3. Environmental Analysis Framework

3.1 FEDERAL APPROVALS AND CLASS OF ACTION

The CBD Tolling Program is classified as a NEPA Class III EA action in accordance with 23 Code of Federal Regulations (CFR Section 771.115). NEPA Class III actions are those in which the significance of the environmental impact is not clearly established. This EA has been prepared to determine whether the Project is likely to have a significant impact and requires the preparation of an Environmental Impact Statement.

3.2 COORDINATION WITH FEDERAL AND STATE RESOURCE AGENCIES

FHWA and the Project Sponsors have sought the expertise of and/or information from the following Federal and New York State agencies in preparing this EA:

- U.S. Federal Transit Administration (FTA)
- U.S. Environmental Protection Agency (USEPA)
- U.S. National Park Service (NPS)
- [U.S. Department of Health and Human Services (HHS)]
- New York State Department of Environmental Conservation (NYSDEC)
- New York State Department of State (NYSDOS)
- New York State Historic Preservation Office at the New York State Office of Parks, Recreation and Historic Preservation (OPRHP or SHPO)

FHWA and the Project Sponsors coordinated with these agencies about their areas of expertise with respect to methodologies for documenting environmental conditions and assessing effects. The Project Sponsors also coordinated with New York City agencies about potential effects on resources under their jurisdiction, including the New York City Department of Parks and Recreation, the New York City Department of Environmental Protection, *[the New York City Department of Health and Mental Hygiene, the New York City Taxi and Limousine Commission, the New York City Department of Education]*, and the New York City Landmarks Preservation Commission. There have been and will continue to be meetings with the agencies during this NEPA review. The recommendations of these agencies have been considered and incorporated into this EA, as appropriate.

FHWA has also coordinated with Federally recognized Native American tribes, and FHWA and the Project Sponsors coordinated with transportation agencies from throughout the New York City region *[(Connecticut, New Jersey, and New York)]*. The Project Sponsors also conducted extensive outreach to environmental justice (minority and low-income) populations in the regional study area. (Refer to **Chapter 18, "Agency Coordination and Public Participation,"** for more information about agency participation in the NEPA process.)

3.3 ANALYSIS FRAMEWORK

This EA describes the potential environmental effects of the CBD Tolling Alternative compared to the No Action Alternative. This environmental analysis complies with FHWA's *Environmental Impact and Related Procedures* (23 CFR Part 771) and applicable Federal guidance and procedures, including FHWA guidance provided in its environmental review toolkit.¹ Although the MTA Reform and Traffic Mobility Act exempts the Project from the environmental review procedures of the New York State Environmental Quality Review Act and New York City Environmental Quality Review, NYSDOT's *The Environmental Manual* and New York City's *City Environmental Quality Review Technical Manual* (*CEQR Technical Manual*) were used for certain analyses because these are widely accepted methodologies for environmental studies in New York State and New York City, respectively.^{2, 3}

NYSDOT and the New York City Mayor's Office of Environmental Coordination oversee *The Environmental Manual* and the *CEQR Technical Manual*, respectively. Both are updated regularly to reflect changes in regulations or to incorporate new or modified methodologies that reflect experience gained through environmental reviews and real-world conditions. Updates to these documents are undertaken in consultation with other New York State and New York City agencies, including the following:

- New York State Department of Environmental Conservation (NYSDEC)
- OPRHP and SHPO
- MTA
- New York City Department of City Planning (NYCDCP)
- New York City Department of Environmental Protection
- NYCDOT
- New York City Landmarks Preservation Commission

Each chapter of this EA identifies the methodology used for the analysis presented in the chapter.

The 2021 *CEQR Technical Manual*, issued in December 2021, establishes that the lead agency should consider whether supplemental analysis to reflect an updated methodology of the 2021 *CEQR Technical Manual* should be undertaken, taking into account as necessary the scheduled timing of completion of environmental review under the applicable approval process. Based on the timing of completion of analyses and scheduled public and agency review, the 2020 *CEQR Technical Manual* is used as the basis for this EA.

¹ <u>https://www.environment.fhwa.dot.gov</u>.

² NYSDOT. *The Environmental Manual.* <u>https://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm</u>.

³ The 2021 *CEQR Technical Manual*, issued in December 2021, establishes that the lead agency should consider whether supplemental analysis to reflect an updated methodology of the *CEQR Technical Manual* should be undertaken, taking into account as necessary the scheduled timing of completion of environmental review under the applicable approval process. Based on the timing of completion of analyses and scheduled public and agency review, the 2020 *CEQR Technical Manual* is used as the basis for this EA.

3.3.1 Study Areas

A regional study area and multiple local study areas were used to assess the potential effects of the Project. The regional study area was used to examine changes in travel patterns resulting from the CBD Tolling Alternative while different local study areas were used to identify more localized effects like the potential effects of constructing tolling infrastructure and tolling system equipment, changes in roadway traffic and access to transit stations; and social, economic, or environmental effects. **Chapter 1, "Introduction,"** provides an overview of development patterns, demographic characteristics, and commuting patterns within the study areas. The affected environment sections of the subsequent chapters of this EA describe the Project setting within the study areas relevant to, and appropriate for, the technical topic that is the subject of the chapter. The affected environment section provides context for the assessment of the Project's effects presented in the environmental consequences sections that follow in each chapter.

3.3.1.1 Regional Study Area

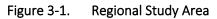
The regional study area includes 28 counties that are incorporated in the Best Practice Model (BPM), which is the New York City region's primary long-range travel forecasting model (**Figure 3-1**). These 28 counties represent the main catchment area for trips to and from the Manhattan CBD:

- New York City counties (Bronx, Kings [Brooklyn], New York [Manhattan], Queens, and Richmond [Staten Island])
- Long Island counties (Nassau and Suffolk)
- New York counties north of New York City (Dutchess, Orange, Putnam, Rockland, and Westchester)
- New Jersey counties (Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren)
- Connecticut counties (Fairfield and New Haven)

3.3.1.2 Local Study Areas

As previously stated, multiple local study areas were used for the analyses presented in this EA. Figure 3-2a through Figure 3-2g show the areas where installation of tolling infrastructure and tolling system equipment associated with the Project is proposed, and this is referred to as the local study area for tolling infrastructure and tolling system equipment. In addition, Figure 3-3a through Figure 3-3j show the proposed locations of the tolling infrastructure and tolling system equipment.

The local study area for tolling infrastructure and tolling system equipment includes more locations than the Project Sponsors would need to implement the Project because the ability of the Project Sponsors to locate tolling infrastructure and tolling system equipment on property controlled by the Port Authority of New York and New Jersey (PANYNJ) is uncertain. The Project Sponsors are coordinating with PANYNJ about potentially locating tolling infrastructure and equipment on property associated with the Lincoln and Holland Tunnels. If PANYNJ agrees to locate the tolling infrastructure and equipment on its property, then the Project Sponsors can eliminate several detection points on local streets near the Lincoln and Holland Tunnels. This EA includes the tolling infrastructure and tolling system equipment both on PANYNJ property and at locations nearby that could be eliminated if PANYNJ approves the use of its property by the Project Sponsors.







3.3.2 Analysis Years

This EA examines future conditions in the opening year of the Project and in a long-term planning horizon year:

- Estimated Time of Completion (Opening Year 2023): This EA uses an estimated time of Project completion date of 2023, when the system would be fully operational.
- Long-Term Planning Horizon Year (2045): FHWA typically considers the environmental effects of its undertakings for a long-term horizon year, which is 20 to 30 years after a project's estimated time of completion. For this Project, the long-term planning horizon analysis year aligns with the BPM's long-range forecast year, which is 2045.

3.3.3 CBD Tolling Alternative Tolling Scenarios

This EA includes multiple tolling scenarios within the CBD Tolling Alternative to identify the range of potential effects that could occur from implementing the CBD Tolling Alternative. (See **Chapter 2, "Project Alternatives," Section 2.4.2.4** for more information on the tolling scenarios.) The Project Sponsors conducted quantitative modeling of the potential transportation effects of each tolling scenario using the BPM (see **Subchapter 4A, "Transportation: Regional Transportation Effects and Modeling"**).

The tolling scenarios are relevant to the environmental analyses that quantify the potential benefits or negative effects of changes in traffic and/or transit riders on a particular topic of analysis (e.g., intersection operations, pedestrian circulation, air quality, noise). For each of these topics, this EA describes the effects of the tolling scenario that would result in the greatest potential negative effects for that particular topic of analysis. For example, the analysis of potential impacts on traffic intersection operations is based on the tolling scenario that would result in the greatest increase in vehicle volumes at the intersections in the study area. This methodology results in the most potential negative effects. This EA identifies the tolling scenario used for the analysis presented in each chapter. In addition, **Chapter 16, "Summary of Effects,"** compares the effects of the tolling scenarios.

[For the Final EA, the Project Sponsors committed to additional mitigation measures (see Chapter 16, "Summary of Effects," Table 16-2), including a discounted toll rate for low-income drivers, a further reduced overnight toll rate, and a cap of once per day on tolls for taxis and for-hire vehicles (FHVs). In addition to the broader sensitivity analysis described in Chapter 16, "Summary of Effects," Section 16.2.4.4, the following demonstrates that these new mitigation commitments neither require a change in the tolling scenarios used for the analyses in the EA, nor change the fundamental conclusions of the EA:

• Discounted Toll Rate for Low-Income Drivers: Traffic effects from the discounted toll rate for low-income drivers would fall within the range of effects explored through the tolling scenarios in the EA, given the small number of low-income frequent drivers who have no reasonable alternative, relative to the total

number of drivers, and given that drivers would still pay a toll, so this discount would not be an incentive for additional people to drive to the Manhattan CBD.

- Further Reduced Overnight Toll Rate: The analyses of the Project's effects on traffic, transit, parking, pedestrians, air quality, and noise evaluate effects during peak periods, which are the periods when existing and Project-generated traffic and pedestrian volumes would be highest. Further reduced overnight toll rates would not result in increased volumes during the peak periods and therefore would not change the conclusions of the analyses.
- Cap on Number of Tolls for Taxis and FHVs:
 - Subchapter 4B, "Transportation: Highways and Local Intersections:" The highway analysis and local intersection analyses evaluated Tolling Scenario D, which also represented the effects of Tolling Scenarios E and F. Since Tolling Scenario F included a cap of once per day on tolls for taxis and FHVs, the predicted effects on highway segments and local intersections presented in this subchapter are representative of the effects with the new mitigation in place. An additional traffic analysis was conducted for the Downtown Brooklyn study area where Tolling Scenario C was determined to be the representative tolling scenario. In Tolling Scenario C, taxis are exempt and there is a cap of three times a day on tolls for FHVs; this scenario also performs similarly to Tolling Scenario B, which has a cap of once per day for tolls on taxis and FHVs. Thus, this tolling scenario remains appropriate.
 - Subchapter 4C, "Transportation: Transit:" The transit analysis considered the Project's effects using Tolling Scenario E, which was predicted to have the highest transit ridership. In Tolling Scenario E, taxis are exempt and there is a cap of three times a day on tolls for FHVs; this scenario had similar results to those of Tolling Scenario F, which has a cap of once per day on tolls for taxis and FHVs. Thus, this tolling scenario remains appropriate.
 - Subchapter 4D, "Transportation: Parking:" The parking analysis evaluated Tolling Scenario D, which also represented the effects of Tolling Scenarios E and F. Since Tolling Scenario F included a cap of once per day on tolls for taxis and FHVs, the predicted effects on parking presented in this subchapter are representative of the effects with the new mitigation in place.
 - Subchapter 4E, "Transportation: Pedestrians and Bicycles:" The analysis of pedestrians and bicycles evaluated Tolling Scenario D, which also represented the effects of Tolling Scenarios E and F. Since Tolling Scenario F included a cap of once per day on tolls for taxis and FHVs, the predicted effects on parking presented in this subchapter are representative of the effects with the new mitigation in place.
 - Chapter 10, "Air Quality:" The analysis of regionwide (mesoscale) effects of the Project considered Tolling Scenario A, which was predicted to result in the smallest change in vehicle-miles traveled (VMT) compared to the No Action Alternative, and therefore the least benefit. This conclusion remains the same with the addition of the cap of once per day on tolls for taxis and FHVs. The analyses of air quality at local intersections used the same tolling scenarios as the traffic analysis presented in Subchapter 4B. As noted earlier, that analysis remains representative of the effects that would occur with the new mitigation in place. The analysis of highway segments considered the tolling scenarios with the highest annual average daily traffic and highest projected increase in

truck volumes due to the Project. These scenarios, Tolling Scenario B, C, and E, each include caps on the number of daily tolls for taxis and FHVs; Tolling Scenario B has a cap of one toll per day, and Tolling Scenarios C and E have an exemption for taxis and a cap of three tolls per day for FHV. All three scenarios are representative of conditions that would occur with a cap of one toll per day for taxis and FHVs.

- Chapter 12, "Noise:" The analysis of noise used the same tolling scenarios as the traffic analysis presented in Subchapter 4B. As noted earlier, that analysis remains representative of the effects that would occur with the new mitigation in place.
- Appendix 17D, "Technical Memorandum:" The analysis of truck traffic proximity used Tolling Scenario E, which has the maximum truck diversions by volume for all census tracts in the 10-county environmental justice study area. As noted earlier in the discussion of the traffic analyses (Subchapter 4B), Tolling Scenarios D, E, and F have similar results. While Tolling Scenario E has an exemption for taxis and a cap of three tolls per day for FHVs, Tolling Scenario F has a cap on tolls for taxis and FHVs of once per day. Consequently, the analysis of Tolling Scenario E is representative of conditions with the mitigation in place. The analysis of non-truck traffic proximity used Tolling Scenarios E and G because, in combination, those scenarios had the largest diversions and the largest potential increases of all tolling scenarios, respectively. Tolling Scenario G performed similarly to Tolling Scenario B, which has a cap of once per day on tolls for taxis and FHVs. Consequently, the analysis of Tolling Scenario G is representative of conditions with the mitigation in place.

As noted above, for more information on the details and conclusions of the sensitivity analyses conducted by the Project Sponsors, see Chapter 16, "Summary of Effects."]

3.3.4 Social and Economic Data

The social and economic conditions analysis in this EA incorporates data from two primary sources—the U.S. Census Bureau and the BPM.

The EA incorporates census data to describe existing conditions (also known as the "affected environment"). The data are from multiple census products, including the 2015–2019 American Community Survey (ACS) and the 2012–2016 Census Transportation Planning Package (CTPP). These were the most recent versions of these products available at the time the analysis was prepared. Data from the 2012–2016 CTPP is used when there is not a newer, comparable data set available from the 2015–2019 ACS.

The BPM is a complex transportation model, created by New York Metropolitan Transportation Council (NYMTC), used to project future conditions under the No Action Alternative and the CBD Tolling Alternative. Metropolitan planning organizations (e.g., NYMTC) are responsible for modeling and documenting their region's compliance with the Clean Air Act, and they use transportation models for that purpose. NYMTC's transportation planning model is based on data from the 2010 Census, traffic and transit ridership data, household surveys, and comprehensive projections of social and economic trends for the regional study

area to project travel behavior in future years. NYMTC has adjusted and calibrated the model so that it can predict existing as well as future travel patterns. This EA cites the social and economic data from the BPM when describing future conditions based on BPM results (also known as the "environmental consequences" of the Project).

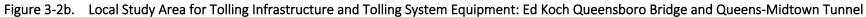
Some data sets from the U.S. Census Bureau and the BPM differ, but they are both valid sources for describing the potential changes anticipated to result from the Project. For example, the census population and household data are available for more recent years; therefore, it is more current than similar data from the BPM. Text, tables, and figures in the chapters of this EA cite the source of the data presented.



Figure 3-2a. Local Study Areas for Tolling Infrastructure and Tolling System Equipment







Local Study Area for Tolling Infrastructure and Tolling System Equipment

Park or Recreational Resource in Vicinity of Local Study Area

Sources: NYC Open Data, NYC Planimetrics, <u>https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d</u>; NYCDCP, BYTES of the BIG APPLE, <u>https://www1.nyc.gov/site/planning/data-maps/open-data.page</u>; ArcGIS Online, <u>https://www.arcgis.com/index.html</u>.

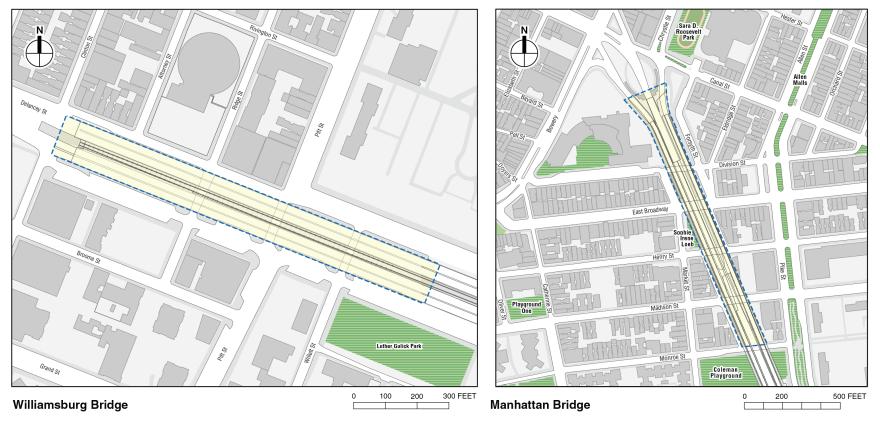


Figure 3-2c. Local Study Area for Tolling Infrastructure and Tolling System Equipment: Williamsburg Bridge and Manhattan Bridge

Local Study Area for Tolling Infrastructure and Tolling System Equipment

Park or Recreational Resource in Vicinity of Local Study Area

Sources: NYC Open Data, NYC Planimetrics, <u>https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d</u>; NYCDCP, BYTES of the BIG APPLE, <u>https://www1.nyc.gov/site/planning/data-maps/open-data.page</u>; ArcGIS Online, <u>https://www.arcgis.com/index.html</u>.

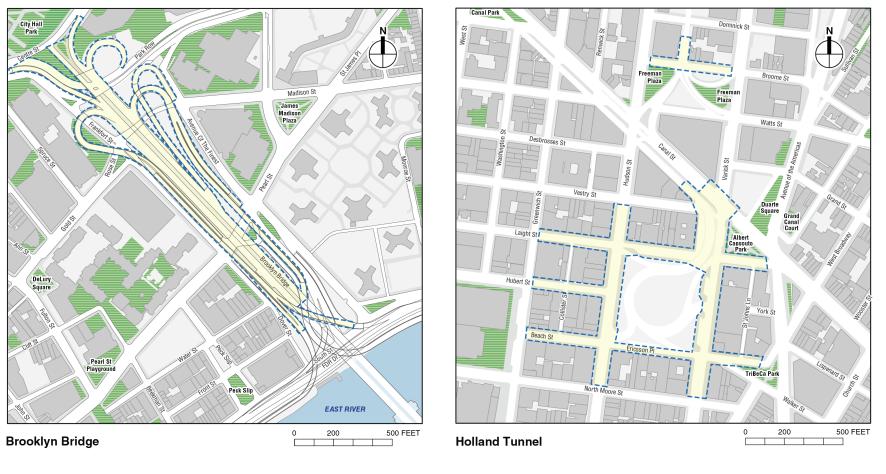
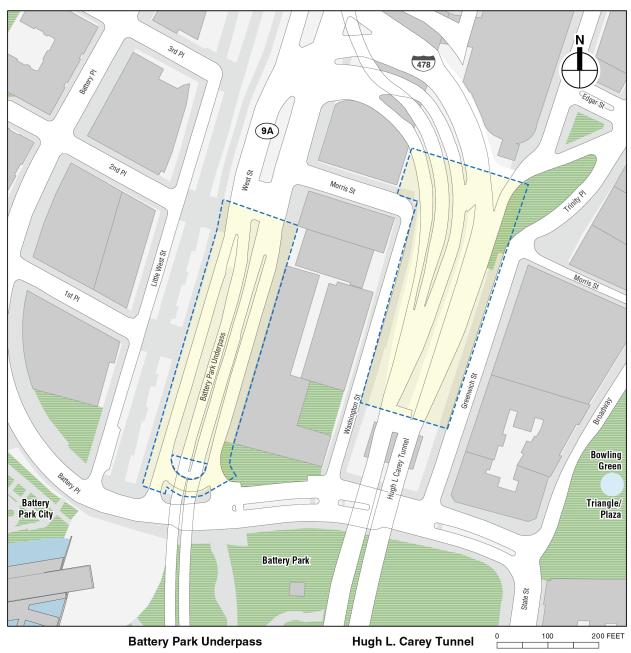


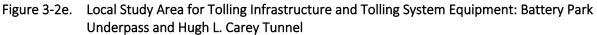
Figure 3-2d. Local Study Area for Tolling Infrastructure and Tolling System Equipment: Brooklyn Bridge and Holland Tunnel

Local Study Area for Tolling Infrastructure and Tolling System Equipment

Park or Recreational Resource in Vicinity of Local Study Area

Sources: NYC Open Data, NYC Planimetrics, <u>https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d</u>; NYCDCP, BYTES of the BIG APPLE, <u>https://www1.nyc.gov/site/planning/data-maps/open-data.page</u>; ArcGIS Online, <u>https://www.arcgis.com/index.html</u>.

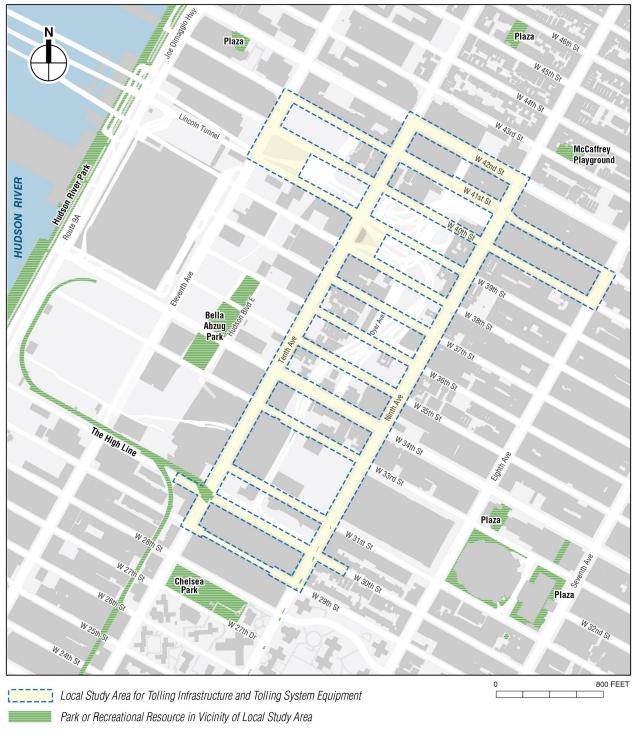


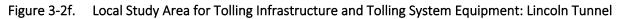


Local Study Area for Tolling Infrastructure and Tolling System Equipment

Park or Recreational Resource in Vicinity of Local Study Area

Sources: NYC Open Data, NYC Planimetrics, <u>https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d;</u> NYCDCP, BYTES of the BIG APPLE, <u>https://www1.nyc.gov/site/planning/data-maps/open-data.page</u>; ArcGIS Online, https://www.arcgis.com/index.html.





Sources: NYC Open Data, NYC Planimetrics, <u>https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d;</u> NYCDCP, BYTES of the BIG APPLE, <u>https://www1.nyc.gov/site/planning/data-maps/open-data.page</u>; ArcGIS Online, <u>https://www.arcgis.com/index.html</u>.

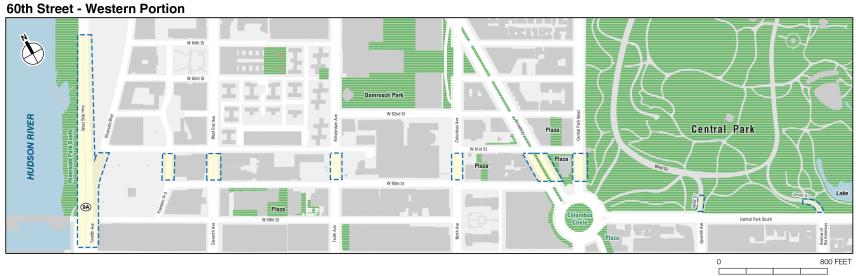
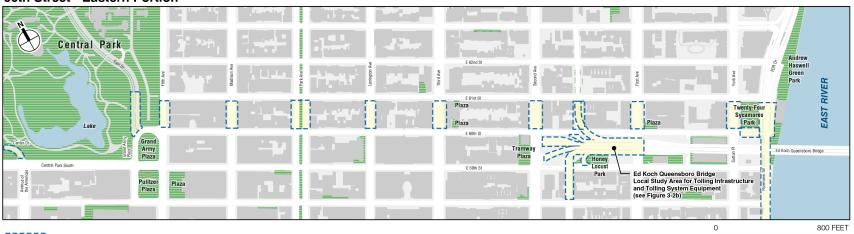


Figure 3-2g. Local Study Area for Tolling Infrastructure and Tolling System Equipment: 60th Street

60th Street - Eastern Portion

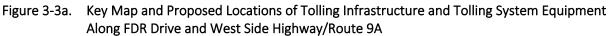


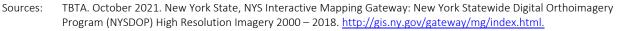
Local Study Area for Tolling Infrastructure and Tolling System Equipment

Park or Recreational Resource in Vicinity of Local Study Area

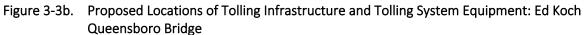
Sources: NYC Open Data, NYC Planimetrics, <u>https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d</u>; NYCDCP, BYTES of the BIG APPLE, https://www1.nyc.gov/site/planning/data-maps/open-data.page; ArcGIS Online, https://www.arcgis.com/index.html.

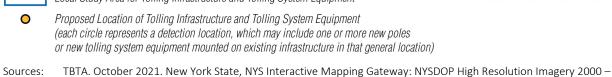












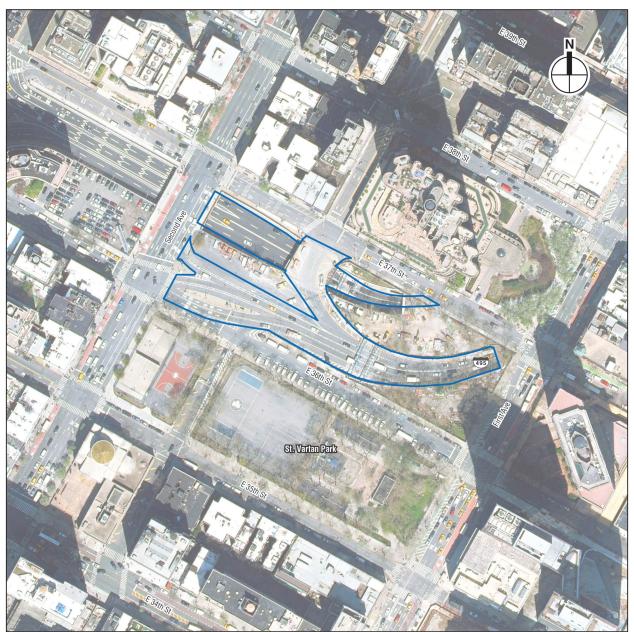


Figure 3-3c. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Queens-Midtown Tunnel

Local Study Area for Tolling Infrastructure and Tolling System Equipment

300 FEET

Note: No new tolling infrastructure and tolling system equipment proposed in this local study area (existing open road tolling infrastructure would be used)

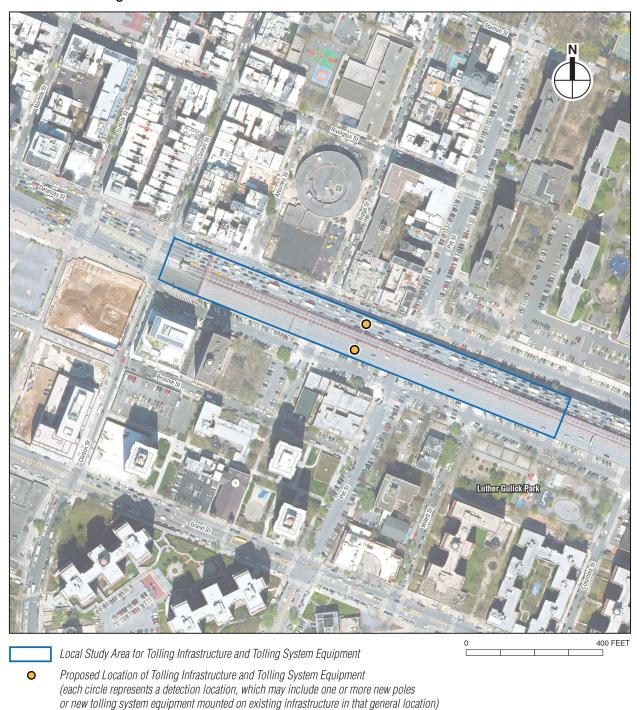
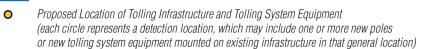


Figure 3-3d. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Williamsburg Bridge



Figure 3-3e. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Manhattan Bridge



Local Study Area for Tolling Infrastructure and Tolling System Equipment

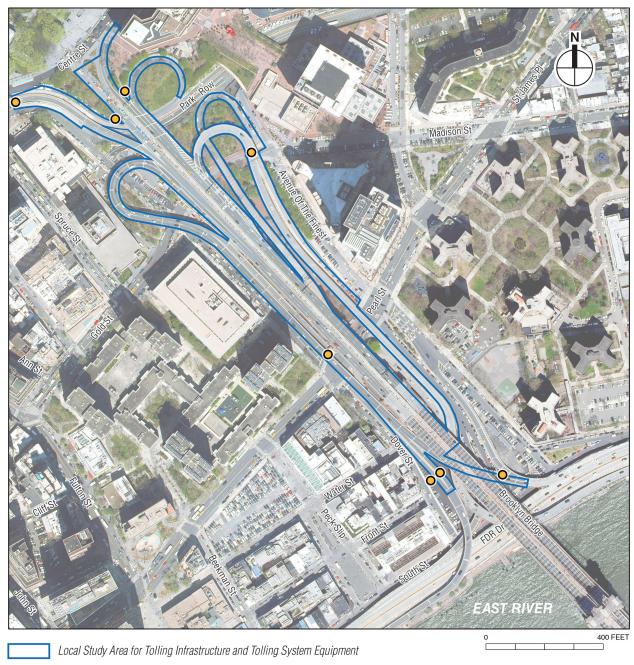


Figure 3-3f. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Brooklyn Bridge

- Proposed Location of Tolling Infrastructure and Tolling System Equipment (each circle represents a detection location, which may include one or more new poles or new tolling system equipment mounted on existing infrastructure in that general location)
- Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 2018. <u>http://gis.ny.gov/gateway/mg/index.html</u>.

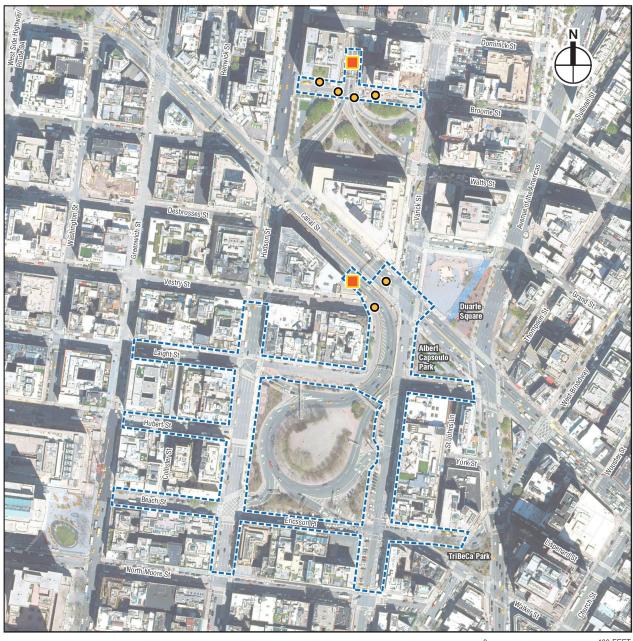
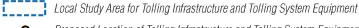
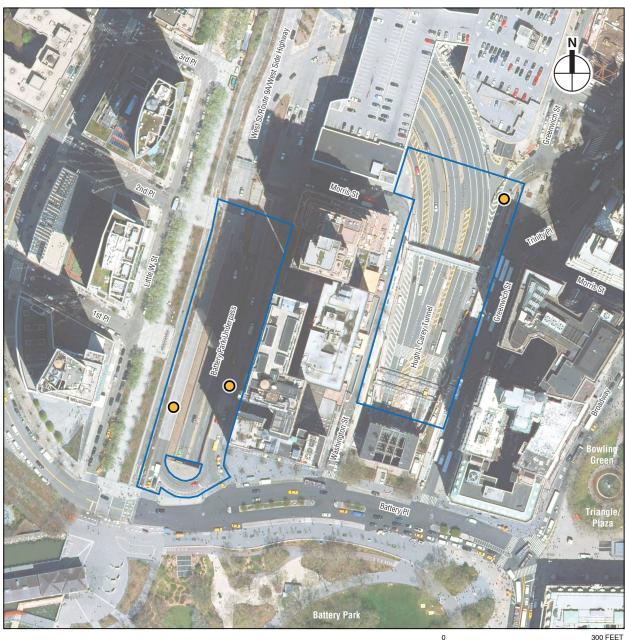


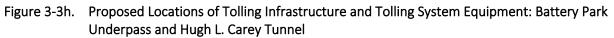
Figure 3-3g. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Holland Tunnel



400 FEET

- Proposed Location of Tolling Infrastructure and Tolling System Equipment (each circle represents a detection location, which may include one or more new poles or new tolling system equipment mounted on existing infrastructure in that general location
- Potential Location of Tolling Infrastructure and Tolling System Equipment on PANYNJ Property In Place of All Other Detection Points at and Near the Holland Tunnel
- Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 2018. <u>http://gis.ny.gov/gateway/mg/index.html</u>.







Local Study Area for Tolling Infrastructure and Tolling System Equipment

Proposed Location of Tolling Infrastructure and Tolling System Equipment (each circle represents a detection location, which may include one or more new poles or new tolling system equipment mounted on existing infrastructure in that general location - existing open road tolling infrastructure would be used for the Hugh L. Carey Tunnel)





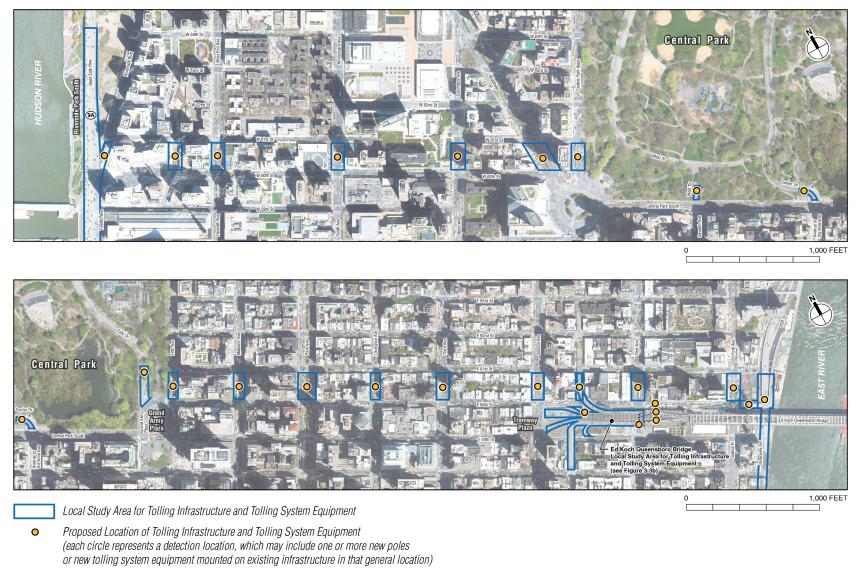


Figure 3-3j. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: 60th Street