Van Wyck Expressway (Interstate 678) Capacity and Access Improvements to JFK Airport
PIN X735.82
Queens County, New York
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SECTION 1 Introduction

The New York State Department of Transportation (NYSDOT), in cooperation with the Federal Highway Administration (FHWA), is preparing a Design Report / Environmental Impact Statement (DR/EIS) for the Van Wyck Expressway (Interstate 678 (I-678)) Capacity and Access Improvements to JFK Airport Project (hereafter, “the Project”) in accordance with the requirements of the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR §1500-1508), the FHWA Environmental Impact and Related Procedures; Final Rule (23 CFR §771), and the NYSDOT Procedures for Implementation of the State Environmental Quality Review Act (17 New York Codes, Rules and Regulations [NYCRR] Part 15). The FHWA, serving as the Federal Lead Agency, and the NYSDOT, serving as Joint Lead Agency, are progressing the development of the EIS. The Project is also classified as a State Environmental Quality Review Act (SEQRA) non-Type II action, indicating that it has the potential for significant environmental impacts or substantial controversy on environmental grounds. However, given that a federal EIS is being prepared, the NYSDOT and other New York State agencies undertaking a discretionary action for the Project have no obligation to prepare an additional EIS under SEQRA. The NYSDOT will give full consideration to the federal Final DR/EIS (FDR/FEIS) and will prepare a Joint Record of Decision with the FHWA.

In January 2017, Governor Cuomo presented a vision plan for transforming JFK Airport.¹ This plan addresses the following three key areas: transforming JFK Airport into a unified, interconnected, world class airport; improving road access to the airport (specifically through capacity improvements along the Van Wyck Expressway); and expanding rail mass transit to meet projected passenger growth. The Van Wyck Expressway Capacity and Access Improvements to JFK Airport Project is being advanced in furtherance of this vision plan.

The purpose of the Project is to provide increased capacity on the Van Wyck Expressway (VWE) between the Kew Gardens Interchange (KGI) and John F. Kennedy International Airport (JFK Airport) to improve vehicular access to and from the airport. In addition, the Project will address operational, geometric, and structural deficiencies on the VWE between the KGI and JFK Airport.

This Project Scoping Report (PSR) has been prepared as an overview and record of the NEPA scoping process conducted for the Project. The term “scoping” is defined in the CEQ NEPA regulations at 40 CFR 1501.7 as “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.” The scoping process has provided an early opportunity for the FHWA and NYSDOT to disseminate information about the Project to agencies and the public and to receive feedback.

The FHWA issued a Notice of Intent (NOI) to prepare an EIS for the Project on May 24, 2017 (publication date of June 1, 2017). A scoping meeting was held on September 27, 2017, followed by a 60-day public comment period. All comments received throughout the scoping period have been considered. Comments received through November 30, 2017 are provided in Appendix E. More detailed information is provided in Sections 7.1 and 7.6 of this report.

For further information about the Project, please visit the project website: (www.dot.ny.gov/vwe) or contact:

Van Wyck Expressway Project Team
New York State Department of Transportation
47-40 21st Street
Long Island City, NY 11101
vwe@dot.ny.gov

SECTION 2 Project Location

The Project is located along a 4.3-mile segment of the VWE, including the northbound and southbound service roads, from the KGI to Federal Circle in Queens, New York, as depicted in Figure 2-1.

The area surrounding the project corridor (as depicted in Figure 2-2) includes a variety of residential, commercial, educational and transportation uses. Jamaica Station, which is a major transportation hub connecting to nine Long Island Rail Road (LIRR) lines, four subway lines and 14 bus lines, is located at the northern limits of the project corridor. Four LIRR bridges cross over the project corridor at the Jamaica Station. The JFK AirTrain, an elevated railway, operates between the Jamaica Station and JFK Airport within the project corridor.

The southern limits of the project corridor terminate at Federal Circle at an entrance to JFK Airport. JFK Airport, operated by the Port Authority of New York and New Jersey (PANYNJ), covers 4,930 acres and has more than 30 miles of roadway. The airport served 58.9 million passengers in 2016 and approximately 37,000 people are employed at JFK.² It is one of the world’s leading international cargo centers.

The project corridor traverses several neighborhoods, including Kew Gardens, Briarwood, Jamaica, Richmond Hill, and South Ozone Park. Both the Kew Gardens and Jamaica neighborhoods are busy urban centers in the northern part of the corridor. The Jamaica Business District is a busy urban center along Atlantic Avenue (east of the project corridor) that contains numerous retail establishments, performing arts venues, and a transportation hub, as well as The City University of New York (CUNY) York College. The neighborhoods in the central and southern parts of the corridor are primarily residential with some commercial and retail development.

Figure 2-1: Project Location
Figure 2-2: General Study Area
SECTION 3 Project Purpose, Objectives, and Needs

3.1 Project Purpose and Objectives

The purpose of the Project is to provide increased capacity on the VWE between the KGI and JFK Airport to improve vehicular access to and from JFK Airport. In addition, the Project will address operational, geometric, and structural deficiencies on the VWE between the KGI and JFK Airport.

The following objectives have been established to further refine the Project purpose:

- Provide an additional vehicular travel lane on the VWE in each direction between JFK Airport and the KGI;
- Address geometric and operational deficiencies of the VWE exit/entrance ramps within the identified project limits; and
- Address structural deficiencies on the bridges on or crossing over the VWE within the project limits.

3.2 Project History and Needs

Project History
As part of post-World War II development, the City of New York sought to expand its highway and parkway system to allow for greater movement throughout the five boroughs. The six-lane VWE was envisioned to help carry passengers from the newly-constructed Idlewild Airport, present day JFK Airport, to Midtown Manhattan.

In 1945, a plan was developed by the City of New York to expand the existing Van Wyck Boulevard into an expressway. Construction began in 1948 and lasted until 1953. Residents surrounding Van Wyck Boulevard were relocated and 10 acres of parkland were impacted. In the early 1960s, designation of the expressway as an interstate highway started with the northern sections of the roadway. By 1970, the entire expressway was a fully designated interstate – I-678 (the VWE).

In 1998, the PANYNJ began work on the AirTrain to JFK, an elevated automated guideway transit system linking Jamaica Station to JFK Airport. The AirTrain project utilized the middle of the VWE roadway to create an unimpeded link. Portions of the VWE were repaved, entrance and exit ramps were reconstructed, and retaining walls were added.

In January 2017, Governor Cuomo presented a vision plan for transforming JFK Airport. This plan addresses the following three key areas: transforming JFK Airport into a unified, interconnected, world class airport; improving road access to the airport (specifically through capacity improvements along the Van Wyck Expressway); and expanding rail mass transit to meet projected passenger growth. The Van Wyck Expressway Capacity and Access Improvements to JFK Airport Project is being advanced in furtherance of this vision plan.

Currently, the VWE consists of three unrestricted general use lanes in each direction. A service road runs parallel to the expressway on each side, connecting to the entrance and exit ramps.

Project Needs
The VWE is the major transportation corridor providing access to and from JFK Airport. JFK Airport is a major international gateway to the United States, with 70 carriers serving 100 international non-stop destinations. Overall, the airport handles 58.9 million passengers with over 400,000 aircraft operations annually and is one of the world's leading international air cargo centers. According to the January 2017 JFK Airport Vision Plan, the number of passengers at JFK Airport is expected to grow by nearly one-third to a total of over 75 million passengers by 2030. The VWE also serves as the major route for commercial truck traffic to get to and from the airport, with trucks accounting for eight percent of morning peak volume and five percent of evening peak volume on I-678.
The needs for the Project are described below.

- **Reduce travel time on the VWE between the KGI and JFK Airport** – Nearly 170,000 vehicles per day travel on the VWE from the KGI to JFK Airport, which has a six-lane capacity and is congested for extended hours every day. The expected overall airport growth is anticipated to result in additional traffic volumes on the VWE, and thus, worsen the roadway congestion. Traffic studies conducted in the spring of 2017 during weekdays in the project corridor show that in the morning peak period, queues extend for nearly 2.5 miles traveling northbound on the VWE from JFK Airport, with average travel times of nearly 20 minutes and peak travel times that exceed 32 minutes. The average morning delay per vehicle is estimated to be over 15 minutes northbound and four minutes southbound. In the afternoon, peak travel time on the VWE southbound from the KGI to JFK Airport (a distance of approximately 4.3 miles) is approximately 13 minutes and the afternoon average peak travel time on the VWE northbound from JFK Airport to the KGI is 15 minutes. Northbound travel times are often as long as 20 minutes. The travel time under free flow conditions on this segment of the VWE is approximately five minutes in each direction. Congestion results in average travel time delays of 10 minutes northbound and eight minutes southbound. Corridor queues extend over two miles in each direction during the PM peak travel times.

Northbound congestion begins around 6:00AM and remains throughout the day, typically not dissipating until late in the evening. The beginning of congestion consistently occurs in the vicinity of Exit 8 (exit to Main Street and Union Turnpike). The tail end of the queue stretches as far south as 133rd Avenue. Similarly, in the southbound direction, the head of the queue consistently occurs in the vicinity of 101st Avenue and stretches as far north as the KGI. Congestion along the VWE impacts the average speed of drivers in both directions and increases queuing, defined as cars traveling under 30 miles per hour (mph), along the corridor (see Table 3-1).

<table>
<thead>
<tr>
<th></th>
<th>Maximum Queue (miles)</th>
<th>Average Speed (mph) - In Queue</th>
<th>Average Speed (mph) - Not In Queue</th>
<th>Average Travel Time (minutes)</th>
<th>Maximum Travel Time (minutes)</th>
<th>Average Delay (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AM</strong></td>
<td>Northbound</td>
<td>2.5</td>
<td>13.9</td>
<td>42.3</td>
<td>19.8</td>
<td>32.2</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>0.0</td>
<td>13.6</td>
<td>41.2</td>
<td>8.6</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>PM</strong></td>
<td>Northbound</td>
<td>2.2</td>
<td>14.2</td>
<td>42.4</td>
<td>14.7</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>2.3</td>
<td>13.7</td>
<td>38.8</td>
<td>12.8</td>
<td>17.4</td>
</tr>
</tbody>
</table>

Under ideal conditions (i.e., free flow traffic), vehicle density per lane per mile should be less than 35. Due to the severity of congestion, vehicle density along the VWE corridor is typically 100 vehicles per mile per lane in the northbound direction during AM peak period and typically over 75 in the southbound PM peak period. This creates a poor level of service (LOS) and adversely affects travel conditions along the VWE.

The *Highway Capacity Manual* (HCM) and American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets ("Green Book") use letters A through F as standards for LOS on highways, with A being the best and F being the worst (see Appendix A). Traveling northbound, the corridor operates at LOS E (unstable flow, operating at capacity) or F (forced or breakdown flow) between the Nassau Expressway and Hillside Avenue in both the morning and afternoon peak hours. Southbound conditions are slightly better, with some LOS D (approaching unstable flow) conditions; however, the conditions are primarily LOS E and F.

Thus, there is a need to reduce travel time on the VWE between the KGI and JFK Airport.

Table 3-1: Average Travel Time, Speed Delays and Queues Along Van Wyck Expressway between the KGI and JFK Airport during the Peak Periods
• **Address operations and geometry of ramps** – The location and overall geometry of exit/entrance ramps contribute to the existing congestion on the VWE mainline. Non-conforming geometric design features include shorter than recommended ramp spacing and short acceleration/deceleration ramp lengths (see Appendix B). Additionally, several exit ramps are located along the northbound and southbound service roads in close proximity to intersections with local streets and, thus, have short storage capacity that creates backups into the mainline and along both service roads. The locations of the ramps and close proximity to intersections contribute to accidents along both service roads. Another contributor is the absence of acceleration lanes along the northbound and southbound service roads, which forces the traffic that is exiting the mainline to accelerate from a stopped condition to enter the traffic on the service roads.

The non-standard shoulder widths on the ramps also contributes to backups on the mainline. Passing a vehicle that is stopped on a narrow shoulder leads to a slowdown and backup of cars exiting and entering the VWE. Additionally, the non-standard vertical stopping sight distance and horizontal curvature on some of the existing ramps negatively affects operations by limiting the ability to see vehicles ahead and unnecessarily slowing down traffic to navigate the non-standard ramp geometry. These deficiencies increase the likelihood of crashes (see Table 3-2).

<table>
<thead>
<tr>
<th>Segment*</th>
<th>Mainline Above Average Crash Locations</th>
<th>Service Road Above Average Crash Locations</th>
<th>Mainline Above Average Crash Locations Due to Ramps</th>
<th>Service Road Above Average Crash Locations Due to Ramps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>North Bound Side</td>
<td>South Bound Side</td>
<td>North Bound Side</td>
<td>South Bound Side</td>
</tr>
<tr>
<td>Kew Gardens Interchange to 95th Street</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>95th Street to 115th Street</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>115th Street to Nassau Expressway</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Nassau Expressway to Federal Circle</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Data identify the locations above the NYSDOT average crash rate: 1.1 crash/MVM on roadway, 0.01 crash/MVM for on-ramps merging into 3 lanes, 0.02 crash/MVM for off-ramps merging into 3 lanes (see Appendix B of this report for crash data).

• **Address structural deficiencies** – Most of the bridges within the project limits are over 60 years old and require repairs, major rehabilitation, or replacement. The Rockaway Boulevard and Atlantic Avenue bridge decks are in a deteriorated condition and are in need of replacement. The VWE bridges over South Conduit Avenue and North Conduit Avenue have various superstructure deficiencies. The LIRR bridges over the VWE are also in fair to poor condition with many low rated structural elements. Several other bridges within the project limits exhibit deteriorated elements, such as bearings, joints, piers, abutments, pedestals, and bridge seats.

Appendix C provides a summary of the latest inspection reports for each bridge.

The Project purpose and objectives, as stated in Section 3.1, were developed based on these identified needs within the project corridor.
SECTION 4 Alternatives/Concepts

This section describes the alternatives that are being advanced for study in the Draft DR/EIS (DDR/DEIS) and concepts that have been dismissed from further consideration.

Several concepts were developed and considered for the Project during the scoping process. These concepts were evaluated based on the screening criteria listed below, using a tiered approach. Those concepts that met the Level A criteria were then assessed based on the Level B criteria. Those concepts that met both Level A and B criteria were then assessed based on the Level C criteria.

A. Meets the project purpose and objectives
   1. Meets the project purpose (see Section 3.1)
   2. Meets the project objectives (see Section 3.1)

B. For those concepts that met the screening criteria in (A), the following screening criteria were used:
   1. Minimizes impacts to residential and commercial properties
   2. Minimizes impacts to the capacity of the service roads on both sides of the VWE
   3. Minimizes impacts to New York City Transit and AirTrain operations
   4. Would not require legislation to change current New York State (NYS) Vehicle and Traffic Law to allow for enforcement

C. For those concepts that met the screening criteria in both (A) and (B), the following screening criteria were used:
   1. Reduces average travel time between the KGI and JFK Airport (both directions)
   2. Increases number of persons per hour between the KGI and JFK Airport (both directions)
   3. Increases vehicle occupancy in the corridor

4.1 Alternatives that Will be Studied in the DDR/DEIS

No Build Alternative
The No Build Alternative assumes no improvements in the project area other than those planned by others or implemented as part of routine maintenance. Although the No Build Alternative does not meet the project purpose and objectives, NEPA requires that it be evaluated in the DDR/DEIS. The No Build Alternative serves as the baseline condition against which the potential effects of the Build Alternative are evaluated.

Build Alternative
The Build Alternative would add a fourth lane in each direction between the KGI and JFK Airport. The additional lane in each direction would be a managed use lane (MUL) with High Occupancy Vehicle (HOV) restrictions. Truck use would be prohibited within the proposed MULs. Occupied taxis, for-hire vehicles (FHV), and buses would be allowed to use the MULs. Both new MULs would be on the left side of the highway, separated from the existing General Use Lanes (GULs) by a two-foot wide striped buffer. Vehicles in the southbound MUL would travel to JFK Airport, with no intermediate entrance or exit points to or from the MUL. Similarly, vehicles in the northbound MUL would travel from JFK Airport to the KGI with no intermediate entrance or exit points to or from the MUL.

The Build Alternative would employ Active Traffic Management strategies to improve efficiency during peak periods and during incidents. These strategies could include the following:

- Dynamic Lane Use Control to control the use of lanes to manage incidents and congestion through changeable signs and variable message signs (VMS)
- Dynamic Speed Control to provide variable speed advisory to control traffic flow during high congestion with queuing or during incidents

8
queue warning to improve safety and warn drivers of congestion ahead through the use of vms

the following two options are being considered for the build alternative:

build alternative option 1: high occupancy vehicles 2+ (including occupied taxi + for-hire vehicles)
under this option, the muls would be hov 2+, requiring a driver plus at least one passenger. occupied (defined as having at least one passenger besides the driver) taxis, fhvs, and buses would also be allowed in the mul.

build alternative option 2: high occupancy vehicles 3+ (including occupied taxi + for-hire vehicles)
under this option, the muls would be hov 3+, requiring a driver plus at least two passengers. occupied taxis, fhvs, and buses would also be allowed in the mul.

the build alternative meets the project purpose and objectives (level a screening). the construction of the mul in each direction would provide increased capacity on the vwe between the kgi and jfk airport to improve vehicular access to and from jfk airport. geometric and operational deficiencies of the vwe entrance and exit ramps would be addressed by relocating or closing some ramps, lengthening weaving sections, and relocating some exit ramps further away from the intersection along the service road. the reconstruction of all the bridges on or crossing over the vwe within the project limits would address the structural deficiencies presently on those bridges.

the build alternative meets the level b screening criteria. the additional lane in each direction on the expressway would be within the existing transportation right-of-way, and potential impacts to surrounding residential and commercial properties would be limited to tree removal along both the northbound and southbound service roads and shifting both of the service roads approximately two to five feet closer to existing properties at the following locations:

- northbound service road
  - 91st avenue to 90th avenue
  - liberty avenue to 101st avenue
- southbound service road
  - 91st avenue to atlantic avenue
  - atlantic avenue to 101st avenue
  - 101st avenue to liberty avenue

the service road shifts would result in the curb line being realigned and the sidewalk widths being reduced by two to five feet to a minimum width of eight feet. the build alternative would not require the acquisition of private property.

in order to improve merges and ramp connections, the service road lane configuration would be changed from three lanes to two lanes for approximately 200 feet near 101st avenue on the southbound service road and from atlantic avenue to 91st avenue on the northbound service road of the vwe. this configuration change would be acceptable because the build alternative would reduce traffic along the service roads by attracting trips on the service roads back to the mainline of the expressway.

construction plans would ensure only temporary impacts to nyc transit and airtrain operations. thus, the build alternative would minimize impacts to nyc transit and airtrain operations. in addition, the build alternative would not require tolling or special enforcement mechanisms requiring legislation to change current nys vehicle and traffic law. fines for violations of the occupancy requirements are established in the nys vehicle and traffic law. the occupancy requirements would be monitored at enforcement areas located between linden boulevard and foch boulevard for both the northbound and southbound directions, created to observe vehicles traveling in the muls.

the build alternative meets all of the level c screening criteria. using the results of 2045 design year viissim traffic simulation models for the build and no build alternatives, the build alternative would have a lower average peak hour travel time between the kgi and jfk airport in both directions as compared to
the No Build Alternative (see Table 4-3). The HOV 2+ option would result in average peak hour travel times of nine minutes northbound and eight minutes southbound in the GULs. The HOV 3+ option would result in average peak hour travel times of 10 minutes in each direction in the GULs. Under both Build Alternative options, the average peak hour travel times within the HOV lanes would be five minutes in each direction. In comparison, the No Build Alternative would result in average peak hour travel times of 18 minutes northbound and 23 minutes southbound. The people carrying capacity of the lanes under the Build Alternative would be higher as compared to the No Build Alternative, with the HOV 2+ option accommodating 15,365 persons per hour between the KGI and JFK Airport and the HOV 3+ option accommodating 14,995 persons per hour (compared to 10,205 persons per hour for the No Build Alternative). In addition, the average vehicle occupancy within the corridor would be higher compared to the No Build Alternative. For the HOV 2+ option, vehicle occupancy would be higher by 1,756 carpools and/or occupied taxis/FHVs, as compared to the No Build Alternative. For the HOV 3+ option, vehicle occupancy would be higher by 1,407 carpools and/or occupied taxis/FHVs, as compared to the No Build Alternative.

Providing full width right shoulders and four-foot-wide buffers (paint-striped width separating the MUL from the remaining GULs) along the project corridor was evaluated. It was determined that providing this full width section would require the acquisition of homes and local businesses to accommodate this section and continue to provide parallel service roads. To avoid private property acquisition, full width right shoulders would be provided where practical; minimum six-foot-wide right shoulders would be provided in tight width areas; and in very restricted areas, short stretches of narrow right shoulders would be provided.

4.2 Concepts Considered and Dismissed

Concepts that were considered and dismissed from further consideration, and the reasons for their dismissal, are described below. Each of the concepts share the following features:

- One additional travel lane in each direction of the VWE on the left side of the highway, between JFK Airport and the KGI. The additional lane in each direction would have only one entry point and one exit point to/from the lane.
- Modification of current exit and entrance ramps, between the JFK Airport and the KGI, to accommodate the additional lanes and to improve geometric and operational deficiencies.
- Replacement of bridge elements to accommodate mainline widening within the project limits.

Concept 1 is a GUL concept that adds one additional lane to the existing highway in each direction. Concepts 2 to 5 are all different MUL concepts that include varying uses of the additional travel lane. The only geometric difference between the MUL and GUL concepts is that the additional lane on the left side of the highway under the MUL concepts would be separated from the existing GULs by a two-foot-wide striped buffer.

Concept 1: General Use Lane (GUL)

This concept would provide an additional unrestricted GUL on the VWE in both directions. Vehicles would have four through lanes between the KGI and JFK Airport in both the northbound and southbound directions.

Concept 1 meets the project purpose and objectives (Level A screening). The construction of a fourth lane that would function as a GUL in each direction would increase capacity on the VWE between the KGI and JFK Airport to improve vehicular access to and from JFK Airport and provide an additional vehicular travel lane. Geometric and operational deficiencies of the VWE entrance and exit ramps would also be addressed by closing or relocating some ramps, lengthening weaving sections, and relocating exit ramps further away from the intersection along the service road. Structural deficiencies of bridges on or crossing over the VWE within the project limits would be addressed, which would include the reconstruction of the bridges to accommodate mainline widening within the project limits.

Concept 1 meets the Level B screening criteria. The additional lane in each direction on the expressway would be within the existing transportation right-of-way, and potential impacts to surrounding residential...
and commercial properties would be limited to tree removal along both the northbound and southbound service roads and shifting both of the service roads approximately two to five feet closer to existing properties in the same locations as the Build Alternative. The service road shifts would result in the curb line being realigned and the sidewalk widths being reduced by two to five feet to a minimum of eight feet. Concept 1 would not require the acquisition of private property.

In order to improve merges and ramp connections, the service road lane configuration would be changed from three lanes to two lanes for approximately 200 feet near 101st Avenue on the southbound service road and from Atlantic Avenue to 91st Street on the northbound service road of the VWE. This configuration change would be acceptable because Concept 1 would reduce traffic along the service roads by attracting trips on the service roads back to the mainline of the expressway.

Construction plans would ensure only temporary impacts to NYC Transit and AirTrain operations. Thus, Concept 1 would minimize impacts to NYC Transit and AirTrain operations. Since the lanes would be general use, there would be no enforcement requirements.

Concept 1 does not meet all of the Level C screening criteria. Peak hour travel time between the KGI and JFK Airport in the additional lane would be 15 minutes in the northbound direction and nine minutes in the southbound direction. This would be an improvement over the travel times for the No Build Alternative (18 minutes northbound and 23 minutes southbound; as shown in Table 4-3). The people carrying capacity of the VWE under Concept 1 would be 12,900 persons per hour between the KGI and JFK Airport, which is higher than that for the No Build Alternative (10,205 persons per hour). However, Concept 1 would not result in a higher average vehicle occupancy in the corridor when compared with the No Build Alternative, because there are no travel time incentives associated with the concept that would induce additional vehicles to shift into new or higher occupancy carpools when compared to the No Build Alternative. Analysis showed that just over 40 carpools per hour would be diverted from other routes under Concept 1; however, these diverted carpools would not be traveling to or from JFK Airport. Therefore, Concept 1 fails to meet the screening criteria of increasing vehicle occupancy in the corridor.

Thus, Concept 1 was eliminated from further consideration since it would not increase vehicle occupancy in the corridor.

**Concept 2: Express Lane**

This concept would provide an additional (fourth) lane on the VWE in both directions, to be used as an express lane exclusively for traffic traveling between JFK Airport and the KGI. This concept would not have an occupancy restriction, but would have an origin/destination restriction. Southbound vehicles in the express lane would be required to exit the VWE at the entrance to JFK Airport, with no earlier exit point from the lane. Northbound vehicles in the express lane would be required to exit at the KGI connecting to the Grand Central Parkway or VWE. The express lane would be on the left side of the highway, with a two-foot-wide striped buffer separating the express lane from the other traffic lanes.

Concept 2 meets the project purpose and objectives (Level A screening). The construction of a fourth lane in each direction to be used as an express lane would increase capacity on the VWE between the KGI and JFK Airport to improve vehicular access to and from JFK Airport and provide an additional vehicular travel lane. Geometric and operational deficiencies of the VWE entrance and exit ramps would be addressed by closing some ramps, lengthening weaving sections, and relocating ramps further away from the intersection along the service road. Structural deficiencies of bridges on or crossing over the VWE within the project limits would be addressed, which would include the reconstruction of the bridges to accommodate mainline widening within the project limits.

Concept 2 does not meet all of the Level B screening criteria. The express lane in each direction on the expressway would be within the existing transportation right-of-way, and potential impacts to surrounding residential and commercial properties would be limited to tree removal along both the northbound and southbound service roads and shifting both of the service roads approximately two to five feet closer to existing properties in the same locations as the Build Alternative. The service road shifts would result in the curb line being realigned and the sidewalk widths being reduced by two to five feet to a minimum of eight feet. Concept 2 would not require the acquisition of private property.
In order to improve merges and ramp connections, the service road lane configuration would be changed from three lanes to two lanes for approximately 200 feet near 101st Avenue on the southbound service road and from Atlantic Avenue to 91st Street on the northbound service road of the VWE. This configuration change would be acceptable because Concept 2 would reduce traffic along the service roads by attracting trips on the service roads back to the mainline of the expressway.

Construction plans would ensure only temporary impacts to NYC Transit and AirTrain operations. Thus, Concept 2 would minimize impacts to NYC Transit and AirTrain operations.

Enforcement of the express lane would not be possible from the only available potential enforcement areas within the corridor (located between Linden Boulevard and Foch Boulevard for both the northbound and southbound directions) and the constrained width of the corridor would not allow for a full barrier separation to fully control flow. Unlike the other MUL concepts (i.e., HOV, bus, truck), there would be nothing to differentiate the vehicles that are using the lane legally from those that entered or intend to exit the lane illegally when they pass by the potential enforcement areas. Drivers that violate the express lane conditions would need to be identified along the entire corridor in order to prevent violators from entering and exiting at multiple locations. Presently, the only potential way to monitor compliance is through cameras to visually observe illegal movement or through electronic technology using license plate or EZ-Pass readers to catch violators. Neither method is presently a legal procedure to issue tickets for lane crossing violations. Therefore, there is no method for enforcement of an origin/destination-based restriction that would not require legislation to change current NYS Vehicle and Traffic Law.

Thus, Concept 2 was eliminated from further consideration since enforcement would require legislation to change current NYS Vehicle and Traffic Law.

**Concept 3: High Occupancy Toll (HOT) Lane**

This concept would provide an additional (fourth) lane on the VWE in each direction as an MUL, to be used primarily as a High Occupancy Toll (HOT) and HOV 3+ lane. This concept would require the collection of tolls for some or all of the vehicles that would use the HOT lane. Tolls would be established based on various pricing strategy options.

Concept 3 meets the project purpose and objectives (Level A screening). The construction of a fourth lane in each direction to be used as a HOT lane would increase capacity on the VWE between the KGI and JFK Airport to improve vehicular access to and from JFK Airport and provide an additional vehicular travel lane. Geometric and operational deficiencies of the VWE entrance and exit ramps would be addressed by closing some ramps, lengthening weaving sections, and relocating ramps further away from the intersection along the service road. Structural deficiencies of bridges on or crossing over the VWE within the project limits would be addressed, which would include the reconstruction of the bridges to accommodate mainline widening within the project limits.

Concept 3 does not meet all of the Level B screening criteria. The HOT lane in each direction on the expressway would be within the existing transportation right-of-way, and potential impacts to surrounding residential and commercial properties would be limited to tree removal along both the northbound and southbound service roads and shifting both of the service roads approximately two to five feet closer to existing properties in the same locations as the Build Alternative. The service road shifts would result in the curb line being realigned and the sidewalk widths being reduced by two to five feet to a minimum of eight feet. Concept 3 would not require the acquisition of private property.

In order to improve merges and ramp connections, the service road lane configuration would be changed from three lanes to two lanes for approximately 200 feet near 101st Avenue on the southbound service road and from Atlantic Avenue to 91st Street on the northbound service road of the VWE. This configuration change would be acceptable because Concept 3 would reduce traffic along the service roads by attracting trips on the service roads back to the mainline of the expressway.

Construction plans would ensure only temporary impacts to NYC Transit and AirTrain operations. Thus, Concept 3 would minimize impacts to NYC Transit and AirTrain operations.
However, this concept would require legislation to change NYS Vehicle and Traffic Law in order to implement the tolling. The NYSDOT is not a tolling authority and, therefore, has no legal authority to implement a toll on the VWE. Implementation could require EZPass or similar technology and special equipment to allow variable tolls to be collected depending on traffic conditions. In addition, enforcement of the high occupancy toll would be difficult, since the constrained corridor would not allow for a full barrier separation to fully control traffic flow, thus allowing vehicles to weave across the buffer to avoid toll collection points.

Thus, Concept 3 was dismissed from further consideration, since implementation of the tolling would require legislation to change NYS Vehicle and Traffic Law.

Concept 4: Exclusive Busway
This concept would provide an additional (fourth) lane on the VWE in each direction to be used as an exclusive busway for bus traffic traveling between the KGI and JFK Airport. Southbound buses in the additional lane would exit the VWE at the entrance to JFK Airport. Northbound buses in the additional lane would exit at the KGI connecting to the Grand Central Parkway or VWE.

Concept 4 meets the project purpose and objectives (Level A screening). The construction of a fourth lane in each direction for exclusive use by buses would increase capacity on the VWE between the KGI and JFK Airport to improve vehicular access to and from JFK Airport and provide an additional vehicular travel lane. Geometric and operational deficiencies of the VWE entrance and exit ramps would be addressed by closing some ramps, lengthening weaving sections, and relocating ramps further away from the intersection along the service road. Structural deficiencies of bridges on or crossing over the VWE within the project limits would be addressed, which would include the reconstruction of the bridges to accommodate mainline widening within the project limits.

Concept 4 meets the Level B screening criteria. The additional lane in each direction on the expressway would be within the existing transportation right-of-way, and potential impacts to surrounding residential and commercial properties would be limited to tree removal along both the northbound and southbound service roads and shifting both of the service roads approximately two to five feet closer to existing properties in the same locations as the Build Alternative. The service road shifts would result in the curb line being realigned and the sidewalk widths being reduced by two to five feet to a minimum of eight feet. Concept 4 would not require the acquisition of private property.

In order to improve merges and ramp connections, the service road lane configuration would be changed from three lanes to two lanes for approximately 200 feet near 101st Avenue on the southbound service road and from Atlantic Avenue to 91st Street on the northbound service road of the VWE. This configuration change would be acceptable because Concept 4 would reduce traffic along the service roads by attracting trips on the service roads back to the mainline of the expressway.

Construction plans would ensure only temporary impacts to NYC Transit and AirTrain operations. Thus, Concept 4 would minimize impacts to NYC Transit and AirTrain operations. In addition, the concept would not require tolling or enforcement mechanisms requiring legislation to change current NYS Vehicle and Traffic Law.

Concept 4 does not meet all of the Level C screening criteria. There are no plans or commitments to increase bus usage to deliver passengers to JFK Airport. In addition, SKYCOMP\(^3\) data indicate that the majority of buses that currently use the VWE do not go to JFK Airport. As such, the same number of buses are expected to travel between the KGI and JFK Airport under Concept 4 as compared to the No Build Alternative.

Thus, Concept 4 was dismissed from further consideration since it would not increase the number of persons per hour between the KGI and JFK Airport.

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\(^3\) SKYCOMP is a traffic data collection firm that uses aerial technology (time-lapse cameras on helicopters or small airplanes) to collect corridor and regional traffic data including counts, classification data and origin-destination data.
Concept 5: Exclusive Truck Lane
This concept would provide an additional (fourth) lane on the VWE in each direction to be used as an exclusive truck lane for truck traffic traveling to and from JFK Airport. Southbound trucks in the truck lane would exit the VWE at the entrance to JFK Airport, with no earlier exit point from the lane. Northbound trucks in the truck lane would exit at the KGI connecting to the Grand Central Parkway or VWE.

Concept 5 meets the project purpose and objectives (Level A screening). The construction of a fourth lane in each direction for exclusive use by trucks would increase capacity on the VWE between the KGI and JFK Airport to improve vehicular access to and from JFK Airport and provide an additional vehicular travel lane. Geometric and operational deficiencies of the VWE entrance and exit ramps would be addressed by closing some ramps, lengthening weaving sections, and relocating ramps further away from the intersection along the service road. Structural deficiencies of bridges on or crossing over the VWE within the project limits would be addressed, which would include the reconstruction of the bridges to accommodate mainline widening within the project limits.

Concept 5 meets the Level B screening criteria. The additional lane in each direction on the expressway would be within the existing transportation right-of-way, and potential impacts to surrounding residential and commercial properties would be limited to tree removal along both the northbound and southbound service roads and shifting both of the service roads approximately two to five feet closer to existing properties in the same locations as the Build Alternative. The service road shifts would result in the curb line being realigned and the sidewalk widths being reduced by two to five to a minimum of eight feet. Concept 5 would not require private property acquisition.

In order to improve merges and ramp connections, the service road lane configuration would be changed from three lanes to two lanes for approximately 200 feet near 101st Avenue on the southbound service road and from Atlantic Avenue to 91st Street on the northbound service road of the VWE. This configuration change would be acceptable because Concept 5 would reduce traffic along the service roads by attracting trips on the service roads back to the mainline of the expressway.

Construction plans would ensure only temporary impacts to NYC Transit and AirTrain operations. Thus, Concept 5 would minimize impacts to NYC Transit and AirTrain operations. In addition, the concept would not require tolling or enforcement mechanisms requiring legislation to change current NYS Vehicle and Traffic Law.

Concept 5 does not meet all of the Level C screening criteria. Based on truck origins and destinations and forecasted traffic volumes for year 2045, in the VWE southbound direction between the KGI and JFK Airport, the forecasted truck volume in the morning peak hour (7:30 to 8:30 AM) is 526. Only 28% (147) of these trucks would be destined to the airport, while the remaining trucks would exit at local interchanges. In the evening peak hour (4:30 to 5:30 PM), the total forecasted trucks traveling southbound is 347; 48% (166) of these trucks would be destined to the airport. Similarly, in the VWE northbound direction between the KGI and JFK Airport, the total forecasted morning peak hour truck volume is 481, 20% of which would originate at the airport and travel to the KGI (96 trucks). In the evening peak hour, a forecasted total of 441 trucks would travel northbound, 37% of which would be generated at the airport (163 trucks). If an exclusive truck lane were implemented to accommodate the forecasted truck volumes described above, the lane utilization would range from 96 to 166 trucks/hour.

Based on the above, exclusive truck lanes would not be utilized sufficiently to increase people moving capacity or corridor occupancy. Thus, Concept 5 was dismissed from further consideration.

Summary
Table 4-1 presents a summary of the evaluation of each of the concepts against the Level A screening criteria (meets the project purpose and objectives). Those concepts that met the screening criteria in Level A were evaluated against the Level B screening criteria (see Table 4-2). The four concepts that met the screening criteria in both A and B (Build Alternative and Concepts 1, 4, and 5) were evaluated against the Level C screening criteria.
Table 4-1: Level A Screening Evaluation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Build Alternative HOV 2+</th>
<th>Build Alternative HOV 3+</th>
<th>Concept 1 - General Use</th>
<th>Concept 2 - Express</th>
<th>Concept 3 - HOT</th>
<th>Concept 4 - Bus</th>
<th>Concept 5 - Truck</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provides increased capacity on the VWE between the KGI and JFK Airport to improve vehicular access to and from JFK Airport</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Addresses operational, geometric, and structural deficiencies on the VWE between the KGI and JFK Airport</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1. Provides an additional vehicular travel lane on the VWE in each direction between JFK Airport and the KGI</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Addresses geometric and operational deficiencies of the VWE exit/entrance ramps within the identified project limits</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Addresses structural deficiencies on the bridges on or crossing over the VWE within the project limits</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Criteria</td>
<td>Build Alternative HOV 2+</td>
<td>Build Alternative HOV 3+</td>
<td>Concept 1 - General Use</td>
<td>Concept 2 - Express</td>
<td>Concept 3 - HOT</td>
<td>Concept 4 – Bus</td>
<td>Concept 5 – Truck</td>
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</tr>
<tr>
<td>1. Minimizes impacts to residential and commercial properties</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Minimizes impacts to the capacity of the service roads on both sides of the VWE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Minimizes impacts to New York City Transit and AirTrain operations</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Would not require legislation to change current NYS Vehicle and Traffic Law to allow for enforcement</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Criteria</td>
<td>No Build Alternative</td>
<td>HOV 2+</td>
<td>HOV 3+</td>
<td>Concept 1 – General Use</td>
<td>Concept 4 – Bus</td>
<td>Concept 5 – Truck</td>
<td></td>
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</tr>
<tr>
<td>Reduces Average Travel Time Between the KGI and JFK Airport (min)*</td>
<td>NB = 18 min</td>
<td>NB GUL = 9 min</td>
<td>NB GUL = 10 min</td>
<td>NB = 15 min</td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SB = 23 min</td>
<td>SB MUL = 5 min</td>
<td>SB GUL = 5 min</td>
<td>SB = 9 min</td>
<td></td>
<td>N/A</td>
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<tr>
<td>Increases Number of Persons per Hour between the KGI and JFK Airport**</td>
<td>10,205</td>
<td>15,365</td>
<td>14,995</td>
<td>12,900</td>
<td>No</td>
<td>No</td>
<td></td>
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<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Increases Vehicle Occupancy in the Corridor***</td>
<td>0</td>
<td>+1,756</td>
<td>+1,407</td>
<td>0</td>
<td>N/A</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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</tr>
</tbody>
</table>

SB = southbound; NB = northbound

* PM peak period (4 to 6 pm) travel time between JFK Airport and the KGI. Travel times are based on the outputs from VISSIM traffic simulation models developed for the No Build and Build conditions.

** Persons that fully traveled between JFK Airport and the KGI in both directions, in the PM peak period (from 4 to 6 pm). See Appendix D.

*** Increase in vehicle occupancy defined as change in number of carpools and occupied taxis/FHVs due to travel time improvement. This increase was calculated by comparing the No Build and Build conditions in terms of occupancy of vehicles traveling between the KGI and JFK Airport to/from the airport, for the PM peak period (4 to 6 pm) in both directions. See Appendix D.
SECTION 5 Social, Economic and Environmental Considerations

The Project will comply with applicable environmental legislation, regulations, executive orders and NYS DOT policies and procedures. The short-term (construction-related) and long-term (operations-related) effects of the Project will be studied for the DDR/DEIS. The key environmental topics of concern for the Project are identified and discussed below.

5.1 Methodology

Study Area
The general Study Area extends one-half mile from the project limits of disturbance (see Figure 2-2: General Study Area). A one-half-mile buffer was selected to accommodate for enough area to describe the existing conditions and evaluate the potential effects of the Project. The general Study Area will be used to study the following environmental topics:

- Floodplains
- Coastal resources
- Groundwater resources, aquifers and reservoirs
- Stormwater management
- General ecology and wildlife resources
- Threatened and endangered species

For some topics, the Study Area will vary from the general Study Area (half-mile buffer). For example, the Study Area for topics such as wetlands and surface waterbodies and watercourses will include the project corridor and those areas immediately adjacent to the corridor. The Study Area for land use and social conditions, including environmental justice, will include all census tracts that are within or adjacent to the half-mile buffer along the corridor. The Study Area for topics related to changes in traffic, such as neighborhood cohesion, noise, air quality and energy, will include areas that have a potential to experience change as a result of traffic diversions as determined by traffic analyses.

Analysis Years
The analysis years will be chosen based on standard NEPA protocols and NYS DOT procedures and will vary depending on the particular topic. For example, analysis of socioeconomic issues, including environmental justice, will use year 2015 population, housing, and income data from the U.S. Census Bureau, supplemented by available updated information. For the noise analysis, the design year will be modeled, in accordance with the NYS DOT Noise Policy. Air quality will be analyzed for the Estimated Time of Completion (ETC), ETC+10 years, and ETC+20 years.

Assessment Methodology and Impact Criteria
The methodologies to be used in preparing the DDR/DEIS will follow the FHWA Technical Advisory T6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents (October 30, 1987), and the procedures in the NYS DOT’s Environmental Manual (TEM). The DDR/DEIS will include an assessment of the social, economic and environmental effects of the Build Alternative in comparison to that of the No Build Alternative.

5.2 Potential Permits, Approvals, Concurrences, and Consultation

The DDR/DEIS will identify the permits and approvals that would be required for the Project. Potential permits, approvals, concurrences, and consultation are listed below.4

- Federal Highway Administration (FHWA):
  - Determination under Section 4(f) of the U.S. Department of Transportation Act of 1966: Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites (23 CFR Part 774)

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4 The need for/compliance with wetland-related permits and regulations would only apply if impacts to wetlands are anticipated (to be determined as part of the DDR/DEIS).
• Federal Aviation Administration (FAA):
  o Construction in vicinity of airport property
  o 14 CFR Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

• Advisory Council on Historic Preservation (ACHP):
  o Section 106 consultation
  o Section 4(f) coordination as official with jurisdiction for historic sites

• New York State Department of Environmental Conservation (NYSDEC):
  o Section 401 Water Quality Certification
  o Coordination pursuant to NYSDEC/NYSDOT Memorandum of Understanding (MOU) Regarding Environmental Conservation Law (ECL) Article 15
  o State Pollutant Discharge Elimination System (SPDES) Permit

• NYS Office of Parks, Recreation and Historic Preservation (OPRHP) – State Historic Preservation Office (SHPO):
  o Section 106 consultation
  o Section 4(f) coordination as official with jurisdiction for historic sites

• NYS Department of State (NYSDOS):
  o Federal Aid Notification

• NYC Department of Parks and Recreation (NYC Parks):
  o Tree Work Permit

• NYC Department of Environmental Protection (NYCDEP):
  o Sewer Connection Permit
  o Amended Drainage Plan

• NYC Department of Transportation (NYCDOT):
  o Office of Construction Mitigation and Coordination Street Permit
  o Office of Construction Mitigation and Coordination Arterial Permit

• NYC Department of City Planning:
  o Waterfront Revitalization Program Consistency Assessment

• U.S. Army Corps of Engineers (USACE):
  o Section 404 Nationwide Permit(s)

The Project must also comply with Executive Order 11988 “Floodplain Management,” and Executive Order 12898 “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.”

5.3 Social, Economic and Environmental Considerations

Land Use
An assessment of the existing land use and socioeconomic conditions within the appropriate Study Area will be conducted as part of the DDR/DEIS. Local land use patterns, zoning, and recent development trends will be assessed. Projects in the Study Area that are under construction or planned will be identified and cumulative effects assessed.

The acquisition and/or relocation of occupied dwellings or businesses is not anticipated for the Project.
Neighborhood and Community Cohesion
The potential effects to neighborhood and community cohesion will be evaluated in the DDR/DEIS. The Study Area will include the neighborhoods of Forest Hills, Kew Gardens, Briarwood, Richmond Hill, Jamaica, Ozone Park, South Ozone Park, and Rochdale. The Study Area will also include parts of JFK Airport.

Social Groups Benefitted or Harmed, Including Environmental Justice
The DDR/DEIS will include an assessment of whether the Project would result in disproportionately high and adverse impacts on minority and/or low-income (environmental justice) populations, in compliance with U.S Executive Order 12898 “Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations.” A preliminary assessment using U.S. Census Bureau data from 2015 indicates that low income and/or minority populations are present within the Study Area (Figure 5-1 and Figure 5-2). This Study Area includes all census tracts that are within or adjacent to the half-mile buffer along the corridor. The DDR/DEIS will also include an assessment of effects to elderly individuals, individuals with disabilities, transit-dependent populations, pedestrians, and bicyclists.

Regional and Local Economies: Effects to Businesses
The project corridor is located next to Jamaica, Queens, one of Queens’ four major commercial centers. Jamaica is a hub for commercial investment, which has led to job creation, and is a major transportation location for intraborough, national, and international travel. Potential economic and fiscal impacts to businesses within the appropriate Study Area will be assessed. Potential effects on access to and operation of businesses within the Study Area will also be evaluated.

Low Income Population
X735.82 Van Wyck Expressway Capacity & Access Improvements to JFK Airport Project

Figure 5-1: Low Income Population
Figure 5-2: Minority Populations
Wetlands
Based on review of NYSDEC freshwater wetland maps, no NYSDEC jurisdictional freshwater wetlands are located within the general Study Area. The nearest NYSDEC regulated freshwater wetland is approximately 0.85 miles east of the general Study Area and approximately 0.4 miles north of the general Study Area.

Federal jurisdictional wetlands have been mapped in the general Study Area (see Figure 5-3). A Freshwater Emergent Wetland is located adjacent to the southeastern portion of the roadway at Federal Circle. Estuarine and Marine Deepwater is located in the surrounding waterway of Jamaica Bay. Potential effects to wetlands will be assessed and documented in the DDR/DEIS.

Surface Waterbodies and Watercourse/Water Quality
The expressway itself is located within the Jamaica Bay watershed, but does not cross any surface waterbodies or watercourses. Potential effects to surface waters and water quality due to increased stormwater run-off will be evaluated in the DDR/DEIS.

Floodplains
According to the Federal Emergency Management Agency (FEMA) Advisory Base Flood Elevation Map (ABFE) Jamaica SW Effective Date December 21, 2012, no portion of the immediate project corridor is within the 100-year flood zone. Portions of the general Study Area adjacent to the VWE are within the Advisory Shaded Zone X, an area of moderate flood hazard between the limits of 100-year and 500-year floods (see Figure 5-4).

As part of the DDR/DEIS, a floodplain evaluation will be conducted to document the existing floodplain within the general Study Area and to evaluate potential encroachments.
Figure 5-4: Floodplains
Coastal Resources
The NYSDOS has authority from state and federal legislation to ensure that state and federal government activities along the coasts and waterways of New York State are consistent with NYS coastal policies and any approved Local Waterfront Revitalization Program (LWRP). The City of New York has a LWRP that was approved in 2016 and applies to all actions located in the Coastal Zone Boundary (CZB). The southern portion of the general Study Area, below the Belt Parkway, is located in the CZB (see Figure 5-5). The northern tip of the general Study Area, at the KGI, is adjacent to the CZB.

Jamaica Bay, located to the south of the project corridor is considered a Coastal Barrier and has been designated as an Otherwise Protected Area (NY- 60P). This unique landform protects diverse aquatic habitats and serves as the mainland’s first line of defense against the impacts of severe coastal storms and erosion. This area is governed by the Coastal Barrier Resources Act of 1982, as amended. The act prohibits, with exceptions to Otherwise Protected Areas, federal financial assistance for development within the resource system.

As part of the DDR/DEIS, the Project will be reviewed for consistency with the established state coastal policies and the approved LWRP.

Groundwater Resources, Aquifers and Reservoirs
The Project is located above the Brooklyn-Queens Aquifer System, a U.S Environmental Protection Agency (USEPA)-designated sole source aquifer. The water table beneath the general Study Area is generally near the surface. Groundwater is not withdrawn from public water supply wells or drinking water resources near the project corridor; NYC drinking water is delivered from large upstate reservoirs. The nearest groundwater supply system is located in southwestern Queens and has not operated in more than 10 years.

Effects on groundwater resources will be assessed as part of the DDR/DEIS.

Stormwater Management
Sites within the general Study Area predominantly use a stormwater sewer system and have direct drainage into the tidally-influenced Jamaica Bay via the Bergen Basin. As shown in Figure 5-6, the majority of the general Study Area is within a Combined Sewer Overflow (CSO) Drainage Area, with the exception of the southern end of the corridor. There is one CSO outfall that discharges into the storm sewer system from higher elevation on the southbound Service Road at Liberty Avenue during higher-than-normal sewer flows.

Projects that disturb soils and increase the extent of impervious surfaces have the potential to affect the quality and quantity of stormwater run-off that may discharge into subsurface or surface waters. As part of the DDR/DEIS, the potential effects to surface water quality, including erosion and sediment control practices proposed in the vicinity of surface water bodies, storm sewer systems connections and combined sewer outfall connections, will be evaluated and documented. Consultation with NYSDEC and NYCDEP will occur as necessary.

General Ecology and Wildlife Resources
The project corridor lies within a densely-populated and highly-developed area of Queens, a borough of New York City. The general landscape is characterized as terrestrial-urban, reflecting the effects of intense human disturbances to the naturally-occurring ecological systems. All resident populations of terrestrial wildlife have adapted to the urban development. Effects to ecological and wildlife resources will be assessed as part of the DDR/DEIS.
Coastal Zone Boundary
X735.82 Van Wyck Expressway
Capacity & Access Improvements
to JFK Airport Project

Figure 5-5: Coastal Zone Boundary
Figure 5-6: Drainage Type
Threatened and Endangered Species
Based on the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), there are four federal species with the potential to occur within the general Study Area: the threatened Piping Plover (Charadrius melodus) and Red Knot (Calidris canutus rufa) birds, the threatened Seabeach Amaranth (Amaranthus plumilus) plant and the endangered Roseate Tern (Sterna dougallii dougallii) bird.

A review of NYSDEC’s Natural Heritage Program database shows that no rare plants or animals and no Significant Natural Communities reside within or adjacent to the project corridor. No State-listed protected threatened, endangered, or proposed plant or animal species were identified within or adjacent to the project corridor. Additionally, no Indiana bats or northern long-eared bats were identified as being located within their respective 2.5-mile and 5-mile tree cutting buffer zones of the project corridor. The nearest State-listed threatened or endangered species is located over 0.4 mile away from the project corridor. Moreover, as the project site consists of highly-travelled transportation corridors and maintained mowed lawn, it does not provide suitable habitat for the nearby listed species.

Effects to threatened and endangered species will be assessed as part of the DDR/DEIS.

Historic/Cultural Resources
The Project is a federal undertaking subject to review under Section 106 of the NHPA, and its implementing regulations, 36 CFR Part 800. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties, defined as “any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in the National Register of Historic Places” (36 CFR Part 800.16(l)(1)), and to provide the ACHP a reasonable opportunity to comment. The effects of the Project on historic properties and archaeological resources will be evaluated under the Section 106 process during the development of the DDR/DEIS, with the goal of identifying measures to avoid, minimize or mitigate any adverse effects.

Known properties listed or eligible for inclusion in the National Register of Historic Places identified within and in the vicinity of the Study Area to date include:

- Bridge Identification Numbers: 7066688, 7076800, 7076810 (Long Island Railroad near Jamaica)
- Maple Grove Cemetery

Parks and Recreation Areas (Including Section 4(f))
Parks and recreational areas along the VWE project corridor are as follows:

- Maple Grove Park
- Hoover-Manton Playgrounds
- Queens Library at Briarwood
- Queens Boulevards Medians
- Howard Von Dohlen Playground
- Norelli – Hargreaves Playground
- Frederick B. Judge Playground
- Dr. Charles R. Drew Park
- Foch Sitting Area
- Playground 41
- Proposed Jamaica Gateway Park

Section 4(f) (49 U.S. Code 303) of the Department of Transportation Action of 1966 applies to publically-owned parks, recreation areas, and wildlife and waterfowl refuges and public or private-owned significant historic properties. Section 4(f) prohibits FHWA from approving the use of any Section 4(f) resource for a transportation project, except where there is no feasible and prudent alternative that would avoid the use of the Section 4(f) resource, and when the project includes all possible planning to minimize harm to that property.

6 Consultation by NYSDOT on October 26, 2017.
Section 4(f) resources within the Study Area include parks and historic sites discussed above that are listed or eligible for inclusion in the National Register of Historic Places (see Figure 5-7).

A Section 4(f) evaluation will be conducted for the Project, as needed.

Visual Resources
A Visual Impact Assessment (VIA) will be completed for the Project. The VIA will consist of an evaluation of the Project, including photo simulations, to assess its impacts, both positive and negative, on the visual resources within the general Study Area. The visual environment within the general Study Area includes schools, churches, parkland, parkland facilities, historic bridges, and a historic cemetery.

Air Quality
Air quality analyses will be conducted for the Project as part of the DDR/DEIS in accordance with the methodologies in the NYSDOT TEM Chapter 1.1, FHWA guidance and USEPA guidance and using the most recent version of USEPA’s MOVES model. The analyses will be based on traffic data developed for the Project.

The air quality analyses will include:

- Mesoscale emissions analysis
- Particulate matter microscale analysis
- Mobile source air toxics analysis

Energy Consumption and Greenhouse Gas Emissions
An energy consumption and greenhouse gas emissions analysis will be conducted as part of the DDR/DEIS. The analysis will determine the extent of additional energy required for construction and if the Project would result in additional energy consumption during operations.

Traffic Noise
The Project is classified as a Type I noise project as specified in FHWA noise regulations (23 CFR 772) and NYSDOT Noise Policy (TEM Section 4.4.18). Type I noise projects are those that require a noise analysis. The noise analysis will follow the procedures described in the NYSDOT Noise Policy. The analysis will be based on traffic data developed for the Project. The traffic data will be used as input to the FHWA Traffic Noise Model (TNM Version 2.5); existing and future traffic noise levels will be generated and used to determine impacts.

Asbestos
An asbestos assessment preliminary investigation will be conducted to identify suspect asbestos-containing materials (ACMs) that are expected to be disturbed as a result of the Project. Measures to ensure the proper handling, transport, and disposal of such materials during construction will be identified as appropriate.

Hazardous Waste/Contaminated Materials
A hazardous waste/contaminated materials site screening will be conducted for the Project in accordance with the NYSDOT TEM to document the likely presence or absence of hazardous waste/contaminated materials. Site visits will be conducted to look for observable physical evidence of contamination. Potential impacts to hazardous waste sites as a result of the planned construction work will be evaluated and, if needed, measures to properly handle, transport, and dispose of any excess material will be identified.
Section 4(f) Resources
X735.82 Van Wyck Expressway
Capacity & Access Improvements
to JFK Airport Project

Figure 5-7: Section 4(f) Resources
Indirect and Cumulative Effects
Cumulative effects are impacts on the environment that would result from the incremental impact of the action when added to past, present, and reasonably foreseeable actions. Indirect effects, which are a subset of cumulative effects, are reasonably foreseeable effects that would be caused by the Project but may occur at a later time or are farther removed in distance. Cumulative effects will be assessed as part of the DDR/DEIS. If adverse effects as a result of the action are identified, mitigation measures will be assessed.

SECTION 6 Anticipated Costs and Schedule
The NYSDOT anticipates issuing a ROD for the Project by February 2019. The construction cost of the Build Alternative is estimated at approximately $1.2 billion (2018 dollars). Construction of the Build Alternative would take approximately four to five years and could begin as early as 2019, pending environmental approvals and the availability of funding.

SECTION 7 Public Involvement and Agency Coordination
Public involvement is an integral part of the NEPA process. The FHWA and NYSDOT have provided and will continue to provide opportunities for meaningful public and agency participation throughout the environmental review process.

The FHWA and NYSDOT have prepared a Coordination Plan for the Project.7 The Plan conforms to the requirements of NEPA and the current federal surface transportation law, Fixing America’s Surface Transportation (FAST) Act of 2015. The purpose of the Coordination Plan is to describe the process and communication methods for disseminating information about the Project, as well as solicit and consider input from the public and agencies. The Coordination Plan will be in effect and amended as needed throughout the environmental review process.

Public and agency involvement opportunities are summarized below.

7.1 Public Involvement Opportunities

Public Meetings and Comment Periods
A project scoping meeting was held on Wednesday, September 27, 2017 at The Greater Jamaica Development Corporation’s Harvest Room, at 90-40 160th Street, Jamaica, New York.

Informational displays were provided, and NYSDOT representatives were available to listen, answer questions, and receive comments from the public. The meeting format consisted of project boards providing information in an open house format, grouped into the following topics:

- Project / Study Area
- Environmental Review Process
- Project Overview, Purpose, Need, and Objectives
- Concept Screening / Alternative Analysis
- Environmental Considerations

One area of the room was dedicated to a comment section, with tables, chairs, comment cards, a comment box and a stenographer to record verbal comments.

The meeting was advertised in numerous ways. Specifically, meeting flyers were sent to and/or distributed at the following locations:

- Community Board offices

7 https://www.dot.ny.gov/vwe/repository/x73582_Coordination_Plan.pdf
Elected officials' offices
Libraries and post offices
Transit stops and stations
Parking lots at JFK Airport
Commercial establishments along the corridor and at major intersections

A total of 66 people attended the project scoping meeting, including community members, elected and government officials, representatives of nonprofit/community organizations, and property owners within or adjacent to the general Study Area. Approximately 18% of these attendees submitted written or verbal comments. Eighteen (18), or approximately 27%, of the meeting attendees were either elected/appointed officials or representatives of public agencies, including the PANYNJ, the New York City Department of Transportation, LIRR, and others. Three members of the press were present at the event representing the following papers: Queens Ledger, The New York Page, and Our Times.

Written comments were accepted both during and after the meeting. A summary of the comments received during the scoping comment period ending on November 30, 2017 is provided in Section 7.6.

A 45-day public comment period will be established for the DDR/DEIS. A public hearing will be held during the DDR/DEIS public comment period. The DDR/DEIS will be made available electronically on the Project’s website and paper copies will be available at a number of locations near the project corridor (such as municipal offices and libraries). Comments received during the public hearing and the DDR/DEIS comment period will be considered and responded to, as appropriate, in the FDR/FEIS.

Other Stakeholder Outreach
The NYSDOT will continue to coordinate with various stakeholders to present project information and to solicit input. As part of this ongoing outreach, the NYSDOT has presented the Project at Community Board Meetings, as listed in Table 7-1.

Table 7-1: NYSDOT Presentations at Community Board Meetings

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Board 10 Transportation Committee Briefing</td>
<td>Community Board 10</td>
<td>9/25/2017</td>
</tr>
<tr>
<td>Community Board 9 Transportation Committee Briefing</td>
<td>Community Board 9</td>
<td>9/26/2017</td>
</tr>
<tr>
<td>Community Board 12 Transportation Committee Briefing</td>
<td>Community Board 12</td>
<td>10/10/2017</td>
</tr>
<tr>
<td>Community Board 10 Briefing</td>
<td>Community Board 10</td>
<td>11/02/2017</td>
</tr>
</tbody>
</table>

Public meeting locations and locations of meeting flyer distribution are shown in Figure 7-1. Continued outreach will involve meetings with federal, state, and local agencies, elected officials, and business and community groups.

Project Website
A project website (www.dot.ny.gov/vwe) was established at the initiation of the scoping process to provide information about the Project. The website facilitates the exchange of information regarding the Project and contains presentations, graphics, meeting summaries, and other project information. The website also functions as a continuous means for the public to submit questions and to request inclusion on the project mailing list. The website will continue to be updated to include announcements of project meetings and to allow access to documents (e.g., Scoping Report, DDR/DEIS, FDR/FEIS), which will be posted as they become available.
Meetings and Flyer Distribution
X735.82 Van Wyck Expressway Capacity & Access Improvements to JFK Airport Project

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>1 Community Board 10 Briefing</td>
<td>9/25/2017</td>
</tr>
<tr>
<td>2 Community Board 9 Briefing</td>
<td>9/26/2017</td>
</tr>
<tr>
<td>3 VW Expressway Meeting - Harvest Room</td>
<td>9/27/2017</td>
</tr>
<tr>
<td>4 Community Board 12 Briefing</td>
<td>10/10/2017</td>
</tr>
<tr>
<td>Scoping Meeting Flyer Distribution</td>
<td></td>
</tr>
<tr>
<td>Post Office</td>
<td>8/17/2017</td>
</tr>
<tr>
<td>Library</td>
<td>8/17/2017</td>
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<tr>
<td>Major Corridor</td>
<td>9/13/2017</td>
</tr>
<tr>
<td>John F. Kennedy Airport</td>
<td>9/13/2017 &amp; 9/20/2017</td>
</tr>
<tr>
<td>Sulphin Boulevard Festival</td>
<td>9/23/2017</td>
</tr>
</tbody>
</table>

Figure 7-1: Meetings and Flyer Distribution
Mailing List
A mailing list of contacts, including elected officials, public agency contacts, interested parties, and individuals has been developed. The mailing list will be used to issue newsletters, press releases, meeting notices, and other communications to the public.

Newsletters and Press Releases
Project newsletters and press releases will be periodically produced and distributed throughout the duration of the EIS process to keep the public informed on project progress and events. Newsletters will contain simple, non-technical descriptions and graphical illustrations in an electronic format distributed via email to the project mailing list and posted on the project website.

Spanish Language Interpreters
A Spanish language interpreter was present at the project scoping meeting, and Spanish language interpreters will continue to be present at public meetings.

Americans with Disabilities Act Outreach
Public meetings have been and will continue to be held in locations that comply with the Americans with Disabilities Act (ADA) to assure that individuals with disabilities have convenient access to meetings. Sign language interpreters will be available at formal public meetings and other meetings, if requested. Public notices announcing public meetings will provide instructions for requesting special accommodations.

7.2 Coordination with Cooperating and Participating Agencies

Cooperating and Participating Agencies are responsible for identifying, as early as practicable, any issues of concern regarding the Project’s potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval. The FHWA and NYSDOT will collaborate with Cooperating and Participating Agencies as needed throughout the environmental review process.

Cooperating Agencies
A Cooperating Agency, according to CEQ regulations (40 CFR §1508.5), means any federal agency, other than a Lead Agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative. A state or local agency of similar qualifications or, when the effects are on lands of tribal interest, a federally-recognized Native American tribe may, by agreement with the lead agencies, also become a Cooperating Agency. CEQ regulations also state (40 CFR § 1501.6) that an agency may request the Lead Agency to designate it as a Cooperating Agency. All Cooperating Agencies are also “Participating Agencies” (see below).

The following agencies have been invited to serve as Cooperating Agencies for the Project:

- Federal Aviation Administration (FAA)
- U.S. Environmental Protection Agency (USEPA)
- New York State Department of Environmental Conservation (NYSDEC)
- New York State Department of State (NYSDOS)
- New York State Office of Parks, Recreation and Historic Preservation (OPRHP) – State Historic Preservation Office (SHPO)

Participating Agencies
Participating Agencies are those federal, state, or local agencies or federally-recognized Native American tribes with an interest in the Project. The standard for Participating Agency status is more encompassing than the standard for Cooperating Agency status. Therefore, Cooperating Agencies are, by definition, Participating Agencies, but not all Participating Agencies are Cooperating Agencies.

In addition to the Cooperating Agencies listed above, the following were invited to serve as Participating Agencies for the Project:

- Long Island Rail Road (LIRR)
- Port Authority of New York and New Jersey (PANYNJ)
- New York City Department of Transportation (NYCDOT)
- New York City Department of City Planning (NYCDCP)
- New York City Department of Environmental Protection (NYCDEP)
- New York City Department of Parks and Recreation (NYC Parks)
- Metropolitan Transportation Authority (MTA) — New York City Transit
- New York Metropolitan Transportation Council (NYMTC)
- New York and Atlantic Railway

A meeting was held with the Participating Agencies on October 17, 2017 to discuss the roles and responsibilities of the agencies. The NYSDOT discussed the Project purpose, needs and objectives, key environmental topics and public outreach activities.

Meetings with the Cooperating and Participating Agencies will be held as needed throughout the EIS process to provide updates on the status of the Project and discuss other topics as appropriate.

7.3 Section 106 Coordination

Participants in the Section 106 process include the SHPO, FHWA, NYSDOT, ACHP, federally-recognized Native American tribes, and other Consulting Parties. Public involvement under Section 106 will be accomplished in coordination with NEPA public outreach, to provide information and seek public comment regarding the Project’s effects on historic properties. Individuals and organizations with a demonstrated interest in the Project may participate in the Section 106 process as Consulting Parties. Parties may be interested due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking’s effect on historic properties. Their participation is subject to approval by the FHWA.

Meetings will be held with Consulting Parties as needed. The Consulting Parties will have the opportunity to comment on the identification and evaluation of historic properties, as well as provide their views on effects to these properties and proposed strategies to avoid, minimize, or mitigate adverse effects.

7.4 Section 4(f) Coordination

In accordance with 23 CFR §774.5, the FHWA must provide opportunities for coordination and comment to the official(s) with jurisdiction over any Section 4(f) resource that may be affected by the Project. If a Section 4(f) evaluation is needed for the Project, review of the evaluation could include ACHP and SHPO. Resources protected under Section 4(f) include public parks, wildlife refuges, and historic resources. As described above, potential effects on historic properties would be coordinated through Section 106 of the NHPA, which would be taken into consideration as part of a Section 4(f) evaluation (if needed).

7.5 Environmental Justice Coordination

Executive Order 12898 “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” requires federal agencies to provide meaningful opportunities for affected minority and/or low income (environmental justice) communities to provide input on a project.

Public meetings, including Community Board Meetings, have been and will continue to be sited, scheduled and planned to provide opportunities for participation by minority and/or low income populations. Locations of public meetings will continue to be held in locations that are easily accessible by mass transportation. Meeting notifications (such as flyers) will be distributed at commercial locations on major intersections, and at subway stops, public libraries and post offices within minority and/or low income neighborhoods. In addition, newspaper advertisements for future meetings will be placed in newspapers serving these environmental justice populations. Figure 7-1 shows the meeting and meeting flyer distribution locations within environmental justice communities along and in the vicinity of the project corridor.
7.6 Scoping Comments

The scoping comment period began on September 27, 2017 with the scoping meeting and ended on November 30, 2017. The NYSDOT has considered the comments received, which are provided in Appendix E.