White Plains, demand for municipal parking permits exceeds supply. However, observations at the facilities closest to the MTC made it clear that permit spaces are not fully utilized on a daily basis.

The largest off-street parking facility is located at the Galleria Mall. Although very close to the MTC and heavily used on weekends and during holiday shopping seasons, this facility is not attractive to daily rail commuters since it requires crossing two busy streets, Lexington Avenue and Bank Street, to access the MTC. As a result, approximately half of the available parking spaces sit unused during weekday business hours. For commuters who work in White Plains and drive, it appears parking demand is not as high. Both municipal and privately owned parking facilities are less utilized the further away from the MTC they are located.

On-street parking is limited for daily parkers, primarily due to the prohibition of parking along most streets to accommodate an extra lane for vehicular traffic or deliveries/drop-offs. When available, most motorists use on-street parking for making quick stops at retail establishments during the midday and evening time periods. There is also evidence that metered on-street parking is used heavily by contractor vehicles and delivery vans servicing nearby office buildings.



FIGURE 25: The TransCenter Garage at 11 Ferris, is Usually at Capacity by Midday on Weekdays
Source: WSP | Parsons Brinckerhoff

4 APPENDIX 3: LAND USE, URBAN DESIGN & DEVELOPMENT BASELINE STUDY

4.1 INTRODUCTION

4.1.1 PROJECT OVERVIEW

The City of White Plains is leading a strategic planning project to redevelop and transform the area around the White Plains Metro-North station and Westchester County Bee-Line Bus Station into a gateway connected to the downtown core. The plan will address all modes of travel, address opportunities to maximize economic development potential, and identify new and important linkages to downtown. The City received grant funding for the project through the New York State Energy Research and Development Authority (NYSERDA). The project will incorporate sustainable design principles that are protective of the environment and promote energy efficiency.

The project provides an opportunity to address a pressing need for creating an integrated regional transportation hub in White Plains where BRT, commuter rail, local bus, taxis and shuttles riders can make efficient connections to and from White Plains, Yonkers, New Rochelle, Stamford, New York City and other local activity nodes. A modern, efficient and accessible public transit hub in Downtown White Plains is a critical component of a high performing regional multimodal transportation network designed to get people out of their private vehicles and onto public transit for trips between home, work, shopping, and recreation. It is anticipated that the project will drive further investment and redevelopment in the immediate station area and into the downtown core, and increase both commercial and pedestrian activity in the greater Downtown White Plains area and the surrounding street system.

The City of White Plains is committed to engage and work cooperatively with the project area stakeholders and the public to develop a short- and long-term vision for the project. The final Strategic Plan, expected to be complete in Fall 2016, will assess the existing conditions in the study area, establish the need for the project, define goals and objectives, define major plan elements, identify potential funding sources, and identify a plan of implementation.

4.1.2 STUDY AREA

The Multimodal Transportation Center Redevelopment Project Study Area is centered on the MTA White Plains Metro-North Station and the County of Westchester Bee-Line Bus Station. It extends approximately 0.35 miles around the Metro-North Station and includes the City of White Plains parking garage and surface lot, the White Plains Fire Department Station No. 2, the westerly portion of the downtown business district, the easterly portion of the Battle Hill neighborhood, the southerly portion of the Ferris-Church neighborhood, the Bronx River Parkway Reservation, and the Westchester County Center (Figure 26).

4.1.3 REPORT PURPOSE

The Task 4.1A Review of Existing Studies and Reports and Task 4.1B Existing Conditions Gap Analysis led to identification of data gaps and the development of baseline study scopes. The purpose of this report is to present the analysis and results of the Baseline Study of Land Use/Zoning, Development Policies, Urban Design, and Neighborhood Character, which will inform the development of the Strategic plan elements.

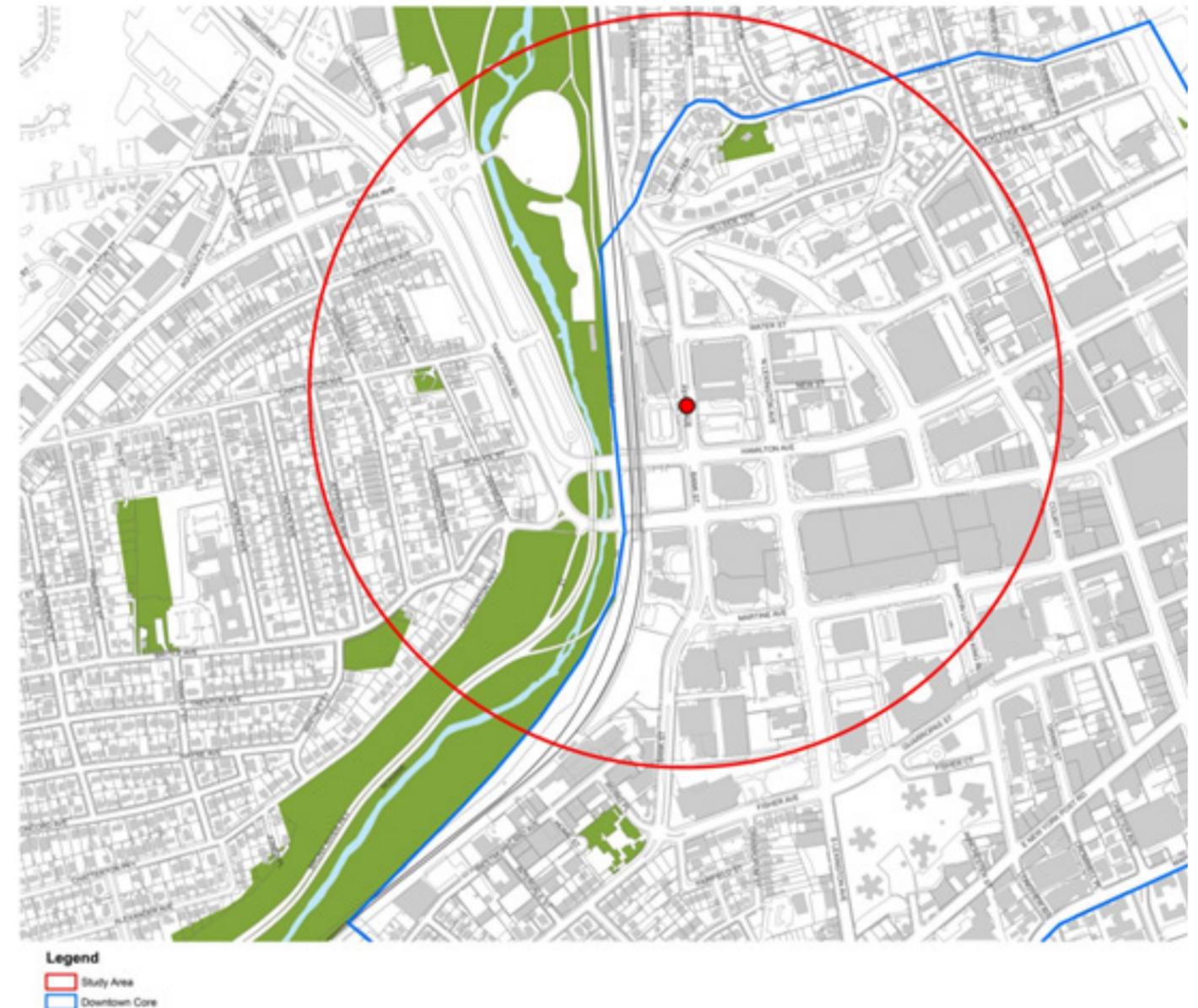


FIGURE 26: Study Area
Source: WSP | Parsons Brinckerhoff

4.2 BASELINE STUDY SCOPE

4.2.1 KEY STUDY QUESTIONS

This Baseline Study focuses primarily on the physical design aspects of development and public streets and open spaces in the study area, and related qualities and policies. Major study questions, whose answers will play an important role in shaping the ultimate plan for the area around an integrated White Plains Multimodal Transportation Center (MTC), are listed below by category. Table 11 details gaps in available information on these questions, and proposed analysis work to provide answers.

» Land Use/Zoning and Development Policy

- « Development Capacity: How much development is allowed by current zoning policy on sites in the study area with known or likely redevelopment potential? How does this compare with potential capacity in development scenarios that take into consideration actual site configurations, typical building layout preferences, need to allocate space for parking, and other practical considerations? What building heights and massing may be expected from these scenarios?
- « Full building retrofit opportunity: is there potential to repurpose underutilized buildings in the study area with new uses that are more appropriate and sustainable? In particular, could older office buildings be repurposed for residential use?

» Urban Design and Neighborhood Character

- « Ground Level Land Use: What land uses occur along principal streets in the study area? To what extent do they support a safe, inviting and active pedestrian environment?
- « Ground Level Walking Conditions: Are sidewalks safe and inviting? How do the use and design of adjacent buildings and landscapes impact walkability along principal streets in the study area?
- « Identity of Study Area Places: What portions of the study area possess a clear sense of place and identity, and which are lacking? How could sense of place and identity be nurtured in the study area to support opportunities for economic and community development?

4.3 KEY FINDINGS

Key observations and findings are organized under the following themes and sequence:

- » PLACEMAKING (addressing study area identity)
- » STREETS DESIGNED FOR PEOPLE (addressing ground level walking conditions and land use)
- » DEVELOPMENT CAPACITY ESTIMATE (including attention to full building retrofit opportunity)
- » ZONING POLICY REVIEW (addressing capacity and design considerations)

TABLE 1: EXISTING CONDITIONS GAP IDENTIFICATION

Topics and Identified Gaps	Baseline Analysis Work Proposed
Land Use/Zoning, Development, Policies	
Development capacity: Understanding of development possibility in terms of quantity and range of practical major land uses on parcels with definite or likely redevelopment potential	Model development scenarios for potential market-driven land uses using 3d computer model; track potential development capacity with spreadsheet; assess scenarios both under current and alternative zoning policies. Model implications of major building height/form alternatives on key views to and/or within Core Area.
Full building retrofit opportunity: Potential for change of primary land use in existing buildings	For properties subject to known interest or market-driven potential for change of use, assess retrofit potential based on floorplate size and dimensions, parking access/capacity, quality of address and/or other relevant factors
Urban Design, Neighborhood Character	
Ground level land use: Actual ground level land use in buildings with other primary uses	Confirm ground level land use along major study area streets through visual observation
Ground level walking conditions: Qualities of walkability along study area streets	Map qualities, taking into account adjacent land use, extent and design of development, sidewalk and crosswalk conditions, public and private park/landscape areas, potential opportunities to remedy challenging conditions
Identity of study area places: Extent of clear place identity in various portions of the study area	Map current physical and land use qualities (including major gateway/transition points) affecting identity. Solicit community opinion on place identity through public engagement process

TABLE 11: Existing Conditions Gap Identification
Source: WSP | Parsons Brinckerhoff, 2016

4.4 PLACEMAKING

Enhancing “sense of place” in the study area is a principal objective of this study. The physical form and typical activities of an environment strongly contribute to sense of place, conveying distinct identity. In this study area centered around the White Plains Multimodal Transportation Center (MTC), the high importance of quality pedestrian access to transportation facilities, downtown destinations, neighborhoods and parkland means that a welcoming environment for people is particularly important to sense of place. Distinct placemaking approaches can cultivate unique assets of the MTC/downtown area. These assets include

- » Significant concentrations of people – daytime workers, residents and visitors – who can take part in stronger social communities within the physical places of the study area. Places and activities that encourage social interaction, like parks, active public sidewalks, recreation facilities and eating and drinking establishments, help connect people in ways that build enduring community.
- » Varied topography and landmarks that contribute to interest and identity by establishing unique views to and from parts of the study area. The Bronx River Reservation forms a very distinctive green corridor west of the station, with concentrations of natural areas, broad views toward the station area and a recreational path. The high ground near the intersection of Hamilton Avenue creates local vistas. Battle Hill, Fisher Hill and high ground north of the study area are clearly visible along multiple street corridors. Bends in Hamilton Avenue, Main Street and Dr. Martin Luther King, Jr. Boulevard, among other streets, establish memorable views of certain buildings and properties.
- » Downtown’s strong arts community and institutions. The focus of arts institutions along Mamaroneck Avenue near Main Street lends distinct sense of place to that area. Arts elements such as signage, public art and regularly scheduled events could be applied to parts of the study area – such as public park space near the station or the Main Street corridor to the station – in partnership with the arts community, to express cultural life in White Plains.



FIGURE 27: View Downtown Upon Leaving the White Plains Metro-North Station Does Little to Welcome the Pedestrian or Convey Distinct Identity to the Station Area
Source: WSP | Parsons Brinckerhoff

Achieving a distinctive and memorable identity for the area that distinguishes it as a great place for people will enhance its market position for real estate development and enhance the appeal of downtown and its environs as a whole as a place to live, work and visit.

Today, the core study area extending three to four blocks south, east and north of the MTC lacks any strong sense of place (Figure 27). Little historic development is present, as the area was substantially razed and prepared for redevelopment in the 1960’s and 1970’s. Buildings are largely developed in a suburban pattern, with the design and use of one parcel typically having little relationship to that of adjacent parcels. Office buildings and two internally-focused malls dominate land use. These commonly lack distinguishing architecture or signage, and present monotonous or opaque walls to adjoining public streets along most or all of a city block. Large, simple volumes respond to the scale of whole blocks and moving traffic, not the smaller scale of pedestrians. Many of these buildings are designed to be entered primarily by car via an internal parking area, not by foot via the sidewalk. This contrasts with the more traditional pattern of development downtown with multiple distinct buildings per block, where frequent doors, windows and signage help make walking safe, convenient and interesting. Blocks near the MTC lack these qualities, even though their sidewalks conduct significant pedestrian traffic to and from the MTC. Some parcels contain only parking lots or parking structures that contribute even less to coherent identity.

Multi-family housing has a strong and growing presence that to some extent contributes to sense of place through its physical form and residential community. Several factors reduce this benefit, however: the dispersion of residential buildings to the north and south of the MTC; abrupt changes in scale to lower adjacent residential zones; and physical separation of residential buildings from adjoining streets. This occurs particularly at 15 Bank Street and Westage Towers, both designed so residents primarily access the site by car; passing pedestrians see fences, retaining walls and a gatehouse instead of lobby entrances. The more recent Avalon White Plains housing sets a much more successful example of connection to the surrounding neighborhood by providing pedestrian entrances from the sidewalk to the building lobby and individual units.

The major streets are uniformly broad, many with four or more travel lanes and highway-style signage, and feel designed primarily to serve drivers, not pedestrians. This, combined with the disconnection between buildings and streets described above, leaves the streets with little intrinsic connection to the downtown core, the Bronx River Reservation or other adjoining area with more established sense of place. The study area includes several

smaller assets that support sense of place, including the buildings and courtyard of St. John's Evangelist Church, and publicly accessible landscaped spaces at 1 North Lexington Avenue, 50 Main Street, 111 Main Street, 123 Main Street, the Renaissance Plaza fountain and 1 North Lexington Avenue. Some strong opportunities for enhancing sense of place are present, however, both through connecting to more established places and establishing unique character near the MTC. The Bronx River Reservation, immediately west of the Metro-North right of way, lends a strong park landscape presence that extends north and south for miles (see Figure 28). Although roadways and parking lots for the Westchester County Center partially constrain access and space for park use, the Reservation's recreational path is well used and the MTC area includes important opportunities to enhance unique landscape and pedestrian facilities. Adjoining the Reservation, the railroad embankment itself, and the twin underpasses at Main Street and Hamilton Avenue that serve as primary entry and exit points from downtown, form a prominent gateway. The Main Street underpass is adorned on its west side (facing drivers approaching downtown) with a handsome but understated mural of historic city buildings, and welcome signage. The other sides of these underpasses have no distinguishing treatment, except the red-roofed station platform canopies that are visible above. MTC functional improvements could well involve investments in platform, embankment, bridge and roadway infrastructure, as well as pedestrian connections into and across the Bronx River Reservation; there is significant potential to enhance sense of place at this prominent gateway through integrated MTC and park design. Further, new real estate development on sites east of the rail embankment will likely be highly visible from points within and west of the Bronx River Reservation, lending it an important role in defining sense of place.

East of the MTC area, downtown possesses a strong sense of place that combines historic buildings and streets with significant amounts of complementary recent development. Mamaroneck Avenue and adjoining blocks of Main Street and Martine Avenue remain downtown's iconic, active retail district (Figure 29). Large scale office, hotel and housing development are also present and help keep downtown active throughout the day and week. Two large-scale, recent development projects – the Ritz-Carlton/Renaissance Square and Avalon White Plains – contribute to downtown's character through design that responds thoughtfully to smaller-scale and historic contexts. The Ritz-Carlton/Renaissance Square responds to the historic building at 199-201 Main Street with a street-level building volume in scale with the older building's three-story base, and with upper story massing that keeps the older building prominently visible (see Figure 30).

The street corridors connecting downtown to the MTC area, however, fail to extend this sense of place. On top of the auto-dominated character of Hamilton Avenue and Martine Avenue, several buildings particularly cause gaps in the quality of the pedestrian environment. The Galleria Mall's massive scale extends 1,200 feet across two blocks, spanning Martin Luther King, Jr. Blvd. over a dark tunnel. Most of the sidewalk edge of the mall and its associated public parking structure is lined with blank opaque wall or parking. Retail entrances along parts of South Lexington Avenue, Main and Court Streets offer some relief. The Verizon building on Martin Luther King, Jr. Blvd between Hamilton Avenue and Main Street also presents towering blank walls along its major street faces. Water Street's suburban-style office buildings and car dealership interrupt any sense of place or connection between the MTC and areas of significant residential population to the east along Barker Avenue and to the north in the Ferris-Church neighborhood (Figure 31). These same stretches of Water, Hamilton, Main and Martine, however, also include many sites with opportunity for redevelopment or retrofit, street and sidewalk area that could be enhanced to improve walking conditions, and periodic green spaces, retail and other amenities that could contribute to a more welcoming and distinctive sense of place. Further east, these corridors lead to Tibbet's Park along North Broadway, a green corridor forming a counterpart to the Bronx River Reservation's presence on the west. Thus, enhancements to these east-west corridors through a combination of real estate and street infrastructure investment can offer a promising means to link the core study area with stronger places to east and west.



FIGURE 28: Bronx River Reservation
Source: WSP | Parsons Brinckerhoff



FIGURE 29: Mamaroneck Avenue
Source: WSP | Parsons Brinckerhoff



FIGURE 30: The Ritz-Carlton was Designed to be Compatible in Scale and Urban Design Qualities with Adjoining Historic Buildings
Source: WSP | Parsons Brinckerhoff

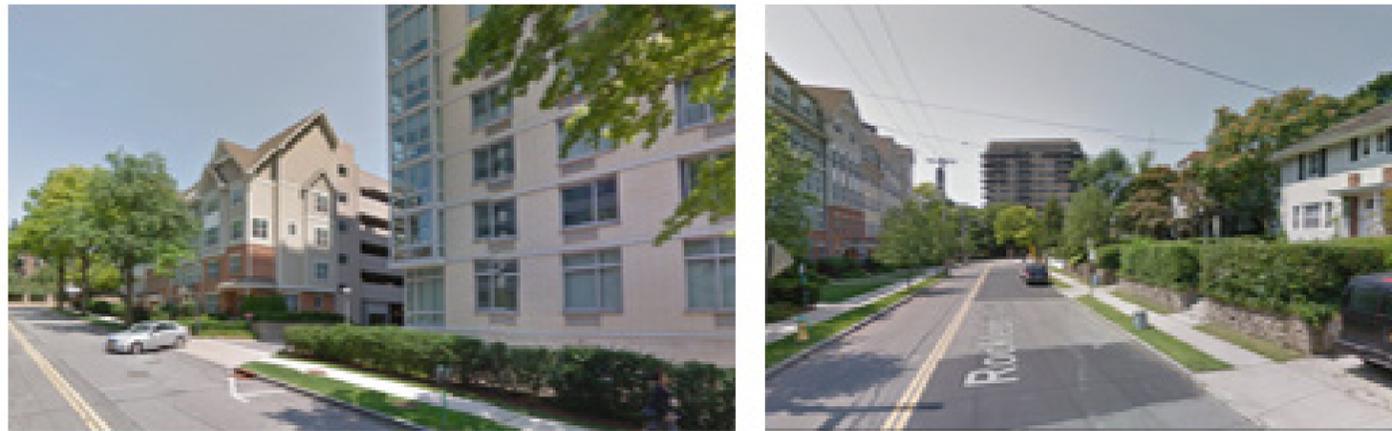


FIGURE 31: The Avalon White Plains Transitions Successfully in Scale Between Downtown and the Ferris/Church Neighborhood
Source: WSP | Parsons Brinckerhoff

Finally, the study area itself offers powerful opportunity to include public spaces, new architecture and a greater intensity of activity that together establish strong sense of place (Figure 32). The significant amount of property available for redevelopment, the opportunity for major complementary transportation facility improvements, and the city's intent to create a distinctive public space can all work together to transform this area from no place to a place to remember.

More specific placemaking recommendations for the core study area and its connecting corridors are as follows, and are further illustrated on Figure 33. These corridors provide a framework for zoning, street design and sense of place. Broader pink areas around Mamaroneck Avenue represent existing concentrations of retail; additional pink bands along South Lexington, Hamilton, Bank, and Main Streets near the MTC depict suggested concentrations of new retail.

A signature public space should be located within a block of the MTC. General suggested criteria for such a space, to be confirmed and detailed further through community outreach, include:

- » At least ¾ acre of landscaped public space, combining with adjacent streets and sidewalks to create a perceived public space of 1.5 to 2 acres framed by buildings or other prominent edges.
- » Placement adjoining the MTC and/or major walking routes that access the MTC, to leverage and enhance multi-modal transportation center activity.
- » Placement amidst a mix of land uses that help keep the space active and safe throughout the day and week
- » Memorable design or other qualities that create a positive identity for the MTC area

Several different locations and configurations for this public space could be possible. Its placement and design should be confirmed in light of a number of factors including site control, preferences and options for placement of enhanced MTC infrastructure, anticipated private sector development initiatives, access to sun, views and/or other desired qualities, and potential to catalyze redevelopment or rehabilitation of other parcels. A preliminary set of alternatives, to be studied and discussed further, includes:

- » •Urban Renewal Agency-owned block surrounded by Hamilton Avenue, Bank and Main Streets and the railroad embankment. Public space could be integrated with MTC elements such as a new head house, retail or bus platforms.
- » Existing White Plains Metro-North Station site at northwest corner of Hamilton and Ferris Avenues. Public space could be integrated with MTC elements such as a new head house, retail or bus platforms.
- » Linear park along north side of Hamilton Avenue, occupying frontage of several blocks from the White Plains Metro-North Station to Lexington Avenue, coordinated with development of adjoining new buildings and/or MTC facilities to the north.
- » Park space with frontage along Lexington Avenue extending from the corners on the South side of Main Street to the corners on the North side of Hamilton Avenue, augmenting existing public space at 1 North Lexington Street.



FIGURE 32: Boston's Dewey Square is Activated by Programmed Events and the Many People Walking to and from Adjacent South Station Transportation Center
Source: Goody Clancy

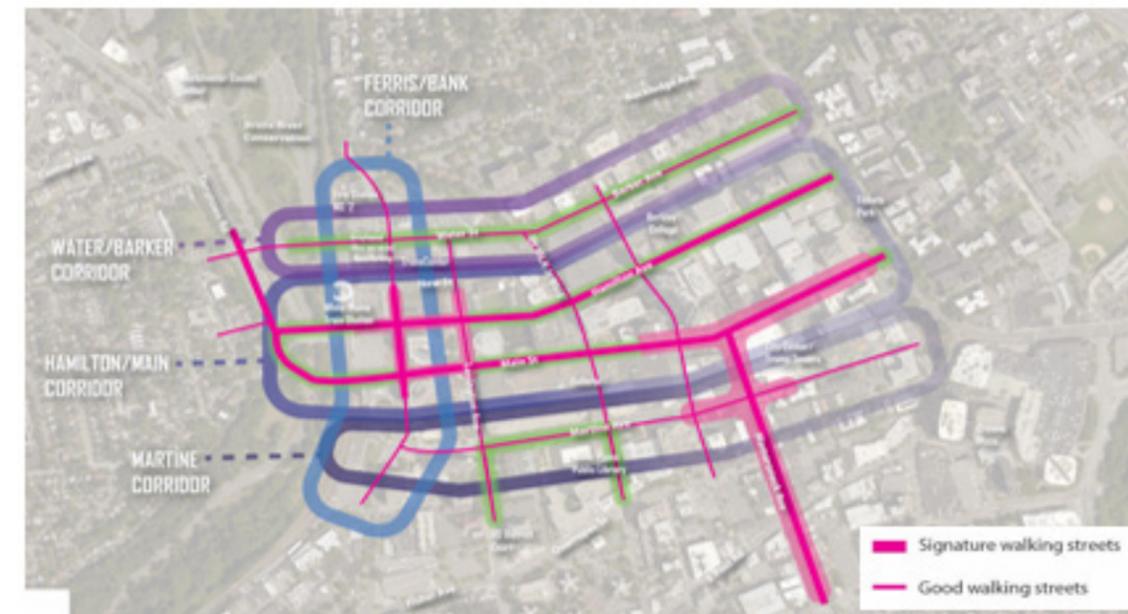


FIGURE 33: Potential "Signature Corridors" (Depicted as Blue and Purple Loops)
Source: Goody Clancy

The Hamilton Avenue and Main Street corridors and their connecting streets should be considered together as a broader corridor, a “ladder” of premier walking and address streets linking downtown with the MTC area. The variety of walking destinations and routes in the area make the walkability of all streets in the ladder important. Various property redevelopment and enhancement opportunities anywhere in the ladder can and should contribute to walkability, downtown character and economic development. There are many opportunities for improvement today. Parking lots along Hamilton between the railroad and Lexington Avenue present particularly unwelcoming walking conditions, but also the opportunity for dramatic improvement through redevelopment (see Figure 34). Long, blank walls along certain buildings detract from walkability and offer little opportunity for improvement, particularly at the Verizon building adjoining Hamilton Avenue, Main Street and Martin Luther King, Jr. Blvd., and portions of the Galleria Mall (see Figure 35).

The Water and Barker Street corridors present a distinct set of redevelopment and walkability improvement opportunities from the Hamilton/Main corridor. This corridor includes some lower-density development that may attract redevelopment; in fact there is known interest in near-term redevelopment of several public and private properties. The area, while zoned the same as the Hamilton/Main corridor, has adjacencies to lower-density residential zoning districts, and existing residential buildings of varied scale, that may merit distinct approaches to height, massing and land use. Multifamily housing development has a strong presence along Barker Avenue, including the recent Avalon housing development, and could very conceivably gain a stronger presence closer to the transportation center along Water Street (see Figure 36). Public land and property configurations originally intended to accommodate an extension of Grove Street (MLK Jr. Blvd.) across water Street to the Bronx River Parkway prevent efficient, high-value use of land, and limit access to and from adjoining properties to the north. As this road project is not expected to be implemented as originally conceived, the City and property owners could reap mutual benefits by reconfiguring parcels and public access ways in this area

The Martine Avenue Corridor alternates in character between major high-rise residential districts to either end – complemented by office space around Bank Street and Neighborhood retail around Mamaroneck Avenue – and a

stretch of comparatively passive development in between, dominated by the government center to the south and the Galleria Mall parking structure to the north (see Figure 37). Aside from a large planned residential development at Martine and Bank, little if any additional new privately-led development appears likely, except for the more remote possibility of additional development on the mall site or on properties between Court and Mamaroneck. The government center’s large publicly-owned plaza and sidewalk areas, however, offer significant opportunity to be enhanced with destination park and/or events programming.

New buildings developed on publicly owned sites along the Bronx River Parkway greenway and MTA rail corridor would be prominently visible from the parkway and associated parkland, MTC, Tarrytown Road,



FIGURE 34: Hamilton Avenue Could Become an Attractive Promenade to the MTC Through a Combination of Redevelopment of Parking Lots on the North (R) Side of the Street, and Reduced Dominance of Traffic Lanes
Source: WSP | Parsons Brinckerhoff

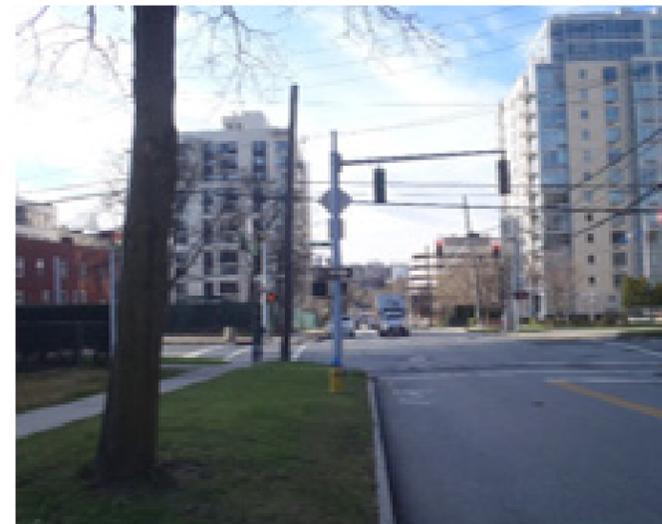


FIGURE 35: Barker Street Significant Concentration of Multi-Family Housing Could be Connected to the MTC and Bronx River Reservation by a Greener, More Residential Character Along Barker and Water Streets
Source: WSP | Parsons Brinckerhoff



FIGURE 36: More Intensive Retail Tenanting of Galleria Mall Storefronts (L) and Enhancement of Blank Walls with Art, Plantings or Other Means (R) Could Make Main Street and Inviting Walking Route Between Downtown and the MTC
Source: WSP | Parsons Brinckerhoff



FIGURE 37: The Government Center Could Become a Greener Destination for Community Activities
Source: WSP | Parsons Brinckerhoff

Battle Hill, and other places to the west (see Figure 38). Significant building height and scale will likely be desirable to make redevelopment feasible and to support significant transportation improvements and economic development in this uniquely valuable area. This contrasts in scale with the one-to two-story residential character of Battle Hill west of Tarrytown Road. The scale, massing and architectural expression of such new buildings at this important western gateway to downtown should be considered carefully to enhance the image of downtown and the MTC district as a whole, while fitting well with the scale and character of the pedestrian environment and broader parkland and neighborhood areas.

Other study area corridors, particularly the remaining north-south streets, offer relatively less opportunity for a pronounced sense of identity. Instead, their character can evolve more organically from the different properties and cross streets along them. Nearly all street corridors in the study area, however, have important roles to play as part of a larger network of walkable streets. Strategies appropriate for enhancing the appeal and safety of walking on any street include:

- » A relatively consistent “street wall” of building facades that shape the space of each street. Building form and character above the street wall can be more variable without detracting from walkability.
- » Ground-floor building design and use that enhance street character where possible. Design should emphasize pedestrian-friendly scale.
- » Elements that buffer the presence of fast-moving traffic and broad vehicular areas from sidewalks, as recommended in Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities by the Institute of Transportation Engineers. On-street parallel parking, street trees and sidewalk-level planting beds (i.e. raingardens and/or tree lawns) can be very effective for this. Other strategies to consider where possible include replacing one or more vehicular lanes with broader sidewalks, bike lanes, or cycle tracks.

- » Existing and/or new landscape elements, and/or “tactical urban” or “pop-up” programming where (re)development is unlikely or an immediate impact is needed.

In distinction to the other streets, Hamilton Avenue, Main Street and Mamaroneck Avenue deserve design and programming that makes them “signature walking streets” in form and function. Bank and Ferris Streets also deserve this treatment where they provide primary access to the transportation center.

4.5 STREET DESIGNED FOR PEOPLE

Redevelopment and retrofits can restore a walkable street network

- » Much of the **street and block pattern** in the MTC area and downtown is scaled well to suit walkable streets and development. The grid of streets, usually spaced 250 to 500 feet apart, offers convenient pedestrian circulation options and a variety of attractive property addresses. Two major conditions compromise these qualities, however. First, several significant barriers interrupt the block pattern, notably the MTA rail embankment and lengthy blocks exceeding 600 feet like those between Lexington and MLK. Second, the auto-oriented site layout and building design of much of the development of the past 40 years lines sidewalks with blank walls or parking lots, diminishing the appeal and safety of walking. The expanse of travel lanes on many streets further presents an additional obstacle to walking. However, a number of opportunities are present to improve existing walking environments and create new walking routes, making it possible to take advantage of the latent qualities that remain in the street/block pattern. See Figure 39 for new connection opportunities and the comparative walkability of different block edges, and Figure 40 for where real estate development could enhance street conditions.
- » Focusing on encouraging **strong local nodes or centers of development** and retail in one- to two-block areas offers a more promising strategy than attempting continuous enhancements to development along major street corridors. While continuous presence of retail or other ground level uses is desirable, it is highly unlikely in the near term, and would likely be best catalyzed by initial investment in strong centers. Most sites with redevelopment opportunities extend to three or four sides of a block, and edge many of today’s worst existing walking conditions, and thus can have a transformative impact for the better through good urban design. See Figure 40 for suggested retail concentration areas.
- » Where redevelopment opportunities and active ground level uses are lacking, **walkability improvements** should be made in other ways. Strategies could include adding plantings along buildings and separating pedestrians better from traffic, and adding public art, destination green space, and/or temporary retail programming where space allows.

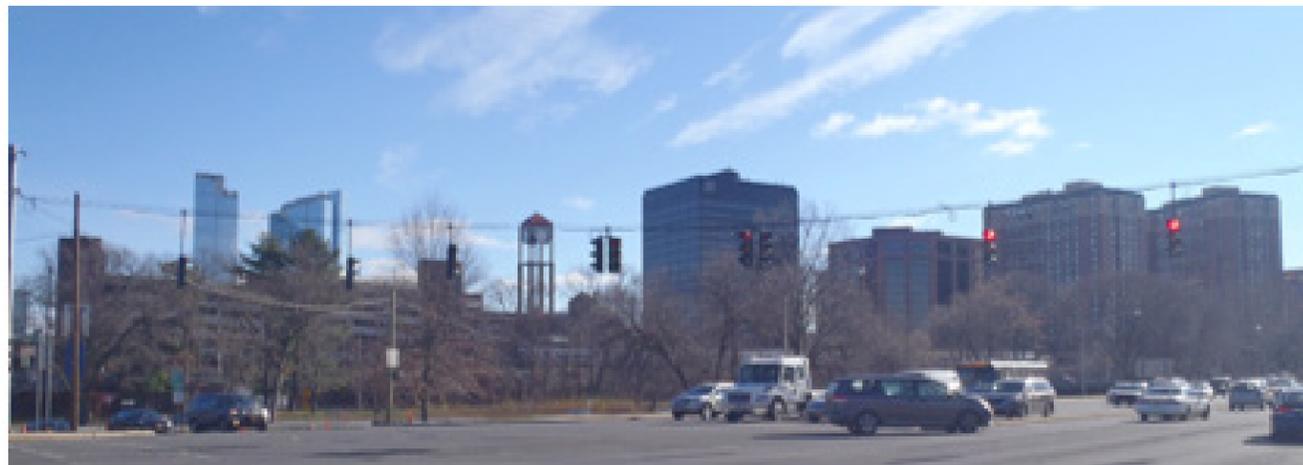


FIGURE 38: New Building Development Near the White Plains Metro-North Station (At Clock Tower) Would be Prominently Visible from Tarrytown Road and the Adjoining Battle Hill Neighborhood to the West

Source: WSP | Parsons Brinckerhoff



- Active ground level use + frequent entry/ storefront
- Passive but attractive landscape or developed edge
- Need and potential for improvement
- Improvement needed, with challenges
- Improvement needed, redevelopment opportunity
- Existing landscape amenities
- ↔ Desirable street connections

FIGURE 39: Analysis of the Walking Conditions
Source: WSP | Parsons Brinckerhoff



- Active ground level use + frequent entry/ storefront
 - Passive but attractive landscape or developed edge
 - Need and potential for improvement
 - Improvement needed, with challenges
 - Improvement needed, redevelopment opportunity
 - Existing landscape amenities
 - ↔ Desirable street connections
- Redevelopment opportunities**
- Privately owned (speculative potential)
 - Publicly owned (known potential)

FIGURE 40: Analysis of the Walking Conditions, with Redevelopment Opportunities
Source: WSP | Parsons Brinckerhoff

4.6 DEVELOPMENT CAPACITY ESTIMATE

Development opportunity could total more than 1 million sf on city-controlled properties, and 4-7 million sf on other properties

The study area contains several city-controlled sites near the MTC where **redevelopment is intended**, and a variety of other sites that appear to offer redevelopment potential over the coming 10-20 years, if supported by owner interest and economic feasibility. While the second category is highly speculative, it provides some indication of what could ultimately complement, or be spurred by, redevelopment that is already envisioned.

Estimations of development capacity consider several factors, and are not absolute. Estimations are summarized in Table 12. A basic factor is the allowable density under current zoning in the study area. Density is expressed in terms of Floor Area Ratio, or FAR. FAR is calculated by dividing the total gross floor area of all buildings on a parcel by the parcel area. For example, FAR 1.0 is equivalent to a one-story building covering an entire parcel, as well as to a three-story building covering one-third of a parcel. The CB-4 zone, which covers most of the study area, allows a density of up to 5, which increases to 5.5 if at least half the developed floor area is dedicated to residential use. The malls are in distinct zones: the White Plains Mall is in zone B-2, allowing FAR 0.8 and 2 stories or 25 feet in height, and the Galleria Mall is in zone B-6, allowing FAR 6 and 90 feet in height. This analysis has assumed that on the mall sites, some flexibility in these density and/or height limits may be possible in the event of additional development or redevelopment, enabling new development to be more similar to development permitted in adjoining zones. The CB-4 zone has tiered building height limits, allowing 85% of a site's area to be built up to 90' high, and lesser areas allowed to reach 180' and 230'. Residential buildings may reach greater heights if site area is large enough and floor sizes are small enough.

- » Parking also affects potential development capacity. While the presence of extensive transit services, walkable streets and opportunity to share parking spaces among uses with different peak demands diminishes the amount of parking spaces needed, it is assumed that with new development will come a market-driven need for more parking. This analysis assumes that parking is located in a mix of above- and below-grade structures, with the volume of above-grade structures minimized (see Figure 41 for potential parking locations).

While some examples of below-grade parking are present downtown, most development precedents downtown use above grade parking, reflecting the much higher costs and variable soil and water conditions that affect feasibility of below-grade parking. It is also assumed that parallel parking should be provided along streets wherever possible (as is generally the case today). As one sample indication of parking needs, parking demand is indicated below as if an average of one new parking space were needed for every 1,000 new sf of development. This parking ratio should be verified and adjusted through further estimation of potential transportation mode share, land use mix, market expectations around parking, and potential to increase utilization of existing parking spaces. At a ratio of one parking space per 1,000sf occupied floor area, a development's overall built volume would consist of about 75% occupied space and 25% structured parking. While above-grade structured parking volume does not count toward FAR calculations under current zoning it does significantly impact scale, character and site configuration of development

- » Actual development opportunity could be less than the potential capacity indicated, if constrained by foreseeable market-supportable development opportunity, suitability of sites for market-driven land uses, need to accommodate parking, and/or property owner interest. Development opportunity could also be greater than capacity if supported by sufficient market potential and alternative development policy accommodating higher-densities.
- » To reflect these factors, development capacity was also examined by modeling three scenarios for development on four city-controlled sites as well as 14 other sites in the study area (some vacant and some occupied by buildings) that could conceivably attract redevelopment proposals over the next 10-20 years (see Figure 42). These scenarios considered common

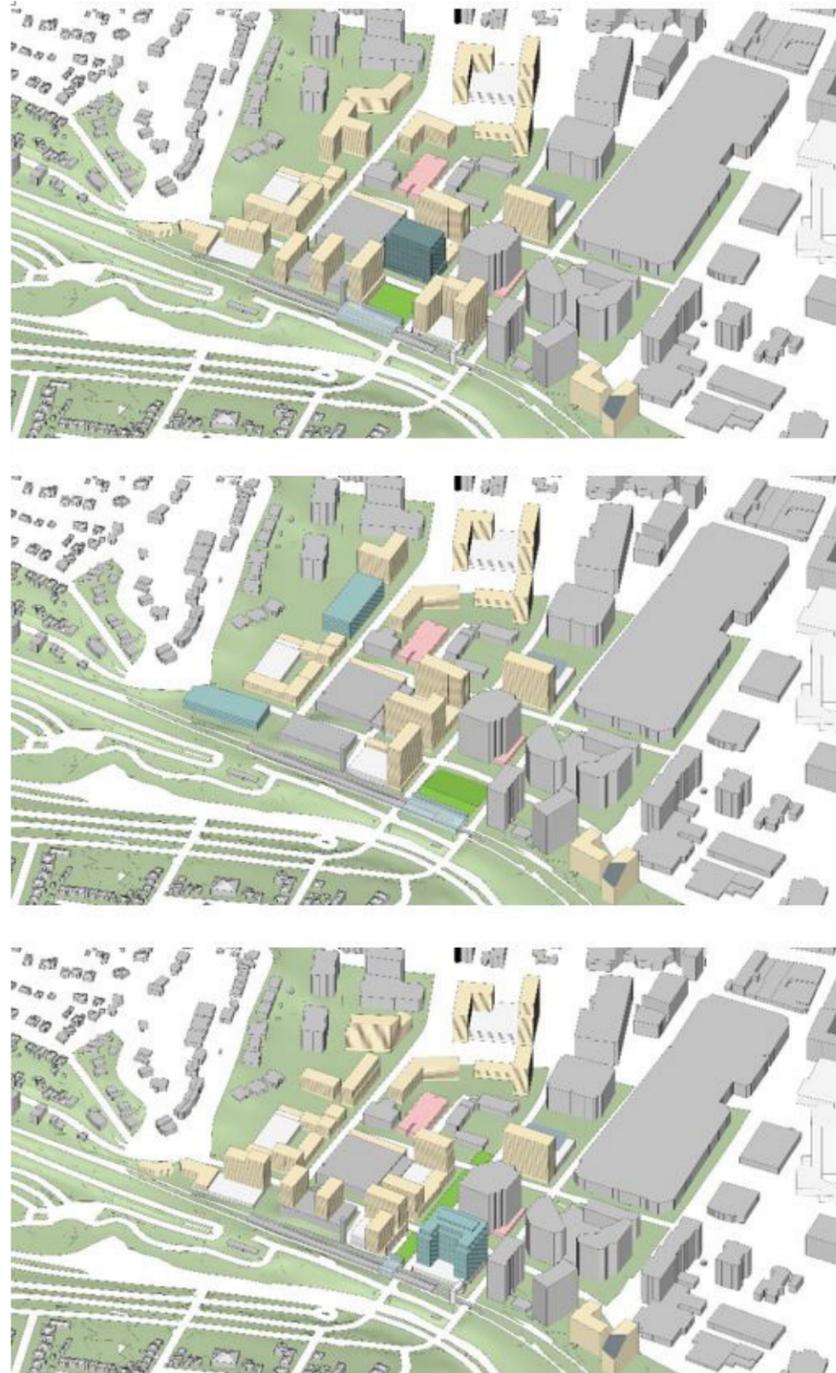
Number of parcels	Theoretical development capacity at FAR 5.5*	Development area in scenario model	FAR achieved in scenario model	Parking spaces per scenario model, assuming 1 parking space per 1,000sf
City-controlled parcels with redevelopment opportunity				
4	1,135,000	1,150,000	5.6	1,150
Other parcels with potential redevelopment opportunity, modeled in scenario				
14	5,130,000	3,600,000	3.4	3,600
Total redevelopment opportunity modeled	6,265,000	4,750,000	3.7	4,750

*assumes mall sites utilize typical CB-4 zoning

TABLE 12: Development Capacity Estimations (Square Feet of Floor Area)
Source: WSP | Parsons Brinckerhoff, 2016



FIGURE 41: Redevelopment Opportunities, Including Most Feasible Structured Parking Locations
Source: WSP | Parsons Brinckerhoff



land-use driven building configurations, parking, physical built and topographic context, and parcel geometry to arrive at building configurations and areas that might reflect actual opportunity. Development area of one scenario is included above in Table 12 as a sample outcome, not intended to limit or promise opportunity. Due to various constraints, these development scenarios usually fell short of zoning's density allowance, though some sites significantly exceeded it, reaching or exceeding FAR 10. As the downtown has several recent buildings that exceed the statutory FAR, it is assumed that greater densities (and associated heights) may be possible on certain sites if the city agrees that such a scale delivers compelling benefits. As one tool that can help manage this consideration, zoning has a transfer of development rights (TDR) mechanism, which can accommodate increased density on certain sites in return for a decrease in allowable density on another site.

» Adaptive reuse of certain existing buildings from office to housing or hotel use is a possibility in terms of floorplate characteristics. Further research would be required to determine economic feasibility and owner interest for such a change. Buildings examined as potential candidates are the following thirty- to forty-year old office buildings (note: the following data is from LoopNet.com):

- « 11 Martine Ave. (former location of Pace University's Lubin Graduate Center) (180,000sf, 14 stories, \$36/sf, built 1987)
- « 81 Main St. (125,000sf, 5 stories, built 1984)
- « 170 Hamilton Ave. (60,000sf, 3 stories, built 1977)
- « 1 Water St. (45,700sf, 4 stories, \$30/sf, built 1979)
- « 1 Barker Ave. (69,000sf, 6 stories, \$30/sf, built 1981)

Apart from 11 Martine Avenue, all of these properties are considered potential redevelopment opportunities for the purpose of the development scenario in Table 12. The buildings on these four properties would typically need to be removed to accommodate redevelopment, which is assumed to occur at significantly higher densities (close to 5.5 or more) than existing buildings on the properties.

The narrowest typical dimension across the building floorplate is a key factor in determining the building's suitability for housing or other uses that particularly value good access to daylight and views. Floorplate depth in the office buildings listed above typically falls within the 80-100 foot range. While deeper than the more common range of 60-80 feet for residential and hotel buildings, the 80-100 foot range can be suitable, and a number of built examples exist. Because central portions of the floor have limited access to daylight, these areas are often used to accommodate extra bathrooms or storage space, which tends to favor positioning the units as luxury units. Adaptive reuse for housing or hotel use in any of these buildings would require significant investment in plumbing and HVAC systems to accommodate the more intense needs and unitized layout of such buildings. The buildings would also require attention to lending a more residential character to facades and entrances. While this could be fairly straightforward at 11 Martine owing to its greater quality of urban design, façade composition that is compatible with residential scale, and clustering with another existing residential building, the other buildings would require a more significant makeover to transform their strong current identity as suburban office buildings.

FIGURE 42: Multiple Scenarios For Redevelopment in the MTC Area were Modeled to Identify a Range of Potential Development Program
Source: WSP | Parsons Brinckerhoff

4.7 ZONING POLICY REVIEW

Refinements to the current, well-intended zoning policy could produce a more consistent walkable and attractive street environment and improved transitions between neighborhoods and the MTC area.

Revised internal organization of development zone boundaries could better encourage a network of distinct, high-quality streets enlivened by a mixture of land uses. See Figure 43 for a map of study area zoning districts, and Table 13 for a summary of their intended characteristics. Most parcels with redevelopment potential and within a 3-4 block walk of the MTC lie within the CB-4 zone. This zone appropriately allows high-density mixed-use development that can take advantage of the area's variety of good transportation options and potentially high level of walkability

The B-2 and B-6 zones, corresponding respectively to the White Plains Mall and Galleria Mall, permit significantly lower levels of density or height than neighboring CB-3 and CB-4 zones. A consistent policy approach to building massing and street level qualities should be considered to add redevelopment capacity and to promote a pedestrian environment that is more consistent in its quality.

At the same time, portions of the area composed of the CB-4, B-2 and B-6 zones deserve greater differentiation responding to the character of major streets and adjoining areas. Figure 31 illustrates a potential alternative framework for consideration that differentiates development policy according to the study area's main east-west corridors, which are distinct in their scale, land use mix and sense of place as discussed in previously in this Section in Placemaking: Water and Barker Streets; Hamilton Avenue and Main Street (considered as a single zone); and Martine Avenue. The framework also highlights the overlapping Bank/Ferris Street corridor as one deserving special attention to its relationship to the adjacent Bronx River Parkway. The framework further differentiates certain streets as "signature" walking streets, while highlighting other streets as also playing important roles in a larger network of walkable streets. The transition points along these corridors between the CB-4 zone to the west and the series of zones to the east – RM-0.35, CB-3, UR-4 and CB-2 – generally occur at appropriate locations corresponding to the traditional edge of downtown, but could be reconsidered (whether accentuated, diminished or relocated) in light of the goal to strengthen connections between the MTC area and downtown.

Today's land use allowances generally promote the mix of residential, employment-related and service/amenity uses that are desirable in a walkable district, to keep public spaces active throughout the day and week, and to accommodate a variety of market-driven development opportunities. The most important change to consider would be to rezone the two large mall site to accommodate a wider range of uses, whether through addition to existing development or through redevelopment. It would also be desirable to encourage aggregation of pedestrian-oriented retail in clusters, without restricting location options.

A variety of smaller zones along the north and south edges of the CB-4 zone, often corresponding to individual development parcels. Adjoining or nearby zones to the north include RM-1, RM-2 and RM2-4 are primarily intended for multifamily housing, up to three stories in height, with six stories possible on larger sites. Adjoining zones to the south and southeast include the new Westmoreland LI-M district which accommodates housing and other mixed uses in a formerly light industrial zone; RM 0.35 and RM 0.7, which accommodate higher-density multifamily housing rising three to approximately 12 stories; B-3, accommodating commercial as well as multifamily buildings up to four stories tall; and CB-2, which has similar mixed use and density opportunities as CB-4 for large sites, but lower three- or four-story height limits for smaller sites. While these zones have effectively responded to the general need for scale and use transitions along these edges, the transitions of development use, scale, and design from one zone to the next still tend to be abrupt. Development policy that encourages greater consistency or compatibility of character along street corridors, and from parcel to parcel, should be considered.

Development density allowances are appropriate on an average basis across the MTC area, but ought to explicitly offer possibility for local variation. The maximum allowable density of FAR 5 (or 5.5

with over half of development floor area devoted to housing) generally strikes a good balance between on the one hand allowing significant development capacity in this prime economic development area, and on the other hand keeping development to a moderate physical scale that is compatible with the wide variety of existing development scale in the context. If future development will continue to have significant parking needs similar to today's demands, it would be difficult to significantly exceed the FAR 5 range without structured parking posing major design and economic challenges, that parking must be located on-site. If future parking demands will decrease, however, owing to increased use of transit, walking and biking, and/or more shared use of parking spaces and vehicles, development densities could exceed FAR 5 while remaining in scale with current dimensional regulations and existing buildings. The established district parking policy allows a development's parking to be accommodated on another parcel in a privately- or publicly-managed facility. This can help reduce the amount of land and development cost devoted to parking in the future, by facilitating more efficient use of existing and future parking spaces.

Multiple redevelopment scenarios modeled for sites with potential for redevelopment tended to achieved densities in the FAR 2.5 to 5.5 range for "low-rise" buildings up to about 6 stories tall. Where high-rise buildings of 14 to 20 or more stories were included, densities rose as high as FAR 12 or greater, even within the 230-foot height limit. This demonstrates that the currently permitted heights in the CB-4 district could accommodate significantly more density than the FAR 5.5 permitted. This highlights two possibilities that may be appropriate for selected locations: accommodating greater density than currently permitted on sites where it can be appropriately designed, and reducing height limits without sacrificing development potential on sites where lower scale may be desired.

Therefore, while the FAR 5 range may continue to serve well as an average density for the MTC area as a whole, development policy should acknowledge the potential for greater and lesser density from one parcel to another. Zoning's established Transfer of Development Rights (TDR) policy, enabling greater densities with Common Council

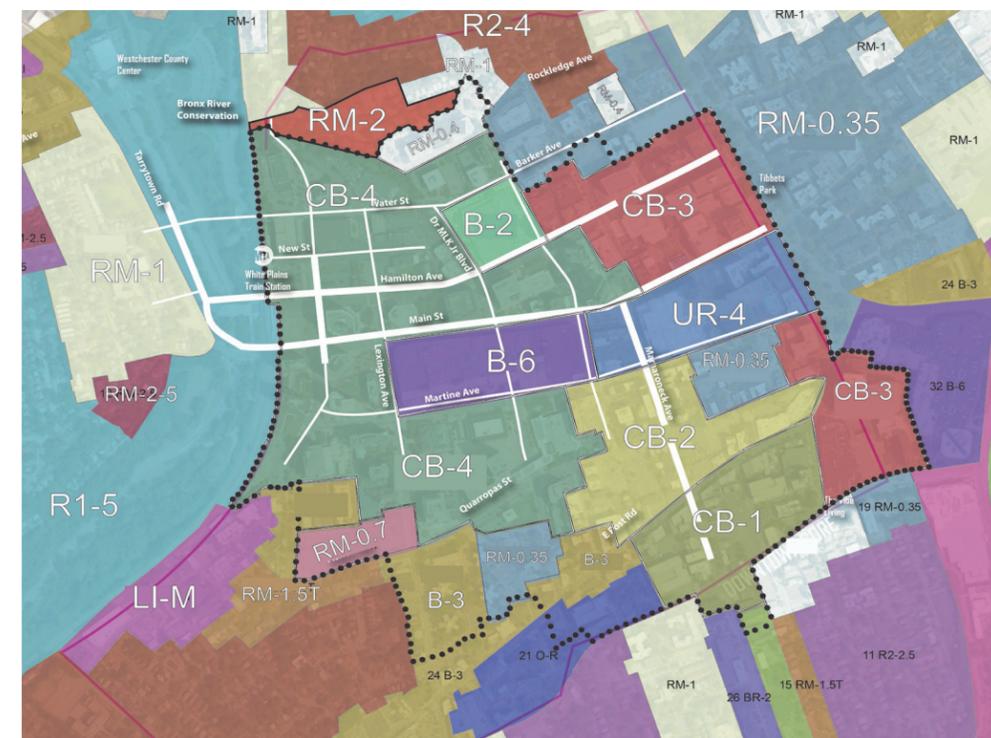


FIGURE 43: Existing Zoning Districts
Source: WSP | Parsons Brinckerhoff

			REFERENCE
B-2	White Plains Mall	The B-2 District is a low-density neighborhood retail district containing retail and service business "uses" of a limited nature appropriate to serve the convenience shopping needs of neighboring residential areas.	5.5.1.4
B-3	Mercedes-Benz dealer, Bank Street	The B-3 District is a general retail district containing a wide variety of retail, office and service business "uses" as well as "multi-family dwellings." The majority of "uses" in the district are of a service character and the district is located predominantly along the major arterial commercial "streets" of the City.	5.5.1.5
B-6	Galleria Mall	The B-6 District is designed for super-regional enclosed shopping malls, with accompanying parking and other facilities commonly found accessory to such "uses."	5.5.1.10
CB-2	Retail/mixed-use blocks flanking Mamaroneck Ave. between Martine Ave. and East New York Post Rd.	The CB-2 District is a medium to high density residential, major retail, personal services, office and government "use" section of the central business district. It is designed to encourage a compatible and mutually supportive balance of non-residential and residential "uses" in such a way as to increase convenience and decrease reliance on the automobile. High-density hi-rise housing is encouraged to be built on large sites.	5.5.1.8
CB-3, CB-4, UR-4	CB-4 covers the majority of the MTC area and its redevelopment opportunities. CB-3 flanks Hamilton Ave. east of the White Plains Mall. UR-4 covers downtown blocks between Main St. and Martine Ave. east of Court St.	The CB-3, CB-4 and UR-4 Districts are high-density, mixed-use areas encompassing the core of the City's central business district. Appropriate to the City's role as a regional center, these Districts permit a combination of residential, retail, office, government, business, service, cultural and entertainment "uses." These Districts also encourage high-density hi-rise housing to be built on larger sites.	5.5.1.9
LI-M	Flanking Westmoreland Street at the southwest corner of the study area; formerly designated an LI zone until January 2016	The LI-M District is a mixed use district located near a public transportation center, which is intended to: encourage vibrant neighborhoods with a mix of uses ranging from residential to light industrial; incentivize adaptive reuse of existing "buildings" for residential use to increase neighborhood vitality and retain existing character; "revitalize vacant and/or underutilized properties; continue to provide areas for light industrial businesses to operate and serve the community; and protect adjoining residential uses from the negative impacts of incompatible manufacturing uses.	5.5.1.12

			REFERENCE
RM-2.5	Flanking Battle Ave. near Bronx River Parkway	For the RM-2.5 District, to provide a regulatory framework which encourages the preservation and improvement of existing neighborhoods, at a density closely approximating the existing density of development, and which will prevent the inappropriate conversion to more intensive residential and non-residential "uses" which has previously occurred.	5.4.1.3
RM-2	Flanking Hillside Terr. North of MTC area	For the RM-2 District, to encourage integrated development of parcels near the center of the City with medium density residential development of a low-rise character, accompanied by appropriate open space and recreational facilities.	5.4.1.4
RM-1.5	Battle Hill north of Battle Ave.; Ferris Ave. north of Kirby Terr.	For the RM-1.5, RM-1, RM-0.4 and RM-0.35 Districts, to provide for a supply of "dwelling units" suitable for families of all sizes, in locations which are convenient to shopping, transportation and community facilities, and where higher densities will allow for the development of new housing at a more moderate cost. The "height" and density requirements of these districts are such that low-rise "buildings" are permitted in fringe areas near the center of the City, and the mid- and high-rise "buildings" are permitted in the center of the City, all in locations consistent with the "Comprehensive Plan."	5.4.1.5
RM-0.35	RM-0.35 flanks Barker Ave. east of Cottage St.		
RM-0.4	Isolated parcels along Ferris Ave., Rockledge St. and Barker Ave. at north edge of MTC area		
RM-0.7	US Post Office, Bank St. at Fisher Ave.	For the RM-0.7 District, to provide low-rise, medium density "dwelling units" in locations convenient to employment, shopping, transportation and community facilities. It is intended to be a predominantly residential transition district between non-residential areas and established neighborhoods.	5.4.1.6
Additional housing goals for RM-0.35, CB-2, CB-3, CB-4 and UR-4		For the RM-0.35, CB-2, CB-3, CB-4 and UR-4 Districts, in the Central Parking Area, to encourage the construction of additional "multi-family dwellings" serving a variety of income groups for both rental and ownership, and focusing on the needs of young professionals, seniors and others who would benefit from proximity to "restaurants," shops, employment opportunities, cultural opportunities and transportation, consistent with the "Comprehensive Plan." A minimum of 6 percent of new "multi-family dwellings" shall be affordable to moderate income families, based on income schedules published annually by the City of White Plains Department of Planning.	5.4.1.5.1

TABLE 13: Zoning Districts Relevant to the Study Area
Source: Zoning Ordinance of the City of White Plains

consent, provides one useful tool to accommodate such variation if applied to the transit district area. TDR permits the purchase and sale of development density rights among property owners, adding flexibility that can potentially make development more feasible and better suited to its context. TDR can be leveraged as a means of influencing the location of height and density, if certain parcels are designated as “donating areas” – where sale of development rights is encouraged – and “receiving areas” – where purchase of development rights is encouraged. Donating areas should be designated where reduced development scale is desired, and as a means of protecting historic properties from redevelopment. Receiving areas should be designated where greater densities and development scale are desirable.

Conditional increases in density and/or height may also be granted through means other than TDR. These increases, subject to added design standards, can establish incentive for developers to provide public open space, transit station improvements, pedestrian infrastructure, or other community-defined benefits. Such benefits can be an important catalyst to enhance the overall transit district character.

Zoning should continue to encourage a “streetwall” at lower elevations, but should offer greater flexibility on form and height of upper floors, combined with more qualitative guidance at transitions between zones. Current zoning in the CB-3, CB-4, and UR-4 zones appropriately allows floors at elevations up to 90 feet to occupy most of their parcel (85%) – encouraging consistent façade edges that help shape walkable streets by forming a “streetwall” at the lower floor levels most perceived by pedestrians. It also restricts the footprint of building mass above 90 feet to a much smaller percentage of site area, which ranges from 60% at lower elevations down to 20% at upper elevations.

The general intent to reduce building mass above the streetwall is appropriate, encouraging more attractive, slender proportions in taller building masses, and ample space between tall buildings to preserve more views and access to daylight and direct sun both at ground level and on upper floors of buildings. The required setback of upper floors from the streetwall required in zones CB-2 and CB-3 (Zoning Ordinance part 5.5.3.1) appropriately supports this intent. However, the “wedding cake” pattern of diminishing floor area at increased height thresholds is not the only nor necessarily the optimal way to control the form of taller buildings. For instance, a tower that occupies approximately 40% of site area from streetwall elevation up to its top could potentially offer an acceptable alternative.

The current policy of linking greater allowable height to greater parcel size also deserves reconsideration (see zoning ordinance sections 5.5.3.2 and 5.5.3.3). At successive parcel area thresholds of 50,000, 100,000, 200,000 and 300,000 square feet, maximum allowable height increases. The general effect of this policy would be to encourage greater void space around the tallest buildings, and to limit location of the tallest buildings to handful of unusually large multi-block parcels (potential development density remains relatively consistent between larger and smaller parcels). The policy intent of maintaining gaps between tall towers is understandable, but the floorplate area restrictions adequately accomplish this without need to couple allowable height to parcel size. The very largest parcels in the MTC area – the Galleria Mall, White Plains Mall, and the aggregation of city parcels west of Ferris Ave. including the White Plains Metro-North Station and parking – are not necessarily the best, nor the only acceptable, locations for the tallest buildings in the MTC area. Some of the smaller parcels in the area, under 50,000sf, flank Hamilton Avenue in places where added density could be appropriate and help induce desirable reinvestment. Regulating allowable height using considerations other than parcel size could open up other, better possibilities.

The zoning ordinance does not call for specific design attention to building form at transitions to contexts with lower densities and heights, except that it empowers the Design Review Board (DRB) to review these transitions in a very general way. Ordinance sections 9.6.1, 9.6.2 and 9.6.3 require the DRB to consider “excessive dissimilarity ... inappropriateness ... or similarity” between proposed and existing structures, but without qualitative guidance as to what principles should guide these considerations. Clear examples of thoughtfully designed transitions are, however, apparent in recent development projects – such as the transition of the Avalon White Plains to lower heights in the adjacent zoning district along Rockledge Avenue, and the transition of the Ritz Towers to smaller and historic adjacent buildings (see Figure 17, below). Regulations that articulate the scale transition principles evident in these examples could promote more predictable and successful adjacencies in future development.

Proven design guidelines can make walking much more appealing. While the zoning ordinance indirectly encourages development to form a streetwall as described above, it does little else to promote an inviting, safe pedestrian environment. In fact, it facilitates the vehicular-oriented access that many study area properties feature today. In many communities, development regulations and design guidelines successfully support a high quality pedestrian environment by calling for a regular presence of windows and entrances at ground level. Where feasible, retail and other publicly-accessible uses are preferred; at other locations, elements like frequent residential unit entrances, or highly transparent office and hotel lobbies, make important contributions to walkability. Appropriate and inappropriate locations for vehicular site access can be identified to minimize presence of driveways and curb cuts across sidewalks on priority pedestrian streets. Explicitly including guidelines like these in zoning could help ensure that future development avoid the instances of blank walls, mirror glass, parking lots and other conditions that commonly detract from the appeal of walking in the MTC area today.

The zoning ordinance includes appropriate means of development review. The zoning ordinance calls for Common Council review of development projects exceeding 50,000 square feet in floor area. It also gives the Common Council discretion to approve a variety of zoning variances concerning height, density, massing, open space and parking provisions, to various extents in zones throughout the transit station area. The DRB provides advisory comments on these issues. This level of discretionary review and approval is common in other communities and generally allows a desirable level of flexibility to accommodate development proposals and community goals that are not directly addressed in development regulations. The current zoning ordinance’s recommendation that development applicants speak with city development staff early in the proposal process is highly appropriate, promoting common understanding of qualitative goals for development and efficient use of developers’ time and resources.

Zoning appropriately encourages efficient, flexible use of parking. High-density structured parking typically entails significant development costs and built volume, and can negatively impact the walkability and appeal of adjacent streets. Walkable, high-density districts thus tend to benefit by using parking as efficiently as possible; they also tend to make this possible by offering transportation options other than driving, and by enabling parking spaces to be shared by uses with different demand peaks. The current zoning policy appropriately encourages parking efficiencies through its district parking policy in the downtown and MTC area, and low parking requirements that can be reduced further if appropriate. This policy could be leveraged further with development and transportation policies that better encourage safe, inviting conditions for walking, biking and use of transit.

4.8 SUMMARY OF KEY URBAN DESIGN FINDINGS

» PLACEMAKING (addressing study area identity)

- « Portions of the study area around the MTC notably lack sense of place. Street improvements and new mixed-use development that creates stronger relationships between streets and buildings, and establishes public spaces that invite social interaction, can effectively introduce sense of place in ways that build social community as well as real estate market potential.
- « The study area contains important assets that can be leveraged to enhance sense of place. These include a relatively high density of people and mix of uses, that can intensify further; topography that introduces unique views within and beyond the area; and strong cultural life.

» STREETS DESIGNED FOR PEOPLE (addressing ground level walking conditions and land use)

- « The area's basic street grid has street spacing and connections that generally support walkability. New walking connections through unusually long blocks could provide valuable new connections.
- « Retrofits or redevelopment of existing buildings and vacant lots could significantly improve walkability where most needed.
- « Street redesign that introduces more separation between pedestrians and traffic, and exchanges vehicular lane area for expanded walking and biking facilities where possible, would significantly improve walkability.

» DEVELOPMENT CAPACITY ESTIMATE (including attention to full building retrofit opportunity)

- « Development scenarios for the study area indicate potential for roughly 4.75 million square feet or more of new development. This includes approximately 1.15 million square feet on four city-controlled parcels at or near the MTC, and 3.6 million square feet on 14 additional parcels owned by others.
- « Several office buildings dating from the 1970's and 1980's are physically suited for conversion to housing or other use, if economically feasible. Convertible floor area in these buildings totals roughly 480,000 square feet.

» ZONING POLICY REVIEW (addressing capacity and design considerations)

- « The study area's predominant zoning district, CB-4, offers density, land use mix and dimensional characteristics that are generally consistent with goals and opportunities for transit-oriented development. However, certain development standards should be added or leveraged further to maximize the benefit of development in the MTC area.
- « These include design standards that promote pedestrian-friendly streets and attractive building forms suited to the scale of nearby buildings and public spaces.
- « Development policy can also yield better results if greater flexibility around density and/or height is allowed, in appropriate locations. This can help make new development fit better next to smaller-scale neighborhood contexts, and can also incent developer investment in infrastructure or other community benefits in return for additional development opportunity.

5 APPENDIX 4: MARKET CONDITIONS ASSESSMENT BASELINE STUDY

5.1 INTRODUCTION

5.1.1 PROJECT OVERVIEW

The City of White Plains is leading a strategic planning project to redevelop and transform the area around the White Plains Metro-North station and Westchester County Bee-Line Bus Station into a gateway connected to the downtown core. The plan will address all modes of travel, address opportunities to maximize economic development potential, and identify new and important linkages to downtown. The City received grant funding for the project through the New York State Energy Research and Development Authority (NYSERDA). The project will incorporate sustainable design principles that are protective of the environment and promote energy efficiency.

The project provides an opportunity to address a pressing need for creating an integrated regional transportation hub in White Plains where BRT, commuter rail, local bus, taxis and shuttles riders can make efficient connections to and from White Plains, Yonkers, New Rochelle, Stanford, New York City and other local activity nodes. A modern, efficient and accessible public transit hub in Downtown White Plains is a critical component of a high performing regional multimodal transportation network designed to get people out of their private vehicles and onto public transit for trips between home, work, shopping, and recreation. It is anticipated that the project will drive further investment and redevelopment in the immediate station area and into the downtown core, and increase both commercial and pedestrian activity in the greater Downtown White Plains area and the surrounding street system.

The City of White Plains is committed to engage and work cooperatively with the project area stakeholders and the public to develop a short- and long-term vision for the project. The final Strategic Plan, expected to be complete in Fall 2016, will assess the existing conditions in the study area, establish the need for the project, define goals and objectives, define major plan elements, identify potential funding sources, and identify a plan of implementation.

5.1.2 STUDY AREA

The Multimodal Transportation Center Redevelopment Project Study Area is centered on the MTA White Plains Metro-North station and the County of Westchester Bee-Line TransCenter. It extends approximately 0.35 miles around the Metro-North station and includes the City of White Plains parking garage and surface lot, the White Plains Fire Department Station No. 2, the westerly portion of the downtown business district, the easterly portion of the Battle Hill neighborhood, the southerly portion of the Ferris-Church neighborhood, the Bronx River Parkway Reservation, and the Westchester County Center (Figure 44).

5.1.3 REPORT PURPOSE

Task 4.1A - Review of Existing Studies and Reports and Task 4.1B - Existing Conditions Gap Analysis led to identification of data gaps and the development of baseline study scopes. The purpose of this report is to present the analysis and results of the Market Conditions Assessment Baseline Study, which will inform the development of the Strategic Plan.

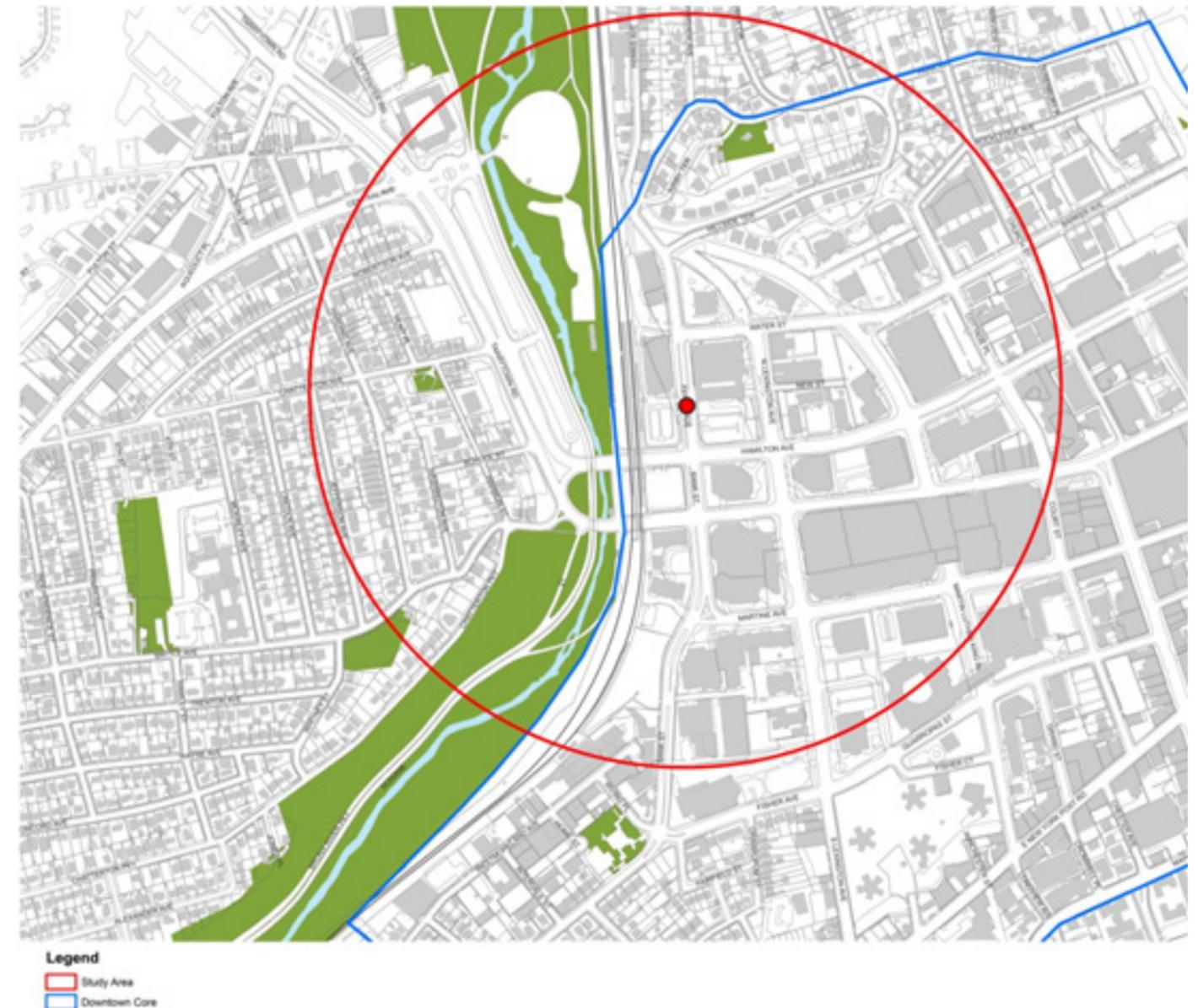


FIGURE 44: Study Area
Source: WSP | Parsons Brinckerhoff

5.2 BASELINE STUDY SCOPE

The Market Conditions Assessment Baseline Study includes a review of existing market conditions for market rate residential, office/flex space, and hotel sectors in White Plains and Westchester County. Key metrics for each product type to be evaluated included: existing market inventory in terms of square feet and/or units; average pricing/rents; current occupancy rates and market absorption; and development pipeline that will affect future space availability. The study includes the identification of current and future potential opportunities for land development that can serve to stimulate economic growth.

5.3 BASELINE STUDY ANALYSIS

5.3.1 REVIEW OF PAST STUDIES AND KEY PLANNING DOCUMENTS

The following reports were reviewed as part of the research on the historical growth and development of Downtown White Plains (Table 14).

5.3.2 IDENTIFICATION OF CITY-OWNED AND “SOFT SITES”

The area surrounding the White Plains Metro-North station includes a number of underutilized parcels, including City-owned parcels such as the Fire Station immediately north of the station and several nearby parking lots and garages. These sites are clear development opportunities due to a number of factors, including public control, proximity to the station, and the role they currently play in contributing to the lack of a continuous street-level activity.

As shown in Figure 2, the lots located to east, northeast and southeast of the station represent the most likely “first mover” sites. Labeled as sites 2 and 3 in the study area ownership map below, these properties include the Fire Station at 20 Ferris Avenue, a City-owned parking structure at 16 Ferris Avenue, and an Urban Renewal Agency-owned parking lot at southwest corner of Hamilton Avenue and Bank Street. The County-owned Bee-Line Bus Station, labeled as site 1 immediately across Ferris Avenue from the White Plains Metro-North station, could also accommodate a redevelopment project. Given their public ownership and strategic location next to the Metro-North station, these sites have the potential to accommodate potentially catalytic redevelopment projects.

The blocks to the east of the MTC also include a number of privately-owned sites that could be targeted for redevelopment. These include underbuilt office buildings at 1 Water Street and 12 Water Street, an auto dealership at 15 Water Street, and the White Plains Mall, which covers a full-block site between Water Street and Hamilton Avenue. Since these sites are privately-owned, it is more difficult to project whether they will be available for redevelopment.

The potential redevelopment value of these sites depend on a range of criteria, including physical and regulatory constraints, infrastructure availability and requirements, surrounding development trends and neighborhood context, and other site-specific obstacles to development. The selection of redevelopment sites will also depend on the likelihood that they have the potential to spur further redevelopment.

Real Estate & Development		
MTA Ownership Map	N/A	This document is a map from 1917 detailing the Metropolitan Transit Authority's property ownership around the train station.
Multimodal Project Area Property Ownership	N/A	This document is a map composed by the City of White Plains detailing property ownership within the project study area.
Central Renewal Project Housing Projects	N/A	This document is a map displaying the City of White Plains' Urban Renewal Areas and public housing projects within them.
White Plains Disposition Status	2000, White Plains Urban Renewal Agency	This document is a map displaying the disposition status of sites within the City of White Plains' central Urban Renewal Area.
White Plains Urban Renewal Photos	N/A	This document contains 18 photos documenting urban renewal projects undertaken in White Plains over the last few decades, complete with narrative history.
White Plains Urban Renewal Projects	N/A	This document contains spreadsheets detailing information about urban renewal projects undertaken over the last few decades, including dates of plan adoption, land area, purpose of the project, etc.
Redevelopment of City and Urban Renewal Agency Property Adjacent to Metro-North Railroad Station City of White Plains	City of White Plains	This document is an RFQ issued by the City of White Plains in 2007 to redevelop the City's property holdings adjacent to the Metro-North Railroad Station. The document contains background information on the properties and the city overall, including zoning and built area.
Land Use/Planning Studies		
City of White Plains Consolidated Plan 2015-2019 (Annual Action Plan 2015-2016)	2015, City of White Plains	The City of White Plains' Consolidated Plan from 2015 contains a needs assessment, market analysis, strategic plan, and annual action plan. The document includes a great deal of census and real estate data, primarily to support housing development.
City of White Plains Comprehensive Plan (2006 Revisions of the 1997 Plan)	2006, City of White Plains	This document is a 2006 update to the City of White Plains' 1997 Comprehensive Plan. The document describes different areas of the city and contextualizes them within Westchester County. It also includes demographic data and descriptions of physical conditions.

TABLE 14: Past Studies and Key Planning Documents
Source: City of White Plains

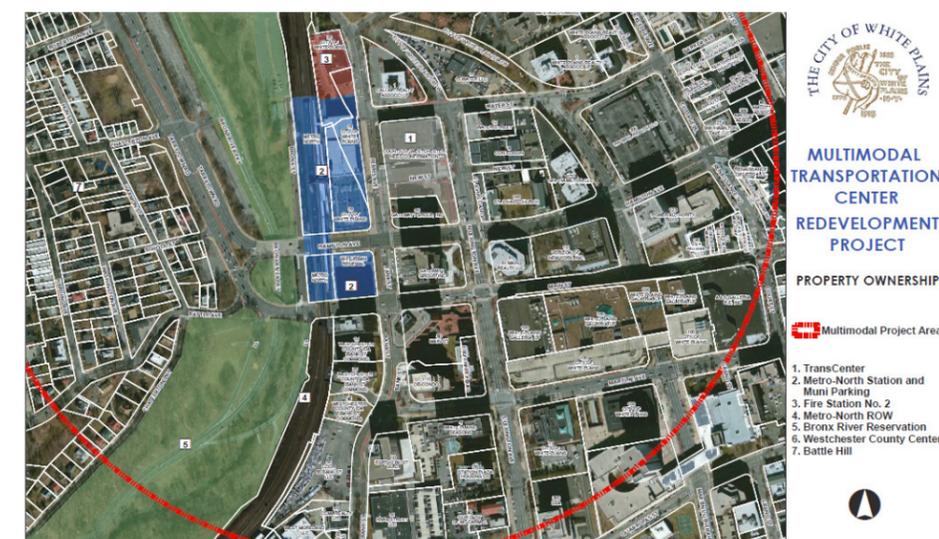


FIGURE 45: Study Area Ownership Map
Source: City of White Plains

5.4 MARKET OVERVIEW

The potential redevelopment of the White Plains Multimodal Transit Center and its reconnection to the Downtown presents an opportunity for transforming the surrounding area through market-supportable development and public realm improvements that will usher in an enhanced sense of place, increase the use of robust public transit options, and create positive impacts throughout the area. The MTC has been a critical contributing factor to the growth of Downtown in recent years. Located at the western edge of Downtown White Plains, the MTC connects the city with the rest of the New York region and provides a one seat, 30 minute ride to Grand Central Station. The blocks immediately surrounding the MTC, however, are dominated by parking lots and garages and buildings with no ground floor activity, creating an environment characterized by limited street level activity. Accordingly, the station area offers a poor experience for pedestrians and transit users and is effectively isolated from the vibrant residential neighborhoods and employment centers located in and around Downtown.

Downtown White Plains is a major regional employment center within Westchester County. In addition to hosting the seat of the County government and court system, Downtown is home to over 6.5 million square feet of office space, health care facilities, including White Plains Hospital and New York Presbyterian-Westchester, over 1,100 hotel rooms, a walkable retail and dining scene along Mamaroneck Avenue, and several regional shopping malls, including the Galleria at White Plains, City Center at White Plains, and the Westchester.

While Downtown has experienced some growth in demand for medical office space, its office market has seen almost no new construction since the 1980s. As a result, its occupancy and rental rates have been flat in recent years, and Downtown’s office stock is growing increasingly obsolete from the perspective of both building operations and the needs of tenants. While existing vacancy and asking lease rates do not suggest that there is substantial demand for new construction, conversations with stakeholder task force members representing brokers and real estate developers and news reports suggest that there may be demand from medical office users or start-ups for small office spaces that are integrated into mixed-use projects.

By contrast, Downtown White Plains has experienced significant residential growth in recent years. Property owners have capitalized on the growing demand, particularly among young professionals and empty nesters, for more urban and walkable lifestyles. Downtown’s combination of public transportation, retail and dining options, and affordability relative to other urban centers has made it an attractive residential option within the New York region.

Over the past 15 years, however, this residential growth has disproportionately occurred in the eastern half of Downtown, particularly near the intersection of Main Street and Mamaroneck Avenue. While the area around the MTC offers greater accessibility due to its regional bus and train connections, it has attracted comparatively less development relative to other sections of Downtown. As a result, the blocks surrounding the MTC have yet to achieve a critical mass of residential buildings and street-level retail that help support a vibrant live-work-play community. Given the overall strength of the residential market and the locational advantages offered by the MTC, a combination of strategic public realm improvements and residential development on publicly-owned sites could extend the growth of Downtown White Plains from the Mamaroneck Avenue corridor into the blocks surrounding the MTC.

5.4.1 DEMOGRAPHIC OVERVIEW

To capture the most densely developed areas of Downtown White Plains, the boundaries for the market study were expanded to include multifamily buildings to the east of Broadway and to exclude single-family homes south of Lexington Avenue to the southeast of downtown. The area captures the most densely developed areas of Downtown and represents those areas that offer the most potential for a walkable, urban lifestyle. The market study area boundaries of the Downtown Study Area are shown on Figure 46 below. Unless otherwise discussed, all mentions of the study area in the market overview will refer to the shaded area in Figure 46.

Home to over 12,000 residents, the population of Downtown White Plains increased by 27 percent between 2000 and 2015 – an annual growth rate more than five times higher than the rate of both Westchester County and the New York metropolitan area, as shown in Table 15.

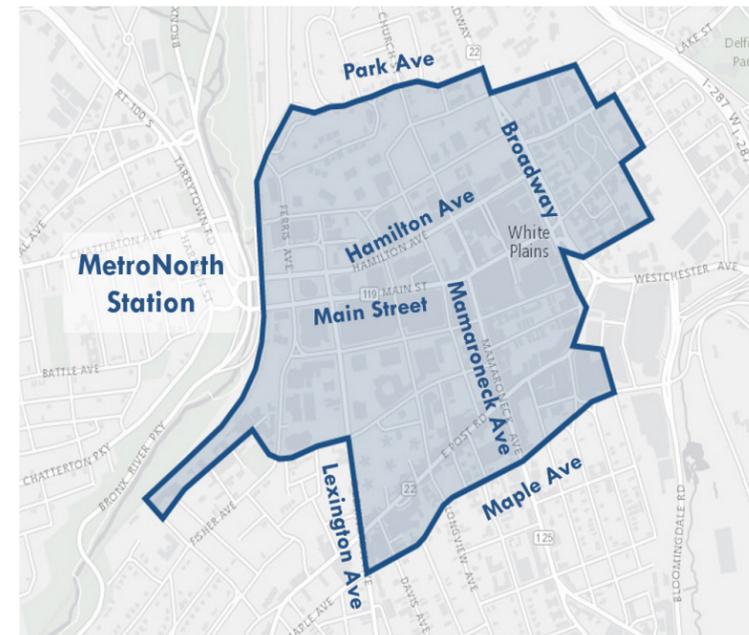


FIGURE 46: Market Study Area
Source: HR&A, 2016

Geography	Total Population (2000)	Total Population (2015)	Annual Growth (2000-2015)
Downtown Study Area	9,658	12,289	1.6%
White Plains	53,077	57,037	0.5%
Westchester County	923,459	960,997	0.3%
New York MSA	18,944,519	19,987,071	0.4%

TABLE 15: Total Population
Source: Esri

Much of the growth in Downtown White Plains has been driven by young professionals and empty nesters over the age of 65, who represent 35 percent and 18 percent of Downtown’s population, respectively, as compared to 25 and 16 percent in Westchester County as a whole, as shown in Table 16 and Figure 47 below. These populations have been attracted to Downtown’s growing stock of multifamily housing; walkable retail and restaurants along Mamaroneck Avenue; relative affordability; and access to New York City. With more than 61 percent of households renting rather than owning their homes, Downtown also has a significantly higher share of renter households than either Westchester County or the metropolitan region. Westchester County has historically had strong demand for rental apartments from downsizing empty-nesters and young professionals.

Downtown is also more diverse and better educated than Westchester County. Nearly half of Downtown’s residents identify as Black, Hispanic or Asian, as compared to one-third of Westchester residents, while more than 60 percent of Downtown residents over the age of 25 hold a Bachelor’s degree or higher as compared to less than half of residents elsewhere in the County.

While the average income of Downtown households is lower than elsewhere in Westchester County, the gap is partly due to a larger share of one-person households, the presence of public housing and moderate income inclusionary housing units, and a larger share of younger residents. The average Downtown household has fewer than two people and is less likely to include school-aged children as compared to elsewhere in Westchester or the rest of White Plains.

5.4.2 RESIDENTIAL MARKET OVERVIEW

Eight new residential projects have been built in Downtown White Plains over the past 15 years, totaling over 1,95 units (Figure 48). Most of this growth occurred in the early to mid-2000s and focused on the luxury rental market. One condominium project, the Residences at the Ritz Carlton White Plains, opened in 2008.

The blocks immediately surrounding the White Plains Multimodal Transit Center have seen little development activity over this period. With the exception of twin residential towers built at 15 Bank Street, most development activity has been concentrated in the eastern half of downtown, near the intersection of Main Street and Mamaroneck Avenue.

Development activity has been robust in recent years, including the opening of the Cambria Hotel and Suites and two mid-rise residential projects in 2014. Three additional projects are currently in the planning or development stages: LCOR is building a 561-unit rental building at 55 Bank Street; Lennar Multifamily Communities has called for replacing the Westchester Pavilion Mall with 707 rental apartments and 95,000 square feet of new retail space; and a third project, known as The Collection, is seeking approval for a development with 261 residential units, a 154 room hotel, 85,000 square feet of retail space, a 34,000 square foot auto dealership and 1,200 parking spaces near the intersection of Westchester Avenue and North Broadway.

Geography	Median Household Income	Average Household Size	Median Age	% Renter	% BA or Higher	% Non-White
Downtown Study Area	\$71,006	1.8	39.2	61%	53%	47%
White Plains	\$81,286	2.4	40.0	44%	49%	39%
Westchester County	\$85,410	2.7	40.8	37%	47%	34%
New York MSA	\$65,898	2.7	38.4	46%	38%	42%

TABLE 16: Demographic Summary, 2015
Source: Esri

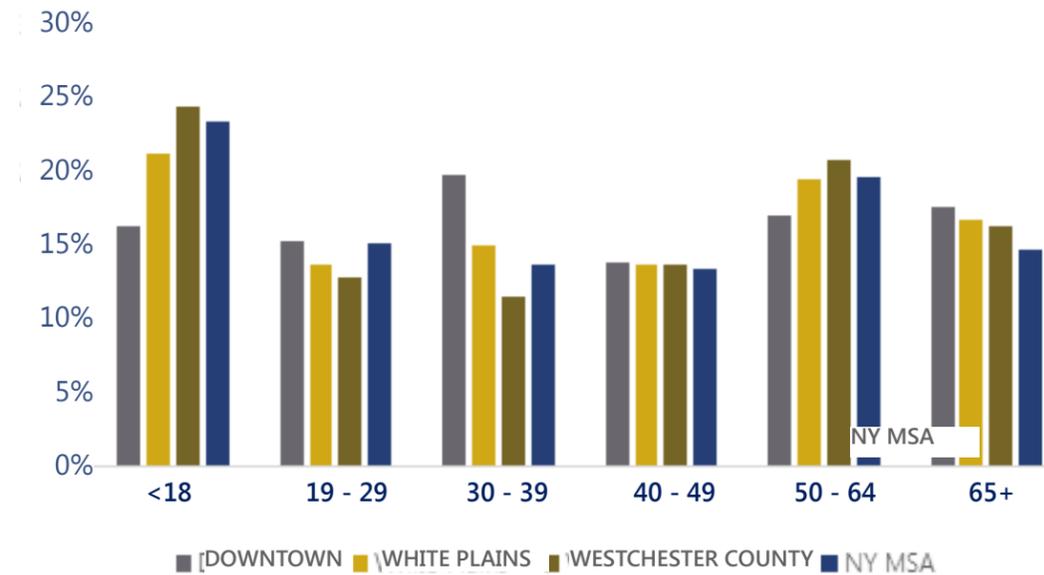


FIGURE 47: Distribution of Population by Age, 2015
Source: ESRI



FIGURE 48: Recent Market Rate Development Activity in Downtown White Plains
 Source: WSP | Parsons Brinckerhoff

Multifamily rental properties in Downtown White Plains have historically achieved a significant rent premium over other properties in Westchester County. Representative stakeholder task force participants attribute the ability to achieve higher rents to Downtown's combination of regional transportation links, walkability, and value relative to other urban centers. They suggest that these attributes have allowed Downtown White Plains to develop a significant competitive advantage in the regional residential market.

As a result of the continued development of high-rise luxury buildings, this gap has widened over time. According to data from CoStar, rents in Downtown have grown 43 percent since 2000 as compared to 31 percent for the County as a whole. Average asking rents Downtown also reached \$3.00 per square foot per month in 2015, more than 40 percent higher than the multifamily buildings elsewhere in the County, as shown in Figure 49.

Despite the high per square foot prices relative to other areas of Westchester County, Downtown rental buildings benefit from being significantly less expensive than comparable buildings in New York City. Even though other Westchester cities have begun to attract multifamily development in recent years, none can offer the same opportunities for a live-work-play lifestyle and access to New York City that can be found in Downtown White Plains.

Rental vacancy rates are currently under 5 percent and have remained between 3 and 5 percent since the 2009 recession. This reflects the rapid absorption of rental product built during the 2000s. Between 2004 and 2009, when most of the new residential units were added to the market, Downtown was able to absorb an average of 138 units per year, as shown in Figure 50.

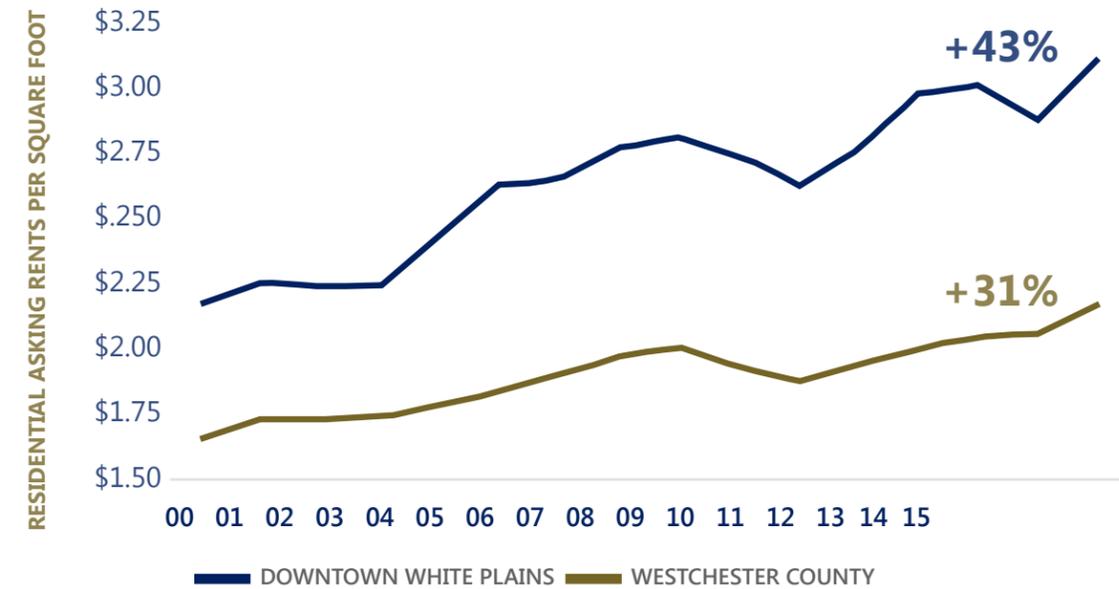


FIGURE 49: Historical Growth in Per Square Foot Asking Rates, Downtown White Plains and Westchester County Residential Rental
Source: CoStar, 2000-2015

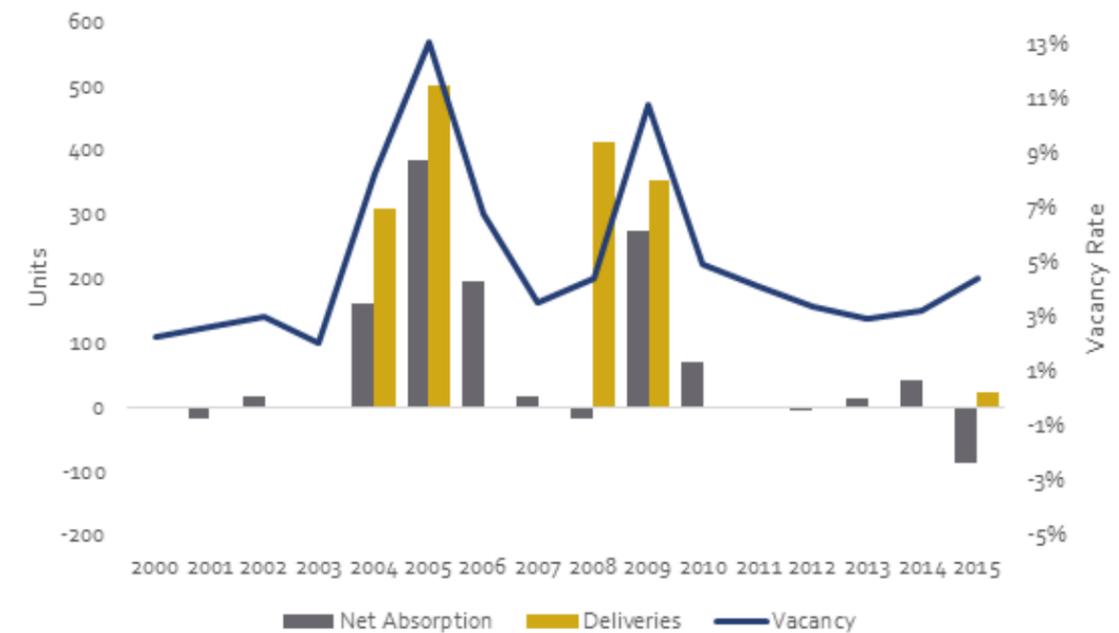


FIGURE 50: Historical Deliveries, Absorption and Vacancy Rates
Source: Esri, 2000-2015

Geography	Employment 2002	Employment 2013	Total Change	Percent Change
Downtown Study Area	31,200	30,100	-1,100	-4%
Westchester County	391,400	399,700	8,300	2%

TABLE 17: Change in Total Employment
Source: U.S. Census Bureau, Center for Economic Studies, OnTheMap, 2002-2013



FIGURE 51: Distribution of Employment by Sector, Downtown White Plains
Source: U.S. Census Bureau, Center for Economic Studies, OnTheMap

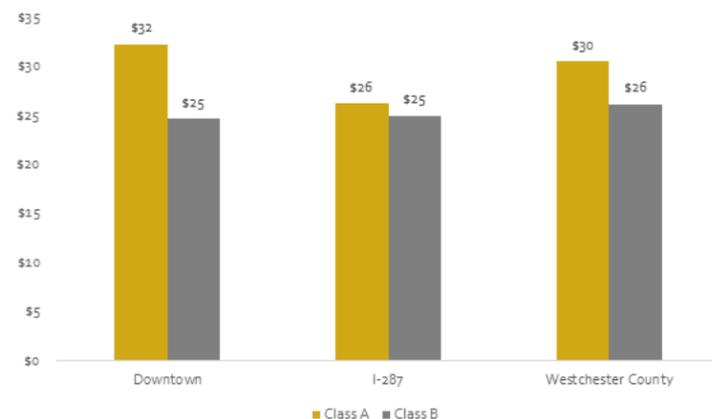


FIGURE 52: Asking Rents by Class by Submarket
Note: Asking rents reflect the amount that landlords advertise for available space and may not reflect discounts, tenant improvement allowances, or additional charges that adjust the effective rent that tenants ultimately pay.
Source: CoStar, Cushman & Wakefield, 2015 Q4

5.4.3 OFFICE MARKET OVERVIEW

With over 6 million square feet of office space, Downtown White Plains is among the largest regional office submarkets in Westchester County. Despite its locational advantages, Downtown has seen little new development over the past two decades. Its vacancy rates are high relative to the New York region, though they have remained stable in recent years and have modestly outperformed the office markets elsewhere in Westchester.

EMPLOYMENT SECTOR

The Downtown Study Area is home to over 30,000 jobs, more than 40 percent of which are in public administration or health care. The next largest category is professional services, which in Downtown is comprised primarily by local-serving industries like law firms, accountants, architects and engineers, and other professions drawn to Downtown by the presence of the court system and County government. Other office-using sectors like finance, insurance, real estate and information are comparably underrepresented in the Downtown White Plains office market.

Total employment in Downtown White Plains fell by 4 percent between 2002 and 2013, shown in Table 17. Most of the losses were a result of a drop in public sector employment (Figure 50), which were largely the result of cutbacks at the County level. Since the County seat is located within the Downtown Study Area, these cutbacks disproportionately affected the neighborhood. The losses, however, were partially offset gains by in other sectors, including professional services, health care, and accommodation and food services.

While data on Downtown employment is not available after 2013, public officials and other stakeholders interviewed believe that employment rose between 2013 and 2015 due to the expansion of local hospitals, including New York Presbyterian-Westchester and White Plains Hospital, and the impact of new development projects that opened after the 2013 cutoff.

REAL ESTATE OVERVIEW

As of the fourth quarter of 2015, the asking rent for Class A space in Downtown White Plains was the highest of any submarket in Westchester County, as shown in Figure 52.

Based on stakeholder interviews, the gap between Downtown and other areas of the County reflect the higher costs of operating in a central business district, including the need for structured parking and higher building maintenance and operations costs. The higher rents achieved in Downtown may also reflect a premium paid by tenants to locate near courts, hospitals, and/or the White Plains Metro-North Station.

The Downtown White Plains office market's performance was compared with properties in the I-287 corridor to the northeast and northwest of downtown (Figure 53), which is home to the largest share of Westchester's Class A office space outside of Downtown, and to Westchester County as a whole. The I-287 corridor is home to 3.6 million square feet of office space, nearly all of which is located in suburban office parks.

Vacancy rates at the end of 2015 in Downtown White Plains were approximately 20 percent for Class A and 10 percent for Class B space. While the Class A vacancy rate is lower than the countywide rate, interviewed stakeholders suggest that these figures may overestimate the true amount of space available to be leased. The market-wide vacancy rate also obscures differences in performance at the building level. Owners that have reinvested in new lobbies, common space and amenities, such as 360 Bank Street, have been able to achieve higher rents and occupancy than competing properties. However, after a period of overbuilding in the 1980s and slow employment growth, Downtown White Plains has seen little growth or development activity in the office market in recent decades.

Rising availability in the I-287 corridor has led to falling asking rents, which have enticed some Downtown tenants to relocate to suburban locations. Other office landlords in the I-287 corridor have successfully redeveloped vacant or obsolete office parks in favor of medical office buildings or residential uses.

Overall, the vacancy rate for Downtown is 14 percent and has begun to trend downward after rising each year since 2007 (Figures 54-55). Vacancy rates have not fallen to the level that would suggest a demand for new office construction in the near future, but the strong performance of renovated properties suggests that there is demand for higher-quality office space that is not currently being met by Downtown's aging office stock (Figure 56).

The growth in demand from the health care sector, as indicated by the Hospital for Special Surgery's recent lease of an outpatient surgical center, suggests that Downtown could position itself to capture some of the growth in demand for medical office space, though this could require modification of the zoning code to accommodate some medical uses. The continued conversion of obsolete office stock to residential and other uses may also reduce the vacancy rate and increase asking rents. Conversations with stakeholders, however, suggest that future office development would likely come after additional residential and retail growth.

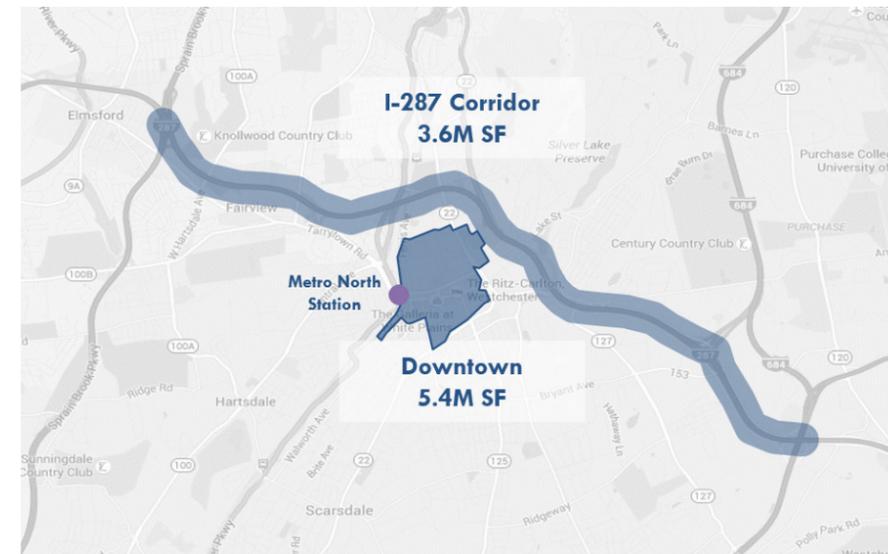


FIGURE 53: Map of Downtown White Plains and I-287 Office Submarkets
Source: CoStar

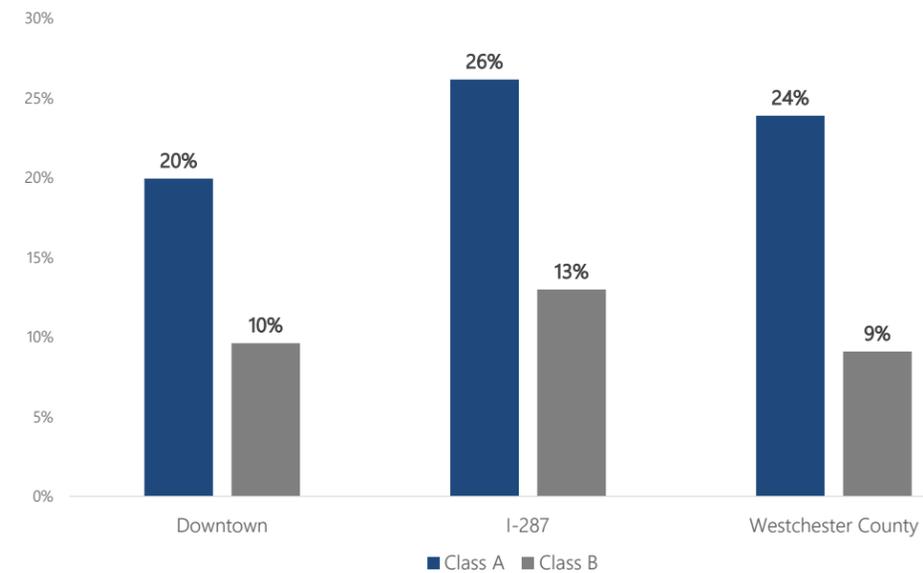


FIGURE 54: Vacancy Rates by Submarket, 2015 Q4
Source: CoStar

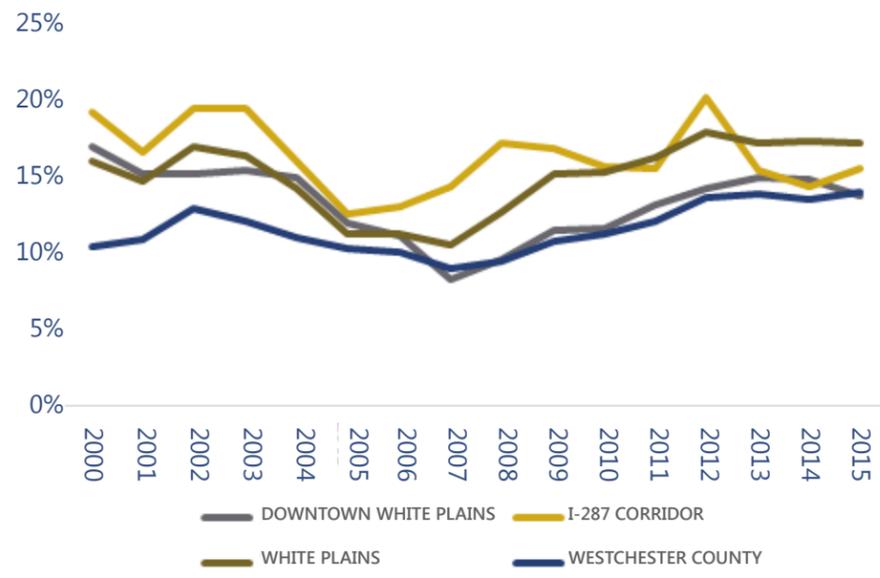


FIGURE 55: Vacancy Trends
Source: CoStar

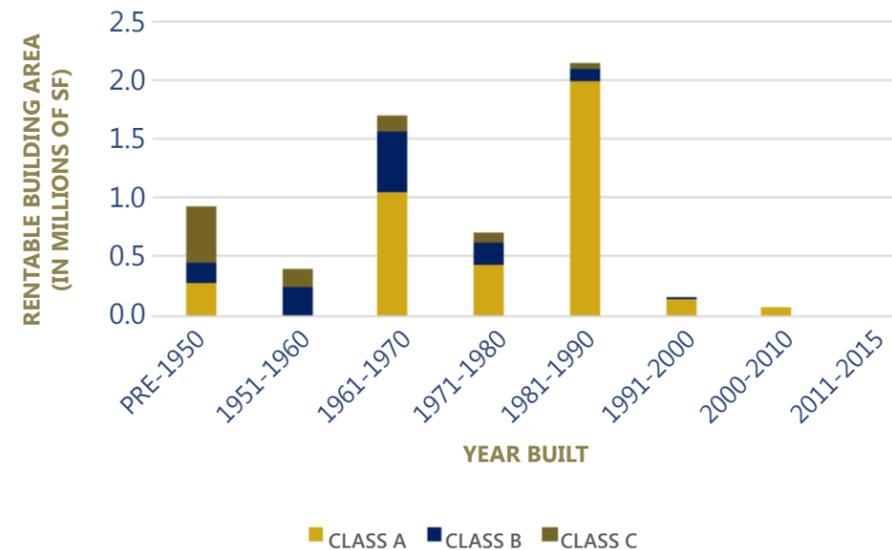


FIGURE 56: Downtown White Plains Office Space by Class by Year of Construction
Source: CoStar

5.5 KEY FINDINGS

Based on our analysis of market data and interviews with stakeholders (see Appendix A), Downtown White Plains is well-positioned to take advantage of the growing demand for walkable, live-work-play lifestyles.

- » Downtown has seen significant residential growth and boasts an increasingly vibrant retail and dining district. As demand for this type of environment continues to grow and New York City real estate prices continue to rise, Downtown White Plains has emerged as a more affordable option for young professionals and empty nesters who want an urban lifestyle but cannot afford New York City prices.
- » Given its accessibility and proximity to major hospitals, Downtown is also well positioned to capture some of the increasing demand for medical office space and health care facilities.

We also found that the Downtown Study Area faces several challenges that has prevented it from realizing its full potential.

- » Much of its office stock dates to the 1970s and 1980s and is increasingly obsolete. As a result, Downtown struggled to capture new office users who do not need to be close to the county seat, the court system or the hospitals.
- » The blocks immediately surrounding the White Plains Metro-North station are perceived as uninviting. Many buildings in the western half of Downtown lack street retail or present imposing blank walls that discourage pedestrian activity. Similarly, the area lacks an inviting gateway that would draw people from the train station to the eastern half of Downtown, where most recent growth has taken place.
- » Interviews suggest that Downtown White Plains has failed to attract the same level of retail and entertainment options found in competitor cities such as Stamford or Jersey City. However, some stakeholders suggested that the addition of additional residential units could help create a critical mass of residents that would increase the viability of new street-level uses.

Recommendations

- » Leveraging the momentum of the strong residential market and robust development activity, the development of new rental product proximate to the MTC is appropriate. City-owned sites like the Fire Station site could offer the opportunity to be a “first mover,” continuing to sustain the growth of the population of young professionals and empty nesters drawn to good transit access, urban amenities, and high quality residential product.
- » Any new residential development should set aside at least 10 percent of units for low- to moderate-income households to ensure that Downtown continues to be a vibrant, mixed-income community.
- » Residential developments near the MTC should offer ground floor retail uses to serve tenants and transit users and to enhance the street level experience. The value of new and existing residential product would increase and become increasingly attractive if combined with public realm improvements near the MTC, such as programmable civic or open space, traffic calming measures, and streetscape improvements. New retail uses would primarily accommodate MTC users; thus, they would not directly compete with the existing retail/restaurant corridor along Mamaroneck Avenue.
- » In addition to residential uses with ground floor retail and restaurant space, there should be consideration for smaller scale office/flex space incorporated into developments. Small office spaces that are integrated into a mixed-use development would not overwhelm the existing office market and could provide attractive flex/swing space for medical office or more mobile workers and start up/growth stage firms that may not be able to find appropriate spaces in the existing Downtown office market.
- » The interstitial zone between the MTC and the Downtown core, along both east-west corridors such as Hamilton Avenue and Main Street as well as north-south corridors such as Bank Street and Lexington Avenue, should be considered for development opportunities to provide the needed connection between the two areas. Some existing properties along these corridors may be able to accommodate retail infill projects. Replacing blank walls with more active ground floor uses would energize the streetscape and draw residents and commuters from the MTC into other areas of Downtown and vice versa.

5.6 APPENDIX: STAKEHOLDER INTERVIEWS

5.6.1 WESTCHESTER COUNTY PLANNING + ECONOMIC DEVELOPMENT

Interviews were conducted with Edward Boroughs of the Westchester County Planning Department and William Mooney, Director of Economic Development for Westchester County. Overall, development in Westchester has picked up since exiting the recession, reinvigorating a number of stalled projects. Following national trends, development activity is targeting Millennials and the elderly. Approximately 3,000 housing units are currently in the pipeline, a mixture of multifamily product and assisted living facilities.

Westchester's office market has shifted in recent years. After a number of corporate headquarters left Westchester, office landlords, particularly along the I-287 corridor, have pursued a number of different redevelopment strategies. Some office parks have been converted to accommodate medical and biotech uses. Lower rents and upgraded space have enticed a number of medical businesses and employees to leave White Plains for the I-278 corridor. Otherwise, White Plains' office market has experienced a lot of reshuffling of current tenants with few new introductions. Regardless, interviewees still site three significant reasons for businesses to locate in Westchester:

1. Access to talent
2. Transit/transportation accessibility
3. High quality of life

Westchester County tries to actively assist its constituent municipalities via a number of means. The County provides staffing for smaller cities when necessary, and ventures such as the Legacy Program, which aims to preserve open space, is a partnership between the county and local agencies. The County prioritizes focusing on existing city centers and corridors in order to encourage density and transit-oriented development.

5.6.2 REAL ESTATE DEVELOPMENT

Interviews were conducted with James Driscoll, Tim Jones, and William Cuddy of LCOR, Robert Martin Companies, and CBRE, respectively, in order to better understand development and market trends in White Plains and Westchester County.

In general, real estate professionals agree that White Plains' biggest draw is its transit connectivity. White Plains is approximately thirty minutes away from Grand Central Terminal in Manhattan via Metro-North Railroad. Both millennials and the elderly, for somewhat different reasons, seek to live in more urban environments with a manageable cost of living. Should trends continue, there's near term potential for new residential and retail product in White Plains, followed by office at a later date? Younger residents are demanding "lifestyle" properties, complete with amenities and a mix of uses. However, developers agree that White Plains' urban realm, in a number of locations, is fragmented. Any new development must reconnect to the city's core.

Interviewees consistently cite Stamford as a comparable city to White Plains. Stamford embraced transit-oriented development, but its circulation network was handled poorly and it is twice as far of a commute to and from NYC. However, Stamford's retail and entertainment offerings have an "edge" over White

Plains. White Plains has a clear opportunity to reinvent itself, and Stamford, for better or worse, is an example to learn from.

White Plains' office product is outdated, most of it having been built in the 1980s. The market is slowly regaining its health as buildings are being taken off the market. Downtown rents are still higher than nearby alternatives, and tenants have to pay for parking (adding \$2-3 per square foot). Employment in White Plains has shifted away from corporate headquarters to medical uses, which directly impacts leasing activity. Biotech firms such as Regeneron and Acorda have recently leased a great deal of space. Service industries that demand open floor plans and utilize "hoteling" to manage staff seating may be a good match for White Plains' current office stock.

Westchester is slowly emerging as a place for businesses to locate due to increasing prices in more choice markets such as Lower and Midtown Manhattan. There is some interest from FIRE (finance, insurance, real estate) firms and law firms due to the presence of court houses. Some office properties are being taken off the market and converted to residential, driving down the vacancy rate and establishing White Plains as a more competitive location. Firms want offices in urban, downtown settings close to transit. One developer who recently built a mixed-use property (not in White Plains) that secured a 50% premium on market rents due to the building's proximity to the White Plains Metro-North station. Walkability, access to retail, and social space are key considerations for future office tenants.

5.6.3 WHITE PLAINS BUSINESS IMPROVEMENT DISTRICT

Interviews were conducted with Kevin Nunn, Executive Director of the White Plains Business Improvement District (BID). The BID's activities have included streetscape improvement programs and public events programming in order to help establish a downtown identity, attract people and economic activity downtown, and support local businesses. The BID has also been working to market White Plains through conventions and other means to help fill its vacant office space.

Residential development has driven the success of Downtown White Plains over the last few years. Additional projects in the pipeline will add foot traffic and activity to the Downtown, which will support struggling retailers. However, there are a number of concerns across the city regarding parking, as follows:

- » Lack of appropriate wayfinding signage
- » Inadequate/inefficient meter timing
- » No free parking after 6 PM, during Holidays, or on Small Business Saturday
- » Lack of valet parking in certain locations
- » Overly aggressive ticketing agents

The White Plains BID suggests that Mamaroneck Avenue should be rezoned for greater density to encourage investment and mixed-use development. Furthermore, the comprehensive plan should be updated in order to create development-ready sites. There is a lot of retail competition across the county, as evidenced by vacancies, which should be addressed.

White Plains' strengths and weaknesses, from the BID's perspective, are as follows:

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> » Public safety » Cleanliness » Proximity to Manhattan » Affordability (when compared to NYC) » Amenities, nightlife, entertainment, recreation » Shopping 	<ul style="list-style-type: none"> » A fragmented urban realm; the train station is disconnected from the rest of the city due to poor urban design » Retail vacancies » Not enough foot traffic to support existing retail base » Lack of retail variety; significant retail competition » Outdated/obsolete office stock; high office vacancy » Lack of a comprehensive plan and zoning regulations that support as-of-right development

TABLE 18: Strengths and Weaknesses Assessment
Source: WSP | Parsons Brinckerhoff, 2016

5.6.4 WHITE PLAINS HOSPITAL

An interview was conducted with Susan Fox, CEO of White Plains Hospital. First and foremost, hospitals across the board are striving to upgrade their facilities in order to meet patient needs and demands. Similarly, new physicians expect hospitals to provide updated medical office space. These trends have rendered the realm of medical real estate highly competitive.

Hospital visits have increased overall as the health care world today puts greater emphasis on access to care and prevention. Keeping pace with the growing demand for care requires renovation that presents additional challenges as hospitals are required to keep up with code, which often means doubling or tripling space for some uses. Added space requirements create more competition for internal space usage, forcing out certain services. Furthermore, there's a growing need for medical office space to accommodate ambulatory care and related functions.

While specific expansion plans were not discussed, White Plains Hospital sees its role in the City and County growing, despite nearby competition. White Plains Hospital is the largest employer in the City, but it still faces competition from hospitals in NYC which are preferable places of work due to retail, restaurants, safe streets, and easy access. In order to help White Plains Hospital remain competitive, it was recommended that the transit study focus on the north-south connections between the hospital and train station, and that attention be paid to Post Road, which has the potential to become a vibrant corridor. Expressly laying out a development blueprint that outlines short- and long-term strategies will generate momentum for the plan and establish its legitimacy.

The White Plains BID plans to expand its boundaries in the future, but this task will require amending state tax cap legislation. If the BID were expanded, there are plans to investigate a shuttle service from the train station to Downtown, expand the street planting program, and numerous other initiatives.

APPENDIX B

PUBLIC ENGAGEMENT

WHITE PLAINS TRANSIT DISTRICT STRATEGIC PLAN

MULTIMODAL TRANSPORTATION CENTER REDEVELOPMENT PROJECT

December 2016

Prepared for:



Submitted by:



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1 ABOUT THE PUBLIC OUTREACH ACTIVITY TRACKING REPORT

This report describes the public outreach activities completed during the Downtown White Plains Transit District Project. The report is divided into sections representing each segment of the Public Involvement Plan (PIP), which guided public outreach and engagement for the Project. In addition to these activities, the PIP describes the stakeholder groups and community populations central to the outreach effort, the venues and materials that would best support the engagement effort, and the approach to incorporating public input into the Study Team’s activities. The PIP was created by the City of White Plains in collaboration with members of the Project’s Stakeholder Task Force and the Project Team.

2 STAKEHOLDER TASK FORCE

To ensure representation of key community groups and stakeholders, the City of White Plains established a Stakeholder Task Force that met six times during the Project in two-hour meetings to review Project progress and share input with the Project Team. Additionally, Stakeholder Task Force members were actively involved in public meetings and during community open houses, leading discussions and reporting results of community participation to audiences at outreach meetings.

The 13-member Task Force comprised representatives shown on Figure 1.

STAKEHOLDER TASK FORCE MEMBERS	
Mayor Thomas Roach	Chair
Ed Buroughs	Commissioner of Planning, Westchester County
Justin Brasch	Partner, Brasch Legal; Metro-North Commuter, Highlands Resident
Larry Salley	Chair, White Plains Housing Authority; Former Commissioner, Westchester County Department of Transportation; Fisher Hill Resident
Mary Cavallero	Former Chair, White Plains Planning Board; North Broadway Resident
Michael Shiffer	VP Planning, MTA Metro-North Railroad
Patty Cantu	Co-President , Battle Hill Neighborhood Association
Peter Mosbacher	Senior VP Community Development, Webster Bank
Richard Payne	North Broadway Resident; Cycling Advocate
Robert Weisz	CEO, RPW Group
Susan Fox	President & CEO, White Plains Hospital
Tim Jones	Managing Member, Robert Martin Company, LLC
Todd Westhuis	Acting Regional Director, Hudson Valley/Catskill Region, NYSDOT
William V. Cuddy, Jr.	Executive VP CBRE Brokerage Services

FIGURE 1: Stakeholder Task Force Members
Source: The White Plains Transit District Strategic Plan

3 PUBLIC OUTREACH MEETINGS

The Public Involvement Plan specified a requirement for three public meetings; however, the City and Project Team expanded the number of public meetings to four. The meetings were held in three different locations to capture different audiences (Figure 2). All locations were central and fully accessible, and all could be reached via transit services. The locations were the White Plains Library, the New York Power Authority, and the ArtsWestchester Gallery.

3.1 MEETING THEMES

Each meeting included participatory activities to solicit and collect public input as the Project advanced through milestones. The four Project themes were:

1. Imagine a New Transit District – Project Introduction
2. Project Update – Existing Conditions Report
3. Guide the Future – Near- and Long-Term Solutions Presentation
4. We Did It! – Presentation of the Final Study to the Public
Engagement Tactics

All meetings featured a combination of a presentation and an interactive session. Tactics used to solicit input at meetings included:

- » Digital polling using “Poll Everywhere” software to collect audience feedback. (Figure 3)
- » “Solution Stations” where attendees commented on aspects of the Project.
- » Open Houses with boards attended by Project Team and Stakeholder Task Force members to support one-on-one discussion.

3.2 MEETING PROMOTION

The Public Involvement Plan called for promotional support of the meetings and provision of meeting materials on the Project website. Promotion of each meeting included a layered effort to reach a wide number of stakeholders, including:

- » Print posters (Figure 4)
- » Eblasts (Figure 5)
- » Digital signs (Figure 6)
- » Press releases
- » Promotional material supplied to the Stakeholder Task Force in an easy to use toolkit for distribution to their constituents.
- » Meeting materials posted on the Project website following each meeting

3.3 MEETING STATISTICS

Public meetings were well attended -- averaging approximately one hundred people, including residents, commuters, and other stakeholder groups with a vested interest in the Downtown White Plains Transit District.

Attendees were eager to share their opinions. The first public meeting, generated a total of 120 responses.



FIGURE 2: Public Meetings
Source: WSP | Parsons Brinckerhoff

In one word, what is the most important improvement you would make to the Downtown White Plains Transit District?

🔒 Poll locked. Responses not accepted.



powered by Poll Everywhere Live Audience Polling

FIGURE 3: Stakeholder Task Force Digital “Poll Everywhere” Result Posters for Public Meetings
Source: WSP | Parsons Brinckerhoff



FIGURE 4: Posters for Public Meetings
Source: WSP | Parsons Brinckerhoff



FIGURE 5: Advertisements for Public Meetings
Source: WSP | Parsons Brinckerhoff



FIGURE 6: Advertisements for Public Meetings
Source: WSP | Parsons Brinckerhoff

4 PUBLIC COMMENT TOPICS

Meeting One: Imagine a New Transit District – Project Introduction

The initial public meeting for the Downtown White Plains Multimodal Transportation Center Redevelopment Project was designed to engage the White Plains community, collect input, and build interest in the Project. Feedback and audience participation was collected in three ways: information was solicited while attendees viewed project boards and posted stickers (Figure 7) with their comments on each board; comment cards were distributed and collected (Figure 8); and attendees’ responses to topics using an online polling system (Figure 9).

Questions asked during the open house included:

- » Where do you live and work in the greater White Plains region?
- » How do you travel to and from work?
- » How do you travel to/from the transit center (Metro-North/Bee-Line stations)?

Questions asked during the project presentation included:

- » What is the best thing about living in, working in, or visiting the City of White Plains?
- » What one improvement would you like to see in and around the train station?

Meeting Two: Project Update – Existing Conditions Report

The second public meeting for the Downtown White Plains Transit District Project presented takeaways from the baseline studies, discussed potential short-term and long-term solutions in and around the study area, and displayed preliminary infrastructure options and redevelopment schemes to inform the final Strategic Plan. During this meeting, attendees provided inputs about potential solutions to challenges identified in the study area, such as parking, pedestrian access, and connections to the downtown area.

Question prompts included:

- » My ideas & insights about this potential solution:

- « Strongly Agree
- « Agree
- « Neutral
- « Disagree
- « Strongly Disagree

- » Why I think this idea works
- » Here’s how this idea could be better
- » Other thoughts on the topic

Meeting Three: Guide the Future – Near- and Long-Term Solutions Presentation

At the third public meeting, the Project Team presented a series of near- and long-term solutions to an audience of approximately 80 attendees. Project team members stationed at boards displaying various scenarios as well as bicycle/pedestrian improvements, provided attendees with an opportunity to view the scenarios up-close and discuss the options in depth with the project team. Robust and in-depth discussions took place at each of the board displays, and comments were collected during the meeting, as well as online at the project website.

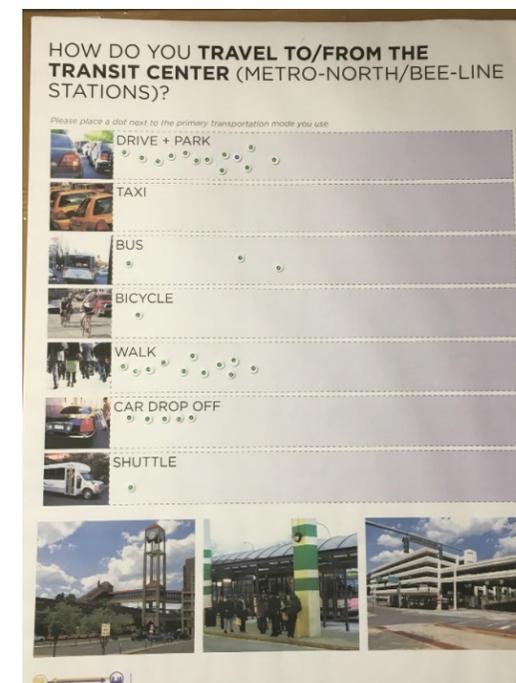
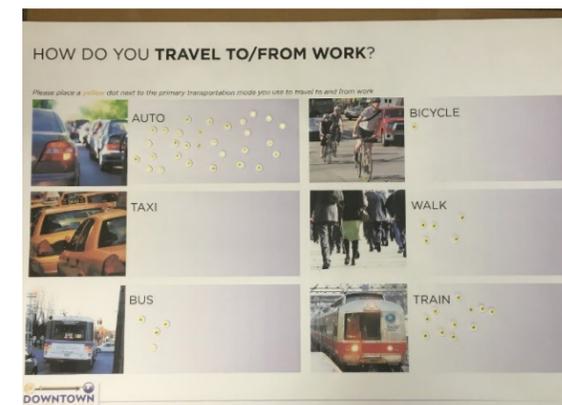


FIGURE 7: Response Boards at Public Meeting
Source: WSP | Parsons Brinckerhoff



FIGURE 8: Comment Cards
Source: WSP | Parsons Brinckerhoff

In one word, what is the best thing about living in, working in, or visiting the City of White Plains?



FIGURE 9: Poll Everywhere Responses
Source: WSP | Parsons Brinckerhoff

In one word, what improvement would you like to see in and around the train station?



5 COMMUNITY OPEN HOUSES

To ensure the Project considered the needs of neighborhoods adjacent to the train station and the downtown White Plains Business Improvement District (BID), the City of White Plains scheduled two community open houses that were each attended by approximately 40 people. Open to the public, these two open houses focused on topics of specific interests associated with each designated location (Posters on Figure 11). Each included a brief presentation by the City and a feedback activity to identify the needs, interests, and concerns of stakeholders in these two areas (Comment cards in Figure 12). The two Community Open Houses were focused on:

- » Battle Hill, Fisher Avenue and Ferris Avenue (Figure 10)
- » Downtown and White Plains BID

Neighborhood-specific comments were collected based on the following discussion prompts:

- » Today, how (what mode) do you travel to/from the downtown and transit station areas?
- » What are the issues and impediments to your travel?
- » If you walk, is your path safe? Interesting and active?
- » Is signage and information available and appropriately located?
- » If you had the opportunity to make one improvement today, what would it be?
- » How do you typically travel through the downtown?
- » Are pedestrian paths safe and secure? Interesting?
- » Are street patterns and direction appropriate for a downtown setting?
- » Is signage appropriate and informative?
- » Is there enough off-street parking? On-street parking?
- » If you had the opportunity to make one big change, what would it be?
- » Are the transit facilities easy to access by your primary mode of transportation?
- » Do the roadways/sidewalks provide safe and direct access? If not, what are the issues?
- » Are the circulation patterns along the streets in the downtown Transit District easy to navigate? What issues exist?
- » Is access to the rail station appropriate? What are the issues? What could be improved?
- » If you drive, is access an issue? Parking availability? Location of parking an issue?
- » What other types of uses would be desirable at the station (bicycle, sidewalks, recreation access)?
- » What would be the first thing you would do to improve the station area?

6 TRAIN STATION OUTREACH

The City also conducted outreach at the Metro-North train station to collect input from non-resident commuters who may have different needs from resident commuters or residents who do not use the train station daily. Train station outreach included:

- » Counts of commuters using the train station at different times
- » Promotion of public meetings at the train station (Figure 13)
- » Informal survey of commuters to identify their unique needs and concerns

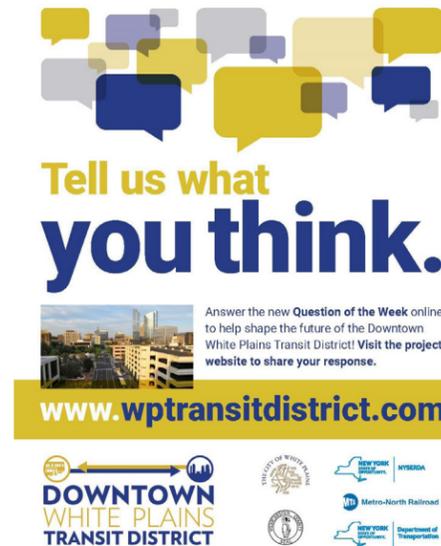


FIGURE 13: Outreach Flyer
Source: WSP | Parsons Brinckerhoff

7 PROJECT WEBSITE & SOCIAL MEDIA

The City developed and leveraged a Project website and social media campaign to further expand outreach. It provided timely and up-to-date information about the Project, how to get involved, and how to contribute feedback to the Project.

The website included:

- » Homepage with a project overview containing a brief description of the Project and a downloadable study area map.
- » Background and Vision page to explain the Project and provide photographs of possible redevelopment sites.
- » Media page with a slide show of photographs of the study area, Project videos, and press releases.
- » Get Involved! page with an opt-in form for members of the public to sign up for information and submit questions, ideas and concerns to the Project Team.

Question of the Week

The City developed and implemented an innovative outreach technique that leveraged online technology to collect input on a variety of topics. The “Question of the Week,” campaign featured questions related to the project that website visitors were encouraged to answer. Question of the Week was promoted via posters (Figure 14) and business cards (Figure 15) that were distributed at public events and meetings.

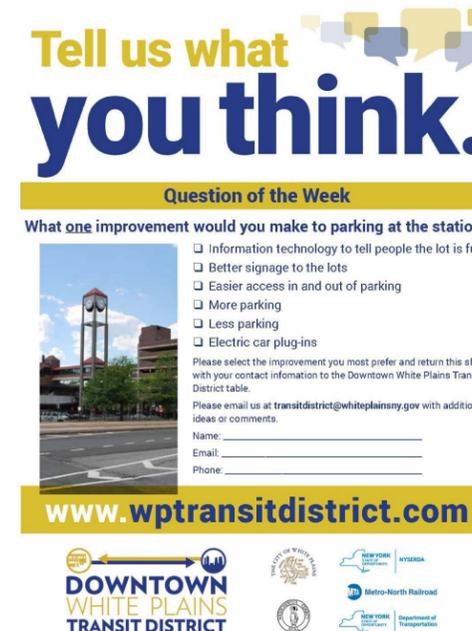


FIGURE 14: Question of the Week Flyer
Source: WSP | Parsons Brinckerhoff

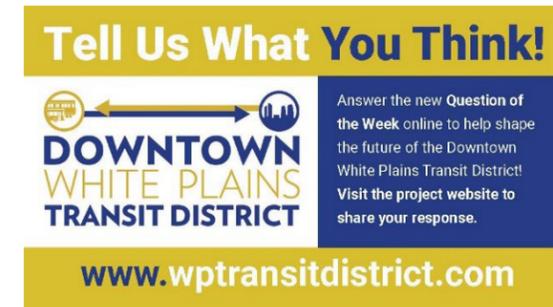


FIGURE 15: Business Cards
Source: WSP | Parsons Brinckerhoff

Question of the Week generated more than 1,250 responses. Questions included:

1. Which of these improvements would most impact your transit experience?

- « Better pedestrian access
- « Cleaner station
- « Separate areas for taxi and passenger drop off
- « Food service
- « Increased lighting
- « Better signage
- « Other

2. What one change would make an immediate improvement to the Transit District (includes Metro-North Station, Westchester County Bee-Line Bus Station, regional bus station, and the surrounding area)?

3. Which of these streets providing access to the Downtown White Plains Transit District are the most pedestrian friendly?

- « Battle Avenue
- « Tarrytown Road
- « Ferris Avenue
- « Lexington Avenue
- « Main Street
- « Hamilton Avenue
- « New Street
- « Bank Street
- « Hillside Terrace
- « Water Streets

4. What would make it easier to walk to/from the Metro-North Station/Bee-Line Station?

5. What one improvement would you make to parking at the train station?

- « Electric car plug-ins
- « Less parking
- « More parking
- « Easier access in and out of parking

« Better signage to the parking lots

« Information technology utilized to tell people the lot is full

6. Which of the following green space initiatives would you most like to see in the Downtown White Plains Transit District?

- « Dog park
- « Community garden
- « Park
- « Performance area/stage
- « Better access to Bronx River Parkway trails

7. What new service, store or amenity would make the Downtown White Plains Transit District more appealing to you?

- « Casual food options
- « Local service stores
- « Coffee shop
- « Improved or increased parking
- « Shuttle
- « Pedestrian amenities
- « Bar/restaurant
- « Park/public gathering space
- « Bicycle amenities
- « Community facilities
- « Farmer's market
- « Public information office
- « Other

8. What traffic issues related to the Downtown White Plains Transit District are you most concerned with? (Shown on Figure 16)

- « Pedestrian safety
- « Confusing entry to the Downtown White Plains Transit District
- « Confusing exit from the Downtown White Plains Transit District
- « Difficulty accessing retail and services in the downtown area
- « Lack of clear signage

« Bicyclist safety

« Speeding in area around and near the Downtown White Plains Transit District

9. What technology upgrade is most needed at the train station?

« Free wifi service

« Newsfeed

« Real time transit info

« Charging stations

« Other

WHITE PLAINS NEW YORK

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Question of the Week
Background and Vision
Multimedia
Public Engagement
Stakeholder Task Force
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MEDIA CENTER
AGENDAS & MINUTES

You are here: Home > City Government > WP Transit District Study > Question of the Week

Question of the Week

Overview | Background & Vision | Multimedia | Question of the Week | Stakeholder Task Force | Public Engagement | Get Involved

Question of the Week Results

Question of the Week #8 (99 Responses)

What traffic issues related to the transit district are you most concerned with? (please rank by priority: 1st Most Important - 7th Least Important)

Traffic Issue	Importance
Pedestrian Safety	1st
Confusing entry to transit center	2nd
Confusing exit to transit center	3rd
Difficulty accessing retail and services in the downtown area	4th
Lack of clear signage	5th
Bicyclist safety	6th
Speeding in area around and near transit center	7th

Question of the Week #8 asked for respondents to rank seven traffic issues related to the transit district from most important to least important. 99 responses were recorded and the average ranking for each traffic issue was determined. Based on these results the most important traffic issues were found to be "Pedestrian Safety" and "Confusing entry to transit center", while the least important traffic concerns were "Bicyclist safety" and "Speeding in area around and near transit center."

[Question of the Week #7 "Other" Responses](#)
[Question of the Week #4 Responses](#)
[Question of the Week #2 Responses](#)

FIGURE 16: Question of the Week on City of White Plains website
Source: [http://www.cityofwhiteplains.com/Public Meeting Advertising](http://www.cityofwhiteplains.com/Public%20Meeting%20Advertising)

8 COMMUNITY EVENTS

Information about the Project was promoted during community events to generate interest and awareness (Example on Figure 17). The City and the Project Team distributed Project information, including upcoming meetings, news, and website updates, at a series of well-attended festivals and events in White Plains to engage with members of the public. Material prepared for the events included a flyer, brochure (Figure 18), and business cards to promote the Question of the Week.

Events included:

- » Truck Day
- » Cherry Blossom Festival
- » Juneteenth Celebration
- » Farmers Market



FIGURE 17: Outreach Table
Source: WSP | Parsons Brinckerhoff

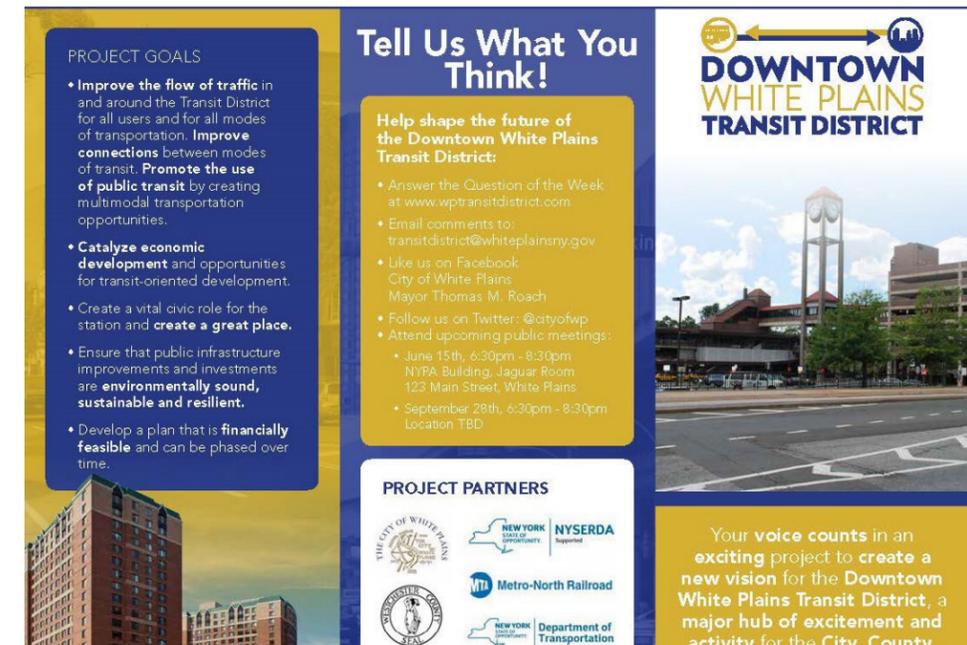


FIGURE 18: Brochure
Source: WSP | Parsons Brinckerhoff

9 MEDIA RELATIONS

The City of White Plains distributed press releases in advance of each public meeting and outreach activity (Figure 23). Media coverage was secured in publications and Twitter feeds including:

- » The Journal News (LoHud) (Figure 19)
- » The Examiner News (Figure 20 and Figure 21)
- » The White Plains Daily Voice (Figure 22)
- » Westfair Communications
- » White Plains Patch

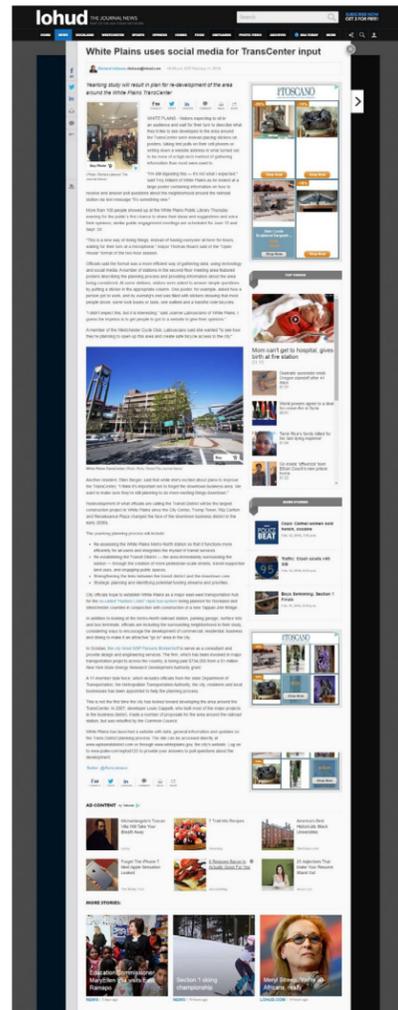


FIGURE 19: Media Coverage in Lohud
Source: Lohud



FIGURE 20: Media Coverage in The Examiner News
Source: The Examiner



FIGURE 21: Media Coverage in The Examiner News, Twitter
Source: Twitter



FIGURE 22: Media Coverage in The White Plains Daily Voice, Twitter
Source: Twitter

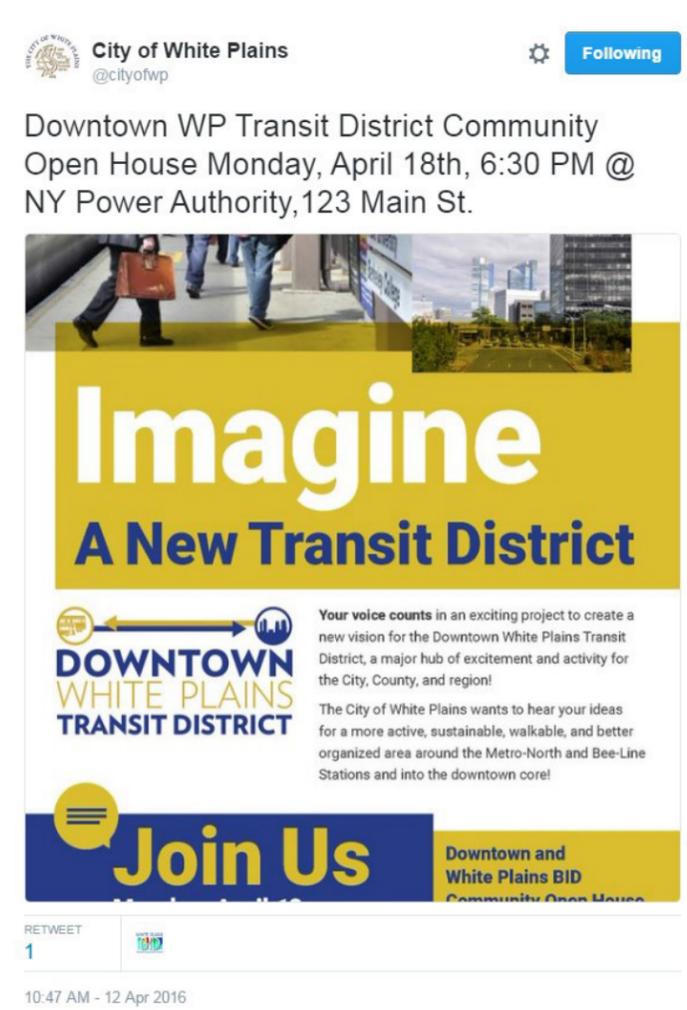


FIGURE 23: Media Coverage from the City of White Plains, Twitter
Source: Twitter

10 MATERIALS

To promote awareness and interest, the Project Team developed a logo, and a branded series of materials to make the project information easily identifiable. The materials were used for all public engagement efforts, and are provided throughout this appendix to record the full suite of materials created to support and facilitate public awareness and engagement.



FIGURE 24: Downtown White Plains Transit District Logo
Source: WSP | Parsons Brinckerhoff

APPENDIX C

ZONING TOD DISTRICTS

WHITE PLAINS TRANSIT DISTRICT STRATEGIC PLAN

MULTIMODAL TRANSPORTATION CENTER REDEVELOPMENT PROJECT

December 2016

Prepared for:



Submitted by:



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1 TRANSIT ORIENTED DEVELOPMENT OVERLAY DISTRICT

1.1 PURPOSE AND INTENT OF DISTRICT OVERLAY

The Transit Oriented Development (TOD) Overlay District is created to encourage development and redevelopment that is high quality with an emphasis on enhancing the street level pedestrian environment and taking advantage of proximity to one of the major mass transit centers in the region. The TOD Overlay District allows for significant development opportunities and the ability for the City to capture the value of additional development program for use in implementing strategic public realm improvements related to circulation and open space.

1.1.1 DISTRICT BOUNDARY

The TOD Overlay District includes the properties generally east of the Metro-North rail lines, north of Main Street to Dr. Martin Luther King Boulevard, north of Hamilton Avenue to Church Street and west of Church Street and Cottage Place and south of the Grove Street Extension (Figure 1).

1.1.2 GENERAL DESCRIPTION OF DISTRICT REGULATIONS

Building Height: there should be a transition from lower building heights in the northern portion of the Study Area adjacent to the Ferris/Church Street residential neighborhood to the area around the train station and eastward to the White Plains Mall site, refer to Figure 2.

The extent of the north/south façade along the Metro-North rail lines should be limited to avoid a “wall” that could potentially visually separate the Battle Hill neighborhood. Design guidelines will encourage a building’s longer axis to be oriented in the east-west direction with relatively narrow, slender facades (not more than about 70-75 feet wide) facing Battle Hill and the Bronx River Reservation.

Parcel Size. Within the TOD Overlay District, reduce the minimum parcel size to less than 50,000 s.f. identified in the Ordinance so that smaller properties can take advantage of increases in FAR/Height and the City can take advantage of value capture. Parcels in the 20,000-25,000 sf range can suitably accommodate such density while maintaining good urban design qualities, particularly when most parking is located below grade or on other parcels.

FAR. The proposed TOD Overlay District should enable densities over FAR 5.0 in exchange for community benefit/value capture, with an upper limit to FAR of 12. Community benefits to be considered would include contributions towards transportation infrastructure, public space, public parking, affordable housing and/or other priorities identified by the City.

Value Capture and TDR. In addition, the TOD Overlay District should allow for payment of 5% of the transactional value to the City for use of transfer of development rights (TDR), allowing properties within the proposed TOD Overlay District to be eligible for the use of TDR (see note “cc” on Section 5.3 Schedule of Dimensional Regulations – “Gross floor area” not developed or required for conformance to this Ordinance on a “lot” or designated “development site” on issuance of a special permit by the Common Council). This applies to properties in the CB-4 and CB-3 but not the B-2 or B-6 Districts.

Pop-up Retail Use. The proposed TOD Overlay District would allow for tactical programming of pop-up retail at selected locations as part of a special permit application to the City Council with special permit/site plan review by the Planning Board .

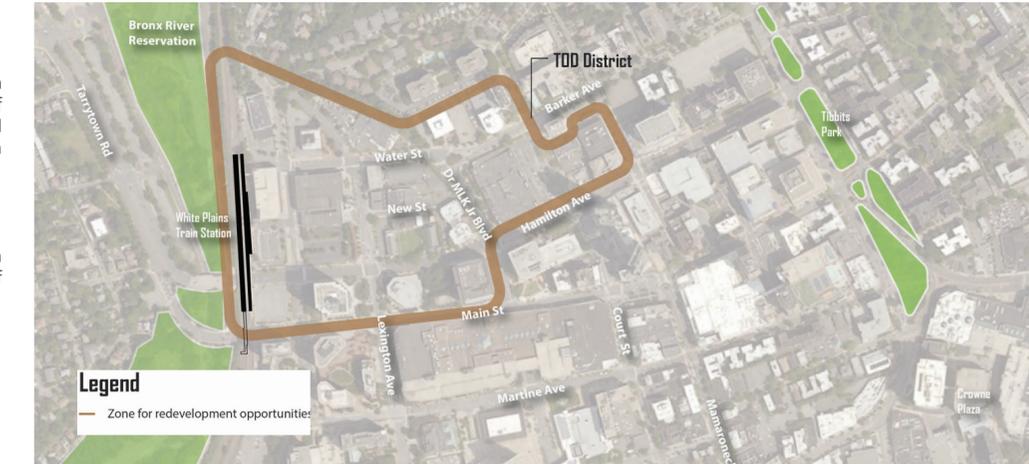


FIGURE 1: Recommended Transit Zoning District
Source: The White Plains Transit District Strategic Plan



FIGURE 2: Building Height Transition Pattern (Station Area and Water/Barker Corridor)
Source: The White Plains Transit District Strategic Plan

Form Based Zoning Concepts. The proposed TOD Overlay Zoning would allow for some hybrid form-based zoning to permit more flexible use and form of building design, pedestrian oriented design, improved and massing variation (Details on Figure 5). A necessary element of the TOD Overlay District would be the creation of design guidelines for buildings bases, towers and caps. The design guidelines would encourage consistent façade edges, minimum percentage (65+) transparency at the ground floor level, no opaque wall longer than 20-25 feet, pedestrian friendly streets, building massing variations, and expressive building caps. Refer to Figure 3, Figure 4, and Figure 6 through Figure 8 for a visual depiction of precedent examples of building design (bases towers and caps), pedestrian oriented design, massing variation, façade design,

Open Space Alternative. The open space requirement should be amended to allow for contributions instead of strictly providing for on-site and can be applied to purchase of existing privately held open space.

District Parking Management – The proposed TOD Overlay District should consider adjusted parking requirements to reflect:

- » Proximity to the transit center such that those developments within say 1,320 feet (quarter-mile);
- » Whether an applicant can demonstrate that a lower number successfully meets anticipated market demand;
- » The use of shared car service; and,
- » Consideration of on-street overnight parking within the Overlay District to further utilize a significant parking resource.

The requirement for on-site parking plays into the ability to accommodate additional development potential through density bonus or TDR.



FIGURE 4: Façade Design / Active Use
Source: WSP | Parsons Brinckerhoff



FIGURE 3: Pedestrian-Oriented Design
Source: WSP | Parsons Brinckerhoff



FIGURE 5: Recommended Zoning District Details
Source: WSP | Parsons Brinckerhoff, 2016

ZONING CONCEPTS

- ▭ TOD District Boundary
- ▭ Reduce Maximum Height Along North Edge Consistent with Adjacent Developments
- ▭ District Parking Management Zone Add Design Guidelines
 - « Bronx River edge massing:
 - » W orientation; 70' max width
 - » Max two volumes over 90' per block, one rising up to 230' (consider: the second up to 180'). Greater height for one volume per block may be considered in exchange for tangible community benefit
 - » Development may extend over tracks
 - « Great Streets:
 - » Transparency, entrances, etc. for active uses
 - » Companion streetscape & street section improvements
 - « Upper floor/tower articulation:
 - » Base/middle/top
 - » Vertical breaks
 - » Expressive top



FIGURE 6: Base Tower and Cap Examples
Source: WSP | Parsons Brinckerhoff



FIGURE 8: Infill Behind Retail
Source: WSP | Parsons Brinckerhoff



FIGURE 7: Massing Variation Example
Source: WSP | Parsons Brinckerhoff

2 MAMARONECK AVENUE OVERLAY DISTRICT

2.1 PURPOSE AND INTENT OF DISTRICT OVERLAY

The concept behind the Mamaroneck Avenue (MA) Overlay District (Figure 9) is to encourage development/redevelopment of vacant or underutilized parcels that are within a block or two of Mamaroneck Avenue. Development would be high quality with an emphasis on supporting the Mamaroneck Avenue mixed use corridor and enhancing the street level pedestrian environment. The MA Overlay District allows for significant development opportunities and the ability for the City to capture the value of additional development program for use in implementing strategic public realm improvements related to pedestrian circulation and open space.



FIGURE 9: Recommended Mamaroneck Avenue Overlay Zoning District
Source: The White Plains Transit District Strategic Plan

APPENDIX D

CAPITAL COST ESTIMATES

WHITE PLAINS TRANSIT DISTRICT STRATEGIC PLAN

MULTIMODAL TRANSPORTATION CENTER REDEVELOPMENT PROJECT

December 2016

Prepared for:



Submitted by:



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1 BASIS OF ESTIMATE

1.1 QUALIFICATIONS / CLARIFICATIONS

1. Estimate based on the documents issued by WSP on 09/21/2016.
2. Works will be carried out mainly during normal working hours.
3. Works will be carried out as a separate project in a single phase.
4. Labor costs included at prevailing wage rates.
5. Subcontractors overhead and profit included.
6. The following percentage adjustments have been incorporated:

« General Requirements:	15.00%
« Overhead and Profit incld:	21.00%
« Contingencies	30.00%
« Escalation to Mid-point	TBD
7. Estimate assumes all long-lead items can be pre-purchased and installed to meet schedule requirements.
8. Estimate based on the premise that the design will meet all codes, laws, ordinances, rules, and regulations in effect at time estimate prepared. Estimate shall be adjusted should any discrepancies between design and the aforementioned codes, laws or ordinances result in, or require, an increase in the Cost of the Work.

1.2 THE ESTIMATE EXCLUDES:

1. A-E Fees.
2. Escalation
3. Third party commissioning costs.
4. 4Testing or inspection services, as required by State Building Code or other government
5. Owner project mark-ups, CM etc.

TABLE 1: Estimated Construction Costs
 Source: VJ Associates

ITEM#	DESCRIPTION	PRICE	GENERAL REQUIREMENTS	SUB TOTAL	OVERHEAD AND PROFIT	SUB TOTAL	CONTINGENCIES	SUB TOTAL	ESCALATION TO MID-POINT	TOTAL PRICE INCLD. MARK-UPS
			15%		21%		30%			
1.0	Create more complete bikeways	\$801,792	\$120,269	\$922,061	\$193,632.77	\$1,115,694	\$334,708	\$1,450,402	TBD	\$1,450,402
2.0	Reconstruction of existing station access	\$146,638	\$21,996	\$168,633	\$35,413	\$204,046	\$61,214	\$265,260	TBD	\$265,260
3.0	Information Kiosks	\$32,300	\$4,845	\$37,145	\$7,800	\$44,945	\$13,484	\$58,429	TBD	\$58,429
4.0	Real-Time information signage for parking structure capacity	\$35,438	\$5,316	\$40,754	\$8,558	\$49,312	\$14,794	\$64,105	TBD	\$64,105
5.0	Two-way traffic conversion on Ferris Ave	\$12,400	\$1,860	\$14,260	\$2,995	\$17,255	\$5,176	\$22,431	TBD	\$22,431
6.0	Improve walkways under train overpasses	\$36,000	\$5,400	\$41,400	\$8,694	\$50,094	\$15,028	\$65,122	TBD	\$65,122
7.0	Intersection Painting Improvements	\$37,900	\$5,685	\$43,585	\$9,153	\$52,738	\$15,821	\$68,559	TBD	\$68,559
8.0	Bump-outs and Street Calming	\$23,200	\$3,480	\$26,680	\$5,603	\$32,283	\$9,685	\$41,968	TBD	\$41,968
9.0	Enhancing Bronx River Parkway Entrance	\$4,600	\$690	\$5,290	\$1,111	\$6,401	\$1,920	\$8,321	TBD	\$8,321
10.0	Crosswalk Improvements to Battle Hill	\$5,440	\$816	\$6,256	\$1,314	\$7,570	\$2,271	\$9,841	TBD	\$9,841
	TOTAL ESTIMATED CONSTRUCTION COSTS	\$1,135,707								\$2,054,438

TABLE 2: Near-term Improvements Costs
 Source: VJ Associates

ITEM#	NEAR TERM IMPROVEMENTS	QUANTITY	UNIT	RATE	TOTAL	TOTAL PER ITEM
1.0	CREATE MORE COMPLETE BIKEWAYS					
	Paint existing bike lanes with a color to improve bicyclist visibility and safety.	109,900.00	SF	5.50	\$604,450.00	
	Add bike parking at all locations of dots on the map (parking for upto15 bikes)	7.00	EA	1,000.00	\$7,000.00	
	New bike signal at Hamilton Ave/Ferris Ave including connection to existing controller	1.00	EA	3,000.00	\$3,000.00	
	Bike Lane on Martine Avenue (see section) from Bank Street to Court Street. Assume 10' travel lane is shared as a west-bound bike lane; this would be striped in the center and the 2' buffer from parking lane should be a cement curb.	1,865.00	LF	2.00	\$3,730.00	
	2ft buffer	3,730.00	SF	2.00	\$7,460.00	
	Concrete Curb	1,865.00	LF	30.00	\$55,950.00	
	Uphill Bike lane on Ferris Ave between Water Street and Park Ave - this will be sharrows painted on the right-most lane in either direction.	9.00	EA	500.00	\$4,500.00	
	2-way protected bike lane on Hamilton Ave between MLK and Ferris Ave (see section) Proposed changes: narrowed travel lanes to 11', new 8' parking lane (only between Bank and Lexington - total of 16 spots), new planted strip (assume 4.4' wide at widest near Bank) and new painted bike lane (assume 8' wide).					
	Paint bike lane	6,400.00	LF	5.50	\$35,200.00	
	Striping for bike lane	1,600.00	LF	2.00	\$3,200.00	
	Parking spots along roadway	729.00	LF	2.00	\$1,458.00	
	4.4' wide planted strip	7,040.00	SF	2.00	\$14,080.00	
	Concrete curb for planted strip	1,608.80	LF	30.00	\$48,264.00	
	Shared bike lane on Bank in both directions. south-bound bike markings for shared bike/vehicle use of the western-most lane on Bank Street from Water Street south to Fisher Ave. Paint bike "sharrows" on the roadway from Fisher Ave to Water Street.	27.00	EA	500.00	\$13,500.00	
						\$801,792.00

TABLE 2: Near-term Improvements Costs, Cont.
 Source: VJ Associates

ITEM#	NEAR TERM IMPROVEMENTS	QUANTITY	UNIT	RATE	TOTAL	TOTAL PER ITEM
2.0	RECONSTRUCTION OF EXISTING STATION ACCESS					
	RESTRIPING OF BRONX STREET PARKING LOT AS PER DIAGRAM	79.00	EA	50.00	\$3,950.00	
	Pavement striping along shuttle drop off/pick up	360.00	LF	2.00	\$720.00	
	New concrete strip between shuttle drop off and parking lot (See Option 1 diagram)	215.00	LF	15.00	\$3,225.00	
	Arrows	13.00	EA	100.00	\$1,300.00	
	CHANGES TO EXISTING STATION LOT					
	Removal of existing raised concrete strips	940.00	LF	11.00	\$10,340.00	
	Restripe per diagram Concept D.2 (including angled parking & removal of previous striping)	2,780.00	LF	3.00	\$8,340.00	
	New paved area for parking lot extension at south west corner (incl. removals)	400.00	SF	15.00	\$6,000.00	
	Arrows	18.00	EA	100.00	\$1,800.00	
	Removal of gates/fences along southern and eastern edge of new park space	710.00	LF	10.00	\$7,100.00	
	Fill (borrowed) to soften slope from intersection of Ferris Ave/Hamilton Ave into lot [NOTE: topo measurements to come from White Plains Traffic. Requested 9/20/16]	200.00	CY	400.00	\$80,000.00	
	New curb edge between green space and roadway	165.00	LF	30.00	\$4,950.00	
	Painting and signage for ADA spaces and passenger drop-off.	1.00	LS	500.00	\$500.00	
	Art-Inspired colored pavement crosswalks going to parking area	3,075.00	SF	5.50	\$16,912.50	
	RELOCATE TAXIS TO EXISTING KISS-AND-RIDE AREA					
	Capital Improvement: Sign for taxi users	5.00	EA	300.00	\$1,500.00	
						\$146,637.50

TABLE 2: Near-term Improvements Costs, Cont.
 Source: VJ Associates

ITEM#	NEAR TERM IMPROVEMENTS	QUANTITY	UNIT	RATE	TOTAL	TOTAL PER ITEM
3.0	INFORMATION KIOSKS					
	Cost per individual touch-screen information kiosk (exterior), software, interactive touch screen, Kiosk installation, electrical installation					
	Pronto Single 47" LG LCD, 2000 cd/m2 nit freestanding LED backlight, Portrait IPS, outdoor sunlight readable, 6mm tempered glass, ambient light sensor. Includes AR glass screen face. Metallic Silver finish included. Multi touch screen, Remote control	1.00	EA	27,500.00	\$27,500.00	
	Software license per year	1.00	EA	1,800.00	\$1,800.00	
	Installation	1	EA	3,000.00	\$3,000.00	
						\$32,300.00
4.0	REAL-TIME INFORMATION SIGNAGE FOR PARKING STRUCTURE CAPACITY					
	Capital Improvement: cost to purchase and install real-time information signage (cost per sign)					
	Furnish and Install Material/Equipment for signage (dual channel loop detector, Redstorm 2.0, Post mount, NEMA enclosures, Engr fees, Signage-SA2430GR-01)	1.00	EA	20,437.86	\$20,437.86	
	Electrical Installation for signage for one entry and one exit (All conduits, wire-pulls, loop cuts and concrete)	1.00	EA	15,000.00	\$15,000.00	
						\$35,437.86
5.0	TWO-WAY TRAFFIC CONVERSION ON FERRIS AVE					
	Capital Improvement: re-striping and signage between New Street and Water Street along Ferris Ave. See attached Two-Way Ferris drawings					
	Remove raised concrete strip at median	300.00	LF	10.00	\$3,000.00	
	Patch pavement	300.00	LF	12.00	\$3,600.00	
	Restriping	900.00	LF	2.00	\$1,800.00	
	Signage	1.00	LS	1,000.00	\$1,000.00	

TABLE 2: Near-term Improvements Costs, Cont.
 Source: VJ Associates

ITEM#	NEAR TERM IMPROVEMENTS	QUANTITY	UNIT	RATE	TOTAL	TOTAL PER ITEM
	MPT/TRAFFIC MAINTENANCE	1.00	LS	3,000.00	\$3,000.00	
						\$12,400.00
6.0	IMPROVE WALKWAYS UNDER TRAIN OVERPASSES					
	Capital Improvement: Install new "medium" lighting under existing bridges at Main Street and Hamilton Ave underpasses at the rail tracks.	12.00	EA	3,000.00	\$36,000.00	
						\$36,000.00
7.0	INTERSECTION PAINTING IMPROVEMENTS					
	Paint intersection crosswalks with a solid color paint. Assume 10' wide crosswalk widths:	13,950.00	SF	2.00	\$27,900.00	
	1) Ferris Ave at New St					
	2) Ferris Ave at Hamilton Ave					
	3) Ferris Ave/Bank Street at Main Street					
	4) Mamaroneck Ave at Martine Ave					
	5) Mamaroneck Ave at Main St					
	MPT/Traffic maintenance	5.00	LOC	2,000.00	\$10,000.00	
						\$37,900.00
8.0	BUMP-OUTS AND STREET CALMING					
	BUMP-OUTS AT LOCATIONS SHOWN ON NEXT TAB IN THIS SPREADSHEET					
	PRIMARY INTERSECTIONS					
	Ferris/Bank/Hamilton	1.00	LS	2,000.00	\$2,000.00	
	Hamilton/Lexington	1.00	LS	2,000.00	\$2,000.00	
	Hamilton/MLK	1.00	LS	2,000.00	\$2,000.00	
	Martine/Lexington SW corner	1.00	LS	2,000.00	\$2,000.00	
	Martine/MLK	1.00	LS	2,000.00	\$2,000.00	
	Martine/Court	1.00	LS	2,000.00	\$2,000.00	
	Main/Court	1.00	LSL	2,000.00	\$2,000.00	
	Water/Barker	1.00	LS	2,000.00	\$2,000.00	
	SECONDARY INTERSECTIONS					
	Main/MLK	1.00	LS	2,000.00	\$2,000.00	
	Main/Lexington	1.00	LS	2,000.00	\$2,000.00	
	Main/Bank	1.00	LS	2,000.00	\$2,000.00	

TABLE 2: Near-term Improvements Costs, Cont.
 Source: VJ Associates

ITEM#	NEAR TERM IMPROVEMENTS	QUANTITY	UNIT	RATE	TOTAL	TOTAL PER ITEM
	NEW MIDBLOCK CROSSWALK/ BUMPOUTS ON HAMILTON NEAR ST. JOHN'S EVANGELICAL CHURCH.	600.00	SF	2.00	\$1,200.00	
						\$23,200.00
9.0	ENHANCING BRONX RIVER PARKWAY ENTRANCE					
	Paint clear crosswalk markings	1,800.00	SF	2.00	\$3,600.00	
	New trailhead signage at Bronx River Trail spur (near Hamilton and Bronx Street) - could this come from County?	1.00	LS	1,000.00	\$1,000.00	
						\$4,600.00
10.0	CROSSWALK IMPROVEMENTS TO BATTLE HILL					
	See diagrams:					
	Restriping of crosswalk markings on Main Street/Tarrytown Rd	500.00	SF	3.00	\$1,500.00	
	Remove existing crosswalk striping	780.00	SF	1.00	\$780.00	
	New Crosswalk and walking path at Hamilton Ave and Tarrytown Road	1,330.00	SF	2.00	\$2,660.00	
	Add one new sign for vehicles at Main/ Tarrytown to yield to pedestrians in crosswalk	1.00	LS	500.00	\$500.00	
						\$5,440.00
					TOTAL	\$1,135,707

APPENDIX E

TRAFFIC MODELING ANALYSIS

WHITE PLAINS TRANSIT DISTRICT STRATEGIC PLAN

MULTIMODAL TRANSPORTATION CENTER REDEVELOPMENT PROJECT

December 2016

Prepared for:



Submitted by:



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1 AM LOS SUMMARY

TABLE 1: AM LOS Summary
Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	AM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Tarrytown Road (N-S) @ Aqueduct Rd/ Old Kensico Road (E-W) [SIGNALIZED]	EB	350	L	1.04	101.7	F	448	1.04	101.7	F	448	1.10	116.2	F	474	0.94	72.4	E	434
		350	LTR	1.05	103.6	F	449	1.05	103.6	F	449	1.10	119.2	F	480	0.96	76.4	E	445
	WB	340	LTR	0.54	26.8	C	84	0.54	26.8	C	84	0.56	26.7	C	87	0.56	26.7	C	87
	NB	110	L	0.18	44.5	D	31	0.18	43.9	D	33	0.18	43.4	D	33	0.18	32.3	C	27
		720	TR	0.52	33.4	C	304	0.53	32.2	C	299	0.55	34.4	C	317	0.63	22.5	C	325
	SB	200	L	0.60	62.2	E	91	0.60	62.2	E	91	0.63	64.3	E	95	0.49	51.1	D	91
		520	TR	0.76	25.8	C	490	0.76	25.8	C	490	0.81	27.7	C	540	0.88	32.3	C	589
Intersection					41.4	D			41.0	D			45.1	D			36.6	D	
Tarrytown Road (N-S) @ Central Ave/ County Center (E-W) [SIGNALIZED]	EB	260	L	0.17	39.3	D	44	0.26	42.6	D	44	0.28	42.9	D	46	0.27	41.5	D	44
		490	T	0.42	42.4	D	81	0.42	42.4	D	81	0.43	42.4	D	84	0.42	41.6	D	82
		250	R	0.61	11.0	B	68	0.61	11.0	B	69	0.62	10.9	B	70	0.66	13.6	B	89
	WB	100	L	0.45	35.4	D	173	0.48	35.0	C	158	0.50	35.8	D	168	0.54	37.6	D	184
		250	T	0.19	28.9	C	77	0.19	27.1	C	70	0.20	27.4	C	74	0.20	27.7	C	75
		100	R	0.86	56.6	E	423	0.88	57.2	E	366	0.91	61.7	E	402	0.91	62.4	E	412
	NB	600	L	0.40	24.9	C	101	0.51	30.4	C	106	0.53	30.8	C	110	0.62	32.5	C	106
		800	T	0.48	10.3	B	50	0.47	8.9	A	50	0.48	8.9	A	52	0.51	14.5	B	99
		820	R	0.02	0.0	A	0	0.02	0.0	A	0	0.02	0.0	A	0	0.04	0.1	A	0
	SB	500	L	0.40	56.9	E	88	0.34	55.3	E	88	0.37	55.2	E	88	0.37	44.6	D	60
700		TR	1.04	64.9	E	499	0.84	32.3	C	381	0.89	33.6	C	403	0.90	14.4	B	507	
Intersection					43.7	D			28.6	C			29.6	C			21.8	C	
Tarrytown Road (N-S) @ Chatterton Avenue (E-W) [SIGNALIZED]	EB	240	LTR	0.85	55.8	E	133	0.85	56.9	E	136	0.88	60.8	E	147	0.90	63.2	E	150
	WB	110	L	0.83	60.7	E	217	0.84	61.6	E	224	0.86	64.3	E	249	0.87	66.9	E	255
		110	LTR	0.83	59.5	E	87	0.83	60.4	E	89	0.85	63.2	E	95	0.86	64.9	E	96
	NB	370	L	0.49	56.5	E	71	0.48	55.6	E	71	0.60	65.9	E	76	0.63	69.2	E	79
		830	T	0.43	17.1	B	163	0.44	17.2	B	166	0.45	17.4	B	172	0.48	16.6	B	185
		380	R	0.18	3.0	A	22	0.18	3.0	A	22	0.19	3.0	A	22	0.18	2.8	A	22
	SB	180	L	0.10	56.0	E	16	0.09	53.5	D	17	0.11	53.1	D	17	0.13	65.0	E	17
810		TR	0.81	20.0	B	201	0.81	19.3	B	255	0.84	17.9	B	249	0.86	5.2	A	84	
Intersection					25.1	C			24.9	C			24.9	C			17.9	B	
Tarrytown Road (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	150	L	0.19	4.7	A	59	0.19	4.7	A	37	0.20	4.3	A	39	0.44	3.7	A	18
		150	T	0.35	5.8	A	131	0.35	5.9	A	80	0.37	5.7	A	84	0.40	2.6	A	14
	Intersection					5.6	A			5.6	A			5.4	A			2.9	A

TABLE 1: (Cont.) AM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	AM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Tarrytown Road (E-W) @ Battle Avenue/ Hamilton Avenue (N-S) [SIGNALIZED]	EB	680	TR	0.85	20.8	C	514	0.77	14.6	B	425	0.17	3.9	A	21	0.85	18.4	B	525
	NB	300	R	0.13	2.8	A	16	0.16	3.5	A	17	0.51	50.8	D	236	0.16	3.7	A	20
	SB	100	L	0.39	35.9	D	218	0.48	48.5	D	230	0.59	57.1	E	246	0.49	38.9	D	205
		100	LT	0.45	38.6	D	229	0.56	54.0	D	236	0.81	15.8	B	469	0.57	43.9	D	206
	Intersection				22.4	C			18.7	B			20.2	C			20.8	C	
Tarrytown Road (E-W) @ Bronx River Pkwy NB Ramp (N-S) [SIGNALIZED]	EB	230	T	0.91	21.3	C	489	0.91	22.2	C	639	0.96	50.4	D	706	1.01	63.5	E	806
	NB	500	R	0.96	62.1	E	451	0.96	62.1	E	451	1.00	71.1	E	485	1.01	70.7	E	514
	SB	220	L	0.05	28.4	C	21	0.60	37.2	D	31	0.06	35.1	D	29	0.24	30.7	C	99
	Intersection				29.4	C			30.2	C			54.4	D			64.0	E	
Ferris Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	120	LTR	0.04	16.6	B	13	0.04	17.0	B	16	0.04	17.3	B	14	0.08	22.9	C	28
	WB	260	LT	0.13	33.8	C	24	0.16		A		0.83	44.1	D	94	0.84	51	D	215
		260	R	0.79	41.5	D	92	0.81	32.0	C	102	0.16	4.0	A	4	0.18	5.7	A	18
	NB	210	L	0.15	4.5	A	4	0.15	1.6	A	5	0.19	7.1	A	37				
		210	TR	0.17	7.1	A	38	0.17	7.9	A	29	0.29	6.4	A	67	0.51	6	A	56
		210	R	0.28	6.4	A	70	0.28	7.8	A	52	0.29	2.0	A	24				
	SB	290	LTR	0.28	1.7	A	24	0.27	3.1	A	24					0.46	24	C	142
		290	TL	0.30	12.3	B	42	0.47	13.2	B	92	0.51	16.3	B	62				
	SE	290	LTR	0.05	9.1	A	22	0.00	0.0	A	0	0.18	37.3	D	25	0.29	55.3	E	51
	Intersection				17.0	B			17.8	B			18.5	B			22.7	C	
N Lexington Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	260	LT	0.30	6.9	A	136	0.28	6.8	A	136	0.30	7.0	A	143	0.37	6.0	A	146
		260	R	0.15	3.2	A	40	0.14	3.1	A	40	0.15	3.1	A	41	0.23	1.4	A	28
	WB	350	L	0.16	2.2	A	40	0.16	2.0	A	40	0.17	2.1	A	41	0.18	1.0	A	5
		350	LTR	0.29	2.8	A	115	0.29	2.7	A	115	0.31	2.8	A	122	0.35	1.7	A	21
	SB	100	LTR	0.03	0.0	A	0	0.03	0.0	A	0	0.03	0.0	A	0	0.03	0.0	A	0
Intersection				4.2	A			4.1	A			4.2	A			3.0	A		
Martin Luther King Jr Blvd (N-S) @ Water Street/ Baker Avenue (E-W) [SIGNALIZED]	EB	340	LT	0.71	33.0	C	171	0.66	29.2	C	158	0.69	30.4	D	166	0.88	39.7	D	238
	WB	430	TR	0.26	17.1	B	68	0.25	16.6	B	67	0.26	16.8	B	70	0.29	17.1	B	77
		450	L	0.22	13.3	B	75	0.22	13.7	B	76	0.23	13.8	B	80	0.03	29.0	C	10
	NB	450	LT	0.20	12.7	B	25	0.20	13.1	B	26	0.22	13.2	B	27	0.26	14.2	B	90
		510	R	0.16	0.2	A	0	0.16	0.2	A	0	0.17	0.3	A	0	0.24	13.5	B	29
	SB	100	LTR	0.03	29.0	C	10	0.03	29.0	C	10	0.03	29.0	C	10	0.17	0.3	A	0
Intersection				17.7	B			16.3	B			16.7	C			20.9	C		

TABLE 1: (Cont.) AM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	AM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Ferris Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	110	LTR	0.70	28.0	C	112	0.70	27.8	C	112	0.71	27.6	C	115	0.81	38.5	D	211
	WB	290	LTR	0.07	0.3	A	0	0.07	0.4	A	0	0.07	0.4	A	0	0.12	9.5	A	24
	NB	190	LT	0.28	7.8	A	80	0.29	7.9	A	81	0.31	8.3	A	87	0.40	8.5	A	128
		190	R	0.17	1.5	A	6	0.17	1.5	A	6	0.18	1.6	A	6	0.20	0.3	A	0
	SB	210	LTR	0.02	13.3	B	6	0.09	0.3	A	0	0.10	0.4	A	0	0.13	5.3	A	8
Intersection					15.1	B			14.4	B			14.5	B			20.1	C	
N Lexington Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	270	R	0.31	0.8	A	1	0.32	0.8	A	0	0.34	0.8	A	0	0.76	8.8	A	47
	NB	207	L												0.03	18.9	B	11	
	SB	220	LT	0.11	8.1	A	39	0.11	8.2	A	39	0.12	8.4	A	41	0.17	8.6	A	42
		230	R	0.02	0.6	A	0	0.02	0.7	A	0	0.02	0.7	A	0	0.02	0.1	A	1
	Intersection					3.6	A			3.5	A			3.6	A			8.6	A
Bank Street/ Ferris Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	300	TR	0.60	9.0	A	85	0.53	15.2	B	282	0.58	7.0	E	84	0.67	15.2	B	350
	NB	190	L	0.47	44.3	D	0	0.51	14.8	B	159	0.54	59.2	E	333	0.42	13.6	C	110
		190	T	0.51	50.3	D	0	0.56	15.3	B	169	0.59	73.2	E	355	0.75	11.8	C	332
	SB	200	LT													0.07	35.2	D	15
		200	R	0.40	88.3	F	14	0.30	69.3	E	13	0.33	71.5	E	14				
Intersection					28.0	C			15.3	B			36.2	D			18.7	B	
N Lexington Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	580	LT	0.48	15.7	B	117	0.51	17.5	B	122	0.54	17.6	B	128				
		580	L													0.45	14.0	B	145
		580	T													0.45	12.0	B	129
	NB	220	TR												0.44	4.1	A	3	
	SB	270	T	0.52	41.3	D	130	0.21	15.2	B	69	0.22	15.4	B	73	0.59	33.4	C	194
		220	R	0.70	49.2	D	139	0.66	43.6	D	135	0.67	43.3	D	140	0.74	40.1	D	200
Intersection					26.0	C			21.4	C			21.5	C			20.4	C	
Martin Luther King Jr Blvd (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	390	TR	0.44	26.0	C	173	0.45	26.8	C	176	0.47	27.2	C	186	0.60	26.0	C	249
	NB	260	L	0.46	38.2	D	313	0.46	37.3	D	312	0.48	38.5	D	329	0.54	13.5	B	145
		260	LT	0.36	31.8	C	201	0.35	31.0	C	200	0.37	31.6	C	210	0.43	11.0	B	97
		260	R	0.40	17.5	B	167	0.40	17.2	B	167	0.42	17.5	B	173	0.45	2.2	A	13
		Intersection					27.9	C			27.9	C			28.4	C		16.7	B

TABLE 1: (Cont.) AM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	AM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Bank Street (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	160	L	0.60	8.8	A	94	0.60	8.8	A	94	0.63	9.6	A	94	0.82	23.8	C	209
		270	T	0.87	15.8	B	299	0.87	15.8	B	299	0.91	31.5	C	359	0.92	40.8	D	294
		210	R	0.62	9.1	A	82	0.62	9.1	A	82	0.65	9.8	A	82	0.69	13.7	B	135
	NB	410	TR	0.74	33.9	C	247	0.74	35.8	D	244	0.77	36.5	D	257	0.63	25.6	C	168
	SB	200	T									0	0	0	0	0.06	27.7	C	27
Intersection					17.9	B			18.3	B			28.3	C			33.7	C	
N Lexington Avenue (N-S) @ Main Street (E-W) [SIGNALIZED]	NB	220	TR												0.43	23.6	C	135	
	EB	330	TR	0.98	14.3	B	800	0.96	11.5	B	200	1.01	21.3	C	861	1.10	74.1	E	1,008
		330	R	0.91	18.0	B	646	0.89	15.4	B	637	0.94	21.1	C	644	1.08	70.1	E	697
	SB	200	L	0.48	30.6	C	168	0.63	61.6	E	190	0.67	63.7	E	208	0.75	27.0	C	81
		200	T												1.05	73.1	E	602	
		200	LT	0.56	28.3	C	184	0.69	52.4	D	207	0.73	53.7	D	216				
Intersection					17.5	B			19.9	B			25.7	C			66.7	E	
Martin Luther King Jr Blvd (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	610	L	0.49	11.7	B	115	0.49	11.6	B	126	0.52	11.6	B	121	0.44	2.6	A	52
		610	T	0.60	11.4	B	166	0.60	11.3	B	184	0.63	11.4	B	173	0.56	2.7	A	97
	NB	370	T	0.49	28.3	C	185	0.49	35.4	D	184	0.52	36.0	D	194	0.62	25.6	C	98
		370	R	0.37	28.3	C	97	0.37	35.6	D	97	0.39	36.1	D	102	0.45	26.4	C	51
Intersection					16.8	B			18.9	B			21.0	C			9.9	A	
Bank Street (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	EB	50	L	0.48	49.9	D	99	0.48	49.9	D	99	0.49	49.8	D	102	0.49	49.8	D	102
		50	R	0.14	1.0	A	0	0.14	1.0	A	0	0.14	1.0	A	0	0.14	1.0	A	0
	WB	420	L													0.39	50.1	D	76
		420	LT	0.34	37.4	D	40	0.35	33.3	C	36	0.37	34.1	C	39	0.41	50.0	D	62
		380	R	0.35	20.6	C	110	0.41	23.4	C	134	0.43	24.0	C	144	0.06	32.0	C	24
	NB	300	LT	0.62	32.5	C	253	0.55	27.5	C	234	0.58	28.1	C	247	0.59	26.0	C	250
	SB	400	TR	0.25	1.2	A	40	0.25	2.0	A	52	0.26	2.1	A	52	0.31	4.7	A	95
Intersection					22.4	C			20.9	C			21.4	C			21.9	C	
Bank Street (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	160	L	0.60	8.8	A	94	0.60	8.8	A	94	0.63	9.6	A	94	0.82	23.8	C	209
		270	T	0.87	15.8	B	299	0.87	15.8	B	299	0.91	31.5	C	359	0.92	40.8	D	294
		210	R	0.62	9.1	A	82	0.62	9.1	A	82	0.65	9.8	A	82	0.69	13.7	B	135
	NB	410	TR	0.74	33.9	C	247	0.74	35.8	D	244	0.77	36.5	D	257	0.63	25.6	C	168
	SB	200	T									0	0	0	0	0.06	27.7	C	27
Intersection					17.9	B			18.3	B			28.3	C			33.7	C	

TABLE 1: (Cont.) AM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	AM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
N Lexington Avenue(N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	660	L	0.33	26.0	C	57	0.33	25.4	C	50	0.35	25.3	C	52	0.13	3.0	A	13
		660	T	0.18	10.8	B	43	0.18	11.8	B	51	0.19	11.7	B	51	0.13	12.5	B	80
		660	R												0.27	3.9	A	58	
	SB	430	T	0.41	19.5	B	145	0.41	18.3	B	150	0.44	18.9	C	152	0.73	24.7	C	193
		430	R	0.18	4.6	A	12	0.18	4.1	A	11	0.19	4.3	A	10	0.23	4.9	A	8
	Intersection					17.4	B			16.7	B			17.1	B			17.2	B
Martin Luther King Jr Blvd (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	450	T	0.28	19.4	B	99	0.38	29.5	C	124	0.40	29.7	B	130	0.39	18.7	B	181
		450	R	0.28	20.7	C	97	0.38	32.0	C	121	0.40	32.4	B	127	0.30	19.2	B	129
	NB	460	L	0.70	35.7	D	275	0.54	20.6	C	212	0.56	21.3	C	226	0.76	37.6	D	242
		460	T	0.34	22.8	C	135	0.26	14.2	B	104	0.27	14.4	B	109	0.37	22.8	C	116
	Intersection					24.1	C			21.4	C			21.7	C			24.1	C

Notes:

1. EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound
 2. Street length measurements based on distance to adjacent signalized intersection or SIE access ramp.
 3. L - Left, T- Through, R - Right, DefL - De Facto Left Turn
- Shaded queue lengths exceed available distance to the nearest intersection or end of full-width storage bay. Shaded v/c ratio and/or LOS indicates congested movement.

2 PM LOS SUMMARY

TABLE 2: PM LOS Summary
Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	PM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Tarrytown Road (N-S) @ Aqueduct Rd/ Old Kensico Road (E-W) [SIGNALIZED]	EB	350	L	0.99	89.6	F	420	0.99	89.6	F	420	1.04	101.7	F	448	0.96	78.9	E	414
		350	LTR	0.99	87.1	F	217	0.99	87.1	F	217	1.04	99.3	F	232	0.96	78.5	E	410
	WB	340	LTR	0.53	27.0	C	82	0.53	27.0	C	82	0.54	27.0	C	85	0.54	27.0	C	85
	NB	110	L	0.28	10.6	B	35	0.28	36.2	D	37	0.29	37.4	D	39	0.28	32.4	C	27
		720	TR	1.03	64.9	E	612	1.04	71.2	E	627	1.10	92.2	F	847	1.12	77.5	E	689
	SB	200	L	0.53	57.7	E	82	0.53	57.7	E	82	0.56	59.4	E	86	0.63	67.3	E	92
		520	TR	0.71	25.8	C	397	0.71	25.8	C	397	0.76	27.4	C	442	0.79	29.2	C	475
Intersection					51.9	D			54.6	D			66.1	E			57.1	E	
Tarrytown Road (N-S) @ Central Ave/ County Center (E-W) [SIGNALIZED]	EB	260	L	0.33	42.6	D	77	0.54	55.3	E	78	0.56	56.3	E	80	0.56	56.4	E	80
		490	T	0.41	41.9	D	86	0.41	42.0	D	86	0.42	41.8	D	90	0.42	41.7	D	89
		250	R	0.56	10.3	B	67	0.56	10.3	B	67	0.57	10.2	B	67	0.60	10.2	B	71
	WB	100	L	0.23	34.1	C	76	0.28	37.4	D	80	0.29	37.7	D	83	0.36	39.4	D	99
		250	T	0.38	35.5	D	103	0.40	37.2	D	107	0.42	37.2	D	112	0.42	37.2	D	112
		100	R	0.69	49.4	D	186	0.73	54.2	D	197	0.76	55.9	E	219	0.76	55.9	E	219
	NB	600	L	0.90	29.8	C	133	0.68	17.5	B	122	0.68	16.4	B	134	0.69	24.3	C	122
		800	T	1.05	41.1	D	309	0.92	10.2	B	167	0.92	8.7	A	312	0.93	16.9	B	171
		820	R	0.12	0.0	A	0	0.12	0.1	A	0	0.13	0.1	A	0	0.14	0.0	A	0
	SB	500	L	0.56	58.2	E	214	0.55	58.7	E	184	0.65	61.6	E	187	0.65	36.0	D	121
700		TR	0.64	39.1	D	335	0.63	32.5	C	298	0.68	36.5	D	328	0.72	12.6	B	63	
Intersection					37.4	D			23.1	C			23.7	C			19.9	B	
Tarrytown Road (N-S) @ Chatterton Avenue (E-W) [SIGNALIZED]	EB	240	LTR	0.69	45.8	D	109	0.69	46.1	D	109	0.70	45.9	D	112	0.71	45.8	D	113
	WB	110	L	0.52	43.0	D	97	0.53	43.4	D	98	0.54	43.4	D	103	0.55	43.6	D	104
		110	LTR	0.28	24.8	C	35	0.28	25.2	C	36	0.29	25.0	C	37	0.28	24.5	C	36
	NB	370	L	0.65	37.8	D	196	0.52	26.1	C	117	0.62	32.9	C	129	0.65	30.9	C	128
		830	T	1.03	37.2	D	626	0.96	17.2	B	499	1.01	27.2	C	644	1.03	32.8	C	671
		380	R	0.47	2.0	A	31	0.45	1.3	A	9	0.47	1.5	A	21	0.46	1.7	A	21
	SB	180	L	0.10	50.4	D	32	0.13	53.2	D	32	0.14	54.4	D	33	0.15	63.3	E	33
810		TR	0.60	20.1	C	143	0.67	27.3	C	245	0.67	24.3	C	220	0.69	7.3	A	118	
Intersection					29.6	C			21.3	C			25.7	C			23.2	C	
Tarrytown Road (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	150	L	0.55	7.4	A	139	0.55	7.0	A	123	0.57	6.7	A	121	1.13	79.7	E	756
		150	T	0.89	10.8	B	287	0.90	9.7	A	264	0.93	9.6	A	263	0.94	13.3	B	377
	Intersection					9.9	A			9.0	A			8.9	A			29.9	C

TABLE 2: (Cont.) PM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	PM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Tarrytown Road (E-W) @ Battle Avenue/ Hamilton Avenue (N-S) [SIGNALIZED]	EB	680	TR	0.78	40.4	D	383	0.79	38.2	D	379	0.63	26.7	C	388	0.87	33.6	C	433
	NB	300	R	0.04	0.1	A	0	0.04	0.1	A	0	0.05	0.2	A	0	0.04	0.1	A	0
	SB	100	L	0.61	9.8	A	191	0.61	11.9	B	222	0.85	40.3	D	523	0.67	62.8	E	128
		100	LT	0.71	12.6	B	250	0.71	14.9	B	265	0.99	60.6	E	587	0.77	63.7	E	146
	Intersection				29.5	C			29.1	C				34.9	C			43.8	D
Tarrytown Road (E-W) @ Bronx River Pkwy NB Ramp (N-S) [SIGNALIZED]	EB	230	T	0.51	4.8	A	107	0.51	5.5	A	130	0.54	5.7	A	77	0.58	5.3	A	157
	NB	500	R	0.64	42.2	D	168	0.64	42.2	D	168	0.66	42.6	D	175	0.71	42.5	D	196
	SB	220	L	0.05	35.1	D	9	0.05	32.7	C	7	0.06	35.1	D	9	0.23	24.5	C	27
	Intersection				10.6	B			11.2	B				11.4	B			11.8	B
Ferris Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	120	LTR	0.12	21.5	C	25	0.12	21.6	C	25	0.13	21.3	C	26	0.14	27.5	C	38
	WB	260	LT	0.23	33.4	C	40	0.24	34.5	C	41	0.67	38.5	D	103	0.8	52.2	D	158
		260	R	0.65	37.9	D	89	0.65	38.7	D	104	0.46	11.9	B	12	0.45	7.4	A	25
	NB	210	L	0.45	11.8	B	16	0.45	12.4	B	12	0.11	9.9	A	33				
		210	TR	0.10	9.2	A	30	0.10	9.2	A	30	0.3	10.2	A	113	0.42	4.6	A	62
		210	R	0.29	9.6	A	101	0.29	9.0	A	104	0.23	4.3	A	48				
	SB	290	LTR	0.22	3.7	A	43	0.22	4.1	A	45					0.31	15.7	B	89
		290	TL	0.30	12.0	B	41	0.43	13.7	B	54	0.46	14.6	B	57				
	SE	290	LTR	0.02	9.1	A	13	0.00	0.0	A	0	0.26	35.2	D	42	0.32	49.3	D	58
	Intersection				15.7	B			16.2	B				16.5	B			18.2	B
N Lexington Avenue (N-S) @ Water Street (E-W) [SIGNALIZED]	EB	260	LT	0.25	12.9	B	125	0.24	11.7	B	102	0.26	11.9	B	106	0.32	11.4	B	120
		260	R	0.27	5.5	A	66	0.26	4.6	A	59	0.27	4.6	A	60	0.34	2.7	A	41
	WB	350	L	0.41	5.9	A	72	0.40	5.1	A	47	0.43	5.4	A	42	0.46	6.2	A	55
		350	LTR	0.30	3.7	A	88	0.30	3.4	A	63	0.32	3.4	A	56	0.39	2.8	A	34
	SB	100	LTR	0.32	17.8	B	44	0.32	17.8	B	44	0.33	17.9	B	45	0.33	17.6	B	45
Intersection				7.3	A			6.6	A				6.7	A			6.1	A	
Martin Luther King Jr Blvd (N-S) @ Water Street/ Baker Avenue (E-W) [SIGNALIZED]	EB	340	LT	0.52	23.4	C	101	0.49	20.4	C	92	0.52	21.3	C	98	0.65	16.4	B	33
	WB	430	TR	0.31	17.7	B	81	0.30	17.5	B	80	0.32	17.6	B	84	0.35	17.8	B	92
		450	L	0.29	16.2	B	82	0.29	16.5	B	83	0.31	17.0	B	89	0.36	18.0	B	104
	NB	450	LT	0.24	15.2	B	25	0.25	15.5	B	25	0.26	15.9	B	26	0.31	16.6	B	30
		510	R	0.11	0.2	A	0	0.11	0.2	A	0	0.12	0.2	A	0	0.12	0.2	A	0
	SB	100	LTR	0.26	4.4	A	5	0.26	4.4	A	5	0.28	5.3	A	8	0.27	5.1	A	7
Intersection				15.3	B			14.5	B				14.9	B			14.4	B	

TABLE 2: (Cont.) PM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	PM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Ferris Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	110	LTR	0.66	29.1	C	96	0.66	29.4	C	96	0.67	29.2	C	100	0.83	41.0	D	172
	WB	290	LTR	0.34	2.3	A	0	0.32	2.1	A	0	0.34	2.3	A	0	0.45	8.0	A	49
	NB	190	LT	0.19	5.8	A	51	0.19	5.8	A	51	0.20	6.1	A	55	0.32	5.0	A	35
		190	R	0.01	0.0	A	0	0.01	0.0	A	0	0.02	0.0	A	0	0.02	0.0	A	0
	SB	210	LTR	0.02	3.4	A	4	0.08	5.3	A	19	0.08	5.8	A	20	0.08	5.7	A	5
Intersection					15.9	B			15.5	B			15.5	B			21.6	C	
N Lexington Avenue (N-S) @ New Street (E-W) [SIGNALIZED]	EB	270	R	0.36	2.0	A	0	0.38	1.0	A	0	0.40	1.1	A	0	0.73	8.5	A	46
	NB	207	L												0.06	20.0	B	11	
	SB	220	LT	0.20	3.7	A	17	0.20	4.2	A	16	0.21	4.1	A	18	0.27	8.2	A	89
		230	R	0.10	0.4	A	0	0.10	0.5	A	1	0.11	0.6	A	1	0.12	2.4	A	17
	Intersection					2.7	A			2.5	A			2.6	A			8.0	A
Bank Street/ Ferris Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	300	TR	1.01	60.8	E	555	1.09	64.7	E	509	1.09	62.3	E	552	1.12	67.1	E	776
	NB	190	L	0.96	27.2	C	562	0.96	25.6	C	550	1.01	36.5	D	571	1.09	77.2	E	409
		190	T	0.92	15.5	B	133	0.92	14.1	B	76	0.97	17.2	B	90	0.65	18.7	B	125
	SB	200	LT													0.24	48.9	D	21
		200	R	0.55	101.7	F	16	0.82	190.0	F	19	0.86	203.0	F	20				
Intersection					44.8	D			46.9	D			48.5	D			64.7	E	
N Lexington Avenue (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	580	LT	1.02	80.3	F	464	1.00	69.6	E	466	1.05	78.8	E	508				
		580	L												0.45	24.1	C	147	
		580	T												1.08	79.3	E	537	
	NB	220	TR												0.92	25.6	C	486	
	SB	270	T	0.49	36.2	D	117	0.22	14.1	B	73	0.23	14.2	B	76	0.54	30.0	C	191
		220	R	0.95	68.5	E	272	1.03	87.2	F	309	1.08	101.3	F	331	1.04	79.4	E	369
Intersection					73.1	E			53.0	D			54.5	D			63.4	E	
Martin Luther King Jr Blvd (N-S) @ Hamilton Avenue (E-W) [SIGNALIZED]	WB	390	TR	0.69	28.7	C	271	0.85	38.7	D	304	0.89	41.4	D	326	0.97	45.8	D	476
	NB	260	L	1.00	47.4	D	798	0.88	27.3	C	508	0.93	33.8	C	501	1.02	52.3	D	854
		260	LT	0.48	5.9	A	58	0.42	4.5	A	50	0.45	4.6	A	52	0.51	6.8	A	69
		260	R	0.43	1.7	A	9	0.40	1.2	A	1	0.42	1.3	A	3	0.44	1.6	A	1
	Intersection					24.9	C			24.6	C			27.3	C			33.9	C

TABLE 2: (Cont.) PM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	PM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Bank Street (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	160	L	0.50	22.4	C	222	0.48	21.1	C	248	0.50	24.8	C	230	0.68	13.2	B	169
		270	T	0.71	32.7	C	359	0.68	23.1	C	377	0.72	42.5	D	375	0.63	9.1	A	161
		210	R	0.62	26.9	C	279	0.60	26.2	C	287	0.63	29.5	C	287	0.57	11.6	B	127
	NB	410	TR	0.81	25.1	C	184	0.85	27.9	C	230	0.89	29.4	C	183	0.79	26.4	C	178
	SB	200	T												0.03	19.0	B	9	
	Intersection					28.3	C			25.3	C			34.6	C			15.6	B
N Lexington Avenue (N-S) @ Main Street (E-W) [SIGNALIZED]	NB	220	TR												0.74	22.7	C	267	
	EB	330	TR	0.65	11.4	B	412	0.58	2.3	A	26	0.69	11.9	B	434	0.92	19.7	B	582
		330	R	0.78	23.0	C	474	0.68	9.3	A	90	0.81	26.5	C	502	0.65	10.0	B	96
	SB	200	L	0.32	19.1	B	44	0.52	34.8	C	125	0.41	38.0	D	126	1.01	76.8	E	93
		200	T													0.83	27.1	C	321
	200	LT	0.42	18.9	B	57	0.63	30.8	C	163	0.51	36.9	D	164					
Intersection					15.3	B			11.1	B			20.9	C			24.0	C	
Martin Luther King Jr Blvd (N-S) @ Main Street (E-W) [SIGNALIZED]	EB	610	L	0.49	20.2	C	155	0.50	9.9	A	67	0.52	21.9	C	183	0.45	14.4	B	193
		610	T	0.64	26.1	C	224	0.59	8.8	A	76	0.61	20.3	C	210	0.56	15.1	B	343
	NB	370	T	0.58	13.5	B	109	0.62	12.7	B	110	0.67	13.5	B	115	0.67	14.3	B	121
		370	R	0.29	11.2	B	39	0.31	11.7	B	39	0.33	12.0	B	41	0.33	12.2	B	40
	Intersection					18.8	B			10.9	B			21.0	C			14.4	B
Bank Street (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	EB	50	L	0.18	42.8	D	36	0.18	42.8	D	36	0.19	42.9	D	38	0.19	42.9	D	38
		50	R	0.03	0.2	A	0	0.03	0.2	A	0	0.03	0.2	A	0	0.03	0.2	A	0
	WB	420	L													0.32	32.6	C	70
		420	LT	0.37	30.5	C	42	0.37	33.6	C	44	0.38	33.3	C	46	0.40	33.9	C	63
		380	R	1.01	51.7	D	630	1.01	52.0	D	631	1.06	67.1	E	678	0.59	20.9	C	244
	NB	300	LT	0.92	50.8	D	368	0.92	50.8	D	368	0.97	58.3	E	398	0.89	42.4	D	367
	SB	400	TR	0.18	18.2	B	147	0.18	13.3	B	115	0.19	18.5	B	155	0.26	2.0	A	45
Intersection					45.2	D			44.9	D			55.0	D			27.6	C	
N Lexington Avenue(N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	660	L	0.63	29.8	C	123	0.47	23.0	C	115	0.51	24.2	C	123	0.24	0.5	A	0
		660	T	0.48	11.3	B	117	0.42	8.2	A	95	0.45	8.7	A	105	0.53	13.6	B	304
		660	R												0.51	1.9	A	4	
	SB	430	T	0.40	16.5	B	129	0.49	22.1	C	132	0.50	29.4	C	157	0.71	32.3	C	253
		430	R	0.42	12.5	B	107	0.50	16.4	B	104	0.52	24.5	C	160	0.45	9.1	A	64
	Intersection					16.2	B			16.1	B			19.7	B			15.2	B

TABLE 2: (Cont.) PM LOS Summary
 Source: WSP | Parsons Brinckerhoff, 2016

INTERSECTION	APPROACH	DISTANCE OF STREETS AND STORAGE BAYS (FT)	LANE GROUP	PM PEAK HOUR															
				EXISTING				NEAR-TERM (EXISTING VOLUME, 2015)				NO BUILD (2016, ASSUMED 5.0% GROWTH RATE)				FUTURE BUILD SCENARIO			
				V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)	V/C	DELAY (SEC.)	LOS	95TH PERCENTILE QUEUE (FT)
Martin Luther King Jr Blvd (N-S) @ Martine Avenue (E-W) [SIGNALIZED]	WB	450	T	0.48	22.4	C	158	0.40	16.3	B	132	0.42	16.6	B	140	0.60	18.7	C	235
		450	R	0.87	46.4	D	321	0.73	27.9	C	269	0.76	30.0	C	289	0.76	28.7	D	313
	NB	460	L	0.68	30.7	C	256	0.72	27.7	C	211	0.76	31.3	C	235	0.82	43.0	D	294
		460	T	0.46	21.0	C	174	0.57	28.0	C	203	0.60	28.5	C	215	0.55	25.0	C	195
	Intersection					26.8	C			24.4	C			25.5	C			26.1	C

Notes:

1. EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound
 2. Street length measurements based on distance to adjacent signalized intersection or SIE access ramp.
 3. L - Left, T- Through, R - Right, DefL - De Facto Left Turn
- Shaded queue lengths exceed available distance to the nearest intersection or end of full-width storage bay. Shaded v/c ratio and/or LOS indicates congested movement.