Chapter 23: Mitigation

A. INTRODUCTION

The preceding chapters of this Final Supplemental Environmental Impact Statement (Final SEIS) discuss the potential for significant adverse impacts from the Proposed Actions. Where such potential significant adverse impacts have been identified—in the areas of community facilities, shadows, traffic, transit and pedestrians, and construction noise—measures have been examined to minimize or eliminate the anticipated impacts. These mitigation measures are discussed below.

B. COMMUNITY FACILITIES

PUBLIC SCHOOLS

The development parcels are located in Community School District (CSD) 2. Since the Proposed Actions would result in the introduction of a new residential population, which would generate a demand on local school resources, the SEIS assessed the effects on school capacity within Planning Zone 4 of CSD 2, and on all schools within CSD 2. As presented in Chapter 4, "Community Facilities," under either the proposed development program or the Affordable Housing Scenario, the elementary and intermediate school-aged children that would be introduced would generate a significant adverse impact on both elementary and intermediate schools within Planning Zone 4. Under the construction phasing schedule described in Chapter 20, "Construction Impacts," a significant adverse impact to elementary schools within Planning Zone 4 could occur as early as 2011. Under the "Alternative Construction Scenario" (also described in Chapter 20), a significant adverse impact to elementary schools within Planning Zone 4 could occur as early as 2010.

The Draft SEIS analysis stated that in order to mitigate the projected shortfall in school seats, either one or a combination of the following measures would need to be undertaken:

- Shifting the boundaries of school catchment areas within CSD 2 to move students to schools with available capacity;
- Creating new satellite facilities in less crowded schools;
- Leasing school space to be constructed on the development parcels; and/or
- Building new school facilities off-site.

In order to address the Proposed Actions' potential significant adverse impact on schools, the applicant will enter into an agreement with the School Construction Authority (SCA) for the construction of an approximately 630-seat, K-8 elementary/intermediate school to be located at 616 First Avenue. The school would occupy approximately 92,500 square feet of the community facility space on the 616 First Avenue parcel (i.e., part of the 119,936 square feet of community facility [medical office] space analyzed in this SEIS). The remaining 27,436 square feet of

community facility space would continue to be another community facility use. The inclusion of a school would not result in any changes to the proposed development program's overall floor area, height, or massing.

The new school would be designed in accordance with DOE's specifications for new elementary/intermediate school construction and would include standard school facilities such as classroom, administration, and assembly space, and gymnasium, cafeteria, library, and outdoor play areas. The school would have a separate entrance from the other uses within the building.

The school is planned to be operational by September 2012. Given that 2010 is the first year in which a significant adverse school impact could occur under the Proposed Actions, with the construction of the school completed by September 2012 there would be an unmitigated temporary significant adverse school impact for up to approximately two school years (from the time the 685 First Avenue residential building is occupied until the school is available.). Other potential mitigation measures identified in the Draft SEIS—shifting the boundaries of school catchment areas within the CSD, creating new satellite facilities in less crowded schools, and building new school facilities off-site—if feasible, could fully or partially mitigate the temporary significant adverse impact. Absent the successful implementation of any of these measures, there would be the potential for a temporary unmitigated significant adverse public school impact.

Because a school use instead of another community facility use could result in impacts different from those analyzed in the Draft SEIS, the environmental consequences of the inclusion of this school in the proposed development program are analyzed below. In addition, SCA projects involving the leasing of private property or construction of a new school are subject to environmental review pursuant to the State Environmental Quality Review Act (SEQRA). Prior to the SCA's committing to acquiring the property, SCA would further examine the potential environmental effects of the school once the program has been defined, and make appropriate findings at that time.

LAND USE, ZONING, AND PUBLIC POLICY

The school would be considered compatible with those land uses already established in the study area and those that would be included under the Proposed Actions and therefore would not have any significant adverse effect on the land use patterns in the study area. The school would also be compatible with the residential, park, retail, and institutional uses that are found on the surrounding blocks. Schools are permitted as-of-right in the C4-6 zoning district proposed for the 616 First Avenue development parcel. Thus, the construction and operation of a school on the project site would not result in any significant adverse impacts on land use, zoning, and public policy.

SOCIOECONOMIC CONDITIONS

The addition of a public elementary/intermediate school to occupy the bulk of the community facility space analyzed under the Proposed Actions would not result in any changes to the residential or commercial program of the proposed development program or the Affordable Housing Scenario. Therefore, it would not result in potential direct or indirect residential or business displacement, nor would it adversely affect any specific industry. Therefore, the construction and operation of a school on the project site would not result in any significant adverse impacts with respect to socioeconomic conditions.

COMMUNITY FACILITIES

A new 630-seat, K-8 elementary/intermediate school on the project site would provide capacity in excess of the projected demand generated by either the proposed development program or the Affordable Housing Scenario. The 630 new school seats would fully accommodate the estimated 417 elementary and 83 intermediate school students introduced to Planning Zone 4 by the proposed development program, or the estimated 433 elementary and 92 intermediate school students generated under the Affordable Housing Scenario. The new school would therefore provide additional seating to satisfy a portion of the shortfall of capacity projected to occur in the future without the Proposed Actions. Absent the Proposed Actions, there would be an estimated total shortfall of 734 elementary and intermediate school seats in Planning Zone 4 by 2014; with the Proposed Actions and the new school, there would be an estimated shortfall of 604 elementary and intermediate school seats with the proposed development program, and a 629-seat shortfall with the Affordable Housing Scenario.

It is expected that construction of the school would begin in 2011 and that it would be operational by September 2012. Given that 2010 is the first year in which a significant adverse school impact could occur under the Proposed Actions, with the construction of the school completed by September 2012 there would be the potential for an unmitigated temporary significant adverse school impact for up to approximately two school years (from the time the 685 First Avenue residential building is occupied until the school is available.). Other potential mitigation measures identified in the Draft SEIS—shifting the boundaries of school catchment areas within the CSD, creating new satellite facilities in less crowded schools, and building new school facilities off-site—if feasible, could fully or partially mitigate the temporary significant adverse impact. Absent the successful implementation of any of these measures, there would be the potential for a temporary unmitigated significant adverse public school impact.

OPEN SPACE

While the specific design of the new school would be completed at a later date, it is assumed that the school would include outdoor play areas including playground space or active play yards. A majority of the outdoor play areas would be provided on the roof of the school building; the exception would be an Early Childhood Center Playground, which would be provided at ground level. The ground-level play area would be approximately 3,000 square feet, and would be accommodated within the 34,507 square feet of publicly accessible open space area planned for the 616 First Avenue parcel. There would, therefore, be slightly less publicly accessible open space available at the 616 First Avenue parcel, but it would not be of an amount to materially affect the open space ratios presented in Chapter 5, "Open Space," and would not alter the findings that the Proposed Actions would improve study area open space ratios, and would not result in significant adverse open space impacts.

SHADOWS

The new public school on the 616 First Avenue development parcel would not alter the total amount of floor area or massing of the proposed development program, either on the 616 First Avenue parcel or elsewhere on the project site. There would be no changes in building height or redistribution of bulk. The construction of the school building at 616 First Avenue by 2012 would result in some project-generated shadows on Manhattan Place Plaza earlier than would occur under the phasing schedules described in Chapter 20, "Construction Impacts." However, the shadows cast by the 5-story school facility would be minor and would not advance the

estimated timing of the significant adverse shadows impact on Manhattan Place Plaza. By 2014 the extent and duration of shadows from the project's buildings would be the same as identified for the Proposed Actions as analyzed in Chapter 6, "Shadows," and the significant adverse shadow impacts identified on Manhattan Place Plaza and the Tudor City open spaces during the winter analysis period would remain.

The school's playground space has not been designed, but as described above in "Open Space," a majority of the outdoor play areas could be provided on the roof of the school building. The following summarizes the projected shadow conditions for the entire roof area for the representative time periods suggested for shadow analyses in the *CEQR Technical Manual*. This discussion is provided for informational purposes; the effects of the shadows on the school's playground are not considered to be the subject of impact analyses under CEQR.

March 21 / Sept 21

From 8:36 AM to 9:30 AM the adjacent tower would cast a small shadow on the northern side of the rooftop space. From 9:30 AM to 12:00 PM the entire space would be in sun. Just after 12:00 PM shadow cast by the Rivergate building to the south would enter the southwest corner of the space, and over the course of the early afternoon would expand eastward. At 3:15 PM the Rivergate's shadow would cover virtually the entire space, and then would begin moving off the space; at 5:29 PM, the end of the analysis day, the northwestern half of the space would be in sun.

May 6 / August 6

At the start of the analysis day (7:27 AM) the northwestern half of the space would be in shadow cast by the adjacent tower. This shadow would shrink towards the northern side and by 10:45 AM would be off the roof. The space would then be fully in sun until 1:00 PM, when shadow cast by the Rivergate would enter the southwest corner. This shadow would move eastward during the afternoon, shading some portions of the space and leaving other areas in sun. At 4:30 PM shadow from the tower on the western side of 616 First Avenue would enter the northwest corner of the space. Between 4:30 PM and the end of the day at 6:18 PM, portions of the space would be shaded but most of the space would be in sun.

June 21

At 6:57 AM the western two-thirds of the space would be cast in shadow by the adjacent tower. This shadow would shrink to the northwest over the course of the morning and would exit by 11:15 AM. The space would experience full sun until 1:15 PM. Between 1:30 PM and 5:30 PM the Rivergate would cast small areas of shadow on the southern portion of the space, and from 4:00 PM until the end of the analysis day the tower on the western side of 616 First avenue would cast shadow on the northern section of the space. More than half the space would remain in sun throughout the afternoon, until about 6:45 PM.

December 21

The rooftop space would begin the December 21 analysis day fully in sun. Shadow cast by the Rivergate would enter the southwest corner of the space at 9:15 AM and move eastward. By 11:45 AM the Rivergate's shadow would cover about half the space, and by 1:30 PM it would cover the entire space. The space would remain fully shaded by the Rivergate until 2:53 PM, the end of the analysis day.

HISTORIC RESOURCES

The construction and operation of a school at the 616 First Avenue development parcel would not alter the conclusions of the historic resources analysis. Under the Proposed Actions, the proposed development program resulted in no significant adverse impacts on historic resources, and given that the building location and overall floor area, height, and bulk would be the same with the addition of the school, there would be no potential for significant adverse impacts on historic resources.

URBAN DESIGN AND VISUAL RESOURCES

As stated above, the provision of an approximately 630-seat, K-8 elementary/intermediate school on the project site would not result in any changes in the height or bulk of any of the proposed buildings. The school would be located within the community facility space already analyzed under the Proposed Actions. Therefore, as with the programs analyzed under the Proposed Actions, the inclusion of a school in the community facility space would not result in any significant adverse impacts with respect to urban design and visual resources.

NEIGHBORHOOD CHARACTER

The construction and operation of a school would not alter the conclusions with respect to neighborhood character. The school would not result in any new impacts to the component environmental areas of neighborhood character and would generally be consistent with the residential and mixed-use character of the surrounding area.

NATURAL RESOURCES

The inclusion of a school in the development program would not result in changes to the conclusions with respect to natural resources. There would be no significant adverse impacts on natural resources.

HAZARDOUS MATERIALS

The inclusion of a public school in the proposed development program would not alter the SEIS's conclusions with respect to hazardous materials. Activities associated with construction of the school, like the rest of the development program, would be subject to the measures described in Chapter 11, "Hazardous Materials," including Site Management Plans, the conditions of a restrictive declaration, and a DEP-approved remedial action plan and construction health and safety plan. With these measures, there would be no potential for significant adverse hazardous materials impacts on students or staff at the school.

INFRASTRUCTURE

The proposed school on the project site would not result in any significant adverse impacts on the City's infrastructure. Using the estimated rates of use provided in the *CEQR Technical Manual*, the school facility would use an average of 19,500 gallons per day (gpd) of water based on 30 gpd per seat, and another approximately 10,000 gpd for air conditioning during warm weather. The school's water usage would be less than the total amount of water usage projected for the community facility use as medical office space (estimated to be 40,788 gpd as shown in Figure 12-2 of Chapter 12, "Infrastructure,") and would not be expected to noticeably affect municipal water supply conditions or reduce water pressure in the surrounding area. The

school's sewage generation, conservatively assumed to be equal to water use, would average 19,500 gpd. The sewage flow would represent a minimal percentage of the Newtown Creek Water Pollution Control Plant's capacity of 310 million gallons per day and with the school included in the project, the Proposed Actions would have an even greater beneficial effect in terms of lessening the number of CSO events or CSO discharge volume as compared to conditions with medical office use.

SOLID WASTE AND SANITATION SERVICES

Using a solid waste generation rate of 1 pound per week per student, the school would be expected to generate approximately 650 pounds of solid waste per week during the school year, considerably less than the estimated 3,598 pounds of solid waste per week that would be generated by medical office uses in the community facility space (see Table 13-1 in Chapter 13, "Solid Waste"). To comply with the City's recycling plan, the school would be required to accommodate the source separation of recyclable materials. Disposable wastes and recyclable materials would be collected by the New York City Department of Sanitation (DSNY). The school-generated waste would be negligible compared with the 13,000 tons per day handled by DSNY, and would not have a significant effect on New York City's solid waste disposal system.

ENERGY

Based on energy use rates in the *CEQR Technical Manual* (Table 3N-1), educational uses have lesser energy demand (76,400 BTUs/sf/year) as compared to health care uses (196,400 BTUs/sf/year) and commercial office uses (77,900 BTUs/sf/year). Therefore, the energy demand expected from a school would be less than projected for the medical office/community facility space assumed in the Draft SEIS.

TRAFFIC AND PARKING

A 630-seat, K-8 elementary/intermediate school would serve new demand from the proposed project and existing demand from surrounding residential development. A trip generation analysis was conducted for this school and was compared to the trip generation projections made for the medical office/community facility space assumed in the Draft SEIS's detailed quantitative analyses. Overall, the school would be a substantially smaller vehicle traffic generator compared to the medical office/community facility space. The school would generate approximately 239 fewer vehicle trips in the weekday AM peak hour, 41 fewer vehicle trips in the weekday midday peak hour, 138 fewer vehicle trips in the weekday PM peak hour, and 102 fewer vehicle trips in the Saturday midday peak hour. Thus, inclusion of the school in place of the medical office/community facility space analyzed in the SEIS would not result in any significant adverse impacts not identified in the traffic analysis for the Proposed Actions. The detailed analyses presented in Chapter 15, "Traffic and Parking," and in this Mitigation Chapter are therefore conservative in their projection of impacts and mitigation needs. There would be adequate parking capacity on-site to accommodate school staff.

TRANSIT AND PEDESTRIANS

In the AM, midday, PM, and Saturday peak hours, the proposed program with a school would generate fewer subway and bus trips than the proposed program medical office community facility use analyzed as part of the proposed development program in the Draft SEIS. Therefore, new significant adverse impacts would not occur with respect to subway or bus service.

During the weekday PM peak hour, the proposed program with a school would generate approximately 50 percent fewer pedestrian trips than the proposed program's medical office community facility use, accounting for all modes that may contain a walk component. In the Saturday midday peak, the proposed program with a school would generate 4 percent fewer trips. In the AM and midday peak hours, the school would generate more walk trips than the proposed project's medical office community facility use. Although school children may have slower walking speeds than is typical for an adult population, the pedestrian elements in the vicinity of 616 First Avenue would operate at LOS D or better in the future with the proposed project; therefore, no new significant adverse pedestrian impacts would be predicted if a school use is provided at this location. Consistent with standard operating practices and procedures of the SCA, pedestrian improvements, such as high-visibility crosswalks and signage would be incorporated as part of the school's design.

With the UNDC Building as a background project, additional pedestrian impacts are anticipated along 42nd Street. Given its distance from 42nd Street, any changes in the programming of 616 First Avenue would result in little change in predicted future volumes at the impact locations identified in Chapter 16, "Transit and Pedestrians." Therefore, no new pedestrian impacts would be predicted with a school use.

AIR QUALITY

The inclusion of the proposed school would not alter the conclusions with respect to air quality from mobile sources. The proposed action with the proposed school would generate fewer vehicle trips and, therefore, less emissions due to mobile sources. The proposed school's proximity to the FDR Drive would not result in any new impacts, as the SEIS examined the potential effects along the FDR to assess the impact of the FDR near the project. That analysis concluded that impacts would be well below NAAQS.

The only stationary source of air pollutants expected to be associated with the school would be the emissions from the combustion of fossil fuels by heating, ventilation, and air conditioning (HVAC) equipment. The air quality analysis, which assessed a program with 120,000 square feet of community facility use, disclosed that there would be no significant adverse impacts from stationary sources. The school would occupy approximately 92,500 square feet of this community facility space. Based on energy use averages in Table 3N-1 of the *CEQR Technical Manual*, an educational use has lesser energy demand (76,400 BTUs per square foot per year) compared to both health care uses (196,400 BTUs per square foot per year) and office uses (77,900 BTUs per square foot per year). However, in the event that the school is constructed earlier than the proposed development at 616-2 (the eastern residential tower proposed for the 616 First Avenue parcel), HVAC systems for the school and community uses would be vented at the top of the community facility building, instead of the top of the 616-2 development as analyzed for the Proposed Actions.

A screening analysis was performed using the procedures outlined in the *CEQR Technical Manual* to examine the potential effects, either temporary or permanent, of venting the HVAC exhaust to the roof of the proposed building that would house the school. The *CEQR Technical Manual* methodology determines the threshold of development size below which the action would not have a significant adverse impact. The screening procedures use information regarding the type of fuel to be burned, the maximum development size, the HVAC exhaust stack height, and the distance to the nearest building of a similar or greater height to evaluate whether a significant adverse

impact is likely. The analysis was performed assuming natural gas would be used, to minimize the effects of HVAC emissions on nearby receptors.

The nearest off-site building of a similar or greater height was determined to be the existing Rivergate building, the residential building located at 606 First Avenue. The analysis showed that at distances equal to or greater than approximately 52 feet using natural gas, no significant air quality impacts from the projected development's HVAC systems are anticipated. Since the Rivergate site is approximately 79 feet from the nearest portion of the proposed school, no significant impacts on any off-site properties are predicted to occur. An analysis of potential project-on-project impacts was also performed. The nearest on-site building would be the adjacent 616-2 development. In the event that after construction of 616-2, either the HVAC systems for the proposed school and community facility uses were not directed to the top of the roof of 616-2, or that the future boiler system at 616-2 did not provide heating and hot water for the proposed school and community facility, any HVAC stack would need to be at least 52 feet from 616-2. No other on-site developments would be within this distance.

In addition, potential impacts on the school's contemplated rooftop playground were assessed. Utilizing the proposed building height and development size, the restrictive measures on stack height and set back would be used to avoid the potential for significant adverse impacts to a rooftop playground from the HVAC stack exhaust(s).

To preclude the potential for significant adverse air quality impacts from the proposed school, the restrictive declaration would have the following requirements for each of the proposed developments:

Block 967, Lot 1 (616 First Avenue) Proposed School. Any new development on this property must ensure that the heating, ventilating and air conditioning stack(s) utilize either natural gas, to avoid any potential significant air quality impacts.

- Any HVAC systems on this property must be located at least 52 feet from 616 First Avenue, Building 2, to avoid any potential significant air quality impacts.
- Any HVAC exhaust stack(s) shall be a minimum of 20 feet above the highest playground structure on the roof and be at least 10 feet from the playground area.

or,

- The minimum distance from any HVAC stack(s) (not meeting the above criteria) to the proposed playground shall be 52 feet, and the HVAC exhaust stack(s) shall be a minimum of three feet above the highest playground structure.
- Any HVAC exhaust stack(s) shall be a minimum of 20 feet above the highest playground structure on the roof and be at least 10 feet from the playground area.

or,

- The minimum distance from any HVAC stack(s) (not meeting the above criteria) to the proposed playground shall be 52 feet, and the HVAC exhaust stack(s) shall be a minimum of three feet above the highest playground structure.

With these restrictions, no significant adverse air quality impacts are expected with the addition of the school to the development program.

NOISE

The proposed school would be located in an area with high ambient noise levels, and would require 40 dBA of window/wall attenuation on the east façade, 35 dBA of window/wall attenuation on the south façade, and 35 dBA of attenuation on the west façade to satisfy CEQR interior noise requirements. (The wall to the north does not contain any windows.) The school would include central air conditioning and a minimum of double-glazed windows to achieve these attenuation values.

Overall, the school would be a substantially smaller vehicle traffic generator compared to the medical office/community facility space assumed in the analysis presented in Chapter 18, which determined that the Proposed Actions would not result in significant adverse traffic noise impacts. Therefore, the provision of a school would not result in significant adverse impacts related to traffic noise.

School playground and play-yard areas are noise generators. Based upon noise measurements made at a series of New York City school playgrounds for the New York City School Construction Authority (SCA), noise from the proposed rooftop school playground would be expected to produce approximately an $L_{eq(1)}$ value of 75 at the playground boundary and would be expected to decrease by the following values at the specified distances from the playground boundary: 4.8 dBA at 20 feet, a 6.8 dBA at 30 feet, and 9.1 dBA at 40 feet. For all distances between 40 and 300 feet, a 4.5-dBA drop-off per doubling of distances from the playground boundary was assumed.

Playground noise from the school could affect noise levels at non-project residential buildings and project buildings nearby. The playground noise could also increase the ambient noise levels at the proposed project's open space in the vicinity of the school to a level that is above that desirable for an open space amenity. The closest non-project building to the proposed school playground would be the Rivergate, on the south side of East 35th Street, which is more than 60 feet from the building. Noise from the school playground would result in noise levels at the Rivergate which are less than 65 dBA. The Rivergate building contains double glazed windows and central air conditioning which provide approximately 35 dBA of attenuation. Consequently, noise from the proposed school playground would not be expected to have a significant impact on the Rivergate. Other off-site buildings are further away, and shielded from noise from the proposed school rooftop playground and consequently, they too would not be significant impacted by school rooftop playground noise. In terms of project buildings, all of the proposed buildings would contain sufficient building window/wall attenuation to satisfy CEQR interior noise requirements with operation of the proposed school rooftop playground. Building 2 at 616 First Avenue, is the closest project building to the proposed rooftop school playground. 35 dBA of window/wall attenuation will be provided on the south face of this building. With this level of building attenuation, interior noise levels would be expected to be below the 45 dBA L_{10} level required by CEQR. Other project buildings are further away, and shielded from noise from the proposed school rooftop playground, and consequently, they too would not be significant impacted by school rooftop playground noise. At the proposed project's open spaces in the vicinity of the school, noise levels would be comparable to those found in parks containing playgrounds in the City's urban environment. Therefore, no significant adverse noise impacts are anticipated as a result of inclusion of the school in the development program.

CONSTRUCTION IMPACTS

As mentioned in Chapter 20, "Construction Impacts," the analyses presented in that chapter assume that the proposed school would be completed by 2014. The analyses in Chapter 20 (including traffic, air quality, and noise) concluded that there would be no significant adverse impacts from the proposed actions' construction activities. As part of mitigation for the potential significant adverse school impact, it is now expected that the proposed school would be operational approximately two years earlier, by September 2012. The construction-related traffic, air quality and noise sections below discuss any potential changes to the conclusions presented in Chapter 20 that may occur due to this two-year advancement in schedule.

Traffic

While an advancement in the construction schedule for the proposed school would result in additional construction worker and truck traffic approximately two years earlier, the overall projected peak construction period analyzed in Chapter 20 would not change; the latter part of 2009 would continue to be the highest peak in terms of construction vehicle activities. Therefore, the same transportation-related conclusions made in Chapter 20, would be applicable for this school mitigation.

Air Quality

The construction of the school earlier, instead of the community facility later in the schedule, would not change the peak emissions identified in Chapter 20, "Construction" or the conclusions presented there.

Due to the close proximity to the school, in addition to the emissions controls used for the construction of the entire project, all nonroad diesel engines used for the construction at 616-2 after the school construction is completed would be certified as EPA Tier 2 or better. This commitment would be included in the restrictive declaration.

The construction of the Proposed Actions would not result in predicted significant adverse impacts on air quality at the school. Although a single event where 24-hour average $PM_{2.5}$ concentration increments could potentially exceed the threshold level of 2 $\mu g/m^3$ was predicted at a single location, this may not occur at all if the worst-case meteorological condition (a single day per year) and the peak construction activity do not coincide. Since this exceedance is unlikely to occur, and if it did, would be limited in frequency (once), duration (a single day), severity (15 percent above the threshold), and extent (a single window), this would not be a significant adverse impact on air quality. Annual average $PM_{2.5}$ concentrations were predicted to be lower than the annual threshold, and PM_{10}, CO, and NO_2 are not expected to exceed the NAAQS. Therefore, no significant adverse air quality impact would occur at the school due to construction of the Proposed Project. See Appendix H for analysis details.

Noise

Construction of the school would not result in any additional significant adverse noise impacts. The off-site location most affected by this construction would be Receptor F (the Rivergate apartments) across 35th Street and south of proposed school. This building has already been identified to experience significant adverse noise impacts from project-related construction. However the Rivergate building has double glazed windows and an alternate means of ventilation (i.e. air conditioning). These measures provide approximately 35 dBA of window/wall attenuation (see Chapter 20), and would result in interior noise levels during much

of the time that are below 45 dBA $L_{10.}$ Replacing existing windows at the impacted buildings with windows which would provide a higher level of attenuation would not be a practicable and feasible mitigation measure. The cost and dislocations associated with such mitigation would be disproportionate to the marginal benefit to be realized.

The school would be located in an area with high ambient noise levels, and would require 40 dBA of window/wall attenuation on the eastern façade, 35 dBA of window/wall attenuation on the southern façade, and 35 dBA of attenuation on the western façade. (The wall to the north would not contain any windows.) The school would include central air conditioning and a minimum of double-glazed windows to achieve these attenuation values. With these measures, construction of adjacent project buildings would not cause a significant adverse impact inside the school building. While noise from nearby construction activities would be noisy and intrusive at the school's rooftop playground, this is an active recreation area, whose use is not dependant on a condition of quiet. Noise levels at the playground would be comparable to other outdoor playgrounds that are close to construction sites, would be temporary, and would not be considered a significant adverse impact.

PUBLIC HEALTH

As described above, the construction and operation of a school on the project site would not result in any new hazardous materials, air quality, or noise impacts. Therefore, no significant adverse impacts on public health would occur.

PUBLIC DAY CARE CENTERS

Based on the guidelines of the *New York City Environmental Quality Review* (*CEQR) Technical Manual*, an action may generate a sufficient number of eligible children to affect the availability of slots at publicly funded day care centers if it produces substantial numbers of subsidized, low- to moderate-income family housing units. Whereas the proposed development program would not include low- to moderate-income dwelling units, the Affordable Housing Scenario of the Proposed Actions would introduce 833 new low- to moderate-income units by 2014 and would result in an increase in demand on public day care facilities.

According to the *CEQR Technical Manual*, a significant adverse impact to public day care centers could result if a proposed action results in: (1) a demand for slots greater than the remaining capacity of day care centers serving the area of the proposed action; and (2) that demand constitutes an increase of 5 percent or more of the collective capacity of the day care centers in the study area. As described in Chapter 4, "Community Facilities," the projected 100 children potentially eligible for subsidized day care under the Affordable Housing Scenario could increase the net shortage of child care slots from 55 to up to 155 within the study area, which could constitute an increase of more than five percent of the collective capacity of the study area's public day care centers. Therefore, under the Affordable Housing Scenario of the Proposed Actions there would be the potential for a significant adverse impact to public day care centers.

Possible mitigation measures for this significant adverse impact include adding capacity to existing facilities if determined feasible through consultation with the Administration for Children's Services (ACS) or providing a new day care facility within or near the development parcels. At this point, however, it is not possible to know exactly which type of mitigation would be most appropriate or when its implementation would be necessary, because the demand for publicly funded day care depends not only on the amount of residential development in the area

but on the proportion of new residents who are children of low-income families (not all children meet the social and income eligibility criteria). Furthermore, several factors may limit the number of children in need of publicly funded day care slots. For example, families in the one-mile study area could make use of alternatives to publicly funded day care facilities. There are slots at homes licensed to provide family day care that families of eligible children could elect to use instead of public day care centers. Parents of eligible children may use ACS vouchers to finance care at private day care centers in the study area. Additionally, parents of eligible children are not restricted to enrolling their children in day care facilities in a specific geographical area, and could use the ACS voucher system to make use of public and private day care providers beyond the one-mile study area (some parent/guardians choose a day care center close to their employment rather than their residence). The project sponsor will work with ACS to develop measures to provide additional capacity if needed when the project is completed. Absent the implementation of any needed mitigation measures, the Proposed Actions could have an unmitigated significant adverse impact on day care facilities.

Following occupancy of a substantial number of affordable housing units constructed either on-site or off-site in conjunction with the Proposed Actions, the project sponsor will work with ACS to implement measures to provide any needed additional capacity in day care facilities within one mile of the development parcels as reasonably determined necessary by ACS. Absent the implementation of any needed mitigation measures, the Proposed Actions could have an unmitigated significant adverse impact on day care facilities. These provisions will be included in the restrictive declaration.

C. SHADOWS

The analysis in Chapter 6, "Shadows" found that the proposed development program would result in significant adverse shadow impacts on two sun-sensitive resources: the Manhattan Place Plaza and Tudor City open spaces. At Manhattan Place Plaza, the buildings on the 616 First Avenue development parcel would cast incremental shadows from 8:51 AM to 12:15 PM and 1:00 PM to 2:53 PM on the December analysis day, which would adversely affect public seating areas (see Figures 6-17a, 6-18a, 6-19a, 6-20a, and 6-21a in Chapter 6, "Shadows"). Under either of the construction schedules analyzed in this SEIS, the significant adverse shadows impact on Manhattan Place Plaza would first occur in the winter of 2014, when the construction of both 616 First Avenue residential buildings is completed. At the Tudor City open spaces, significant adverse impacts would occur on the already partially shadowed open spaces in the winter (December analysis day) when there would be incremental shadows from 8:51 AM to 1:30 PM from the buildings on the 685 and 708 First Avenue parcels (see Figures 6-17b, 6-18b, 6-19b, 6-20b, and 6-21b in Chapter 6, "Shadows"). Under either of the construction schedules analyzed in this SEIS, the significant adverse shadows impact on Tudor City open spaces would first occur in the winter of 2010, when the construction of the 685 First Avenue residential building and the 708 First Avenue commercial office building are completed.

The *CEQR Technical Manual* identifies several different measures that could mitigate significant adverse shadow impacts on open spaces. These measures include: relocating facilities within an open space to avoid sunlight loss; relocating or replacing vegetation; undertaking additional maintenance to reduce the likelihood of species loss; or providing replacement facilities on another nearby site. CEQR guidelines also discuss alternatives that may reduce or eliminate shadow impacts, including reorientation of building bulk or reorientation of the site plan. Therefore, as described below, the potential mitigation measures investigated included:

relocating or replacing vegetation; relocating facilities within an open space to avoid sunlight loss; providing replacement facilities on another nearby site; and reducing or eliminating shadow impacts through the reorientation of building bulk or reorientation of the site plan.

MANHATTAN PLACE PLAZA

Mitigation options considered, but rejected, for the significant adverse shadow impact on Manhattan Place Plaza included moving the proposed building on the western portion of the 616 First Avenue parcel toward the center of the site, and reducing the height of either of the buildings at 616 First Avenue. The change in the location of the building would cause the shadow increment cast by the building to leave Manhattan Place Plaza slightly earlier on the December analysis day. By moving the building eastward, a publicly accessible open space could be provided on the site's avenue frontage that could be in sun when Manhattan Place Plaza is in shadow. However, moving the building away from First Avenue would result in only marginal improvements to shadows and would not meet the project's urban design and land use goals of enlivening the street by providing ground-floor retail along the avenue. Another option considered was maintaining the retail frontage along First Avenue while moving the residential portion of the building away from First Avenue (onto the proposed publicly accessible open space). While this would maintain the new retail presence along First Avenue, it would result in only marginal improvements to shadows and, because it would require a larger amount of the site area for building, would dramatically reduce the amount of new publicly accessible open space on the site. Therefore, it is counter to the project's goal of providing substantial new publicly accessible open spaces for the community.

In order to fully mitigate the significant adverse impact, a reduction in the height of either of the proposed 616 First Avenue buildings would have to be substantial enough to remove approximately half of the area of incremental shadow that would be cast on the resource by one of the buildings. That would require either the western building to be reduced to a height of approximately 50 feet, or the tower of the eastern building to be reduced to a height of approximately 75 feet. Reducing the height of one of the buildings in this manner would be inconsistent with the project's goals of developing a mix of high-density uses and a substantial amount of new open space.

A partial mitigation measure considered was providing new seating areas within Manhattan Place Plaza, in the remaining sunlit areas not shadowed by the 616 First Avenue Buildings. However, as shown in Figures 6-17a, 6-18a, 6-19a, 6-20a, and 6-21a in Chapter 6, "Shadows," such new seating possibilities are limited because remaining sunlit areas are small in extent and duration. The incremental shadow would remove much or all of the remaining sunlight for most of the December analysis day. The project sponsor investigated the feasibility of implementing improvements to Manhattan Place Plaza between the Draft and Final SEIS, and did not identify any locations within Manhattan Place Plaza where new seating would provide substantial new opportunity for sunlit recreation during the impacted period.

TUDOR CITY OPEN SPACES

Potential mitigation measures considered, but rejected included reorienting the bulk of the building on the 685 First Avenue parcel and/or reducing the heights of the buildings on the 708 and 685 First Avenue Parcels in order to reduce the incremental shadows. Moving the proposed building on the 685 First Avenue parcel away from First Avenue (toward the western portion of the parcel) would not substantially alter the incremental shadows cast on the Tudor City open

spaces. In addition, the reconfigured building would block views south from Tudor City Place, and would not provide the opportunity for retail frontage along First Avenue, which is a design and land use objective of the Proposed Actions.

To fully eliminate the significant adverse shadow impact on the Tudor City open spaces, the overall heights of the proposed buildings on the 685 and 708 First Avenue parcels would have to be substantially reduced. The building height at 685 First Avenue would have to be reduced from the proposed 721 feet to a maximum height of 370 feet in order to prevent its shadow increment from reaching the Tudor City North Green and the Mary O'Connor Playground. To prevent this building from casting a shadow on the Tudor City South Green and the Tudor Grove Playground, the building would have to be further reduced to a maximum height of 250 feet. Concurrently, the height of the building at 708 First Avenue would have to be reduced from the proposed 688 feet to 340 feet to prevent casting a new shadow on the Tudor City open spaces. By reducing the height of the proposed building at 708 First Avenue to 360 feet, and the height of the proposed building at 685 First Avenue to 320 feet, the adverse shadow impact on the Tudor City open spaces would be eliminated. There would continue to be a shadow increment on the Tudor City South Green and the Tudor Grove Playground, but these height reductions would allow some sunlight to continue to reach both the northern and southern Tudor City open spaces throughout the December analysis day.

These substantial reductions in height of the buildings at 685 and 708 First Avenue were considered, but rejected, because they would affect other important development objectives associated with the Proposed Actions. Under the Proposed Actions—which contemplate a 12 FAR development program—the reduction in building height and the corresponding loss in residential floor areas at 685 First Avenue and/or 708 First Avenue would require an increase in footprints and/or heights at one or several of the other proposed residential buildings. These program revisions would run counter to the Proposed Actions' design objectives of developing tall and relatively slender towers that would allow for the provision of large, publicly accessible open spaces. The proposed development program seeks to maximize the provision of open space while distributing the program's bulk relatively evenly among six residential towers; a reconfiguration of bulk within the planned footprints would require increases in other proposed buildings' heights that would be less in scale with the surrounding neighborhood, and could generate new shadows on other sun-sensitive resources. Alternatively, increasing building footprints or the number of residential buildings on the remaining development parcels would reduce the amount of new open space within the proposed development program, particularly the new passive recreational space planned for 700 First Avenue that would provide views from First Avenue to the East River.

The provision of replacement facilities (i.e., benches or other seating areas) at another nearby publicly accessible open space is not a feasible mitigation option for the significant adverse impact on Tudor City open spaces. Other publicly accessible open spaces are neither in close proximity to, nor visible from, the Tudor City open spaces.

Therefore, feasible mitigation measures considered by the project sponsor instead focused on potential improvements to the attractiveness and usability of the Tudor City open spaces through the reconfiguration and/or addition of seating to portions of the open spaces receiving more sunlight, as well as upgrading the recreational facilities within the Tudor City Tudor Grove and/or Mary O'Connor playgrounds. A meeting was held between representatives of the project sponsor and representatives of Tudor City Greens, Inc. to present the findings of the Draft SEIS shadows analysis and to discuss possible mitigation measures for the significant adverse shadows impact. At that time, representatives of Tudor City Greens Inc. declined to identify

specific improvements to their open spaces which in their opinion would mitigate the significant adverse impact, pending the completion of the CPC review process.

MITIGATION PROGRAM

The restrictive declaration for the project will include a statement that the project sponsor has agreed with DPR to provide funding annually at a level of $10,000 per year for a period of six years for the planting of shade-tolerant species, and monitoring of such plantings at Tudor Grove and Mary O'Connor playgrounds, St. Vartan Park, and Trygve Lie Plaza. While these funds would be used to enhance the quality of the affected resources, they would not reduce the incremental shadows cast by the project buildings. Therefore, the significant adverse shadows impact to Tudor City and Manhattan Place Plaza open spaces would only be partially mitigated by these measures.

D. TRAFFIC

As discussed in Chapter 15, "Traffic and Parking," the Proposed Actions would result in significant adverse traffic impacts at locations within the primary and secondary traffic study areas. The sections that follow identify the mitigation needed at each location, while Figures 23-1 through 23-6 present graphic overviews of the ability of the traffic improvements identified to mitigate significant traffic impacts. Table 23-1 presents a summary of significant adverse traffic impacts and their mitigatability. Details of the intersection capacity analyses and all traffic mitigation measures (e.g., signal timing changes, parking regulation changes, enforcement, lane reconfigurations, etc.) are provided in Table 23-3 at the end of this chapter and in the "Traffic Impact Analyses" Technical Appendix B.

Table 23-1
Manhattan Traffic Study Areas' Traffic Impact Mitigation Summary—Year 2014

Intersections	Primary Traffic Study Area				Queensboro Bridge Secondary Study Area				West Side Secondary Study Area			
	AM	MD	PM	Sat.	AM	MD	PM	Sat.	AM	MD	PM	Sat.
No Significant Impact	24	46	24	53	8	6	7	11	1	1	0	2
Fully Mitigated Impact	32	18	30	10	2	5	3	2	4	3	5	5
Partially Mitigated Impact	0	0	4	0	0	0	0	0	0	0	1	1
Unmitigated Impact	11	3	9	4	3	2	3	0	3	4	2	0

The mitigation descriptions summarized below are for conditions without the potential United Nations Development Corporation (UNDC) development project included as a background project in the analysis. The effect of including the UNDC project on the overall mitigatability of significant adverse traffic impacts is summarized at the end of Section D, "Traffic."

The major overall finding of the traffic mitigation analysis is that the vast majority of locations analyzed under the Proposed Actions would either not be significantly impacted or could be mitigated with a series of traffic improvement measures including:

Development Parcels

No Significant Impact

Mitigated Impact

Partially Mitigated Impact

Unmitigated Impact

Unsignalized Intersection

* *Impacts are unmitigated unless close coordination of traffic enforcement agent activities could be implemented to improve intersection conditions.*

Traffic Mitigation Overview: Primary Traffic Study Area AM Peak Hour

Traffic Mitigation Overview: Primary Traffic Study Area Midday Peak Hour

FIRST AVENUE PROPERTIES REZONING

Figure 23-2

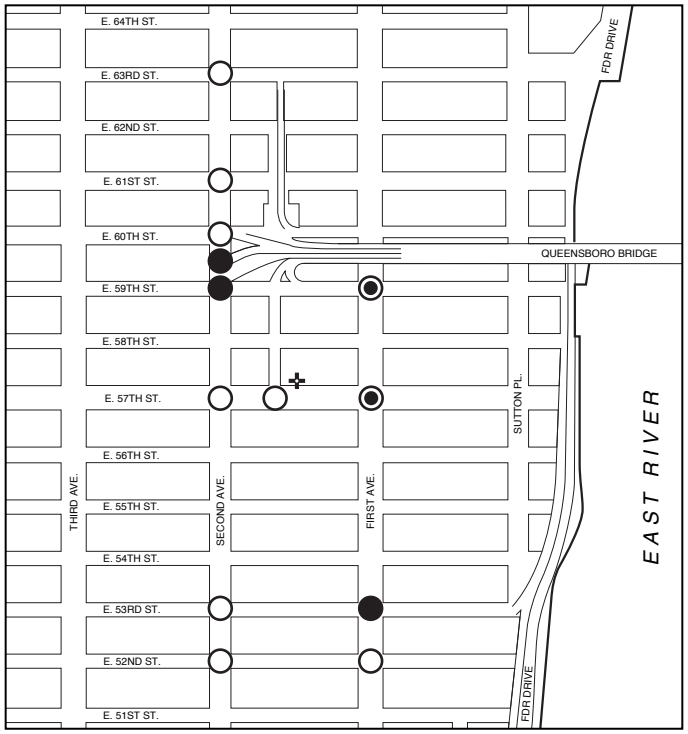
Traffic Mitigation Overview: Primary Traffic Study Area PM Peak Hour

Figure 23-3

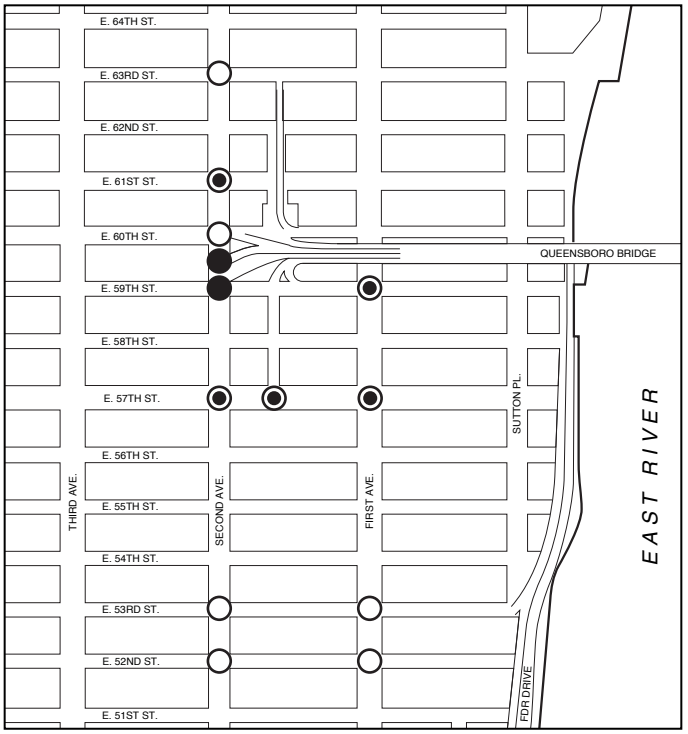
Traffic Mitigation Overview: Primary Traffic Study Area Saturday Midday Peak Hour

Figure 23-4

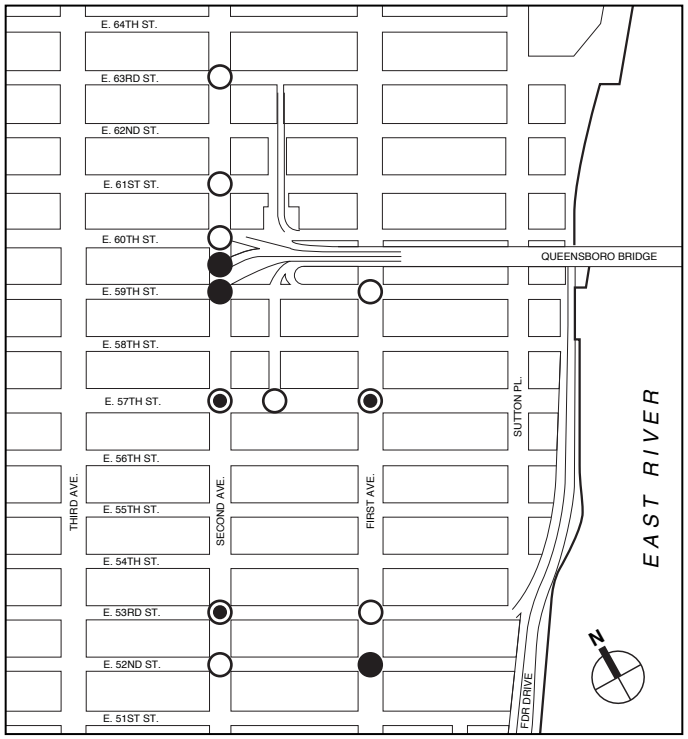
1.07.08



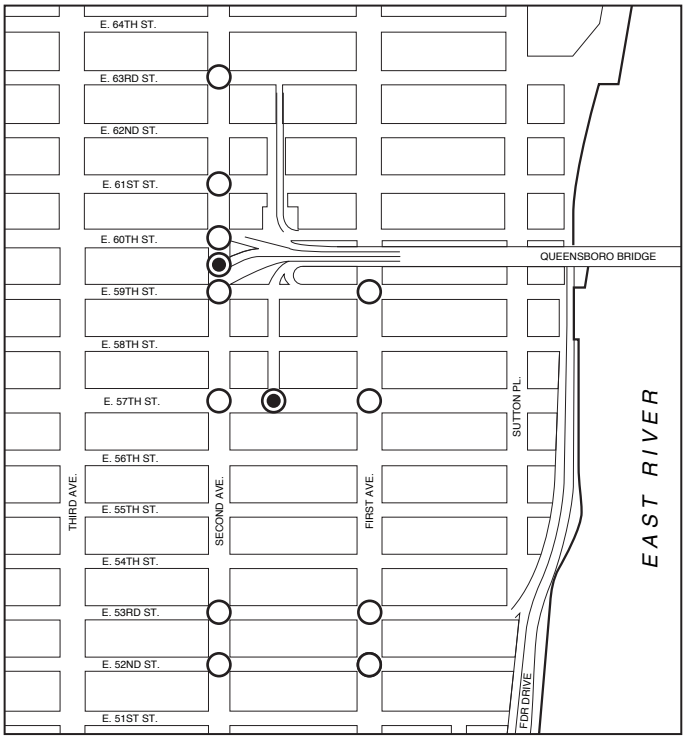
AM Peak Hour



Midday Peak Hour



PM Peak Hour



Saturday Peak Hour

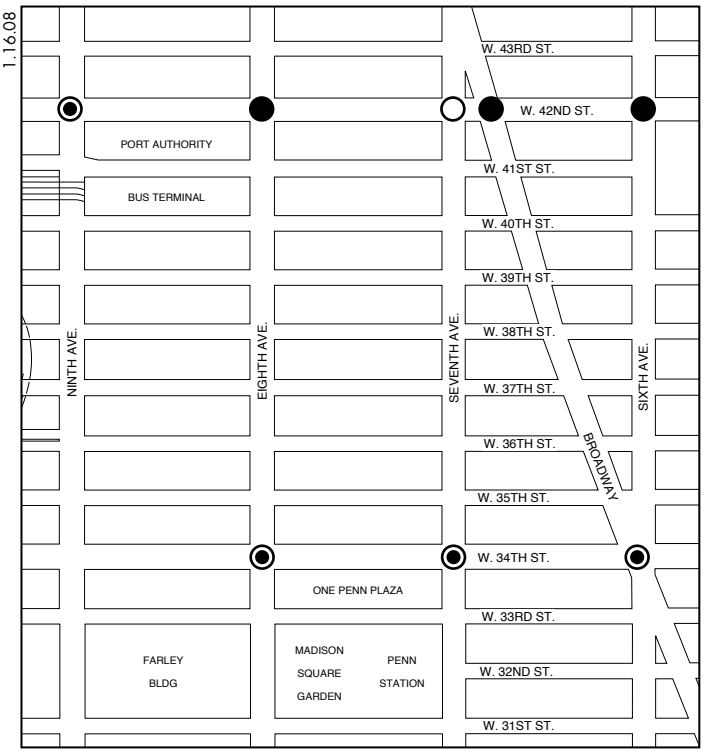
0 500 FEET
SCALE

- *No Significant Impact*
- *Mitigated Impact*
- *Partially Mitigated Impact*
- *Unmitigated Impact*
- *Unsignalized Intersection*

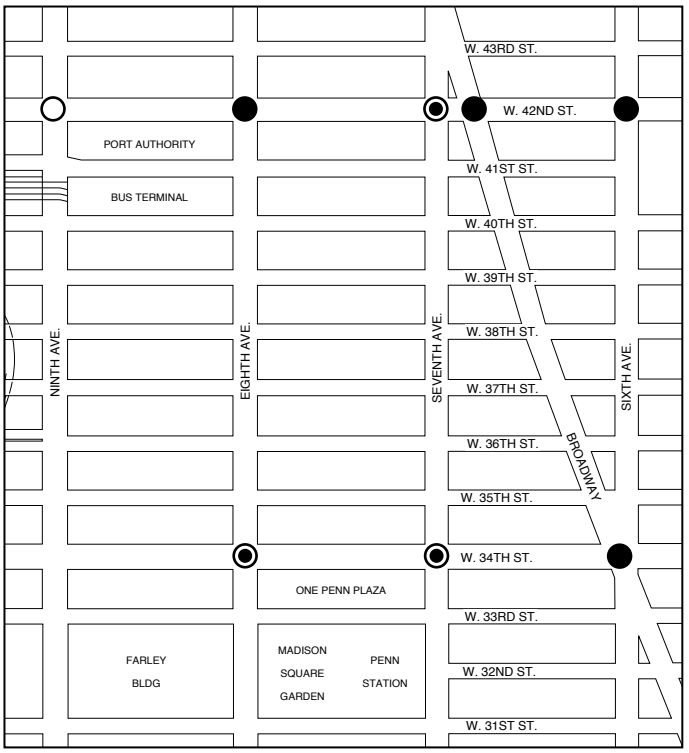
Traffic Mitigation Overview: Queensboro Bridge Secondary Study Area

Figure 23-5

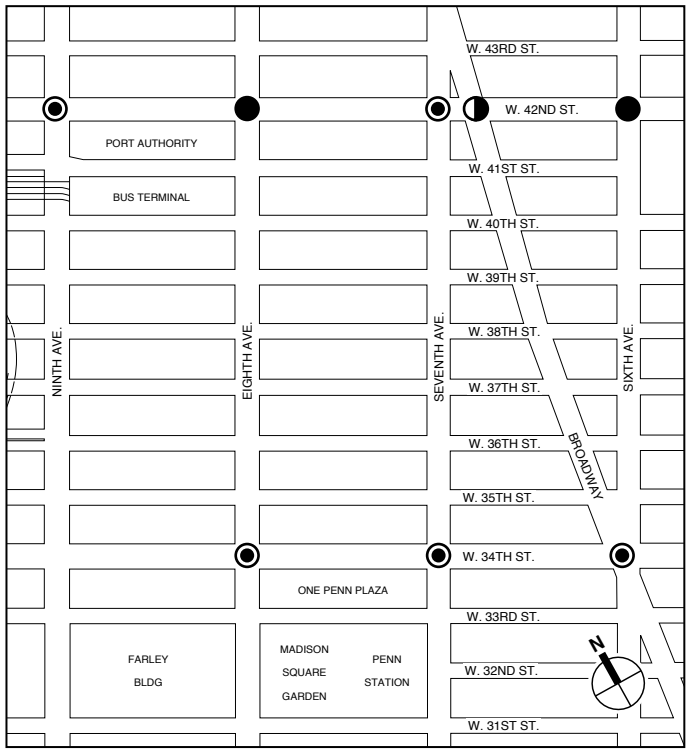
1.16.08



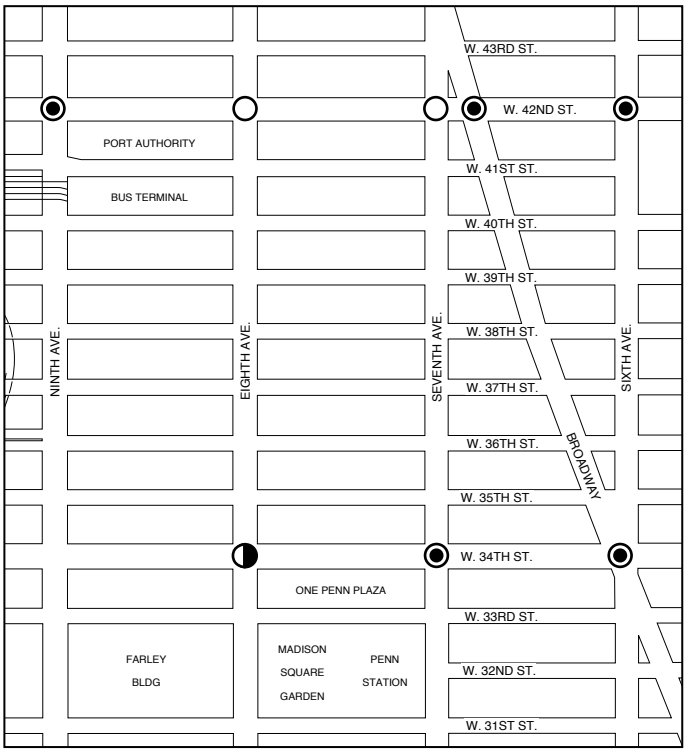
AM Peak Hour



Midday Peak Hour



PM Peak Hour



Saturday Peak Hour

0 500 FEET
SCALE

- *No Significant Impact*
- *Mitigated Impact*
- *Partially Mitigated Impact*
- *Unmitigated Impact*
- *Unsignalized Intersection*

Traffic Mitigation Overview: West Side Secondary Study Area

Figure 23-6

- Signal phasing and/or timing changes;
- Parking regulation changes to gain a travel lane at key intersections;
- Intersection or street channelization improvements;
- Lane markings and signage;
- Strict enforcement of existing parking regulations; and
- Installation of traffic signals at currently unsignalized intersections.

These measures represent the standard range of traffic capacity improvements that are available to improve operating conditions and mitigate impacts and are deployed by the New York City Department of Transportation (NYCDOT) and/or the New York Police Department (NYPD), and are the same types of measures identified in the FGEIS completed for this site previously.

Out of the 88 intersections analyzed in the three Manhattan traffic study areas in the weekday AM, midday, and PM peak hours, and the Saturday midday peak hour, all significant adverse traffic impacts could be mitigated with these exceptions: (1) in the weekday AM peak hour, there would be no partially mitigated intersections and 17 additional intersections (the FDR Drive service road at 34th, 35th, and 37th Streets; First Avenue at 42nd and 53rd Streets; Second Avenue at 34th Street and 42nd Street, and at 36th Street near the Queens-Midtown Tunnel; Second Avenue at 59th Street and at the exit from the Queensboro Bridge; the QMT Exit Street and 37th Street; Third Avenue and 42nd Street; Park Avenue at 34th Street; and Madison Avenue, Sixth Avenue, Broadway and Eighth Avenue at 42nd Street) could not be mitigated at all; (2) in the weekday midday peak hour, there would be no partially mitigated intersections, and nine intersections could not be mitigated at all (the same location at the FDR Drive Service Road and 34th Street as well as the two locations along Second Avenue near the Queensboro Bridge, the intersections of Second and Third Avenues and 42nd Street, and the intersections of Sixth Avenue, Broadway, and Eighth Avenue and 42nd Street, as cited above for the weekday AM peak hour, plus the intersection of Sixth Avenue, Broadway and 34th Street at Herald Square); (3) in the weekday PM peak hour, five intersections could only be partially mitigated and 14 additional intersections could not be mitigated at all (First Avenue at 37th, 40th, 49th, and 52nd Streets; the QMT Exit Street and 34th Street; and similar to the AM peak hour, the intersections of the FDR Drive Service Road at 34th and 35th Streets; First Avenue and 42nd Street; Second Avenue at 36th Street; Third Avenue at 42nd Street; the two locations along Second Avenue near the Queensboro Bridge; and Sixth and Eighth Avenues and 42nd Street; and (4) in the Saturday midday peak hour, there would be one partially mitigated intersection and four intersections could not be mitigated at all (the same intersection at the FDR Drive Service Road and 34th Street and Third Avenue at 42nd Street as cited for the AM peak hour, plus First Avenue and 34th Street and Park Avenue and 42nd Street). Details of the traffic mitigation measures needed intersection-by-intersection are outlined below.

By comparison, in the Final Generic EIS (FGEIS), there were three intersections near the entrance to the QMT that could not be mitigated at all in the weekday PM peak hour, plus three intersections along Second Avenue near the Queensboro Bridge that could not be mitigated at all in the weekday AM, midday, and PM peak hours for each of the development programs analyzed in that document. There were no partially mitigated impacts identified in the FGEIS, and there were no Saturday analyses conducted for the FGEIS.

The mitigability of significant traffic impacts in the Queens Plaza area approach to the Queensboro Bridge is detailed later in this chapter.

FIRST AVENUE CORRIDOR

Fifteen of the 21 intersections analyzed along First Avenue would be significantly impacted during the AM peak hour, seven would be significantly impacted during the weekday midday peak hour, and 12 would be significantly impacted during the PM peak hour. For the Saturday midday peak hour, four of the intersections analyzed would be significantly impacted. Each of these weekday and Saturday impacts could be fully mitigated with traffic capacity improvements, except for the following intersections: First Avenue and 34th Street, which would be partially mitigated in the PM peak hour and unmitigatable in the Saturday midday peak hour; First Avenue and 37th Street (which carries a significant volume of traffic to the QMT from northbound First Avenue) which would be unmitigatable in the weekday PM peak hour; First Avenue and 42nd Street, which would be unmitigatable in the weekday AM and PM peak hours; First Avenue and 40th Street, which would be unmitigatable in the PM peak hour; First Avenue and 49th Street, which would be unmitigatable in the PM peak hour; First Avenue and 53rd Street, which would be unmitigatable in the AM peak hour; and First Avenue and 52nd Street, which would be unmitigatable in the PM peak hour.

First Avenue and 30th Street: significant impacts are not expected during any of the analysis periods.

First Avenue and 33rd Street: Signal timing modifications could fully mitigate impacts during the weekday AM peak hour and there would be no significant impacts—and therefore no mitigation needed—during the other two weekday peak hours and the Saturday midday peak hours analyzed.

First Avenue and 34th Street: Signal timing modifications would fully mitigate impacts during weekday AM traffic analysis hour. In the weekday PM peak hour, it would be necessary to implement "No Standing" parking regulations in lieu of metered parking from 4 to 7 PM on the west side of First Avenue to gain an additional lane for moving traffic and to modify signal timings to partially mitigate impacts. There would be no significant adverse impacts during the weekday midday peak hour. Saturday midday peak hour impacts could not be mitigated.

First Avenue and 35th Street: Moving the taxi stand from the south curb of 35th Street east of First Avenue to a position 80 feet farther east on that block, and re-striping the westbound 35th Street approach to the intersection to allow for three travel lanes would be needed to fully mitigate weekday AM and PM impacts. There are no projected significant impacts for the weekday midday or Saturday midday peak hours, but the relocation of the taxi stand would remain at the proposed location during those time periods as well.

First Avenue and 36th Street: Three measures would be needed to fully mitigate AM impacts: (1) installing "No Standing" regulations from 7 to 10 AM on the east side of the First Avenue approach to the intersection to allow right turns to be made from the bus lane; (2) prohibiting parking from 7 to 10 AM along the north side of the 36th Street approach to the intersection and along the receiving lane on the far side of the intersection in order to add a third travel lane; and (3) signal timing modifications. There would be no significant impacts in the weekday midday or Saturday midday peak hours, so mitigation measures would not be needed at those times. In the weekday PM peak hour, prohibiting bus layovers on the east side of the First Avenue approach to the intersection and allowing right turns to be made from the bus lane by installing "No Standing" regulations from 3 to 7 PM, as well as signal timing modifications, would be needed to fully mitigate impacts.

First Avenue and 37th Street: Significant impacts would occur during the three weekday peak analysis hours, but not in the Saturday midday peak hour. In the weekday AM peak hour, it would be necessary to modify the existing "No Parking" regulations along the west side of First Avenue by extending the 8:30-9:00 AM prohibition to cover the 7-10 AM peak period along both the approach and far sides of the intersection to provide an additional travel lane, and to modify the existing signal timings. In the weekday midday peak hour, it would be necessary to prohibit parking along the west side of the First Avenue approach to the intersection to create an exclusive left turn lane and to modify the existing signal timings. Significant impacts during these two periods would be fully mitigated. In the weekday PM peak hour, significant impacts could not be mitigated. There would be no significant impacts and, therefore, no need for mitigation, in the Saturday midday peak hour.

First Avenue and 38th Street: Significant impacts requiring mitigation would occur in the weekday midday and PM peak hours and the Saturday midday peak hour. Signal timing modifications could fully mitigate significant impacts in the weekday midday and Saturday midday peak hours. Prohibiting parking along the north side of 38th Street by installing "No Standing" regulations from 4 to 7 PM, and modifying signal timings, would fully mitigate impacts in the weekday PM period.

First Avenue and 39th Street: Significant impacts requiring mitigation would occur in the weekday AM and PM peak hours—signal timing modifications would fully mitigate the impacts.

First Avenue and 40th Street: Significant impacts would occur only in the weekday PM peak hour as a result of the difficulties traffic turning left from eastbound 40th Street would have in getting through the volume of pedestrians crossing First Avenue in its north crosswalk. The significant adverse impact at this location would be unmitigated.

First Avenue and 41st Street: Significant impacts at this currently unsignalized intersection could be fully mitigated with the installation of a traffic signal to provide sufficient gaps for westbound 41st Street traffic to make right turns onto First Avenue. A signal warrant analysis has been prepared to demonstrate the need for this signal.

First Avenue and 42nd Street: Weekday AM and PM peak hour impacts would not be mitigatable. Signal timing modifications could fully mitigate the weekday midday and Saturday midday impacts.

First Avenue and 44th Street: Significant impacts would occur only in the weekday AM peak hour and could be fully mitigated via signal timing modifications.

First Avenue and 45th Street: Significant impacts would occur only in the weekday AM peak hour and could be fully mitigated via signal timing modifications.

First Avenue and 46th Street: Significant impacts are not expected during any of the analysis periods.

First Avenue and 47th Street: Significant impacts would occur only in the weekday AM peak hour and could be fully mitigated via signal timing modifications.

First Avenue and 48th Street: Significant impacts are not expected during any of the analysis periods.

First Avenue and 49th Street: Significant impacts are expected in the weekday AM, midday, and PM peak hours. The AM and midday peak hours could be fully mitigated with the following

measures: (1) re-striping the 49th Street approach to two 12-foot wide lanes with a 4-foot wide striped buffer; and (2) modifying signal timings. The significant impacts in the PM peak hour could not be mitigated. Significant impacts are not expected for the Saturday midday peak hour.

First Avenue and 52nd Street: Significant impacts are expected only for the weekday PM peak hour, and could not be mitigated.

First Avenue and 53rd Street: Significant impacts are expected only for the weekday AM peak hour and could not be mitigated.

First Avenue and 57th Street: Significant impacts expected in the weekday AM, midday, and PM peak hours could be fully mitigated by providing lane markings for the First Avenue exclusive left turn lane and the adjacent shared left turn/through lane to promote more efficient use of both lanes by left-turning vehicles and by installing "No Standing Anytime" regulations on the west side of First Avenue approaching 57th Street. These same physical measures would remain in place during the Saturday midday period even though significant impacts are not expected during that time period.

First Avenue and 59th Street: Significant impacts are expected only in the weekday AM and midday peak hours. AM peak hour impacts could be fully mitigated by modifying the existing "No Standing" regulation along the west side of First Avenue to allow truck loading/unloading from 10 AM to 3 PM instead of 7 AM to 3 PM, along with signal timing modifications. Signal timing modifications would mitigate weekday midday peak hour impacts.

SECOND AVENUE CORRIDOR

Twelve of the 23 intersections analyzed along Second Avenue would be significantly impacted during the AM peak hour, 12 would be significantly impacted during the midday peak hour, and 15 would be significantly impacted during the PM peak hour. For the Saturday midday peak hour, three of the intersections analyzed would be significantly impacted. Each of these impacts could be fully mitigated with traffic capacity improvements, except for the intersections of Second Avenue at 34th Street, which could not be mitigated in the AM peak hour, Second Avenue at 36th Street near the Queens-Midtown Tunnel, which could not be mitigated during the AM and PM peak hours; Second Avenue at 42nd Street, which could not be mitigated during the weekday AM and midday peak hours, and Second Avenue at 59th Street and at the exit roadway from the Queensboro Bridge situated between 59th and 60th Streets, which could not be mitigated in the weekday AM, midday, and PM peak hours. The intersections of Second Avenue at 42nd and 34th Streets in the PM peak hour could only be partially mitigated.

Second Avenue and 30th Street: Weekday AM peak hour impacts could be fully mitigated via signal timing modifications. There would be no impacts in the other time periods.

Second Avenue and 33rd Street: Weekday midday peak hour impacts could be fully mitigated via signal timing modifications. There would be no significant impacts in the other analysis periods.

Second Avenue and 34th Street: Weekday AM peak hour impacts could not be mitigated. During the weekday midday peak hour, impacts could be fully mitigated by informing the traffic enforcement agent at this location to extend the eastbound 34th Street effective green time into the westbound lag phase during every cycle if the westbound left turn demand during this lag phase is low; this practice is currently done during some cycles by the traffic enforcement agent(s) at the intersection. During the weekday PM peak hour, the same enforcement measure

as the midday peak hour, plus strict enforcement of existing "No Standing" regulations along the south side of the eastbound 34th Street approach to the intersection to maintain three effective moving lanes of traffic and signal timing modifications could only partially mitigate impacts. There would be no significant impacts in the Saturday midday peak hour.

Second Avenue and 35th Street: Strict enforcement of existing "No Parking" regulations along the east side of Second Avenue to maintain seven effective moving lanes of traffic, re-striping the westbound 35th Street approach to allow for one 10-foot-wide left-turn lane, two 10-foot-wide through lanes, and one 10-foot-wide truck loading and unloading lane; and installing "No Standing Anytime" regulations on the north side of 35th Street approaching Second Avenue would be needed to fully mitigate weekday AM and PM peak hour impacts. There would be no significant impacts in the weekday midday and Saturday midday peak hours, but the re-striping of 35th Street would be retained during these peak hours.

Second Avenue and 36th Street: Weekday AM and PM impacts could not be mitigated at this intersection. There would be no significant impacts in the weekday midday and Saturday midday peak hours.

Second Avenue and 37th Street: Weekday AM and PM and the Saturday midday impacts could be fully mitigated by signal timing modifications. There would be no significant impacts in the weekday midday peak hour.

Second Avenue and 38th Street: Weekday AM impacts could be fully mitigated by signal timing modifications. Weekday PM impacts would require both signal timing modifications and modification of existing "No Standing" regulations along the north side of 38th Street to prohibit truck loading/unloading in the 4–7 PM period (it is currently allowed from 7 AM to 7 PM) to gain an additional eastbound moving lane. There would be no significant impacts in the weekday midday and Saturday midday peak hours.

Second Avenue and 39th Street: Weekday midday and PM peak hour impacts could be fully mitigated by installing "No Standing" regulations from 10 AM to 7 PM along the south side of the 39th Street approach to the intersection to gain an additional travel lane, by prohibiting truck loading/unloading on the north side of 39th Street on the far side of the intersection from 10 AM to 7 PM, and by modifying the signal timing. There would be no significant impacts in the weekday AM or Saturday midday peak hours.

Second Avenue and 40th Street: Weekday AM and PM peak hour impacts could be fully mitigated by signal timing modifications and by providing strict enforcement of existing "No Standing" regulations on the east side of Second Avenue to gain an additional travel lane. Weekday midday peak hour impacts could be fully mitigated by installing "No Standing" regulations from 10 AM to 4PM along the east side of Second Avenue to gain an additional travel lane. There would be no significant impacts in the Saturday midday peak hour.

Second Avenue and 41st Street: Weekday AM peak hour impacts could be fully mitigated via signal timing modifications. Weekday PM peak hour impacts could be fully mitigated by modifying the signal timings and modifying the existing "No Standing" regulations along the south side of 41st Street to prohibit truck loading and unloading from 4 to 7 PM. There would be no significant impacts in the weekday midday and Saturday midday peak hours.

Second Avenue and 42nd Street: Weekday AM and midday peak hour impacts could not be mitigated. PM peak hour impacts could only be partially mitigated by modifying signal timing modifications. There would be no significant impacts in the Saturday midday peak hour.

Second Avenue and 43rd Street: Weekday midday peak hour impacts could be fully mitigated via signal timing modifications. Weekday PM peak hour impacts could be fully mitigated by installing "No Standing" regulations from 4 to 7 PM along the north side of 43rd Street to gain an additional travel lane and modifying the signal timings. There would be no significant impacts in the weekday AM and Saturday midday peak hours.

Second Avenue and 44th Street: Weekday midday and PM peak hour impacts could be fully mitigated by installing "No Standing" regulations from 10 AM to 7 PM along the east side of Second Avenue to provide a daylighted left-turn lane to prohibit trucks loading and unloading. There would be no significant impacts in the weekday AM and Saturday midday peak hours.

Second Avenue and 49th Street: Weekday AM peak hour impacts could be fully mitigated by providing strict enforcement of existing "No Standing" regulations on the south side of 49th Street to gain an additional travel lane and signal timing modifications. There would be no significant impacts in the weekday midday or PM or Saturday midday peak hours.

Second Avenue and 52nd Street: There would be no significant impacts during the analysis periods.

Second Avenue and 53rd Street: Weekday PM peak hour impacts could be fully mitigated by prohibiting parking from 4 to 7 PM along the east side of Second Avenue approaching the intersection to gain an additional travel lane. There would be no significant impacts in the weekday AM, midday, or Saturday midday peak hours.

Second Avenue and 57th Street: Significant traffic impacts in the weekday midday peak hour could be fully mitigated by modifying the "No Standing" regulations along the west side of Second Avenue approaching 57th Street to prohibit parking from 10 AM to 4 PM to provide a daylighted right-turn lane. Significant impacts in the PM peak hours could be fully mitigated by modifying signal timings. There would be no significant impacts in the AM and Saturday midday peak hours.

Queensboro Bridge Upper Level Ramp and 57th Street: Significant traffic impacts would occur in the weekday midday and the Saturday midday peak hours, and could be fully mitigated. Weekday midday peak hour impacts could be mitigated by installing "No Standing" regulations from 10 AM to 4 PM along the north side of westbound 57th Street to provide a daylighted shared through/right turn lane. Saturday midday peak hour impacts could be mitigated via signal timing modifications.

Second Avenue and 59th Street: Significant traffic impacts during weekday AM, midday, and PM peak hours could not be mitigated. There would be no significant impacts in the Saturday midday peak hour.

Second Avenue and Queensboro Bridge Ramp: Significant traffic impacts during weekday AM, midday, and PM peak hours could not be mitigated. Significant traffic impacts in the Saturday midday peak hour could be mitigated via signal timing modifications.

Second Avenue and 60th Street: Significant traffic impacts are not expected during any of the traffic analysis periods. However, signal timing modifications cited above for Second Avenue and the Queensboro Bridge Ramp during the Saturday midday peak hour would also be applied to the intersection of Second Avenue and 60th Street since they operate with the same signal controller.

Second Avenue and 61st Street: Significant traffic impacts would only occur in the weekday midday peak hour, and would be fully mitigated by installing "No Standing" regulations from 10 AM to 3 PM along the west side of Second Avenue approaching 61st Street to prohibit truck loading and unloading to provide a daylighted right-turn lane.

Second Avenue and 63rd Street: Significant traffic impacts are not expected in any of the analysis periods.

THIRD AVENUE CORRIDOR

Six of the nine intersections analyzed along Third Avenue would be significantly impacted during the AM peak hour, two would be significantly impacted during the midday peak hour, and five would be significantly impacted during the PM peak hour. For the Saturday midday peak hour, two intersections would be significantly impacted. Each of these impacts could be fully mitigated with traffic capacity improvements, except for the intersection of Third Avenue and 42nd Street, which could not be mitigated in any of the peak hours.

Third Avenue and 34th Street: Weekday AM, midday, and PM peak hour impacts could be fully mitigated via signal timing modifications. Saturday midday peak hour impacts are not expected.

Third Avenue and 35th Street: Weekday AM peak hour impacts could be fully mitigated by installing "No Standing" regulations—including commercial vehicles—from 7 to 10 AM along the west side of Third Avenue to provide a daylighted left-turn lane. There would be no significant impacts requiring mitigation during the other traffic analysis hours.

Third Avenue and 36th Street: Weekday AM peak hour impacts could be fully mitigated via signal timing modifications. Weekday PM peak hour impacts could be fully mitigated by increasing the use of the shared right turn/through lane adjacent to the east curb lane via improved lane use markings and by signage advising motorists to do so. There would be no significant impacts requiring mitigation in the other traffic analysis hours.

Third Avenue and 37th Street: Weekday AM peak hour impacts could be fully mitigated by modifying signal timings. There would be no significant impacts during the other peak traffic analysis hours.

Third Avenue and 38th Street: Weekday PM peak hour impacts could be fully mitigated by installing "No Standing" regulations from 4 to 7 PM to prohibit commercial parking along the north side of 38th Street to provide a daylighted left turn lane. There would be no significant impacts during the other traffic analysis hours.

Third Avenue and 39th Street: Weekday AM peak hour impacts could be fully mitigated by re-striping the 39th Street approach as one 12-foot-wide shared through/right turn lane, one 12-foot-wide through lane, and one 9-foot-wide standing curb lane (for Diplomat vehicles, as currently designated). Even though significant impacts are not expected for the other peak hours, the same physical mitigation measures would be in place for those peak hour traffic operations.

Third Avenue and 40th Street: There would be no significant impacts during any of the traffic analysis periods.

Third Avenue and 41st Street: PM peak hour impacts could be fully mitigated by installing "No Standing" regulations from 4 PM to 7 PM along the north side of 41st Street approaching Third Avenue to prohibit commercial parking to provide a 16-foot-wide travel lane. Saturday midday

peak hour impacts could be fully mitigated via signal timing modifications. There would be no impacts in the weekday AM or midday peak hours.

Third Avenue and 42nd Street: Significant traffic impacts are expected during all four traffic analysis peak hours and could not be mitigated.

QUEENS-MIDTOWN TUNNEL APPROACH STREET CORRIDOR

Four of the six intersections analyzed along QMT Approach Street would be significantly impacted in the weekday AM peak hour, one intersection would be significantly impacted in the weekday midday peak hour, five intersections would be significantly impacted in the weekday PM peak hour, and no intersections would be significantly impacted during the Saturday midday peak hour. All significant impacts at these intersections could be fully mitigated.

QMT Approach Street and 34th Street: Weekday AM, midday, and PM peak hour significant impacts could be fully mitigated via signal timing modifications. There would be no significant impacts in the Saturday midday peak hour.

QMT Approach Street and 35th and 36th Streets: Weekday PM peak hour significant impacts could be fully mitigated via signal timing modifications. Significant traffic impacts are not expected during the other traffic analysis peak hours.

QMT Approach Street and 37th Street: Weekday AM and PM peak hour impacts could be fully mitigated via signal timing modifications. There would be no significant impacts during the weekday midday and Saturday midday peak hours.

QMT Approach Street and 38th Street: Weekday AM peak hour impacts could be fully mitigated by modifying existing "No Standing" regulations along the south side of 38th Street approaching the intersection and along the far side of the intersection to prohibit truck loading/ unloading between 7 and 10 AM (it is currently allowed from 8 AM to 4 PM, and would be modified to be allowed from 10 AM to 4 PM) and by modifying signal timings. There would be no impacts in the weekday midday and PM peak hours or during the Saturday midday peak hour.

QMT Approach Street and 39th Street: Weekday AM peak hour impacts could be mitigated by signal timing modifications. Weekday PM peak hour impacts could be fully mitigated by modifying existing "No Standing" regulations along the north side of the 39th Street approach to allow truck loading and unloading from 8 AM to 4 PM (it is currently allowed from 8 AM to 7 PM). There would be no impacts in the weekday midday or Saturday midday peak hours.

QUEENS-MIDTOWN TUNNEL EXIT STREET CORRIDOR

Two of the seven intersections analyzed along QMT Exit Street would be significantly impacted in the weekday AM peak hour, none would be significantly impacted in the weekday midday peak hour, four intersections would be significantly impacted in the weekday PM peak hour, and one intersection would be significantly impacted in the Saturday midday peak hour. All significant impacts could be fully mitigated with the exception of the QMT Exit Street and 34th Street in the PM peak hour and 37th Street in the AM peak hour, which could not be mitigated.

QMT Exit Street and 34th Street: Weekday AM and Saturday peak hour impacts could be fully mitigated via signal timing modifications. There would be no significant impact in the weekday midday peak hour. PM peak hour impacts could not be mitigated.

QMT Exit Street and 35th Street: Weekday PM peak hour impacts could be fully mitigated via signal timing modifications. There would be no significant impacts during the other traffic analysis hours.

QMT Exit Street and 37th Street: Weekday AM peak hour impacts could not be mitigated. There would be no significant traffic impacts during the other traffic analysis peak hours.

QMT Exit Street and 38th Street: Weekday PM peak hour impacts could be fully mitigated via signal timing modifications. There would be no significant impacts during the other traffic analysis peak hours.

Queens-Midtown Tunnel Exit Street and 39th Street: There would be no significant impacts during the traffic analysis peak hours.

QMT Exit Street and 40th Street: Weekday PM peak hour impacts could be fully mitigated via signal timing modifications. There would be no significant impacts during the other traffic analysis peak hours.

QMT Exit Street and 41st Street: There would be no significant traffic impacts during any of the traffic analysis peak hours.

FDR DRIVE SERVICE ROAD CORRIDOR

All five of the intersections analyzed along the FDR Drive service road would be significantly impacted in the weekday AM peak hour, two would be significantly impacted in the weekday midday peak hour, four would be significantly impacted in the weekday PM peak hour, and one would be significantly impacted in the Saturday midday peak hour. All significant impacts could be fully mitigated except for the intersection of the FDR Drive Service Road and 34th Street, which could not be mitigated during all peak hours, the FDR Drive Service Road at 35th Street, which could not be mitigated in the AM and PM peak hours, and at 37th Street in the weekday AM peak hour, which could not be mitigated.

FDR Drive Service Road and 34th Street: Peak hour impacts could not be mitigated.

FDR Drive Service Road and 35th Street: Weekday AM and PM peak hour impacts could not be mitigated. Signal timing modifications could fully mitigate weekday midday peak hour. There would be no significant traffic impacts in the Saturday midday peak hour.

FDR Drive Service Road and 36th Street: Installation of a traffic signal at this currently unsignalized location would fully mitigate weekday AM and PM peak hour impacts. The signal would be operational during the weekday and Saturday midday peak hours even though no significant impacts would be expected during those periods. A signal warrant analysis has been prepared to demonstrate the need for this signal.

FDR Drive Service Road and 37th Street: Weekday AM peak hour impacts could not be mitigated. There would be no significant impacts during the other traffic analysis peak hours.

FDR Drive Service Road and 38th Street: Installation of a traffic signal at this currently unsignalized location would fully mitigate weekday AM and PM peak hour impacts. The signal would be operational during the other traffic analysis periods even though no significant impacts would be expected during those periods. A signal warrant analysis has been prepared to demonstrate the need for this signal.

34TH STREET CORRIDOR LOCATIONS BETWEEN LEXINGTON AND EIGHTH AVENUES

During all analysis periods, four of the six other intersections analyzed along 34th Street between Lexington and Eighth Avenues would be significantly impacted; all of these intersections' impacts could be fully mitigated except for Sixth Avenue/Broadway/34th Street which would be unmitigated in the weekday midday peak hour, Park Avenue and 34th Street which would be unmitigated in the AM peak hour, and Eighth Avenue on 34th Street, which could only be partially mitigated in the Saturday midday peak hour.

Lexington Avenue and 34th Street: Weekday PM and Saturday midday peak hour impacts could be fully mitigated via signal timing modifications. Weekday AM and midday peak hours would not be significantly impacted and therefore would not require mitigation.

Park Avenue and 34th Street: Weekday AM peak hour impacts could not be mitigated. Weekday midday peak hour impacts could be fully mitigated via signal timing modifications. Significant impacts would not occur in the weekday PM or Saturday midday peak hours.

Madison Avenue and 34th Street: Significant impacts are not projected during the analysis periods at this intersection.

Sixth Avenue, Broadway, and 34th Street: Weekday AM, PM, and Saturday midday peak hour impacts could be fully mitigated via signal timing modifications. Weekday midday peak hour impacts could not be mitigated.

Seventh Avenue and 34th Street: Weekday PM peak hour impacts could be fully mitigated by modifying existing "No Standing" regulations along the west side of Seventh Avenue to prohibit truck loading/unloading from 4 to 7 PM (truck loading/unloading is currently allowed from 7 AM to 7 PM) to gain an additional moving lane on Seventh Avenue plus signal timing modifications. Weekday AM and midday and Saturday midday impacts could be mitigated by signal timing modifications.

Eighth Avenue and 34th Street: Significant impacts during all weekday analysis periods could be fully mitigated via signal timing modifications and installing "No Standing" regulations along the east side of Eighth Avenue from 7 AM to 7 PM to provide a daylighted right turn lane. Saturday midday peak hour significant impacts could only be partially mitigated via signal timing modifications.

42ND STREET CORRIDOR LOCATIONS BETWEEN LEXINGTON AND NINTH AVENUES

Seven of the nine intersections analyzed along 42nd Street between Lexington and Ninth Avenues in the weekday AM and midday and Saturday midday peak hours would be significantly impacted, and eight would be significantly impacted in the weekday PM peak hour. All of these significant traffic impacts could be fully mitigated with the exception of Lexington Avenue, which could only be partially mitigated in the PM peak hour; Park Avenue at 42nd Street which could not be mitigated in the Saturday midday peak hour; Madison Avenue at 42nd Street which could not be mitigated in the weekday AM peak hour; Sixth Avenue at 42nd Street which could not be mitigated in the weekday AM, midday, and PM peak hours; 42nd Street at Broadway, which could not be mitigated in the AM and weekday midday peak hours, and could only be partially mitigated in the PM peak hour; and Eighth Avenue at 42nd Street, which could not be mitigated in the weekday peak hours.

Lexington Avenue and 42nd Street: Weekday AM and midday peak hour and Saturday midday peak hour impacts could be fully mitigated, and PM peak hour impacts could be partially mitigated by providing strict enforcement of existing "No Standing" regulations along part of the east side of Lexington Avenue and installing "No Standing Anytime" regulations along part of the east side of Lexington Avenue to prohibit truck loading and unloading to gain an additional travel lane, plus signal timing modifications.

Park Avenue and 42nd Street: The Saturday midday peak hour impacts could not be mitigated. Modification of the existing signal phasing and timing plan would be needed to fully mitigate impacts in the weekday PM peak hour. A new westbound protected phase, moving with the northbound right turns only, would be required, while maintaining the existing 90-second cycle length. One other measure would also be needed to accommodate the new signal phasing plan, which would be re-striping the northbound Park Avenue approach from one 13-foot-wide shared left-right lane and one 17-foot-wide exclusive right turn lane with parking, to a 12-foot-wide left turn lane and an 18-foot-wide right turn lane with parking. Though not necessary in other peak hours, this geometric modification would be implemented for all times.

Vanderbilt Avenue and 42nd Street: Mitigation, required during the weekday AM, midday, and PM peak hours and the Saturday midday peak hour at this location, would include signal timing modifications, and could fully mitigate expected impacts.

Madison Avenue and 42nd Street: Weekday midday and Saturday midday impacts could be fully mitigated through signal timing modifications. However, weekday AM impacts could not be mitigated. The weekday PM peak hour would not be significantly impacted.

Sixth Avenue and 42nd Street: Weekday AM, midday, and PM peak hour impacts could not be mitigated. Saturday midday impacts could be fully mitigated using signal timing modifications only.

Broadway and 42nd Street: Weekday AM and midday impacts could not be mitigated. Signal timing modifications would partially mitigate the weekday PM impacts and fully mitigate Saturday midday impacts.

Seventh Avenue and 42nd Street: Mitigation required during the weekday PM peak hour at this location would include signal timing modifications and prohibition of truck loading/unloading from 4 to 7 PM along the east side of the Seventh Avenue approach to gain an additional moving lane, and could fully mitigate the expected impacts. Signal timing modifications would mitigate weekday midday impacts. There would be no significant impacts during the weekday AM or Saturday midday peak hours.

Eighth Avenue and 42nd Street: Significant impacts could not be mitigated in the weekday AM, midday, and PM peak hours. There would be no significant impacts during the Saturday midday peak hour.

Ninth Avenue and 42nd Street: Impacts during the weekday AM and PM peak hours could be fully mitigated through strict enforcement of existing "No Standing" and "No Parking" regulations along the east side of Ninth Avenue to gain an additional travel lane and signal timing modifications. Saturday midday peak hour impacts could be mitigated via signal timing mitigations. There would be no significant impacts during the weekday midday peak hour.

GARAGE ENTRANCES AND EXITS

No significant traffic impacts are expected during any of the analysis time periods for the garage access and egress locations on 35th and 38th Streets.

QUEENS PLAZA AREA APPROACH TO THE QUEENSBORO BRIDGE

Table 23-2 presents a summary of significant adverse traffic impacts in the Queens Plaza area approach to the Queensboro Bridge and their mitigatability. Mitigation of impacts was accomplished through the same types of traffic capacity improvements cited previously for the Manhattan traffic study areas. Figures 23-7 through 23-10 provide a traffic mitigation overview.

Table 23-2
Queens Plaza Area Approach to the Queensboro Bridge
Traffic Impact Mitigation Summary—Year 2014

Signalized Intersections	AM Peak Hour	Midday Peak Hour	PM Peak Hour	Saturday Peak Hour
Signalized Intersections (12 locations)				
No Significant Impact	4	8	4	8
Fully Mitigated Impact	3	3	2	4
Partially Mitigated Impact	1	0	1	0
Unmitigated Impact	3	1	5	0

Notes:
1. No unsignalized intersections are analyzed in this study area.
2. Thomson Avenue & Queensboro Bridge Upper Level operates freeflow during the AM peak hour.

Seven of the 11 intersections analyzed during the AM peak hour would be significantly impacted. Of the 12 intersections analyzed during the midday, PM, and Saturday midday peak hours, four would be significantly impacted during the weekday and Saturday midday peak hours, and eight would be significantly impacted during the PM peak hour. Of the impacted locations, three in the weekday AM peak hour, one in the weekday midday peak hour, and five in the weekday PM peak hour could not be mitigated. There would be one partially mitigated intersection in each of the AM and PM peak hours. These overall findings are generally consistent with the more qualitative findings of the FGEIS regarding the difficulty of mitigating impacts in this heavily trafficked area leading to and from the Queensboro Bridge. At key unmitigated impact locations identified below, the Proposed Actions would be contributing a relatively modest amount of traffic to existing conditions that are currently heavily congested.

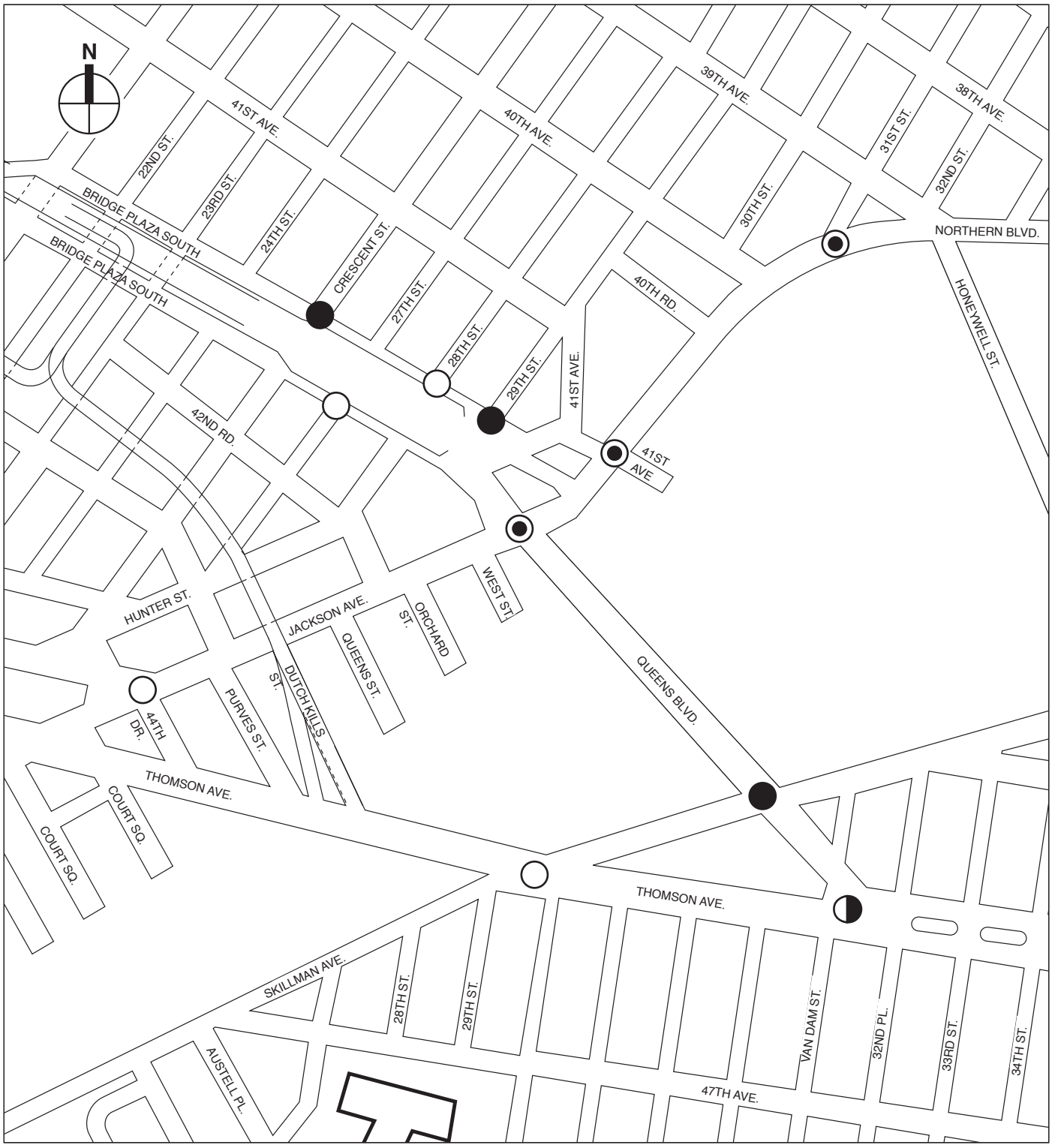
Queens Plaza North and Crescent Street: The weekday AM peak hour would have unmitigated impacts. There would be no significant impacts during the weekday midday, PM, and Saturday midday peak periods.

Queens Plaza North and 28th Street: Significant impacts are not expected during any of the analysis periods.

Queens Plaza North and JFK Commuter Plaza: The AM and PM peak hours would experience unmitigated impacts. The weekday midday and Saturday midday peak hour could be fully mitigated via signal timing modifications.

Queens Plaza North/41st Street and Northern Boulevard: The weekday AM peak hour could be mitigated via signal timing improvements. The PM peak hour would have unmitigated impacts. There would be no impacts during the weekday midday and Saturday midday peak periods.

12.3.07



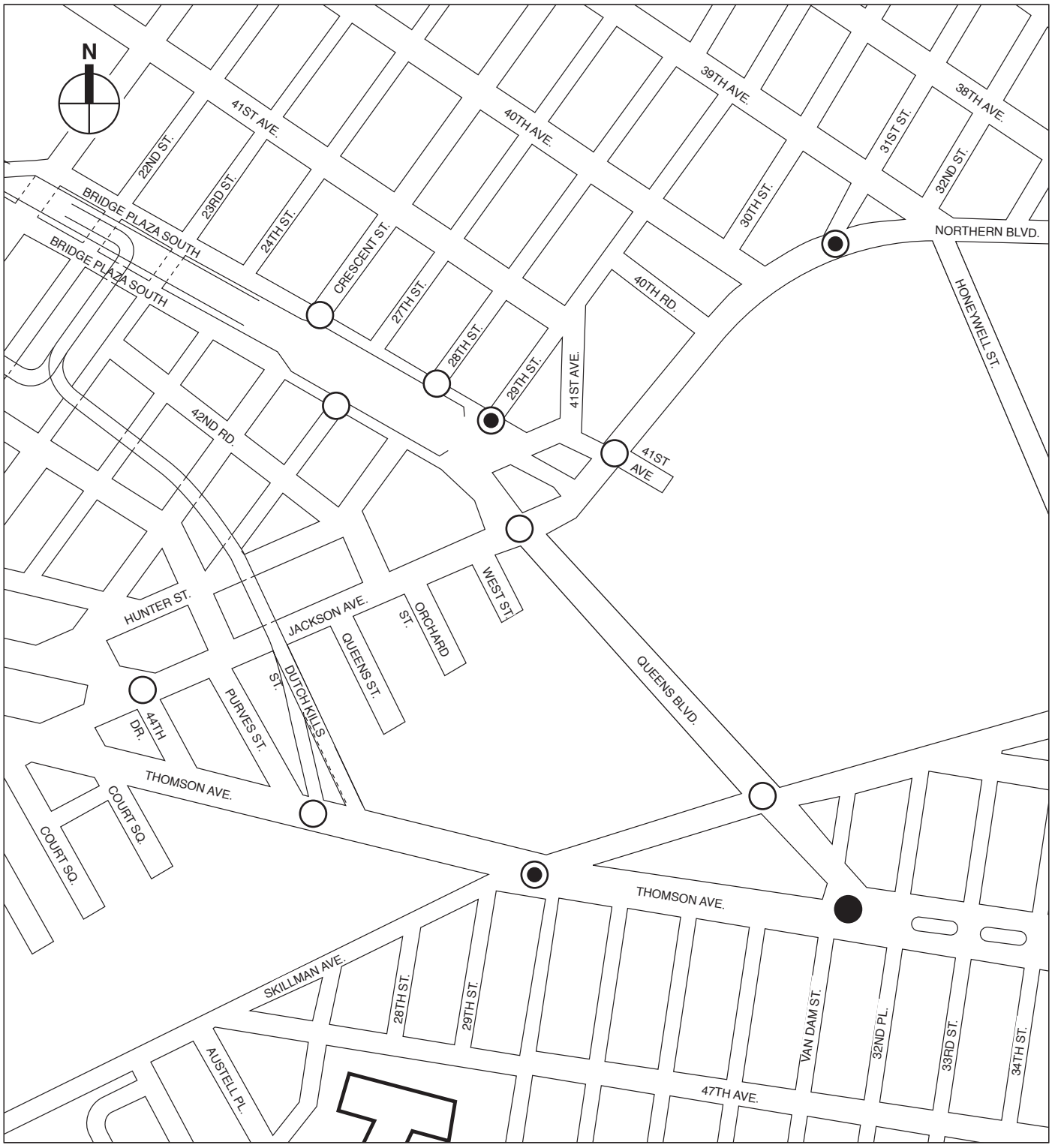
- *No Significant Impact*
- *Mitigated Impact*
- *Partially Mitigated Impact*
- *Unmitigated Impact*

Traffic Mitigation Overview: Queens Plaza Secondary Study Area AM Peak Hour

FIRST AVENUE PROPERTIES REZONING

Figure 23-7

12.3.07



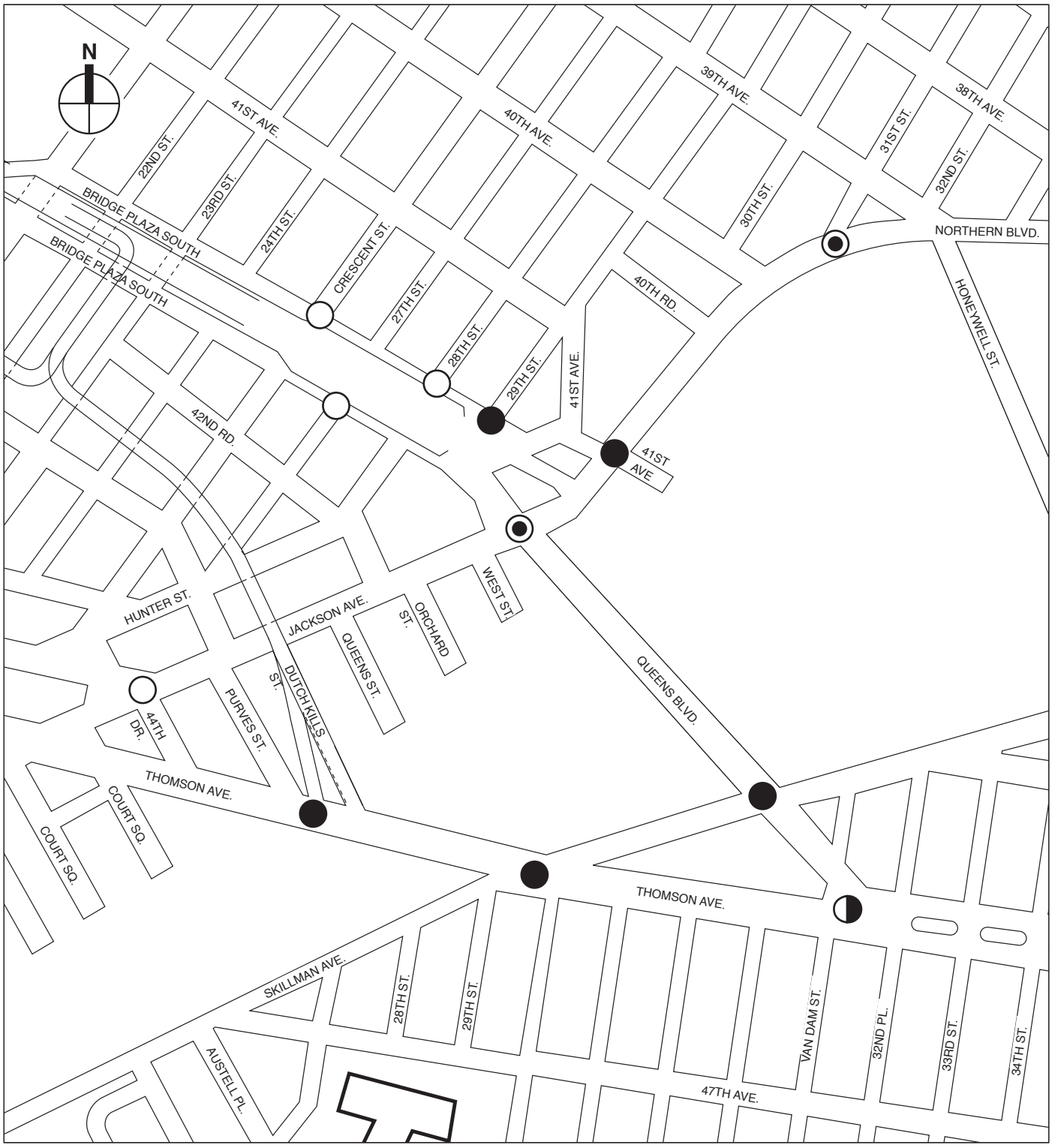
- *No Significant Impact*
- *Mitigated Impact*
- *Partially Mitigated Impact*
- *Unmitigated Impact*

Traffic Mitigation Overview: Queens Plaza Secondary Study Area Midday Peak Hour

FIRST AVENUE PROPERTIES REZONING

Figure 23-8

12.3.07



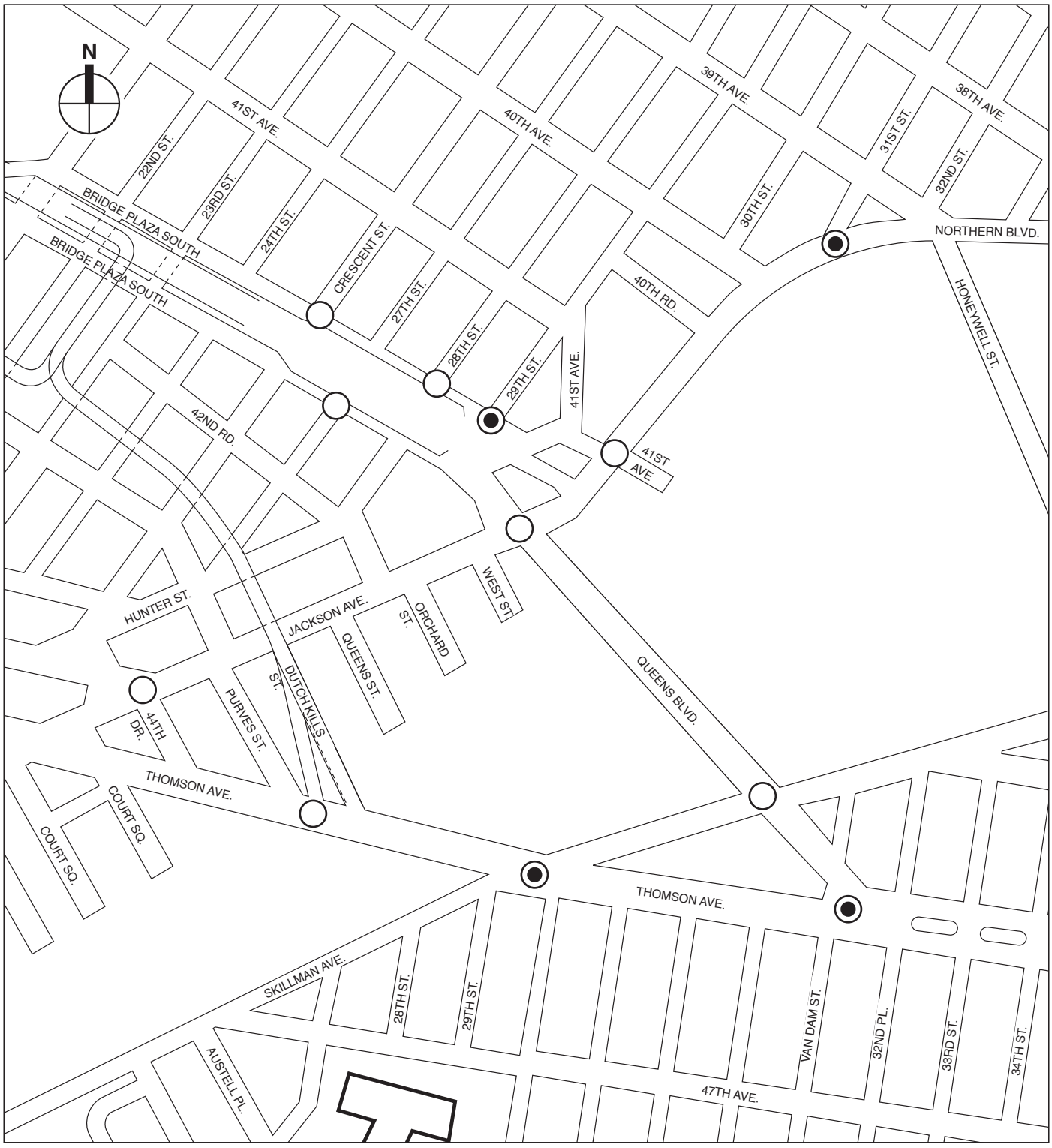
- ○ *No Significant Impact*
- ◉ *Mitigated Impact*
- ◑ *Partially Mitigated Impact*
- ● *Unmitigated Impact*

Traffic Mitigation Overview: Queens Plaza Secondary Study Area PM Peak Hour

FIRST AVENUE PROPERTIES REZONING

Figure 23-9

12.3.07



- *No Significant Impact*
- *Mitigated Impact*
- *Partially Mitigated Impact*
- *Unmitigated Impact*

Traffic Mitigation Overview: Queens Plaza Secondary Study Area Saturday Midday Peak Hour

FIRST AVENUE PROPERTIES REZONING

Figure 23-10

Queens Plaza South and 27th Street: Significant impacts are not expected during any of the analysis periods.

Queens Boulevard and Jackson Avenue/Northern Boulevard: Significant impacts expected during the weekday AM and PM peak hours could be mitigated by signal timing modifications. There would be no impacts during the weekday midday and Saturday midday analysis periods.

Queens Boulevard and Skillman Avenue: Significant impacts could not be mitigated during the weekday AM and PM peak hours. Significant impacts are not expected during the weekday midday and Saturday midday peak hours.

Queens Boulevard/Thomson Avenue and Van Dam Street: The weekday AM peak hour impacts could only be partially mitigated by providing strict enforcement of the existing "No Standing 7 to 10 AM" regulations on the east curb of the Van Dam Street approach. Weekday midday impacts could not be mitigated. During the weekday PM analysis period, traffic enforcement agents currently stationed at the intersection would have to process eastbound Thomson Avenue right turns for additional time (into the following signal phase) and strict enforcement of the existing "No Parking 10 AM to 6 PM" regulations on the east curb of the Van Dam Street approach would need to be provided in order to partially mitigate the impact. Saturday peak hour impacts could be fully mitigated using the same traffic enforcement agent measure described for the PM peak hour.

Thomson Avenue and Queensboro Bridge Upper Level Ramp: During the weekday PM peak hour, significant impacts could not be mitigated. No impacts are expected during the other analysis periods.

Thomson Avenue and Skillman Avenue: During the weekday midday and Saturday midday peak hours, impacts could be fully mitigated via the following measures: (1) re-striping the northbound Skillman Avenue approach from one 19-foot-wide lane to one 9.5-foot-wide left turn lane and one 9.5-foot-wide shared through/right turn lane; (2) re-striping the southbound Skillman Avenue approach from one 19-foot-wide lane to one 10-foot-wide shared left turn/through lane and one 9-foot-wide right turn lane; (3) relocating existing "No Standing" regulations to extend existing "No Standing Anytime" regulations to provide a right-turn lane; and (4) modifying the signal timings. During the weekday PM peak hour, significant impacts could not be mitigated. No impacts are expected during the AM peak hour, but physical measures from the midday peak hours would be in place.

Jackson Avenue and 44th Drive: Significant impacts are not expected during any of the analysis periods.

Northern Boulevard/31st Street and 40th Avenue: Significant impacts are expected during all peak hours and could be fully mitigated by signal timing modifications.

Table 23-3[1] shows the mitigation measures for each intersection and peak hour in the Manhattan and Queens study areas.

FDR DRIVE

There would be one significant adverse traffic impact as identified in Chapter 15, "Traffic and Parking" under Build conditions. The significant adverse impact location would be along the southbound FDR Drive mainline where the entrance ramp from 34th Street merges onto the

[1] Table 23-3 is located at the end of this chapter.

mainline during the PM peak hour. This impact could be mitigated by installing an alternative route message sign at 34th Street and the FDR Drive service road, advising motorists—and diverting a portion of those motorists—to stay on the southbound service road south of 34th Street and enter the FDR Drive at its 30th Street entrance ramp. It should also be noted that even without such mitigation, the decrease in travel speed on the FDR Drive would be less than 0.5 mph, which would not be noticeable to motorists.

PORTALS ANALYSIS

Chapter 15, "Traffic and Parking", identified significant traffic impacts for the mainline of the Queens-Midtown Tunnel (but not for the Queensboro Bridge)—inbound and outbound in the weekday AM peak hour and outbound only in the PM peak hour using criteria established for the *Hudson Yards Rezoning FEIS*. These impacts cannot be mitigated, since it would not be possible to increase the capacity of the tunnel itself. However, QMT conditions are most related to conditions at the intersections on the Manhattan side of the QMT, where existing capacity bottlenecks, at times, are the major influence over flow within the tunnel itself. Those capacity conditions and impacts would be addressed by the intersection mitigation measures described in detail above.

MITIGATION WITH THE UNDC BUILDING

The traffic impact analyses conducted in both the Draft SEIS and the FGEIS disclosed that projected conditions with the UNDC project included were not appreciably different than projected conditions without the UNDC project. Therefore, as indicated in Chapter 15, "Traffic and Parking," detailed traffic impact analyses were not re-conducted for this final SEIS. Similarly, detailed traffic mitigation analyses were also not re-conducted for this final SEIS. The same types of traffic capacity improvements described earlier in this Traffic Mitigation section for conditions without the UNDC project would also need to be implemented should the UNDC project proceed forward and be built within the same time frame as the proposed First Avenue Properties development program. The three traffic signals proposed as mitigation for the proposed project at currently unsignalized intersections of First Avenue at 41st Street and the FDR Drive service road's intersections with 36th and 38th Streets would be needed, as would lane re-striping, signal timing modifications, parking regulation modifications, and enforcement of existing parking regulations at locations and for time periods very similar to those described earlier for the proposed project.

Additionally, in the "Implementation" section that immediately follows, the applicant's commitment to conducting a detailed traffic monitoring plan is described to verify the location and extent of significant traffic impacts described in this final SEIS as well as the need for mitigation measures specified in this chapter. Should the UNDC project be built within the period that the proposed First Avenue Properties project is fully built out and occupied, its contribution to Build conditions would be reflected in the information compiled and analyzed by the traffic monitoring plan, and needed mitigation measures would be implemented by the respective responsible agencies.

IMPLEMENTATION

An assessment was also made of the potential for significant traffic impacts and mitigation that could occur as the first buildings are constructed and become occupied. The construction plan for the project envisions the initial, concurrent construction of 685 First Avenue and 708 First

Avenue, with both buildings being completed and occupied. The trip generation analysis for these two buildings indicates that together they would generate approximately 42 percent of the vehicle trips generated by full buildout of the total project in the weekday AM and midday peak hours, 49 percent in the weekday PM peak hour, and 27 percent in the Saturday midday peak hour.

For full buildout conditions, the range of mitigation measures identified earlier in this chapter included signal phasing and timing modifications, installation of new traffic signals at currently unsignalized intersections, parking and/or standing prohibitions, strict enforcement of existing parking or standing prohibitions, lane markings and signage, and geometric improvements. It can conservatively be assumed that, at the locations where the first two buildings would generate significant traffic impacts, the same or similar mitigation measures needed for full buildout conditions at those locations could also be needed once the first two buildings are constructed and occupied.

INTERIM MONITORING PLAN

Of the traffic mitigation measures listed above, three new traffic signals are proposed at currently unsignalized intersections under full project buildout conditions—at the FDR Drive service road's intersections with 36th Street and with 38th Street, and for First Avenue's intersection with 41st Street. The assessment of conditions with the first two buildings constructed and occupied indicates that a new traffic signal would be needed at the intersection of First Avenue and 41st Street as soon as 685 First Avenue and 708 First Avenue are constructed, but that the other two proposed traffic signals may not be needed until the full build out of the proposed development. The applicant has committed to conduct a traffic monitoring plan to determine the need for these three additional traffic signals, as well as to determine the extent to which future volume projections presented in this Final SEIS occur after the first two buildings are constructed and the extent to which other mitigation measures described earlier in this chapter are needed. The precise nature of the mitigation measures needed would be determined by the traffic monitoring program. The applicant will submit a detailed scope of work for this monitoring plan for NYCDOT's review and approval before commencing the monitoring plan. The traffic monitoring plan will consist of a mix of 24-hour Automatic Traffic Recorder (ATR) machine counts, one-day manual intersection through and turning movement counts, sample vehicle classification counts, pedestrian counts and physical inventory. The findings of this monitoring plan (i.e., actual volumes, surveys of both the 685 First Avenue and 708 First Avenue buildings to determine site-generated traffic, level of service analyses, and updated traffic signal warrant analyses) will be used by NYCDOT as the basis for approving mitigation measures. The applicant will be responsible for the cost of the design and construction of capital improvements, (e.g. new traffic signals proposed as mitigation, curb extensions, and potential relocation of Muni-meters) should they be needed after the first two buildings are constructed and occupied, consistent with customary and standard NYCDOT practice. The applicant will provide reasonable notice to NYCDOT prior to the completion and occupancy of 685 First Avenue and 708 First Avenue, in order to commence the monitoring program.

The applicant will also be responsible for submitting for review the mitigation measures to the appropriate City agencies. The applicant will submit all of the required drawings /design as per AASHTO and NYCDOT specifications for NYCDOT review and approval. NYCDOT will participate in the review process relating to all future modifications to geometric alignment, striping and signage during the preliminary and final design phases.

COMPLETION YEAR MONITORING PLAN

In order to verify the need and effectiveness of the proposed mitigation measures identified in the Final SEIS, the applicant has also agreed to conduct a detailed monitoring plan when the proposed development is fully built and occupied. The monitoring plan will include all the locations where significant traffic impacts have been identified that would require physical mitigation measures (i.e., new traffic signals, lane re-striping, parking regulation modifications, and signage), strict enforcement of existing parking or standing prohibitions, and signal timing modifications greater than two seconds are identified in this Final SEIS. The detailed traffic monitoring plan will consist of a mix of 24-hour Automatic Traffic Recorder (ATR) machine counts, one-day manual intersection through and turning movement counts, sample vehicle classification counts, pedestrian counts and physical inventory. In addition, on blocks where truck loading and unloading and commercial parking prohibitions would be needed to mitigate significant impacts, curbside utilization surveys will be conducted to determine the number of commercial vehicles that would be displaced. The on-street parking utilization survey will also include those adjacent blocks where displaced trucks and/or commercial vehicles will be accommodated. The traffic monitoring plan will also include intersection capacity and level of service analyses to determine whether actual future Build conditions have, in fact, resulted in significant traffic impacts and verify the need for the mitigation measures identified in this Final SEIS. The findings of this traffic monitoring plan would be used by NYCDOT as the basis for approving mitigation measures. The applicant will be responsible for the cost of the design and construction of capital improvements, (e.g., new traffic signals proposed as mitigation, curb extensions, and potential relocation of Muni-meters) should they be needed consistent with customary and standard NYCDOT practice. Before commencing any monitoring plan, the applicant will submit a scope of work for NYCDOT review and approval. The applicant will provide reasonable notice to NYCDOT prior to the completion and occupancy of the proposed project, in order to commence the monitoring program.

The applicant will also be responsible for submitting for review the mitigation measures to the appropriate City agencies. The applicant will submit all of the required drawings /design as per AASHTO and NYCDOT specifications for NYCDOT review and approval. NYCDOT will participate in the review process relating to all future modifications to geometric alignment, striping and signage during the preliminary and final design phases.

E. TRANSIT AND PEDESTRIANS

SUBWAYS

Additional trips associated with the Proposed Actions would result in a significant adverse impact on the operation of the PL9 stairway at Grand Central Station in the AM and PM peak periods. The PL9 stairway provides access between the Flushing Line platform and a bank of escalators and central stairways that lead to street level. The PL9 stairway is 10 feet wide and can accommodate four pedestrian lanes, two lanes on either side of a center handrail. A 15-inch widening would technically mitigate stairway operations to the No Build condition. However, as 15 inches is not sufficient to provide an additional pedestrian lane, the stair must be widened by a minimum of 24 inches to actually achieve the needed capacity. The required widening appears to be feasible since the existing PL9 staircase is flanked on either side by approximately 24 inches of inaccessible platform area. This mitigation would be provided subject to authorization by NYCT following review of necessary design studies. Based on the incremental demand of the

proposed project on the PL9 stairway, the applicant would be responsible for its fair and allocable share of the cost of the proposed widening.

NYCT BUSES

NYCT defines a significant adverse impact for bus line-haul if project-generated trips would result in demand that would exceed capacity at the route's peak load point. Based on these criteria, impacts would not occur on the M15 or M104 bus routes, but the Proposed Actions would result in significant adverse impacts for the following routes:

- The M16/M34 westbound in the AM and PM peak hours;
- The M16/M34 eastbound in the AM and PM peak hours;
- The M42 eastbound in the AM and PM peak hours; and
- The M42 westbound in the AM and PM peak hours.

As shown in Table 23-4, these impacts would be mitigated by converting from standard buses to articulated vehicles on these routes. For the M16/M34 route, the increased capacity of articulated buses would allow for a reduction in the number of bus runs as compared to Build conditions without mitigation. For the M42 route, the conversion to articulated vehicles would allow for a reduction in eastbound bus runs in the AM and PM peak hours; however, increased service would be needed for the westbound M42 route. In the event that New York City Transit would not convert these routes to articulated service, additional standard bus runs would be required as shown in Table 23-4.

Table 23-4
2014 Build with Mitigation Conditions—AM and PM Peak Hour Bus Line-Haul

Route		Peak Hour	Hourly Peak Load Volume	2014 Build without Mitigation		2014 Build with Mitigation Standard Bus Service			2014 Build with Mitigation Articulated Bus Service		
				Total Buses per Hour	Riders per Bus	Additional Buses per Hour	Total Buses per Hour	Riders per Bus	Additional Buses per Hour	Total Buses per Hour	Riders per Bus
M16 /M34	EB	AM	1358	18	75	+3	21	65	-2	15	91
	WB	AM	1730	26	67	+1	27	64	-7	19	91
	EB	PM	1579	23	69	+2	25	63	-6	17	93
	WB	PM	1034	13	80	+3	16	65	-1	12	86
M42	EB	AM	2359	29	81	+8	37	64	-3	26	91
	WB	AM	1376	14	98	+8	22	63	+1	15	92
	EB	PM	1515	17	89	+7	24	63	0	17	89
	WB	PM	1833	14	131	+14	28	65	+6	20	92

Note: NYCT's guideline capacity for a standard bus is 65 passengers per bus. NYCT's guideline capacity for an articulated bus Is 93 passengers per bus.

PEDESTRIAN CIRCULATION

As noted in Chapter 16, "Transit and Pedestrians," additional trips associated with the Proposed Actions would result in significant adverse impacts at the following three pedestrian analysis locations:

- The north crosswalk at East 42nd Street and Lexington Avenue in the AM peak period; and
- The north crosswalk at East 42nd Street and Third Avenue in the AM peak period.

Mitigation measures for each element are discussed below:

- The significant adverse impact at the north crosswalk at East 42nd Street and Lexington Avenue would be fully mitigated by implementation of the signal timing modification identified above as traffic mitigation.
- The significant adverse impact at the north crosswalk at East 42nd Street and Third Avenue can be partially mitigated with a four-foot widening from 16 to 20 feet.

As described in Chapter 16, "Transit and Pedestrians," three intersections in the study area are considered high vehicle/pedestrian accident locations: Third Avenue at East 42nd Street, Third Avenue at East 34th Street, and Second Avenue at East 34th Street. The incidence of accidents is not atypical of Midtown Manhattan and is more a function of traffic and pedestrian volumes than of unsafe roadway conditions or pedestrian geometry. Nevertheless, measures could be implemented that may improve pedestrian safety such as high visibility crosswalks, caution signs on vehicle approaches, and the repainting of stop bar markings.

An analysis was also prepared to determine if any proposed traffic mitigation measures would adversely affect pedestrian circulation. It was concluded that the traffic mitigation would not result in significant adverse impacts on the operation of the study area's corners and crosswalks.

MITIGATION WITH THE UNDC BUILDING

SUBWAYS

The cumulative increase in subway trips associated with the Proposed Actions and the potential UNDC building would result in an impact on the S2/S9 and the PL9 stairway at Grand Central Station. To fully mitigate these impacts, a widening of both stairways would be required. The widening of the PL9 stairway appears to be feasible, since there are approximately 2 feet of unused platform area flanking the existing stairway. This mitigation would be provided subject to authorization by NYCT following review of necessary design studies. Based on the incremental demand of the proposed project on the PL9 stairway, the applicant would be responsible for its fair and allocable share of the cost of the proposed widening. The S2/S9 stairway is located in a privately owned building. Widening the stair would be subject to negotiations with the building's owner. In the event that the proposed widening of the S2/S9 stairway could not be implemented, it would be considered a significant unmitigated adverse impact.

NYCT BUSES

The cumulative increase in bus trips associated with the Proposed Actions and the potential UNDC building would result in significant adverse impacts on the M16/M34 and the M42 bus routes; however, impacts were not identified for the M15 or M104 bus routes. The impact on the M16/M34 bus route is the same with or without the potential UNDC building since the UNDC building would not generate new trips on this route. The impact on the M42 bus routes would require more peak hour service than is needed without the inclusion of the potential UNDC building. Table 23-5 shows the mitigation analysis for NYCT buses with inclusion of the potential UNDC building.

Table 23-5
2014 Build with Potential UNDC Building and Mitigation Conditions—AM and PM Peak Hour Bus Line-Haul

Route		Peak Hour	Hourly Peak Load Volume	2014 Build without Mitigation		2014 Build with Mitigation Standard Bus Service			2014 Build with Mitigation Articulated Bus Service		
				Total Buses per Hour	Riders per Bus	Additional Buses per Hour	Total Buses per Hour	Riders per Bus	Additional Buses per Hour	Total Buses per Hour	Riders per Bus
M16 /M34	EB	AM	1358	18	75	(+3)	21	65	(-2)	15	91
	WB	AM	1730	26	67	(+2)	28	62	(-7)	19	91
	EB	PM	1579	23	69	(+2)	25	63	(-6)	17	93
	WB	PM	1034	13	80	(+2)	16	65	(-1)	12	86
M42	EB	AM	2526	29	87	(+11)	40	63	(-1)	28	90
	WB	AM	1385	14	99	(+8)	22	63	(+1)	15	92
	EB	PM	1540	17	91	(+7)	24	64	0	17	91
	WB	PM	1973	14	141	(+17)	31	64	(+8)	22	90
Note:	NYCT's guideline capacity for a standard bus is 65 passengers per bus. NYCT's guideline capacity for an articulated bus Is 93 passengers per bus.										

This analysis conservatively does not account for bus improvements that may be required in conjunction with the environmental review and approvals for the UNDC project.

PEDESTRIANS

As reported in the Draft SEIS, with the inclusion of the UNDC project, additional trips associated with the Proposed Actions would result in significant adverse impacts at seven pedestrian analysis locations:

- The north crosswalk at East 42nd Street and Lexington Avenue in the AM peak period;
- The north crosswalk at East 42nd Street and Third Avenue in the AM, midday, and PM peak periods;
- The southwest corner of East 42nd Street and Lexington Avenue in the AM peak period;
- The northeast corner of East 42nd Street and Lexington Avenue in the PM peak period;
- The northwest corner of East 42nd Street and Lexington Avenue in the AM peak period;
- The south crosswalk at East 42nd Street and Lexington Avenue in the PM peak period; and
- The north crosswalk at East 40th Street and First Avenue in the midday and PM peak periods.

As with conditions described above without the UNDC project, crosswalk impacts could be mitigated with signal timing adjustments and/or crosswalk widenings. Corner reservoir impacts would be mitigated with the removal or relocation of street furniture. However, this analysis conservatively does not account for pedestrian improvements that may be required in conjunction with the environmental review and approvals for the UNDC project.

Should the UNDC project move forward, a traffic and mitigation monitoring program would be conducted to determine the specific pedestrian mitigation measures needed. Before commencing the monitoring plan, the applicant will submit a scope of work for NYCDOT review and approval. The applicant will be responsible for submitting the mitigation measures to all appropriate City agencies for review and approval. The applicant will submit all of the required drawings /design as per AASHTO and NYCDOT specifications for NYCDOT review and approval. NYCDOT will participate in the review process relating to all future modifications to geometric alignment, striping and signage during the preliminary and final design phases. The applicant will be responsible for the cost of the design and construction of these improvements, consistent with customary and standard NYCDOT practice.

F. AIR QUALITY

EFFECTS OF PROPOSED TRAFFIC MITIGATION MEASURES

Chapter 17, "Air Quality," predicts the maximum predicted carbon monoxide (CO) and particulate matter (PM_{10} and $PM_{2.5}$) concentrations related to traffic generated from the Proposed Actions, and concludes that the Proposed Actions would not result in any significant adverse air quality impacts. Therefore, no air quality mitigation is required. This section considers the effects on air quality of the Proposed Actions with implementation of the traffic mitigation measures discussed above. The results (presented in Appendix E) show that with the proposed traffic mitigation measures, future concentrations of pollutants with the Proposed Actions would be below the National Ambient Air Quality Standards (NAAQS) and would not result in any significant adverse air quality impacts using the *de minimis* thresholds for CO impacts and the $PM_{2.5}$ interim guidance criteria. Appendix E presents the tables summarizing these results.

G. CONSTRUCTION

TRAFFIC

During the 7-8 AM peak hour, traffic associated with construction activities would result in significant adverse impacts at Second Avenue and East 41st Street. These impacts could be mitigated by applying signal timing modifications as was recommended under Build conditions.

In the 3-4 PM peak hour, significant adverse impacts would occur at First Avenue at 39th and 42nd Streets, and Second Avenue at 39th, 40th and 42nd Streets. The impacts at First Avenue and 39th Street, and Second Avenue at 39th Street could be mitigated by applying signal timing modifications, and the same strict enforcement of existing regulations and modification of parking regulations recommended under Build conditions. Second Avenue and 42nd Street, which could only be partially mitigated under Build conditions, could be mitigated via signal timing modifications.

First Avenue and 42nd Street, which could not be mitigated under Build conditions, could also not be mitigated under 3-4 PM peak hour construction conditions. Second Avenue and 40th Street, which would require a signal timing shift of 8 seconds to be fully mitigated, could not be mitigated because Second Avenue corridor signal progression limitations would not permit a shift of 8 seconds. The two unmitigated impacts would occur during the 3-4 PM peak hour, and would not disrupt the commuter PM peak hour from 5:30 to 6:30 PM. Furthermore, the unmitigated impacts related to construction activities would be temporary.

NOISE

As described in Chapter 20, "Construction Impacts," construction activities as analyzed in Section D of Chapter 20 would be expected to result in significant noise impacts at:

- Manhattan Place, the residential building located at 630 First Avenue, from the first floor to the top residential floor during the years 2011 through 2014 at locations which have a direct line of sight to construction activities that are taking place at 616 First Avenue, and at the public plaza adjacent to the building during the years 2011 through 2013;

- Rivergate, the residential building located at 606 First Avenue, from the first floor to the top residential floor during the years 2011 through 2014 at locations which have a direct line-of-sight to construction activities that are taking place at 616 First Avenue;
- Corinthian, the residential building located at 345 East 37th Street, from the tenth floor to the top residential floor during the years 2009 through 2011 at locations which have a direct line-of-sight to construction activities that are taking place at 616, 685, and 708 First Avenue; and
- Horizon, the residential building located at 415 East 37th Street, from the fifth floor to the top residential floor during the years 2009 through 2010 at locations which have a direct line-of-sight to construction activities that are taking place at 685 and 708 First Avenue.

Under the Alternative Construction Scenario, construction activities would be expected to result in significant noise impacts at the following locations:

- Manhattan Place, the residential building located at 630 First Avenue, from the first floor to the top residential floor during the years 2011 through 2014 at locations which have a direct line of sight to construction activities that are taking place at 616 First Avenue, and at the public plaza adjacent to the building during the years 2011 through 2013;
- Rivergate, the residential building located at 606 First Avenue, from the third floor to the top residential floor during the years 2011 through 2014 at locations which have a direct line-of-sight to construction activities that are taking place at 616 First Avenue;
- Corinthian, the residential building located at 345 East 37th Street, from the tenth floor to the top residential floor during the years 2009 through 2011 at locations which have a direct line-of-sight to construction activities that are taking place at 616, 685, and 708 First Avenue; and
- Horizon, the residential building located at 415 East 37th Street, from the fifth floor to the top residential floor during the years 2009 through 2010 at locations which have a direct line-of-sight to construction activities that are taking place at 685 and 708 First Avenue.

With regard to the residential locations where significant noise impacts are predicted to occur, all of the residential buildings (i.e., Manhattan Place [630 First Avenue], Rivergate [606 First Avenue], Corinthian [345 East 37th Street], Horizon [415 East 37th Street], have double-glazed windows and have some form of alternative ventilation (i.e., central air conditioning or packaged terminal air conditioner [PTAC] units). Consequently, even during warm weather conditions, interior noise levels would be approximately 30-35 dBA less than exterior noise levels. Although these would be considered significant noise impacts based on the CEQR construction noise impact criteria, the double-glazed windows and alternative ventilation at these residential structures would provide a significant amount of sound attenuation, and would result in interior noise levels during much of the time that are below 45 dBA L_{10}. Replacing existing windows at the impacted buildings with windows which would provide a higher level of attenuation would not be a practicable and feasible mitigation measure. The cost and dislocations associated with such mitigation would be disproportionate to the marginal benefit to be realized.

Lastly, with regard to Manhattan Place Plaza, the only open space area adjacent to the project site where significant noise impacts are predicted to occur during the 2011 to 2013 construction years—there are no feasible or practicable measures that could be implemented to mitigate project construction impacts, such as erecting barriers around the parks, which would present access and security concerns. Consequently, these significant adverse impacts would remain unmitigated. ✷

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
F. D. R. DRIVE SERVICE ROAD & 34TH STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**
F. D. R. DRIVE SERVICE ROAD & 35TH STREET	**Unmitigatable Impact.**	Modify signal timing: shift 5 s green time from NB-lag phase to NB/SB phase; shift 1 s green time from WB phase to NB/SB phase. [NB/SB green time shifts from 33 s to 39 s; NB-lag green time shifts from 26 s to 21 s; WB green time shifts from 16 s to 15 s].	**Unmitigatable Impact**.	Mitigation not required.
F. D. R. DRIVE SERVICE ROAD & 36TH STREET (UNSIGNALIZED)	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the AM & PM peak period; otherwise mitigation is not needed.]**	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the AM & PM peak period; otherwise mitigation is not needed.]**
F.D.R. DRIVE SERVICE ROAD & 37TH STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required.	Mitigation not required.
F.D.R. DRIVE SERVICE ROAD & 38TH STREET (UNSIGNALIZED)	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the AM and PM peak periods; otherwise mitigation is not needed.]**	Install a new traffic signal with a 90-second cycle length. [SB green time is 58 s; EB green time is 22 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the Weekday AM and PM peak periods; otherwise mitigation is not needed.]**
FIRST AVENUE & 30TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 33RD STREET	Modify signal timing: shift 2 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 34TH STREET	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 39 s to 37 s; EB/WB green time shifts from 23 s to 25 s; EB-lead green time remains 7 s; LPI remains 6 s].	Mitigation not required.	**Partially Mitigated.** Modify the existing metered parking regulation along the west side of First Avenue: allow 1 HR metered parking from 9A-4P instead of 9A-7P, and provide "No Standing" regulations for 4P-7P 120 ft from the intersection, to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 2 s green time from NB phase to EB/WB phase; shift 1 s from NB phase to EB-lead phase. [NB green time shifts from 39 s to 36 s; EB/WB green time shifts from 23 s to 25 s; and EB-lead phase shifts from 7 s to 8 s].	**Unmitigatable Impact.**
FIRST AVENUE & 35TH STREET	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as a one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft.	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as a one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft. **[Measures reflect geometric improvements needed for the AM and PM peak period; otherwise mitigation is not needed.]**	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as a one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft.	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft. **[Measures reflect geometric improvements needed for the AM and PM peak periods; otherwise mitigation is not needed.]**

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
FIRST AVENUE & 36TH STREET	Modify the existing "No Standing" regulations for along the east side of the First Avenue approach to prohibit parking from 7A-10A during the AM peak hour to allow right turns from the bus lane (for a total of 6 lanes). Install "No Standing" regulations 7A-10A along the north side of the EB 36th Street approach and receiving lanes 120 ft. from the intersection to gain an additional travel lane (for a total of 3 lanes). Modify signal timing: shift 2 s green time from NB phase to EB phase. [NB green time shifts from 49 s to 47 s; EB green time shifts from 31 s to 33 s].	Mitigation not required.	Modify the existing "No Standing" regulations for along the east side of the First Avenue approach to prohibit bus layover from 3P-7P during the PM peak hour to allow right turns from the bus lane (for a total of 6 lanes). Modify signal timing: shift 3 s green time from EB phase to NB phase. [NB green time shifts from 49 s to 52 s; EB green time shifts from 31 s to 28 s].	Mitigation not required.
FIRST AVENUE & 37TH STREET	Modify the existing "No Parking" regulations along the west side of the First Avenue approach to prohibit parking and standing from 7A-10A 120 ft. from the intersection to provide a daylight left turn lane (for a total of 6 lanes). Modify signal timing: shift 2 s green time from NB phase to WB phase. [NB green time shifts from 49 s to 47 s; WB green time shifts from 31 s to 33 s].	Modify the existing "No Parking" regulations along the west side of the First Avenue approach to prohibit parking and standing from 10A-4P 120 ft. from the intersection to provide a daylight left turn lane (for a total of 6 lanes). Modify signal timing: shift 1 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	**Unmitigatable Impact.**	Mitigation not required.
FIRST AVENUE & 38TH STREET	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 49 s to 48 s; EB/WB green time shifts from 31 s to 32 s].	Install "No Standing" regulations from 4P-7P M-F to prohibit parking along the north side of the 38th Street WB approach (adjacent to the project site). Modify signal timing: shift 5 s green time from NB phase to EB/WB phase. [NB green time shifts from 49 s to 44 s; EB/WB green time shifts from 31 s to 36 s].	Modify signal timing: shift 4 s green time from NB phase to EB/WB phase. [NB green time shifts from 49 s to 45 s; EB/WB green time shifts from 31 s to 35 s].
FIRST AVENUE & 39TH STREET	Modify signal timing: shift 2 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify signal timing: shift 3 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 52 s; WB green time shifts from 31 s to 28 s].	Mitigation not required.
FIRST AVENUE & 40TH STREET	Mitigation not required.	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
FIRST AVENUE & 41ST STREET (UNSIGNALIZED)	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].
FIRST AVENUE & 42ND STREET	**Unitigatable Impact.**	Modify signal timing: shift 3 s from NB phase to EB/WB phase. [NB green time shifts from 44 s to 41 s; WB green time shifts from 31 s to 34 s.]	**Unmitigatable Impact.**	Modify signal timing: shift 5 s from NB phase to EB/WB phase. [NB green time shifts from 44 s to 39 s; WB green time shifts from 31 s to 36 s.]
FIRST AVENUE & 44TH STREET	Modify signal timing: shift 2 s green time from EB phase to NB phase. [NB green time shifts from 49 s to 51s; EB green time shifts from 31 s to 29 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
FIRST AVENUE & 45TH STREET	Modify signal timing: shift 2 s from east/west-ped phase to NB phase green time. [NB green time shifts from 49 s to 51 s; all-ped time shifts from 31 s to 29 s]. (NOTE: Based on the maximum crossing distance of 65 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across First Avenue is 26 s; the proposed 29 s is sufficient).	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 46TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 47TH STREET	Modify signal timing: shift 1 s from east/west-ped phase to NB phase green time. [NB green time shifts from 49 s to 50 s; all-ped time shifts from 31 s to 30 s]. (NOTE: Based on the maximum crossing distance of 42 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across First Avenue is 19 s; the proposed 30 s is sufficient).	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 48TH STREET (UNSIGNALIZED)	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 49TH STREET	Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. Modify signal timing: shift 2 s from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. Modify signal timing: shift 1 s from WB phase to NB phase. [NB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	**Unmitigatable Impact.** Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. Modify signal timing: shift 2 s from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s]. **[Measures reflect geometric improvements needed for the AM and midday peak periods.]**	Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. **[Measures reflect geometric improvements needed for the AM and midday peak periods; otherwise mitigation is not needed.]**
FIRST AVENUE & 52ND STREET	Mitigation not required.	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
FIRST AVENUE & 53RD STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 57TH STREET	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection.	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection.	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection.	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection. **[Measures reflect geometric improvements needed for the Weekday peak periods; otherwise mitigation is not needed.]**

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
FIRST AVENUE & 59TH STREET	Modify the existing "No Standing" regulations along the west side of First Avenue: allow truck loading/unloading from 10A-3P instead of 7A-3P 120 ft. from the intersection. Modify signal timing: shift 2 s from EB/WB phase to NB phase. [NB green time shifts from 45 s to 47 s; EB/WB green time shifts from 29 s to 27 s; LPI remains at 6 s].	Modify signal timing: shift 1 s from EB/WB phase to NB phase. [NB green time shifts from 45 s to 46 s; EB/WB green time shifts from 29 s to 28 s; LPI remains at 6 s].	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 34TH STREET	Modify signal timing: shift 1 s from EB-lead phase to EB/WB phase. [EB-lead green time shifts from 29 s to 28 s; EB/WB green time shifts from 17 s to 18 s; all-ped times remain the same].	Modify signal timing: shift 2 s from parking garage phase to EB/WB phase. [EB-lead green time remains at 28 s; EB/WB green time shifts from 18 s to 20 s; parking garage time shifts from 10 s to 8 s; all ped-phase remains at 20 s].	Modify signal timing: shift 1 s green time from EB-lead phase to EB/WB phase. [EB/WB green time shifts from 18 s to 19 s; EB-lead green time shifts from 28 s to 27 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 35TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to WB phase. [NB green time shifts from 47 s to 46 s; WB green time shifts from 33 s to 34 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 36TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from EB phase to NB phase. [EB green time shifts from 33 s to 32 s; NB green time shifts from 47 s to 48 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 37TH STREET	Modify signal timing: shift 3 s green time from WB phase to NB/SB phase. [NB/SB green time shifts from 38 s to 41 s; WB green time shifts from 27 s to 24 s].	Mitigation not required.	Modify signal timing: shift 2 s green time from NB/SB phase to WB phase. [NB/SB green time shifts from 38 s to 36 s; WB green time shifts from 27 s to 29 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 38TH STREET	Modify the existing "No Standing" regulations along the south side of the 38th Street approach and receiving lanes to prohibit truck loading/unloading from 7A-10A 120 ft. from the intersection to gain an additional moving lane (for a total of 3 lanes). Modify signal timing: shift 4 s green time from EB phase to NB/SB phase. [NB/SB green time shifts from 40 s to 44 s; EB green time shifts from 40 s to 36 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 39TH STREET	Modify signal timing: shift 4 s green time from NB/SB phase to WB phase. [NB/SB green time shifts from 40 s to 36 s; WB green time shifts from 40 s to 44 s].	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of the WB 39th Street approach to prohibit truck loading/unloading from 4P-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 2 lanes).	Mitigation not required.
SECOND AVENUE & 30TH STREET	Modify signal timing: shift 1 s green time from EB phase to SB phase. [SB green time shifts from 47 s to 48 s; EB green time shifts from 33 s to 32 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 33RD STREET	Mitigation not required.	Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	Mitigation not required.	Mitigation not required.

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	**MIDDAY PEAK HOUR**	**PM PEAK HOUR**	**SATURDAY MIDDAY PEAK HOUR**
SECOND AVENUE & 34TH STREET	**Unmitigatable Impact.**	Inform TEA to extend the EB 34th Street effective green time into the WB-lag phase if the WB left-turn demand during the lag phase is low.	**Partially Mitigated.** Provide strict enforcement of the existing "No Standing" regulations along the south side of the 34th Street EB approach to gain full utilization of all three moving lanes. Inform TEA to extend the EB 34th Street effective green time into the WB-lag phase if the WB left-turn demand during the lag phase is low. Modify signal timing: shift 2 s green time from EB/WB phase to SB phase. [SB green time shifts from 39 s to 41 s; EB/WB green time shifts from 28 s to 26 s].	Mitigation not required.
SECOND AVENUE & 35TH STREET	Provide strict enforcement of the existing "No Parking" regulations along the east side of Second Avenue to gain a lane (for a total of 7 lanes). Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection.	Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection. **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**	Provide strict enforcement of the existing "No Parking" regulations along the east side of Second Avenue to gain a lane (for a total of 7 lanes). Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection.	Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection. **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**
SECOND AVENUE & 36TH STREET	**Unmitigatable Impact.** (NOTE: Impacts are unmitigated unless close coordination of traffic enforcement agent activities could be implemented to improve intersection conditions.)	Mitigation not required.	**Unmitigatable Impact.** (NOTE: Impacts are unmitigated unless close coordination of traffic enforcement agent activities could be implemented to improve intersection conditions.)	Mitigation not required.
SECOND AVENUE & 37TH STREET	Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	Modify signal timing: shift 2 s green time from WB phase to SB phase. [WB green time shifts from 31 s to 29 s; SB green time shifts from 49 s to 51 s].
SECOND AVENUE & 38TH STREET	Modify signal timing: shift 2 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 51 s; EB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of 38th Street to prohibit truck loading/unloading from 4P-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 3 lanes). Modify signal timing: shift 1 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 50 s; EB green time shifts from 31 s to 30 s].	Mitigation not required.

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
SECOND AVENUE & 39TH STREET	Mitigation not required.	Modify the existing "No Standing" regulations for 10A-7P along the south side of the westbound 39th Street approach to gain an additional moving lane (for a total of 3 lanes) and on the north side of the 39th Street receiving lanes, prohibit truck loading/unloading from 10A-7P 120 ft. from the intersection. Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Modify the existing "No Standing" regulations for 10A-7P along the south side of the westbound 39th Street approach to gain an additional moving lane (for a total of 3 lanes) and on the north side of the 39th Street receiving lanes, prohibit truck loading/unloading from 10A-7P 120 ft. from the intersection. Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.
SECOND AVENUE & 40TH STREET	Provide strict enforcement of the existing "No Standing" regulations along the east side of Second Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 2 s green time from SB phase to EB phase. [SB green time shifts from 49 s to 47 s; EB green time shifts from 31 s to 33 s].	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 10A-4P 120 ft. from the intersection to gain an additional through lane.	Provide strict enforcement of the existing "No Parking" regulations along the east side of Second Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 1 s green time from SB phase to EB phase. [SB green time shifts from 49 s to 48 s; EB green time shifts from 31 s to 32 s].	Mitigation not required.
SECOND AVENUE & 41ST STREET	Modify signal timing: shift 2 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 51 s; EB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify the existing "No Standing" regulations along the south side of 41st Street: prohibit truck loading/unloading and parking from 4P-7P 120 ft. from the intersection. Modify signal timing: shift 3 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 52 s; EB green time shifts from 31 s to 28 s].	Mitigation not required.
SECOND AVENUE & 42ND STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Partially Mitigated.** Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].	Mitigation not required.
SECOND AVENUE & 43RD STREET	Mitigation not required.	Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Modify the existing "No Standing" regulations along the north side of 43rd Street: allow truck loading/unloading from 7A-4P instead of from 7A-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 2 lanes). Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.
SECOND AVENUE & 44TH STREET	Mitigation not required.	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 10A-7P 120 ft. from the intersection to provide a daylight left-turn lane for midday and PM peak periods (for a total of 6 lanes).	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 10A-7P 120 ft. from the intersection to provide a daylight left-turn lane for midday and PM peak periods (for a total of 6 lanes).	Mitigation not required.

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Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
SECOND AVENUE & 49TH STREET	Provide strict enforcement of the existing "No Standing 7A-10A M-F" regulations along the south side of 49th Street. Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 52ND STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 53RD STREET	Mitigation not required.	Mitigation not required.	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 4P-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 7 lanes).	Mitigation not required.
SECOND AVENUE & 57TH STREET	Mitigation not required.	Modify the existing "No Standing" regulations along the west side of the Second Avenue approach to prohibit parking from 10A - 4P 120 ft. from the intersection to allow right turns from the curb lane for midday peak period (for a total of 6 lanes). Provide strict enforcement of the existing "No Parking Anytime" regulation on the west side of the Second Avenue approach.	Modify signal timing: shift 1 s green time from WB-lag phase to SB phase. [SB green time shifts from 39 s to 40 s; WB-lag green time shifts from 9 s to 8 s; EB/WB green time remains 22 s; and LPI remains 5 s].	Mitigation not required.
QUEENSBORO BRIDGE UPPER LEVEL & 57TH STREET (UNSIGNALIZED - AM Only)	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of westbound 57th Street approach to prohibit truck loading/unloading from 10A-4P 120 ft. from the intersection to provide two through lanes and a daylight shared through-right lane (for a total of 3 lanes).	Mitigation not required.	Modify signal timing: shift 5 s green time from EB-lead phase to EB/WB phase. [EB-lead green time shifts from 34 s to 29 s; EB/WB green time shifts from 28 s to 33 s].
SECOND AVENUE & 59TH STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Mitigation not required.
SECOND AVENUE & QUEENSBORO BRIDGE RAMP	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from SB phase to WB phase. [SB green time shifts from 37 s to 36 s; WB green time shifts from 40 s to 41 s].
SECOND AVENUE & 60TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from SB phase to WB phase. [SB green time shifts from 37 s to 36 s; WB green time shifts from 40 s to 41 s]. **[Signal timing measure is necessary to match the modified signal at Second Avenue & Queensboro Bridge Ramp; otherwise mitigation is not needed.]**
SECOND AVENUE & 61ST STREET	Mitigation not required.	Install "No Standing" regulations for 10A - 3P along the west side of Second Avenue approach to provide a daylight right-turn lane. Relocate the existing sign on the west side of the Second Avenue approach (No Standing 7A - 10A, 3P - 8P except Sun; No standing except trucks loading and unloading 10A - 3P except Sun) 120 ft. from the intersection.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 63RD STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
QUEENS MIDTOWN TUNNEL EXIT STREET & 34TH STREET	Modify signal timing: shift 2 s green time from EB-lag/SB-right phase to EB/WB phase. [EB/WB green time shifts from 31 s to 33 s; EB-lag/SB-right green time shifts from 30 s to 28 s; SB green time remains at 13 s].	Mitigation not required.	**Unmitigatable Impact.**	Modify signal timing: shift 2 s green time from EB-lag phase to EB/WB phase. [SB green time remains at 13 s; EB-lag green time shifts from 30 s to 28 s; EB/WB green time shifts from 31 s to 33 s].
QUEENS MIDTOWN TUNNEL EXIT STREET & 35TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 45 s to 46 s; EB green time shifts from 35 s to 34 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 37TH STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 38TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to EB phase. [NB green time shifts from 40 s to 39 s; EB green time shifts from 40 s to 41 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 39TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 40TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to EB phase. [NB green time shifts from 49 s to 48 s; EB green time shifts from 31 s to 32 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 41ST STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 34TH STREET	Modify signal timing: shift 2 s green time from EB-lead phase to EB/WB phase. [NB green time remains at 40 s; EB-lead green time shifts from 11 s to 9 s; EB/WB green time shifts from 26 s to 28 s].	Modify signal timing: shift 1 s green time from NB phase to EB-lead phase; shift 1 s green time from NB phase to to EB/WB phase. [NB green time shifts from 40 s to 38 s; EB-lead green time shifts from 11 s to 12 s; EB/WB green time shifts from 26 s to 27 s].	Modify signal timing: shift 2 s green time from NB to EB/WB phase. [NB green time shifts from 40 s to 38 s; EB-lead green time remains at 11 s; EB/WB green time shifts from 26 s to 28 s].	Mitigation not required.

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
THIRD AVENUE & 35TH STREET	Modify the existing "No Standing" regulations along the west side of the Third Avenue approach to prohibit truck loading/unloading from 7A-10A 120 ft. from the intersection to provide a daylight left-turn lane (for a total of 7 lanes).	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 36TH STREET	Modify signal timing: shift 2 s green time from EB phase to NB phase. [NB green time shifts from 45 s to 47 s; EB green time shifts from 29 s to 27 s].	Mitigation not required.	Increase the percentage of right-turning vehicles in the the shared through-right lane by providing improved lane marking and advance signage to inform right-turning traffic to use the shared through-right lane more effectively. (Mitigated results show delays with 5% of the total right-turn traffic in the shared through-right lane.)	Mitigation not required.
THIRD AVENUE & 37TH STREET	Modify signal timing: shift 1 s green time from NB phase to WB phase. [NB green time shifts from 40 s to 39 s; WB green time shifts from 40 s to 41 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 38TH STREET	Mitigation not required.	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of the EB 38th Street approach to prohibit commercial parking from 4P-7P 120 ft. from the intersection to provide a daylight left-turn lane (for a total of 3 lanes).	Mitigation not required.
THIRD AVENUE & 39TH STREET	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles).	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles). **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles). **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles). **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**
THIRD AVENUE & 40TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 41ST STREET	Mitigation not required.	Mitigation not required.	Install "No Standing" regulations along the north side of the WB 41st Street approach to prohibit commercial parking from 4P-7P 120 ft from the intersection to provide a 16 ft. moving lane.	Modify signal timing: shift 3 s green time from NB phase to EB/WB phase. [NB green time shifts from 40 s to 37 s; EB/WB green time shifts from 40 s to 43 s].
THIRD AVENUE & 42ND STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**
LEXINGTON AVENUE & 34TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 44 s; EB/WB green time shifts from 35 s to 36 s].	Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].
PARK AVENUE & 34TH STREET	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 45 s to 44 s; EB/WB green time shifts from 35 s to 36 s].	Mitigation not required.	Mitigation not required.
MADISON AVENUE & 34TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
SIXTH AVENUE / BROADWAY & 34TH STREET	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 32 s to 30 s; EB/WB green time shifts from 27 s to 29 s; SB green time remains at 21 s].	**Unmitigatable Impact.**	Modify signal timing: Restore the 90-second cycle length with the existing phasing plan, with modified splits. [Sixth Avenue green time is 22 s; Broadway green time is 24 s; 34th Street green time is 29 s].	Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 32 s to 31 s; EB/WB green time shifts from 27 s to 28 s; SB green time remains at 21 s].

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
SEVENTH AVENUE & 34TH STREET	Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 41 s; EB/WB green time shifts from 35 s to 38 s].	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 43 s; EB/WB green time shifts from 35 s to 36 s].	Modify the existing "No Standing" regulations along the west side of Seventh Avenue to prohibit truck loading/unloading from 4P-7P M-F 120 ft from the intersection to gain an additional moving lane (for a total of 5 lanes). Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 42 s; EB/WB green time shifts from 35 s to 37 s].	Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 42 s; EB/WB green time shifts from 35 s to 37 s].
EIGHTH AVENUE & 34TH STREET	Install "No Standing" regulations 120 ft from the stop bar for 7A-7P M-F along the east side of Eighth Avenue to provide a daylight right-turn lane (for a total of 5 lanes). Modify signal timing: shift 3 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 30 s; EB/WB green time shifts from 40 s to 43 s; and LPI remains at 7 s].	Install "No Standing" regulations 120 ft from the stop bar for 7A-7P M-F along the east side of Eighth Avenue to provide a daylight right-turn lane (for a total of 5 lanes). Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 32 s; and EB/WB green time shifts from 40 s to 41 s; LPI remains 7 s].	Install "No Standing" regulations 120 ft from the stop bar for 7A-7P M-F along the east side of Eighth Avenue to provide a daylight right-turn lane (for a total of 5 lanes). Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 31 s; and EB/WB green time shifts from 40 s to 42 s].	**Partially Mitigated.** Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 32 s; EB/WB green time shifts from 40 s to 41 s; and LPI remains 7 s].
LEXINGTON AVENUE & 42ND STREET	Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 4 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 41 s; EB/WB green time shifts from 35 s to 39 s].	Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 42 s; EB/WB green time shifts from 35 s to 38 s].	**Partially Mitigated.** Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 42 s; EB/WB green time shifts from 35 s to 38 s].	Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].

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Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	**MIDDAY PEAK HOUR**	**PM PEAK HOUR**	**SATURDAY MIDDAY PEAK HOUR**
PARK AVENUE & 42ND STREET	Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 44 s green, WB/NB-right only = 7 s green time, and NB = 24 s of green time (each phase has 3 s amber and 2 s all red). **[Measures reflect geometric and signal improvements needed for the Weekday PM peak period; otherwise mitigation is not needed.]**	Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 41 s green, WB/NB-right only = 7 s green time, and NB = 27 s of green time (each phase has 3 s amber and 2 s all red). **[Measures reflect geometric and signal improvements needed for the Weekday PM peak period; otherwise mitigation is not needed.]**	Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 39 s green, WB/NB-right only = 11 s green time, and NB = 25 s of green time (each phase has 3 s amber and 2 s all red).	**Unmitigatable Impact.** Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 39 s green, WB/NB-right only = 7 s green time, and NB = 29 s of green time (each phase has 3 s amber and 2 s all red). **[Measures reflect geometric and signal improvements needed for the Weekday PM peak period; otherwise mitigation is not needed.]**
VANDERBILT AVENUE & 42ND STREET	Modify signal timing: shift 2 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 40 s to 42 s; all-ped time reduces from 40 s to 38 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 38 s is sufficient).	Modify signal timing: shift 2 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 49 s to 51 s; all-ped time reduces from 31 s to 29 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 29 s is sufficient).	Modify signal timing: shift 5 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 40 s to 45 s; all-ped time reduces from 40 s to 35 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 35 s is sufficient).	Modify signal timing: shift 2 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 40 s to 42 s; all-ped time reduces from 40 s to 38 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 38 s is sufficient).
MADISON AVENUE & 42nd STREET	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 40 s to 39 s; EB/WB green time shifts from 40 s to 41 s].	Mitigation not required.	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].
SIXTH AVENUE & 42nd STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
BROADWAY & 42nd STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Partially Mitigated.** Modify signal timing: shift 1 s green time from EB/WB phase to SB phase; shift 4 s green time from EB/WB phase to WB-lead phase. [SB green time shifts from 44 s to 45 s; WB-lead green time shifts from 7 s to 11 s; EB/WB green time shifts from 29 s to 24 s].	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 40 s to 39 s; WB-lead green time remains at 7 s; EB/WB green time shifts from 33 s to 34 s].
SEVENTH AVENUE & 42nd STREET	Mitigation not required.	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 40 s to 39 s; EB/WB green time shifts from 40 s to 41 s].	Modify the existing "No Standing" regulations along the east side of the Seventh Avenue approach to prohibit truck loading/unloading from 4P-7P M-F 120 ft. from the intersection to gain an additional moving lane (for a total of 5 lanes). Modify signal timing: shift 4 s green time from SB phase to EB/WB phase. [SB green time shifts from 46 s to 42 s; EB/WB green time shifts from 34 s to 38 s].	Mitigation not required.
EIGHTH AVENUE & 42nd STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Mitigation not required.
NINTH AVENUE & 42nd STREET	Provide strict enforcement of the existing "No Standing" and "No Parking" regulations along the east side of Ninth Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 4 s green time from SB phase to EB/WB phase. [SB green time shifts from 35 s to 31 s; WB-lead green time stays at 9 s; EB/WB green time shifts from 29 s to 33 s].	Mitigation not required.	Provide strict enforcement of the existing "No Standing" and "No Parking" regulations along the east side of Ninth Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 35 s to 32 s; WB-lead green time stays at 9 s; EB/WB green time shifts from 29 s to 32 s].	Modify signal timing: shift 2 s green time from SB phase to EB/WB phase.[SB green time shifts from 35 s to 33 s; WB-lead green time stays at 9 s; EB/WB green time shifts from 29 s to 31 s].
GARAGE ENTRANCE AND EXIT AT 35TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
GARAGE ENTRANCE AND EXIT AT 38TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS PLAZA NORTH & CRESCENT STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required. [The Proposed Action is expected to generate fewer than five vehicles through the SB-T lane group in the peak hour.]	Mitigation not required.
QUEENS PLAZA NORTH & 28TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS PLAZA NORTH & JFK COMMUTER PLAZA	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from EB/WB phase to NB phase. [EB/WB green time shifts from 78 s to 77 s; NB green time shifts from 32 s to 33 s].	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from EB/WB phase to NB phase. [EB/WB green time shifts from 78 s to 77 s; NB green time shifts from 32 s to 33 s].

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Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
QUEENS PLAZA NORTH / 41ST AVENUE & NORTHERN BOULEVARD	Modify signal timing: shift 4 s green time from WB phase to EB/SB right turn phase. [WB green time shifts from 20 s to 16 s; EB/SB right turn green time shifts from 38 s to 42 s].	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
QUEENS PLAZA SOUTH & 27TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS BOULEVARD & JACKSON AVENUE / NORTHERN BOULEVARD	Modify signal timing: shift 3 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 44 s to 41 s; EB/WB green time shifts from 66 s to 69 s].	Mitigation not required.	Modify signal timing: shift 2 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 52 s to 50 s; EB/WB green time shifts from 58 s to 60 s].	Mitigation not required.
QUEENS BOULEVARD & SKILLMAN AVENUE	**Unmitigatable Impact.**	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
QUEENS BOULEVARD / THOMSON AVENUE & VAN DAM STREET	**Partially Mitigated.** Provide strict enforcement of the existing No Standing 7am-10am except Sunday parking regulation on the east curb of the NB approach.	**Unmitigatable Impact.**	**Partially Mitigated.** Inform TEA(s) to process EB Thompson Ave. right turns during the EB/WB Queens Blvd./NB Van Dam St. Left-Only phase. Provide strict enforcement of the existing No Parking 10am-6pm except Sunday parking regulation on the east curb of the NB approach.	Inform TEA(s) to process EB Thompson Ave. right turns during the EB/WB Queens Blvd./NB Van Dam St. Left-Only phase.
THOMSON AVENUE & QUEENSBORO BRIDGE UPPER LEVEL ON-OFF RAMP	Mitigation not required.	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
THOMSON AVENUE & SKILLMAN AVENUE	Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. **[Measures reflect geometric improvements needed for the Saturday Midday peak period; otherwise mitigation is not needed.]**	Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. Modify signal timing: shift 2 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 32 s to 30 s; EB/WB green time shifts from 70 s to 72 s]. **[Measures reflect geometric improvements needed for the Saturday Midday peak period.]**	**Unmitigatable Impact.** Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. **[Measures reflect geometric improvements needed for the Saturday Midday peak period.]**	Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. Modify signal timing: shift 2 s green time from NB/SB phase to EB/WB phase. [EB/WB green time shifts from 70 s to 72 s; NB/SB green time shifts from 32 s to 30 s].
JACKSON AVENUE & 44TH DRIVE	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
NORTHERN BOULEVARD / 31ST STREET & 40TH AVENUE	Modify signal timing: shift 1 s green time from EB/WB Northern Blvd. phase to SB 31st St./EB Northern Blvd. Left-Only phase. [EB/WB Northern Blvd. green time shifts from 85 s to 84 s; SB 31st St./EB Northern Blvd. Left-Only green time shifts from 25 s to 26 s].	Modify signal timing: shift 1 s green time from EB/WB phase to NB/SB phase. [EB/WB green time shifts from 85 s to 84 s; NB/SB green time shifts from 25 s to 26 s].	Modify signal timing: shift 1 s green time from EB/WB phase to NB/SB phase. [EB/WB green time shifts from 85 s to 84 s; NB/SB green time shifts from 25 s to 26 s].	Modify signal timing: shift 1 s green time from EB/WB phase to NB/SB phase. [EB/WB green time shifts from 85 s to 84 s; NB/SB green time shifts from 25 s to 26 s].

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
F. D. R. DRIVE SERVICE ROAD & 34TH STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**
F. D. R. DRIVE SERVICE ROAD & 35TH STREET	**Unmitigatable Impact.**	Modify signal timing: shift 5 s green time from NB-lag phase to NB/SB phase; shift 1 s green time from WB phase to NB/SB phase. [NB/SB green time shifts from 33 s to 39 s; NB-lag green time shifts from 26 s to 21 s; WB green time shifts from 16 s to 15 s].	**Unmitigatable Impact**.	Mitigation not required.
F. D. R. DRIVE SERVICE ROAD & 36TH STREET (UNSIGNALIZED)	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the AM & PM peak period; otherwise mitigation is not needed.]**	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the AM & PM peak period; otherwise mitigation is not needed.]**
F.D.R. DRIVE SERVICE ROAD & 37TH STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required.	Mitigation not required.
F.D.R. DRIVE SERVICE ROAD & 38TH STREET (UNSIGNALIZED)	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the AM and PM peak periods; otherwise mitigation is not needed.]**	Install a new traffic signal with a 90-second cycle length. [SB green time is 58 s; EB green time is 22 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [SB green time is 52 s; EB green time is 28 s; both phases have 3 s of amber and 2 s of all red time]. **[Measures reflect signalization needed for the Weekday AM and PM peak periods; otherwise mitigation is not needed.]**
FIRST AVENUE & 30TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 33RD STREET	Modify signal timing: shift 2 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 34TH STREET	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 39 s to 37 s; EB/WB green time shifts from 23 s to 25 s; EB-lead green time remains 7 s; LPI remains 6 s].	Mitigation not required.	**Partially Mitigated.** Modify the existing metered parking regulation along the west side of First Avenue: allow 1 HR metered parking from 9A-4P instead of 9A-7P, and provide "No Standing" regulations for 4P-7P 120 ft from the intersection, to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 2 s green time from NB phase to EB/WB phase; shift 1 s from NB phase to EB-lead phase. [NB green time shifts from 39 s to 36 s; EB/WB green time shifts from 23 s to 25 s; and EB-lead phase shifts from 7 s to 8 s].	**Unmitigatable Impact.**
FIRST AVENUE & 35TH STREET	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as a one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft.	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as a one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft. **[Measures reflect geometric improvements needed for the AM and PM peak period; otherwise mitigation is not needed.]**	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as a one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft.	Move the south curb taxi stand 80 ft. to the east of the intersection to provide a WB through pocket and restripe the approach as one 10 ft. through lane, one 10 ft. shared through-right lane, and one 10 ft. exclusive right-turn lane. The taxi stand currently occupies 130 ft. of the block. Relocate existing "No Parking 8A-6P Mon.-Fri." sign 80 ft. to the east to allow the taxi stand to remain 130 ft. **[Measures reflect geometric improvements needed for the AM and PM peak periods; otherwise mitigation is not needed.]**

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
FIRST AVENUE & 36TH STREET	Modify the existing "No Standing" regulations for along the east side of the First Avenue approach to prohibit parking from 7A-10A during the AM peak hour to allow right turns from the bus lane (for a total of 6 lanes). Install "No Standing" regulations 7A-10A along the north side of the EB 36th Street approach and receiving lanes 120 ft. from the intersection to gain an additional travel lane (for a total of 3 lanes). Modify signal timing: shift 2 s green time from NB phase to EB phase. [NB green time shifts from 49 s to 47 s; EB green time shifts from 31 s to 33 s].	Mitigation not required.	Modify the existing "No Standing" regulations for along the east side of the First Avenue approach to prohibit bus layover from 3P-7P during the PM peak hour to allow right turns from the bus lane (for a total of 6 lanes). Modify signal timing: shift 3 s green time from EB phase to NB phase. [NB green time shifts from 49 s to 52 s; EB green time shifts from 31 s to 28 s].	Mitigation not required.
FIRST AVENUE & 37TH STREET	Modify the existing "No Parking" regulations along the west side of the First Avenue approach to prohibit parking and standing from 7A-10A 120 ft. from the intersection to provide a daylight left turn lane (for a total of 6 lanes). Modify signal timing: shift 2 s green time from NB phase to WB phase. [NB green time shifts from 49 s to 47 s; WB green time shifts from 31 s to 33 s].	Modify the existing "No Parking" regulations along the west side of the First Avenue approach to prohibit parking and standing from 10A-4P 120 ft. from the intersection to provide a daylight left turn lane (for a total of 6 lanes). Modify signal timing: shift 1 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	**Unmitigatable Impact.**	Mitigation not required.
FIRST AVENUE & 38TH STREET	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 49 s to 48 s; EB/WB green time shifts from 31 s to 32 s].	Install "No Standing" regulations from 4P-7P M-F to prohibit parking along the north side of the 38th Street WB approach (adjacent to the project site). Modify signal timing: shift 5 s green time from NB phase to EB/WB phase. [NB green time shifts from 49 s to 44 s; EB/WB green time shifts from 31 s to 36 s].	Modify signal timing: shift 4 s green time from NB phase to EB/WB phase. [NB green time shifts from 49 s to 45 s; EB/WB green time shifts from 31 s to 35 s].
FIRST AVENUE & 39TH STREET	Modify signal timing: shift 2 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify signal timing: shift 3 s green time from WB phase to NB phase. [NB green time shifts from 49 s to 52 s; WB green time shifts from 31 s to 28 s].	Mitigation not required.
FIRST AVENUE & 40TH STREET	Mitigation not required.	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
FIRST AVENUE & 41ST STREET (UNSIGNALIZED)	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].	Install a new traffic signal with a 90-second cycle length. [NB green time is 49 s; WB green time is 31 s; both phases have 3 s of amber and 2 s of all red time].
FIRST AVENUE & 42ND STREET	**Unitigatable Impact.**	Modify signal timing: shift 3 s from NB phase to EB/WB phase. [NB green time shifts from 44 s to 41 s; WB green time shifts from 31 s to 34 s.]	**Unmitigatable Impact.**	Modify signal timing: shift 5 s from NB phase to EB/WB phase. [NB green time shifts from 44 s to 39 s; WB green time shifts from 31 s to 36 s.]
FIRST AVENUE & 44TH STREET	Modify signal timing: shift 2 s green time from EB phase to NB phase. [NB green time shifts from 49 s to 51s; EB green time shifts from 31 s to 29 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
FIRST AVENUE & 45TH STREET	Modify signal timing: shift 2 s from east/west-ped phase to NB phase green time. [NB green time shifts from 49 s to 51 s; all-ped time shifts from 31 s to 29 s]. (NOTE: Based on the maximum crossing distance of 65 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across First Avenue is 26 s; the proposed 29 s is sufficient).	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 46TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 47TH STREET	Modify signal timing: shift 1 s from east/west-ped phase to NB phase green time. [NB green time shifts from 49 s to 50 s; all-ped time shifts from 31 s to 30 s]. (NOTE: Based on the maximum crossing distance of 42 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across First Avenue is 19 s; the proposed 30 s is sufficient).	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 48TH STREET (UNSIGNALIZED)	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 49TH STREET	Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. Modify signal timing: shift 2 s from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. Modify signal timing: shift 1 s from WB phase to NB phase. [NB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	**Unmitigatable Impact.** Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. Modify signal timing: shift 2 s from WB phase to NB phase. [NB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s]. **[Measures reflect geometric improvements needed for the AM and midday peak periods.]**	Restripe the 49th Street approach from two 10 ft. lanes with 8 ft. striped median/buffer to two 12 ft. lanes with 4 ft. striped median/buffer. **[Measures reflect geometric improvements needed for the AM and midday peak periods; otherwise mitigation is not needed.]**
FIRST AVENUE & 52ND STREET	Mitigation not required.	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
FIRST AVENUE & 53RD STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required.	Mitigation not required.
FIRST AVENUE & 57TH STREET	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection.	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection.	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection.	Provide lane markings for the First Avenue 9 ft. exclusive left-turn lane and 9 ft. shared left-through lane to promote more efficient utilization of both lanes by left-turn vehicles. Install "No Standing Anytime" regulation on the west curb of the First Avenue approach 120 ft. from the intersection. **[Measures reflect geometric improvements needed for the Weekday peak periods; otherwise mitigation is not needed.]**

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
FIRST AVENUE & 59TH STREET	Modify the existing "No Standing" regulations along the west side of First Avenue: allow truck loading/unloading from 10A-3P instead of 7A-3P 120 ft. from the intersection. Modify signal timing: shift 2 s from EB/WB phase to NB phase. [NB green time shifts from 45 s to 47 s; EB/WB green time shifts from 29 s to 27 s; LPI remains at 6 s].	Modify signal timing: shift 1 s from EB/WB phase to NB phase. [NB green time shifts from 45 s to 46 s; EB/WB green time shifts from 29 s to 28 s; LPI remains at 6 s].	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 34TH STREET	Modify signal timing: shift 1 s from EB-lead phase to EB/WB phase. [EB-lead green time shifts from 29 s to 28 s; EB/WB green time shifts from 17 s to 18 s; all-ped times remain the same].	Modify signal timing: shift 2 s from parking garage phase to EB/WB phase. [EB-lead green time remains at 28 s; EB/WB green time shifts from 18 s to 20 s; parking garage time shifts from 10 s to 8 s; all ped-phase remains at 20 s].	Modify signal timing: shift 1 s green time from EB-lead phase to EB/WB phase. [EB/WB green time shifts from 18 s to 19 s; EB-lead green time shifts from 28 s to 27 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 35TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to WB phase. [NB green time shifts from 47 s to 46 s; WB green time shifts from 33 s to 34 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 36TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from EB phase to NB phase. [EB green time shifts from 33 s to 32 s; NB green time shifts from 47 s to 48 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 37TH STREET	Modify signal timing: shift 3 s green time from WB phase to NB/SB phase. [NB/SB green time shifts from 38 s to 41 s; WB green time shifts from 27 s to 24 s].	Mitigation not required.	Modify signal timing: shift 2 s green time from NB/SB phase to WB phase. [NB/SB green time shifts from 38 s to 36 s; WB green time shifts from 27 s to 29 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 38TH STREET	Modify the existing "No Standing" regulations along the south side of the 38th Street approach and receiving lanes to prohibit truck loading/unloading from 7A-10A 120 ft. from the intersection to gain an additional moving lane (for a total of 3 lanes). Modify signal timing: shift 4 s green time from EB phase to NB/SB phase. [NB/SB green time shifts from 40 s to 44 s; EB green time shifts from 40 s to 36 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL APPROACH STREET & 39TH STREET	Modify signal timing: shift 4 s green time from NB/SB phase to WB phase. [NB/SB green time shifts from 40 s to 36 s; WB green time shifts from 40 s to 44 s].	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of the WB 39th Street approach to prohibit truck loading/unloading from 4P-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 2 lanes).	Mitigation not required.
SECOND AVENUE & 30TH STREET	Modify signal timing: shift 1 s green time from EB phase to SB phase. [SB green time shifts from 47 s to 48 s; EB green time shifts from 33 s to 32 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 33RD STREET	Mitigation not required.	Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	Mitigation not required.	Mitigation not required.

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	**MIDDAY PEAK HOUR**	**PM PEAK HOUR**	**SATURDAY MIDDAY PEAK HOUR**
SECOND AVENUE & 34TH STREET	**Unmitigatable Impact.**	Inform TEA to extend the EB 34th Street effective green time into the WB-lag phase if the WB left-turn demand during the lag phase is low.	**Partially Mitigated.** Provide strict enforcement of the existing "No Standing" regulations along the south side of the 34th Street EB approach to gain full utilization of all three moving lanes. Inform TEA to extend the EB 34th Street effective green time into the WB-lag phase if the WB left-turn demand during the lag phase is low. Modify signal timing: shift 2 s green time from EB/WB phase to SB phase. [SB green time shifts from 39 s to 41 s; EB/WB green time shifts from 28 s to 26 s].	Mitigation not required.
SECOND AVENUE & 35TH STREET	Provide strict enforcement of the existing "No Parking" regulations along the east side of Second Avenue to gain a lane (for a total of 7 lanes). Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection.	Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection. **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**	Provide strict enforcement of the existing "No Parking" regulations along the east side of Second Avenue to gain a lane (for a total of 7 lanes). Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection.	Restripe the 35th Street WB approach general travel lanes as one 10 ft. left-turn lane, two 10 ft. through lanes, and one 10 ft. lane for trucks loading /unloading on the south curb. Install "No Standing Anytime" regulations along the north side of the WB 35th Street approach 120 ft. from the intersection. **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**
SECOND AVENUE & 36TH STREET	**Unmitigatable Impact.** (NOTE: Impacts are unmitigated unless close coordination of traffic enforcement agent activities could be implemented to improve intersection conditions.)	Mitigation not required.	**Unmitigatable Impact.** (NOTE: Impacts are unmitigated unless close coordination of traffic enforcement agent activities could be implemented to improve intersection conditions.)	Mitigation not required.
SECOND AVENUE & 37TH STREET	Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	Modify signal timing: shift 2 s green time from WB phase to SB phase. [WB green time shifts from 31 s to 29 s; SB green time shifts from 49 s to 51 s].
SECOND AVENUE & 38TH STREET	Modify signal timing: shift 2 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 51 s; EB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of 38th Street to prohibit truck loading/unloading from 4P-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 3 lanes). Modify signal timing: shift 1 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 50 s; EB green time shifts from 31 s to 30 s].	Mitigation not required.

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
SECOND AVENUE & 39TH STREET	Mitigation not required.	Modify the existing "No Standing" regulations for 10A-7P along the south side of the westbound 39th Street approach to gain an additional moving lane (for a total of 3 lanes) and on the north side of the 39th Street receiving lanes, prohibit truck loading/unloading from 10A-7P 120 ft. from the intersection. Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Modify the existing "No Standing" regulations for 10A-7P along the south side of the westbound 39th Street approach to gain an additional moving lane (for a total of 3 lanes) and on the north side of the 39th Street receiving lanes, prohibit truck loading/unloading from 10A-7P 120 ft. from the intersection. Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.
SECOND AVENUE & 40TH STREET	Provide strict enforcement of the existing "No Standing" regulations along the east side of Second Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 2 s green time from SB phase to EB phase. [SB green time shifts from 49 s to 47 s; EB green time shifts from 31 s to 33 s].	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 10A-4P 120 ft. from the intersection to gain an additional through lane.	Provide strict enforcement of the existing "No Parking" regulations along the east side of Second Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 1 s green time from SB phase to EB phase. [SB green time shifts from 49 s to 48 s; EB green time shifts from 31 s to 32 s].	Mitigation not required.
SECOND AVENUE & 41ST STREET	Modify signal timing: shift 2 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 51 s; EB green time shifts from 31 s to 29 s].	Mitigation not required.	Modify the existing "No Standing" regulations along the south side of 41st Street: prohibit truck loading/unloading and parking from 4P-7P 120 ft. from the intersection. Modify signal timing: shift 3 s green time from EB phase to SB phase. [SB green time shifts from 49 s to 52 s; EB green time shifts from 31 s to 28 s].	Mitigation not required.
SECOND AVENUE & 42ND STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Partially Mitigated.** Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].	Mitigation not required.
SECOND AVENUE & 43RD STREET	Mitigation not required.	Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Modify the existing "No Standing" regulations along the north side of 43rd Street: allow truck loading/unloading from 7A-4P instead of from 7A-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 2 lanes). Modify signal timing: shift 2 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 51 s; WB green time shifts from 31 s to 29 s].	Mitigation not required.
SECOND AVENUE & 44TH STREET	Mitigation not required.	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 10A-7P 120 ft. from the intersection to provide a daylight left-turn lane for midday and PM peak periods (for a total of 6 lanes).	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 10A-7P 120 ft. from the intersection to provide a daylight left-turn lane for midday and PM peak periods (for a total of 6 lanes).	Mitigation not required.

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
SECOND AVENUE & 49TH STREET	Provide strict enforcement of the existing "No Standing 7A-10A M-F" regulations along the south side of 49th Street. Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 49 s to 50 s; WB green time shifts from 31 s to 30 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 52ND STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 53RD STREET	Mitigation not required.	Mitigation not required.	Modify the existing "No Standing" regulations along the east side of the Second Avenue approach to prohibit commercial parking from 4P-7P 120 ft. from the intersection to gain an additional moving lane (for a total of 7 lanes).	Mitigation not required.
SECOND AVENUE & 57TH STREET	Mitigation not required.	Modify the existing "No Standing" regulations along the west side of the Second Avenue approach to prohibit parking from 10A - 4P 120 ft. from the intersection to allow right turns from the curb lane for midday peak period (for a total of 6 lanes). Provide strict enforcement of the existing "No Parking Anytime" regulation on the west side of the Second Avenue approach.	Modify signal timing: shift 1 s green time from WB-lag phase to SB phase. [SB green time shifts from 39 s to 40 s; WB-lag green time shifts from 9 s to 8 s; EB/WB green time remains 22 s; and LPI remains 5 s].	Mitigation not required.
QUEENSBORO BRIDGE UPPER LEVEL & 57TH STREET (UNSIGNALIZED - AM Only)	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of westbound 57th Street approach to prohibit truck loading/unloading from 10A-4P 120 ft. from the intersection to provide two through lanes and a daylight shared through-right lane (for a total of 3 lanes).	Mitigation not required.	Modify signal timing: shift 5 s green time from EB-lead phase to EB/WB phase. [EB-lead green time shifts from 34 s to 29 s; EB/WB green time shifts from 28 s to 33 s].
SECOND AVENUE & 59TH STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Mitigation not required.
SECOND AVENUE & QUEENSBORO BRIDGE RAMP	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from SB phase to WB phase. [SB green time shifts from 37 s to 36 s; WB green time shifts from 40 s to 41 s].
SECOND AVENUE & 60TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from SB phase to WB phase. [SB green time shifts from 37 s to 36 s; WB green time shifts from 40 s to 41 s]. **[Signal timing measure is necessary to match the modified signal at Second Avenue & Queensboro Bridge Ramp; otherwise mitigation is not needed.]**
SECOND AVENUE & 61ST STREET	Mitigation not required.	Install "No Standing" regulations for 10A - 3P along the west side of Second Avenue approach to provide a daylight right-turn lane. Relocate the existing sign on the west side of the Second Avenue approach (No Standing 7A - 10A, 3P - 8P except Sun; No standing except trucks loading and unloading 10A - 3P except Sun) 120 ft. from the intersection.	Mitigation not required.	Mitigation not required.
SECOND AVENUE & 63RD STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.

Table 23-3
Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
QUEENS MIDTOWN TUNNEL EXIT STREET & 34TH STREET	Modify signal timing: shift 2 s green time from EB-lag/SB-right phase to EB/WB phase. [EB/WB green time shifts from 31 s to 33 s; EB-lag/SB-right green time shifts from 30 s to 28 s; SB green time remains at 13 s].	Mitigation not required.	**Unmitigatable Impact.**	Modify signal timing: shift 2 s green time from EB-lag phase to EB/WB phase. [SB green time remains at 13 s; EB-lag green time shifts from 30 s to 28 s; EB/WB green time shifts from 31 s to 33 s].
QUEENS MIDTOWN TUNNEL EXIT STREET & 35TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from WB phase to SB phase. [SB green time shifts from 45 s to 46 s; EB green time shifts from 35 s to 34 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 37TH STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 38TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to EB phase. [NB green time shifts from 40 s to 39 s; EB green time shifts from 40 s to 41 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 39TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 40TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from NB phase to EB phase. [NB green time shifts from 49 s to 48 s; EB green time shifts from 31 s to 32 s].	Mitigation not required.
QUEENS MIDTOWN TUNNEL EXIT STREET & 41ST STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 34TH STREET	Modify signal timing: shift 2 s green time from EB-lead phase to EB/WB phase. [NB green time remains at 40 s; EB-lead green time shifts from 11 s to 9 s; EB/WB green time shifts from 26 s to 28 s].	Modify signal timing: shift 1 s green time from NB phase to EB-lead phase; shift 1 s green time from NB phase to to EB/WB phase. [NB green time shifts from 40 s to 38 s; EB-lead green time shifts from 11 s to 12 s; EB/WB green time shifts from 26 s to 27 s].	Modify signal timing: shift 2 s green time from NB to EB/WB phase. [NB green time shifts from 40 s to 38 s; EB-lead green time remains at 11 s; EB/WB green time shifts from 26 s to 28 s].	Mitigation not required.

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
THIRD AVENUE & 35TH STREET	Modify the existing "No Standing" regulations along the west side of the Third Avenue approach to prohibit truck loading/unloading from 7A-10A 120 ft. from the intersection to provide a daylight left-turn lane (for a total of 7 lanes).	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 36TH STREET	Modify signal timing: shift 2 s green time from EB phase to NB phase. [NB green time shifts from 45 s to 47 s; EB green time shifts from 29 s to 27 s].	Mitigation not required.	Increase the percentage of right-turning vehicles in the the shared through-right lane by providing improved lane marking and advance signage to inform right-turning traffic to use the shared through-right lane more effectively. (Mitigated results show delays with 5% of the total right-turn traffic in the shared through-right lane.)	Mitigation not required.
THIRD AVENUE & 37TH STREET	Modify signal timing: shift 1 s green time from NB phase to WB phase. [NB green time shifts from 40 s to 39 s; WB green time shifts from 40 s to 41 s].	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 38TH STREET	Mitigation not required.	Mitigation not required.	Modify the existing "No Standing" regulations along the north side of the EB 38th Street approach to prohibit commercial parking from 4P-7P 120 ft. from the intersection to provide a daylight left-turn lane (for a total of 3 lanes).	Mitigation not required.
THIRD AVENUE & 39TH STREET	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles).	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles). **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles). **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**	Restripe the 39th Street approach as two 12 ft. moving lanes and one 9 ft. standing lane (for Diplomat-ID vehicles). **[Measures reflect geometric improvements needed for the AM peak period; otherwise mitigation is not needed.]**
THIRD AVENUE & 40TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
THIRD AVENUE & 41ST STREET	Mitigation not required.	Mitigation not required.	Install "No Standing" regulations along the north side of the WB 41st Street approach to prohibit commercial parking from 4P-7P 120 ft from the intersection to provide a 16 ft. moving lane.	Modify signal timing: shift 3 s green time from NB phase to EB/WB phase. [NB green time shifts from 40 s to 37 s; EB/WB green time shifts from 40 s to 43 s].
THIRD AVENUE & 42ND STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**
LEXINGTON AVENUE & 34TH STREET	Mitigation not required.	Mitigation not required.	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 44 s; EB/WB green time shifts from 35 s to 36 s].	Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].
PARK AVENUE & 34TH STREET	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 45 s to 44 s; EB/WB green time shifts from 35 s to 36 s].	Mitigation not required.	Mitigation not required.
MADISON AVENUE & 34TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
SIXTH AVENUE / BROADWAY & 34TH STREET	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 32 s to 30 s; EB/WB green time shifts from 27 s to 29 s; SB green time remains at 21 s].	**Unmitigatable Impact.**	Modify signal timing: Restore the 90-second cycle length with the existing phasing plan, with modified splits. [Sixth Avenue green time is 22 s; Broadway green time is 24 s; 34th Street green time is 29 s].	Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 32 s to 31 s; EB/WB green time shifts from 27 s to 28 s; SB green time remains at 21 s].

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
SEVENTH AVENUE & 34TH STREET	Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 41 s; EB/WB green time shifts from 35 s to 38 s].	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 43 s; EB/WB green time shifts from 35 s to 36 s].	Modify the existing "No Standing" regulations along the west side of Seventh Avenue to prohibit truck loading/unloading from 4P-7P M-F 120 ft from the intersection to gain an additional moving lane (for a total of 5 lanes). Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 42 s; EB/WB green time shifts from 35 s to 37 s].	Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 44 s to 42 s; EB/WB green time shifts from 35 s to 37 s].
EIGHTH AVENUE & 34TH STREET	Install "No Standing" regulations 120 ft from the stop bar for 7A-7P M-F along the east side of Eighth Avenue to provide a daylight right-turn lane (for a total of 5 lanes). Modify signal timing: shift 3 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 30 s; EB/WB green time shifts from 40 s to 43 s; and LPI remains at 7 s].	Install "No Standing" regulations 120 ft from the stop bar for 7A-7P M-F along the east side of Eighth Avenue to provide a daylight right-turn lane (for a total of 5 lanes). Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 32 s; and EB/WB green time shifts from 40 s to 41 s; LPI remains 7 s].	Install "No Standing" regulations 120 ft from the stop bar for 7A-7P M-F along the east side of Eighth Avenue to provide a daylight right-turn lane (for a total of 5 lanes). Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 31 s; and EB/WB green time shifts from 40 s to 42 s].	**Partially Mitigated.** Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 33 s to 32 s; EB/WB green time shifts from 40 s to 41 s; and LPI remains 7 s].
LEXINGTON AVENUE & 42ND STREET	Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 4 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 41 s; EB/WB green time shifts from 35 s to 39 s].	Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 42 s; EB/WB green time shifts from 35 s to 38 s].	**Partially Mitigated.** Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 42 s; EB/WB green time shifts from 35 s to 38 s].	Install "No Standing" regulations along the east side of Lexington Avenue 120 ft. from the intersection to gain an additional moving lane (for a total of 4 lanes). Provide strict enforcement of the existing "No Standing" regulations along the east side of Lexington Avenue to gain an additional moving lane (for a total of 4 lanes). Prohibit the 47 ft. of truck loading and unloading on the east side of Lexington Avenue. Modify signal timing: shift 2 s green time from SB phase to EB/WB phase. [SB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].

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Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	**MIDDAY PEAK HOUR**	**PM PEAK HOUR**	**SATURDAY MIDDAY PEAK HOUR**
PARK AVENUE & 42ND STREET	Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 44 s green, WB/NB-right only = 7 s green time, and NB = 24 s of green time (each phase has 3 s amber and 2 s all red). **[Measures reflect geometric and signal improvements needed for the Weekday PM peak period; otherwise mitigation is not needed.]**	Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 41 s green, WB/NB-right only = 7 s green time, and NB = 27 s of green time (each phase has 3 s amber and 2 s all red). **[Measures reflect geometric and signal improvements needed for the Weekday PM peak period; otherwise mitigation is not needed.]**	Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 39 s green, WB/NB-right only = 11 s green time, and NB = 25 s of green time (each phase has 3 s amber and 2 s all red).	**Unmitigatable Impact.** Restripe the Park Avenue NB approach from one 13 ft. shared left-right lane and one 17 ft. exclusive right-turn lane with parking to one 12 ft. exclusive left-turn lane and one 18 ft. exclusive right-turn lane with parking. Modify signal phasing plan: Add a new lag phase for the WB approach with the NB right-turn only; maintain the existing 90 s cycle with the following signal timing: EB/WB = 39 s green, WB/NB-right only = 7 s green time, and NB = 29 s of green time (each phase has 3 s amber and 2 s all red). **[Measures reflect geometric and signal improvements needed for the Weekday PM peak period; otherwise mitigation is not needed.]**
VANDERBILT AVENUE & 42ND STREET	Modify signal timing: shift 2 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 40 s to 42 s; all-ped time reduces from 40 s to 38 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 38 s is sufficient).	Modify signal timing: shift 2 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 49 s to 51 s; all-ped time reduces from 31 s to 29 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 29 s is sufficient).	Modify signal timing: shift 5 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 40 s to 45 s; all-ped time reduces from 40 s to 35 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 35 s is sufficient).	Modify signal timing: shift 2 s from all-ped phase to EB/WB phase green time. [EB/WB green time shifts from 40 s to 42 s; all-ped time reduces from 40 s to 38 s]. (NOTE: Based on the maximum crossing distance of 60 ft. and a walking speed of 3.5 ft./s, plus a pedestrian lost time of 7 s, the minimum crossing time across 42nd Street is 25 s; the proposed 38 s is sufficient).
MADISON AVENUE & 42nd STREET	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from NB phase to EB/WB phase. [NB green time shifts from 40 s to 39 s; EB/WB green time shifts from 40 s to 41 s].	Mitigation not required.	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].
SIXTH AVENUE & 42nd STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Modify signal timing: shift 2 s green time from NB phase to EB/WB phase. [NB green time shifts from 45 s to 43 s; EB/WB green time shifts from 35 s to 37 s].

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
BROADWAY & 42nd STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Partially Mitigated.** Modify signal timing: shift 1 s green time from EB/WB phase to SB phase; shift 4 s green time from EB/WB phase to WB-lead phase. [SB green time shifts from 44 s to 45 s; WB-lead green time shifts from 7 s to 11 s; EB/WB green time shifts from 29 s to 24 s].	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 40 s to 39 s; WB-lead green time remains at 7 s; EB/WB green time shifts from 33 s to 34 s].
SEVENTH AVENUE & 42nd STREET	Mitigation not required.	Modify signal timing: shift 1 s green time from SB phase to EB/WB phase. [SB green time shifts from 40 s to 39 s; EB/WB green time shifts from 40 s to 41 s].	Modify the existing "No Standing" regulations along the east side of the Seventh Avenue approach to prohibit truck loading/unloading from 4P-7P M-F 120 ft. from the intersection to gain an additional moving lane (for a total of 5 lanes). Modify signal timing: shift 4 s green time from SB phase to EB/WB phase. [SB green time shifts from 46 s to 42 s; EB/WB green time shifts from 34 s to 38 s].	Mitigation not required.
EIGHTH AVENUE & 42nd STREET	**Unmitigatable Impact.**	**Unmitigatable Impact.**	**Unmitigatable Impact.**	Mitigation not required.
NINTH AVENUE & 42nd STREET	Provide strict enforcement of the existing "No Standing" and "No Parking" regulations along the east side of Ninth Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 4 s green time from SB phase to EB/WB phase. [SB green time shifts from 35 s to 31 s; WB-lead green time stays at 9 s; EB/WB green time shifts from 29 s to 33 s].	Mitigation not required.	Provide strict enforcement of the existing "No Standing" and "No Parking" regulations along the east side of Ninth Avenue to gain an additional moving lane (for a total of 6 lanes). Modify signal timing: shift 3 s green time from SB phase to EB/WB phase. [SB green time shifts from 35 s to 32 s; WB-lead green time stays at 9 s; EB/WB green time shifts from 29 s to 32 s].	Modify signal timing: shift 2 s green time from SB phase to EB/WB phase.[SB green time shifts from 35 s to 33 s; WB-lead green time stays at 9 s; EB/WB green time shifts from 29 s to 31 s].
GARAGE ENTRANCE AND EXIT AT 35TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
GARAGE ENTRANCE AND EXIT AT 38TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS PLAZA NORTH & CRESCENT STREET	**Unmitigatable Impact.**	Mitigation not required.	Mitigation not required. [The Proposed Action is expected to generate fewer than five vehicles through the SB-T lane group in the peak hour.]	Mitigation not required.
QUEENS PLAZA NORTH & 28TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS PLAZA NORTH & JFK COMMUTER PLAZA	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from EB/WB phase to NB phase. [EB/WB green time shifts from 78 s to 77 s; NB green time shifts from 32 s to 33 s].	**Unmitigatable Impact.**	Modify signal timing: shift 1 s green time from EB/WB phase to NB phase. [EB/WB green time shifts from 78 s to 77 s; NB green time shifts from 32 s to 33 s].

Table 23-3

Summary of Traffic Mitigation Measures

INTERSECTION	MITIGATION MEASURES			
	AM PEAK HOUR	MIDDAY PEAK HOUR	PM PEAK HOUR	SATURDAY MIDDAY PEAK HOUR
QUEENS PLAZA NORTH / 41ST AVENUE & NORTHERN BOULEVARD	Modify signal timing: shift 4 s green time from WB phase to EB/SB right turn phase. [WB green time shifts from 20 s to 16 s; EB/SB right turn green time shifts from 38 s to 42 s].	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
QUEENS PLAZA SOUTH & 27TH STREET	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
QUEENS BOULEVARD & JACKSON AVENUE / NORTHERN BOULEVARD	Modify signal timing: shift 3 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 44 s to 41 s; EB/WB green time shifts from 66 s to 69 s].	Mitigation not required.	Modify signal timing: shift 2 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 52 s to 50 s; EB/WB green time shifts from 58 s to 60 s].	Mitigation not required.
QUEENS BOULEVARD & SKILLMAN AVENUE	**Unmitigatable Impact.**	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
QUEENS BOULEVARD / THOMSON AVENUE & VAN DAM STREET	**Partially Mitigated.** Provide strict enforcement of the existing No Standing 7am-10am except Sunday parking regulation on the east curb of the NB approach.	**Unmitigatable Impact.**	**Partially Mitigated.** Inform TEA(s) to process EB Thompson Ave. right turns during the EB/WB Queens Blvd./NB Van Dam St. Left-Only phase. Provide strict enforcement of the existing No Parking 10am-6pm except Sunday parking regulation on the east curb of the NB approach.	Inform TEA(s) to process EB Thompson Ave. right turns during the EB/WB Queens Blvd./NB Van Dam St. Left-Only phase.
THOMSON AVENUE & QUEENSBORO BRIDGE UPPER LEVEL ON-OFF RAMP	Mitigation not required.	Mitigation not required.	**Unmitigatable Impact.**	Mitigation not required.
THOMSON AVENUE & SKILLMAN AVENUE	Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. **[Measures reflect geometric improvements needed for the Saturday Midday peak period; otherwise mitigation is not needed.]**	Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. Modify signal timing: shift 2 s green time from NB/SB phase to EB/WB phase. [NB/SB green time shifts from 32 s to 30 s; EB/WB green time shifts from 70 s to 72 s]. **[Measures reflect geometric improvements needed for the Saturday Midday peak period.]**	**Unmitigatable Impact.** Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. **[Measures reflect geometric improvements needed for the Saturday Midday peak period.]**	Restripe the NB approach from one 19 ft lane to one 9.5 ft left turn lane and one 9.5 ft shared through and right lane for 120 ft. Restripe the SB approach from one 19 ft lane to one 10 ft shared left and through lane and one 9 ft right turn lane for 120 ft. Relocate the existing "No Standing" regulations along the west side of SB Skillman Avenue 120 ft. from the intersection to provide a right-turn lane. Modify signal timing: shift 2 s green time from NB/SB phase to EB/WB phase. [EB/WB green time shifts from 70 s to 72 s; NB/SB green time shifts from 32 s to 30 s].
JACKSON AVENUE & 44TH DRIVE	Mitigation not required.	Mitigation not required.	Mitigation not required.	Mitigation not required.
NORTHERN BOULEVARD / 31ST STREET & 40TH AVENUE	Modify signal timing: shift 1 s green time from EB/WB Northern Blvd. phase to SB 31st St./EB Northern Blvd. Left-Only phase. [EB/WB Northern Blvd. green time shifts from 85 s to 84 s; SB 31st St./EB Northern Blvd. Left-Only green time shifts from 25 s to 26 s].	Modify signal timing: shift 1 s green time from EB/WB phase to NB/SB phase. [EB/WB green time shifts from 85 s to 84 s; NB/SB green time shifts from 25 s to 26 s].	Modify signal timing: shift 1 s green time from EB/WB phase to NB/SB phase. [EB/WB green time shifts from 85 s to 84 s; NB/SB green time shifts from 25 s to 26 s].	Modify signal timing: shift 1 s green time from EB/WB phase to NB/SB phase. [EB/WB green time shifts from 85 s to 84 s; NB/SB green time shifts from 25 s to 26 s].