2. Project Alternatives

2.1 INTRODUCTION

NEPA requires Federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[1] The NEPA regulations promulgated by the Council on Environmental Quality in 2022 at 40 Code of Federal Regulations (CFR) Parts 1500–1508 require that EAs include a discussion of alternatives as required by NEPA (40 CFR Section 1502.14(b)). This chapter describes the previous studies and concepts that were considered prior to 2019 to address congestion in the Manhattan CBD, the preliminary alternatives that FHWA and the Project Sponsors assessed for the CBD Tolling Program (the Project), and the screening evaluation of these preliminary alternatives. Following that discussion, Section 2.4 of this chapter provides information on the two alternatives that are evaluated in detail in this EA: the No Action Alternative and the CBD Tolling Alternative.

2.2 PREVIOUS STUDIES AND CONCEPTS CONSIDERED

For many years, State and City of New York officials and stakeholder and advocacy groups have identified traffic congestion in Manhattan as a concern that adversely affects the economy, environment, quality of life, and public health of New York City and the region. Many of these groups also identified a need for an ongoing, reliable source of funding for MTA. Consequently, there have been a number of studies to identify concepts for addressing the congestion, including introducing tolls. These studies include the following:

- Local congestion management measures as part of New York State's State Implementation Plan to comply with the Federal Clean Air Act (1973), which included tolls on the bridges across the East River and Harlem River to reduce vehicular traffic[2]
- PlaNYC (2007), a long-term plan for New York City proposed by Mayor Bloomberg that included a congestion pricing proposal for the area of Manhattan south of 86th Street[3]
- New York City Traffic Congestion Mitigation Commission Study (2008), which recommended a modified version of the PlaNYC concept, with the northern boundary of the tolling zone at 60th Street so that

1 42 United States Code (USC) 4321 Section 102(E).

2 Plan prepared by then-New York State Governor Nelson Rockefeller and then-New York City Mayor John Lindsay for submission to the U.S. Environmental Protection Agency.

3 The City of New York, Mayor Michael R. Bloomberg. *PlaNYC: A Greener, Greater New York*. April 2007. http://www.nyc.gov/html/planyc/downloads/pdf/publications/full_report_2007.pdf. See p. 88.

the new toll would apply to more intra-Manhattan trips, thereby further reducing congestion and increasing revenue potential[4]

- Move NY Fair Plan (2015), a plan proposed by a citizens' group that involved tolling the area of Manhattan south of 60th Street and adjusting tolls elsewhere in New York City[5]
- Fix NYC Advisory Panel (2018), which recommended a tolling program for the area of Manhattan south of 60th Street as well as other measures to address congestion[6]
- Metropolitan Transportation Sustainability Advisory Workgroup (2018), which focused on actions to improve the region's transportation system, including addressing traffic congestion and identifying sources of sustainable funding for the region's public transit system, and recommended congestion pricing for the area of Manhattan south of 60th Street[7]

Appendix 2A, "Project Alternatives: Previous Studies and Concepts Considered," provides more information on these previous studies, including copies of each report cited.

2.3 PRELIMINARY ALTERNATIVES AND THEIR CONSISTENCY WITH THE PROJECT'S PURPOSE AND OBJECTIVES

FHWA oversees projects throughout the United States that are intended to reduce congestion through "congestion pricing." FHWA's website notes that "Congestion pricing recognizes that trips have different values at different times and places and for different individuals. Faced with premium charges during periods of peak demand, road users are encouraged to eliminate lower-valued trips, take them at a different time, or choose alternative routes or transport modes where available."[8]

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4 The New York City Traffic Congestion Mitigation Commission was a 17-member body appointed by the governor based on recommendations from the New York City mayor and leaders in the New York State Assembly, New York State Senate, and New York City Council. The chair of the commission was Marc V. Shaw, who had previously served as a Deputy Mayor of New York City and Executive Director of MTA. https://www.dot.ny.gov/programs/congestion_mitigation_commission.
New York City Traffic Congestion Mitigation Commission. *Report to the Traffic Congestion Mitigation Commission & Recommended Implementation Plan*. January 31, 2008. https://www.dot.ny.gov/programs/congestion_mitigation_commission/final-recommendation.

5 Move New York is a coalition of stakeholders representing business associations, trade unions, religious and civic leaders, transportation and environmental advocates, good-governance organizations, and elected officials. The group is led by Alex Matthiessen, president of an environmental consulting firm; Sam Schwartz, PE, the founder of a traffic engineering firm; and Eduardo Castell, a political advisor. Move NY. *Move New York Fair Plan.* February 2015.

6 Then-New York State Governor Andrew M. Cuomo created this panel in October 2017, consisting of community representatives, government officials, and business leaders from across the New York City region. Fix NYC Advisory Panel. *Fix NYC Advisory Panel Report.* January 2018.

7 The New York State Legislature created this workgroup, chaired by Kathryn Wylde, President and CEO of the Partnership for New York, and comprising government officials, transportation professionals, and representatives of business and commuter interest groups, as part of the fiscal year 2019 New York State budget. Metropolitan Transportation Sustainability Advisory Workgroup. Metropolitan Transportation Sustainability Advisory Workgroup Report. December 2018. https://pfnyc.org/wp-content/uploads/2018/12/2018-12-Metropolitan-Transportation-Sustainability-Advisory-Workgroup-Report.pdf.

8 https://ops.fhwa.dot.gov/congestionpricing/index.htm.

Congestion pricing strategies can involve projects that use tolls to manage congestion as well as projects that do not involve tolls. Such strategies include the following:[9]

- **High-Occupancy Toll (HOT) Lanes** involve designating lanes on highways for high-occupancy vehicles only and allowing vehicles with fewer people than required to pay a toll to use the lane. This strategy provides an uncongested alternative for travelers who carpool or pay the toll, and may reduce congestion in the remaining lanes.
- **Express Toll Lanes** are similar to HOT lanes and involve providing a lane designated for vehicles that pay a toll. Tolling is variable to allow effective time-of-day tolling.
- **Pricing on Full Roadways** involves the use of variable tolls on highways, bridges, and/or tunnels to reduce congestion during peak periods.
- **Zone-Based Pricing, including Cordon and Area Pricing** involves either variable or fixed charges to drive within or into a congested area within a city. This type of project has been successfully implemented in London, Stockholm, and Singapore.
- **Regionwide Pricing** involves pricing at several locations in a region.
- **Parking Pricing** consists of parking policies to influence the decision to drive, including variable pricing of curbside parking, commuter parking taxes, and employer incentive programs that offer employees cash rather than the use of employer-provided parking.
- **Priced Vehicle Sharing and Dynamic Ridesharing** involve setting up a ridesharing system, typically by a commercial vendor, to allow customers to use a vehicle only when needed and without owning a car.
- **Pay as You Drive (Making Vehicle Use Costs Variable)** involves a range of different approaches to correlate charges associated with operating a vehicle to the miles driven, thus providing an incentive to drive less.

In consideration of these potential strategies, and in light of the purpose, need, and objectives for this Project, FHWA and the Project Sponsors evaluated the 12 preliminary alternatives described in **Table 2-1**, which included multiple proposals for congestion management described in **Section 2.2** and **Appendix 2A, "Project Alternatives: Previous Studies and Concepts Considered."** One of the alternatives evaluated is the introduction of a vehicular tolling program consistent with the 2019 New York State legislation entitled the MTA Reform and Traffic Mobility Act (Traffic Mobility Act), the program known as the CBD Tolling Program.

[9] https://ops.fhwa.dot.gov/congestionpricing/cp_what_is.htm.

Table 2-1. Preliminary Alternatives Considered

TYPE OF ALTERNATIVE	ALTERNATIVE	DESCRIPTION
No Action Alternative Required by NEPA as the benchmark to which the build alternative(s) are compared	NA-1: No Action	The No Action Alternative would not implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD. The No Action Alternative would not meet the Project purpose and objectives; NEPA regulations require that it be evaluated and serve as the baseline condition against which the potential effects of the build alternative (i.e., the CBD Tolling Alternative) are evaluated. Under the No Action Alternative, existing policies and programs would continue, and planned transportation, policy, and development initiatives that are independent of the CBD Tolling Program would be implemented.
Non-Toll Pricing (NTP) Alternatives Alternatives that use types of pricing mechanisms other than tolling	NTP-1: Parking pricing strategies	This alternative would take one or more of several forms, including elimination of the resident exemption for the parking tax or raising of the tax, increased rates for metered on-street parking, and/or introduction of an overnight on-street parking fee.
Toll (T) Alternatives Alternatives that use different types of tolling mechanisms	T-1: Pricing on full roadways: Raise tolls or implement variable tolls on existing toll facilities	This alternative would raise tolls or implement variable tolls on existing toll facilities.
	T-2: Pricing on full roadways: Toll East and Harlem River bridges	This alternative would establish a toll on the currently untolled East River and Harlem River crossings to Manhattan.
	T-3: High-occupancy toll (HOT) lanes	This alternative would create HOT lanes for passenger cars on major crossings into Manhattan and highways leading to the Manhattan CBD.
	T-4: Zone-based pricing: CBD Tolling Program	This alternative would toll vehicles entering or remaining in the Manhattan CBD, south of and inclusive of 60th Street, excluding the West Side Highway/Route 9A and the Franklin D. Roosevelt (FDR) Drive.
Other (O) Alternatives Alternatives that use methods other than pricing or tolling to reduce congestion	O-1: Parking pricing: Reduce government-issued parking permits	This alternative would reduce the number of permits that provide free on-street parking for government employees commuting to jobs in Manhattan.
	O-2: Provide additional taxi stands to reduce cruising	This alternative would provide additional taxi stands and require that passengers be picked up at designated taxi stands.
	O-3: Create incentives for teleworking	This alternative would create incentives for teleworking to reduce the number of trips made to the Manhattan CBD.
	O-4: Ration license plates	This alternative would prohibit vehicles from entering the Manhattan CBD on certain days based on license plate number.
	O-5: Mandatory carpooling	This alternative would prohibit single-occupant vehicles from entering Manhattan south of 60th Street weekdays, 6 a.m. to 10 a.m.
	O-6: Truck time-of-day restrictions	This alternative would restrict trucks to overnight deliveries.

FHWA and the Project Sponsors used the Project purpose, need, and three of the four objectives presented in **Chapter 1, "Introduction,"** to conduct a screening evaluation of the preliminary alternatives, so as to establish a reasonable range of alternatives for further study, consistent with NEPA requirements. Given the importance of congestion reduction, the first two objectives relate to the need to reduce congestion while the third objective ties to creating a funding source for capital improvements. Together, the objectives used for screening were as follows:

- Objective 1: Reduce daily vehicle-miles traveled (VMT) within the Manhattan CBD.
- Objective 2: Reduce the number of vehicles entering the Manhattan CBD daily.
- Objective 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund $15 billion for capital projects for the MTA Capital Program.

FHWA and the Project Sponsors did not use the fourth Project goal, "Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the 'MTA Reform and Traffic Mobility Act'" for screening of alternatives.

If, through the screening evaluation, FHWA and the Project Sponsors determined that a preliminary alternative would not meet one or more of the three Project objectives used for screening, they dismissed that alternative from further consideration as an alternative that is not reasonable. As noted in **Table 2-2**, the Project Sponsors established quantitative criteria consistent with the evaluation results for best-performing options in prior proposals,[10] for determining the consistency of preliminary alternatives with the two congestion-related Project objectives.

- For Objective 1, the evaluation used a reduction of 5 percent relative to the No Action Alternative as the quantitative screening criterion because it represents a meaningful reduction in VMT. Since VMT incorporates the number of vehicles as well as the distance they travel, changes in VMT would be smaller than changes in the number of vehicles.
- For Objective 2, the evaluation used a reduction of 10 percent relative to the No Action Alternative as the quantitative screening criterion because it represents a meaningful reduction in the number of vehicles. As noted, the reduction in the number of vehicles is expected to be larger than the reduction in VMT.

As shown in **Table 2-2**, and the explanatory notes below it, only Alternative T-4 (Zone-based pricing through the CBD Tolling Program) would meet the purpose for the Project and the screening criteria tied to the objectives. Consequently, Alternative T-4, the CBD Tolling Program, is the only reasonable build alternative and the only build alternative evaluated in detail in this EA.

[10] See, for example, The City of New York, Mayor Michael R. Bloomberg. *PlaNYC: A Greener, Greater New York*. April 2007. http://www.nyc.gov/html/planyc/downloads/pdf/publications/full_report_2007.pdf and New York City Traffic Congestion Mitigation Commission. *Report to the Traffic Congestion Mitigation Commission & Recommended Implementation Plan*. January 31, 2008.

Table 2-2. Results of Preliminary Alternatives Screening[1]

ALTERNATIVE	PURPOSE AND NEED: Reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements	OBJECTIVE 1: Reduce daily VMT within the Manhattan CBD Criterion: Reduce by 5% (relative to No Action)	OBJECTIVE 2: Reduce the number of vehicles entering the Manhattan CBD daily Criterion: Reduce by 10% (relative to No Action)	OBJECTIVE 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund $15 billion for capital projects for MTA's Capital Program
NA-1: No Action	Does not meet	Does not meet	Does not meet	Does not meet
NTP-1: Parking pricing strategies	Does not meet	Does not meet (see note 2)	Does not meet	Does not meet (see note 2)
T-1: Pricing on full roadways: Raise tolls or implement variable tolls on existing toll facilities	Does not meet	Does not meet (see note 3)	Does not meet (see note 3)	Does not meet
T-2: Pricing on full roadways: Toll East and Harlem River bridges	Does not meet (see note 4)	Meets	Meets	Does not meet (see note 4)
T-3: High-occupancy toll (HOT) lanes	Does not meet (see note 5)	Does not meet	Does not meet	Does not meet (see note 5)
T-4: Zone-based pricing: CBD Tolling Program	Meets	Meets	Meets	Meets
O-1: Parking pricing: Reduce government-issued parking permits	Does not meet	Meets	Meets	Does not meet
O-2: Provide additional taxi stands to reduce cruising	Does not meet	Does not meet (see note 6)	Does not meet	Does not meet
O-3: Create incentives for teleworking	Does not meet	Does not meet	Does not meet (see note 7)	Does not meet
O-4: Ration license plates	Does not meet	Meets	Meets	Does not meet
O-5: Mandatory carpooling	Does not meet	Meets	Meets	Does not meet
O-6: Truck time-of-day delivery restrictions	Does not meet	Does not meet (see note 8)	Does not meet (see note 8)	Does not meet

Notes for Table 2-2

[1] Screening was based on a variety of prior studies and documents, including the following: New York City Traffic Congestion Mitigation Commission, "Congestion Mitigation Strategies: Alternatives to the City's Plan" (December 10, 2007); and "Report to the Traffic Congestion Mitigation Commission & Recommended Implementation Plan" (January 31, 2008), and its appendices, including Cambridge Systematics, Inc., "Technical Memorandum: Telecommuting Incentives," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Night Delivery Incentives," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Congestion Reduction Policies Involving Taxis," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007); Cambridge Systematics, Inc., "Technical Memorandum: Increase Cost of Parking in the Manhattan Central Business District (CBD)," prepared for New York City Economic Development Corporation and New York City Department of Transportation (December 10, 2007).

[2] For NTP-1: VMT reduction was estimated at substantially less than 1 percent. Further, there is no law or agreement in place between the City of New York and MTA that would direct the revenue generated from this alternative to MTA to support the Capital Program.

[3] For T-1: This alternative would generate revenue, but the annual net revenues would not be sufficient to fund $15 billion for capital projects for MTA's Capital Program. The revenue as well as reduction in VMT and number of vehicles with this alternative depends on how high the toll is raised and whether tolls are increased only on TBTA facilities or both TBTA and Port Authority of New York and New Jersey facilities. However, with some crossings remaining untolled, traffic would divert to untolled facilities, thereby reducing the revenue and not reducing traffic. Further, this alternative would not target congestion in the Manhattan CBD, given that a number of free entry points to the Manhattan CBD would remain available.

[4] For T-2: Earlier studies showed this alternative would reduce congestion and could raise toll revenues equivalent to Project objectives. However, there is no law or agreement in place between the City of New York and MTA that would direct the revenue to MTA to support the Capital Program.

[5] For T-3: HOT Lanes can be effective revenue generators, but their ability to reduce congestion and raise enough revenue to meet the target is limited due to the availability of free lanes on the same highway.

[6] For O-2: Provision of additional taxi stands would have no effect on the number of taxis entering the Manhattan CBD and would not necessarily reduce VMT since taxis would need to travel back to a taxi stand after discharging customers. Further, this alternative would not broadly address VMT for all vehicles, nor would it reduce the number of vehicles entering the Manhattan CBD.

[7] For O-3: Earlier studies concluded that this alternative would reduce New York City commute trips by less than 2 percent. Recent experience with the COVID-19 pandemic has supported that conclusion. As the region returns to normal business activities, following large-scale, full-time teleworking, many office workers are continuing to telework, but traffic levels are returning to close to pre-COVID-19 pandemic levels (for more information, see **Chapter 1, "Introduction," Section 1.4.1**). With such minimal impact, even combining this alternative with others like NTP-1 or O-2 would not yield congestion reductions and new revenue to meet the Project's purpose, need and objectives.

[8] For O-6: To be successful, truck time-of-day restrictions would require receivers to be open and willing to receive the vehicles in overnight hours. Further, depending upon how the restrictions are implemented, some large trucks might instead send multiple small trucks, thereby increasing vehicle numbers and VMT.

2.4 DESCRIPTION OF ALTERNATIVES STUDIED IN DETAIL IN THIS ENVIRONMENTAL ASSESSMENT

NEPA regulations require that the No Action Alternative be evaluated and serve as the baseline condition against which the potential effects of the build alternative are assessed. Thus, this EA evaluates two alternatives: the No Action Alternative (in which the CBD Tolling Program is not implemented) and the CBD Tolling Alternative (in which a congestion pricing program consistent with the Traffic Mobility Act, the CBD Tolling Program, is implemented).

2.4.1 No Action Alternative

The No Action Alternative would not implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD.

Under the No Action Alternative, existing policies and programs would continue and proposed initiatives would be implemented. Some of the notable measures include the following:

- The current cap on the number of FHV licenses in New York City would remain in effect.
- The two-way, protected bicycle lanes that NYCDOT implemented in fall 2021 on the Brooklyn Bridge would remain. These bicycle lanes replaced one inbound traffic lane. With the bicycle lanes in place, the upper-level shared-use path would be only for pedestrian use.[11]
- At the Ed Koch Queensboro Bridge, NYCDOT would convert a traffic lane to a pedestrian walkway on the bridge's lower level, and the existing shared-use path on the north side of the lower level would be only for bicycle use.
- NYCDOT would continue the configuration it implemented in August 2021 for the Brooklyn-Queens Expressway, which reduced the highway from three lanes to two lanes in each direction between Atlantic Avenue and the Brooklyn Bridge, and would initiate repairs to the roadway's bridges and structures between Atlantic Avenue and Sands Street.[12]
- The Port Authority of New York and New Jersey (PANYNJ) would implement "open-road" cashless tolling at the George Washington Bridge and Lincoln Tunnel, in which tolls are collected using overhead readers, with no toll booths or attendants.
- MTA would continue to implement transit improvement projects in its 2020–2024 Capital Program, based on the amount of funding available.
- NYCDOT and other New York City agencies would continue programs established as part of the public response to the COVID-19 pandemic to improve accessibility to open spaces. This includes the closure of certain sections of streets to vehicular traffic ("Open Streets") and the use of curbside parking lanes for outdoor dining ("Open Restaurants").

[11] The travel demand modeling conducted for this EA and described in **Subchapter 4A, "Transportation: Regional Transportation Effects and Modeling,"** included the bicycle lanes as part of the No Action Alternative but not the existing condition.

[12] Ibid.

- NYCDOT would continue to develop bicycle and bus infrastructure including new bicycle and bus lanes.[13]

With the No Action Alternative, existing tolls at bridges and tunnels connecting to Manhattan that are managed by TBTA and the PANYNJ would remain in effect. (See **Chapter 4, "Transportation," Section 4.1** for more information on current tolls.) In the No Action Alternative, East River and Harlem River crossings—most of which are under the control of NYCDOT—would remain untolled.

2.4.2 CBD Tolling Alternative

2.4.2.1 Overview

The CBD Tolling Alternative would implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD, consistent with the Traffic Mobility Act.[14] After covering Project-related capital and operating expenses, the revenue collected would fund projects in the MTA 2020–2024 Capital Program and successor capital programs.

The Manhattan CBD consists of the geographic area of Manhattan south and inclusive of 60th Street, but not including Franklin D. Roosevelt Drive (FDR Drive), West Side Highway/Route 9A, the Battery Park Underpass, and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street (the West Side Highway/Route 9A). With the CBD Tolling Alternative, TBTA would toll vehicles entering or remaining in the Manhattan CBD via a cashless tolling system. The toll would apply to all registered vehicles (i.e., those with license plates) with the exception of qualifying vehicles transporting persons with disabilities and qualifying authorized emergency vehicles.[15, 16] Passenger vehicles would be tolled no more than once a day.[17] Vehicles that "remain" in the Manhattan CBD are vehicles that are detected when leaving, but were not detected entering in the same day. Given that they were detected leaving, they must have driven through the Manhattan CBD to get to the detection point, and therefore "remained" in it during a portion of the day. These vehicles would be charged that day for remaining in the Manhattan CBD.

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13 New bicycle lanes and bus lanes were incorporated in the transportation modeling conducted for this EA and described in **Subchapter 4A, "Transportation: Regional Transportation Effects and Modeling,"** as appropriate.

14 The Traffic Mobility Act amended portions of certain New York State laws, including the Vehicle and Traffic Law, the Public Authorities Law, and the Tax Law. **Appendix 2B, "Project Alternatives: MTA Reform and Traffic Mobility Act,"** provides the amended text of those laws.

15 Qualifying authorized emergency vehicle is defined in Consolidated Laws of the State of New York, Vehicle and Traffic Law, Title 1, Article 1 Section 101. As currently designed, qualifying vehicles transporting persons with disabilities include vehicles with government-issued disability license plates and fleet vehicles owned or operated by organizations and used exclusively to provide transportation to people with disabilities.

16 The toll would not apply to vehicles that are not subject to registration requirements, such as bicycles, electric scooters, bicycles with electric assist ("e-bikes").

17 Passenger vehicle is defined by Consolidated Laws of the State of New York, Vehicle and Traffic Law, Title 4, Article 14 Section 401(6).

Examples of how tolls would be applied for passenger vehicles include the following:

- If a passenger vehicle enters the Manhattan CBD on Monday morning and leaves Monday evening prior to midnight, it would be detected when it enters and when it leaves the Manhattan CBD. Because passenger vehicles would be charged only once daily, a single toll would be charged.
- If a passenger vehicle enters the Manhattan CBD on Monday and is parked until it leaves on Wednesday, it would be charged upon entering on Monday and for remaining when it drove through the Manhattan CBD on Wednesday to leave. This vehicle would not be charged when it was parked the full 24-hour period on Tuesday.
- If a passenger vehicle makes two round trips into the Manhattan CBD on the same day, it would be charged a single toll, because passenger vehicles would be charged only once daily.
- If a passenger vehicle is parked all week within the Manhattan CBD (for example, a vehicle owned by a resident of the Manhattan CBD) and then leaves the Manhattan CBD for a day trip on Saturday, the vehicle would be detected leaving (remaining) and re-entering the Manhattan CBD on the same day. Because passenger vehicles would be charged only once daily, a single toll would be charged on Saturday.
- If a passenger vehicle is parked all week within the Manhattan CBD (for example, a vehicle owned by a resident of the Manhattan CBD or a visitor to the Manhattan CBD) and then leaves the Manhattan CBD on Friday and returns on Monday, the vehicle would be identified as having remained on Friday since it was detected leaving; it would be identified as entering when it returns on Monday. It would receive a charge on Friday for remaining and on Monday for entering the Manhattan CBD. It would not be charged any other days when parked the entire day in the Manhattan CBD, nor the days when away.

Residents whose primary residence is inside the Manhattan CBD and whose New York adjusted gross income for the taxable year is less than $60,000 would be entitled to a New York State tax credit equal to the aggregate amount of Manhattan CBD tolls paid during the taxable year.[18] Residents of the Manhattan CBD with New York adjusted gross income of $60,000 or higher would not be eligible for the tax credit.

The toll amount would vary by time of day, with higher tolls charged during peak periods when congestion is greater. The specific amounts of the tolls have not yet been determined, as discussed later in this chapter. In addition, certain types of vehicles would be exempt from the toll, and some vehicles that already pay tolls on crossings to and from the Manhattan CBD could receive crossing credits.

Consistent with the Traffic Mobility Act, the annual net revenues from the CBD Tolling Program would be sufficient to support a $15 billion investment in the MTA Capital Program. MTA would use the net revenue

[18] Consolidated Laws of the State of New York, Tax Law, Article 22, Section 606 (jjj).

generated by the CBD Tolling Program to fund transit and commuter rail projects in the MTA 2020–2024 Capital Program and successor programs.[19] The funds would be allocated as follows:

- 80 percent to New York City subways and buses (New York City Transit, Staten Island Rapid Transit Operating Authority, and MTA Bus Company)
- 10 percent to Metro-North Railroad
- 10 percent to Long Island Rail Road

The MTA Capital Program is the culmination of MTA's regular evaluation of the condition of its assets and its analysis of regional transportation needs and future travel demands. These assessments support the long-range capital planning process and lead to investment strategies that address safety, state of good repair, and capacity needs. Investments in MTA's integrated transportation network would improve system reliability and accessibility, which would in turn attract new riders and further reduce vehicle demand for road capacity in and connecting to the Manhattan CBD.

To help define the CBD Tolling Program, the Traffic Mobility Act requires the TBTA Board to establish a Traffic Mobility Review Board with six members representing the region who have experience in public finance, transportation, mass transit, or management. The Traffic Mobility Review Board would recommend to the TBTA Board the toll amounts and toll structure, such as crossing credits, discounts, and/or exemptions for existing tolls paid on bridges and tunnels.[20] The variable pricing structure could vary by time of day, day of week, and day of year and could be different for different types of vehicles. Informed by the Traffic Mobility Review Board 's recommendation, the TBTA Board would approve and adopt a final toll structure following a public hearing in accordance with the State Administrative Procedure Act. The adopted TBTA plan would specify any crossing credits, discounts, and/or exemptions for tolls paid on bridges and tunnels; credits, discounts, and/or exemptions for taxis and/or FHVs, which are already subject to surcharges pursuant to the Public Authorities Law; and any other additional potential crossing credits, discounts, and/or exemptions.[21]

The Traffic Mobility Review Board's recommendation would be informed by the results of this EA and a Traffic Study, and would consider such factors as traffic patterns, operating costs, public impact, and environmental impacts, including, but not limited to, air quality and emissions trends. The analysis in this EA is intended to identify the potential effects that may result from implementing the CBD Tolling Alternative, including any potential crossing credits, discounts, and/or exemptions. Therefore, this EA considers a range of tolling scenarios with different attributes to identify the range of effects that may occur.

Following implementation of the Manhattan CBD toll, the City of New York would prepare a study of the effects of the CBD Tolling Program on parking within and around the Manhattan CBD. Consistent with the

[19] Net revenue refers to the balance of tolls, fees, and other revenues derived from the CBD Tolling Program, after payment of operating, administration, and other necessary expenses of TBTA, that are properly allocable to the CBD Tolling Program.

[20] In April 2018 the State of New York imposed a congestion surcharge on taxis and FHV trips that begin in, end in, or pass through Manhattan south of 96th Street. The Traffic Mobility Act requires the Traffic Mobility Review Board to examine potential CBD toll crossing credits, discounts, or exemptions for taxis and FHVs. The travel demand modeling conducted for this EA assumes that the taxi and FHV surcharge established by 2018 legislation will remain in effect with the CBD Tolling Alternative.

[21] Consolidated Laws of the State of New York, Public Authorities Law, Article 5, Title 11 Section 1270-i.

Traffic Mobility Act, this study must be completed 18 months after toll collection commences. In addition, following implementation of the CBD Tolling Program, TBTA, in consultation with NYCDOT, would report on the effects of the CBD Tolling Program on traffic operations, taxi and FHV usage, mass transit usage, and air quality. TBTA and NYCDOT would report on these effects one year after tolling implementation and every two years thereafter.

2.4.2.2 Tolling Infrastructure and Tolling System Equipment

The CBD Tolling Alternative would include tolling infrastructure and tolling system equipment to detect vehicles. This would include poles and mast arms, similar to those used for streetlights and traffic lights today; tolling system equipment housed in enclosures; and signage similar in size and character to signs already present throughout Manhattan. Tolling system equipment would include reader and meter cabinets and cameras. Consistent with the Traffic Mobility Act, TBTA and NYCDOT have entered into a Memorandum of Understanding for coordinating the planning and design and, should the CBD Tolling Alternative be selected, the installation, construction, and maintenance of the Project's tolling infrastructure, including signage (see **Appendix 2C, "Project Alternatives: Memorandum of Understanding Between TBTA and NYCDOT"**). The following sections describe proposed locations for the tolling infrastructure and tolling system equipment and the types of infrastructure and equipment.

Location of Tolling Infrastructure and Tolling System Equipment

The new tolling system would include detection points to identify all vehicles entering or leaving the Manhattan CBD as well as verification points at certain locations along the West Side Highway/Route 9A and the FDR Drive.[22] The poles for the CBD Tolling Alternative would be within the existing transportation right-of-way and would typically be at locations where standard poles are currently installed or would replace existing poles with new poles that are up to about 20 feet from the existing poles. In some locations, new poles would be installed where no poles currently exist. Where appropriate, tolling system equipment would be mounted on existing infrastructure (e.g., under pedestrian walkways and existing overhead sign infrastructure). At the Hugh L. Carey Tunnel and Queens-Midtown Tunnel, the existing tolling equipment would be used.

Based on preliminary design, tolling infrastructure and tolling system equipment would be installed at the following locations, with a total of 120 detection points:

- Near the 60th Street boundary to the Manhattan CBD, generally between 60th and 61st Streets, on all southbound and northbound roadways. This would include detection points close to 59th Street on the three access roads in Central Park that connect to 59th Street (Central Park South).
- At the exits from and entrances to all East River bridges (Brooklyn Bridge, Manhattan Bridge, Williamsburg Bridge, Ed Koch Queensboro Bridge, other than the ramp to 62nd Street) and tunnels under the jurisdiction of the PANYNJ (the Holland and Lincoln Tunnels) that connect to the Manhattan

[22] Tolls would be charged for entering or remaining in the Manhattan CBD; detection points at exit locations would aid in identifying vehicles that have remained in the Manhattan CBD. Verification points along the West Side Highway/Route 9A and FDR Drive would be used to ensure that vehicles that remain on these roadways without entering the Manhattan CBD do not pay a toll.

CBD. This would include detection points on the ramps leading to and from the bridges and tunnels as well as detection points on the East River bridge structures over land. At the TBTA tunnels that connect to the Manhattan CBD (Hugh L. Carey Tunnel and Queens-Midtown Tunnel), existing open-road tolling infrastructure would be used.

- Along the FDR Drive and the West Side Highway/Route 9A to identify vehicles that travel along those routes without entering the Manhattan CBD. These highway detection points would also aid in identifying vehicles that travel to locations on the east side of the FDR Drive (e.g., the Waterside apartment complex) and on the west side of the West Side Highway/Route 9A (e.g., Battery Park City or Hudson River Park) so that those vehicles are tolled.

Figure 2-1 illustrates the general locations where vehicles would pay the toll. Figure 2-2a through Figure 2-2j show in more detail the specific locations proposed for tolling infrastructure and tolling system equipment based on the preliminary design.

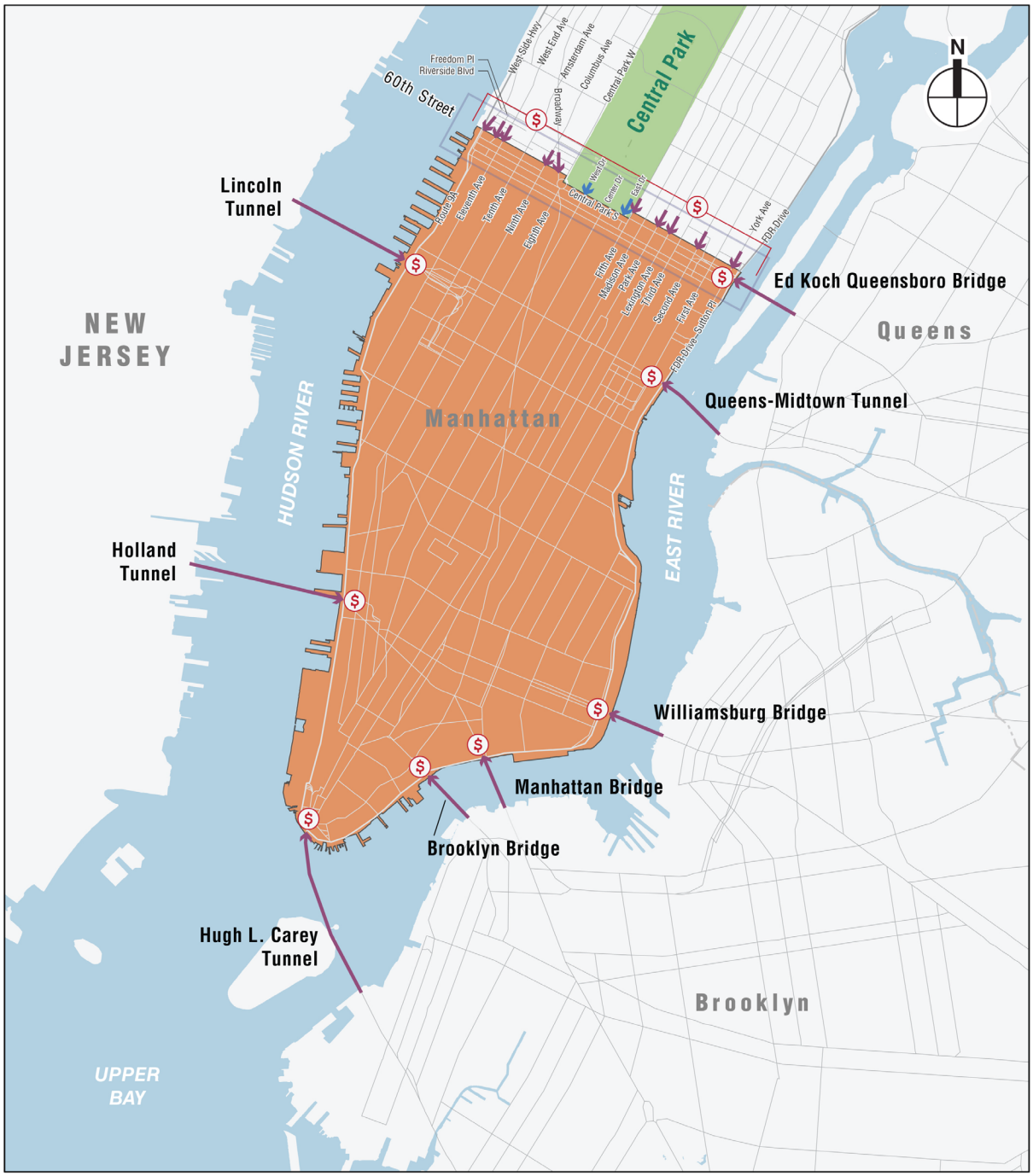
Types of Tolling Infrastructure and Tolling System Equipment

At each detection point, cameras and E-ZPass readers would be installed on tolling infrastructure in an arrangement that would allow capture of vehicle information from all traffic lanes. The proposed tolling system equipment would be clustered into single enclosures to reduce its visual impact. These enclosures would house the license plate reader cameras, illuminators, and antenna in a single unit comparable in size and mass to traffic control devices currently used throughout the area of visual effect. The cameras included in the array of tolling system equipment would use infrared illumination at night to allow images of license plates to be collected without the need for visible light.

Different tolling infrastructure would be used, depending on location, to minimize the Project footprint and reflect the existing setting. Based on preliminary design, this would include the following:

- **Modified NYCDOT M-2A poles at the curbside.** NYCDOT uses octagonal poles (M-2A poles) throughout New York City for traffic signals and streetlights. The CBD Tolling Alternative would install new poles that are similar in appearance to standard M-2A poles but would be larger in diameter (potentially up to 14 inches in diameter rather than 8.5 inches) to meet the critical structural performance requirements for mast-arm configurations. The modified M-2A poles would have larger foundations than a standard M-2A pole. From these poles, a new mast arm (similar to the mast arms that support traffic signals throughout New York City) would extend 20 to 50 feet over the roadway with tolling system equipment mounted on it. If an existing pole also supports a streetlight, then a streetlight would be provided on the replacement pole as well. The tolling system equipment mounted on mast arms would collect vehicle information from multiple lanes beneath the mast arm.
- **"Side fires" at the curbside.** In certain locations, tolling system equipment would be mounted on a standard M2-A pole without a mast arm, referred to as a "side fire." The side-fire equipment would collect vehicle information from a single lane. Typically, this would occur at locations where a mast arm would be on one side of the street and a side fire on the other side of the street to allow full coverage of all lanes of the street.

Figure 2-1. General Locations of New Tolls for Vehicles Accessing the Manhattan CBD



Source: Department of Information Technology & Telecommunications. NYC Open Data, NYC Planimetrics. https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d.

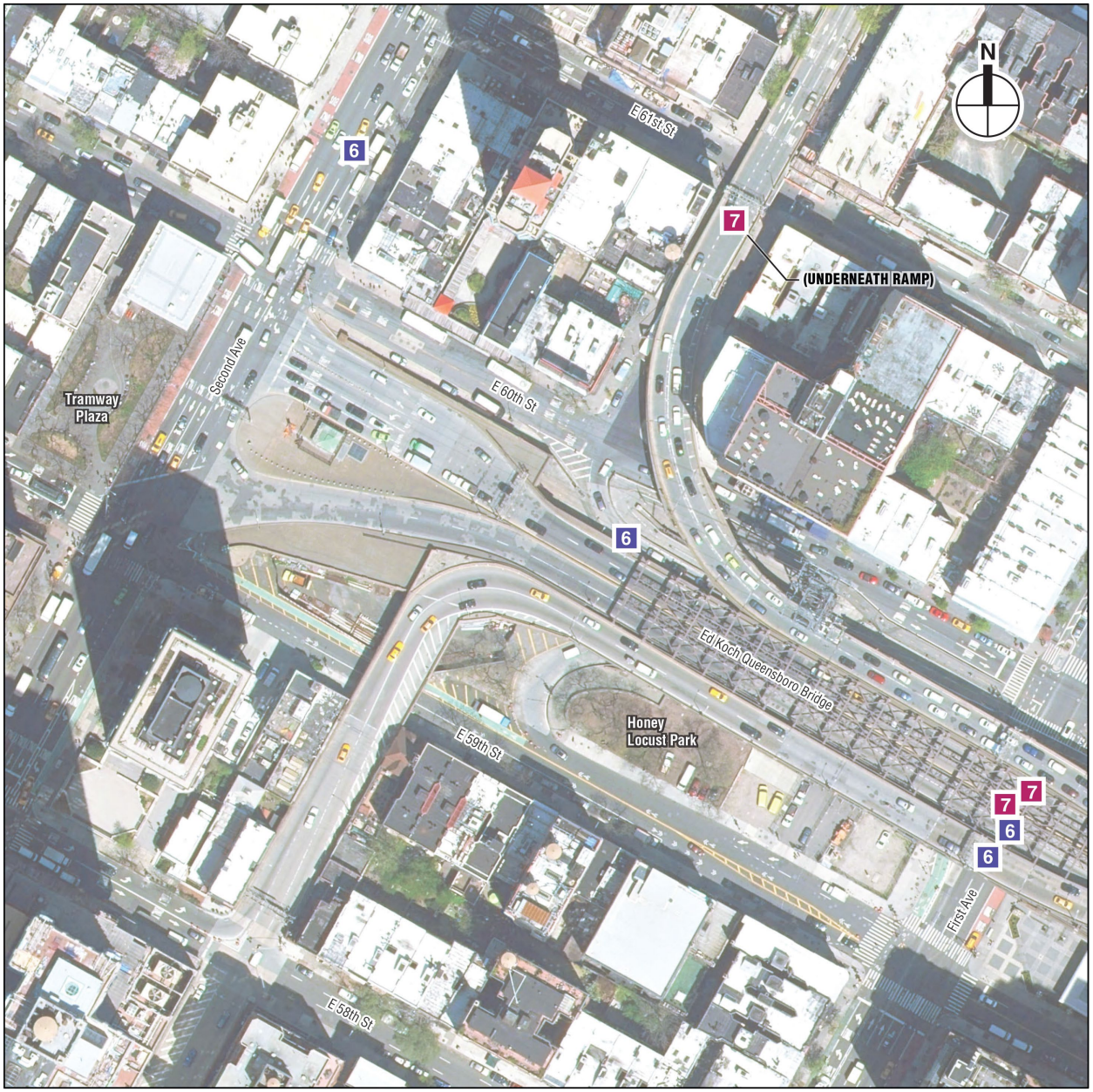
Figure 2-2a. Proposed Location of Tolling Infrastructure and Tolling System Equipment: Key Map

Sources: NYC Open Data, NYC Planimetrics, https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d; New York City Department of City Planning, 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 2-2b. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: West Side Highway/Route 9A and FDR Drive

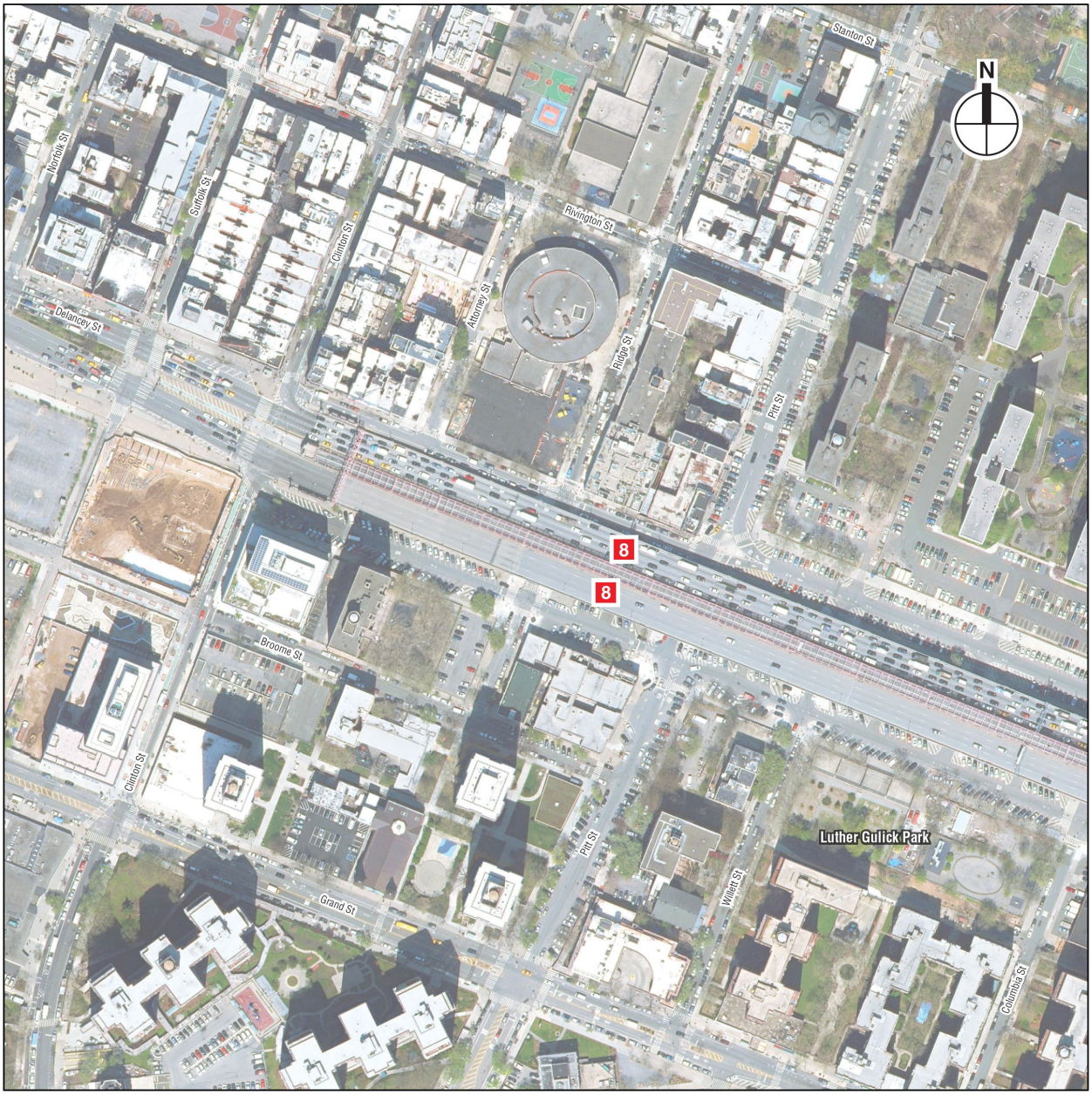
Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2c. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Ed Koch Queensboro Bridge



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2d. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Williamsburg Bridge

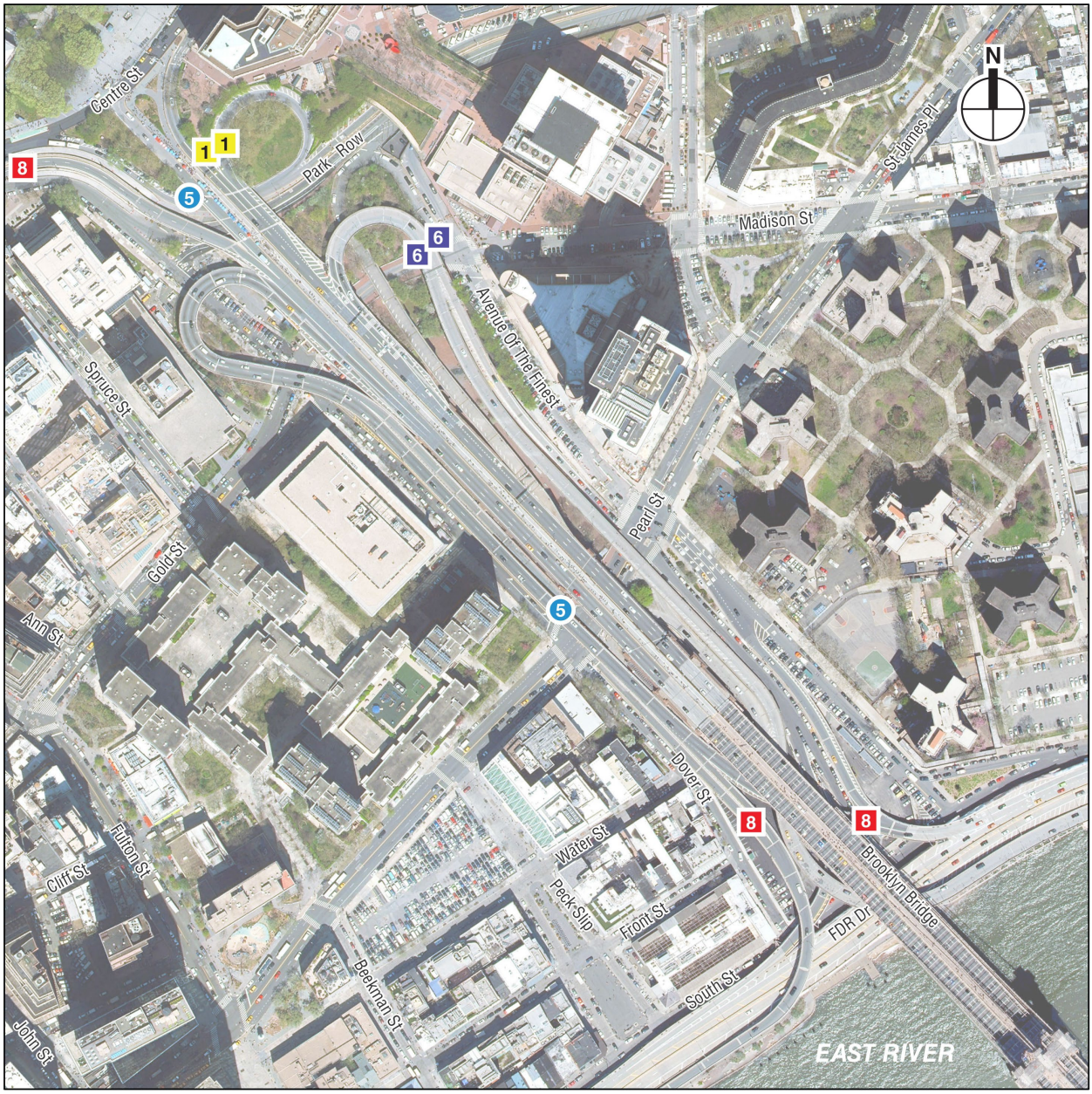


Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2e. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Manhattan Bridge

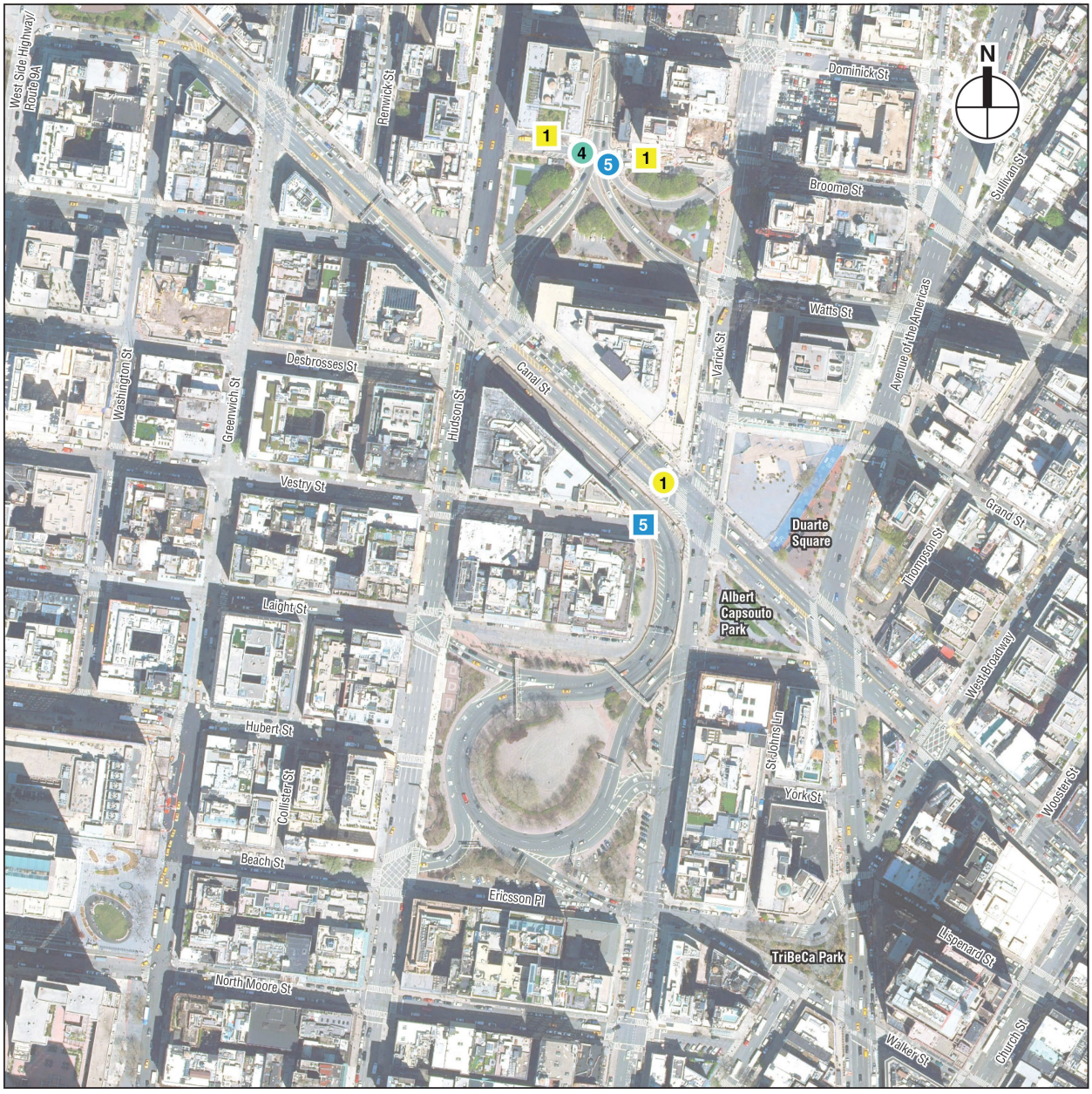
Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2f. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Brooklyn Bridge



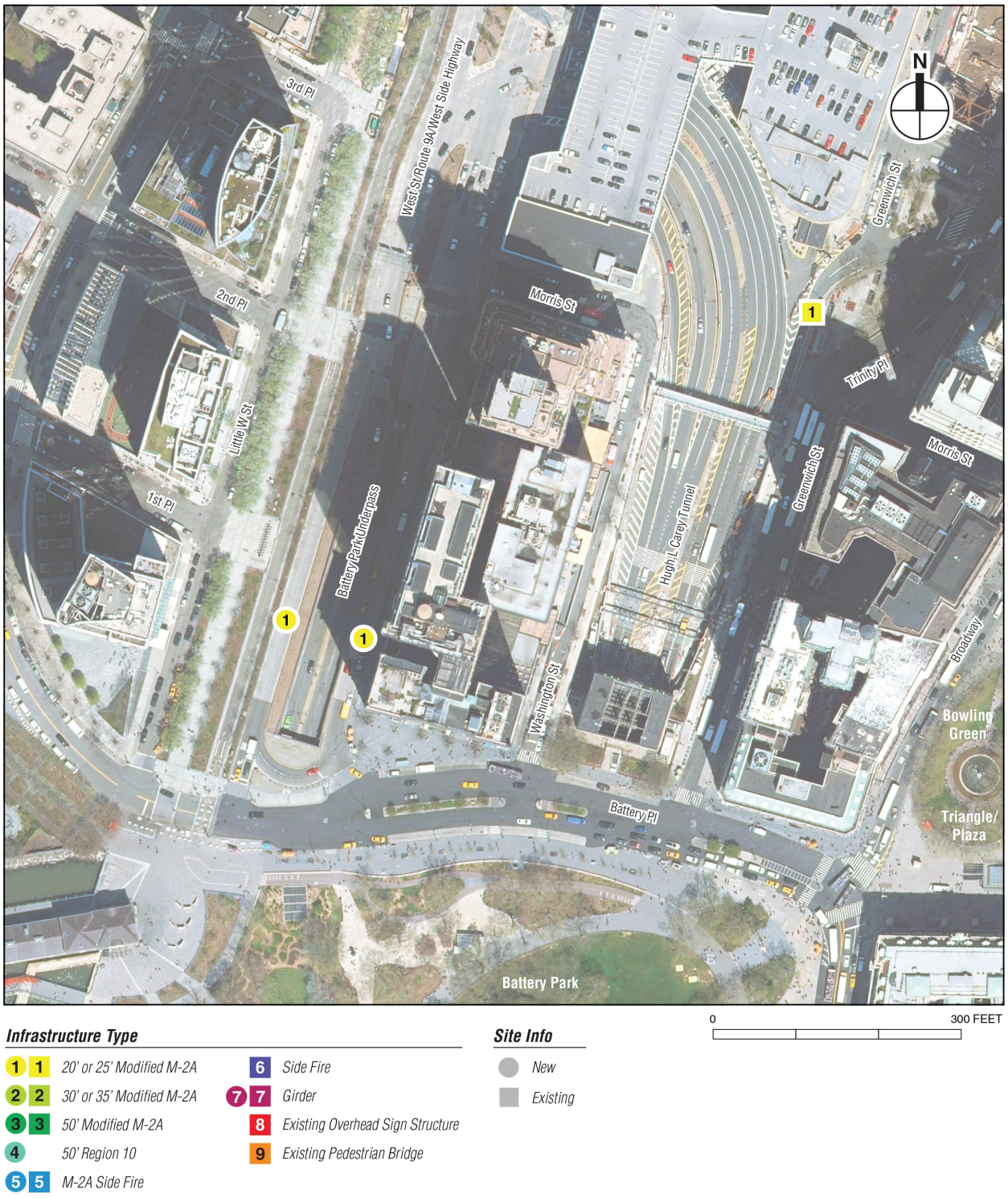
Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2g. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Holland Tunnel



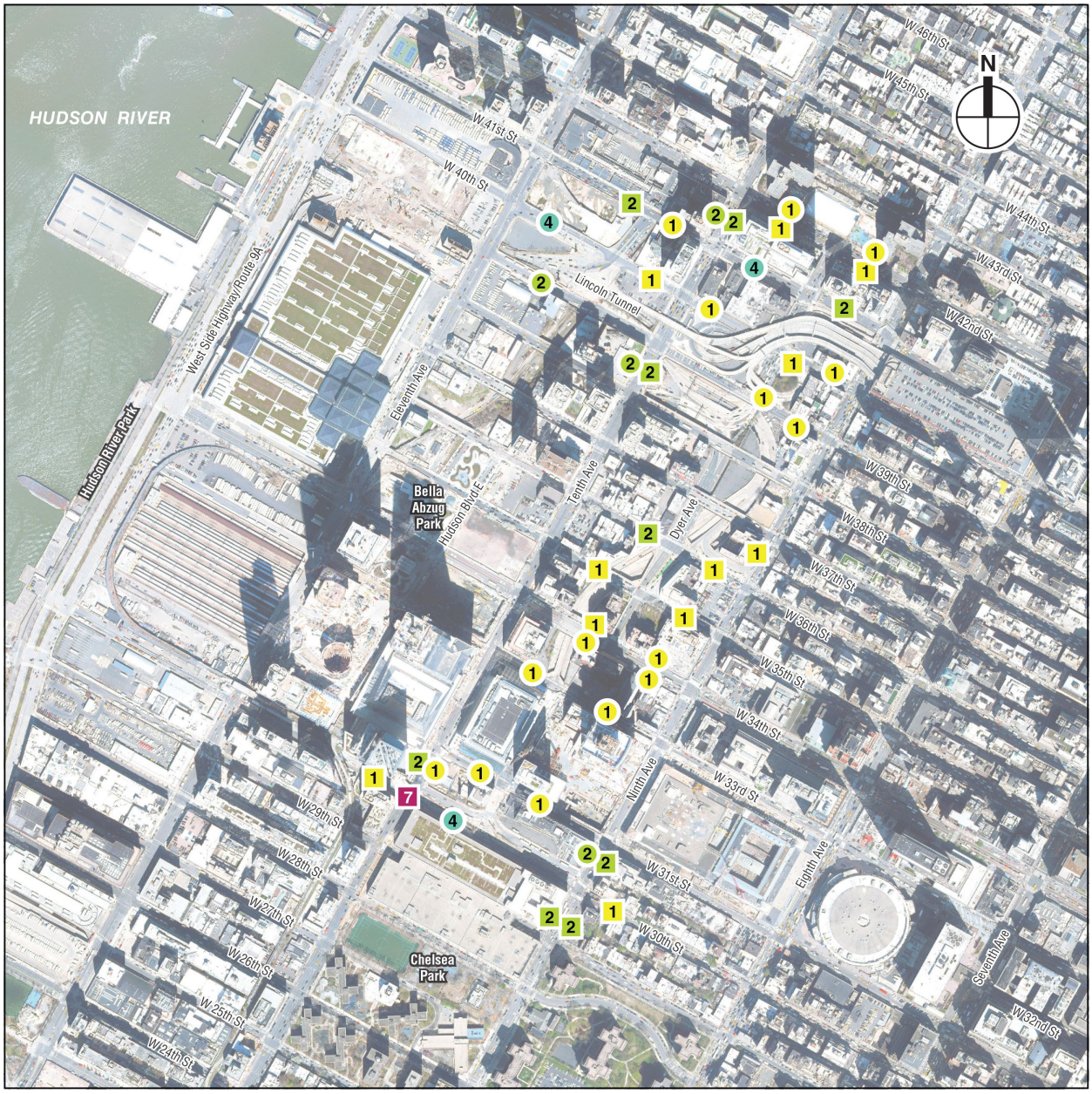
Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2h. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Battery Park Underpass and Hugh L. Carey Tunnel



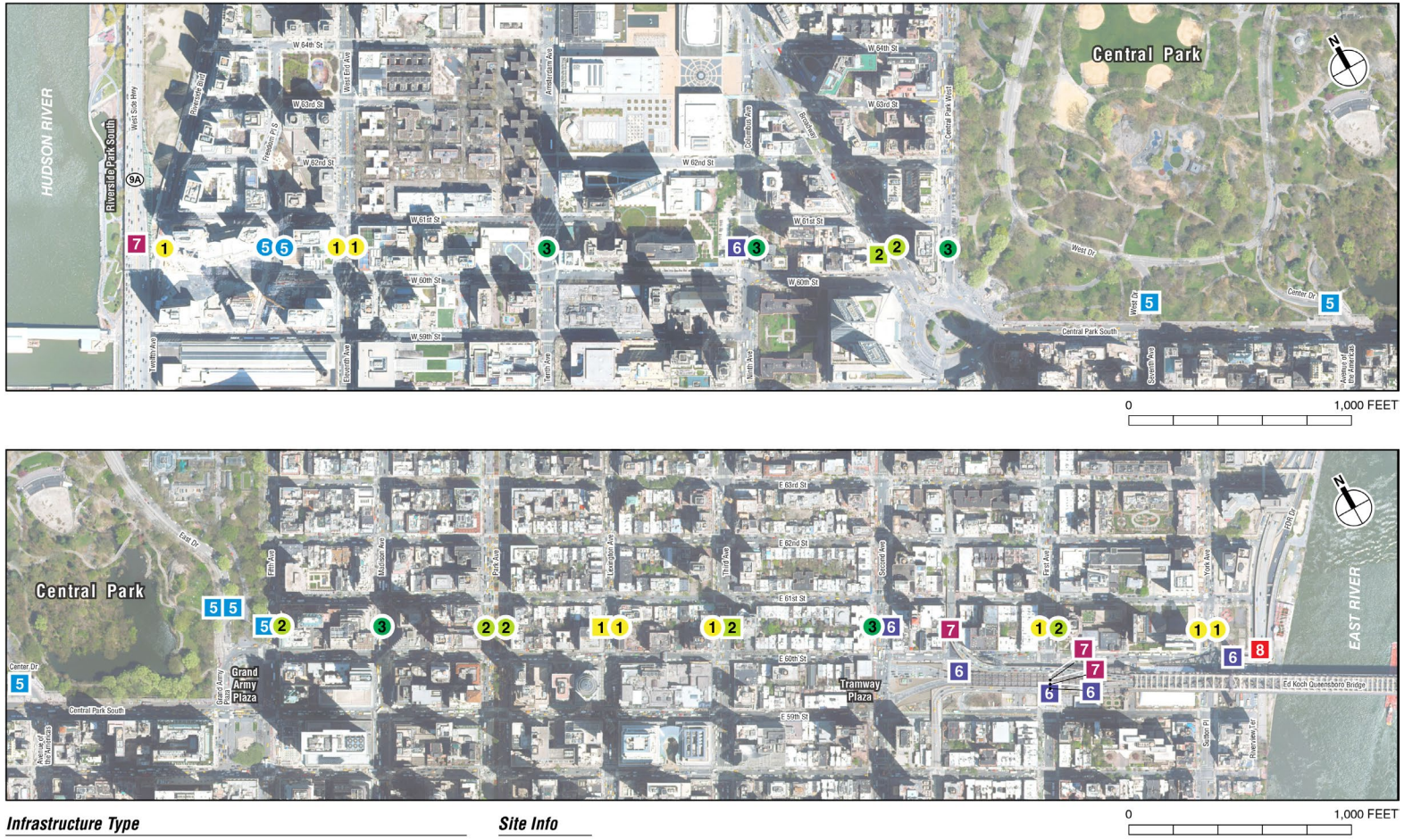
Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2i. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: Lincoln Tunnel



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000 – 2018. http://gis.ny.gov/gateway/mg/index.html.

Figure 2-2j. Proposed Locations of Tolling Infrastructure and Tolling System Equipment: 60th Street



Sources: TBTA. October 2021. New York State, NYS Interactive Mapping Gateway: NYSDOP High Resolution Imagery 2000–2018. http://gis.ny.gov/gateway/mg/index.html.

- **Equipment mounted on existing overhead sign structures and pedestrian bridges.** Along the West Side Highway/Route 9A and the FDR Drive, detection points would be mounted on existing overhead sign structures and pedestrian bridges. Some overhead structures would be strengthened to carry the additional load.
- **Equipment mounted on existing bridge and tunnel structures.** On the Brooklyn Bridge, Manhattan Bridge, Williamsburg Bridge, and Ed Koch Queensboro Bridge, and potentially at the Lincoln and Holland Tunnels, tolling system equipment would be mounted to existing overhead sign structures and/or existing structural elements (e.g., girders, walls) of the structures. In addition, on the Manhattan Bridge, a new overhead steel girder that supports the tolling system equipment would span two existing bridge columns to support tolling system equipment above the inner roadway lanes, while poles and mast arms would capture traffic on the outer roadways. Tolling infrastructure and tolling system equipment would also be mounted directly on the structural elements of the Ed Koch Queensboro Bridge and could also be mounted on structural elements at the Lincoln Tunnel. At the Brooklyn Bridge, two replacement poles and one new pole would be installed close to, but not on, the bridge structure.
- **Existing open-road tolling equipment at TBTA tunnels.** At the TBTA tunnels that connect to the Manhattan CBD (Hugh L. Carey Tunnel and Queens-Midtown Tunnel), existing open-road tolling infrastructure would be used.
- **Portable equipment mounted on movable trailers.** This equipment, potentially up to 70 square feet in size, could be parked in the curb lane at detection points to supplement the permanent detection equipment if needed on a temporary basis. It would include an emergency generator to provide power to the equipment.

The tolling infrastructure and tolling system equipment would use existing or new underground connections to utility and communications networks to receive power and system connectivity.

The Project Sponsors are coordinating with PANYNJ regarding potential use of property controlled by PANYNJ associated with the Lincoln and Holland Tunnels for tolling infrastructure and tolling system equipment. This would allow the Project Sponsors to eliminate several detection points on local streets near the Lincoln and Holland Tunnels. This EA evaluates detector point locations on local streets near the Lincoln and Holland Tunnels as well as on PANYNJ property.

The tolling infrastructure and tolling system equipment have been designed to minimize their visual impact, by using existing infrastructure as much as possible and coordinating the appearance of new infrastructure and equipment with the existing street furniture palette. The color of poles, cabinets, and tolling system equipment would be consistent and would match existing light pole colors. Supports, fasteners, and other hardware would also be designed to be minimally visible. In all cases, the Project Sponsors would avoid the removal of street trees for pole placement to the maximum extent feasible and practicable. In addition, the Project Sponsors have selected locations for the tolling infrastructure and tolling system equipment to minimize their potential for adverse effect on nearby historic properties, including the bridges and tunnels that connect to the Manhattan CBD. **Figure 2-3** illustrates the proposed tolling infrastructure and tolling

system equipment. In addition, illustrations in **Appendix 9, "Visual Resources,"** provide comparison views for the No Action Alternative and CBD Tolling Alternative in selected locations proposed for new tolling infrastructure, tolling system equipment, and tolling signage.

Signage

In addition to the tolling infrastructure and tolling system equipment, the CBD Tolling Alternative would include signage on local streets outside the Manhattan CBD to advise drivers of the toll before they enter the Manhattan CBD, and within the Manhattan CBD to advise drivers before they exit the zone. These signs would be similar in size and nature to existing signs already in place and would be mounted on standard signposts on local streets and on existing infrastructure where feasible.

The type, sequence, and quantity of signs would differ depending on the location. **Appendix 2D, "Project Alternatives: CBD Tolling Program Signage,"** provides maps illustrating potential locations for signage and depictions of the types of signs, based on preliminary design. This information would be further refined during, and additional signs or signs in different locations may be required as a result of, final design.

The following text describes the signage that would be included with the CBD Tolling Alternative, based on location (see **Appendix 2D, Figure 2D**):

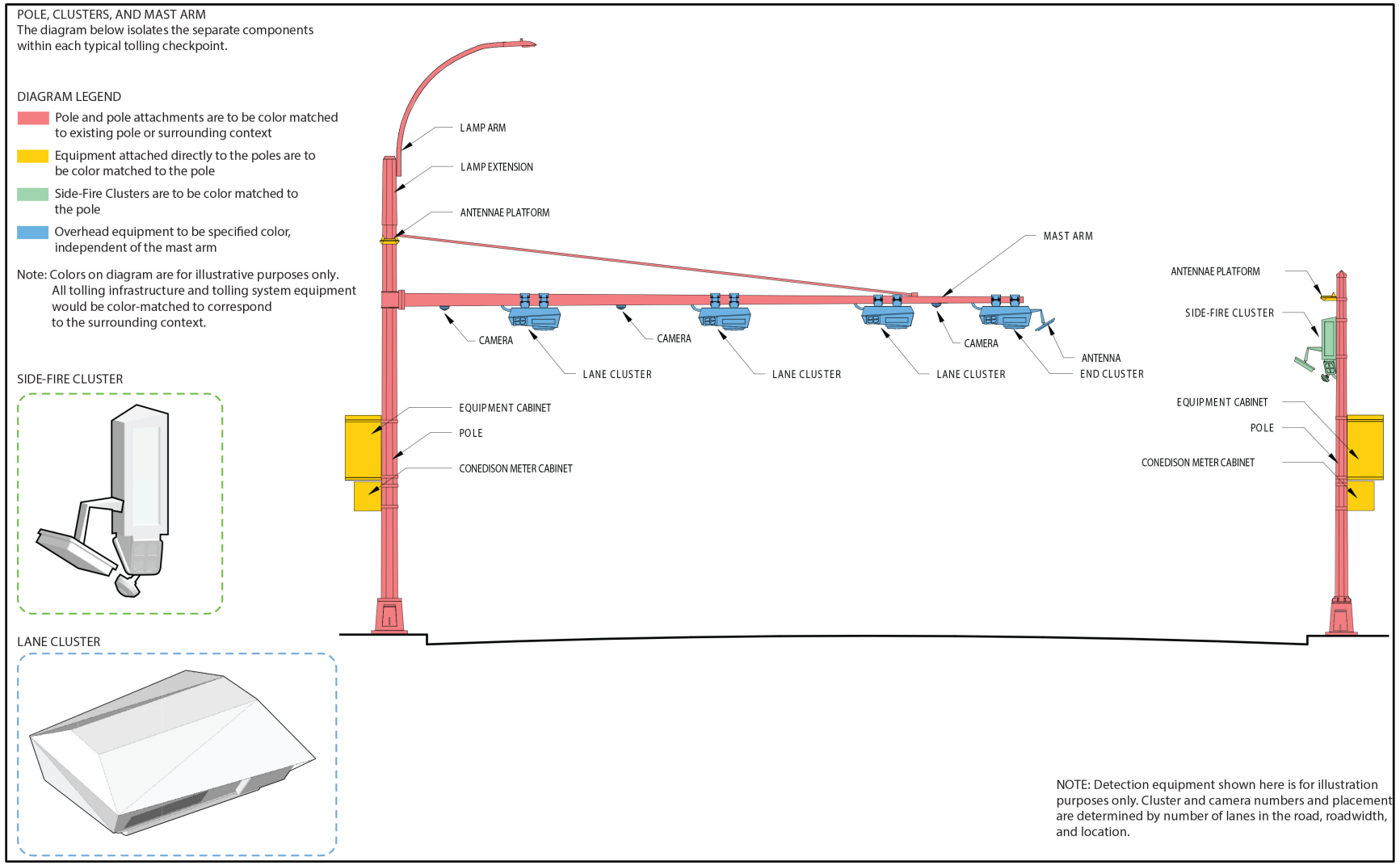
- **Approach to 60th Street/Exits Across 60th Street.** For vehicles driving southbound on the avenues approaching 60th Street, signs would provide notice of the toll at 96th Street, 72nd Street, and 66th Street. An example of these signs is shown in **Appendix 2D, Figure 2D-2**. The signs would be located on existing infrastructure where practicable and on new signposts as needed. Wider streets would have signs on both sides of the street. Thus, each southbound approach to 60th Street would have three to six signs between approximately 96th and 66th Streets, depending on the width of the street.

  Signs would also be located along southbound avenues close to the CBD boundary, generally between 62nd Street and 60th Street. **Appendix 2D, Figure 2D-3**, illustrates typical signage in this area. Signs would also notify drivers in vehicles driving east and west across 61st Street, as shown in **Appendix 2D, Figure 2D-3**. There would be approximately nine signs close to 60th Street for each southbound approach.

  Within the Manhattan CBD, there would be "end toll zone" signs on northbound avenues close to the 60th Street boundary. Each northbound approach would have approximately two "end toll zone" signs.

  These signs on local streets would range in size from 30 inches by 24 inches to 48 inches by 35 inches.

Figure 2-3. Typical Tolling Infrastructure and Tolling System Equipment



Source: TransCore, Parsons, Dattner Architects

- **FDR Drive and West Side Highway/Route 9A.** Signage would notify drivers of the toll at locations along the FDR Drive and the West Side Highway/Route 9A near exits from those highways. (As noted earlier, drivers who use these highways would not be subject to the toll; the toll would apply once they enter the Manhattan CBD from the highway.) To reduce the number of signs at each exit from these highways into the Manhattan CBD, signage with maximum toll rates would be placed only at locations on the highways at the limits of the zone (e.g., on the West Side Highway/Route 9A near 60th Street, on the West Side Highway/Route 9A and at the exit of the Hugh L. Carey Tunnel).

  Appendix 2D, Figure 2D-4, shows a typical entry and exit from the FDR Drive into the Manhattan CBD. Upon approach to the CBD boundary, drivers would typically see four signs. An "end toll zone" sign would be located at all entrances to the FDR Drive from the Manhattan CBD, indicating to the driver that they are exiting the zone and entering an excluded roadway.

  Appendix 2D, "Project Alternatives: CBD Tolling Program Signage," Figure 2D-5, shows the signage at a typical West Side Highway/Route 9A intersection with the local street grid.

  Signs along the FDR Drive and the West Side Highway/Route 9A would range in size from 30 inches by 24 inches to 54 inches by 36 inches.

- **Brooklyn, Queens, and New Jersey Approaches.** For drivers entering the Manhattan CBD using an East River crossing from Brooklyn or Queens, signs along the highways leading to these crossings would notify drivers of the toll. A typical sequence is shown in **Appendix 2D, Figure 2D-6.** Existing signs would be modified to add necessary toll information where practicable. Following this typical signage sequence, there would be approximately 10 to 20 signs on the approach to each crossing, depending on the unique conditions of each highway approach.

  There would also be signs on the Manhattan CBD side of these crossings indicating the start of the CBD for westbound traffic and the end of the CBD for eastbound traffic. The number of signs in these areas would vary based on the structure and layout of the ramps for these crossings.

  For crossings between New Jersey and the Manhattan CBD, signage in New Jersey would follow a similar signage pattern and would use existing infrastructure to the greatest extent practicable. Signage in this area would be coordinated with the appropriate local jurisdictions during final design.

- **Central Park.** While public vehicular traffic is not permitted in Central Park, authorized vehicles (e.g., emergency response vehicles, park maintenance, park administration, vendors, and contractors) may use the roads when necessary. Two new signposts would be added within Central Park to notify drivers of entry into the CBD if they exit the park onto 59th Street. These signs would be on West Drive, a one-way southbound road, and next to the southbound lane of East Drive approaching Grand Army Plaza. **Appendix 2D, Figure 2D-7,** illustrates the two signs that would be installed at each of these approaches. The "begin toll zone" sign would be 30 inches by 24 inches and the "max toll rate" sign would be 36 inches by 36 inches. The signs would be affixed to a standard signpost that is approximately 3.5 inches by 2 inches in cross section at approximately 7 feet in height.

2.4.2.3 Logical Termini

The joint NEPA regulations of FHWA, the Federal Transit Administration, and the Federal Railroad Administration (23 CFR Section 771.111(f)) require that actions evaluated under NEPA must "connect logical termini and be of sufficient length to address environmental matters on a broad scope." Logical termini are defined as rational end points both for a transportation improvement and for a review of the environmental effects. This requirement in the regulations ensures that NEPA evaluations consider a full project, without dividing it into separate pieces so as to change the conclusions about the action's environmental effects. The CBD Tolling Alternative described in this chapter and evaluated in subsequent chapters of this EA satisfies this requirement.

The CBD Tolling Alternative described in this chapter and evaluated in the EA encompasses all locations where tolling infrastructure and tolling system equipment would be installed as well as the entire Manhattan CBD, which would be subject to the new toll. In addition, the CBD Tolling Alternative could affect travel in a larger area than the Manhattan CBD; therefore, this EA considers the effects of the Project on a regional study area consisting of 28 counties that include New York City and the surrounding area. The 28-county area encompasses the area where most trips to and from the Manhattan CBD originate and/or terminate and is large enough to include any area where effects of the CBD Tolling Alternative could occur and where mitigation could be required because of the CBD Tolling Alternative. See also **Chapter 3, "Environmental Analysis Framework,"** for a discussion of the 28-county regional study area.

2.4.2.4 Tolling Scenarios for Environmental Review

This EA includes evaluation of multiple tolling scenarios within the CBD Tolling Alternative to identify the range of potential effects that could occur from implementing the Project. If the TBTA Board adopts a toll schedule structure that has substantially different attributes from those examined in this EA, the Project Sponsors would review these changes with FHWA and other resource agencies, as appropriate, and identify a course of action to assess and document the changes in accordance with NEPA prior to implementation of the Project.

As described in the following subsections, all tolling scenarios have some features in common, including variable tolling, in which toll rates are higher during peak periods when congestion is greatest. All tolling scenarios also include a higher toll on designated "Gridlock Alert" days[23] when congestion is higher than during typical peak periods.

[23] NYCDOT designates the busiest traffic days of the year as Gridlock Alert days and, to address the traffic congestion that occurs then, requests that travelers in New York City consider walking, biking, or taking public transportation whenever possible on Gridlock Alert days. Gridlock Alert days are designated in advance based on past traffic data and include select days in the November-December holiday period as well as days (typically in September) when the United Nations General Assembly is in session. In 2021, there were 19 designated Gridlock Alert days. https://portal.311.nyc.gov/article/?kanumber=KA-02759. In advance of and during Gridlock Alert days, NYCDOT provides messages on roadways throughout the city warning drivers of the Gridlock Alert day and the potential for severe congestion.

The amount of any higher toll for Gridlock Alert days has not yet been determined, and the transportation modeling conducted for this Project and described in **Subchapter 4A, "Transportation: Regional Transportation Effects and Modeling,"** did not include modeling of a higher toll on Gridlock Alert days because it considered typical days rather than days with unusually high traffic levels.

The tolling scenarios vary in their assumptions about other factors, such as the amount of the toll for different types of vehicles, the times tolls would be imposed, exemptions from tolling, crossing credits for tolls paid on other toll tunnels or bridges,[24] and discounts in the form of "caps" on the number of tolls per 24-hour period to be applied to different types of vehicles. To meet the Project objective of creating a funding source for capital improvements and generating sufficient annual net revenues to fund $15 billion for capital projects for the MTA Capital Program, tolling scenarios that provide crossing credits, discounts, and/or exemptions have a higher toll value than those without these elements.

In all tolling scenarios, vehicles using E-ZPass would be subject to lower toll rates than those without E-ZPass that pay via the Tolls by Mail program. In addition, with the exception of one tolling scenario in which all vehicles would be charged the same toll rate, the remainder of the tolling scenarios would apply different toll rates to different classes of vehicles—with autos, motorcycles, and commercial vans subject to the lowest rate and large trucks to the highest rate.

Table 2-3 provides a summary of the similarities and differences among the tolling scenarios, and **Appendix 2E, "Project Alternatives: Definition of Tolling Scenarios,"** provides more detail on toll rates.

Tolling Scenario A – Base Plan

Tolling Scenario A, which would have the lowest toll rates of any of the tolling scenarios evaluated, represents the basic tolling program described in the Traffic Mobility Act without any modifications that might be recommended by the Traffic Mobility Review Board and adopted by TBTA.

In Tolling Scenario A, vehicles accessing the Manhattan CBD using TBTA and PANYNJ CBD crossings would pay the tolls for the TBTA or PANYNJ crossing—as they do today—and the Manhattan CBD toll; vehicles using a crossing into the Manhattan CBD that is untolled today (i.e., the Brooklyn, Manhattan, Williamsburg, and Ed Koch Queensboro Bridges) would pay only the Manhattan CBD toll. As with existing conditions, which include a mix of untolled and tolled river crossings, some drivers would choose crossings based on their lower cost even if that route were less direct or slower.

As with all the scenarios, autos, commercial vans, and motorcycles would be charged a Manhattan CBD toll no more than once per day. Taxis, FHVs, buses, and small or large trucks would pay the toll each time they access the Manhattan CBD (see **Table 2-3**). The tolls in this tolling scenario would vary by the following time periods:

- A peak period from 6 a.m. to 8 p.m. on weekdays and 10 a.m. to 10 p.m. on weekends
- An off-peak period from 8 p.m. to 10 p.m. on weekdays
- An overnight period from 10 p.m. to 6 a.m. on weekdays and 10 p.m. to 10 a.m. on weekends

[24] These credits are referred to in this EA as "crossing credits" and are a credit against the Manhattan CBD toll for tolls paid on TBTA and PANYNJ facilities connecting to the Manhattan CBD or Manhattan. Crossing credits have the potential to rationalize existing traffic imbalances between the tolled and untolled East River crossings, which lead to excess vehicle travel and congestion as motorists travel out of their way to avoid a toll (known as "bridge shopping"). However, providing crossing credits for currently tolled facilities would require increases to the toll amount to meet the Project objective related to revenue, and would affect traffic patterns by increasing or decreasing traffic in other localized locations as described in this EA.

Table 2-3. Tolling Scenarios Evaluated for the CBD Tolling Alternative

PARAMETER[1]	SCENARIO A Base Plan	SCENARIO B Base Plan with Caps and Exemptions	SCENARIO C Low Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	SCENARIO D High Crossing Credits for Vehicles Using Tunnels to Access the CBD	SCENARIO E High Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	SCENARIO F High Crossing Credits for Vehicles Using Manhattan Bridges and Tunnels to Access the CBD, with Some Caps and Exemptions	SCENARIO G Base Plan with Same Tolls for All Vehicle Classes
Time Periods[2]							
Peak: Weekdays	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 8 p.m.	6 a.m. to 10 a.m.; 4 p.m. to 8 p.m.	6 a.m. to 8 p.m.
Peak: Weekends	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.	10 a.m. to 10 p.m.
Off Peak: Weekdays	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	8 p.m. to 10 p.m.	10 a.m. to 4 p.m.	8 p.m. to 10 p.m.
Overnight: Weekdays	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	10 p.m. to 6 a.m.	8 p.m. to 6 a.m.	10 p.m. to 6 a.m.
Overnight Weekends	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.	10 p.m. to 10 a.m.
Potential Crossing Credits							
Credit Toward CBD Toll for Tolls Paid at the Queens-Midtown, Hugh L. Carey, Lincoln, Holland Tunnels	No	No	Yes	Yes	Yes	Yes	No
Credit Toward CBD Toll for Tolls Paid at the Robert F. Kennedy, Henry Hudson, George Washington Bridges	No	No	No	No	No	Yes	No
Potential Exemptions and Limits (Caps) on Number of Tolls per Day							
Autos, motorcycles, and commercial vans	Once per day	Once per day	Once per day	Once per day	Once per day	Once per day	Once per day
Taxis	No cap	Once per day	Exempt	No cap	Exempt	Once per day	No cap
FHVs	No cap	Once per day	Three times per day	No cap	Three times per day	Once per day	No cap
Small and large trucks	No cap	Twice per day	No cap	No cap	No cap	Once per day	No cap
Buses	No cap	Exempt	No cap	No cap	Transit buses – Exempt No cap on other buses	Exempt	No cap
Approximate Toll Rate Assumed[3]							
Peak	$9	$10	$14	$19	$23	$23	$12
Off Peak	$7	$8	$11	$14	$17	$17	$9
Overnight	$5	$5	$7	$10	$12	$12	$7

[1] The parameters in this table were assumed for modeling purposes to evaluate the range of potential effects that would result from implementation of the CBD Tolling Alternative. Actual toll rates, potential credits, exemptions, and/or discounts, and the time of day when the toll rates would apply would be determined by the TBTA Board after recommendations are made by the Traffic Mobility Review Board. **Appendix 2E, "Project Alternatives: Definition of Tolling Scenarios,"** provides more detailed information on the rates, potential crossing credits, exemptions, and/or discounts assumed for each tolling scenario.

[2] Tolls would be higher during peak periods when traffic is greatest. These would be set forth by TBTA in the final toll schedule. All tolling scenarios include a higher toll on designated "Gridlock Alert" days, although the modeling conducted for the Project did not reflect this higher toll since it considers typical days rather than days with unusually high traffic levels.

[3] Toll rates are for autos, commercial vans, and motorcycles using E-ZPass and are rounded. For all tolling scenarios, different rates would apply for vehicles not using E-ZPass; for Tolling Scenarios A through F, different vehicle classes would pay different tolls (see **Appendix 2E, "Definition of Tolling Scenarios"**). The peak E-ZPass rate (rounded) range across tolling scenarios for small trucks would be $12–$65; for large trucks, the range would be $12–$82.

Tolling Scenario B – Base Plan with Caps and Exemptions

Tolling Scenario B is largely the same as Tolling Scenario A, but it adds caps on the number of times small and large trucks would pay up to two times each day (Table 2-3), and buses would be exempt from the Manhattan CBD toll. The tolls in this tolling scenario would vary by the same time periods as Tolling Scenario A. Given the caps on tolls and exemptions, the toll rates for Tolling Scenario B would be higher.

Based on the modeling conducted for the Project, Tolling Scenario B would not meet the Project's objective related to raising revenue for the MTA Capital Program with the toll rates identified in this EA. Tolling Scenario B was included in the analyses to provide consideration of a tolling scenario with lower toll rates and substantial caps and exemptions, which was a combination repeatedly requested by the public during development of this EA. An additional variation of the original Tolling Scenario B was modeled with toll rates that are 30 percent higher than the original Tolling Scenario B for all vehicle classes across all time periods, which would meet the revenue objective.

Tolling Scenario C – Low Crossing Credits for Vehicles Using Tunnels to Access the Manhattan CBD, with Some Caps and Exemptions

In Tolling Scenario C, vehicles with E-ZPass that access the Manhattan CBD using the four tunnel crossings (Hugh L. Carey Tunnel, Queens-Midtown Tunnel, Holland Tunnel and Lincoln Tunnel) would receive a crossing credit toward the Manhattan CBD toll. The crossing credits would flatten the cost differential for Manhattan-bound traffic between the inbound Queens-Midtown and Hugh L. Carey Tunnels and the East River bridges, to reduce so-called "bridge shopping" that occurs when drivers choose their route into the Manhattan CBD based on cost, rather than time. Vehicles without E-ZPass would not receive any crossing credits.

With Tolling Scenario C, taxis would be exempt from the Manhattan CBD toll, and FHVs would pay the Manhattan CBD toll no more than three times each day (Table 2-3). Buses and small and large trucks would pay the Manhattan CBD toll for all trips each day. The tolls in this tolling scenario would vary based on the same time periods as Tolling Scenarios A and B.

Given the crossing credits, caps, and exemptions, the toll rates for Tolling Scenario C would be higher than Tolling Scenarios A and B; it would have lower toll rates than Tolling Scenarios D, E, and F (which have higher crossing credits).

Tolling Scenario D – High Crossing Credits for Vehicles Using Tunnels to Access the Manhattan CBD

Tolling Scenario D would be similar to Tolling Scenario C, but with no caps or exemptions and a higher crossing credit toward the Manhattan CBD toll for all vehicles with E-ZPass that access the Manhattan CBD using the four tunnel crossings. The higher crossing credit would further flatten the cost differential for drivers who pay a two-way toll at TBTA tunnels or the higher tolls at the PANYNJ tunnels.

With Tolling Scenario D, taxis, FHVs, buses, and small and large trucks would pay the Manhattan CBD toll for all trips each day (Table 2-3). The tolls in this tolling scenario would vary based on the same time periods as Tolling Scenario A.

Given the higher crossing credits, the toll rates for Tolling Scenario D would be higher than Tolling Scenarios A, B, and C and lower than Tolling Scenarios E and F.

Tolling Scenario E – High Crossing Credits for Vehicles Using Tunnels to Access the Manhattan CBD, with Some Caps and Exemptions

Tolling Scenario E would have the same crossing credits as Tolling Scenario D, but would also have some caps and exemptions. As in Scenario C, taxis and FHVs would have a cap of no more than three Manhattan CBD tolls each day (Table 2-3). Transit buses would be exempt while non-transit buses (including privately operated bus services and jitneys) and small and large trucks would pay the Manhattan CBD toll each time they access the Manhattan CBD. The tolls in this tolling scenario would vary based on the same time periods as Tolling Scenario A.

Given the high crossing credits, caps on tolls, and exemptions, the toll rates for Tolling Scenario E would be higher than any of the other tolling scenarios except Tolling Scenario F; notably, while the auto toll rates would be the same as Tolling Scenario F, truck and bus tolling rates would be lower.

Tolling Scenario F – High Crossing Credits for Vehicles Using Manhattan Bridges and Tunnels to Access the Manhattan CBD, with Some Caps and Exemptions

Tolling Scenario F would provide a crossing credit toward the CBD toll for all vehicles with E-ZPass that access the Manhattan CBD and use a tolled crossing to access Manhattan. While Tolling Scenarios C, D, and E would provide crossing credits for Manhattan CBD crossings, Tolling Scenario F would also provide crossing credits for the TBTA Robert F. Kennedy Bridge and Henry Hudson Bridge and the PANYNJ George Washington Bridge. This credit would be the same as in Tolling Scenarios D and E and higher than in Tolling Scenario C. This would flatten the cost differential that would occur in other tolling scenarios between drivers who access the Manhattan CBD via a Manhattan CBD crossing and those who use a crossing outside the Manhattan CBD, to reduce the effects of drivers selecting their crossing and route to and from the Manhattan CBD based on toll costs rather than other factors, such as travel time or distance.

With Tolling Scenario F, taxis and FHVs would be charged a CBD toll once per day (Table 2-3), and buses would be exempt, while small and large trucks would pay the Manhattan CBD toll each time they access the Manhattan CBD. Importantly, the peak, off-peak, and overnight time periods would differ from the other tolling scenarios:

- The peak period would be 6 a.m. to 10 a.m. and 4 p.m. to 8 p.m. on weekdays and 10 a.m. to 10 p.m. on weekends.
- The off-peak period would be 10 a.m. to 4 p.m. on weekdays.
- The overnight period would be 8 p.m. to 6 a.m. on weekdays and 10 p.m. to 10 a.m. on weekends.

Given the high crossing credits, caps on tolls, and exemptions, the toll rates, Tolling Scenario F would have the same Manhattan CBD toll rates for autos as Tolling Scenario E, but higher truck and bus toll rates.

Tolling Scenario G – Base Plan with Same Tolls for All Vehicle Classes

Following completion of a preliminary analysis of Tolling Scenarios A through F, and in response to concerns raised during early public outreach for the Project, the Project Sponsors identified a potential modification to the Base Plan (Tolling Scenario A) that would reduce the number of trucks that would divert around the Manhattan CBD, particularly those diverting to the South Bronx and Staten Island. This modification, Tolling Scenario G, would apply the same toll rates to all vehicle classes instead of charging higher rates small and large trucks and buses (Table 2-3). As with Tolling Scenario A, there would be no crossing credits in Tolling Scenario G, and taxis, FHVs, buses, and small or large trucks would pay the Manhattan CBD toll each time they access the Manhattan CBD.

In addition, a variation of Tolling Scenario G was modeled to test the impact of adding a one-charge-per-day cap to taxis and FHVs. Given this cap, toll rates for other vehicles would be approximately 10 percent higher than in original Tolling Scenario G.

2.4.2.5 Discussion of Effects of Individual Components of Tolling Scenarios

The most important factor in the magnitude and distribution of Project effects is the toll rate. Overall, the CBD Tolling Alternative would reduce congestion regionally and within the Manhattan CBD. On a local level, near and adjacent to the Manhattan CBD, depending on the toll structure, there would be localized increases and decreases resulting from vehicles diverting to avoid the CBD toll. When considering the effects of various parameters other than the toll rate—such as crossing credits, peak periods, and exemptions and caps for taxis and FHVs or other vehicles—it is important to understand that these would not be applied in isolation from changes in the toll rate. One of the four objectives of the Project is to create a funding source for capital improvements and generate sufficient annual net revenues to fund $15 billion for capital projects for the MTA Capital Program. As a result, the more vehicles that are given crossing credits, exemptions, etc., the higher the toll must be to ensure sufficient revenues are generated, which in turn would lead to additional diversions and other resultant effects.

The modeling conducted for the Project demonstrates that all the tolling scenarios would reduce traffic entering the Manhattan CBD, and there would be an overall net benefit in congestion reduction for the region as well. As more discounts, crossing credits, and exemptions are provided, the toll rate would increase, aiding in congestion reduction, but increasing the cost for each driver. Tolling scenarios with higher toll rates (e.g., Tolling Scenarios D, E, and F) would have greater reductions in traffic entering the Manhattan CBD compared to those with lower toll rates, as well as more increases in transit ridership. As the toll rate increases, more traffic diversions would occur as drivers try to avoid the toll, leading to less traffic in the Manhattan CBD, but localized increases elsewhere.

Crossing credits, which reduce the toll amount paid in the Manhattan CBD for drivers who use certain tolled tunnels or bridges, would change the locations where traffic reductions would occur. Tolling scenarios with crossing credits (i.e., Tolling Scenarios C, D, E, and F) would have less effect on reducing traffic entering the Manhattan CBD from Queens, and much less effect on reducing traffic entering from New Jersey than tolling scenarios without crossing credits (i.e., Tolling Scenarios A, B, and G). With higher crossing credits (e.g., Tolling Scenarios E and F), more traffic would occur at the Queens-Midtown Tunnel and the Hugh L.

Carey Tunnel, resulting in more traffic on the Long Island Expressway and a shift of traffic along the Gowanus Expressway from the Brooklyn-Queens Expressway (BQE) to the Hugh L. Carey Tunnel as well as increases in traffic on the local streets in Manhattan that connect to and from these tunnels.

Additional discussion of these effects follows:

- Toll Price – Compared to the No Action Alternative, when a toll for drivers entering or remaining in the Manhattan CBD is introduced, the following would occur:
  - Traffic in the Manhattan CBD – Reductions in both the total VMT and the total number of vehicles within the Manhattan CBD. Broadly speaking, without other variables, as the toll increases, greater reductions in vehicles in the Manhattan CBD and VMT would occur. In addition, traffic-related air emissions and noise in the Manhattan CBD would also decrease because of lower VMT and vehicles in the Manhattan CBD.
  - Traffic Regionally – Model results indicate that overall VMT and traffic levels would also be reduced regionally with the introduction of the Manhattan CBD toll, albeit at a lower level than within the Manhattan CBD. The reduction of Manhattan CBD traffic would typically occur as the result of one of two decisions by drivers with respect to paying the toll:
    - Drivers choosing to switch to a public transit option; or
    - Drivers choosing to divert around the Manhattan CBD via the regional highway network.
  - While reduced traffic would occur on a regional basis, providing regional improvements in air quality and noise, some specific routes would experience increases in the number of vehicles and VMT due to diversion of traffic. Tolling Scenarios A, B, and G would result in reduced traffic volumes at all Manhattan CBD crossings but some increase in traffic along circumferential routes that would avoid the Manhattan CBD tolls. Tolling Scenario C, D, E, and F would lead to higher traffic diversions and potential localized traffic effects at the Queens-Midtown Tunnel and Hugh L. Carey Tunnel, as well as higher traffic volumes along circumferential routes along the Cross Bronx Expressway and the Staten Island Expressway. All tolling scenarios would result in an increase in traffic along the FDR Drive between East 10th Street and the Brooklyn Bridge.
  - In essence, as the toll rate increases, reductions in both the number of total vehicles and total VMT would occur, but the increased rate of vehicles diverting around the Manhattan CBD would limit the overall regional improvements.
- Truck Toll Price – Across all tolling scenarios, the total number of large- and medium-truck trips within the 28-county regional study area would remain relatively consistent. However, because trucks do not have an alternative mode available, the only means for avoiding the Manhattan CBD toll would be to divert around the Manhattan CBD, leading to localized increases and decreases in truck traffic, the magnitude of which varies by scenario. Large trucks, in particular, would be affected by whether the CBD toll rates are lower, higher, or similar to tolls on the TBTA bridge and tunnel facilities that provide connections to the Manhattan CBD. Thus, the truck toll price, which was modeled at two to three times

the amount of the auto toll in Scenarios A through F, and the same as the auto toll in Scenario G, is included as a separate parameter to allow a better understanding of the effects of the Project on this vehicle class.

With increasing toll rates, the number of trucks within the Manhattan CBD would decline, but diversions would increase. Given that some Hudson River, East River, and Harlem River crossings, as well as the New York State parkway network, have vehicle height restrictions, these truck diversions would be concentrated for the most part on the regional expressway system, in particular the Cross Bronx Expressway, Long Island Expressway, Brooklyn-Queens Expressway, and Staten Island Expressway.

For the Manhattan CBD specifically, increasing the truck toll rates would result in a reduction in truck through-trips, those truck trips with an origin or destination within the Manhattan CBD would not be as affected.

The lowest toll rate for trucks would result in fewer truck diversions; however, this would also have the lowest reduction in the number of trucks entering the Manhattan CBD and the smallest improvements in associated traffic congestion, air quality, and noise within the Manhattan CBD.

In response to concerns raised during early public outreach regarding the inability of trucks to switch to transit for their trips and the potential for truck diversions, especially to the Cross Bronx Expressway, Tolling Scenario G was added to demonstrate that truck diversions and associated traffic and air quality effects would decrease as the truck toll is priced lower (in this case, the same as the passenger vehicle toll).

- Crossing Credits – Tolling Scenarios C, D, and E would provide crossing credits to drivers who are already paying a toll to enter the Manhattan CBD at TBTA and PANYNJ tunnels. (Tolling Scenario C would provide a lower credit; Tolling Scenarios D and E a higher credit.) Tolling Scenario F would extend these crossing credits to the George Washington, Henry Hudson, and Robert F. Kennedy Bridges.

  With each of these tolling scenarios, there would be an increase in the toll to meet the Project's revenue objective.

  Given that increased crossing credits would come with higher tolls, truck diversions would also increase, resulting in noticeable reductions of truck through trips in the Manhattan CBD, but localized increases outside the Manhattan CBD.

  With increasing crossing credits, higher vehicle volumes and VMT would occur at currently tolled entrance points to the Manhattan CBD, especially the Queens-Midtown Tunnel and the Hugh L. Carey Tunnel, resulting in more traffic on the Long Island Expressway and a shift of traffic along the Gowanus Expressway from the BQE to the Hugh L. Carey Tunnel, as well as increases in traffic on the local Manhattan streets that connect to these tunnels.

  Higher crossing credits would lead to a larger mode shift from auto to transit for drivers entering the Manhattan CBD. Those tolling scenarios with the highest crossing credits would also have the highest mode shifts to transit outside of New York City, with increased ridership on commuter rail services and PATH.

- Time of Day – The effect of variable tolling at different times of the day is also considered.

  Particularly in the overnight period, reducing the toll rate on trucks and other vehicles would reduce the diversion to alternative routes and limit increases to traffic on circumferential routes. This would reduce the overall vehicle and VMT improvement in the Manhattan CBD when compared with other tolling scenarios, although these reduced benefits would occur for the time period when congestion is less of a concern.

  Previous studies have shown that while trucks are unlikely to shift their travel time, for private vehicles such options would be limited for the most part for Tolling Scenarios A through E, where the peak period would extend from 6 a.m. to 8 p.m. Tolling Scenario F would instead have two distinct peak periods, an AM peak (6 a.m. to 10 a.m.) and a PM peak (4 p.m. to 8 p.m.). A small portion of drivers would shift to enter the Manhattan CBD to the period of 5:30 a.m. to 6:00 a.m. in all tolling scenarios.

- Exemptions and Caps for Taxis and FHVs – As noted previously, while passenger vehicles may be charged only once daily, other vehicles may be charged each time they enter or remain in the Manhattan CBD. Several tolling scenarios include an option to provide caps to the number of times tolls would be charged for taxis and/or FHVs and/or exemptions for taxis and/or FHVs. The more exemptions and caps provided, the higher tolls need to be to meet the Project's congestion and revenue objectives. However, if taxis and FHVs are charged for each trip, the demand for their service would decline, as would the number of trips they make.

  Introducing caps or exemptions for taxis and/or FHVs would increase the number of vehicles and VMT within the Manhattan CBD relative to Tolling Scenario A, which would have no such caps or exemptions.

  Including an exemption for taxis would result in an increase in taxi mode share relative even to cases where taxis are capped at once per day; however, this would also result in an associated increase in VMT and vehicles.

  As with all the other variables, the more exemptions and caps provided, the higher the tolls would have to be to meet the revenue objective. Conversely, fewer (or no) exemptions and caps on taxis and FHVs would result in a lower toll and less demand for taxis and FHV trips into and out of the Manhattan CBD, which would reduce the number of vehicles and VMT in the Manhattan CBD.

2.5 PREFERRED ALTERNATIVE

FHWA and the Project Sponsors have identified the CBD Tolling Alternative as the Preferred Alternative for the Project. The CBD Tolling Alternative would meet the Project purpose, which is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the FHWA's Value Pricing Pilot Program. The CBD Tolling Alternative would also meet all four objectives identified for the Project (see Chapter 1, "Introduction"), as well as the screening criteria FHWA and the Project Sponsors used in the assessment of preliminary alternatives discussed in Section 2.3.

Table 2-4 illustrates how the CBD Tolling Alternative would meet the Project objectives and the specific evaluation criteria that FHWA and the Project Sponsors used in assessing preliminary alternatives and Table 2-5 provides more detail comparing the results for each of the tolling scenarios within the CBD Tolling Alternative. Subchapter 4A, "Transportation: Regional Transportation Effects and Modeling," provides more information on the transportation-related effects of the tolling scenarios. In addition, Chapter 16, "Summary of Effects," compares the effects of the tolling scenarios and provides information on additional tolling scenarios considered but not evaluated in detail in this EA.

A preferred tolling scenario within the CBD Tolling Alternative has not been identified, though the analyses in this EA afford an understanding of how, if warranted, the toll schedule can be structured to avoid adverse effects. As described previously, the TBTA Board would adopt a final toll schedule, including toll rates and any crossing credits, discounts, and/or exemptions informed by recommendations made by the Traffic Mobility Review Board and following a public hearing in accordance with the State Administrative Procedure Act.

The selected alternative for the Project will be identified in the FHWA's decision document in consideration of comments received throughout the environmental review process, including those received on this EA and from the public outreach.

Table 2-4. Comparison of Evaluation Results for the No Action and CBD Tolling Alternatives

SCREENING CRITERION	N0 ACTION ALTERNATIVE	CBD TOLLING ALTERNATIVE
Purpose and Need: Reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements	Does not meet	Meets
Objective 1: Reduce daily VMT within the Manhattan CBD Criterion: Reduce by 5% (relative to No Action)	Does not meet	Meets
Daily VMT reduction (2023)	*0%*	*7.1%-9.2%*
Objective 2: Reduce the number of vehicles entering the Manhattan CBD daily Criterion: Reduce by 10% (relative to No Action)	Does not meet	Meets
Daily vehicle reduction (2023)	*0.0%*	*15.4%-19.9%*
Objective 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund $15 billion for capital projects for MTA's Capital Program	Does not meet	Meets [1]
Net revenue to support MTA's Capital Program [2]	*$0*	*$1.02 billion - $1.48 billion*
Objective 4: Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the "MTA Reform and Traffic Mobility Act"	Does not meet	Meets

1 Although Tolling Scenario B would not meet Objective 3 with the toll rates identified and assessed in this EA, additional analysis was conducted to demonstrate that it would meet this objective with a higher toll rate; the resulting VMT reduction and revenue for that modified scenario would fall within the range of the other scenarios presented. **Chapter 16, "Summary of Effects,"** provides more information on the modified Tolling Scenario B.

2 The net revenue needed to fund $15 billion depends on a number of economic factors, including but not limited to interest rates and term. For the purposes of this EA, the modeling assumes the Project should provide at least $1 billion annually in total net revenue, which would be invested or bonded to generate sufficient funds. The net revenue values provided in this table are rounded and based on Project modeling.

Table 2-5. Comparison of Evaluation Results for CBD Tolling Alternative Tolling Scenarios

SCREENING CRITERION	SCENARIO A Base Plan	SCENARIO B Base Plan with Caps and Exemptions	SCENARIO C Low Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	SCENARIO D High Crossing Credits for Vehicles Using Tunnels to Access the CBD	SCENARIO E High Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	SCENARIO F High Crossing Credits for Vehicles Using Manhattan Bridges and Tunnels to Access the CBD, with Some Caps and Exemptions	SCENARIO G Base Plan with Same Tolls for All Vehicle Classes
Purpose and Need: Reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements	Meets	Meets	Meets	Meets	Meets	Meets	Meets
Objective 1: Reduce daily VMT within the Manhattan CBD Criterion: Reduce by 5% (relative to No Action)	Meets	Meets	Meets	Meets	Meets	Meets	Meets
Daily VMT reduction (2023)	7.8%	7.6%	8.0%	8.7%	9.2%	7.1%	8.4%
Objective 2: Reduce the number of vehicles entering the Manhattan CBD daily Criterion: Reduce by 10% (relative to No Action)	Meets	Meets	Meets	Meets	Meets	Meets	Meets
Daily vehicle reduction (2023)	15.4%	15.7%	17.3%	18.7%	19.9%	18.3%	16%
Objective 3: Create a funding source for capital improvements and generate sufficient annual net revenues to fund $15 billion for capital projects for MTA's Capital Program	Meets	Does not meet[1]	Meets	Meets	Meets	Meets	Meets
Net revenue to support MTA's Capital Program [2]	$1.06 billion	$830 million	$1.10 billion	$1.34 billion	$1.48 billion	$1.02 billion	$1.10 billion
Objective 4: Establish a tolling program consistent with the purposes underlying the New York State legislation entitled the "MTA Reform and Traffic Mobility Act"	Meets	Meets	Meets	Meets	Meets	Meets	Meets

[1] Although Tolling Scenario B would not meet Objective 3 with the toll rates identified and assessed in this EA, additional analysis was conducted to demonstrate that it would meet this objective with a slightly higher toll rate and the resulting VMT reduction and revenue for that modified scenario would fall within the range of the other scenarios presented. **Chapter 16, "Summary of Effects,"** provides more information on the modified Tolling Scenario B. it would meet this objective with a modified toll rate, while continuing to meet the other objectives.

[2] The net revenue needed to fund $15 billion depends on a number of economic factors, including but not limited to interest rates and term. For the purposes of this EA, the modeling assumes the Project should provide at least $1 billion annually in total net revenue, which would be invested or bonded to generate sufficient funds. The net revenue values provided in this table are rounded and based on Project modeling.