



# **Analysis**

The City study sought to identify major opportunities for improvements to local neighborhoods and to analyze the impacts of those improvements, on future development patterns, economic conditions and infrastructure needs.

Prior to in-depth analysis, land use and design scenarios for the Sheridan Expressway were developed and publicly vetted. The scenarios focused on improving quality of life for residents and taking advantage of emerging opportunities for new housing and retail, while preserving or improving highway access to the Food Distribution Center and surrounding industrial businesses on the Hunts Point peninsula.

The traffic, land use, economic and sustainability impacts of improvements being considered were all included in City Study analysis. A brief overview of this analysis and a summary of findings follows.

Process drawings and images of the City Study

# **Land Use Study Area**

Analysis conducted as part of the City Study focused on two related study areas: the land use study area and the transportation study area. The transportation study area included five major highways that traverse the South Bronx providing connections between New York City, Connecticut, New Jersey, Long Island, Westchester and beyond. The land use study area encompassed multiple neighborhoods surrounding four of these five highways, and was developed with an eye towards the important relationship between the transportation network and neighboring land uses.

A closer focus on the communities that surround the Sheridan Expressway and the related road network reveals that while there are similarities, there are differences in the way history, natural resources infrastructure and economic development have impacted each neighborhood.

More than 200,000 people live within a mile of the Sheridan Expressway. Neighborhoods adjacent to the expressway include Crotona Park to the west, West Farms to the north, Longwood and Hunts Point to the south, Bronx River and Soundview to the east. The expressway, despite its short length, runs through four community districts: 2, 3, 6, and 9.

#### **Public Transit**

The study area is served by three subway lines, the 2, 5, and 6, and several bus routes. Sixty-four percent of the study area population uses public transit to commute to work, and on average close to 700,000 passengers ride buses in the study area every week. Between 2007 and 2012, subway ridership increased significantly. Ridership levels will continue to grow as new businesses and residents move into the neighborhood.

For example, the NYC Human Resources Administration (HRA), will soon relocate to Hunts Point, bringing with it a large staff and hundreds of visitors each day. Given the study area's transit network, there is opportunity for residential development near subway stations consistent with the city's goal to build 95 percent of new housing within a ten minute walk of a subway station.

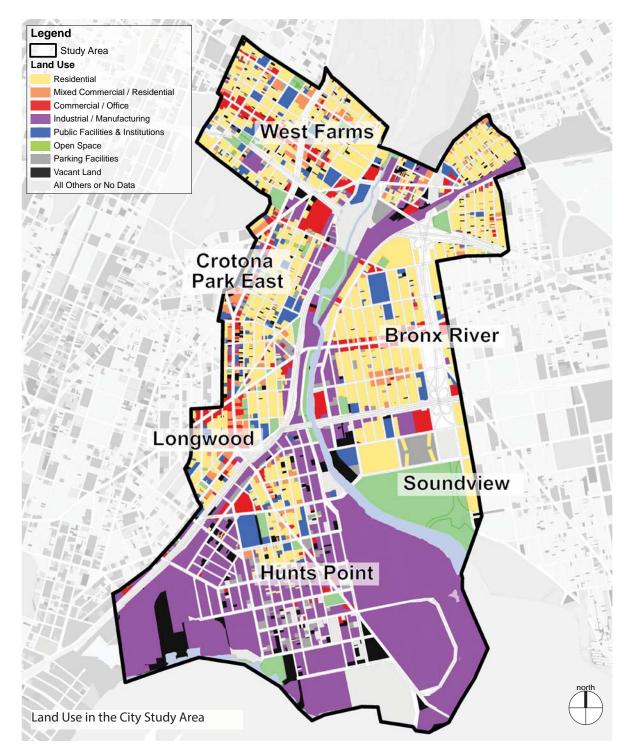
## **Population Growth**

The City study area has experienced large swings in population size since the 1970 census. Between 1970 and 1980, declines in shipping and manufacturing jobs and increasing suburbanization, coupled with the City's fiscal crisis and widespread housing disinvestment, led to a 20 percent decline in the population of the Bronx, from 1,472,000 to 1,169,000 residents. During this time, the communities to the west of the expressway experienced the greatest population loss in the entire Bronx –a two-third population loss – but the area also saw some of the first signs of renewal in the 1980s and today Crotona Park East and Charlotte Gardens are stable residential communities.

Between 1980 and 1990, the economies of the Bronx and NYC improved and immigrants and domestic residents moved into the Bronx. These conditions contributed to a moderate increase of 2.9 percent population growth in the Bronx. During the 1990s, the population of the Bronx grew more quickly than that of NYC overall, with the Bronx experiencing a 15 percent increase while the NYC population increased by 11.6 percent. Growth continued between 2000 and 2010, again with larger increases in population in the Bronx than in NYC overall. Population growth is expected to continue and according to projections, the population in the Bronx will have regained its 1970 population levels by 2030.



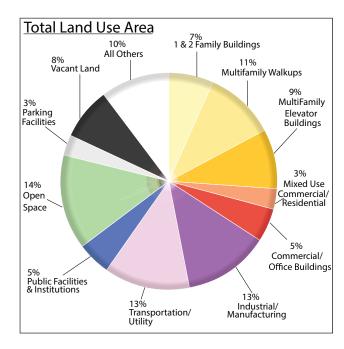




#### **Land Use**

A broad range of land uses characterize the study area. The Bronx River and Soundview neighborhoods contain predominantly low-scale residences with some notable high-rise developments such as the Soundview and Bronx River Houses, both New York City Housing Authority (NYCHA) developments. The Hunts Point peninsula to the south includes a stable residential population of approximately 11,000 amongst industrial and food-related businesses in the city's largest industrial business zone.

Immediately surrounding the Sheridan Expressway are light industrial uses, auto related uses, warehouses, a small motel, multiple schools, an MTA bus depot, and three parks. With support from the City over the past two decades, more than 4,600 new affordable housing units have been developed in the vicinity of the expressway. The Bronx River runs parallel to the expressway to the east, and the elevated 6 subway line and regional rail/Amtrak line run along the expressway and cross it near Westchester Avenue.



# **Transportation Study Area**

Detailed traffic analysis included the Bronx River Parkway, Major Deegan, Sheridan, Cross Bronx and Bruckner Expressways along with adjacent local thoroughfares. Changes to one of these highways would have an impact on the others as they work together to carry traffic throughout the region.

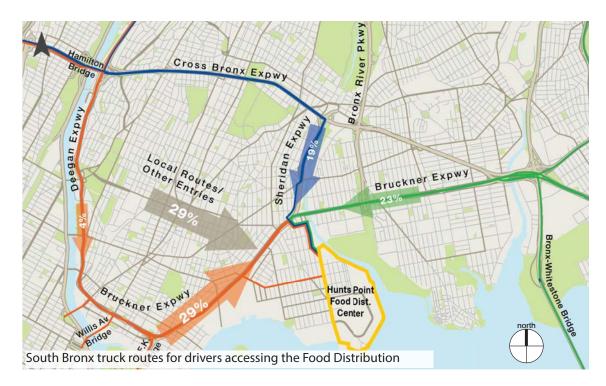
#### **Traffic Patterns**

In 2011, NYCEDC and NYCDOT performed a survey of drivers at the three wholesale food markets (produce, meat, and fish) at the Food Distribution Center (FDC) to ascertain their trip patterns. The analysis of these traffic patterns provided a proxy for understanding the larger transportation patterns of trucks traveling to and from the food-related businesses in the FDC.

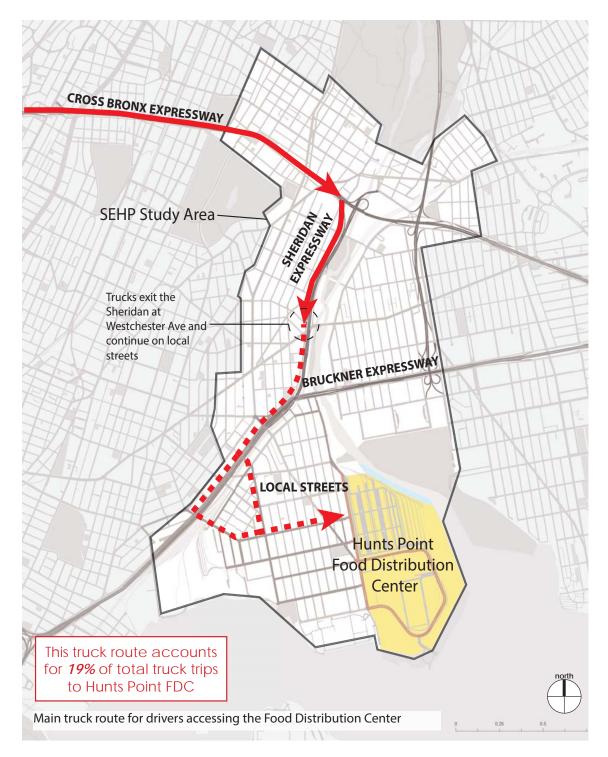
Approximately half of all vehicles entering and exiting the Hunts Point FDC use the Bruckner Expressway (50% and 52%, respectively), and can be impacted by congestion related to the bottleneck at the interchange between the Bruckner and the Sheridan. Approximately one-third of vehicles entering or exiting the Markets (29% and 33%, respectively) use local streets or other access routes, highlighting the close connection between local commercial establishments and the markets.

#### In addition:

- Most drivers from New England use the New England Thruway and connect to the Bruckner Expressway or the Sheridan.
- Drivers from New York State north of the 5 boroughs typically use I-87 or the George Washington Bridge to cross into the Bronx. Most drivers then use the Cross Bronx Expressway to the Sheridan, or stay on the Major Deegan Expressway to connect to the Bruckner Expressway.
- From Manhattan, the Willis Avenue Bridge is often used to enter the Bronx and travel to the FDC. Returning into Manhattan, the Third Avenue Bridge is most often used.
- From the west, the George Washington Bridge –Trans-Manhattan Expressway –Alexander Hamilton Bridge Corridor is used to cross into the Bronx, followed by two primary routes to access the market including the Major Deegan/Bruckner Expressway or the Cross Bronx/Sheridan Expressway combination.
- Overall, the Sheridan is used for approximately 19% of all trips into and out of Hunts Point.







#### **Truck Access to Hunts Point**

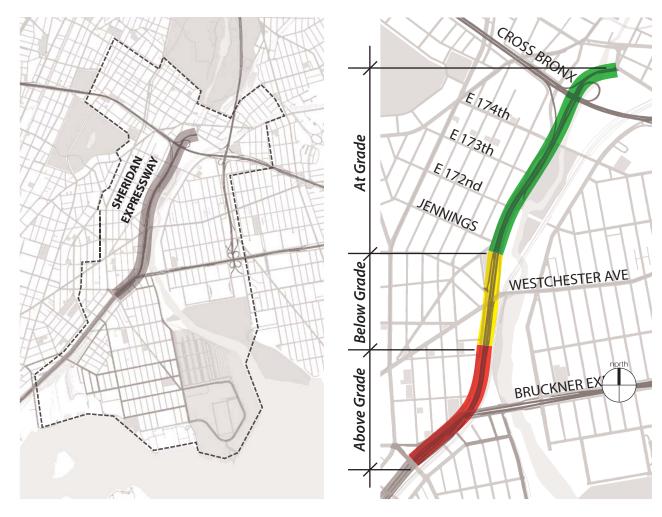
Maintaining truck access to Hunts Point was a critical goal of this study. Key findings from the driver intercept survey show that approximately one in five vehicles (19%) entering the Markets use the Sheridan, while somewhat fewer (17%) use the Sheridan upon exit. These vehicles are mainly generated by traffic entering or exiting the Bronx via the George Washington Bridge.

# Market Driver Survey: Produce, Fish, and Meat Market I. Vehicle Class TRACTOR TRAILOR 19% II. Product In / Product Out IN 56% West of Hudson Hudson East of Hudson 18% 2% BOTH PRODUCT IN / PRODUCT OUT III. Frequency of Visits 86% EVERDAY OR FEW TIMES PER WEEK

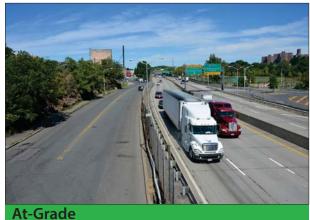
Summary of driver market survey for Food Distribution Center

# **Existing Conditions**

Conditions along the Sheridan Expressway's single mile transform from north to south. The northern section of the roadway, between the Cross Bronx Expressway and Jennings Street, is at-grade. South of Jennings Street, the expressway dives under Westchester Avenue, where most trucks exit to take local streets to the Hunts Point peninsula. The expressway then climbs to meet the elevated Bruckner Expressway. Because connections to the Cross Bronx and Bruckner Expressways must be maintained, the focus of any redesign of the Sheridan Expressway will be of the at-grade portion.



Physical conditions of the Sheridan Expressway's 1.2 mile length



At-Grade



**Below Grade** 





\$81 million of public investment along the southern Bronx River has led to a cleaner, active waterfront. Safe access for residents remains a challenge.



Over 900 new residential units, retail space and a new school being constructed along the expressway will be completely disconnected from new parkland and the waterfront.



Institutions serving children K-12th grades are located along the expressway. Walking routes from these schools to parks and nearby transit are complicated and unsafe.



Whitlock subway stop is near the bottom in annual ridership, ranked 389 of 468 stations.





New development - The Sheridan Hotel, 2005 and Starlight Park, 2013.



The zoning along Edgewater Road (Sheridan service drive) is *zoned manufacturing (M-1)*.



Seven businesses – primarily auto wreckage, storage and parts are located along the waterfront.

Orthophoto Base Map Copyrighted by the New York City Department of Information Technology and Telecommunications. All rights reserved.

#### Area Around the At-Grade Sheridan

The area adjacent to the Sheridan Expressway is undergoing significant change and has attracted new investment in housing, infrastructure and open space, making this an opportune time to consider land use and transportation projects that support redevelopment.

As efforts to improve the health of the Bronx River take hold, the river is being transformed into a recreational and scenic amenity. The Bronx River Greenway, nearing full implementation, will eventually provide off street connections north to Westchester County and south to Manhattan.

The recent Crotona Park East/West Farms Rezoning, west of Starlight Park, includes 16.8 acres of now industrial property. This is the largest private rezoning in the Bronx in decades. Vacant buildings and underutilized properties will be replaced by new development that could add 8,000 residents, 2,365 units, 93,000 square feet of commercial space and 12,000 square feet of community space by 2022. This development will significantly change the population and related needs in the area directly adjacent to the Sheridan Expressway.

#### **Access to the Bronx River Waterfront**

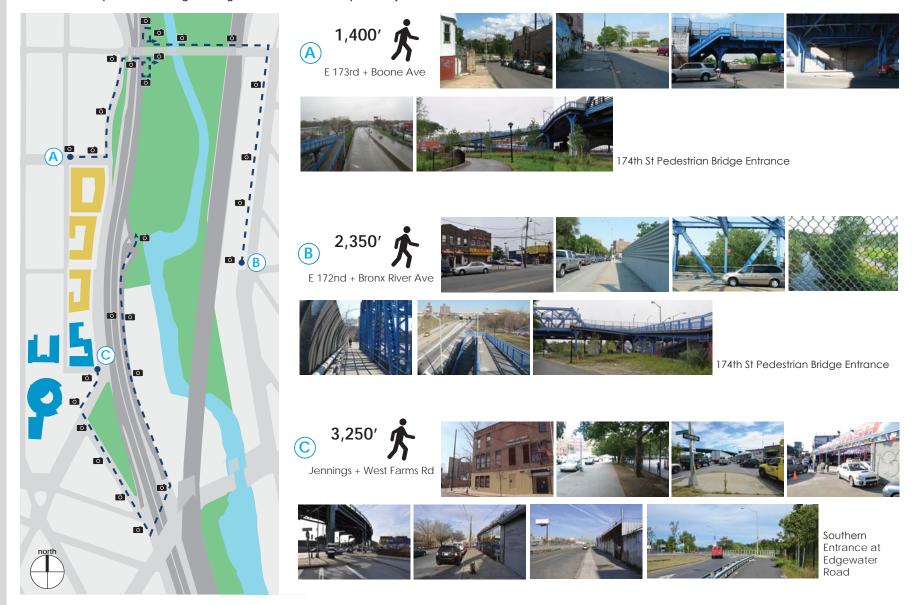
The Bronx River has been the focus of myriad efforts to improve its environmental quality and establish opportunities for active use. In recent years, New York City and State have committed millions of dollars to the development of parks along the southern portion of the Bronx River. Two new waterfront parks recently opened in the City study area: Concrete Plant Park (2009) and Starlight Park (2012). Together these parks have replaced 20 acres of industrial uses along the Bronx River with open space, but access to these parks is limited.

Both parks are part of the Bronx River Greenway and provide access to the waterfront and on-water recreational opportunities. Park amenities include playgrounds, ball fields, and benches and there are plans to include a boathouse and comfort station. Access points to the parks, however, are difficult to find as they are hidden from view at the street level, located in less traveled industrial areas, and separated from adjacent residential neighborhoods by infrastructure.



# **Access to Starlight Park**

Within the study area, there are several routes pedestrians take to access new waterfront amenities. The routes depicted below and on the map to the right represent three possible routes from key points in the neighborhood to Starlight Park. More accessible, at-grade connections to open space and the Bronx River waterfront are possible through changes to the Sheridan Expressway.



# **Scenario Development**

The City study team developed scenarios for land use and transportation improvements for the Sheridan Expressway and surrounding neighborhoods. Roadway redesign options, detailed in this section, were developed after consideration of critical local issues, a public design charrette, series of community meetings, and a review of relevant best practices and city agency policy goals.

Comparative analyses of three design scenarios for the Sheridan Expressway were conducted through the lens of transportation, land use, economic development and sustainability. Each of the scenarios included the construction of new on- and off-ramps to the Bruckner Expressway at Oak Point and Leggett Avenues to improve access to Hunts Point. Associated with the construction of these ramps are modifications at the Bruckner-Sheridan Interchange and closure of the northbound entrance ramp at Hunts Point Avenue. One scenario *Retains* the Sheridan Expressway as it exists now. The *Modify*, or a "boulevard" option, was looked at in two versions: *Modify-Separated* and *Modify-Combined*. As part of the analysis, a "no-build" option was considered and provided a point of comparison to all of the "build" options noted above.

A significant element of all three scenarios was the maintenance of connections to the Cross Bronx Expressway (north) and the Bruckner Expressway (south). Other common elements of the three scenarios included improved access to Hunts Point through the construction of highway ramps and improvements along several major arterials. A fuller description of common elements can be found on page 36.

# Where can change occur? ROAD WATER

Multiple variables were explored that attempted to achieve objectives for *Road* (decrease size, maintain function), **Land** (re-envision, provide upland and visual connections) and *Water* (improve quality, access and activity).

#### Retain

In this scenario the Sheridan Expressway remains in its current configuration and location and maintains the same operational characteristics. This scenario includes construction of ramps at Oak Point and the other common elements listed above. Access to Starlight Park and Bronx River Waterfront from existing entry points at E177th Street, the E174th Street Bridge and at the northern terminus of Edgewater road would also be maintained.

#### **Modify-Separated Scenario**

This scenario modifies the northern, at-grade portion of the Sheridan Expressway by de-mapping Edgewater road and narrowing the width of the Sheridan and West Farms roads. West Farms road remains as a separated, local access road. The local street network is reintegrated via new signaled crossings at E173rd, E172nd and Jennings streets. This scenario reduces right-of-way width providing shorter crossings and direct access to Starlight Park and the Bronx River waterfront. Along with the ramp at Hunts Point Ave, the southbound Westchester Ave ramp is also closed. This scenario also includes strategic investments throughout the study area.

# **Modify-Combined Scenario**

This scenario modifies the northern, at-grade portion of the Sheridan Expressway by *combining* the right-of-way of the Sheridan, West Farms and Edgewater roads into a single roadway. The local street network is reintegrated via new signaled crossings at E173rd, E172nd and Jennings streets. This modification significantly reduces roadway width providing shorter crossings and direct access to Starlight Park and the Bronx River waterfront. Along with the ramp at Hunts Point Ave, the southbound Westchester Ave ramp is also closed.

Both modify scenarios would allow the following:

- Reconfiguration of Sheridan Expressway which allows for better waterfront access and potential for significant redevelopment of waterfront properties
- Connection of Bronx River Greenway in and around Sheridan as well as points south

#### **Boulevard Precedents**

Ultimately, two alternatives or scenarios for the Sheridan at-grade section were included in the analysis phase of the study. The scenario development process included an extensive review of precedents and best practices in boulevard design. Many examples were researched both within New York City and the country. Below are a examples that are comparable to the modify scenarios that were included in analysis.

#### SEPARATED - LOCAL / THROUGH TRAFFIC

- Speed limit of 35 mph
- Narrow lanes, shorter blocks
- Clear, deliberate separation of access road and central roadway
- Include mid-block or pedestrian only crossings
- Medians raised above level of street

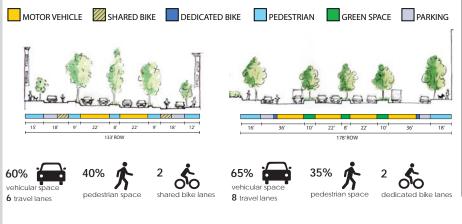
#### Octavia Blvd, San Francisco, CA <u>Aerial</u>



Grand Concourse, Bronx



#### Section



#### **COMBINED**

- Speed limit of 35 mph
- Pedestrian space near or over 50%
- Parking lane acts as buffer to traffic
- Substantial pedestrian refuge areas in center of roadway
- Planted medians can accommodate lighting and amenities like seating

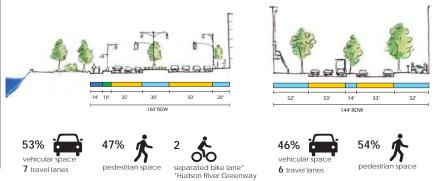
West Street (9a), Manhattan



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Lenox Avenue, Manhattan



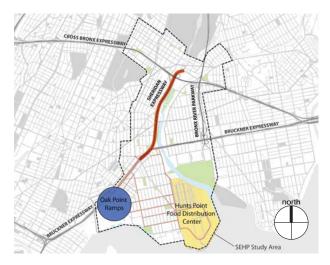


Boulevard designs that enhanced pedestrian safety and amenities, including shortened crossing distances, view corridors to the waterfront, planted and other buffers between traffic and sidewalks, and opportunities for green infrastructure were incorporated in scenario designs.

# **Improved Access to the Pennisula**

More direct access to the Hunts Point peninsula, specifically for vehicles traveling to industrial businesses, is needed. New ramps along the Bruckner Expressway would allow vehicles currently traveling on local streets to Hunts Point to remain on expressways, reducing traffic volumes along pedestrian routes. The ramps at Oak Point are critical to improving access to Hunts Point and catalyze changes to the Sheridan atgrade section. The ramps were included in all scenarios considered as part of the City Study.

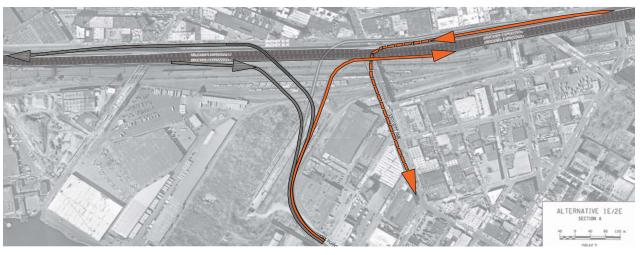
Though the City supports the full construction of the ramps proposed in the State EIS, the configuration of ramps in the City study is scaled down to provide a more economical approach. The ramps in the City study are estimated to cost \$72 million, while the four ramps in the State proposal would cost approximately \$200 million. At a third of the cost, the two ramps in the City study could be part of a phased approach toward full implementation of the ramps proposed by the State.





The State proposal includes the following elements:

- On/off ramps going east and west on the Bruckner Expressway
- Ramp design requires approximately 9,000 linear feet of roadway
- Potential to remove traffic from Hunts Point Avenue through Sheridan on-ramp closure
- Design requires acquisition of private property and potential realignment of rail lines



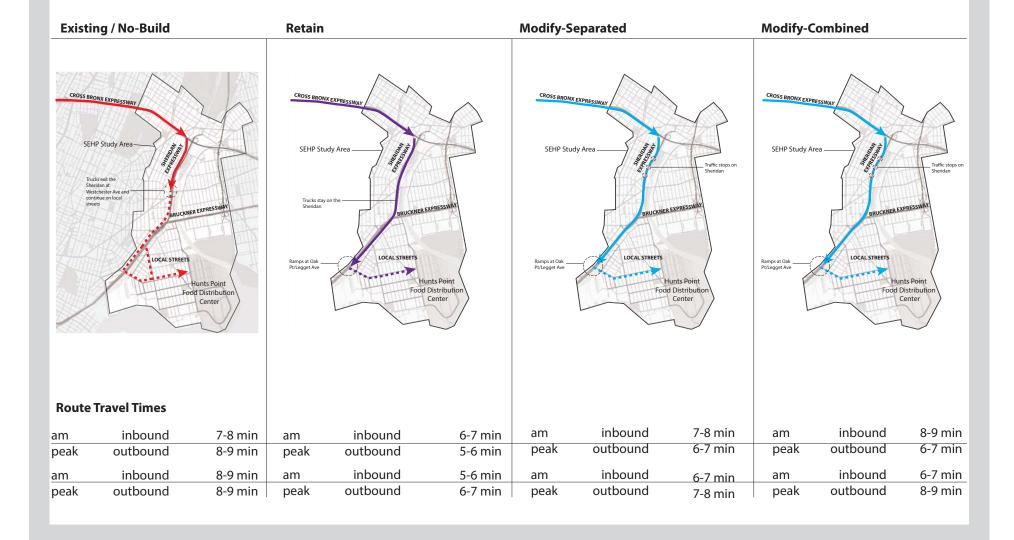
The City study includes the following elements:

- On/off ramps going east on Bruckner Expressway
- Ramp design requires approximately 4,000 linear feet of roadway
- Less impact on private or rail properties
- Potential to remove traffic from Hunts Point Avenue through Sheridan on-ramp closure
- Catalyzes changes to Sheridan Expressway at-grade section
- Could serve as phased approach to full Oak Point ramps

## **Travel Times**

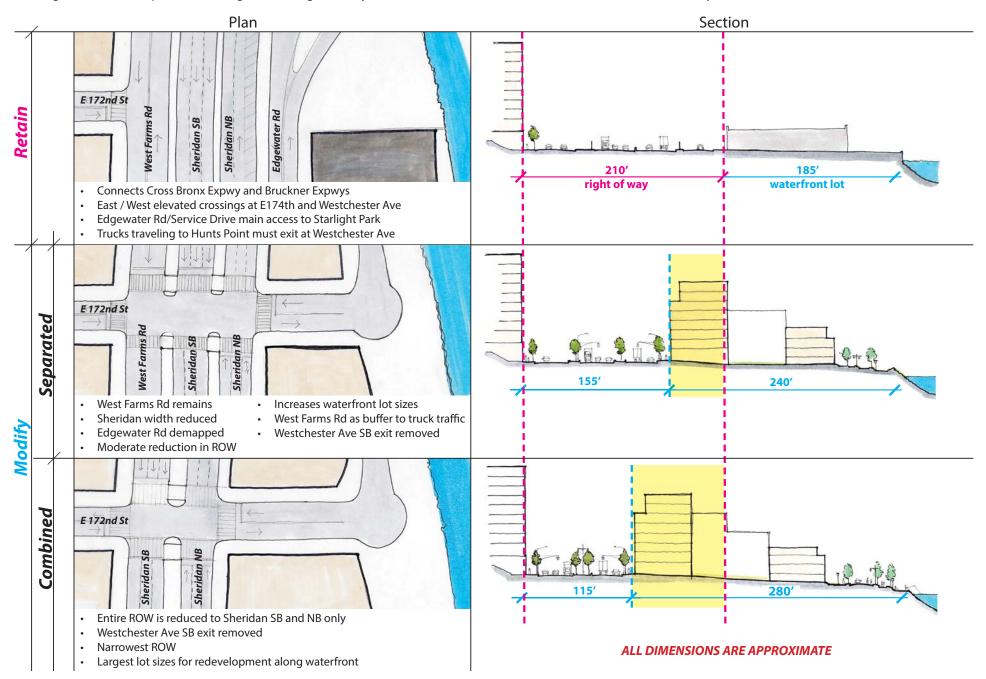
Under current and No Build conditions, vehicles traveling to Hunts Point from the eastbound Cross Bronx Expressway typically exit the southbound Sheridan at the off-ramp to Westchester Avenue, travel south on Whitlock Avenue to westbound Bruckner Boulevard, and then turn into Hunts Point at either Tiffany Street or Leggett Avenue Under both Modify scenarios, with the off-ramp to Westchester Avenue closed, Sheridan traffic would travel through the boulevard section with three proposed signalized intersections, continue on the Sheridan section to the Bruckner Expressway, and exit at the proposed Leggett Avenue ramp. Under the Retain scenario, the proposed route would be the same as the two Modify scenarios, but without the "boulevard" conversion of the northern section of the Sheridan.

The modeled travel time show a difference of -2 to +1 minutes for each scenario in both the morning and evening peak hours.



# **Scenarios Analysis**

The diagrams below compare the existing Sheridan right-of-way (ROW) and how a reduction would increase the size of the adjacent waterfront lots.



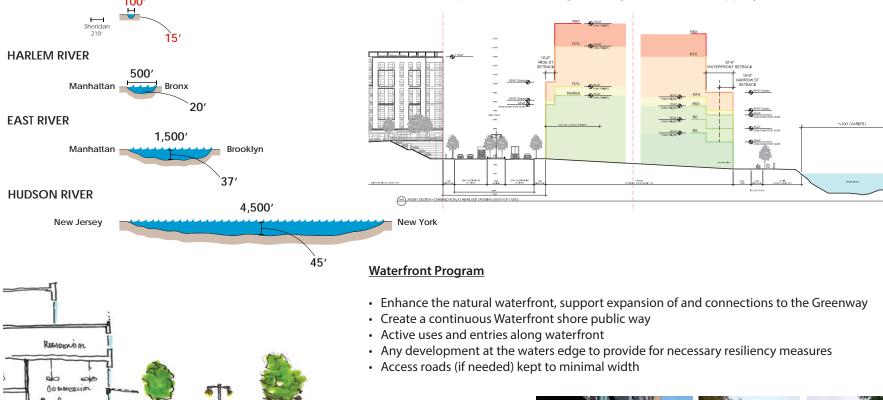
# **Development along the Bronx River**

**BRONX RIVER** 

The Bronx River is one of the narrowest rivers in NYC. Any new development along the Bronx River should be in scale and porportion to the river's width, provide a range of uses and activate the water's edge.

#### **Waterfront Lots**

- · Minimize width of roads to increase narrow lots to be similar in size to adjacent neighborhoods
- Use adjacent zoning as reference while respecting the uniqueness of the Bronx River
- Mix of uses that compliment and activate the area
- Future development should be higher along Sheridan side, stepping down to waterfront



FILER IMID







# **Scenario Analysis**

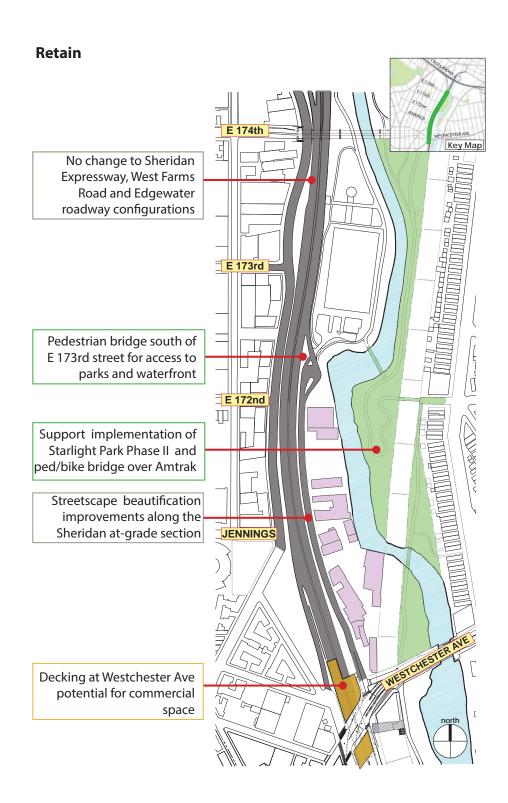
The City study expanded on transportation analysis conducted in the area by the New York State Department of Transportation (NYSDOT) and included land use, economic and sustainability analysis to aid in identifying the best possible set of investments and improvements to the Bronx highway system and the complementary economic, zoning and housing plans.

#### **Common Elements of Scenarios**

In addition to new ramps at Oak Point, there are a number of improvements that would be made under any of the proposed scenarios. The final scale or magnitude of the improvement is, however, scenario-dependant.

#### Common elements include:

- Analysis of zoning and zoning actions in key focus areas would pave the way for additional development alongside transportation investments
- Improved transit scenarios and access refurbished elevated lines and stations, Select Bus Service, pedestrian plazas near transit where appropriate
- Infrastructure improvements Green Streets, green infrastructure, curb/sidewalk extensions, painting to elevated subway structure, new signals/pedestrian crossings, bike paths
- Streetscape beautification: plantings, street trees, lighting, signage/wayfinding
- Metro-North Service at Hunts Point Station
- Decking over portions of the Sheridan Expressway and/or Amtrak railway line including reuse of the old rail station at Westchester Avenue
- Improvements to Bruckner Expressway/Boulevard to facilitate pedestrian/bike/traffic flows along the corridor



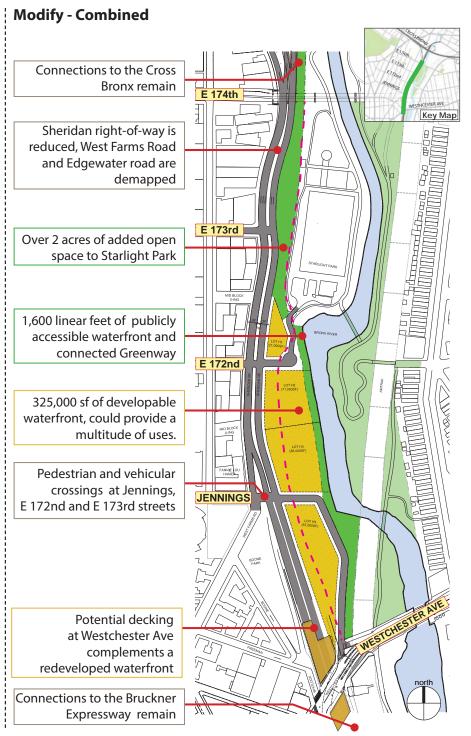
# **Modify - Separated** Connections to the Cross Bronx remain E 174th Key Map Sheridan right-of-way is reduced, West Farms Road remains, and Edgewater road is demapped E 173rd 1,600 linear feet of publicly accessible waterfront and connected Greenway VINDER! 305,000 sf of developable waterfront, could provide a multitude of uses. Pedestrian and vehicular **JENNINGS** crossings at Jennings, E 172nd and E 173rd streets Potential decking at Westchester Ave

complements a

redeveloped waterfront

Expressway remain

Connections to the Bruckner



# **Scenario Analysis**

#### **Summary of Findings**

Analyses conducted by the multi-agency team leading the City study provided stakeholders an opportunity to weigh both the positive and negative impacts of proposed changes against community wide goals and priorities. The findings will also allow city agencies to communicate the multiple benefits of the recommended option to government partners at the state and federal levels.

The comprehensive analysis indicated that either of the options to modify the Sheridan Expressway would provide significant improvements in pedestrian safety at major intersections and near public amenities as well as increased opportunities to implement green infrastructure and environmental quality improvements. The Modify-Combined and Modify-Separated provided similar benefits for neighborhood and waterfront/open space connections and increasing efficient access to the Hunts Point Peninsula. What distinguishes the Modify-Combined and Modify-Separated Scenarios are the greater benefits created by the Modified-Combined for new development opportunities and new jobs.

#### Traffic

To better understand the scenarios for Sheridan redesign and their impact on the surrounding traffic network and neighborhoods, an extensive data collection effort, traffic modeling, and analysis was conducted.

A comprehensive traffic model was built based on the regional New York Best Practices Model, with 2035 as the build year.

The focus of the modeling was the network of expressways in the South Bronx, including some of New York City's most congested: the Cross-Bronx, Bruckner and Major Deegan Expressways, as well as chokepoints such as the Bruckner-Sheridan Interchange and the George Washington Bridge. Data was collected intensively for commercial traffic in particular to enable travel time prediction for trucks accessing the industrial areas in the study.

The transportation demand modeling results under the Modify-Combined Scenario indicate negligible impacts to traffic and travel times. The variation in travel time changes for the modified Sheridan Expressway would be less than 2 minutes in the two peak periods (morning (+1) and evening (-2) rush hour). In off-peak travel directions, trip times are predicted to actually decrease due to improvements in the flow of traffic in the study area from the proposed ramps at Oak Point / Leggett Avenue. A primary concern of the study area stakeholders was the maintenance of satisfactory operations of roadways adjacent to the Sheridan. Specifically, the operation of the Cross-Bronx Expressway would be unaffected even during peak rush hour. Overall, since the mainline of the Sheridan currently operates below capacity and serves a limited number of trips, traffic modeling shows that it functions well within the capacity of a signalized Urban Arterial, even accounting for additional traffic in the 2035 build year.

Objectives	Modify- Combined	Modify- Separated	Retain	Locations
Improve pedestrian safety at major intersections and near public amenities	+++	+++	+	Hunts Point Avenue Westchester Avenue
Improve connections between neighborhoods and waterfront/open space	++	++		Sheridan Expressway
Increase efficiency of vehicle access to the Hunts Point Peninsula	++	++	++	Ramps at Oak Point
Create opportunities for new development	++	+		Bronx River waterfront
Implement green infrastructure and improve environmental quality	+	+		Bronx River waterfront
Preserve existing jobs and create new opportunities for jobs	++	+		Development on waterfront

#### Land Use

A land use analysis was conducted by DCP to determine the potential impacts of investments in transportation infrastructure. It was assumed that transportation improvements would directly induce opportunities for land development and redevelopment that could be used to meet the demands of the growing population in the area.

An existing conditions survey was completed and development trends, capacity analysis and population projections were developed for several sub-parts (focus areas) of the study area. Both the City study area and the Bronx have been growing in the past two decades, and the population is expected to continue to grow. Study area population is projected to grow at a rate of almost 8 percent by 2040, an increase of approximately 14,370 persons.

On the basis of this analysis, DCP projected development associated with implementation of the different scenarios. Three projections, each related to a transportation scenario, were developed for a full range of land uses. The greatest amount of projected development was associated with the Modify-Combined Scenario. This scenario involves the maximum amount of reconstruction including significant modifications to the at-grade portion of the Sheridan Expressway resulting in a substantial reduction to the combined width of the roadway. These transportation changes translate to almost twice as much developable land as the Modify-Separated scenario. No such change, and therefore less development opportunity, occurs under the Retain Scenario.

#### **Economic**

Working with results from the NYCDOT Transportation Analysis and the DCP Land Use Analysis, NYCEDC conducted an economic and freight analysis to better understand impacts of each scenario on Hunts Point, the Bronx and the wider region. Specifically, the analysis focused on transportation costs and employment impacts of each scenario and sought to understand if the potential transportation scenarios would redistribute economic activity in New York City.

Analysis results indicated that businesses would not be significantly impacted by any of the scenarios evaluated. The transportation modeling results indicate that travel time impacts would be less than four minutes in the morning and afternoon peak periods, , due to the travel time benefits created by the new ramps at Oak Point, which would offset the impact of any increases in travel time resulting from modifications to the atgrade portion of the Sheridan Expressway. In addition, traffic counts show that peak traffic volumes for the Hunts Point Peninsula are guite atypical. The majority of the traffic accesses Hunts Point is in the off-peak period (outside of commuter rush hours). As a result, impacts to businesses at the FDC may be less than that suggested by transportation modeling (which examined peak period impacts) and survey. Accordingly, the potential redistribution of economic activity in NYC due to the proposed transportation planning scenarios is likely to be minor.

Potential land use and transportation changes in the Sheridan corridor could create new jobs in the region. The analysis indicated that transportation improvements and related development related to the Modify-Combined scenario could create 18,200 temporary jobs related to construction, 2,700 - 3,000 permanent (long-term) direct jobs, and 1,600- 1,700 permanent indirect jobs. This number is higher than jobs created under the Retain or Modify-Separated Scenarios.

#### Sustainability

A Sustainability Analysis was conducted that built on the City study by examining current conditions in the study area and measuring the relative social, environmental, and economic benefits provided by each proposed scenario.

The analysis was primarily intended to assist stakeholders in understanding the local benefits provided by the scenarios. In addition to the analysis of local benefits, a secondary element of this work is to assess the scenarios in relation to policies and metrics identified from City-wide and local plans, such as PlaNYC, the City's long-term comprehensive plan. This will help to set a frame or perspective for how far the scenarios move towards achieving the objective. In particular, the sustainability goals assessed were:

- Access to Open Space and the Bronx River
- Health and Well-being
- Vibrant and Inclusive Communities
- Housing Opportunity
- Economy and Jobs
- Climate Change Adaptation
- Natural Ecology

For comparison purposes, the existing conditions achieve only a few of the standards whereas the Modify-Combined Scenario achieved half of the standards. The Modify-Combined Scenario provides the most sustainability benefit of the three scenarios because of improved connections to open space and the Bronx River, improved pedestrian safety through reduction of truck traffic on local streets, the beneficial effects of new residential and commercial development on job opportunities, and the opportunity to create new community facilities in new developments.