Peninsula Hospital Site Redevelopment

Draft Scope of Work for an

Environmental Impact Statement

CEQR #18DCP124Q

Lead Agency:

New York City Department of City Planning

March 23, 2018

I. INTRODUCTION

This Draft Scope of Work (Draft Scope) outlines the technical areas to be analyzed in the preparation of the Environmental Impact Statement (EIS) for the redevelopment of the Peninsula Hospital Site located on Lot 1 of Block 15842, Lot 1 of Block 15843, and Lot 1 of Block 15857 in Queens Community District 14 (CD 14) (the "Project Site").

Peninsula Rockaway Limited Partnership (the "Applicant") is requesting several discretionary actions from the City Planning Commission (CPC) to facilitate a proposal by the Applicant to redevelop the approximately 9.34-acre Project Site. The actions being sought from the CPC, as described in detail herein, include zoning map and text amendments plus a large-scale general development (LSGD) special permit. The Applicant also intends to seek public funds and/or financing from various City and New York State agencies and/or programs related to affordable housing development. The discretionary CPC actions, along with the discretionary public funds that may be sought by the Applicant are collectively referred to as the "Proposed Actions," and are subject to environmental review pursuant to the State Environmental Quality Review Act (SEQRA) and City Environmental Quality Review (CEQR) process.

The Proposed Actions would facilitate an approximately 2,289,000 gross square feet (gsf) development (the "Proposed Project") on the Project Site, comprised of 17 buildings with approximately 2,200 residential dwelling units (DUs), of which 1,910 DUs are intended to be affordable with 270 DUs set aside for senior housing. In addition to the residential DUs, the Proposed Project would include approximately 151,800 gsf of retail space, approximately 25,000 gsf of which may be used for a gym; approximately 64,400 gsf of community facility space, and approximately 37,600 square feet (sf) of publicly-accessible open space.

II. REQUIRED APPROVALS AND REVIEW PROCEDURES

Actions Necessary to Facilitate the Proposed Project

The following discretionary approvals subject to the Uniform Land Use Review Procedure (ULURP), as well as pursuant to Section 200 of the City Charter, are needed to facilitate the Proposed Project:

Zoning Map Amendment

- **Zoning map amendment to rezone the Project Site from R5 (Block 15843, Lot 1) and R5/C1-2 (Block 15842, Lot 1) to C4-4 and from C8-1 (Block 15857, Lot 1) to C4-3A;**

  The existing R5 and R5/C1-2 zoning districts on the northern portion of the Project Site (Block 15843, Lot 1 and Block 15842, Lot 1) allows for a maximum floor area ratio (FAR) of 1.25 for residential, 1.0 for commercial, and 2.0 for community facility. The proposed C4-4 zoning district, along with establishing the proposed Mandatory Inclusionary Housing (MIH) area, would allow an increase of maximum FAR on the northern portion of the Project Site to 4.6 for residential use, 5.01 for residential use for seniors (Affordable independent residences for seniors (AIRS)), 1.0 for commercial uses, and 2.0 for community facility uses. In C4-4 districts, the minimum/maximum base height permitted would be 60 feet/75 feet and the maximum building height would be 135 feet.

  The existing C8-1 zoning district on the southern portion of the Project Site (Block 15857, Lot 1) allows for a maximum FAR of 1.0 for commercial and 2.4 for community facility. The proposed C4-3A zoning district, along with establishing the proposed MIH area, would allow an increase of maximum FAR on the southern portion of the Project Site to 3.6 FAR for residential use and 3.9 FAR for AIRS. The minimum and maximum base heights permitted in the C4-3A zoning district

would be 40 feet and 65 feet, respectively. The maximum building height in the C4-3A district would be 85 feet.

Zoning Text Amendments

- **Zoning text amendment to Appendix F (Inclusionary Housing and Mandatory Inclusionary Housing Areas) of the Zoning Resolution (ZR) to designate the Project Site a Mandatory Inclusionary Housing Designated Area (MIH) Area;**

  The zoning text amendment to Appendix F would designate the Project Site as a MIH area. While 100% of the DUs in the Proposed Project are intended to be restricted as affordable and moderate-income housing units by a regulatory agreement, the MIH requirements ensures that a set percentage of the residential floor area for any future development within the MIH area would be permanently affordable. Within an MIH area, all housing developments, enlargements, and conversions that meet the criteria set forth in the MIH program must comply with the requirements of either of two options:

  - Option 1: 25% of the residential floor area shall be provided as housing affordable to households at an average of 60% of the Area Median Income (AMI), with no unit targeted at a level exceeding 130% AMI, or
  - Option 2: 30% of the residential floor area shall be provided as housing affordable to households at an average of 80% AMI, with no unit targeted at a level exceeding 130% AMI.

  It is anticipated that the Project Site would be designated under MIH Option 1.

- **Zoning text amendment to ZR §74-744(a) (Use modifications) to modify applicable zoning district regulations to allow a physical culture establishment (PCE) within Queens CD 14 within a LSGD;**

  The zoning text amendment would allow a PCE (gym) without obtaining a special permit from the Board of Standards and Appeals (BSA), as currently required. The text amendment would allow the CPC to approve physical culture or health establishment use in the context of a LSGD, a use which is already available by a BSA special permit. In allowing such a use, the CPC would apply the same or similar conditions as would be required under the BSA special permit (e.g., the Applicant would need to demonstrate to the satisfaction of the Commissioner of Buildings that a vibration and noise control plan has been established for such buildings).

- **Zoning text amendment to ZR §25-027 (Applicability of regulations in CD 14, Queens) to establish that within a LSGD in MIH areas, all R6 and R7 districts are subject to R6 and R7 parking district regulations;**

  R6 and R7 districts are generally subject to accessory off-street parking requirements that require parking for 50% of DUs throughout the City. However, within Queens CD 14, existing regulations subjects all R6 and R7 district developments to R5 parking regulations. R5 parking district regulations require one parking space for 85% of DUs.

  Without the zoning text amendment, R5 parking regulations would be applicable to the Project Site, and as such, the Proposed Project's market-rate DUs (i.e., those above 80% of AMI) would be subject to the R5 parking requirement. The proposed text amendment would modify the existing requirements such that within an MIH area within LSGDs, R5 parking regulations would not apply and the parking regulations of the underlying district would apply.

- **Zoning text amendment to ZR §74-744(c) (Modifications of sign regulations) to modify applicable zoning district regulations to permit waiver of ZR §§32-67 and 32-68 within a LSGD; and**

  A LSGD special permit allows waiver of certain signage regulations to achieve a better site plan within a LSGD provided the requisite findings are met. However, existing zoning excludes ZR §§32-67 (Special Provisions applying along District Boundaries) and 32-68 (Permitted Signs on Residential or Mixed Buildings) from being waived under a LSGD special permit. The Applicant is requesting a zoning text amendment to permit waiver of these two zoning provisions within a LSGD in Queens CD 14.

Large-Scale General Development Special Permit

- **LSGD special permit pursuant to ZR §74-74 to allow variations to (i) height, setback and street wall location regulations, (ii) rear yard and rear yard equivalent regulations, (iii) modify signage regulations to allow signs with greater height, surface area and illumination in the context of a LSGD; (iv) use regulations to permit a PCE use as-of-right; (v) floor area regulations to facilitate the distribution of floor area without regard to district boundaries; (vi) tree planting regulations; and (vii) court regulations to allow certain obstructions in outer courts.**

  (i) Height and Setback Regulations (ZR §§23-661, 23-664)

  The applicable regulations require a maximum base height of 75 feet and a maximum building height of 135 feet (or 13 stories) within the C4-4 portion of the Project Site, and a maximum base height of 65 feet and a maximum building height of 85 feet (or eight stories) within the C4-3A portion of the Project Site. The requested height, setback and street wall waivers would allow variation in bulk and building heights than that permitted under the underlying zoning districts for the intention of providing a better overall site plan.

  (ii) Yard Regulations (ZR §§23-51, 23-54, 23-533)

  The requested yard waivers for rear yard, rear yard equivalent, and side yard modifications are intended to allow for a more efficient building site configuration with interior covered parking and open space in the center of each building section.

  (iii) Modify Signage Regulations (ZR §§32-641, 32-642, 32-67, 32-68)

  Under existing regulations, the total surface area of all permitted signs is not allowed to exceed established limitations for non-illuminated signs. In addition, a building may have accessory signs with a surface area of 500 square feet for interior or through lots or 500 square feet on each front for corner lots. The requested modification pursuant to the proposed zoning text amendment would allow accessory signs in excess of the 18,000 square feet of signage that would be permitted for a total surface area of 19,307 square feet as part of the Proposed Project.

  (iv) Modify Use Regulations to Allow a PCE (gym) (ZR §32-31)

  Under existing regulations, a special permit to allow a PCE is required from the BSA. Pursuant to the proposed zoning text amendment, the Applicant is applying to the CPC for PCE use within a LSGD to allow a gym on the Project Site without the need to apply to the BSA for a separate special permit.

(v) Permit Distribution of Floor Area Without Regard to District Boundaries within LSGD (ZR §32-31, 23-154)

Under a LSGD special permit an applicant may request a waiver to shift in floor area without regard to the different zoning district boundaries. The Applicant is requesting to shift approximately 1,200 sf of floor area from the southern portion of the Project Site (south of Rockaway Beach Boulevard) within the proposed C4-3A zoning district, to the northern portion of the Project Site (north of Rockaway Beach Boulevard) within the proposed C4-4 district.

(vi) Tree Planting Regulations (ZR §26-41)

Under existing regulations, the Applicant would be required to provide one street tree for every 25 feet of street frontage on the Project Site. The requested waiver is intended to accommodate clearance with retail entrances and enable a better site plan by programming certain areas with public open space including social seating and gathering places throughout the LSGD plan.

(vii) Modify Permitted Obstructions in Outer Court Regulations (ZR §23-87)

The requested modification regarding permitted obstructions in outer courts would permit certain mechanical equipment and air compressors above the first-floor roof covering the parking to facilitate the development of the buildings.

In addition to the discretionary approvals listed above, the Applicant intends to seek public funding and/or financing from various City and New York State agencies and/or programs related to affordable housing development.

The Proposed Actions are subject to environmental review and will be conducted through a coordinated review with CPC as the lead agency.

City Environmental Quality Review (*CEQR*) and Scoping

The Proposed Actions trigger ULURP and require environmental review under CEQR procedures. An Environmental Assessment Statement (EAS) was completed on March 15, 2018. The New York City Department of City Planning (DCP), acting as lead agency on behalf of the CPC, has determined that the Proposed Actions would have the potential for significant adverse impacts, thus requiring that an EIS be prepared.

The CEQR scoping process is intended to focus the EIS on those issues that are most pertinent to the Proposed Actions. It also allows other agencies and the public a voice in framing the scope of the EIS. During the scoping period, those interested in reviewing the Draft Scope of the EIS may do so and give their comments to the lead agency. The public, interested agencies, CD 14, and elected officials, are invited to comment on this Draft Scope, either in writing or orally, at a public scoping meeting to be held on April 26, 2018 at 4:00 PM in the auditorium of Queens P.S. 105, located at 420 Beach 51st Street, Far Rockaway, New York 11691; access through the main school entrance on Beach 51st Street. Comments received during the public scoping meeting, and written comments received up to 10 days after the public meeting (until May 7, 2018) will be considered and incorporated as appropriate into a Final Scope of Work (Final Scope) of the EIS. The lead agency will oversee preparation of the Final Scope, which will incorporate all relevant comments on the Draft Scope and revise the extent of methodologies of the studies, as appropriate, in response to comments made during scoping. The Draft EIS (DEIS) will be prepared in conformance with the Final Scope.

Once the lead agency is satisfied that the DEIS is complete, the document will be made available for public review and comment. The DEIS will accompany the ULURP application through the public hearings at the

Community Board and CPC. A public hearing will be held on the DEIS in conjunction with the CPC hearing on the ULURP applications to afford interested parties the opportunity to submit oral and written comments on both the ULURP application and DEIS. The record will remain open for 10 days after the public hearing to allow for receipt of additional written comments on the DEIS. At the close of the public review period, a Final EIS (FEIS) will be prepared that will respond to all substantive comments on the DEIS, along with any revisions to the technical analyses necessary to respond to those comments. The FEIS will then be used by the decision makers to develop CEQR findings, which will address project impacts and proposed mitigation measures, before deciding whether to approve the requested discretionary actions.

III. EXISTING CONDITIONS

Project Site

Land Use

The Project Site is in the Edgemere neighborhood of Queens and is comprised of three tax lots: Lot 1 of Block 15842, Lot 1 of Block 15843, and Lot 1 of Block 15857 (refer to **Figure 1: Site Location Map**), which have a total lot area of 409,928 square feet (sf) (approximately 9.34 acres). The northern portion of the Project Site is comprised of two contiguous tax lots (Lot 1 of Block 15842 and Lot 1 of Block 15843), which forms an "L"-shape bound by Beach 50th Street to the east, Rockaway Beach Boulevard to the south, Beach 53rd Street to the west, and Beach Channel Drive to the north. The southern, much smaller, portion of the Project Site occupies Lot 1 of Block 15857 and is bound by Rockaway Beach Boulevard to the north, Lot 7 of Block 15857 to the east, Beach 52nd Street to the west, and Rockaway Freeway to the south. Rockaway Beach Boulevard and Beach Channel Drive are both wide streets as defined in the ZR; Beach 53rd and Beach 52nd Streets are both narrow streets, as defined in the ZR. The northern portion of the Project Site is currently occupied by vacant hospital structures, while the southern portion is vacant with a perimeter fence (**Figure 2: Land Use Map**).

The northern portion of the Project Site was previously occupied by the 173-bed Peninsula Hospital Center. Founded in 1908, it closed operations in April 2012 after its lab failed a state examination and was shut down by the New York State Department of Health (DOH).[1] The Project Site continues to be served by water, sewer, and utility infrastructure that previously served the hospital center.

Zoning

The northern portion of the Project Site, located north of Rockaway Beach Boulevard, is currently mapped with an R5 zoning district (Block 15841, Lot 1) and an R5 zoning district with a C1-2 commercial overlay (Block 15842, Lot 1). A C8-1 zoning district is mapped on the southern portion of the Project Site (Block 15857, Lot 1), which is located south of Rockaway **B**each Boulevard (**Figure 3: Zoning Map**).

R5 zoning districts allow a variety of housing types. The maximum FAR of 1.25 typically produces three- and four-story attached houses and small apartment buildings. The maximum street wall height in an R5 district is 30 feet and the maximum building height is 40 feet. Above a height of 30 feet, a setback of 15 feet is required from the street wall of the building; in addition, any portion of the building that exceeds a height of 33 feet must be set back from a rear or side yard line. Parking is required for 85% of the number of DUs.

C8-1 zoning districts, along with other C8 districts, bridge commercial and manufacturing uses and provide for automotive and other heavy commercial services that often require large amounts of land. Typical uses are automobile showrooms and repair shops, warehouses, gas stations and car washes—although all

[1] Nir, S. M. (2012, May 20). Down to One Hospital, Rockaway Braces for Summer Crowds. The New York Times. Retrieved January 25, 2017, from http://www.nytimes.com/2012/05/21/nyregion/closing-of-peninsula-hospital-in-rockaway-raises-fears.html

commercial uses (except large, open amusements) as well as certain community facilities are permitted in C8 districts. Residential uses are not permitted in C8 districts and performance standards are imposed for certain semi-industrial uses (Use Groups 11A and 16). The maximum FAR is 1.0 in C8-1 districts, and off-street parking requirements vary with use.

A C1-2 zoning district is a commercial overlay district mapped within residential districts on streets that serve local retail needs, such as neighborhood grocery stores, restaurants, and beauty parlors. Commercial uses in mixed-use buildings are limited to one or two floors and must always be located below the residential use. When commercial overlays are mapped in an R5 district, the maximum commercial FAR is 1.0. The depth of the C1-2 overlay district is 150 feet unless otherwise delineated on the zoning map.

Area in Vicinity of the Project Site

Land Use

Existing land uses within a quarter-mile of the Project Site are predominantly residential with vacant lots prominent south of Edgemere Avenue. Residential uses east of the Project Site are comprised almost entirely of one- to two-story detached single-family homes, interspersed with vacant lots. West of the Project Site, residential developments have higher density and are primarily characterized by four- to 19-story multi-family buildings, including the New York City Housing Authority (NYCHA) Ocean Bay Apartments which range from seven to nine-stories and the Arverne View apartment complex, with buildings ranging from four- to 19-stories.

Other uses in the area include open space and recreational resources, public facilities and institutions, industrial and manufacturing, retail, and transportation and parking. Open space resources include the Rockaway Beach and Boardwalk, along with local playgrounds, parks, and community gardens.

Public facilities and institutions are found throughout the area. These include two public schools: P.S. 105, located to the northeast of the Project Site at 420 Beach 51st Street), and Goldie Maple Academy located to the west of the Project Site at 36-5 Beach 56th Street. Located east of the Project Site is an assisted living facility (Rockaway Care Center), a retirement home (Seaview Manor Home for Adults), and the New York City Fire Department (FDNY) Emergency Medical Services (EMS) Station 47. A religious facility (the Solid Rock Seventh Day Adventist Church) is located directly south of the Project Site. A nursing home (Lawrence Nursing Care Center) and public library (Queens Library at Arverne) are located immediately west of the Project Site.

The Peninsula Center for Extended Care and Rehabilitation is directly adjacent to the Project Site at 5015 Beach Channel Drive. A 200-bed nursing home and rehabilitation center, it provides both long-term and short-term care. In parallel with rehabilitation services, additional services it provides include 24-hour skilled nursing care, physician services, specialist services, physical therapy, occupational therapy, speech therapy, respiratory therapy, social work, and post-operative care. It is housed in an approximately 128,000 sf, four-story building built in 1974.

A small cluster of industrial uses is located directly adjacent to the east from the southern portion of the Project Site, south of Rockaway Beach Boulevard. These include a moving and storage warehouse as well as a hardwood warehouse.

Retail storefronts are found primarily on Beach Channel Drive and Rockaway Beach Boulevard— including fast food establishments located on the corner of Beach 49th Street and Beach Channel Drive, a medical association and medical office on Beach 54th Street between Rockaway Beach Boulevard and Beach Channel Drive, and local retail stores on Rockaway Beach Boulevard between Beach 52nd Street and Beach 54th Street.

Two Metropolitan Transportation Authority (MTA) bus facilities are located east of the Project Site: an MTA bus depot located on Rockaway Beach Boulevard, between Beach 49th Street and Beach 47th Street, and an MTA bus parking lot is located across the Rockaway Beach Boulevard from the MTA bus depot—adjacent to the eastern side of the Project Site along Beach 50th Street.

In proximity of the Project Site are portions of two Urban Renewal Areas (URAs): the Arverne URA to the southwest and southeast of the Project Site, and the Edgemere URA to the north and east of the Project Site (**Figure 4: Edgemere and Arverne Urban Renewal Areas**). HPD proposed a comprehensive development plan for the Arverne URA which was analyzed pursuant to CEQR in a Final Environmental Impact State (FEIS) completed in 2003. The Edgemere Urban Renewal Plan was originally adopted in 1997 and revised in 2008 to promote the development of residential, commercial, community facility, and public space uses, with new infrastructure including street widening and realignment in some areas. In addition, while beyond the study area but within CD 14, the City of New York recently designated and approved an Urban Renewal Area and Plan for an approximately 23-block area of the Downtown Far Rockaway neighborhood of Queens.

Zoning

Zoning districts found in proximity of the Project Site include R4, R4-1, R5, R6, C3, C4-3A, and C8-1 districts. There are also C1-2 and C2-4 commercial overlays. As previously described, the northern portion of the Project Site is mapped with an R5 zoning district with a C1-2 zoning overlay along Beach 50th Street. A C8-1 zoning district is mapped on the southern portion of the Project Site. All other zoning districts are briefly described below.

Much of the area north of the Project Site is zoned with an R4 zoning district, which encompasses areas with both public housing and private homes. R4 zoning districts are low-density general residence districts that allow all types of housing. R4 zoning districts permit a maximum FAR of 0.75, plus an optional 20% increase in FAR for attic allowance. R4 districts usually produce buildings with three stories. One off-street parking space is required for each dwelling unit.

A small portion to the northwest of the Project Site is mapped with an R4-1 zoning district. R4-1 contextual districts permit only one- and two- family detached and semi-detached houses, with a minimum lot width of 25 feet for detached houses and 18 feet for semi-detached houses, and have a maximum FAR of 0.75, plus an optional 20% increase in FAR for attic allowance. One off-street parking space is required for each dwelling unit.

A large portion of the area south of the Project Site is mapped with an R6 zoning district. R6 zoning districts can range in character from neighborhoods with a diverse mix of building types and heights to large-scale "tower in the park" developments. Developers can choose between height factor regulations, which produce small multi-family buildings on small zoning lots and tall buildings that are set back from the street, or optional Quality Housing regulations, which produce high lot coverage buildings within height limits that often reflect the scale of older, pre-1961 apartment buildings. Buildings developed pursuant to height factor regulations can have an FAR that ranges from 0.78 (for a single-story building) to 2.43 at a typical height of 13 stories. There are no height limits for height factor buildings, although they must be set within a sky exposure plane which begins at the height of 60 feet above the street line and then slopes inward over the zoning lot. Off-street parking is required for 70% of a building's DUs, which can be waived if five or fewer spaces are required. Buildings developed pursuant to optional Quality Housing regulations have a maximum FAR of 3.0 for buildings on a wide street and 2.2 for buildings on a narrow street. On a wide street, the maximum building height before setback is 60 feet with a maximum building height of 70 feet. On a narrow street (beyond 100 feet of a wide street), the maximum base height before setback is 45 feet with a maximum building height of 55 feet. Off-street parking is required for 50% of all DUs, which can be waived if five or fewer spaces are required. In Queens CD 14 however, R6 and R7 zoning districts are subject to the accessory off-street parking regulations of an R5 zoning district (which requires one parking

space for 85% of all DUs), except for developments located within an urban renewal area established prior to August 14, 2008 or to income-restricted units.

C3 zoning districts are commercial districts that permit waterfront recreational activities, primarily boating and fishing, in areas along the waterfront that are usually adjacent to residential districts. In addition to facilities for docking, renting, servicing, and storing fishing and pleasure boats, permitted activities include aquatic sports equipment sales and rentals, bicycle shops, ice cream stores and public beaches (Use Group 14). C3 districts also permit residences and community facilities (Use Groups 1-4). The commercial FAR permitted in C3 districts is 0.5. Residential development in C3 districts is governed by R3-2 districts regulations. Off-street parking requirements are high but vary with use.

C4-3A zoning districts are medium-density, contextual commercial districts with a commercial FAR of 3.0 and a residential FAR of 3.0, which can be increased with the Inclusionary Housing Program bonus. The residential district equivalent is the R6A zoning district. Use Groups 5, 6, 8, 9, 10 and 12, which include most retail establishments, are permitted in C4 districts. Uses that would interrupt the desired continuous retail frontage, such as home maintenance and repair service stores listed in Use Group 7, are not allowed.

C2-4 districts are commercial overlays mapped within residential districts. Mapped along streets that serve local retail needs, typical retail uses include neighborhood grocery stores, restaurants, and beauty parlors.

Transportation Network

Major thoroughfares near the Project Site include Beach Channel Drive that runs in the east-west direction north of the Project Site, and Rockaway Freeway that runs in the east-west direction south of the Project Site. Nearby public transit access includes the Q22 (Rockaway Beach Boulevard – Beach Channel Drive) bus route, and the QM17 (Far Rockaway – Midtown) express but route. The closest Q22 stop to the Project Site is located at the intersection of Beach Channel Drive and Beach 51st Street, and the closest Q17 stop to the Project Site is located at the intersection of Beach Channel Drive and Beach 54th Street (one block west of the Project Site), which is also a Q22 bus stop. Elevated tracks of the MTA-New York City Transit (NYCT) Rockaway (A train) Line run along Rockaway Freeway, with subway stops at Beach 44th Street (approximately five blocks east of the Project Site) and Beach 60th Street (approximately four blocks west of the Project Site). Additionally, the New York City (NYC) Ferry Service operated by Hornblower on the Rockaway Route stops just one block west of the Project Site at Beach Channel Drive and Beach 54th Street and provides access to the ferry landing located at Beach Channel Drive and Beach 108th Street. The Rockaway ferry route is a new key connection between the Rockaways and Sunset Park Brooklyn, and Lower Manhattan.



Source: 2016 Pluto, DCP

EDGEMERE, QUEENS

Project Site

1/4-Mile Radius

SITE LOCATION MAP

Figure 1



Source: 2016 Pluto, DCP; Field Observations July 28, 2016

EDGEMERE, QUEENS

Project Site

1/4-Mile Radius

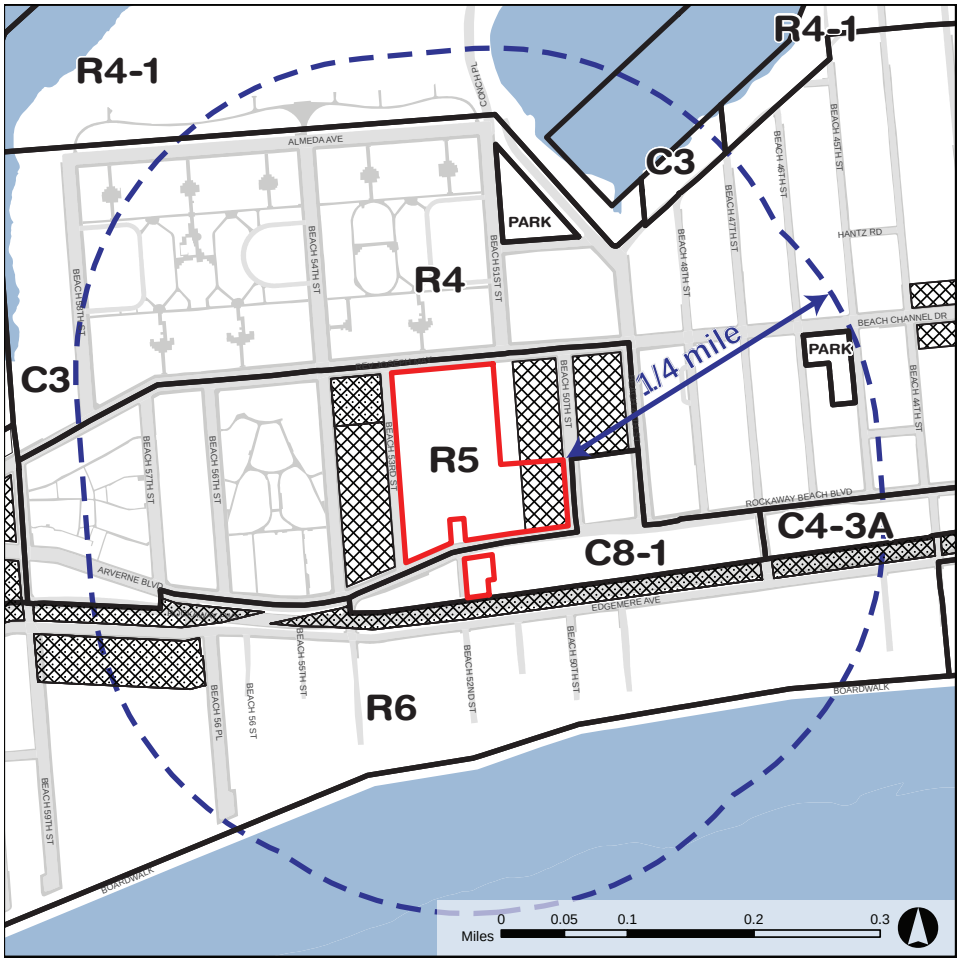
- One & Two Family Residence
- Multi-Family Residence (Walkup)
- Multi-Family Residence (Elevator)
- Mixed Residential & Commercial
- Commercial Use
- Industrial / Manufacturing
- Transportation / Utility
- Public Facilities & Institutions
- Open Space & Recreation
- Parking
- Vacant Land

LAND USE MAP

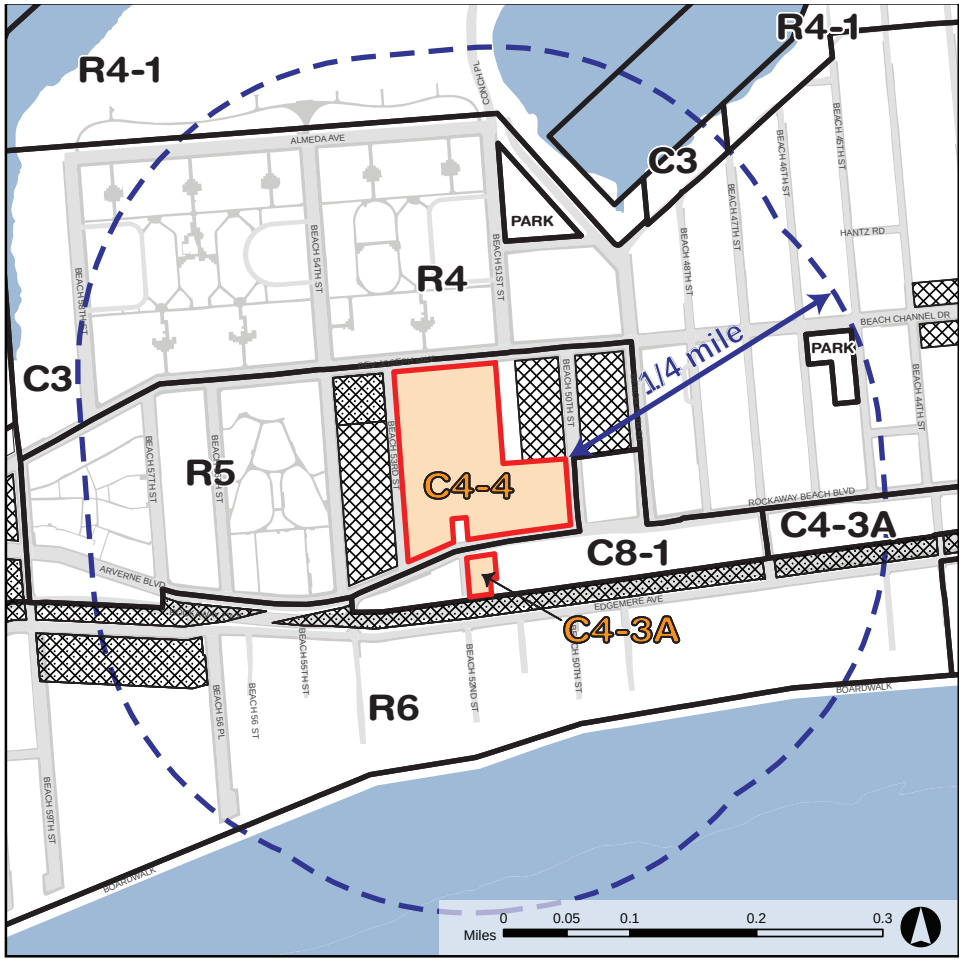
Figure 2

Peninsula Hospital Site Redevelopment

EXISTING ZONING



PROPOSED ZONING



Source: DCP

EDGEMERE, QUEENS

Project Site

1/4-Mile Radius

M Manufacturing District

R Residential District

C Commercial District

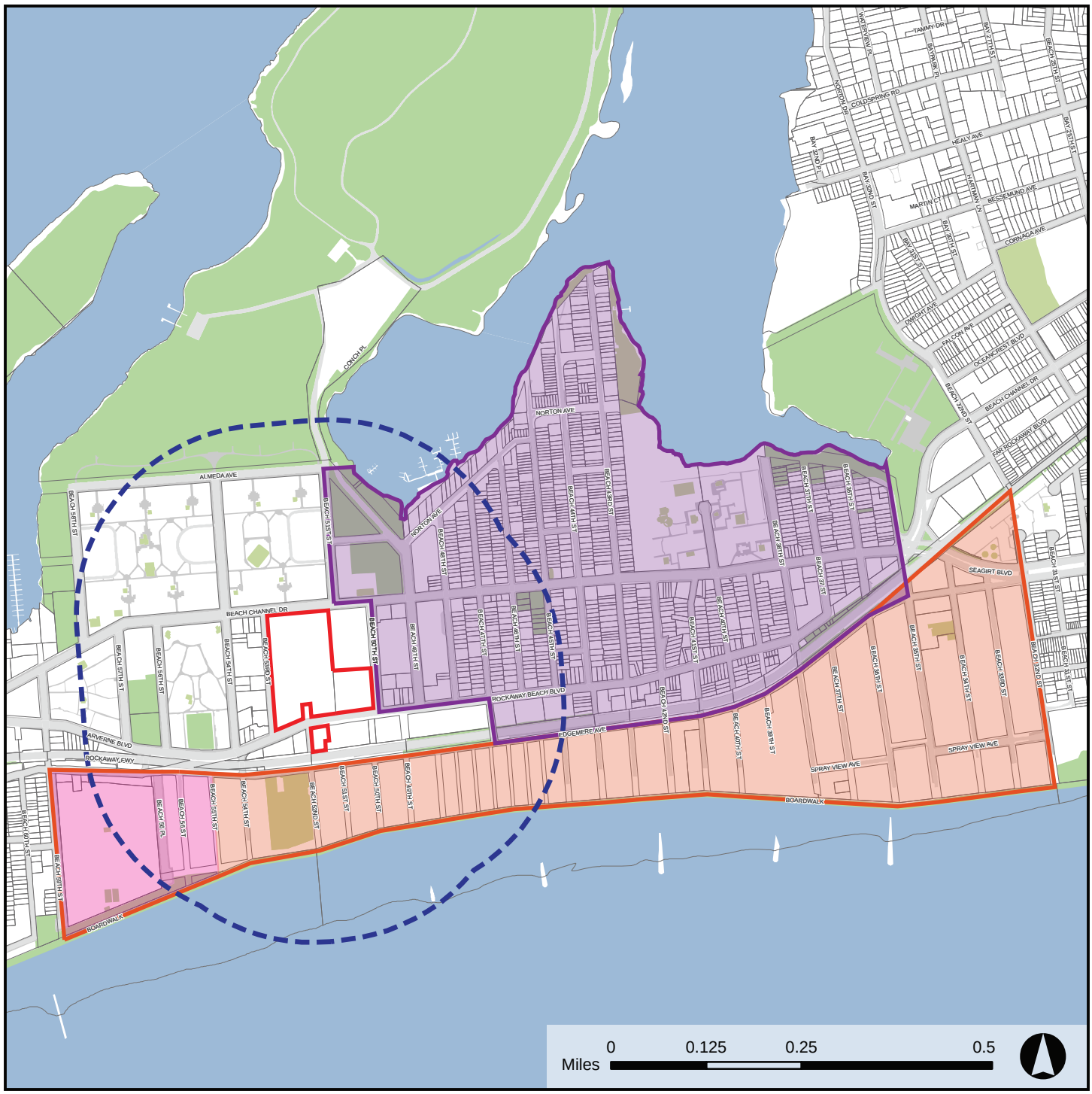
C1-2 Overlay

C2-4 Overlay

Proposed Zoning

ZONING MAP

Figure 3



Source: 2016 Pluto, DCP

EDGEMERE, QUEENS

- Project Site
- 1/4-Mile Radius
- Edgemere URA
- Arverne URA
- Arverne West URA
- Arverne Central/East URA
- Edgemere URA

EDGEMERE & ARVERNE URBAN RENEWAL AREAS

Figure 4

IV. DESCRIPTION OF PROPOSED PROJECT

The Proposed Actions would facilitate the development of a 17-building, approximately 2,289,000 gsf mixed-use affordable housing, retail, and community facility development on the Project Site. The 17 buildings would be distributed on five sub-sections of the Project Site (A, B, C, D, and E), with sub-sections on the northern portion of the Project Site and sub-section E on the southern portion of the Project Site. The Proposed Project would provide a maximum of 2,200 DUs, of which approximately 1,910 DUs are intended to be restricted to household with incomes up to 80% of AMI (with 270 DUs set aside for senior housing) (**Figure 5: Proposed Project Site Plan** and **Figure 6: Proposed Project Rendering**). Additional uses would include approximately 151,800 gsf of retail space, approximately 25,000 gsf which may be used for a gym; approximately 64,400 gsf of community facility space programmed for medical offices; and approximately 37,600 square feet (sf) of publicly-accessible open space. Retail and residential uses would be distributed across all five sub-sections of the Project Site, while community facility uses are anticipated to be located on sub-section C. Building heights for the Proposed Project would range from approximately 75 feet to 154 feet. The 270 senior DUs are proposed to be located in Building A4. The proposed uses, floor area, and total number of DUs would be part of the LSGD site plan that would be approved by the CPC and the City Council pursuant to the LSGD special permit. As such, the number of DUs would be limited to what would be stated in the LSGD plan.

Approximately 642 accessory parking spaces would be provided as part of the Proposed Project, comprised of 424 accessory parking spaces for residential use (pursuant to ZR §15-15), 156 accessory parking spaces for retail use (pursuant to ZR §36-21), and 62 accessory parking spaces for community facility medical office use (pursuant to ZR §36-21). Parking would be distributed across all five sub-sections of the Project Site, with two parking lots (on sub-sections A and D), and underground parking structures on all sub-sections. Parking spaces provided in both parking lots and garages would be accessible 24/7 and would be self-serve.

As part of the Proposed Project, a privately owned, publicly-accessible internal street network with two new 60-foot wide publicly-accessible private streets is proposed. The first private street would be an extension of the existing Beach 52nd Street and would cut north through the center of the Project Site to Beach Channel Drive. The second would be a new east-west street from Beach 50th Street to Beach 53rd Street, breaking up the existing superblock (Peninsula Way). This new street framework would create an intersection that forms a core or central area for the development and is intended to reorient pedestrians towards the water.

The 37,538 sf of publicly-accessible open space would be distributed across the Project Site. There would be two major public open space throughout the Project Site, which are the (1) Pedestrian Corridor (Beach 51st Street Plaza) and Highpoint Plaza (located at the intersection of Beach 52nd Street and Peninsula Way), which would be designed as areas for pedestrians to gather and socialize.

The Project Site is located within the one percent annual change flood zone (Flood Hazard Zone AE) on FEMA's preliminary flood insurance rate maps. As the Proposed Project is located within the current floodplain, the Proposed Project would employ resiliency and flood management techniques into its design and site planning to an area that is currently improved with paved over concrete and impermeable surfaces. This would ensure that the new construction would provide the community with residential, commercial, and community facility programming that would be sensitive to and address potential natural disasters and resiliency concerns.

The distribution of uses and floor area for the Proposed Project are provided in **Table 1: Proposed Project**. The bulk from the southern portion of the Project Site, on which Building E is located, would be shifted to the buildings on the northern, main portion of the Project Site. The shift in bulk is permitted through the LSGD special permit.

Table 1: Proposed Project

Sub-Section	Block/ Lot	Buildings	Residential (gsf)	Residential Units	Local Retail (gsf)	Medical (gsf)	Mechanical (gsf)	Parking (gsf)[2]	Total Area (gsf)	Height (ft)
A	15843/1	A1	116,569	94	22,441	0	4,685	67,446	599,004	115
		A2	115,548	135	5,021	0				153
		A3	66,614	65	3,024	0				133
		A4	181,063	270	16,593	0				126
B	15843/1	B1	90,432	146	7,790	0	4,488	66,489	500,309	106
		B2	66,187	65	2,424	0				88
		B3	145,096	182	8,608	0				154
		B4	102,557	123	6,238	0				135
C	15843/1	C1	126,905	221	14,241	0	6,027	28,842	642,092	116
	15843/1	C2	66,030	65	15,223	0				97
	15842/1	C3	104,617	111	0	18,690				125
	15842/1	C4	65,574	65	0	23,444				88
	15842/1	C5	150,278	174	0	22,221				154
D	15843/1	D1	65,926	65	17,817	0	3,798	63,741	471,786	87
		D2	132,460	206	19,017	0				134
		D3	159,533	148	9,494	0				153
E	15857/1	E1	63,684	65	3,878	0	1,060	7,053	75,675	75
TOTAL (Entire Project)			**1,819,073**	**2,200**	**151,809**	**64,355**	**20,058**	**233,571 (642 spaces)**	**2,288,866**	

[2] Parking gsf does not include the area of surface parking lots; only the area of parking structures is included as part of the total gsf of the Proposed Project.



Source: Aufgang Architects
Note: Proposed landscape design features for illustrative purposes only

EDGEMERE, QUEENS

PROPOSED PROJECT SITE PLAN

Figure 5

Peninsula Hospital Site Redevelopment



Source: Aufgang Architects
Note: For illustrative purposes only

EDGEMERE, QUEENS

PROPOSED PROJECT RENDERING

Figure 6

Peninsula Hospital Site Redevelopment

V. PROJECT PURPOSE AND NEED

Since the closure of the Peninsula Hospital in 2012, the Project Site has remained vacant and unutilized. Population in Queens CD 14 increased by approximately 8% between 2000 and 2010, from approximately 106,700 to 115,000 people, respectively. Approximately 44% of households are rent-burdened, which means they spend 35% or more of their income on rent.[3] Moreover, approximately 13.8% of residents in Queens CD 14 are age 65 and over, which is higher than both Queens and the City (13.4% and 12.7%, respectively). The redevelopment of the Project Site is intended to address these concerns by providing up to 2,200 DUs (of which approximately 1,910 DUs are intended to be restricted to households with income levels up to 80% of AMI with 270 DUs set aside for senior housing) within close proximity to public transit options, including a ferry landing connecting the Project Site to Brooklyn and Lower Manhattan. In addition, the Proposed Project is intended to advance the goals of Mayor Bill de Blasio's *Housing New York: A Five Borough, Ten-Year Plan*, which is a 10-year plan to build or preserve 200,000 affordable apartments across all five boroughs of NYC.

As described above in Section III, "Existing Conditions," there are limited commercial retail options in the surrounding area of the Project Site, which are primarily situated along Beach Channel Drive and Rockaway Beach Boulevard. The Proposed Project would provide approximately 151,800 sf of additional retail uses, including the PCE (gym), that would help address the need for such supportive uses, and provide local employment opportunities. The Proposed Project would also provide an additional 64,400 sf of community facility uses, programmed for medical office space.

The Queens Community District 14 *Statement of Community Needs* also identifies the high rate of unemployment in Queens CD 14 as a pressing concern. Approximately 10.2% of the civilian labor force in Queens CD 14 is unemployed, compared to only 8.6% in Queens and 9.5% in NYC. The Proposed Project would introduce local retail and medical office space, which would generate approximately 672 new permanent jobs on the Project Site.[4]

In addition, the overall scale of the Proposed Project is intended to fit into the context of the surrounding area. Residential developments with higher density are located near the Project Site to the north and west along streets of similar widths to those surrounding the Project Site. The NYCHA Ocean Bay Apartments (Bayside) are located directly north of the Project Site and include 24 buildings that range in height between seven and nine-stories. The Ocean Bay Apartments (Oceanside) are located one block west of the Project Site and contain seven buildings with heights of seven- to nine-stories. The Arverne View apartment complex is located approximately four blocks southwest of the Project Site and provides 1,100 DUs across 11 buildings, which range in height from four to 19 stories. The Proposed Project would consist of 17 buildings and range in height between eight and 17 stories.

The proposed increase in density is supportive of the City's goal to redevelop vacant and underutilized land to provide affordable housing. The former Peninsula Hospital was closed and has been vacant since 2012. The Proposed Project would allow for the redevelopment of this unused land with affordable housing. The rezoning of the Project Site to both C4-4 and C4-3A districts in conjunction with a zoning text change to provide MIH would result in permanently affordable housing on the Project Site. Under the anticipated MIH designation of Option 1, the Proposed Project would be required to develop 25% of its residential floor area as permanently affordable housing units (approximately 550 units). Furthermore, as stated previously, the Proposed Project intends to provide additional affordable housing by restricting a total of 1,910 of its approximately 2,200 DUs to households with incomes up to 80% AMI.

[3] NYC Planning Community District Profiles, Queens Community District 14, accessed October 17, 2017; https://communityprofiles.planning.nyc.gov/queens/14?section=main#main

[4] Number of jobs calculated using multipliers of 1 employee per 250 sf of retail floor area and 1 employee per 1,000 sf of medical office floor area.

Zoning Map Amendment

The Applicant believes the proposed zoning map amendment would be appropriate to address the needs of the surrounding area and CD 14 as a whole. Currently, the Project Site is zoned with R5, R5/C1-2, and C8-1 zoning districts, which are insufficient to achieve the proposed level of affordability. As described above in the description of the Project Site, the existing zoning would allow a maximum FAR of 1.25 for residential, 1.0 for commercial, and 2.0 for community facility[5]. The Proposed Actions would rezone the Project Site to C4-4 (R7-2 equivalent) and C4-3A (R6A equivalent), and map an MIH area over the Project Site, which would be consistent with the existing zoning in the area surrounding the Project Site.

The proposed zoning districts, along with the proposed MIH area, would increase the maximum FAR on the portion of the Project Site north of Rockaway Beach Boulevard to 4.6 for residential use, 5.01 for AIRS, 3.4 for commercial uses, and 6.5 for community facility uses. It would also increase the maximum FAR to 3.6 for residential use and 3.9 for AIRS on the portion of the Project Site south of Rockaway Beach Boulevard. In addition, some bulk from the southern portion of the Project Site (Block 15857, Lot 1) would be shifted to the northern portion of the Project Site, which would be permitted through the LSGD. The increase in density with the Proposed Actions would be concentrated along two wide streets—Rockaway Beach Boulevard and Beach Channel Drive. Wide streets are generally better suited to accommodate increased density and commercial development.

The proposed C4-4 and C4-3 zoning districts were selected to facilitate the Proposed Project since these districts would permit a wider range of residential and commercial uses than would be permitted under the existing R5 and R5/C1-2 zoning districts, in which uses are primarily limited to local retail uses (Use Group 6). The broader range of uses allowed under the proposed C4-4 and C4-3 zoning districts include amusement or service establishments (Use Group 8), retail and service establishments that serve a larger area (Use Group 9), large retail establishments such as department stores (Use Group 10), and fairly large entertainment facilities (Use Group 12). The broader range of uses permitted by the C4 districts would enable the Proposed Project to provide 2,200 DUs of income-restricted housing and become a new destination for retail and medical office space within the surrounding area. The proposed C4-3A zoning classification on the southern portion of the Project Site would also extend the C4-3A contextual district that is already found east of the Project Site along Rockaway Beach Boulevard. C4-3A is a contextual zoning district with bulk and density regulations appropriate for smaller lots such as the southern portion of the Project Site. The proposed C4-4 zoning district on the northern portion of the Project Site would be appropriate for larger lots and provide more flexibility with bulk and massing than a contextual zoning district. The proposed C4-4 and C4-3A zoning districts would support new, mixed-use, mixed income development at medium densities that would provide retailers an additional customer base and the opportunity to capture more spending on the peninsula, diversify the mix of commercial offerings, and allow for additional uses to attract new employers.

Zoning Text Amendments

The zoning text amendments, in conjunction with the zoning map amendment and, are intended to better address the needs of CD 14. The zoning text amendment to Appendix F (Inclusionary Housing and Mandatory Inclusionary Housing Area) to designate the Project Site as a MIH area would ensure that any future residential development within the MIH area includes permanently affordable DUs.

[5] The existing zoning on the Project Site was established with the enactment of the ZR in 1961 and has not been updated to reflect the changing uses in the area near the Project Site or in the Edgemere neighborhood. Existing zoning in the surrounding area consists of medium-density mixed residential and commercial districts, including the C4-3A and C4-4 zoning districts just east and southeast of the Project Site along Rockaway Beach Boulevard. Additionally, the surrounding area has a mix of low-density residence districts (R4 and R5), commercial overlays (C1-2 and C2-2), a medium-density residence district (R6), and an automotive/semi-industrial district (C8-1). The surrounding area is characterized by a mix of uses including low- and mid-rise residential buildings, community facilities, transportation and semi-industrial uses, and public open space. A high concentration of public and publicly subsidized housing and long-term care facilities are also present in the surrounding area.

The zoning text amendment to ZR §74-744(a) to modify ZR §32-31 would allow the development of a PCE (gym) without obtaining a special permit from the BSA, as currently required. The addition of a physical and cultural establishment would provide a needed amenity for the residents of the Proposed Project and the surrounding community. The text amendment would obviate the need for a discretionary BSA special permit, a potential impediment to the development of a gym on the Project Site.

The zoning text amendment to ZR §25-027 would modify existing parking regulations that subjects all R6 and R7 district developments within Queens CD 14 to R5 parking regulations so that instead within a LSGD in MIH areas all R6 and R7 parking district regulations. This would result in the parking regulations of the underlying zoning being applied to the Proposed Project. district would apply instead. As described in Section II," Required Approvals and Procedures," this would reduce the parking requirement for the Proposed Project by approximately 100 parking spaces. The reduction in required accessory off-street parking is necessary according to the Applicant due to the unique location and high water table of the Project Site on the Rockaway Peninsula, which inhibits the creation of below-grade parking. Furthermore, ZR §25-027 is intended to be applied to the smaller sites within R6 and R7 districts in Queens CD 14 to ensure they provide adequate parking that meets the parking demand within those areas in Queens.

The zoning text amendment to ZR §74-744 (c) would permit waiver of ZR §32-67 and 32-68 within a LSGD in Queens CD 14. Currently the ZR §74-744(c) permits the waiver of certain design regulations to achieve a better site plan within a LSGD provided the requisite findings are met. However, it excludes ZR §§32-67 (Special Provisions applying along District Boundaries) and 32-68 (Permitted Signs on Residential or Mixed Buildings).

Large-Scale General Development (LSGD)

To develop a project with overall better urban design, the Applicant is seeking a LSGD special permit pursuant to ZR §74-743 of ZR §74-74 to allow variations in the height and setback regulations within a LSGD. The LSGD text allows for flexibility from the rigidities of zoning district regulations to encourage the development of the best possible site plan. A LSGD Restrictive Declaration would be recorded at the time all land use-related actions required to authorize the proposed project's development are approved.

The Proposed Project would require LSGD special permits to allow for the distribution of floor area within the LSGD waivers of height and setback requirements, rear and rear yard equivalent, and court requirements, and pursuant to the zoning text amendments, modification of signage regulations and use regulations to permit a gym. The LSGD special permits would allow for the development of a superior site plan through the distribution of bulk within the overall development beyond that permitted as-of-right.

The Applicant believes that the Proposed Project is of a scale that would be particularly appropriate for a LSGD. It would consist of 17 buildings built over 409,928 sf of lot area, built over approximately 15 years. The Proposed Project would also include a privately owned and publicly accessibly street network that would bisect the Project Site from the north to south between Beach Channel Drive and Rockaway Beach Boulevard and from the east to the west between Beach 50th Street and Beach 53rd Street. The street network is intended to break up the existing super block into four smaller portions each of which would contain approximately four buildings. The network of streets and pedestrian walkways provided by the LSGD plan would provide internal traffic and pedestrian circulation within the residential development. A LSGD special permit would allow for flexibility with the site design while also providing for a well-planned development that would create predictability for the development and infrastructure that would be provided for a project of this scale.

The waivers would permit the limited but necessary relief of height, yard, and setback regulations within an LSGD would allow for the creation of a superior site plan that accommodates the programming of the Project

Within the context of the LSGD, modification to ZR §76-44(a) would allow the development of a PCE on the Project Site, as part of the Proposed Project. Modification pursuant to ZR §74-744(c) would provide design flexibility for signage by allowing signs with greater height, surface area, and illumination. The shift

in floor area from the southern portion of the Project Site to the northern portion of the Project Site, under the LSGD, would provide for a better site plan that would better integrate publicly-accessible open spaces with the built environment.

VI. FRAMEWORK FOR ANALYSIS

An EIS is a comprehensive document used to systematically consider environmental effects, evaluate reasonable alternatives, and identify and mitigate, to the maximum extent practicable, any potentially significant adverse environmental impacts. The EIS provides a means for the lead and involved agencies to consider environmental factors and choose among alternatives in their decision-making related to a proposed action. This section outlines the analysis framework that will be examined in the EIS.

Reasonable Worst-Case Development Scenario

To assess the potential effects of the Proposed Actions, a reasonable worst-case development scenario (RWCDS) was developed for the Project Site. The RWCDS looks at both the anticipated development that would occur in the future on the Project Site without the Proposed Actions (the future "No-Action" condition) and the development that would occur in the future on the Project Site with the Proposed Actions (the future "With-Action" condition). The incremental difference between the future No-Action and future With-Action conditions serves as the basis for the impact analysis in the environmental review.

Analysis Year

The 17 buildings that comprise the Proposed Project would be developed over a number of years. The Applicant expects to start construction sometime in 2019 and estimates that construction of all buildings could take approximately 15 years. Therefore, the analysis year for the Proposed Project is **2034**. Build-out of the new roads would be coincident with the completion of the frontages of buildings A1 through E1. Demolition of existing structures on the Project Site is ongoing independently of the Proposed Actions.

The Future without the Proposed Actions (No-Action Condition)

In the future absent the Proposed Actions (the "No-Action" condition) the Project Site would remain under the existing zoning designations, as described in Section III, "Existing Conditions." Market-rate, residential development, along with supporting retail space, would be feasible on the Project Site and would be constructed as-of-right in conformance to existing zoning designations. The existing zoning of R5/C1-2 and C8-1 would allow a maximum residential FAR of 1.25, and a maximum commercial FAR of 1.0. The maximum FAR for all community facility use on the Project Site would be 2.0. As such, the total maximum FAR for mixed-use would be 1.25 for the Project Site, which would yield a total maximum floor area of 508,385 zoning square feet (zsf).

Absent the Proposed Actions, development on the Project Site would include 12 buildings, including approximately 482,523 gsf of residential space (providing 568 DUs), 21,659 gsf of local retail space, 800 gsf of community facility space, and 557 accessory parking spaces[6] (**Figure 7: No-Action Condition Site Plan**, **Table 2: No-Action Condition**). Of the 557 parking spaces, 457 would be provided on surface parking lots and the additional 100 would be provided in an underground parking garage located in the center of the northern portion of the Project Site. The No-Action condition would result in approximately 504,982 gsf of development on the Project Site.

[6] Comprised of 483 accessory parking spaces for residential use (pursuant to ZR §25-251), 72 accessory parking spaces for retail use (pursuant to ZR §36-21), and two accessory spaces for community facility use (pursuant to ZR §36-21).

Table 2: No-Action Condition

Block/Lot	Building	Residential (gsf)	Residential Units	Local Retail (gsf)	Medical (gsf)	Structure Parking (gsf)	Total Parking Spaces (Surface Lots and Structure)	Total Area (gsf)	Height (feet)
15843/1	A	44,897	53	0	0	40,000	46	44,897	40
15843/1	B	44,433	52	0	0		45	44,433	40
15843/1	C	45,319	53	0	0		45	45,319	40
15843/1	D	45,319	53	0	0		45	45,319	40
15843/1	E	45,319	53	0	0		45	45,319	40
15843/1	F	45,319	53	0	0		45	45,319	40
15843/1	G	45,319	53	0	0		45	45,319	40
15843/1	H	45,319	53	0	0		45	45,319	40
15843/1	I	45,319	53	0	0		45	45,319	40
15842/1	J	44,319	53	0	800		47	45,319	40
15842/1	K	30,641	32	15,585	0		84	47,026	40
15857/1	L	0	0	6,074	0		20	6,074	15
TOTAL		**482,523**	**568**	**21,659**	**800**	**40,000**	**557**	**504,982**	



Source: Aufgang Architects
Note: For illustrative purposes only

EDGEMERE, QUEENS

NO-ACTION CONDITION SITE PLAN

Figure 7

The Future with the Proposed Actions (With-Action Condition)

The development program and building design for the Applicant's Proposed Project, as described above, would represent the With-Action condition for environmental analysis purposes. The proposed zoning districts, along with establishing the proposed MIH area, would allow an increase of maximum FAR on the Project Site north of Rockaway Beach Boulevard to 4.6 for residential use, 5.01 for residential use for seniors (AIRS), 3.4 for commercial uses, and 6.5 for community facility uses. It would also increase the maximum FAR to 3.6 FAR for residential use and 3.9 FAR for AIRS on the Project Site south of Rockaway Beach Boulevard. The LSGD restrictive declaration would not restrict specific Use Groups but would restrict the overall residential, commercial and community facility floor area. Because the LSGD special permit would require the Proposed Project to be in substantial conformance with the approved plans and zoning calculations, which includes the overall maximum floor area for residential, commercial and community facility use, the Proposed Project would be the worst-case development scenario for the With-Action condition.

Increment

As described in **Table 3: Incremental Development Between No-Action and With-Action Conditions**, the incremental difference between the No-Action condition and With-Action condition consists of approximately 1,783,884 gsf of development comprised of the following uses: approximately 1,336,550 gsf residential floor area (or approximately 1,632 DUs), approximately 130,150 gsf of retail space, approximately 63,555 gsf of community facility uses, 193,571 gsf of parking space, and 85 accessory parking spaces.

The Applicant intends to provide a substantial amount of affordable housing in the Proposed Project by restricting a total of 1,910 of its approximately 2,200 DUs to households with incomes up to 80% AMI. Furthermore, as stated above, under the anticipated MIH designation of Option 1, the Proposed Project would be required to develop 25% of its residential floor area as permanently affordable housing units (approximately 550 units). For purposes of the environmental review, whatever is the more conservative incremental basis of market-rate verses affordable DUs for an individual impact analysis will be utilized in the DEIS.

Table 3: Incremental Development Between No-Action and With-Action Conditions

Use		No-Action Condition	With-Action Condition	Increment
Residential	**gsf**	**482,523**	**1,819,073**	**1,336,550**
	Total DUs	568	2,200	1,632
	Income-Restricted DUs above 80% AMI	568	290	-278
	Income-Restricted DUs up to 80% AMI	0	1,910	1,910
Retail	**Retail gsf**	**21,659**	**151,809**	**130,150**
Community Facility	**gsf**	**800**	**64,355**	**63,555**
Parking	**gsf**	**40,000**	**233,571**	**193,571**
	Total Accessory Parking Spaces	557	642	85
Mechanical	**gsf**	**N/A**	**20,058**	**20,058**
TOTAL	**gsf**	**504,982**	**2,288,866**	**1,783,884**
Publicly-Accessible Open Space	**gsf**	**0**	**37,538**	**37,538**
Population	**Residents**[7]	**1,568**	**6,072**	**4,504**
	Businesses[8]	**88**	**672**	**584**

[7] Calculated as: 2.76 (persons per household for the Hammels-Arverne-Edgemere Neighborhood Tabulation Area, 2010-2014 ACS Profile) x number of units

[8] Calculated as: 1 employee per 250 sf retail; 1 employee per 1,000 sf medical offices (DCP)

VII. PROPOSED SCOPE OF WORK FOR THE DEIS

Since the Proposed Actions would affect several areas of environmental concern, some of which were found to have the potential to result in significant adverse impacts, pursuant to the EAS and Positive Declaration, an EIS will be prepared in conformance to SEQRA (Article 8 of the New York State Environmental Conservation Law) and its implementing regulations found at 6 NYCRR Part 617, New York City Executive Order No. 91 of 1977, as amended, and the Rules and Procedure for CEQR, found at Title 62, Chapter 5 of the Rules of the City of New York.

Consistent with the guidance of the *CEQR Technical Manual* dated March 2014, the EIS will include:

- A description of the Proposed Project and its environmental setting;
- A statement of the significant adverse environmental impacts of the Proposed Project, including short- and long-term effects;
- An identification of any significant adverse environmental effects that cannot be avoided if the Proposed Project is implemented;
- A discussion of reasonable alternatives to the Proposed Project;
- An identification of irreversible and irretrievable commitments of resources that would be involved in the Proposed Project, should it be implemented; and
- A description of mitigation proposed to eliminate or minimize any identified significant adverse environmental impacts of the Proposed Project.

The analyses in the EIS will be based on the RWCDS. Based on the preliminary screening assessments as outlined in the *CEQR Technical Manual* and detailed in the EAS, all the CEQR technical areas warrant assessment and would therefore be included in the EIS, except (1) Natural Resources and (2) Energy. The specific technical areas to be evaluated in the EIS, and the methodologies proposed to evaluate their effects, are described below.

TASK 1. PROJECT DESCRIPTION

The first chapter of the EIS introduces the reader to the Proposed Actions and sets the context in which to assess impacts. The chapter contains a description of the Proposed Actions: its location; the background and/or history of the project; a statement of the purpose and need; key planning considerations that have shaped the current proposal; a detailed description of the Proposed Actions and the Proposed Project they would facilitate; and discussion of the approvals required, procedures to be followed, and the role of the EIS in the process. This chapter is the key to understanding the Proposed Actions and its impact, and gives the public and decision-makers a base from which to evaluate the Proposed Actions.

In addition, the project description chapter will present the planning background and rationale for the actions being proposed and summarize the RWCDS for analysis in the EIS. The section on approval procedures will explain the ULURP process, its timing, and hearings before the Community Board, the Queens Borough President's Office, the NYC Planning Commission (CPC), and the New York City Council. The role of the EIS as a full-disclosure document to aid in decision-making will be identified and its relationship to ULURP and the public hearings will be described.

TASK 2. LAND USE, ZONING AND PUBLIC POLICY

A land use analysis characterizes the uses and development trends in the area that may be affected by a proposed action and determines whether a proposed action is either compatible with those conditions or

whether it may affect them. Similarly, the analysis considers the action's compliance with, and effect on, the area's zoning and other applicable public policies. This chapter will analyze the potential impacts of the Proposed Project on land use, zoning, and public policy, pursuant to the methodologies presented in the *CEQR Technical Manual*. The primary land use study area will consist of the Project Site, where the potential effects of the Proposed Actions would be directly experienced (reflecting the proposed rezoning and resultant RWCDS). The secondary land use study area would include the neighboring areas within a 0.25-mile radius from the Project Site, as shown in **Figure 2**, which could experience indirect impacts. The analysis will include the following:

- Brief development history of the primary (i.e., Project Site) and secondary study areas;
- Description and map of land use patterns and trends in the study areas, including recent development activity;
- Description and map of existing zoning and recent zoning actions in the study areas;
- Description of public policies that apply the study areas, including: Far Rockaway Empire Zone, the City's Waterfront Revitalization Program, the City's sustainability policies, and the City's affordable housing policies including *Housing New York*;
- Discussion of predominant land use patterns, including recent land use trends and major factors influencing land use trends;
- List of future development projects in the study area that are expected to be constructed by the 2034 analysis year and may influence future land use trends, including pending zoning actions or other public policy actions that could affect land use patterns and trends in the study areas. Based on these planned projects and initiatives, assessment of future land use and zoning conditions without the Proposed Project;
- Description of proposed zoning changes and the potential land use changes resulting from the Proposed Actions;
- Assessment of the effects of the Proposed Actions on land use and land use trends, public policy, and zoning in the study area. Discuss the Proposed Actions potential effects related to issues of compatibility with surrounding land use, consistency with zoning and other public policy, and the effect of the Proposed Project on ongoing development trends and conditions in the area; and
- Preparation of a Consistency Assessment Form for the City's Waterfront Revitalization Program (WRP) as the Project Site is in the NYC Coastal Zone. The analysis will assess the consistency of the Proposed Actions and resultant Proposed Project with the WRP policies.

TASK 3. SOCIOECONOMIC CONDITIONS

The socioeconomic character of an area includes its population, housing, and economic activity. Socioeconomic changes may occur when a project directly or indirectly changes any of these elements. Although socioeconomic changes may not result in impacts under *CEQR*, they are disclosed if they would affect land use patterns, low income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area. This chapter will assess the potential effects of the Proposed Actions on the socioeconomic character of the study area.

The socioeconomic study area boundaries are dependent on the size and characteristics of the Proposed Actions and the resulting Proposed Project, pursuant to Section 310 of Chapter 5 of the *CEQR Technical Manual.* A socioeconomic assessment seeks to assess the potential to change socioeconomic character relative to the study area population. For projects or actions that result in an increase in population, the scale of the relative change is typically represented as a percent increase in population (i.e., a project that would result in a relatively large increase in population may be expected to affect a larger study area). The Proposed Actions would result in a net increase of 1,632 DUs on the Project Site, which would generate approximately 4,504 new residents. If the Proposed Actions would result in a population increase by 5% compared to the expected No-Action population in the 0.25-mile study area, the socioeconomic study area would be expanded to a 0.5-mile radius, consistent with the *CEQR Technical Manual.*

The five principal issues of concern with respect to socioeconomic conditions are whether a proposed action would result in significant adverse impacts due to: (1) direct residential displacement; (2) direct business and institutional displacement; (3) indirect residential displacement; (4) indirect business and institutional displacement; and (5) adverse effects on specific industries. As detailed below, the Proposed Actions warrants an assessment of socioeconomic conditions with respect to indirect residential displacement only.

As determined in the EAS, the Proposed Actions would not result in development that would exceed the *CEQR Technical Manual* analysis thresholds of 500 displaced residents or 100 displaced employees, and therefore, would not have the potential to result in significant adverse impacts due to direct residential and direct business/institutional displacement. The Proposed Actions would also not result in an increase of commercial development by 200,000 sf or more, which is the *CEQR Technical Manual* threshold for assessing the potential for indirect business displacement of a project; therefore, an assessment of indirect business and institutional displacement is not warranted.

The Proposed Actions do not require changes such as a citywide regulatory change that would adversely affect the economic and operational conditions of certain types of business or processes such that socioeconomic conditions would be affected in the neighborhood. Furthermore, non-residential uses in the Proposed Project include approximately 151,800 gsf of retail space and approximately 64,400 gsf of community facility space, which is intended to serve a local demand that is unmet. Therefore, based on the type of non-residential uses included in the Proposed Project, no potential significant adverse impacts on specific industries would be anticipated and no further analysis is warranted.

The Proposed Actions would result in a net increase of more than 200 new residential units, which is the *CEQR Technical Manual* threshold for assessing the potential indirect residential effects of a project. Therefore, an assessment of indirect residential displacement will be provided in the EIS. The assessment of indirect residential displacement will begin with a preliminary assessment as detailed below to determine whether a detailed analysis is necessary. Detailed analyses will be conducted for those areas in which the preliminary assessment cannot definitively rule out the potential for significant adverse impacts. The detailed assessments will be framed in the context of existing conditions and evaluations of the future No-Action and With-Action conditions in 2034, including any population and employment changes anticipated to take place by the analysis year for the Proposed Actions.

Indirect Residential Displacement

Indirect residential displacement is the involuntary displacement of residents that results from a change in socioeconomic conditions created by a proposed project. Indirect residential displacement could occur if a proposed project either introduces a trend or accelerates a trend of changing socioeconomic conditions that may potentially displace a vulnerable population to the extent that the socioeconomic character of the neighborhood would change. To assess this potential impact, the *CEQR Technical Manual* seeks to answer a series of threshold questions in terms of whether the project substantially alters the demographic character of an area through population change or introduction of higher-priced housing.

The indirect residential displacement analysis will use the most recent available U.S. Census data, NYC Department of Finance's Real Property Assessment Data (RPAD) database, and current real estate market data to present demographic and residential market trends and conditions for the study area. The preliminary assessment will carry out the following the multi-step evaluation:

- Step 1: Determine if the Proposed Actions would result in adding a substantial new population with different income as compared with the income of the study area population. If the expected average incomes of the new population would be similar to the average incomes of the study area populations, no further analysis is necessary. If the expected average incomes of the new population would exceed the average incomes of the study area populations, then Step 2 of the analysis will be conducted.
- Step 2: Determine if the Proposed Actions resulting population is large enough to affect real estate market conditions in the study area. If the population increase may potentially affect real estate market conditions, then Step 3 will be conducted.
- Step 3: Determine whether the study area has already experienced a readily observable trend towards increasing rents and the likely effect of the action on such trends and whether the study area potentially contains a population at risk of indirect displacement resulting from rent increases due to changes in the real estate market caused by the new population.

A detailed analysis, if warranted, would utilize more in-depth demographic analysis and field surveys to characterize existing conditions of residents and housing, identify populations at risk of displacement, assess current and future socioeconomic trends that may affect these populations, and examine the effects of the Proposed Actions prevailing socioeconomic trends and, thus, impacts on the identified populations at risk.

TASK 4. COMMUNITY FACILITIES AND SERVICES

The demand for community facilities and services is directly related to the type and size of the new population generated by the development resulting from a proposed project.

The Proposed Actions would result in a net increase of 1,632 DUs on the Project Site. According to Table 6-1 of the *CEQR Technical Manual*, this level of development in Queens would trigger a detailed analysis for elementary and intermediate schools, high schools, child care centers, and libraries. The assessments of potential impacts on each are described below. Analyses of police/fire services and health care facilities are not warranted as the Proposed Actions would neither introduce a sizeable new neighborhood where one has not previously existed, nor would it displace or alter a hospital or public health clinic, fire protection services facility, or police station.

Public Schools

Based on student generation rates for public elementary, intermediate and high schools for Queens included in the *CEQR Technical Manual*, the net increase of 1,632 DUs generated by the Proposed Actions would result in 457 elementary school students, 196 intermediate school students, and 229 high school

students. As the total number of elementary and intermediate students is greater than 50**,** a detailed analysis of elementary and intermediate schools will be provided in the EIS. As the total number of high school students is greater than 150, a detailed analysis of high schools will also be provided in the EIS. The elementary and intermediate school analysis will incorporate the following:

- The primary study area for the analysis of elementary and intermediate schools is the school district's "sub-district" in which the project is located, pursuant to *CEQR* guidelines. As the Project Site is located within Community School District (CSD) 27, Sub-District 1, the elementary and intermediate school analyses will be conducted for schools in that sub-district;

- Public elementary and intermediate schools serving CSD 27, Sub-District 1 will be identified and located. Existing capacity, enrollment, and utilization data for all public elementary and intermediate schools within the affected sub-district will be provided for the current (or most recent) school year, noting any specific shortages of school capacity;

- Conditions that would exist in the No-Action condition for the sub-district will be identified taking into consideration projected changes in future enrollments, including those associated with other developments in the affected sub-district, using the NYC School Construction Authority's (SCA's) Projected New Housing Starts. Plans to alter school capacity either through administrative actions on the part of the NYC Department of Education (DOE), or as a result of the construction of new school space prior to the 2034 analysis year, will also be identified or incorporated into the analyses. DOE will be consulted on their 2015-2019 Five Year Capital Plan to determine which projects have commenced site preparation and/or construction and should be included in the quantitative analysis or qualitative discussion;

- Future conditions with the Proposed Actions will be analyzed, adding students likely to be generated to the projections for the future No-Action condition. Potential impacts will be assessed based on the difference between the With-Action projections and No-Action projections for enrollment, capacity, and utilization in 2034; and

- A determination of whether the Proposed Actions would result in significant adverse impacts to elementary and/or intermediate schools will be made. A significant adverse impact may occur, warranting consideration of mitigation, if the Proposed Project would result in: (1) a collective utilization rate of the elementary and/or intermediate schools in the sub-district study area that is equal to or greater than 100% in the With-Action condition; and (2) an increase of 5% or more in the collective utilization rate between the No-Action and With-Action conditions.

A similar detailed analysis will also be carried out for high schools:

- The primary study area for the analysis of high schools is the borough in which the project is located, pursuant to *CEQR Technical Manual* guidelines. As the Project Site is in Queens, the analysis will be conducted for high schools in Queens;

- High schools in all school districts located in Queens will be identified and located. Existing capacity, enrollment, and utilization data for all high schools within Queens will be provided for the current (or most recent) school year, noting any specific shortages of school capacity;

- Conditions that would exist in the No-Action condition for the borough will be identified taking into consideration projected changes in future enrollments using the SCA's Projected New Housing Starts. Plans to alter school capacity either through administrative actions on the part of DOE, or as a result of the construction of new school space prior to the 2034 analysis year, will also be identified or incorporated into the analyses. DOE will be consulted on their 2015-2019 Five Year Capital Plan to determine which projects have commenced site preparation and/or construction and should be included in the quantitative analysis or qualitative discussion;

- Future conditions with the Proposed Actions will be analyzed, adding students likely to be generated to the projections for the No-Action condition. Impacts will be assessed based on the difference between the With-Action projections and No-Action projections for enrollment, capacity, and utilization in 2034; and

- A determination of whether the Proposed Project would result in significant adverse impacts to high schools will be made. A significant adverse impact may result, warranting consideration of mitigation, if the Proposed Project would result in: (1) a collective utilization rate of the high schools in Queens that is equal to or greater than 100% in the With-Action condition; and (2) an increase of 5%or more in the collective utilization rate between the No-Action and With-Action conditions.

Publicly-Funded Child Care and Head-Start Centers

The *CEQR Technical Manual* threshold for determining the need for a detailed child care analysis is an addition of 20 or more eligible children under the age of six based on the number of low or low to moderate residential DUs generated by the Proposed Project. Based on the approximately 1,640[9] non-senior DUs the Applicant intend to be restricted to households with incomes up to 80% of AMI and the generation rates for Queens in the *CEQR Technical Manual*, it is estimated that approximately 230 children eligible for publicly-funded child care centers would be generated by the Proposed Project. Therefore, a detailed analysis is warranted and will be provided in the EIS**.** This analysis will include the following tasks:

- Existing publicly-funded child care centers within approximately 1.5 miles of the Project Site will be identified. Each facility will be described in terms of its location, number of slots (capacity), enrollment, and utilization in consultation with the NYC Administration for Children's Services (ACS);

- For the No-Action condition, information will be obtained for any changes planned for child care programs or facilities in the area, including the closing or expansion of existing facilities and the establishment of new facilities. Any expected increase in the population of children under age six within the eligibility income limitations will be discussed as potential additional demand, and the potential effect of any population increases on demand for child care services in the study area will be assessed. The available capacity or resulting deficiency in slots and the utilization rate for the study area will be calculated for the No-Action condition;

- The potential effects of the additional eligible children resulting from the Proposed Actions will be assessed by comparing the estimated net demand over capacity to a net demand over capacity in the No-Action condition; and

- A determination of whether the Proposed Actions would result in significant adverse impacts to child care centers will be made. A significant adverse impact may result, warranting consideration of mitigation, if the Proposed Actions would result in both of the following: (1) a collective utilization rate of the group child care centers in the study area that is greater than 100% in the With-Action condition; and (2) an increase of 5% or more in the collective utilization rate of child care centers in the study area between the No-Action and With-Action conditions.

Libraries

As indicated in the *CEQR Technical Manual*, if a proposed project increases the number of DUs served by the local library branch by more than 5%, then an analysis of library services is necessary. In Queens, the introduction of 622 DUs would represent a 5% increase in DUs per branch. As the Proposed Actions would result in the addition of 1,632 DUs, it would exceed the CEQR threshold requiring a detailed analysis for

[9] While there are 1,910 income-restricted units at up to 80% of AMI, this number excludes the 270 income restricted units at up to 80% AMI that are reserved for seniors, which are not anticipated to generate children eligible for publicly funded child care.

libraries. Therefore, a detailed analysis of libraries is warranted and will be provided in the EIS. The analysis will include the following:

- The primary study area of libraries is approximately 0.75-miles from the Project Site, which is the distance that one might be expected to travel for such services. The Queens Library at Arverne is the only public library currently located within the 0.75-mile area from the Project Site;
- A brief description of existing libraries within the study area, their information services, and their user population will be provided, and a profile of the existing population served will be included. The branch holdings (books, CD-ROMs, DVDs, Videotapes, etc.) and circulation data will be identified. "Holdings" per resident will be estimated to provide a quantitative gauge of available resources in the applicable branch libraries to form the baseline for the analyses;
- For the No-Action condition, the future population in the study area based on demographic and socioeconomic analyses will be estimated. Information from the Queens Library concerning any planned new branches serving the study area and changes to existing branches, including building additions and the size of collections and special programs, will be documented. Using the information gathered for the existing conditions, holdings per resident in the No-Action condition is then estimated;
- For the With-Action condition, the estimated population to be added by the Proposed Project will be determined and added to that of the No-Action population to determine the project's effects on the library's ability to provide information services to its uses. Holdings per resident in the With-Action condition will be estimated and then compared to the No-Action holdings estimate; and
- A determination of whether the Proposed Actions would result in significant adverse impacts to libraries will be made in accordance with *CEQR Technical Manual* guidelines. A significant adverse impact may result, warranting consideration of mutation, if the Proposed Actions would increase the study area population by 5% or more over No-Action levels, and it is determined, in consultation with the appropriate library agency that this increase would impair the delivery of library services in the study area.

TASK 5. OPEN SPACE

If a project would add population to an area, demand for existing publicly-accessible open space facilities would typically increase. Indirect effects on publicly-accessible open space resources may occur when the population generated by the proposed project would be sufficiently large to noticeably diminish the ability of an area's open space to serve the future population. An open space assessment is typically warranted if an action would directly affect an open space or if it would increase the population by more than:

- 350 residents or 750 workers in areas classified as "well-served areas;"
- 50 residents or 125 workers in areas classified as "underserved areas;"
- 200 residents or 500 workers in areas that are not within "well-served" or "underserved areas."

The Proposed Project is located in neither an area underserved or well-served area by open space and would generate a net increase of 1,632 DUs and 193,705 gsf of retail and community facility space, or approximately 4,504 residents and 584 workers. As this would exceed the associated residential and worker analysis thresholds of 200 residents and 500 workers, an assessment of both residential and non-residential open space is warranted and will be provided in the EIS.

The open space analysis will consider both passive and active open space resources. Passive open space ratios will be assessed within a non-residential (0.25-mile radius) study area and a residential (0.5-mile

radius) study area. Active open space ratios will be assessed for the 0.5-mile residential study area. Both study areas would generally comprise those census tracts that have 50% or more of their area located within the 0.25-mile radius and 0.5-mile radius of the Project Site, respectively, as recommended in the *CEQR Technical Manual*. The resultant open space study areas are shown in **Figure 8: Open Space Study Area**.

The detailed open space analysis will include the following:

- Characteristics of the two open space user groups (residents and workers/daytime users) will be determined. To determine the number of residents in the study areas, 2010 Census data will be compiled for census tracts comprising the non-residential and residential open space study areas. As the study areas may include a workforce and daytime population that may also use open spaces, the number of employees and daytime workers in the study areas will also be calculated, based on reverse journey-to-work census data;

- Existing passive and active open spaces within the 0.25-mile and 0.5-mile open space study areas will be inventoried and mapped. The condition and usage of existing facilities will be described based on the inventory and field visits. Acreages of these facilities will be determined, and the total study area acreages will be calculated. The percentage of passive and active open space will also be calculated;

- Based on the inventory of facilities and study area populations, passive and active open space ratios will be calculated for the residential and worker populations and compared to City guidelines to assess adequacy. Open space ratios are expressed as the amount of open space acreage (total, passive, and active) per 1,000 users;

- Expected changes in future levels of open space supply and demand in the 2034 analysis year will be assessed, based on other planned development projects within the open space study areas. Any new open space or recreational facilities that are anticipated to be operational by the analysis year will also be accounted for. Open space ratios will be calculated for future No-Action conditions and compared with exiting ratios to determine changes in future levels of adequacy; and

- Effects on open space supply and demand resulting from increased residential and worker populations associated with the Proposed Actions will be assessed. Any new accessory open space facilities included in the Proposed Project would also be considered. The assessment of the Proposed Actions' impacts will be based on a comparison of open space ratios for the future No-Action versus future With-Action conditions. If the open space ratio would have a substantial change from the No-Action condition to the With-Action condition, approaching or exceeding 5%, then a qualitative, detailed analysis will be required. The qualitative analysis will be performed to determine if the changes resulting from the Proposed Actions constitute a substantial change (positive or negative) or an adverse effect to open space conditions. The qualitative analysis will assess whether or not the study areas are sufficiently served by open space, given the type (active vs. passive), capacity, condition, and distribution of open space, and the profile of the study area populations.



Source: 2016 Pluto, DCP; Field Surveys - July 2016

EDGEMERE, QUEENS

Project Site

Existing Open Space

0.25-Mile Radius

0.5-Mile Radius

Census Tracts

Non-Residential Study Area

Residential Study Area

① Arverne Playground

② Cardozo Playround

③ Conch Playground

④ Edgemere Urban Renewal Park

⑤ Rockaway Beach and Boardwalk

⑥ Rockaway Community Park

⑦ Ocean Bay Apartments (Bayside)

⑧ Ocean Bay Apartments (Oceanside)

⑨ Beach 41st Street Houses

EXISTING OPEN SPACE MAP

Figure 8

Peninsula Hospital Site Redevelopment

TASK 6. SHADOWS

A shadows analysis assesses whether new structures resulting from a proposed action would cast shadows on sunlight-sensitive publicly-accessible resources or other resources of concern, such as natural resources, and to assess the significance of their impact. This chapter will examine the potential for the Proposed Project to result in significant and adverse shadow impacts in conformance with guidance in the *CEQR Technical Manual*. Generally, the potential for shadow impacts exists if an action would result in new structures or additions to buildings resulting in structures over 50 feet in height that could cast shadows on important natural features, publicly-accessible open space, or on historic features that are dependent on sunlight. New construction or building additions resulting in incremental height changes of less than 50 feet can also potentially result in shadow impacts if they are located adjacent to, or across the street from, a sunlight-sensitive resource.

The Proposed Actions would result in the construction of new buildings that would be greater than 50 feet in height. The EIS will assess the Proposed Project on a site-specific basis for potential shadowing effects on sunlight-sensitive features and disclose the range of shadow impacts, if any, which are likely to result from the Proposed Project. The shadows analysis in the EIS will include the following tasks:

- A preliminary screening assessment will be prepared to ascertain whether shadows from the Proposed Project may potentially reach any sunlight-sensitive resources at any time of year;
- A Tier 1 Screening Assessment will be conducted to determine the longest shadow study area for the projected and potential developments, which is defined as 4.3 times the height of a structure (the longest shadow that would occur on December 21st, the winter solstice). A base map that illustrates the locations of the projected and potential developments in relation to the sunlight-sensitive resources will be developed;
- A Tier 2 Screening Assessment will be conducted if any portion of a sunlight-sensitive resource lies within the longest shadow study area. The Tier 2 assessment will determine the triangular area that cannot be shaded by the projected and potential developments, which in NYC is the area that lies between -108 and +108 degrees from true north;
- If any portion of a sunlight-sensitive resource is within the area that could be potentially shaded by the projected or potential developments, a Tier 3 Screening Assessment will be conducted. The Tier 3 Screening Assessment will determine if shadows resulting from the Proposed Project can reach a sunlight-sensitive resource using three-dimensional computer modeling software with the capacity to accurately calculate shadow patterns. The model will include a three-dimensional representation of the sunlight-sensitive resource(s) and the Proposed Project to determine the extent and duration of new shadows that would be cast on sunlight-sensitive resources as a result of the Proposed Project; and
- If the screening analysis does not rule out the possibility that action-generated shadows would reach any sunlight-sensitive resources, a detailed analysis of potential shadow impacts on publicly-accessible open spaces or sunlight-sensitive historic resources resulting from development will be provided in the EIS. The detailed shadow analysis will establish a baseline condition (No-Action), which will be compared with the With-Action condition to illustrate the shadows cast by existing or future buildings and distinguish the additional (incremental) shadow cast by the Proposed Project. The detailed analysis will include the following:
    - A summary table listing the entry and exit times and total duration of incremental shadow on each applicable representative day for each affected resource.
    - An assessment of the significance of any shadow impacts on sunlight-sensitive resources.

- If potential significant adverse impacts are identified, the amount of remaining sunlight on those sensitive resources, as well as the types of vegetation and or recreational activities involved, will be considered.

TASK 7. HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both architectural and archaeological resources. Such resources are identified as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. Historic resources include designated New York City Landmarks (NYCLs) and Historic Districts (NYCHDs); properties calendared for consideration as NYCLs by the Landmarks Preservation Commission (LPC) or determined eligible for NYCL designation; properties listed on the State and National Register of Historic Places (S/NR) or formally determined eligible for S/NR listing, or properties contained within a S/NR listed or eligible district; properties recommended by the New York State board for listing on the S/NR; and National Historic Landmarks (NHLs).

According to the *CEQR Technical Manual*, a historic and cultural resources assessment is required if a project would have the potential to affect either archaeological or architectural resources. It is expected that Proposed Project would require subsurface disturbance on the Project Site and thus it will be necessary to analyze the potential impacts of the Proposed Actions on archaeological resources. Although, as stated in the EAS, preliminary review of available information sources did not identify known and/or eligible architectural resources on or in proximity of the Project Site, the potential for such resources existing could not be ruled out. Therefore, consistent with the *CEQR Technical Manual*, the historic and cultural resources analysis will be conducted and include the following tasks:

- Consultation with LPC regarding the potential architectural and archaeological sensitive of the Project Site. The study area for architectural resources is defined by a 0.25-mile radius from the boundary of the Project Site. The study area for archaeological resources is the area of subsurface work for the Proposed Project;
- Map and briefly describe any known architectural resources within the 0.25-mile study area surrounding the Project Site;
- Identify potential architectural resources in consultation with LPC; and
- Evaluate the potential for the Proposed Actions to result in direct, physical effects on any identified architectural and archaeological resources. Assess the potential for the Proposed Actions to result in any visual and contextual impacts on architectural resources. Potential effects will be evaluated through a comparison of the No-Action condition and the With-Action condition.

TASK 8. URBAN DESIGN AND VISUAL RESOURCES

Urban design is the totality of components that may affect a pedestrian's experience of public space. An assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. When an action would potentially obstruct view corridors, compete with icons in the skyline, or would result in substantial alterations to the streetscape of the neighborhood by noticeably changing the scale of buildings, a more detailed analysis of urban design and visual resources would be appropriate. As the Proposed Actions would rezone the Project Site to allow higher density, an assessment of urban design and visual resources will be provided in the EIS.

The urban design study area will be the same as that used for the land use analysis (delineated by a 0.25-mile radius from the Project Site boundary). For visual resources, the view corridors within the study area

from which such resources are publicly viewable will be identified. The preliminary assessment will consist of the following tasks:

- Based on field visits, the urban design and visual resources of the directly affected area and adjacent study area will be described using text, photographs, and other graphic material, as necessary, to identify critical features, use, bulk, form, and scale;
- In coordination with Task 2, "Land Use, Zoning, Public Policy," the changes expected in the urban design and visual character of the study area due to known development projects in the future No-Action condition will be described; and
- Potential changes that could occur in the urban design character of the study area as a result of the Proposed Actions will be described. For the Project Site, the analysis will focus on the general massing assumed for the Proposed Project, as well as elements such as street wall height, setback, and building envelope. Photographs and/or other graphic material will be utilized, where applicable, to assess the potential effects on urban design and visual resources, including view of/to resources of visual or historic significance and a three-dimensional representation of the future With-Action condition streetscape.

A detailed urban design and visual resources analysis will be prepared if warranted based on the preliminary assessment. The analysis would describe the potential changes that could occur to urban design and visual resources in the future With-Action condition, in comparison to the future No-Action condition, focusing on the changes that could negatively affect a pedestrian's experience of the area.

The *CEQR Technical Manual* indicates that construction of large buildings at locations that experience high wind conditions may result in an exacerbation of wind conditions due to "channelization" or "downwash" effects that may affect pedestrian safety. The need for a wind analysis is based on several factors, including whether the location is exposed to high wind conditions, such as along west and north-west facing waterfronts, as well as the size and orientation of the buildings that are proposed to be constructed. While the Project Site is located near a waterfront, it is not aligned with a west or northwest facing waterfront, nor it is anticipated that the Proposed Actions would result in a uniform street wall that would channelize downward wind pressure; thus, a pedestrian wind condition analysis is not warranted.

TASK 9. HAZARDOUS MATERIALS

The objective of the hazardous materials assessment is to determine whether the Project Site may have been adversely affected by current or historical uses at or adjacent to the site. Given the land use history of the Project Site and/or parcels in close proximity, potential exposure to hazardous materials could occur as the result of the Proposed Actions; therefore, the EIS will include an assessment of hazardous materials on and in vicinity of the Project Site. This assessment will primarily examine the potential for impacts related to subsurface contamination, including an evaluation of the existing soil and groundwater conditions in areas that would be affected by the Proposed Project.

Provided in this EIS chapter will be a summary of the results of a Phase I Environmental Site Assessment (ESA) as prepared for the Project Site. The Phase I ESA will consist of a thorough review of any previous reports, historical maps, City directories, and environmental database materials to identify any potential environmental impacts that would lead to a concern for hazardous materials impacts. A visual inspection of the Project Site will also be conducted to assess any potential for hazardous materials impacts. The hazardous materials chapter will summarize the findings of the completed Phase I ESA conducted for the Project Site and will include any necessary recommendations for additional testing or other activities that would be required either prior to or during construction and/or operation of the project. The appropriate remediation measures specific to the future uses of the site will be provided.

TASK 10. WATER AND SEWER INFRASTRUCTURE

The water and sewer infrastructure assessment determines whether a proposed action may adversely affect the City's water distribution or sewer system and, if so, assess the effects of such actions to determine whether their impact is significant. The *CEQR Technical Manual* outlines thresholds for analysis of an action's water demand and its generation of wastewater and stormwater.

Water Supply

A preliminary analysis of water supply infrastructure is needed if the project would result in an exceptionally large demand for water or if it is in an area that experiences low water pressure. If the project does not meet any of these thresholds, no further analysis of water supply infrastructure is needed. As the Project Site is in the Rockaway Peninsula, which is an area that experiences low water pressure, an analysis of water supply is warranted. The water supply assessment will include the following tasks:

- The existing water distribution system serving the Project Site will be described based on information obtained from the Department of Environmental Protection's Bureau of Water Supply and Wastewater Collection;
- The existing water demand generated on the Project Site will be estimated;
- Water demand generated on the Project Site in the No-Action and With-Action conditions will be projected; and
- The effects of the incremental demand on the City's water supply system will be assessed to determine if there would be impacts to water supply or pressure. The incremental water demand will be defined as the difference between the water demand in the With-Action condition and the demand in the No-Action condition.

Wastewater and Stormwater Infrastructure

The threshold of a preliminary wastewater and stormwater infrastructure analysis for projects in Queens that are in areas that are separately sewered varies based on the incremental development over the No-Action condition and the existing zoning district(s) that a project site is located.

The Proposed Site is in a separately sewered area, with the northern portion zoned R5 and the southern portion zoned C8-1. The Proposed Actions would result in an increase over the No-Action condition of 1,632 DUs and 193,705 gsf of retail and community facility space. As this net increase of DUs would be greater than the 100-DU threshold for project sites located in separately sewered areas with an existing zoning designation of R5, a preliminary assessment of wastewater and stormwater conveyance and treatment is required. The wastewater and stormwater infrastructure assessment will include the following tasks:

- The appropriate study area for the assessment will be established in accordance with the guidelines of the *CEQR Technical Manual* and in consultation with the Department of Environmental Protection (DEP). The Proposed Actions' directly affected area is primarily located within the service area of the Rockaway Wastewater Treatment Plant (WWTP);
- The existing stormwater drainage system and surfaces (pervious or impervious) on the Project Site will be described, and the amount of stormwater generated on the Project Site will be estimated using the volume calculation worksheet as referenced in the *CEQR Technical Manual*;
- The existing sewer system serving the Project Site will be described based on records obtained from DEP. The existing flows to the Rockaway WWTP, which serves the directly affected area, will be obtained for the latest twelve-month period, and the average dry weather monthly flow will be presented;

- Any changes to the stormwater drainage plan, sewer system, and surface area expected in the future without the Proposed Actions will be described, as warranted;
- Future stormwater generation from the Proposed Project will be assessed to determine the Proposed Actions' potential to result in impacts. Changes to the Project Site's surface area will be described, runoff coefficients and runoff for each surface type/area will be presented, and volume and peak discharge rates from the site will be determined based on the DEP volume calculation worksheet; and
- Sanitary sewage generation for the Project Site will also be estimated. The effects of the incremental demand on the system will be assessed to determine if there will be any impact on operations of the Rockaway WWTP.

A more detailed assessment may be required if increased sanitary or stormwater discharges from the Proposed Project are predicted to affect the capacity of portions of the existing sewer system, exacerbate combined sewer overflow (CSO) volumes/frequencies, or contribute greater pollutant loadings in stormwater discharged to receiving water bodies. The scope of a more detailed analysis, if necessary, will be developed based on conclusions from the preliminary infrastructure assessment and coordinated with the lead agency and DEP.

TASK 11. SOLID WASTE AND SANITATION SERVICES

The objective of a solid waste assessment is to determine whether an action has the potential to cause a substantial increase in solid waste production that may overburden available waste management capacity or otherwise be inconsistent with the City's Solid Waste Management Plan or with State policy related to the City's integrated solid waste management system. If a project's generation of solid waste in the With-Action condition would not exceed 50 tons per week, it may be assumed that there would not be sufficient public or private carting and transfer station capacity in the metropolitan area to absorb the increment. Since the Proposed Actions would induce new development that could generate an excess of 110 tons which has the potential to result in a net increase of more than 50 tons of solid waste per week compared to No-Action conditions, an assessment of solid waste and sanitation services is warranted. The solid waste assessment will provide an estimate of the additional solid waste expected to be generated by the Proposed Project and assesses its effects on the City's solid waste and sanitation services. This assessment will:

- Describe existing and future NYC solid waste disposal practices;
- Estimate solid waste generation on the Project Site for existing, No-Action, and With-Action conditions; and
- Assess the impacts of the Proposed Actions' solid waste generation on the City's collection needs and disposal capacity. The Proposed Actions' consistency with the City's Solid Waste Management Plan will also be assessed.

TASK 12. TRANSPORTATION

The objective of a transportation analysis is to determine whether a proposed action may have a potential significant impact on traffic operations and mobility, public transportation facilities and services, pedestrian elements and flow, the safety of all roadway users (pedestrians, bicyclists and motorists), on and off-street parking, or goods movement. The Proposed Actions would facilitate a new residential, commercial, and community facility development, which would generate additional vehicular travel and demand for parking, as well as additional subway and bus riders and pedestrian traffic. These new trips have the potential to affect the area's transportation systems.

Travel Demand and Screening Assessment

Transportation impact analysis methodologies for proposed projects in NYC are defined in the *CEQR Technical Manual*, which outlines a two-tiered screening process. The Level 1 screening assessment includes a trip generation analysis to determine whether the Proposed Actions would result in more than 50 vehicle trips, 200 subway/rail or bus riders, or 200 pedestrian trips in a peak hour. The Level 2 screening includes an assignment of trips to the roadway network to identify intersections with 50 or more vehicle trips, pedestrian elements with 200 or more pedestrian trips, 50 bus trips in a single direction on a single route, or 200 passengers at a subway station or line during any analysis peak hour which would require detailed analyses. The results of the screening analysis are described in a Transportation Demand Factors (TDF) memorandum, included in **Appendix A**. Detailed vehicle, pedestrian and transit trip assignments (a Level 2 screening assessment) were prepared based on the results of the Proposed Actions' travel demand forecast to identify the intersections and elements selected for quantified analysis.

Traffic

According to the criteria specified in the *CEQR Technical Manual,* traffic analyses are generally required at intersections where more than 50 new vehicle trips would be generated by a proposed project during an individual peak hour based on the results of the vehicle trip assignment. Based on a review of existing traffic volumes and peak hour traffic that would be generated by the land uses to be developed as part of the Proposed Project, it was determined that individual intersections exceed this threshold during the following four critical peak hours:

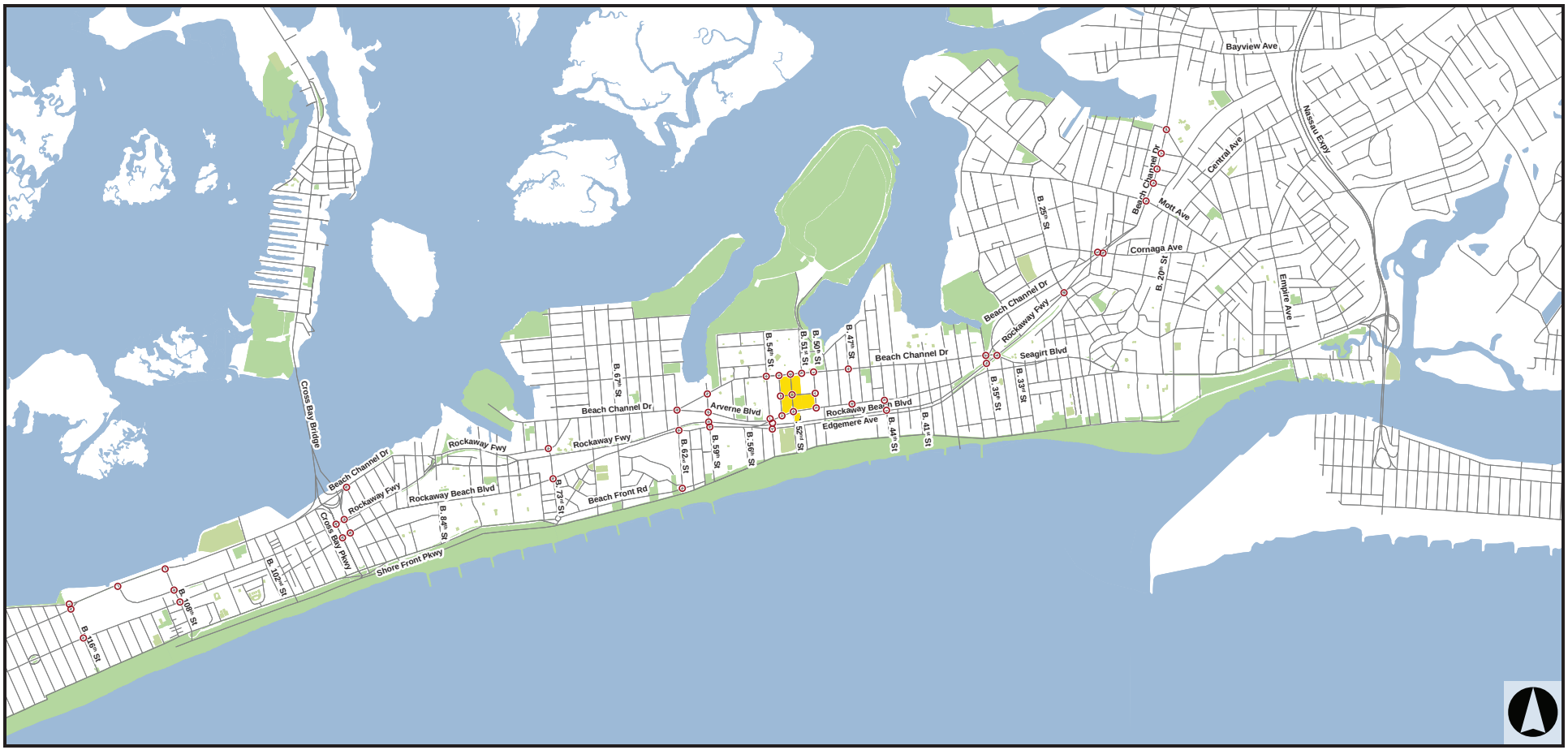
- Weekday AM peak hour: 7:30 AM to 8:30 AM
- Weekday MD peak hour: 1:00 PM to 2:00 PM
- Weekday PM peak hour: 5:00 PM to 6:00 PM
- Saturday MD peak hour: 2:30 PM to 3:30 PM

The Proposed Project would generate more than 50 vehicle trips at 46 existing intersections in the study area, plus an additional four intersections that would be created as part of the Proposed Project, during at least one of the study peak hours described above. In accordance with the *CEQR Technical Manual*, detailed quantitative analyses will be performed at these 50 intersections during the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours (see **Figure 9: Vehicular Study Area Locations**). Therefore, the following 50 vehicle study locations were included in the study area:

- Beach Channel Dr & Beach 116th St
- Newport Ave and Beach 116th St
- Rockaway Beach Blvd and Beach 116th St
- Beach Channel Dr and Rockaway Fwy
- Beach Channel Dr and Beach 108th St
- Rockaway Fwy and Beach 108th St
- Rockaway Beach Blvd and Beach 108th St
- Beach Channel Dr & Beach 92nd St
- Rockaway Fwy & Cross Bay Pwky
- Rockaway Beach Blvd & Cross Bay Pkwy

- Rockaway Fwy & Beach 94th St
- Rockaway Beach Blvd & Beach 94th St
- Beach Channel Dr & Beach 73rd St
- Rockaway Beach Blvd & Beach 73rd St
- Beach Channel Dr & Beach 62nd St
- Rockaway Beach Blvd & Beach 62nd St
- Beach Front Rd & Beach 62nd St
- Beach Channel Dr & Beach 59th St
- Arverne Blvd & Beach 59th St
- Rockaway Fwy & Beach 59th St
- Rockaway Beach Blvd & Beach 59th St
- Beach Channel Dr & Beach 54th St
- Arverne Blvd & Beach 54th St
- Rockaway Fwy & Beach 54th St
- Edgemere Ave & Beach 54th St
- Beach Channel Dr & Beach 53rd St
- Rockaway Beach Blvd & Beach 53rd St
- Rockaway Beach Blvd & Beach 52nd St
- Beach Channel Dr & Beach 51st St
- Beach Channel Dr & Beach 50th St
- Rockaway Beach Blvd & Beach 50th St
- Beach Channel Dr & Beach 52nd St (Future Intersection)
- Project East-West Dr & Beach 53rd St (Future Intersection)
- Project East-West Dr & Beach 52nd St (Future Intersection)
- Project East-West Dr & Beach 50th St (Future Intersection)
- Beach Channel Dr & Beach 47th St
- Arverne Blvd/Rockaway Beach Blvd & Beach 47th St
- Rockaway Beach Blvd & Beach 44th St
- Rockaway Fwy & Beach 44th St
- Beach Channel Dr/Seagirt Blvd & Beach 35th St
- Rockaway Fwy & Beach 35th St

- Rockaway Fwy & Seagirt Blvd
- Rockaway Fwy and Beach 25th St
- Rockaway Fwy and Cornaga Ave
- Beach Channel Dr and Cornaga Ave
- Beach Channel Dr & Mott Ave
- Dix Ave and Beach Channel Dr
- Birdsall Ave and Beach Channel Dr
- Nameoke Ave and Beach Channel Dr
- Hassock St and Beach Channel Dr



Proposed Project

Study Locations

VEHICULAR STUDY AREA LOCATIONS

Figure 9

Peninsula Hospital Site Redevelopment

The following outlines the anticipated scope of work for conducting a traffic impact analysis for the Proposed Actions:

- Conduct a count program for traffic analysis locations that includes a mix of automatic traffic recorder (ATR) machine counts and intersection turning movement counts, along with vehicle classification counts and travel time studies (speed runs) as support data for air quality and noise analyses. Turning movement count data will be collected at each analyzed intersection during the weekday and Saturday peak hours and will be supplemented by nine days of continuous ATR counts. Vehicle classification count data will be collected during each peak hour at several representative intersections along each of the principal corridors in the study area. The turning movement counts, vehicle classification counts, and travel time studies will be conducted concurrently with the ATR counts. Where applicable, available information from recent studies near the study area will be compiled, including data from such agencies as New York City Department of Transportation (NYCDOT) and DCP;

- Inventory physical data at each of the analysis intersections, including street widths, number of traffic lanes and lane widths, pavement markings, turn prohibitions, bicycle routes, curbside parking regulations, and vehicle queue lengths. Signal phasing and timing data for each signalized intersection included in the analysis will be obtained from NYCDOT;

- Determine existing traffic operating characteristics at each analysis intersection including capacities, volume-to-capacity (v/c) ratios, average vehicle delays, and levels of service (LOS) per lane group, per intersection approach, and per overall intersection. This analysis will be conducted using the 2000 Highway Capacity Manual (HCM) methodology with the latest approved Highway Capacity Software (HCS);

- Based on available sources, Census data and standard references including the *CEQR Technical Manual,* estimate the demand from other major developments planned near the Project Site by the 2034 analysis year. This will include total daily and peak hour person and vehicular trips, and the distribution of trips by auto, taxi, and other modes. Mitigation measures accepted for all No-Action projects as well as other NYCDOT initiatives will be included in the future No-Action network, as applicable;

- Compute the future 2034 No-Action traffic volumes based on approved background traffic growth rates for the study area and demand from major development projects expected to be completed in the future without the Proposed Actions. Incorporate planned changes to the roadway system anticipated by 2034 and determine the No-Action v/c ratios, delays, and LOS at analyzed intersections;

- Based on available sources, Census data, and standard references including the *CEQR Technical Manual*, develop a travel demand forecast for the Project Site based on the net change in uses compared to the No-Action condition. Determine the net change in vehicle trips expected to be generated by the Proposed Project, as described in the TDF memorandum. Assign the net project-generated trips in each analysis period to likely approach and departure routes, and prepare traffic volume networks for the 2034 future with the Proposed Project condition for each analyzed peak hour; and

- Determine the v/c ratios, delays, and LOS at analyzed intersections for the With-Action condition and identify significant adverse traffic impacts in accordance with *CEQR Technical Manual* criteria.

Transit

Based on the screening assessments, the Proposed Actions would generate greater than 200 subway trips at the Beach 44th Street and Beach 60th Street stations during at least one of the commuter peak hours.

Therefore, in accordance with the *CEQR Technical Manual*, detailed quantitative analyses will be performed at the following subway elements during the Weekday AM and PM peak hours:

- Subway line haul analysis for the A train
- 60th Street Station
    - Control Area
    - Entry/exit stairway on the north side of Rockaway Freeway on the east side of the station
    - Platform stairway for Manhattan-bound trains
    - Exit-only stairway on the south side of Rockaway Freeway on the east side of the station
- 44th Street Station
    - Control Area
    - Entry/exit stairway on the north side of Rockaway Freeway on the west side of the station

As the Proposed Actions would generate greater than 200 subway trips at the Beach 44th Street and Beach 60th Street stations during the Saturday MD peak hour, detailed quantitative subway linehaul analyses on the A train may be performed during the Saturday MD peak hour.

Based on the screening assessments, the Proposed Actions would generate greater than 50 bus trips in a single direction for the Q22 and Q52 during the Weekday AM and PM commuter peak hours. Therefore, in accordance with the *CEQR Technical Manual*, detailed quantitative analyses will be performed for the Q22 in the eastbound and westbound directions and for the Q52 in the eastbound and westbound directions during the Weekday AM and PM peak hours.

Pedestrians

Based on criteria specified in the *CEQR Technical Manual,* projected pedestrian volume increases of more than 200 pedestrians per hour at any sidewalk, crosswalk, or intersection corner would be considered a location with the potential for significant impacts and would require a detailed analysis. As the Proposed Project would generate more than 200 pedestrians per hour at multiple locations within the study area during any of the peak hours based on a combination of walk, subway, and bus trips, a detailed pedestrian analysis will be prepared during the four peak hours for 53 pedestrian elements (10 crosswalks, 15 sidewalks, 24 corners, and seven median elements) during the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours. It is also assumed that due to the development of internal roadways and pedestrian elements within the Proposed Project, there would be an additional 27 pedestrian elements included in the future analyses. Several pedestrian elements have been identified as substandard and the analysis methodology for those elements will be determined in collaboration with the lead agency.

The pedestrian study locations are listed below (see **Figure 10: Pedestrian Study Locations**):

- Beach 54th Street and Beach Channel Drive (7 elements)

Crosswalks	Corners	Sidewalks
South	NE	NW corner, E-W leg
	NW	SW corner, E-W leg
	SE	
	SW	

- Beach 53rd Street and Beach Channel Drive (5 elements)

Crosswalks	Corners	Sidewalks
South	SE	SE corner, E-W leg
	SW	SW corner, E-W leg

- Beach 52nd Street and Beach Channel Drive (4 elements)

Crosswalks	Corners	Sidewalks
	NE	SE corner, E-W leg (new)
	SE (new)	
	SW (new)	

- Beach 51st Street and Beach Channel Drive (2 elements)

Crosswalks	Corners	Sidewalks
	SE	
	SW	

- Beach 50th Street and Beach Channel Drive (2 elements)

Crosswalks	Corners	Sidewalks
	SW	**SW corner, E-W leg**

- Beach 53rd Street and Internal Roadway (4 elements)

Crosswalks	Corners	Sidewalks
East (new)	NE (new)	NE corner, N-S leg (new)
	SE (new)	

- Beach 52nd Street and Internal Roadway (12 elements)

Crosswalks	Corners	Sidewalks
West (new)	NE (new)	NE corner, N-S leg (new)
East (new)	NW (new)	NW corner, N-S leg (new)
	SE (new)	SE corner, N-S leg (new)
	SW (new)	SE corner, E-W leg (new)
		SW corner, N-S leg (new)
		SW corner, E-W leg (new)

- Beach 50th Street and Internal Roadway (3 elements)

Crosswalks	Corners	Sidewalks
	SW (new)	SW corner, N-S leg (new)
		SW corner, E-W leg (new)

- Beach 56th Place and Rockaway Beach Boulevard/Arverne Avenue (6 elements)

Crosswalks	Corners	Sidewalks	Median Elements
West	NE		South median, East side
South	NW		South median, West side

- Beach 56th Street and Rockaway Beach Boulevard/Arverne Avenue (5 elements)

Crosswalks	Corners	Sidewalks
North	NE	NW corner, E-W leg
	NW	NE corner, E-W leg

- Beach 54th Street and Rockaway Beach Boulevard/Arverne Avenue (7 elements)

Crosswalks	Corners	Sidewalks	Median Elements
North	NE	NE corner, E-W leg	South median, West side
West	NW	SW corner, E-W leg	

- Beach 53rd Street and Rockaway Beach Boulevard /Arverne Boulevard (5 elements)

Crosswalks	Corners	Sidewalks
North	NE	NE corner, N-S leg
	NW	NE corner, E-W leg

- Beach 52nd Street and Rockaway Beach Boulevard /Arverne Boulevard (4 elements)

Crosswalks	Corners	Sidewalks
North (new)	NE (new)	NE corner, E-W leg (new)
	NW (new)	

- Beach 51st Street and Rockaway Beach Boulevard /Arverne Boulevard (1 element)

Crosswalks	Corners	Sidewalks
		North leg (internal pedestrian walkway) (new)

- Beach 50th Street and Rockaway Beach Boulevard /Arverne Boulevard (3 elements)

Crosswalks	Corners	Sidewalks
	NW	SE corner, E-W leg
	SW	

- Beach 47th Street and Rockaway Beach Boulevard /Arverne Boulevard (1 element)

Crosswalks	Corners	Sidewalks
	SW	

- Beach 59th Street and Rockaway Freeway (5 elements)

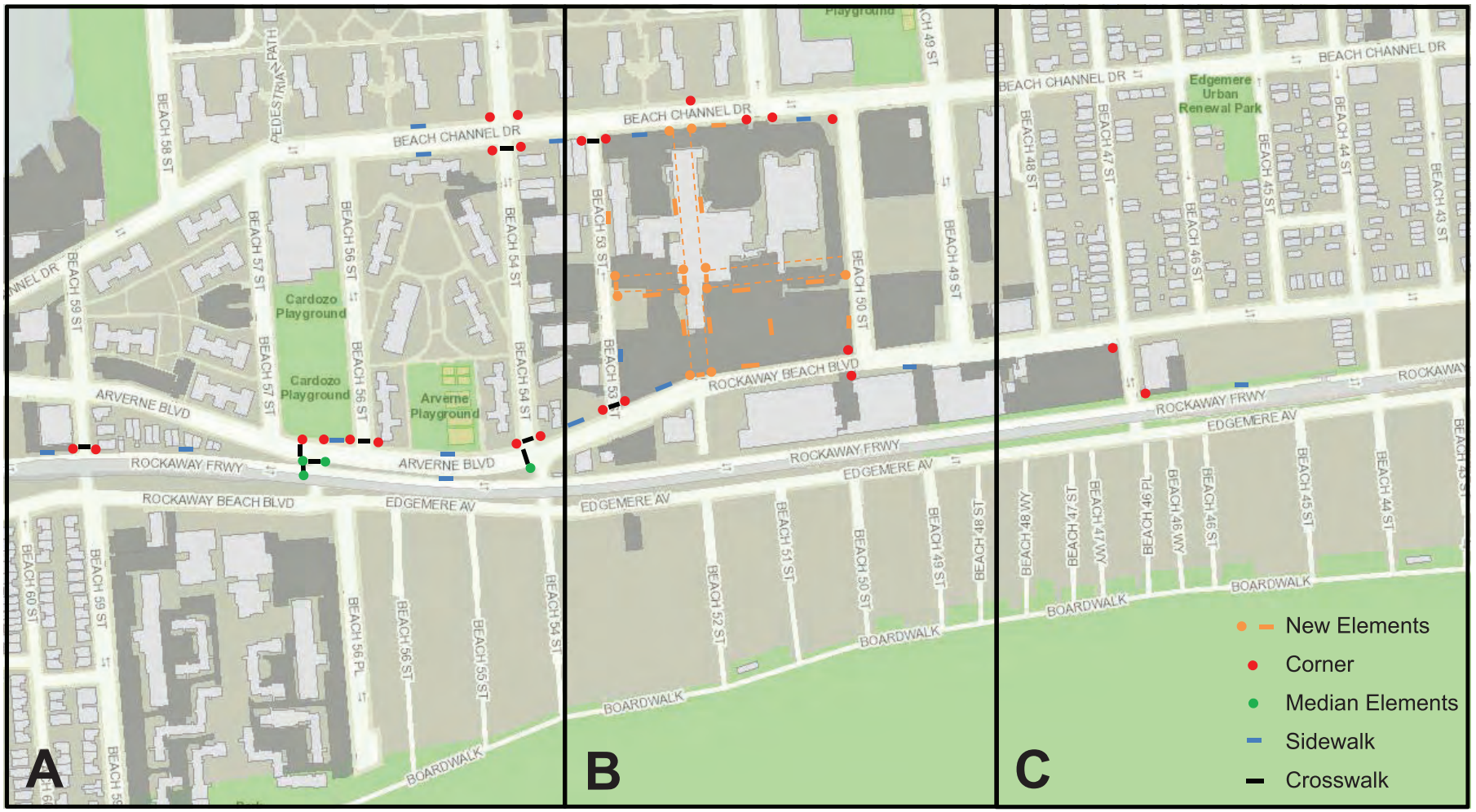
Crosswalks	Corners	Sidewalks
North	NE	NE corner, E-W leg
	NW	NW corner, E-W leg

- Beach 56th Place and Rockaway Freeway (2 elements)

Crosswalks	Corners	Sidewalks	Median Elements
West (north side)			Center Median, West side

- Beach 47th Street and Rockaway Freeway (2 elements)

Crosswalks	Corners	Sidewalks	Median Elements
	NE	NE corner, E-W leg	



PEDESTRIAN STUDY LOCATIONS

Figure 10

Peninsula Hospital Site Redevelopment

Parking Conditions

A parking analysis identifies the extent to which on-street and off-street parking is available and utilized under existing, No-Action, and With-Action conditions. Typically, this analysis encompasses a study area within 0.25-mile of the Proposed Project. If the analysis identifies a shortfall in parking in the 0.25-mile study area, the study area could be extended to 0.5 miles to identify additional parking supply. The analysis, which takes into consideration anticipated changes in area parking supply, provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from additional demand generated by the Proposed Project.

Vehicular and Pedestrian Safety Assessment

An evaluation of traffic safety is necessary for locations within the study area that have been identified as high-crash locations as specified in the *CEQR Technical Manual.* These locations are defined as those with more than 48 total reportable and non-reportable crashes or five or more pedestrian/bicycle injury crashes that occur during any consecutive 12 months of the most recent three-year period for which data is available. Crash histories will be obtained and reviewed to determine whether projected vehicular and pedestrian traffic would further impact safety as these locations or whether existing unsafety conditions could adversely impact the flow of the projected new vehicular or pedestrian/bicycle trips. If the assessment identifies potential for significant pedestrian and/or bicycle impacts due to the Proposed Actions, possible remedies and/or improvements will be proposed for DOT consideration.

TASK 13. AIR QUALITY

CEQR Technical Manual criteria require an air quality assessment for actions that can result in significant air quality impacts. There are mobile source impacts that could arise when an action increases or causes a redistribution of traffic, creates any other mobile sources of pollutants, or adds new uses near existing mobile sources. There are mobile source impacts that could be produced by parking facilities, parking lots, or garages. Stationary source impacts could occur with actions that create new stationary sources or pollutants such as emission stacks from industrial plants, hospitals, or other large institutional uses, or a building's boilers, that can affect surrounding uses; or when they add uses near existing or planned future emission stacks, and the new uses might be affected by the emissions from the stacks, or when they add structures near such stacks and those structures can change the dispersion of emissions from stacks so that they begin to affect surrounding uses.

The Proposed Actions, as stated above, would result in increased traffic and, as such, has the potential to affect local air quality levels. Furthermore, the Proposed Project would contain fossil-fuel fired heating and hot water systems plus introduce new sensitive receptors to existing and/or future emission sources. Therefore, an air quality analysis of the Proposed Actions is warranted and will be conducted as summarized below (see **Appendix B: Draft Air Quality Protocol** for full detail).

Existing Conditions

A representative air quality monitor(s) will be identified and existing air quality conditions will be characterized by obtaining the latest three years of available U.S. Environmental Protection Agency (EPA)/ New York State Department of Environmental Conservation (NYSDEC) monitoring data for the six criteria pollutants. Data will be obtained from EPA's AirData website and design values comparable to each of the National Ambient Air Quality Standards (NAAQS) reported. The attainment status of New York County for each criteria pollutant will be discussed.

Mobile Source Analysis

The mobile source analysis will evaluate the Proposed Actions for potential impacts from carbon monoxide (CO) and fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) due to vehicular traffic anticipated to be generated under the Proposed Project. If the level of incremental traffic generated by the Proposed Project exceeds the applicable detailed mobile source analysis thresholds outlined in the *CEQR Technical Manual,* a detailed analysis will be performed using the latest EPA-approved mobile source emissions model (currently MOVES2014a) and CAL3QHC (Version 2.0) and CAL3QHCR.

Parking Facilities Assessment

Based on location and size of parking garage proposed on the Project Site, an analysis of CO and $PM_{2.5}$ emissions will be performed. The analysis will use the procedures outlined in the *CEQR Technical Manual* for assessing potential impacts from proposed parking facility. Cumulative impacts from on-street sources and emissions from parking garages will be calculated, where appropriate.

Stationary Source Analysis

Heating, Ventilation, And Air Conditioning (HVAC) Analysis

The analysis of the HVAC systems of the Proposed Project will consider impacts following the screening procedures outlined in the *CEQR Technical Manual* to determine the potential for impacts on existing developments as well as the potential for "project-on-project impacts." As the Proposed Project would have multiple buildings with similar heights and individual HVAC systems, refined modeling analysis will be performed using the latest EPA-approved version of the atmospheric dispersion modeling system (AERMOD) model and five years of representative meteorological data.

Emission rates will be developed based on the size of the Proposed Project and assumptions developed to represent boiler stack location(s). Existing land uses likely to have large boilers, such as the school or medical buildings, would be reviewed to determine whether they have permits and are likely to affect the Proposed Project. DEP will be contacted for information on registered boilers at specific sites within 400-feet of the Proposed Project. In addition, online permit information available from NYSDEC for the State Facility Register will be reviewed. Concentrations of nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter ($PM_{2.5}$) will be determined at surrounding publicly-accessible locations. Receptors will be placed at elevated locations on all facades and at multiple elevations on adjacent buildings to identify maximum pollutant concentrations. Receptors will also be placed on the proposed building and in proposed open space/memorial areas to address project-on-project impacts.

Predicted values will be compared to NAAQS for NO_2, SO_2, and PM_{10}, and the CEQR *de minimis* criteria for $PM_{2.5}$.

One-hour NO_2 concentration increments associated with the HVAC system will be estimated using the AERMOD model's Plume Volume Molar Ratio Method (PVMRM) module to analyze chemical transformation within the model. The PVMRM module incorporates hourly background ozone concentrations to estimate NOx transformation within the source plume. The calculation of design values (total concentration comparable to the statistical form of the NAAQS) for the one-hour NO_2 standard will be consistent with EPA guidance.

Industrial Source Analysis

EPA, NYSDEC, and DEP database searches and permit records will be reviewed to identify industrial sources within 400-feet of the Project Site. A field survey will be performed to confirm the operational status of the sites identified in the permit search, and to identify any additional sites that have sources of emissions that would warrant an analysis. If industrial sources are identified, a detailed industrial source analysis will be performed.

Additional Sources

Guidance in the *CEQR Technical Manual* indicates that an analysis is appropriate if a project may result in a significant adverse impact due to certain types of new uses located near a "large" or "major" stationary emissions source. Major sources are defined as those located at facilities within 1,000 feet that have a Title V or Prevention of Significant Deterioration air permit, while large sources are defined as those located at facilities that require a State Facility Permit. To assess the potential effects of these existing sources on the Project Site, a review of existing permitted facilities will be conducted using EPA, NYSDEC, and DEP databases. If any large or major stationary emissions sources are identified, a detailed analysis will be prepared.

TASK 14. GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Greenhouse Gas Emissions

Increased greenhouse gas (GHG) emissions are changing the global climate, which is predicted to lead to wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. Although this is occurring on a global scale, the environmental effects of climate change are also likely to be felt at the local level. As the Proposed Project exceeds the 350,000-sf development threshold, GHG emissions generated by the Proposed Project will be quantified and an assessment of consistency with the City's established GHG reduction goal will be performed as part of the EIS in accordance with the *CEQR Technical Manual*. The assessment will examine GHG emissions from the Proposed Project's operations, mobile sources, and construction, as outlined below.

- Sources of GHG from the development projected as part of the Proposed Project will be identified. The pollutants for analysis will be discussed, as well as various City, State, and Federal goals, policies, regulations, standards, and benchmarks for GHG emissions;
- Fuel consumption will be estimated for the Proposed Project based on the calculations by the project architect;
- GHG emissions associated with the action-related traffic will be estimated for the Proposed Project using data from Task 12, "Transportation." A calculation of vehicle miles traveled (VMT) will be prepared;
- The types of construction materials and equipment proposed will be discussed along with opportunities for alternative approaches that may serve to reduce GHG emissions associated with construction; and
- A qualitative discussion of stationary and mobile sources of GHG emissions will be provided in conjunction with a discussion of goals for reducing GHG emissions to determine if the Proposed Project is consistent with GHG reduction goals, including the construction of efficient buildings, using clean power, transit-oriented development and sustainable transportation, reducing construction operations emissions, and using building materials with low carbon intensity.

As the Project Site is located within the 100- and 500-year flood zone, an assessment of climate change is warranted. The lead agency in consultation with Mayor's Office of Environmental Coordination (MOEC) will determine the precise scope of climate change analyses. Climate change discussions would focus on early integration for climate change considerations into the Proposed Project and may include proposals to increase climate resilience and adaptive management strategies to allow for uncertainties in environmental conditions resulting from climate change.

TASK 15. NOISE

A noise analysis is appropriate if a project would generate any mobile or stationary sources of noise or would be located in an area with high ambient noise levels. For the Proposed Actions, there are two major areas of concern regarding mobile source noise: (1) the effect the Proposed Project would have on noise levels in the surrounding community; and (2) the level of building attenuation necessary to achieve interior noise levels that satisfy CEQR requirements. The Project Site is also 1.8 miles south of the nearest runway at JFK airport. Review of the most recently available noise contours shows that the Project Site is very close to the 65 dNL contour projected for 2020.

The following tasks will be performed in compliance with *CEQR Technical Manual* guidelines for mobile and stationary source noise analysis:

- Based on the traffic studies conducted for Task 12, "Transportation," a screening analysis will be conducted to determine whether there are any locations where there is the potential for the Proposed Actions to result in significant noise impacts (i.e., doubling noise passenger car equivalent) due to project-generated traffic. If it is determined that noise PCEs would double at any sensitive receptor, a detailed analysis would be conducted in accordance with *CEQR Technical Manual* guidelines.

- Appropriate noise descriptors for building attenuation purposes would be selected. Based on CEQR criteria, the noise analysis will examine the L_{10} and the one-hour equivalent (L_{eq} (1)) noise levels.

- Existing noise levels will be measured at the Project Site, as described in **Appendix C: Draft Noise Protocol**.

- For the purposes of Sections 213 and 332.3 of the *CEQR Technical Manual*, the effects of the elevated rail on the Proposed Actions would be obtained from fieldwork and noise monitoring data. Future rail passbys and rail equipment would be substantially like current conditions.

- Following procedures outlined in the *CEQR Technical Manual* for assessing mobile source noise impacts, future No-Action and With-Action noise levels will be estimated at the noise receptor locations based on acoustical fundaments. All projections will be made with L_{eq} noise descriptor.

- The level of building attenuation necessary to satisfy *CEQR Technical Manual* guidelines (a function of the exterior noise levels) will be determined based on the highest L_{10} noise level estimated at each monitoring site.

TASK 16. PUBLIC HEALTH

Public health is the organized effort of society to protect and improve the health and well-being of the population through monitoring; assessment and surveillance; health promotion; prevention of disease, injury, disorder, disability, and premature death; and reducing inequalities in health status, as defined in the *CEQR Technical Manual*. Consistent with this guidance, an assessment will be completed to determine if the Proposed Actions would result in an adverse impact on public health, and, if so, to identify measures to mitigate such effects.

A public health assessment may be warranted if an unmitigated significant adverse impact is identified in other *CEQR* analysis areas, such as air quality, hazardous materials, or noise. If unmitigated significant adverse impacts are identified for the Proposed Actions in any of these technical areas and a public health assessment is warranted, an analysis will be provided for the specific technical area or areas.

TASK 17. NEIGHBORHOOD CHARACTER

Neighborhood character is established by numerous factors, including land use patterns, the scale of its development, the design of its buildings, the presence of notable landmarks, and a variety of other physical features that include traffic and pedestrian patterns, noise, etc. The Proposed Actions has the potential to alter certain elements contributing to the affected area's neighborhood character. Therefore, a neighborhood character analysis will be provided in the EIS.

A preliminary assessment of neighborhood character will be provided in the EIS to determine whether changes expected in other technical analysis areas—land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; transportation; and noise—may affect a defining feature of neighborhood character. The assessment will:

- Identify the defining features of the existing neighborhood character;
- Summarize changes in the character of the neighborhood that can be expected in the future With-Action condition and compare to the future No-Action condition; and
- Evaluate whether the Proposed Actions has the potential to affect these defining features, either through the potential for a significant adverse impact or a combination of moderate effects in the relevant technical areas.

If the preliminary assessment determines that the Proposed Actions could affect the defining features of neighborhood character, a detailed analysis will be conducted in accordance with the *CEQR Technical Manual* guidelines.

TASK 18. CONSTRUCTION

Construction impacts, though temporary, can have a disruptive and noticeable effect on the adjacent community, as well as people passing through the area. Construction impacts are usually important when construction activity has the potential to affect transportation conditions, archaeological resources and the integrity of historic resources, community noise levels, air quality conditions, and mitigation of hazardous materials. Multi-sited projects with overall construction periods lasting longer than two years and that are near to sensitive receptors should undergo a preliminary impact assessment according to the *CEQR Technical Manual.*

Construction of the Proposed Project as a whole is expected to take place over a period of approximately 15 years and is therefore considered long-term. In addition, based on the Applicant's intended construction approach for the Proposed Project, there is the potential for on-site receptors on buildings to be completed before the final build-out of the Proposed Project. This chapter will provide a preliminary impact assessment following the guidelines in the *CEQR Technical Manual.* The preliminary assessment will evaluate the duration and severity of the disruption or inconvenience to nearby sensitive receptors. Given the multiple buildings that are anticipated on the Project Site, the anticipated construction period and its location in proximity to nearby sensitive receptors, it is anticipated that a detailed construction impact analysis will be prepared for one or more technical areas and reported in accordance with guidelines outlined in the *CEQR Technical Manual*. Technical areas to be assessed include the following:

- *Transportation Systems.* The assessment will consider losses in lanes, sidewalks, and other transportation services on the adjacent streets during the various phases of construction and identify the increase in vehicle trips from construction workers and equipment. A travel demand forecast for the worst-case construction period will be prepared if warranted under *CEQR Technical Manual* guidelines, including the preparation of a trip generation table identifying the number of

construction worker vehicles and equipment-related for the construction AM and PM peak hours for each construction quarter;

- *Air Quality.* The construction air quality impact section will include a quantitative analysis to assess the impacts of emissions from on-site construction equipment and on-road construction-related vehicles. The pollutants for analysis will be CO, $PM_{2.5}$, PM_{10} and NO_2. A conceptual construction schedule will be developed for the Proposed Project and used to estimate the peak period of activity for air quality purposes. On-road source emissions would be estimated with MOVES2014a. The NONROAD option in MOVES would be used to develop emission rates for off-road heavy equipment. Fugitive dust will be estimated using AP-42 procedures. Worst-case emissions at the closest sensitive receptors would be modeled using AERMOD and five years of meteorological data;

- *Noise.* The construction noise impact section will contain a quantitative construction noise analysis. The construction noise analysis would rely on a conceptual construction schedule to be developed for the Proposed Project to identify peak periods of construction activity for detailed analysis. Assumptions would be developed regarding equipment usage factors and typical equipment noise levels. Predicted noise levels would be compared to *CEQR Technical Manual* impact thresholds;

- *Hazardous Materials.* The construction hazardous materials impact assessment will discuss—in coordination with DEP—potential investigative and construction health and safety measures that would be developed and implemented to avoid the potential for the Proposed Project to result in hazardous materials impacts, if any, during the construction period; and

- *Other Technical Areas.* As appropriate, other areas of environmental assessment—such as open space and neighborhood character—will be analyzed for potential construction-related impacts.

TASK 19. MITIGATION

Where significant adverse impacts have been identified in Tasks 2 through 18, measures to mitigate those impacts will be described. The chapter will also consider when mitigation measures will need to be implemented. These measures will be developed and coordinated with the responsible City/State agencies, as necessary. Where impacts cannot be fully mitigated, they will be disclosed as unavoidable adverse impacts.

TASK 20. ALTERNATIVES

The purpose of an alternative analysis is to examine development options that would tend to reduce action-related impacts. The alternatives will be better defined once the full extent of the Proposed Project's impacts have been identified. The chapter will include a No-Action alternative. Additional alternatives may be identified in consultation with the lead agency. The alternatives analysis will be qualitative, except in those technical areas where significant adverse impacts for the Proposed Actions have been identified. The level of analysis provided will depend on an assessment of project impacts determined by the analysis connected with the appropriate tasks.

TASK 21. SUMMARY EIS CHAPTERS

The following three summary chapters will be prepared in accordance with *CEQR* guidelines:

- *Unavoidable Adverse Impacts* summarizes any significant adverse impacts that are unavoidable if the Proposed Actions are implemented regardless of the mitigation employed (or if mitigation is not feasible);
- *Growth-Inducing Aspects of the Proposed Actions* which generally refer to "secondary" impacts of the Proposed Actions that trigger further development; and
- *Irreversible and Irretrievable Commitments of Resources* which summarizes the Proposed Project and its impact in terms of the loss of environmental resources (loss of vegetation, use of fossil fuels and materials for construction, etc.), both in the immediate future and in the long-term.

TASK 22. EXECUTIVE SUMMARY

The executive summary will utilize relevant material from the body of the EIS to describe the Proposed Actions, the environmental impacts, measures to mitigate those impacts, and alternatives to the Proposed Actions. The executive summary will be written in enough detail to facilitate drafting of a notice of completion by the lead agency.

APPENDIX A:
Transportation Demand Factors (TDF) Memorandum

Sam Schwartz Engineering, D.P.C.
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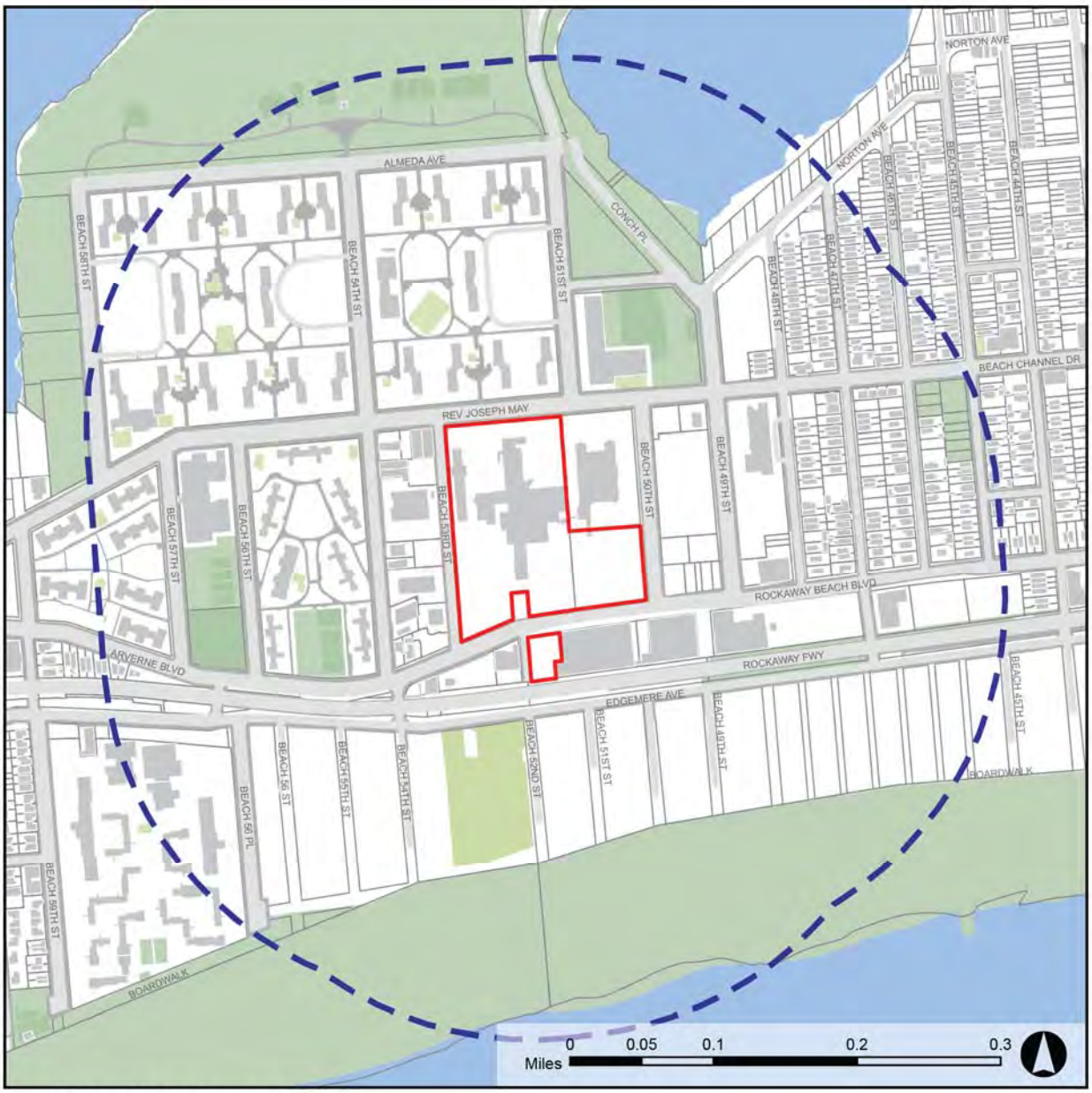
Memorandum

To: Mehdi Amjadi, DCP
From: Aviva Laurenti, P.E., PTOE
Date: March 9, 2018
Re: Peninsula Hospital Site Rezoning Travel Demand Factors Memorandum
Project No: 16-01-0260

Sam Schwartz has prepared a preliminary transportation screening for the proposed redevelopment of the Peninsula Hospital Site in the Rockaway neighborhood of Queens, Community District 14 (the "Proposed Project"). The Proposed Project is located on Lot 1 of Block 15842, Lot 1 of Block 15843, and Lot 1 of Block 15857 and is bounded by Beach Channel Drive to the north, Rockaway Beach Boulevard to the south, Beach 50th Street to the east, and Beach 53rd Street to the west. **Figure 1** shows the Site Location Map.

In accordance with the *2014 City Environmental Quality Review Technical Manual (2014 CEQR Technical Manual)*, this Travel Demand Factors (TDF) Memorandum estimates the projected trips from the Proposed Project following a two-tiered screening process. The Level 1 screening assessment includes a trip generation analysis to determine whether the Proposed Project would result in more than 50 vehicle trips, 200 subway/rail or bus riders, or 200 pedestrian trips in a peak hour. The Level 2 Screening is a trip assignment review that identifies intersections with 50 or more vehicle trips, pedestrian elements with 200 or more pedestrian trips, 50 bus trips in a single direction on a single route, or 200 passengers at a subway station or line during any analysis peak hour which would require detailed analyses.

Figure 1
Site Location Map



Source: 2015 Pluto, DCP, Field Surveys - July 2016

Project Site

0.25-Mile Surrounding Area

SITE LOCATION MAP

Peninsula Hospital Site EIS

A. Reasonable Worst-Case Development Scenario Program

For the purposes of this TDF Memo, the horizon year for the Proposed Project is 2034. Based on Reasonable Worst-Case Development Scenario (RWCDS), the Proposed Project would include the following land uses:

- 70,809 square feet (sf) of local retail space
- 60,000 square feet (sf) of destination retail space
- 21,000 square feet (sf) of supermarket space
- 64,355 sf of medical office space
- 37,538 sf (0.86 acres) of active open space
- 2,200 residential dwelling units

In the absence of the Proposed Project, 568 residential dwelling units, 21,659 sf of local retail space, and 800 sf of medical office space can be built as-of-right under existing zoning for the Project Site. Therefore, the total increment analyzed for the Proposed Project would include:

- 49,150 square feet (sf) of local retail space
- 60,000 square feet (sf) of destination retail space
- 21,000 square feet (sf) of supermarket space
- 63,555 sf of medical office space
- 37,538 sf (0.86 acres) of active open space
- 1,632 residential dwelling units

Preliminary Transportation Planning Factors

The transportation planning factors used in forecasting travel demand for the Proposed Project are shown in **Table 1** and the trip generation results are shown in **Table 2**. Trip generation estimates were prepared for the following critical peak periods:

- Weekday Morning (AM)
- Weekday Midday (MD)
- Weekday Afternoon (PM)
- Saturday Midday (SMD)

To account for recreational activities in the Rockaways during the summer period, seasonal adjustments factors will be considered as part of the detailed transportation analyses.

A description of the transportation planning factors for each individual land use is provided below.

Local Retail
The Proposed Project would consist of 49,150 sf of local retail use. The daily trip generation rates, temporal distribution, daily truck trip generation rates, truck temporal distribution, and truck directional distribution were obtained from the *2014 CEQR Technical Manual*, Table 16-2. Modal split percentages, auto and taxi vehicle occupancy, and directional distribution were obtained from the *Downtown Far Rockaway Rezoning FEIS (2017)*, Table 14-6, for the Local Retail land use.

Destination Retail
The Proposed Project would consist of 60,000 sf of destination retail use. The daily trip generation rates and temporal distribution were obtained from the *2014 CEQR Technical Manual*, Table 16-2. The modal split percentages, directional distribution, daily truck generation rates, truck temporal distribution, and truck directional distribution were obtained from the *Coney Island Rezoning FEIS (2009)*, Tables 16-12 and 16-

14, for the Destination Retail land use. The auto and taxi vehicle occupancy were obtained from the *Gateway Estates II FEIS (2009),* Table 16-16.

Supermarket
The Proposed Project would consist of 21,000 sf of supermarket use. The daily trip generation rates and temporal distribution were obtained from the *2014 CEQR Technical Manual*, Table 16-2. The taxi, subway, and bus modal split percentages, auto and taxi vehicle occupancy, directional distribution, daily truck generation rates, truck temporal distribution, and truck directional distribution were obtained from the *East New York Rezoning Proposal FEIS (2016)*, Table 13-8, for the FRESH (Supermarket) land use. The auto and walk modal split percentages were obtained from information provided by NYCDOT for a project adjacent to the Project Site.

Medical Office
The Proposed Project would consist of 63,555 sf of medical office use. The daily truck generation rates, truck temporal distribution, directional distribution and truck directional distribution were obtained from the *Downtown Far Rockaway Rezoning FEIS (2017)*, Table 14-6, for the Medical Office land use. The daily trip generation rates, modal split, Saturday auto and taxi vehicle occupancy, and temporal distribution were obtained from information provided by NYCDOT and based on a survey performed at three comparable medical office sites located in Queens. The weekday auto and taxi vehicle occupancy was obtained from information provided by NYCDOT.

Active Open Space
The Proposed Project would consist of 37,538 sf, or 0.86 acres, of active open space. The daily trip generation rates and temporal distribution were obtained from the *2014 CEQR Technical Manual*, Table 16-2. Modal split, auto and taxi vehicle occupancy, and directional distribution were obtained from the *Arverne Urban Renewal Area/Arverne By the Sea FEIS (2003)*, Table 2.13-13, for the Passive Parkland land use. The daily truck trip generation rate, truck temporal distribution, and truck directional distribution were obtained from the *Brooklyn Bridge Park FEIS (2005)*, Table 14-6, for the Park Land use.

Residential
The Proposed Project would consist of 1,632 residential dwelling units. The daily trip generation rates, temporal distribution, daily truck trip generation rates, truck temporal distribution, and truck directional distribution were obtained from the *2014 CEQR Technical Manual*, Table 16-2. Modal split and auto vehicle occupancy were calculated from the 2011-2015 American Community Survey (ACS) 5-year estimates: Sex of Workers by Means of Transportation to Work (Table 08006) for average of census tracts 964, 972.02, 972.03, 972.04, and 992 in Queens, as shown on **Figure 2**. The directional distribution and taxi vehicle occupancy were obtained from the *Downtown Far Rockaway Rezoning FEIS (2017)*, Table 14-6, for the Residential land use. Due to the recent implementation of city ferry service between the Rockaways, Sunset Park, and Lower Manhattan, the ferry mode share is not yet captured by the latest census data. Furthermore, while EDC has started to survey ferry riders, no survey results are currently available. However, EDC has indicated that because a ferry shuttle bus is provided for the Rockaway ferry stop, this ferry location does draw ridership beyond the walk radius. It was assumed that five percent of the residents would travel by ferry, and that those residents would shift from the subway (three percent) and auto (two percent). It was conservatively assumed that residents traveling by ferry would use the Q22 bus route, rather than the existing free shuttle service to travel from the Proposed Project Site to the Rockaway ferry landing located at Beach 108th Street and Beach Channel Drive.

Figure 2
Census Map – Queens, New York



Linked Trips

Linked trips are those that have multiple destinations within the Project Site and are typical for multi-use sites. Based on *2014 CEQR Technical Manual*, a 25% linked trip reduction was applied to the trip generation for the local retail land use to account for trips generated by the medical office, residential, destination retail, supermarket, and open space uses that would visit the local retail use without leaving the Project Site.

Table 1
Travel Demand Factors

	Land Use	Local Retail		Destination Retail		Supermarket		Medical Office		Active Open Space		Residential	
	Size	49,150		60,000		21,000		63,555		0.86		1,632	
	Unit	gsf		gsf		gsf		gsf		acre		Dwelling Units	
		(1)		(1)		(1)		(6)		(1)		(1)	
Daily Person Trip Generation	Weekday	205.0		78.2		175.0		103.3		139.0		8.075	
	Saturday	240.0		92.5		231.0		51.3		196.0		9.600	
	Unit	per 1,000 gsf		per 1,000 gsf		per 1,000 gsf		per 1,000 gsf		per acre		per dwelling unit	
		(1)		(3)		(4)		(2)		(8)		(1)	
Daily Truck Trip Generation	Weekday	0.35		0.70		0.35		0.29		0.01		0.06	
	Saturday	0.04		0.04		0.04		0.29		0.01		0.02	
	Unit	per 1,000 gsf		per 1,000 gsf		per 1,000 gsf		per 1,000 gsf		per acre		per dwelling unit	
		Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	AM / PM	MD / Saturday
		(2)		(3)		(4, 5)		(6)		(9)		(10)	
Modal Split	Auto	11.0%	8.0%	59.0%	59.0%	30.0%	30.0%	47.0%	82.0%	33.0%	43.0%	36.6%	36.6%
	Taxi	0.0%	0.0%	3.0%	5.0%	3.0%	3.0%	7.0%	6.0%	2.0%	2.0%	2.0%	2.0%
	Subway	9.0%	7.0%	15.0%	13.0%	5.0%	5.0%	6.0%	1.0%	2.0%	2.0%	32.8%	32.8%
	Bus	5.0%	5.0%	18.0%	18.0%	5.0%	5.0%	14.0%	6.0%	3.0%	3.0%	17.2%	17.2%
	Walk/Other	75.0%	80.0%	5.0%	5.0%	57.0%	57.0%	26.0%	5.0%	60.0%	50.0%	6.4%	6.4%
	Ferry (via Q22 Bus)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		(2)		(11)		(4)		(6, 7)		(9)		(2, 10)	
Vehicle Occupancy	Auto	2.00	2.00	1.40	1.72	1.65	1.65	1.50	1.60	1.60	1.60	1.08	1.08
	Taxi	2.00	2.00	1.65	1.75	1.40	1.40	1.50	1.60	1.60	1.60	1.40	1.30
Linked Trips (1)		25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		(1)		(1)		(1)		(6)		(1)		(1)	
Temporal Distribution	AM	3.0%		3.0%		5.0%		10.3%		3.0%		10.0%	
	MD	19.0%		9.0%		6.0%		11.4%		5.0%		5.0%	
	PM	10.0%		9.0%		10.0%		8.6%		6.0%		11.0%	
	Sat MD	10.0%		11.0%		9.0%		8.8%		6.0%		8.0%	
		(1)		(3)		(4)		(2)		(8)		(1)	
Truck Temporal Distribution	AM	8.0%		7.7%		10.0%		3.0%		6.0%		12.0%	
	MD	11.0%		11.0%		8.0%		11.0%		6.0%		9.0%	
	PM	2.0%		1.0%		5.0%		1.0%		1.0%		2.0%	
	Sat MD	11.0%		11.0%		10.0%		0.0%		0.0%		9.0%	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
		(2)		(3)		(4)		(2)		(9)		(2)	
Directional Distribution	AM	50.0%	50.0%	61.0%	39.0%	45.0%	55.0%	89.0%	11.0%	70.0%	30.0%	15.0%	85.0%
	MD	50.0%	50.0%	55.0%	45.0%	46.0%	54.0%	51.0%	49.0%	60.0%	40.0%	50.0%	50.0%
	PM	50.0%	50.0%	47.0%	53.0%	47.0%	53.0%	48.0%	52.0%	40.0%	60.0%	70.0%	30.0%
	Sat MD	55.0%	45.0%	55.0%	45.0%	46.0%	54.0%	51.0%	49.0%	60.0%	40.0%	50.0%	50.0%
		(1)		(3)		(4)		(2)		(8)		(1)	
Truck Directional Distribution	AM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	PM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	Sat MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

1. CEQR Technical Manual (March 2014), Table 16-2.
2. Downtown Far Rockaway Rezoning FEIS (2017), Table 14-6.
3. Coney Island Rezoning FEIS (2009), Tables 16-12 and 16-14.
4. East New York Rezoning Proposal FEIS (2016), Table 13-8.
5. Auto and walk mode share assumptions (30 percent and 57 percent, respectively) provided by NYCDOT via e-mail on July 26, 2017 for the Ocean Bay Retail EAS (53-05 Beach Channel Drive, adjacent to the Peninsula Hospital site).
6. Daily person trip generation rates, modal split, Saturday vehicle occupancy, and temporal distribution provided by NYCDOT via e-mail in October 2017 and based on a survey peformed at three comparable medical office sites located in Queens.
7. Weekday vehicle occupancy provided by NYCDOT via conference call in October 2017.
8. Brooklyn Bridge Park FEIS, Table 14-6, Park land use.
9. Arverne Urban Renewal Area/Arverne By the Sea FEIS (CEQR 02HPD004Q), Table 2.13-13. Assumed WMD directional distribution same as SMD.
10. U.S. Census Data. 2011-2015 American Community Survey. Table 08006: Sex of workers by means of transportation to work. Queens census tracts 964, 972.02, 972.03, 972.04, and 992. Ferry mode share assumed to detract from subway mode share by 3 percent and from auto mode share by 2 percent.
11. Gateway Estates II FEIS (2009), Table 16-16.

Table 2
Project Increment Trip Generation Estimates

Travel Demand Forecast (Person Trips)

		Local Retail		Destination Retail		Supermarket		Medical Office		Active Open Space		Residential		TOTAL		
Daily Trips	Weekday	7,559		4,692		3,675		6,566		120		13,177		35,789		
	Saturday	8,846		5,552		4,851		3,261		170		15,667		38,347		
Peak Hour Trips	AM	228		140		184		676		5		1,319		2,552		
	MD	1,437		424		221		748		5		656		3,491		
	PM	755		424		368		565		5		1,452		3,569		
	Sat MD	886		612		437		287		10		1,253		3,485		
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	TOTAL
AM	Auto	13	13	52	32	25	30	283	35	0	0	74	433	447	543	990
	Taxi	0	0	4	0	2	3	42	6	0	0	0	23	48	32	80
	Subway	9	9	12	8	4	5	35	5	0	0	64	370	124	397	521
	Bus	5	5	16	8	4	5	84	11	0	0	33	195	142	224	366
	Walk/Other	86	86	4	4	47	58	156	20	0	0	12	72	305	240	545
	Ferry (via Q22 Bus)	0	0	0	0	0	0	0	0	0	0	10	58	10	58	68
	Total	113	113	88	52	82	101	600	77	0	0	193	1151	1,076	1,494	2,570
MD	Auto	81	81	136	112	30	36	179	172	0	0	128	128	554	529	1,083
	Taxi	0	0	8	4	3	4	27	25	0	0	5	5	43	38	81
	Subway	66	66	36	28	5	6	23	22	0	0	107	107	237	229	466
	Bus	36	36	40	36	5	6	52	52	0	0	58	58	191	188	379
	Walk/Other	539	539	12	8	58	68	99	96	0	0	23	23	731	734	1,465
	Ferry (via Q22 Bus)	0	0	0	0	0	0	0	0	0	0	14	14	14	14	28
	Total	722	722	232	188	101	120	380	367	0	0	335	335	1,770	1,732	3,502
PM	Auto	42	42	116	132	52	59	127	138	0	0	394	167	731	538	1,269
	Taxi	0	0	4	8	5	6	20	20	0	0	22	8	51	42	93
	Subway	34	34	28	32	9	10	17	17	0	0	335	141	423	234	657
	Bus	19	19	36	40	9	10	38	41	0	0	174	74	276	184	460
	Walk/Other	283	283	8	12	99	111	70	76	0	0	65	29	525	511	1,036
	Ferry (via Q22 Bus)	0	0	0	0	0	0	0	0	0	0	53	23	53	23	76
	Total	378	378	192	224	174	196	272	292	0	0	1043	442	2,059	1,532	3,591
SAT MD	Auto	39	31	200	164	60	71	120	115	0	0	241	241	660	622	1,282
	Taxi	0	0	16	12	6	7	9	8	0	0	12	12	43	39	82
	Subway	34	29	44	36	10	12	2	1	0	0	205	205	295	283	578
	Bus	24	19	60	48	10	12	9	8	0	0	107	107	210	194	404
	Walk/Other	390	320	16	12	115	135	8	7	5	0	39	39	573	513	1,086
	Ferry (via Q22 Bus)	0	0	0	0	0	0	0	0	0	0	32	32	32	32	64
	Total	487	399	336	272	201	237	148	139	5	0	636	636	1,813	1,683	3,496

Travel Demand Forecast (Vehicle Trips)

Taxi Overlap Rate 0%		Local Retail		Destination Retail		Supermarket		Medical Office		Active Open Space		Residential		TOTAL		
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	TOTAL
AM	Auto	10	10	36	24	15	18	189	24	0	0	71	400	321	476	797
	Taxi	0	0	4	0	1	2	28	3	0	0	0	18	33	23	56
	Taxi (Balanced)[1]	0	0	4	4	3	3	31	31	0	0	18	18	56	56	112
	Truck	0	0	0	0	0	0	0	0	0	0	3	3	3	3	6
	Total	10	10	40	28	18	21	220	55	0	0	92	421	380	535	915
MD	Auto	44	44	96	80	18	22	119	114	0	0	119	119	396	379	775
	Taxi	0	0	4	4	2	3	18	17	0	0	5	5	29	29	58
	Taxi (Balanced)[1]	0	0	8	8	5	5	35	35	0	0	10	10	58	58	116
	Truck	0	0	4	4	0	0	0	0	0	0	1	1	5	5	10
	Total	44	44	108	92	23	27	154	149	0	0	130	130	459	442	901
PM	Auto	24	24	84	96	32	36	85	92	0	0	363	155	588	403	991
	Taxi	0	0	4	4	4	4	14	14	0	0	17	8	39	30	69
	Taxi (Balanced)[1]	0	0	8	8	8	8	28	28	0	0	25	25	69	69	138
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	24	24	92	104	40	44	113	120	0	0	388	180	657	472	1,129
Sat MD	Auto	23	19	116	96	36	43	76	72	0	0	220	220	471	450	921
	Taxi	0	0	8	8	4	5	6	5	0	0	12	12	30	30	60
	Taxi (Balanced)[1]	0	0	16	16	9	9	11	11	0	0	24	24	60	60	120
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	23	19	132	112	45	52	87	83	0	0	244	244	531	510	1,041

Notes
(1) A 0% taxi overlap rate was assumed, based on the *CEQR 2014 Technical Manual* .

Travel Demand Forecast (Total Walk Trips)

		Local Retail		Destination Retail		Supermarket		Medical Office		Active Open Space		Residential		TOTAL		
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	TOTAL
AM	Total Walk Trips[1]	100	100	32	20	55	68	275	36	0	0	119	695	581	919	1,500
MD	Total Walk Trips[1]	641	641	88	72	68	80	174	170	0	0	202	202	1,173	1,165	2,338
PM	Total Walk Trips[1]	336	336	72	84	117	131	125	134	0	0	627	267	1,277	952	2,229
SAT MD	Total Walk Trips[1]	448	368	120	96	135	159	19	16	5	0	383	383	1,110	1,022	2,132

Notes
(1) Total walk trips includes all trips via transit plus walk only trips.

B. Trip Generation Results

The results of the trip generation estimates for the Proposed Project are shown in **Table 3**.

Table 3
Project Increment Trip Generation Estimate Summary

Peak Hour	Vehicle (Auto + Taxi + Truck)	Subway	Bus	Bike/Walk Only	Ferry	Total Pedestrian
Weekday AM	915	521	366	545	68	1,500
Weekday MD	901	466	379	1,465	28	2,338
Weekday PM	1,129	657	460	1,036	76	2,229
Saturday MD	1,041	578	404	1,086	64	2,132

The results show that the Proposed Project would generate more than 50 vehicle trips in a peak hour (a maximum of 1,129 trips during the Weekday PM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 Screening was performed to distribute the new vehicular trips to the surrounding roadway network and identify study locations for quantitative analyses.

The results show that the Proposed Project would generate more than 200 subway trips in a peak hour (a maximum of 657 trips during the Weekday PM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 Screening was performed to distribute the new subway trips to the surrounding transit network and identify subway stations for quantitative analyses.

The Proposed Project would generate more than 50 bus trips in a peak hour (a maximum of 460 trips in the Weekday PM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 Screening was performed to distribute the new bus trips to the surrounding transit network and identify bus routes for quantitative analyses.

The Proposed Project would generate a maximum of 76 ferry trips in the Weekday PM peak hour. Although the *2014 CEQR Technical Manual* does not provide guidance on the determination of a Level 2 Screening for the ferry mode, it was assumed that a quantitative ferry analysis would not be required. However, to estimate total pedestrian and transit trips in the study area, ferry trips were assigned to the Q22 bus route, which serves the ferry stop located at Beach 108th Street and Beach Channel Drive.

The results also show that the Proposed Project would generate more than 200 pedestrians in a peak hour (a maximum of 2,338 trips during the Weekday MD peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 Screening was performed to distribute the new pedestrian trips to the surrounding pedestrian network and identify study locations for quantitative analyses.

C. Trip Assignment

Vehicle

Vehicle assignment for trips generated by the Proposed Project considered the location of the various parking garage entrances/exits on the Project Site and the amount of on-site parking that would be provided on each block.

The vehicle assignment also considers the existing street closures/turning restrictions in the study area. Several streets, including Rockaway Freeway at Beach 62nd Street and Beach 47th Street at Edgemere Avenue, are closed or have posted turn restrictions. It is assumed that these roads will continue to provide limited connectivity in the future, although if additional information is provided by NYCDOT during the environmental analysis phase, existing and future traffic assignment will be revised accordingly.

Residential Vehicular Trip Assignment Assumptions

Trip assignment for the residential land use considered the Proposed Project's geographic location relative to major arterials, commuter routes for residents of the area based on available census data[1], and the anticipated locations of on-site parking garage entrances and exits. The inbound and outbound trip assignment percentages for the residential land use are shown on **Figures 3 and 4**, respectively, and summarized below in **Table 4**.

Table 4
Residential Trip Assignment Assumptions: Auto/Taxi

		Journey to Work Distribution	Beach Channel Drive	Rockaway Freeway	Rockaway Beach Boulevard	Shore Front Drive		Total
To/From West	Local, West of Cross Bay Boulevard	1%	25%	25%	25%	25%		100%
	Local, East of Cross Bay Boulevard, between Beach 62nd and 73rd Streets	4%	25%	25%	25%	25%		100%
	Cross Bay Boulevard	24%	40%	20%	40%	0%		100%
	Flatbush Avenue	38%	40%	20%	40%	0%		100%
		Journey to Work Distribution	Beach Channel Drive				Edgemere Avenue	Total
To/From East	Rockaway Freeway	11%	50%				50%	100%
	Beach Channel Drive	11%	100%				0%	100%
	Beach Channel Drive between Seagirt Blvd and Mott Avenue	3%	100%					100%
	Seagirt Blvd	8%	50%				50%	100%

Non-Residential Vehicular Trip Assignment Assumptions

Trip assignment for the non-residential land uses (medical office, open space, local retail, destination retail, and supermarket) considered the Proposed Project's geographic location relative to major arterials, the population densities of the surrounding neighborhoods, and the proximity of availability of existing and future shopping and service centers. Vehicle trips generated by the non-residential land uses are expected to park on-site and on-street within a ¼-mile radius of the Project Site, as it is expected that the on-site parking would not be sufficient to accommodate the total parking demand generated by the Proposed Project. However, all vehicle trips generated by the non-residential land uses were conservatively assigned to the Project Site.

The inbound and outbound trip assignment percentages for the non-residential land use are shown on **Figures 5 and 6**, respectively, and summarized below in **Table 5**.

[1] OnTheMap v.6.5. *U.S. Census Bureau, Center for Economic Studies.* 2014 Census Data.

Table 5
Non-Residential Trip Assignment Assumptions: Auto/Taxi

		Journey to Work Distribution	Beach Channel Drive	Rockaway Freeway	Rockaway Beach Boulevard	Shore Front Drive	Arverne Blvd	Edgemere Avenue	Total
To/From West	Local, West of Cross Bay Boulevard	23.0%	30%	26%	22%	22%			100%
	Local, East of Cross Bay Boulevard between Beach 62nd Street and Beach 73rd Street	10.0%	50%		30%	20%			100%
	Local, East of Cross Bay Boulevard between Beach 73rd Street and Beach 94th Street	10.0%	50%		25%	25%			100%
	Local, East of Cross Bay Boulevard between Beach 54th Street and Beach 59th Street	9.0%	56%				11%	33%	100%
	Cross Bay Boulevard	2.0%	50%		50%	0%			100%

		Journey to Work Distribution	Beach Channel Drive	Rockaway Freeway	Rockaway Beach Boulevard			Edgemere Avenue	Total
To/From East	Local, between Beach 44th Street and Beach 35th Street	8.0%	62.5%	12.5%	12.5%			12.5%	100%
	Beach Channel Drive between Seagirt Blvd and Mott Avenue	7.5%	100%						100%
	Rockaway Freeway between Seagirt Blvd and Mott Avenue	6.5%		100%					100%
	Beach Channel Drive and and Mott Avenue	11.0%	50%	50%					100%
	Seagirt Blvd	13.0%	50%					50%	50%

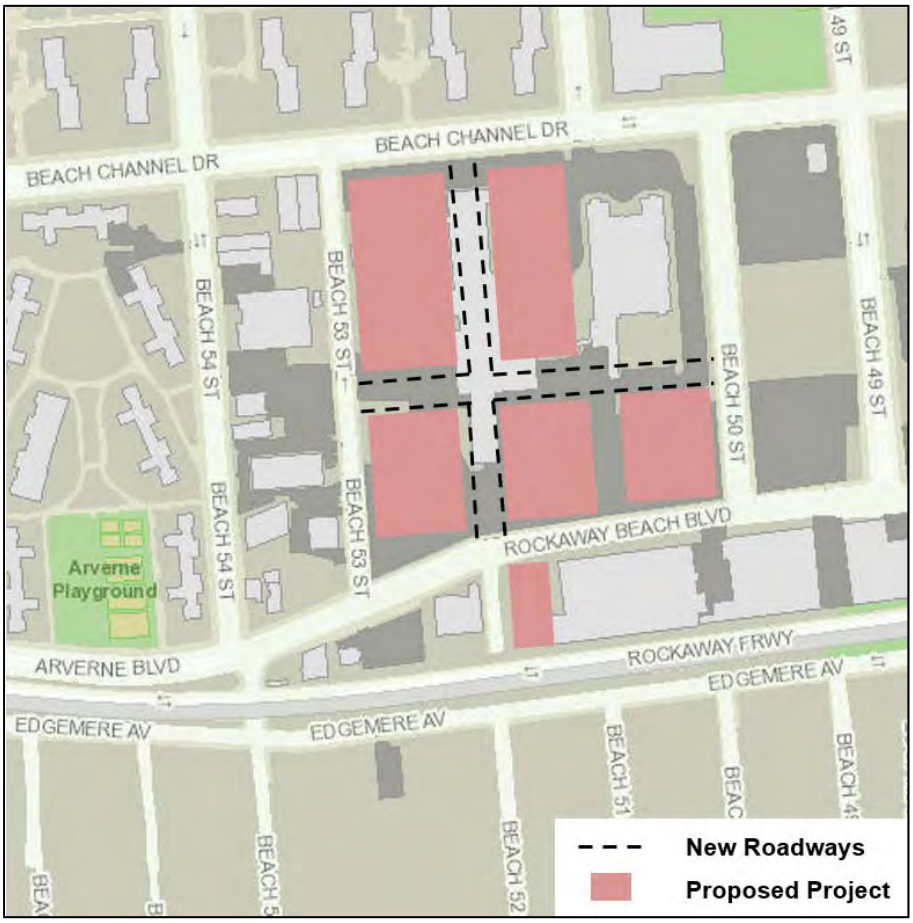
Truck Trip Assignment Assumptions

Truck trips for the Proposed Project are expected to travel on Beach Channel Drive to access the Project Site, as shown on **Figures 7 and 8**.

On-Site Taxi Assignment Assumptions

Detailed on-site taxi assignment for all land uses is shown on **Figure 9**. While auto trips were assigned to the Project Site based on the anticipated locations of on-site parking garage entrances and exits, taxis were conservatively assigned to the center of the Project Site via the new internal roadways that would be created as part of the Proposed Project, including the extension of Beach 52nd Street, between Beach Channel Drive and Rockaway Beach Boulevard, and a new east-west street bisecting the site, parallel to Beach Channel Drive and Rockaway Beach Boulevard, as shown on **Figure 10**.

Figure 10
Proposed Roadway Network



Transit and Pedestrian

Pedestrian trips (subway, bus, and walk-only) were assigned to/from the pedestrian entrances to each building on the Project Site[2]. The transit analyses will be performed for on the Weekday AM and PM peak commuter peak hours, when background commuter traffic is expected to be the greatest.

Subway Trip Assignment Assumptions

The assignment of subway trips generated by the Proposed Project will be submitted to NYCT for further review and considers the residential trips separately from the trips generated by the non-residential uses, as shown in **Tables 6 and 7**, respectively. Trips were assigned from the various subway stations to various entrances at the Project Site.

Bus Trip Assignment Assumptions

The assignment of bus trips generated by the Proposed Project will be submitted to NYCT for further review and considers the residential trips separately from the trips generated by the non-residential uses, as shown

[2] Pedestrian trips associated with the 0.86 acres of active open space were assigned to/from site C3.

in **Tables 8 and 9**, respectively. Trips were assigned from the various bus stops to the various entrances at the Project Site.

Ferry Trip Assignment Assumptions

The assignment of ferry trips generated by the Proposed Project considers only residential trips, as shown in **Table 10**. While there is a shuttle service that connects the Project Site and the Rockaway ferry landing, it was conservatively assumed that all ferry riders would use the Q22 bus route to travel between the Project Site and the Rockaway ferry landing.

Table 6
Residential Trip Assignment Assumptions: Subway

	Residential					
	Inbound			Outbound		
	Line	Direction	%	Line	Direction	%
Weekday AM	A	**From Inwood 207th St**	**80%**	A	**To Inwood 207th St**	**80%**
		Via Beach 60th Station - North Entrance	25%		Via Beach 60th Station - North Entrance	80%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	50%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	5%		Via Beach 44th Street Station - North Entrance	0%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
		From Far Rockaway - Mott Ave	**20%**		**To Far Rockaway - Mott Ave**	**20%**
		Via Beach 60th Station - North Entrance	0%		Via Beach 60th Station - North Entrance	0%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	0%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	20%		Via Beach 44th Street Station - North Entrance	20%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
	Total		100%			100%

	Residential					
	Inbound			Outbound		
	Line	Direction	%	Line	Direction	%
Weekday PM	A	**From Inwood 207th St**	**80%**	A	**To Inwood 207th St**	**80%**
		Via Beach 60th Station - North Entrance	25%		Via Beach 60th Station - North Entrance	80%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	50%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	5%		Via Beach 44th Street Station - North Entrance	0%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
		From Far Rockaway - Mott Ave	**20%**		**To Far Rockaway - Mott Ave**	**20%**
		Via Beach 60th Station - North Entrance	0%		Via Beach 60th Station - North Entrance	0%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	0%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	20%		Via Beach 44th Street Station - North Entrance	20%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
	Total		100%			100%

Table 7

Non-Residential Trip Assignment Assumptions: Subway

	Local Retail, Destination Retail, Supermarket, Medical Office and Active Open Space					
	Inbound			Outbound		
	Line	Direction	%	Route	Direction	%
Weekday AM	A	**From Inwood 207th St**	**40%**	A	**To Inwood 207th St**	**40%**
		Via Beach 60th Station - North Entrance	10%		Via Beach 60th Station - North Entrance	40%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	25%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	5%		Via Beach 44th Street Station - North Entrance	0%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
		From Far Rockaway - Mott Ave	**60%**		**To Far Rockaway - Mott Ave**	**60%**
		Via Beach 60th Station - North Entrance	0%		Via Beach 60th Station - North Entrance	0%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	0%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	60%		Via Beach 44th Street Station - North Entrance	60%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
	Total		100%			100%

	Local Retail, Destination Retail, Supermarket, Medical Office and Active Open Space					
	Inbound			Outbound		
	Line	Direction	%	Route	Direction	%
Weekday PM	A	**From Inwood 207th St**	**40%**	A	**To Inwood 207th St**	**40%**
		Via Beach 60th Station - North Entrance	10%		Via Beach 60th Station - North Entrance	40%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	25%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	5%		Via Beach 44th Street Station - North Entrance	0%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
		From Far Rockaway - Mott Ave	**60%**		**To Far Rockaway - Mott Ave**	**60%**
		Via Beach 60th Station - North Entrance	0%		Via Beach 60th Station - North Entrance	0%
		Via Beach 60th Station - South Entrance	0%		Via Beach 60th Station - South Entrance	0%
		Via Beach 60th Station - Exit Only	0%		Via Beach 60th Station - Exit Only	0%
		Via Beach 44th Street Station - North Entrance	60%		Via Beach 44th Street Station - North Entrance	60%
		Via Beach 44th Street Station - South Entrance	0%		Via Beach 44th Street Station - South Entrance	0%
	Total		100%			100%

Table 8
Residential Trip Assignment Assumptions: Bus

	Residential							
	Inbound				Outbound			
	Route	%	Direction	%	Route	%	Direction	%
Weekday AM	Q22	50%	EB	25%	Q22	40%	EB	20%
			WB	25%			WB	20%
	Q52	50%	EB	50%	Q52	40%	WB	40%
	QM17	0%	EB	0%	QM17	20%	EB	0%
			WB	0%			WB	20%
	Total	100%		100%		100%		100%

	Residential							
	Inbound				Outbound			
	Route	%	Direction	%	Route	%	Direction	%
Weekday PM	Q22	40%	EB	20%	Q22	50%	EB	25%
			WB	20%			WB	25%
	Q52	40%	EB	40%	Q52	50%	WB	50%
	QM17	20%	EB	20%	QM17	0%	EB	0%
			WB	0%			WB	0%
	Total	100%		100%		100%		100%

Table 9
Non-Residential Trip Assignment Assumptions: Bus

	Local Retail, Destination Retail, Supermarket, Medical Office and Active Open Space							
	Inbound				Outbound			
	Route	%	Direction	%	Route	%	Direction	%
Weekday AM	Q22	60%	EB	30%	Q22	60%	EB	30%
			WB	30%			WB	30%
	Q52	40%	EB	40%	Q52	40%	WB	40%
	QM17	0%	EB	0%	QM17	0%	EB	0%
			WB	0%			WB	0%
	Total	100%		100%		100%		100%

	Local Retail, Destination Retail, Supermarket, Medical Office and Active Open Space							
	Inbound				Outbound			
	Route	%	Direction	%	Route	%	Direction	%
Weekday PM	Q22	60%	EB	30%	Q22	60%	EB	30%
			WB	30%			WB	30%
	Q52	40%	EB	40%	Q52	40%	WB	40%
	QM17	0%	EB	0%	QM17	0%	EB	0%
			WB	0%			WB	0%
	Total	100%		100%		100%		100%

Table 10
Residential Trip Assignment Assumptions: Ferry

	Residential							
Weekday AM	**Inbound**				**Outbound**			
	Route	**%**	**Direction**	**%**	**Route**	**%**	**Direction**	**%**
	Q22	100%	EB	100%	Q22	100%	EB	0%
			WB	0%			WB	100%
	Total	100%		100%		100%		100%

	Residential							
Weekday PM	**Inbound**				**Outbound**			
	Route	**%**	**Direction**	**%**	**Route**	**%**	**Direction**	**%**
	Q22	100%	EB	100%	Q22	100%	EB	0%
			WB	0%			WB	100%
	Total	100%		100%		100%		100%

Walk Trip Assignment Assumptions

Walk trips generated by the Proposed Project were assigned based on the local pedestrian network and population density of the surrounding census tracts.

It was assumed for the walk-only trips for all land uses:

- 20 percent of pedestrian trips would remain on-site and circulate between various buildings and uses of the Proposed Project.
- 30 percent of pedestrian trips would be generated in the surrounding neighborhood beyond Beach 59th Street to the west (18 percent) and Beach 44th Street to the east (12 percent).
- 50 percent of pedestrian trips would be generated in the surrounding neighborhood blocks between Beach 44th Street and Beach 59th Street. The pedestrians were assigned on a block-by-block basis based on a review of the population density within each of the adjacent census tracts.

Level 2 Screening Results

Vehicle

The results of the Level 2 Screening analysis for vehicle traffic show that the Proposed Project would generate more than 50 vehicle trips at 46 intersections in the study area, plus an additional four intersections that would be created as part of the Proposed Project, during at least one of the study peak hours as shown in **Figures 11 through 14**.

Therefore, the following 50 vehicle study locations, shown on **Figure 15**, were included in the study area:

1. Beach Channel Dr & Beach 116th St
2. Newport Ave and Beach 116th St
3. Rockaway Beach Blvd and Beach 116th St
4. Beach Channel Dr and Rockaway Fwy
5. Beach Channel Dr and Beach 108th St
6. Rockaway Fwy and Beach 108th St

7. Rockaway Beach Blvd and Beach 108th St
8. Beach Channel Dr & Beach 92nd St
9. Rockaway Fwy & Cross Bay Pwky
10. Rockaway Beach Blvd & Cross Bay Pkwy
11. Rockaway Fwy & Beach 94th St
12. Rockaway Beach Blvd & Beach 94th St
13. Beach Channel Dr & Beach 73rd St
14. Rockaway Beach Blvd & Beach 73rd St
15. Beach Channel Dr & Beach 62nd St
16. Rockaway Beach Blvd & Beach 62nd St
17. Beach Front Rd & Beach 62nd St
18. Beach Channel Dr & Beach 59th St
19. Arverne Blvd & Beach 59th St
20. Rockaway Fwy & Beach 59th St
21. Rockaway Beach Blvd & Beach 59th St
22. Beach Channel Dr & Beach 54th St
23. Arverne Blvd & Beach 54th St
24. Rockaway Fwy & Beach 54th St
25. Edgemere Ave & Beach 54th St
26. Beach Channel Dr & Beach 53rd St
27. Rockaway Beach Blvd & Beach 53rd St
28. Rockaway Beach Blvd & Beach 52nd St
29. Beach Channel Dr & Beach 51st St
30. Beach Channel Dr & Beach 50th St
31. Rockaway Beach Blvd & Beach 50th St
32. Beach Channel Dr & Beach 52nd St (Future Intersection)
33. Project East-West Dr & Beach 53rd St (Future Intersection)
34. Project East-West Dr & Beach 52nd St (Future Intersection)
35. Project East-West Dr & Beach 50th St (Future Intersection)
36. Beach Channel Dr & Beach 47th St
37. Arverne Blvd/Rockaway Beach Blvd & Beach 47th St
38. Rockaway Beach Blvd & Beach 44th St
39. Rockaway Fwy & Beach 44th St
40. Beach Channel Dr/Seagirt Blvd & Beach 35th St
41. Rockaway Fwy & Beach 35th St
42. Rockaway Fwy & Seagirt Blvd
43. Rockaway Fwy and Beach 25th St
44. Rockaway Fwy and Cornaga Ave
45. Beach Channel Dr and Cornaga Ave
46. Beach Channel Dr & Mott Ave
47. Dix Ave and Beach Channel Dr
48. Birdsall Ave and Beach Channel Dr
49. Nameoke Ave and Beach Channel Dr
50. Hassock St and Beach Channel Dr

In accordance with the *2014 CEQR Technical Manual*, detailed quantitative analyses will be performed at these 50 intersections during the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours.

Subway

The results of the Level 2 Screening analysis for subway trips show that the Proposed Project would generate greater than 200 subway trips at the Beach 44th Street and Beach 60th Street stations during at least one of the commuter peak hours. Therefore, in accordance with the *2014 CEQR Technical Manual*, detailed quantitative analyses will be performed at these two subway stations. Per discussions with NYCT, the following detailed transit analyses will be performed during the Weekday AM and PM peak hours:

- Subway line haul analysis for the A train
- 60th Street Station
  - Control Area
  - Entry/exit stairway on the north side of Rockaway Freeway on the east side of the station
  - Four platform stairs
  - Southbound exit-only stairway on the south side of Rockaway Freeway
- 44th Street Station
  - Control Area
  - Entry/exit stairway on the north side of Rockaway Freeway on the west side of the station
  - Two southbound platform stairs

Table 11
Subway Assignment Summary (Residential Use)

Residential								
Total Peak Hour Trips			Station	Inbound		Outbound	
Peak Hour	Inbound	Outbound		%	Trips	%	Trips
Weekday AM	64	370	**From/To Inwood 207th St**	**80%**	**51**	**80%**	**296**
			Via Beach 60th Station - North Entrance	25%	16	80%	296
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	50%	32	0%	0
			Via Beach 44th Street Station - North Entrance	5%	3	0%	0
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0
			From/To Far Rockaway - Mott Ave	**20%**	**13**	**20%**	**74**
			Via Beach 60th Station - North Entrance	0%	0	0%	0
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	0%	0	0%	0
			Via Beach 44th Street Station - North Entrance	20%	13	20%	74
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0
Weekday PM	335	141	**From/To Inwood 207th St**	**80%**	**268**	**80%**	**113**
			Via Beach 60th Station - North Entrance	25%	84	80%	113
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	50%	168	0%	0
			Via Beach 44th Street Station - North Entrance	5%	17	0%	0
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0
			From/To Far Rockaway - Mott Ave	**20%**	**67**	**20%**	**28**
			Via Beach 60th Station - North Entrance	0%	0	0%	0
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	0%	0	0%	0
			Via Beach 44th Street Station - North Entrance	20%	67	20%	28
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0

Table 12
Subway Assignment Summary (Non-Residential Use)

Local Retail, Destination Retail, Supermarket, Medical Office and Active Open Space							
Total Peak Hour Trips			Station	Inbound		Outbound	
Peak Hour	Inbound	Outbound		%	Trips	%	Trips
Weekday AM	60	27	**From/To Inwood 207th St**	**40%**	**24**	**40%**	**11**
			Via Beach 60th Station - North Entrance	10%	6	40%	11
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	25%	15	0%	0
			Via Beach 44th Street Station - North Entrance	5%	3	0%	0
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0
			From/To Far Rockaway - Mott Ave	**60%**	**36**	**60%**	**16**
			Via Beach 60th Station - North Entrance	0%	0	0%	0
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	0%	0	0%	0
			Via Beach 44th Street Station - North Entrance	60%	36	60%	16
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0
Weekday PM	88	93	**From/To Inwood 207th St**	**40%**	**35**	**40%**	**37**
			Via Beach 60th Station - North Entrance	10%	9	40%	37
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	25%	22	0%	0
			Via Beach 44th Street Station - North Entrance	5%	4	0%	0
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0
			From/To Far Rockaway - Mott Ave	**60%**	**53**	**60%**	**56**
			Via Beach 60th Station - North Entrance	0%	0	0%	0
			Via Beach 60th Station - South Entrance	0%	0	0%	0
			Via Beach 60th Station - Exit Only	0%	0	0%	0
			Via Beach 44th Street Station - North Entrance	60%	53	60%	56
			Via Beach 44th Street Station - South Entrance	0%	0	0%	0

Table 13
Subway Assignment Summary (Total)

Total (In + Out) By Station and Direction				
Peak Hour	Station	Inbound	Outbound	Total
Weekday AM	**From/To Inwood 207th St**	**75**	**307**	**382**
	Via Beach 60th Station - North Entrance	22	307	329
	Via Beach 60th Station - South Entrance	0	0	0
	Via Beach 60th Station - Exit Only	47	0	47
	Via Beach 44th Street Station - North Entrance	6	0	6
	Via Beach 44th Street Station - South Entrance	0	0	0
	From/To Far Rockaway - Mott Ave	**49**	**90**	**139**
	Via Beach 60th Station - North Entrance	0	0	0
	Via Beach 60th Station - South Entrance	0	0	0
	Via Beach 60th Station - Exit Only	0	0	0
	Via Beach 44th Street Station - North Entrance	49	90	139
	Via Beach 44th Street Station - South Entrance	0	0	0
Weekday PM	**From/To Inwood 207th St**	**303**	**150**	**453**
	Via Beach 60th Station - North Entrance	93	150	243
	Via Beach 60th Station - South Entrance	0	0	0
	Via Beach 60th Station - Exit Only	190	0	190
	Via Beach 44th Street Station - North Entrance	21	0	21
	Via Beach 44th Street Station - South Entrance	0	0	0
	From/To Far Rockaway - Mott Ave	**120**	**84**	**204**
	Via Beach 60th Station - North Entrance	0	0	0
	Via Beach 60th Station - South Entrance	0	0	0
	Via Beach 60th Station - Exit Only	0	0	0
	Via Beach 44th Street Station - North Entrance	120	84	204
	Via Beach 44th Street Station - South Entrance	0	0	0

Bus

The results of the Level 2 Screening analysis for bus trips show that the Proposed Project would generate greater than 50 bus trips in a single direction for the Q22 and Q52 during the Weekday AM and PM commuter peak hours. Therefore, in accordance with the *2014 CEQR Technical Manual*, detailed quantitative analyses will be performed for the Q22 in the eastbound and westbound directions and for the Q52 in the eastbound and westbound directions during the Weekday AM and PM peak hours. As shown in **Table 16**, ferry trips were assigned to the Q22 bus route.

Table 14
Bus Assignment Summary (Residential Use)

Residential															
Total Peak Hour Trips			Inbound						Outbound						
Peak Hour	Inbound	Outbound	Route	%	Trips	Direction	%	Trips	Route	%	Trips	Direction	%	Trips	
Weekday AM	33	195	Q22	50%	17	EB	25%	8	Q22	40%	78	EB	20%	39	
						WB	25%	8				WB	20%	39	
			Q52	50%	17	EB	50%	17	Q52	40%	78	EB	0%	0	
						WB	0%	0				WB	40%	78	
			QM17	0%	0	EB	0%	0	QM17	20%	39	EB	0%	0	
						WB	0%	0				WB	20%	39	
Weekday PM	174	74	Q22	40%	70	EB	20%	35	Q22	50%	37	EB	25%	19	
						WB	20%	35				WB	25%	19	
			Q52	40%	70	EB	40%	70	Q52	50%	37	EB	0%	0	
						WB	0%	0				WB	50%	37	
			QM17	20%	35	EB	20%	35	QM17	0%	0	EB	0%	0	
						WB	0%	0				WB	0%	0	

Table 15
Bus Assignment Summary (Non-Residential Use)

Local Retail, Destination Retail, Supermarket, Medical Office and Active Open Space															
Total Peak Hour Trips			Inbound						Outbound						
Peak Hour	Inbound	Outbound	Route	%	Trips	Direction	%	Trips	Route	%	Trips	Direction	%	Trips	
Weekday AM	109	29	Q22	60%	65	EB	30%	33	Q22	60%	17	EB	30%	9	
						WB	30%	33				WB	30%	9	
			Q52	40%	44	EB	40%	44	Q52	40%	12	EB	0%	0	
						WB	0%	0				WB	40%	12	
			QM17	0%	0	EB	0%	0	QM17	0%	0	EB	0%	0	
						WB	0%	0				WB	0%	0	
Weekday PM	102	110	Q22	60%	61	EB	30%	31	Q22	60%	66	EB	30%	33	
						WB	30%	31				WB	30%	33	
			Q52	40%	41	EB	40%	41	Q52	40%	44	EB	0%	0	
						WB	0%	0				WB	40%	44	
			QM17	0%	0	EB	0%	0	QM17	0%	0	EB	0%	0	
						WB	0%	0				WB	0%	0	

Table 16
Bus Assignment Summary (Total)

Total (In + Out) by Route & Direction			
Peak Hour	Route	Direction	Trips
Weekday AM	Q22	EB	89
		WB	89
	Q22 (from Ferry)	EB	10
		WB	58
	Q52	EB	60
		WB	90
	QM17	EB	0
		WB	39
Weekday PM	Q22	EB	117
		WB	117
	Q22 (from Ferry)	EB	53
		WB	23
	Q52	EB	110
		WB	81
	QM17	EB	35
		WB	0

Pedestrian

The results of the Level 2 Screening analysis for pedestrians show that the Proposed Project would generate more than 200 pedestrian trips at the following critical pedestrian elements (crosswalks, sidewalks, corners, and medians) during at least one of the study peak hours as shown in **Figures 16 through 19**. The pedestrian study locations are shown on **Figure 20**.

- Beach 54th Street and Beach Channel Drive (7 elements)

Crosswalks	Corners	Sidewalks
South	NE	NW corner, E-W leg
	NW	SW corner, E-W leg
	SE	
	SW	

- Beach 53rd Street and Beach Channel Drive (5 elements)

Crosswalks	Corners	Sidewalks
South	SE	SE corner, E-W leg
	SW	SW corner, E-W leg

- Beach 52nd Street and Beach Channel Drive (4 elements)

Crosswalks	Corners	Sidewalks
	NE	SE corner, E-W leg (new)
	SE (new)	
	SW (new)	

- Beach 51st Street and Beach Channel Drive (2 elements)

Crosswalks	Corners	Sidewalks
	SE	
	SW	

- Beach 50th Street and Beach Channel Drive (2 elements)

Crosswalks	Corners	Sidewalks
	SW	SW corner, E-W leg

- Beach 53rd Street and Internal Roadway (4 elements)

Crosswalks	Corners	Sidewalks
East (new)	NE (new)	NE corner, N-S leg (new)
	SE (new)	

- Beach 52nd Street and Internal Roadway (12 elements)

Crosswalks	Corners	Sidewalks
West (new)	NE (new)	NE corner, N-S leg (new)
East (new)	NW (new)	NW corner, N-S leg (new)
	SE (new)	SE corner, N-S leg (new)
	SW (new)	SE corner, E-W leg (new)
		SW corner, N-S leg (new)
		SW corner, E-W leg (new)

- Beach 50th Street and Internal Roadway (3 elements)

Crosswalks	Corners	Sidewalks
	SW (new)	SW corner, N-S leg (new)
		SW corner, E-W leg (new)

- Beach 56th Place and Rockaway Beach Boulevard/Arverne Avenue (6 elements)

Crosswalks	Corners	Sidewalks	Median Elements
West	NE		South median, East side
South	NW		South median, West side

- Beach 56th Street and Rockaway Beach Boulevard/Arverne Avenue (5 elements)

Crosswalks	Corners	Sidewalks
North	NE	NW corner, E-W leg
	NW	NE corner, E-W leg

- Beach 54th Street and Rockaway Beach Boulevard/Arverne Avenue (7 elements)

Crosswalks	Corners	Sidewalks	Median Elements
North	NE	NE corner, E-W leg	South median, West side
West	NW	SW corner, E-W leg	

- Beach 53rd Street and Rockaway Beach Boulevard /Arverne Boulevard (5 elements)

Crosswalks	Corners	Sidewalks
North	NE	NE corner, N-S leg
	NW	NE corner, E-W leg

- Beach 52nd Street and Rockaway Beach Boulevard /Arverne Boulevard (4 elements)

Crosswalks	Corners	Sidewalks
North (new)	NE (new)	NE corner, E-W leg (new)
	NW (new)	

- Beach 51st Street and Rockaway Beach Boulevard /Arverne Boulevard (1 element)

Crosswalks	Corners	Sidewalks
		North leg (internal pedestrian walkway) (new)

- Beach 50th Street and Rockaway Beach Boulevard /Arverne Boulevard (3 elements)

Crosswalks	Corners	Sidewalks
	NW	SE corner, E-W leg
	SW	

- Beach 47th Street and Rockaway Beach Boulevard /Arverne Boulevard (1 element)

Crosswalks	Corners	Sidewalks
	SW	

- Beach 59th Street and Rockaway Freeway (5 elements)

Crosswalks	Corners	Sidewalks
North	NE	NE corner, E-W leg
	NW	NW corner, E-W leg

- Beach 56th Place and Rockaway Freeway (2 elements)

Crosswalks	Corners	Sidewalks	Median Elements
West (north side)			Center Median, West side

- Beach 47th Street and Rockaway Freeway (2 elements)

Crosswalks	Corners	Sidewalks	Median Elements
	NE	NE corner, E-W leg	

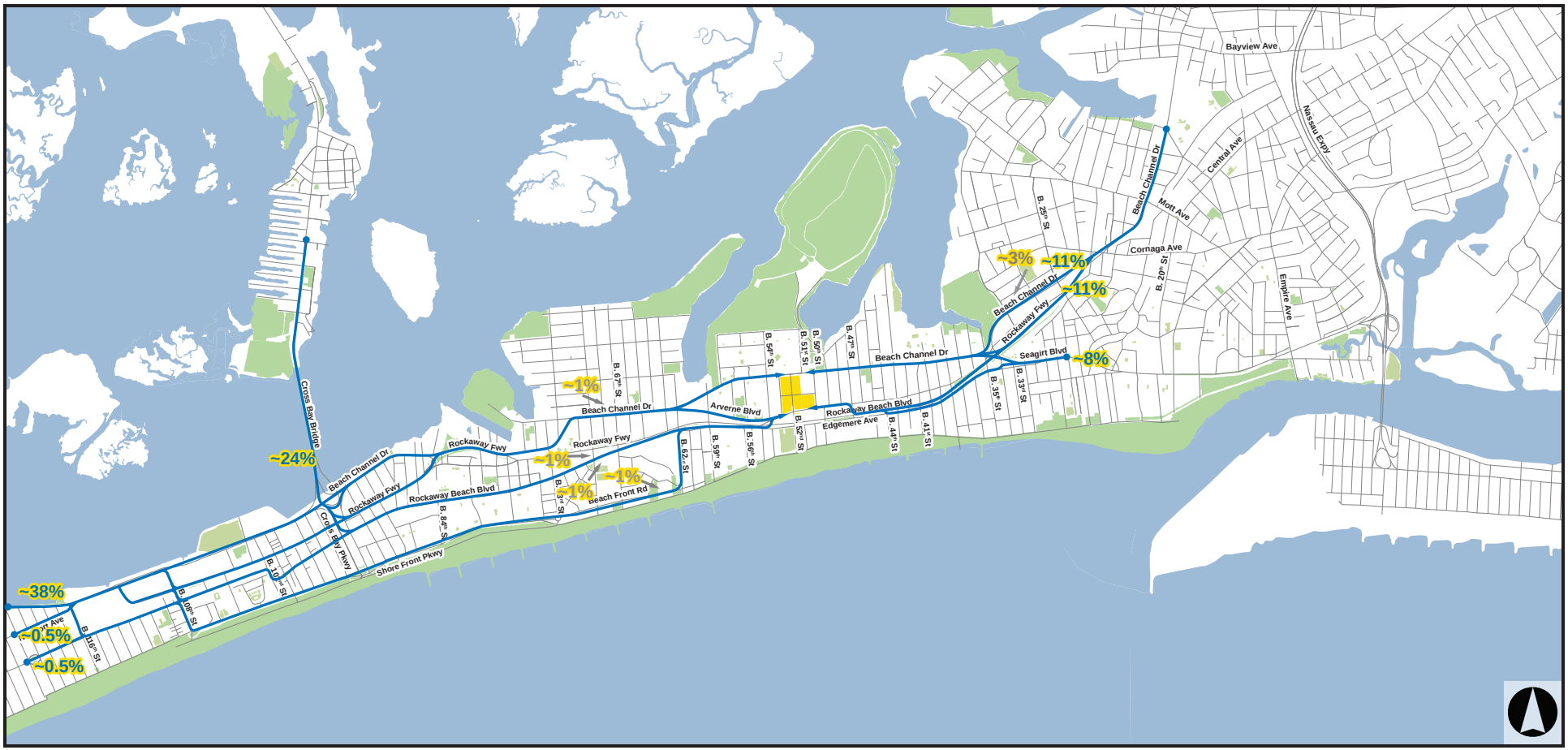
In accordance with the *2014 CEQR Technical Manual*, a detailed quantitative analysis will be performed at these 53 pedestrian elements (10 crosswalks, 15 sidewalks, 24 corners, and four median elements) during the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours. It is also assumed that due to the development of internal roadways and pedestrian elements within the Proposed Project, there would be an additional 27 pedestrian elements included in the future analyses.

Conclusion

Based on the Level 1 and Level 2 Screening analyses, the Proposed Project would meet or exceed the *2014 CEQR Technical Manual* thresholds at 46 existing intersections, an additional four future intersections, 12 subway elements, two bus routes, 53 existing pedestrian elements, and an additional 27 future pedestrian elements. At these locations, detailed transportation analyses will be performed to identify any potential significant adverse impacts as a result of the proposed rezoning.

Please contact me at (212) 598-9010 x116 or Jeff Smithline, P.E., PTOE, at (212) 598-9010 x119 if you have any questions or comments on this TDF memo.

Figures



Main Portals

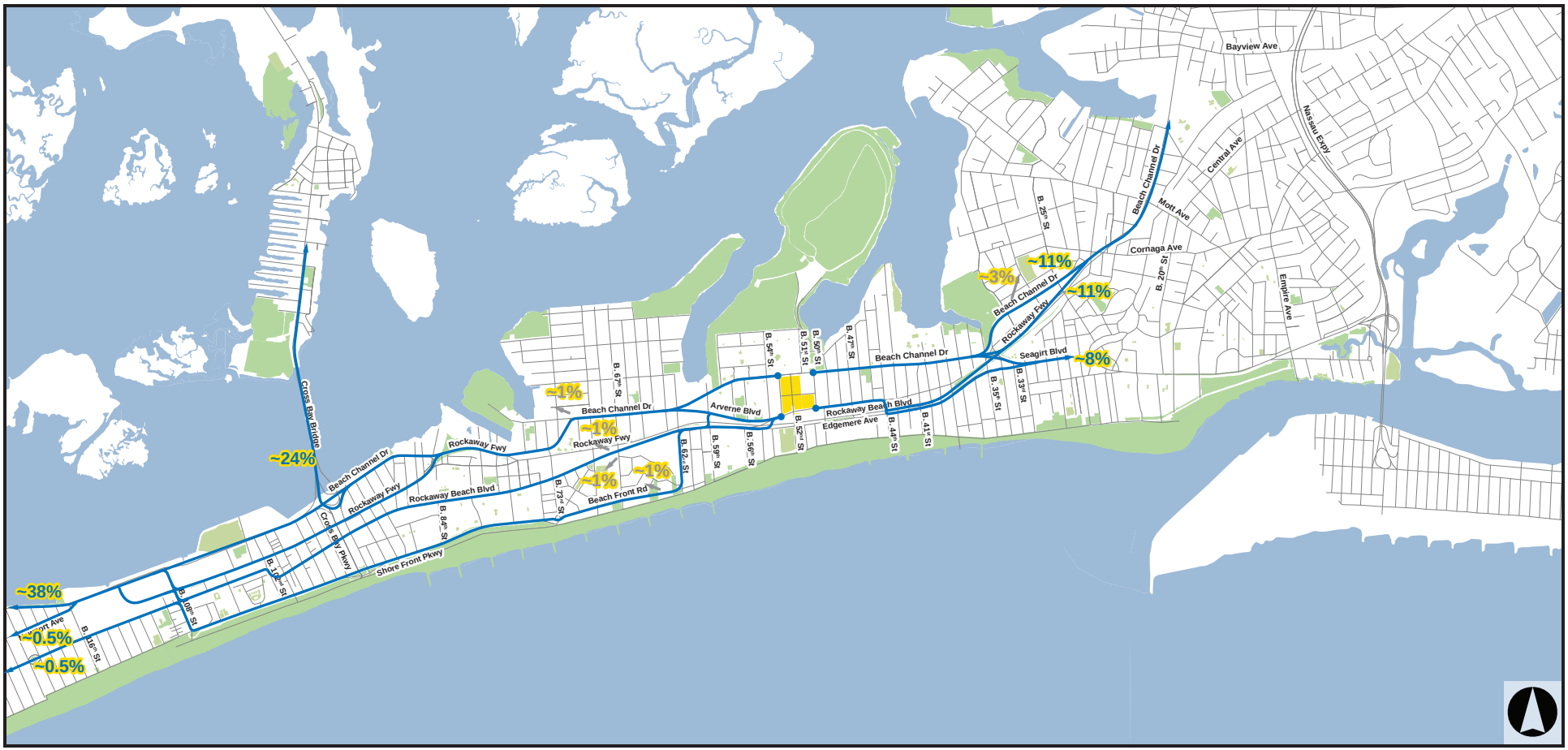
Local Portals

Proposed Project

RESIDENTIAL LAND USE
INBOUND TAXI/AUTO TRIP PERCENTAGES

Figure 3

Peninsula Hospital EIS



Main Portals

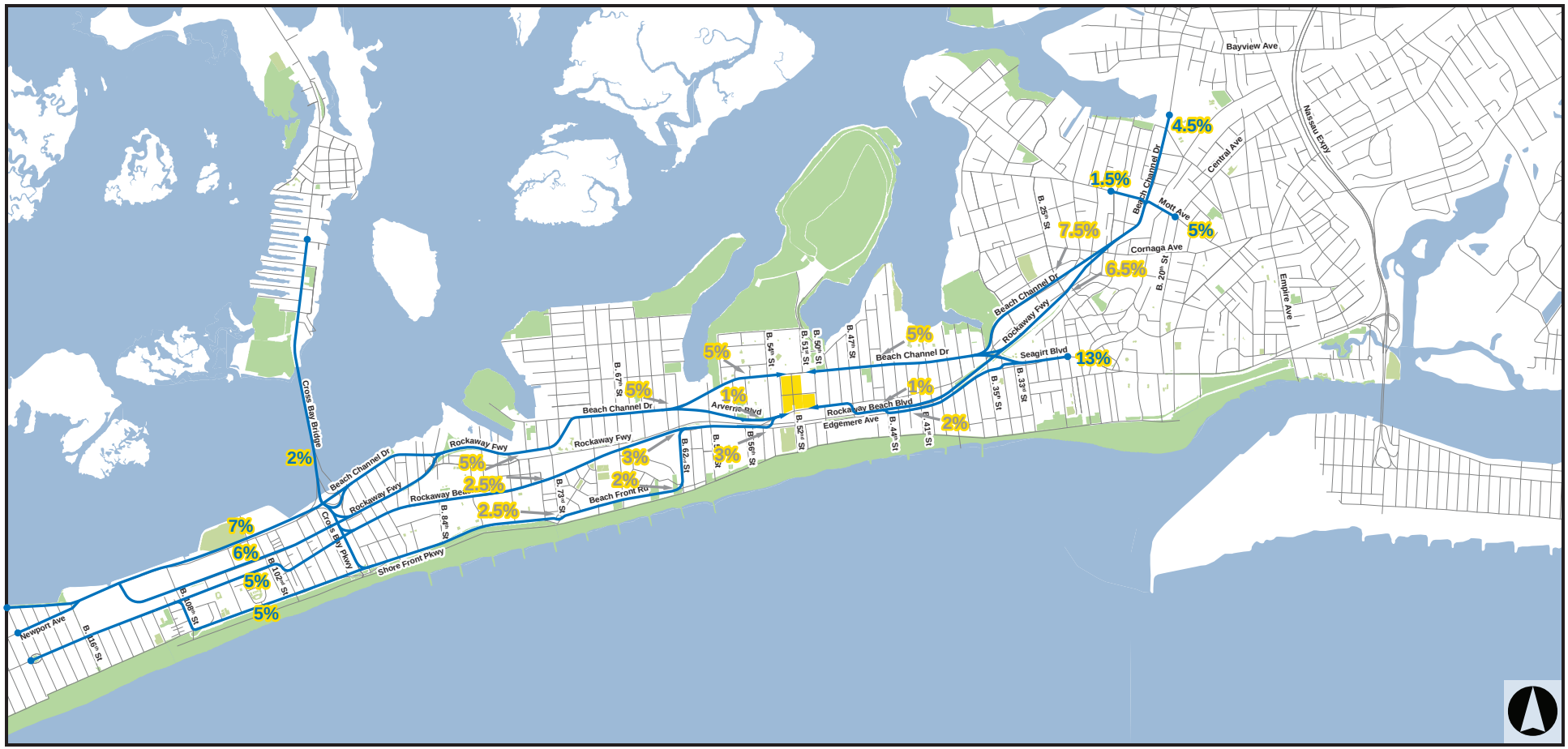
Local Portals

Proposed Project

RESIDENTIAL LAND USE
OUTBOUND TAXI/AUTO TRIP PERCENTAGES

Figure 4

Peninsula Hospital EIS



Main Portals

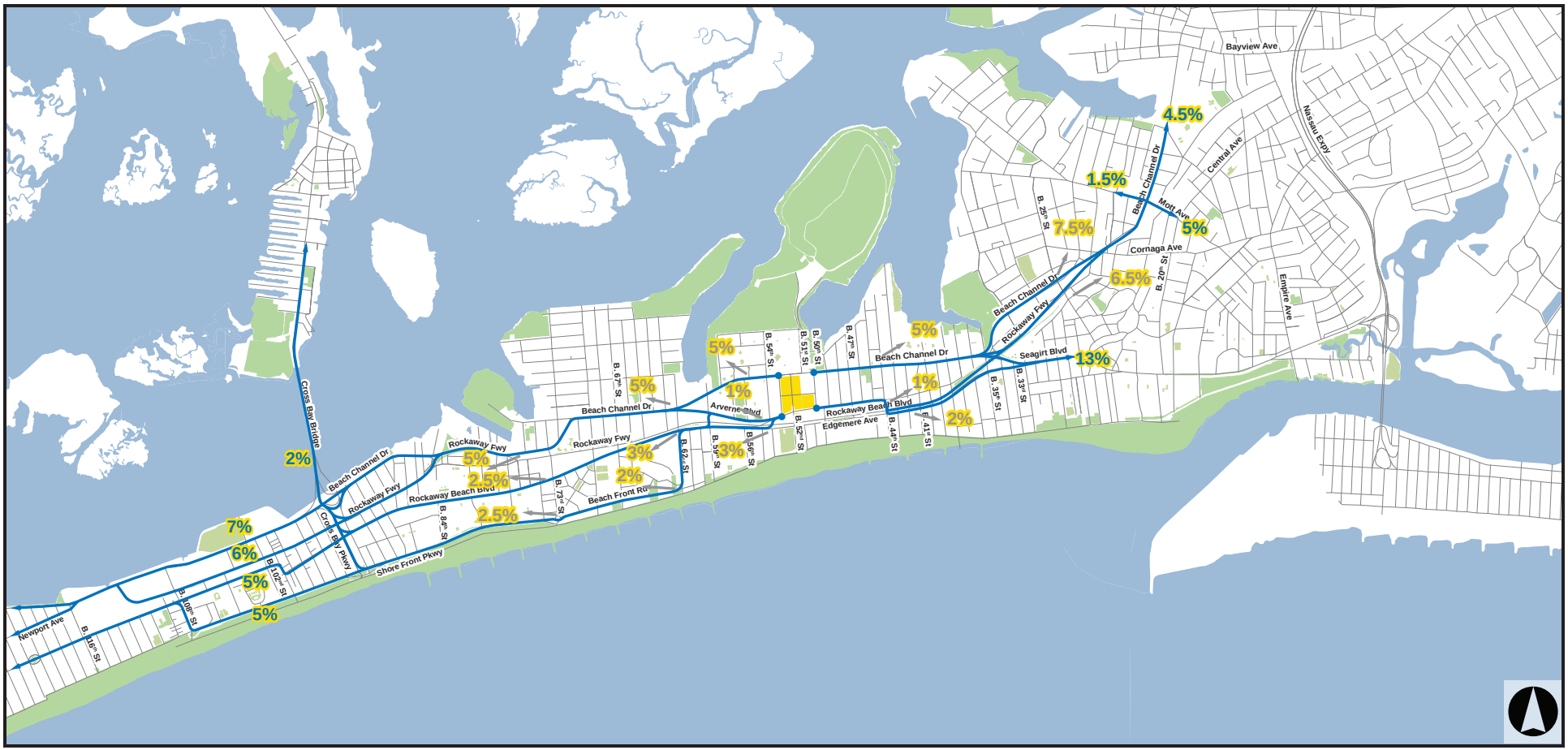
Local Portals

Proposed Project

NON-RESIDENTIAL LAND USE
INBOUND TAXI/AUTO TRIP PERCENTAGES

Figure 5

Peninsula Hospital EIS



Main Portals

Local Portals

Proposed Project

NON-RESIDENTIAL LAND USE OUTBOUND TAXI/AUTO TRIP PERCENTAGES

Figure 6

Peninsula Hospital EIS



Main Portals

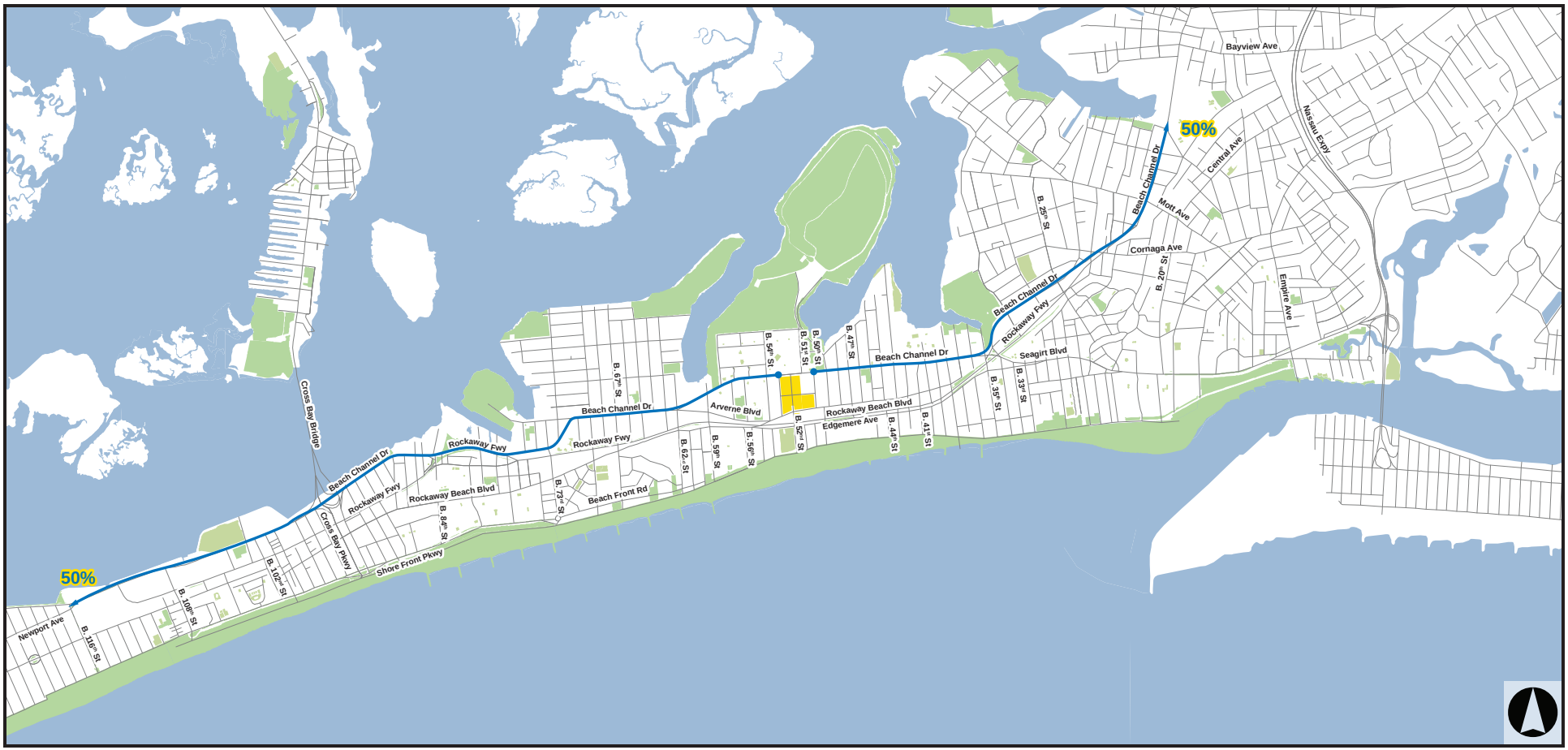
Local Portals

Proposed Project

ALL LAND USE
INBOUND TRUCK TRIP PERCENTAGES

Figure 7

Peninsula Hospital EIS



Main Portals

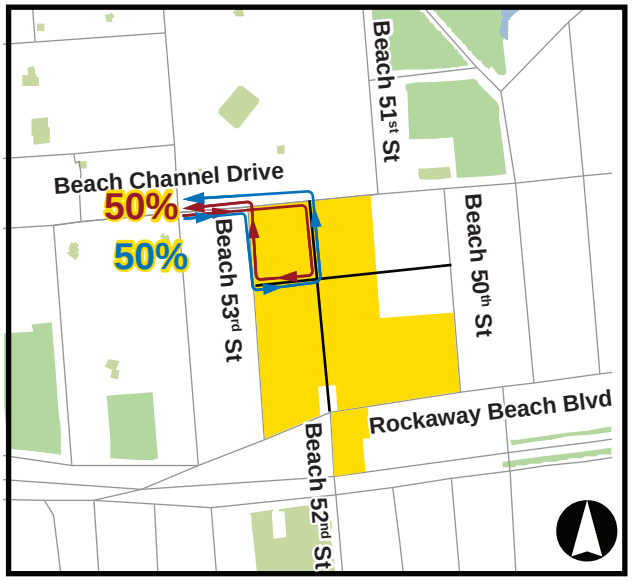
Local Portals

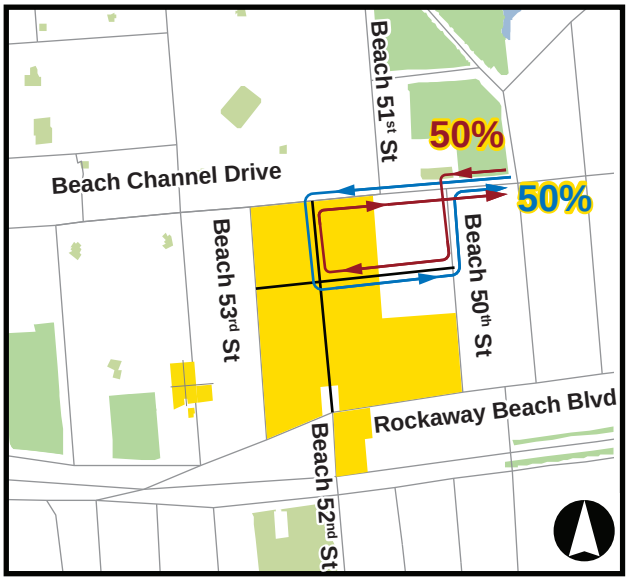
Proposed Project

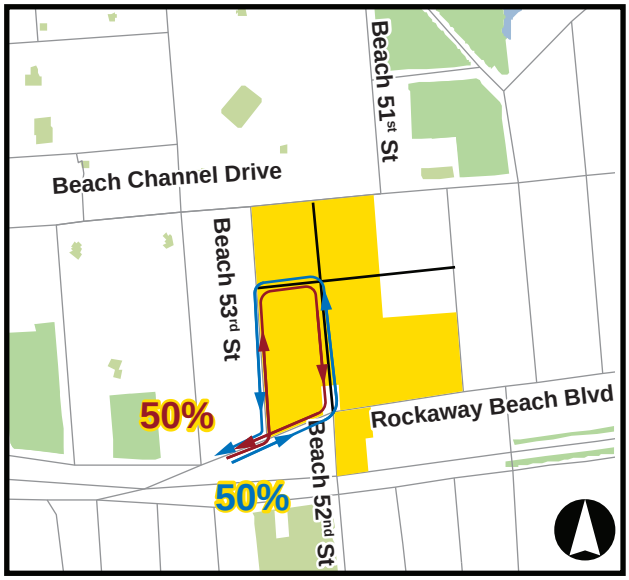
ALL LAND USE
OUTBOUND TRUCK TRIP PERCENTAGES

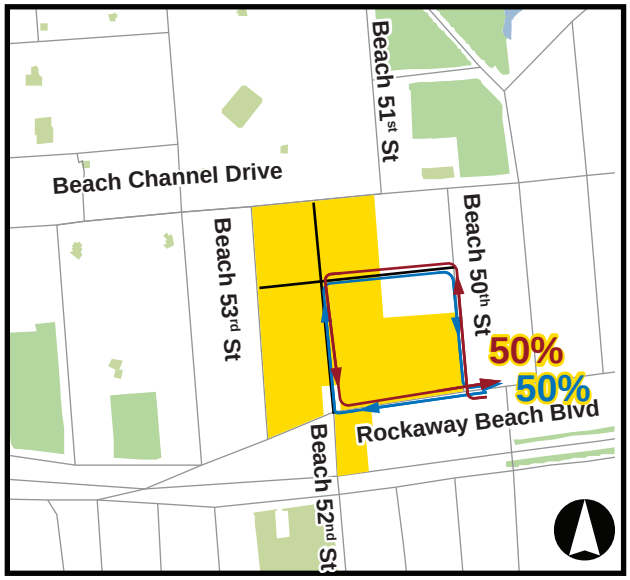
Figure 8

Peninsula Hospital EIS







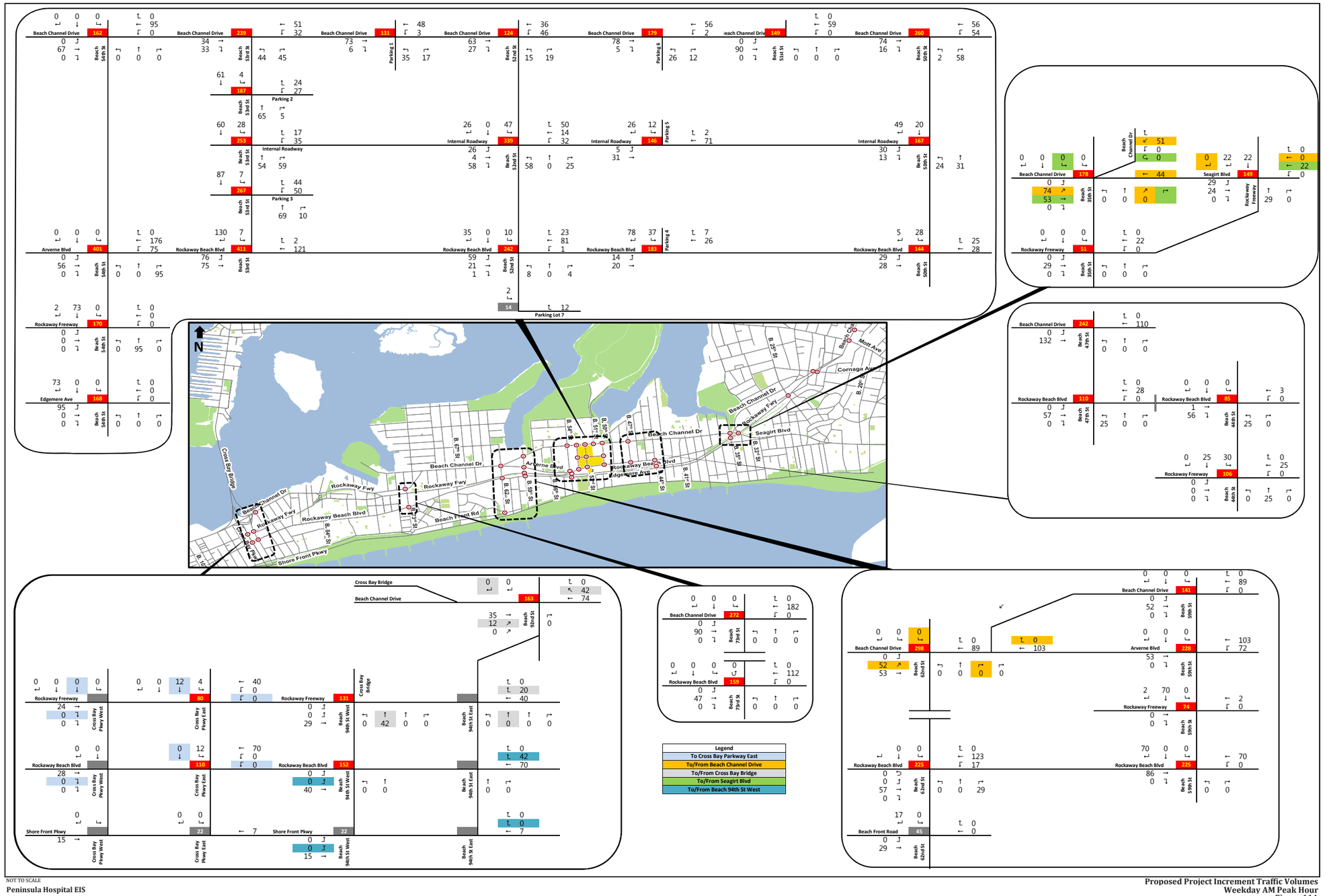


Proposed Project

ALL LAND USE TAXI TRIP PERCENTAGES

Figure 9

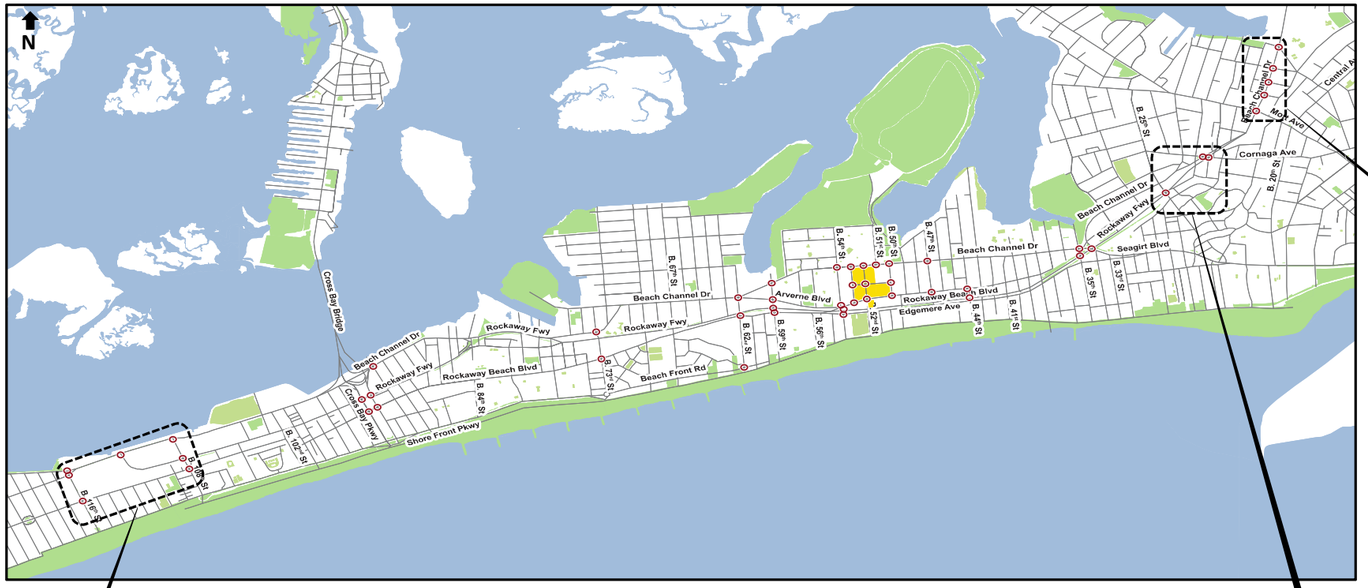
Peninsula Hospital EIS

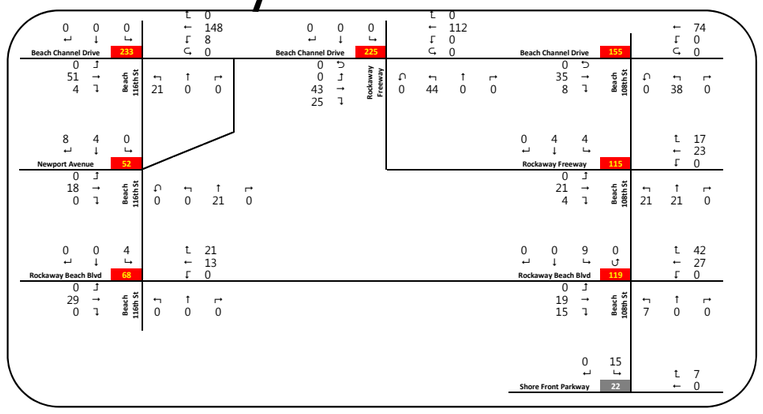


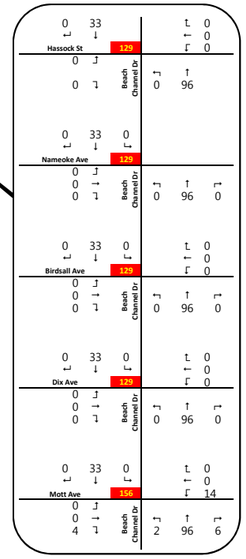
NOT TO SCALE

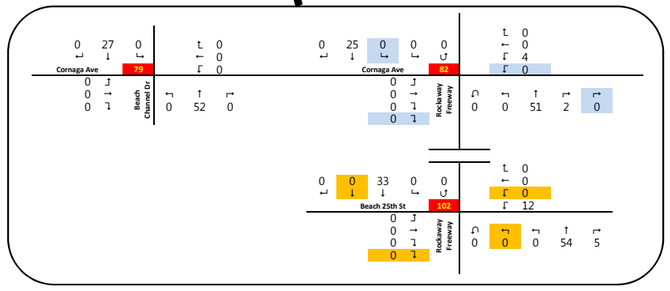
Peninsula Hospital EIS

Proposed Project Increment Traffic Volumes
Weekday AM Peak Hour
Figure 11A







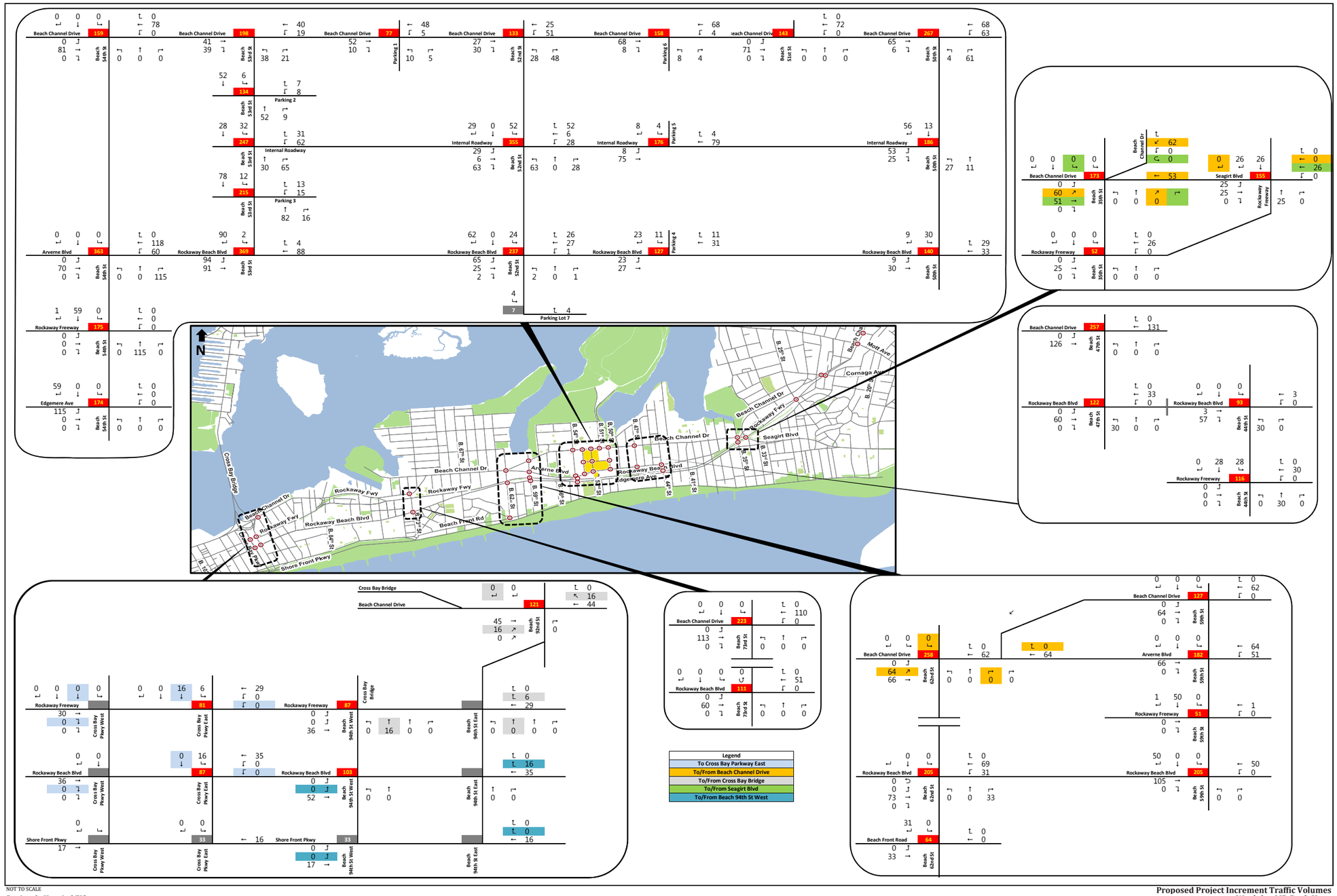


Legend
To Nasby Pl
To Far Rockaway Blvd

NOT TO SCALE

Peninsula Hospital EIS

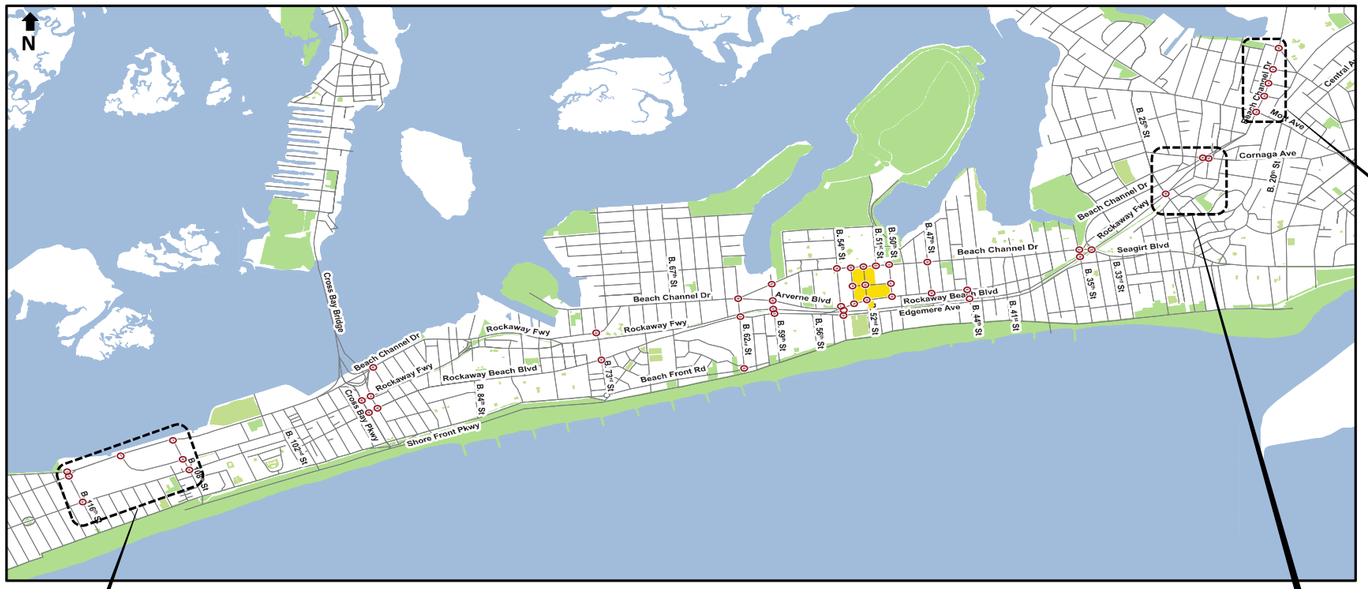
Proposed Project Increment Traffic Volumes
Weekday AM Peak Hour
Figure 11B



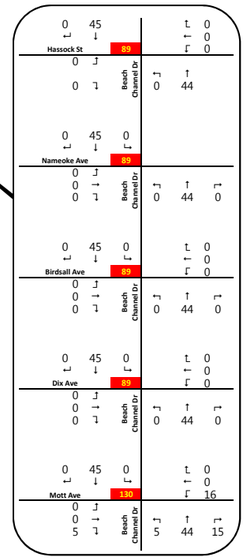
NOT TO SCALE

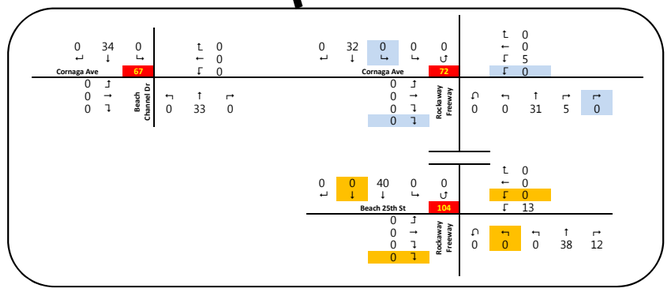
Peninsula Hospital EIS

Proposed Project Increment Traffic Volumes
Weekday MD Peak Hour
Figure 12A







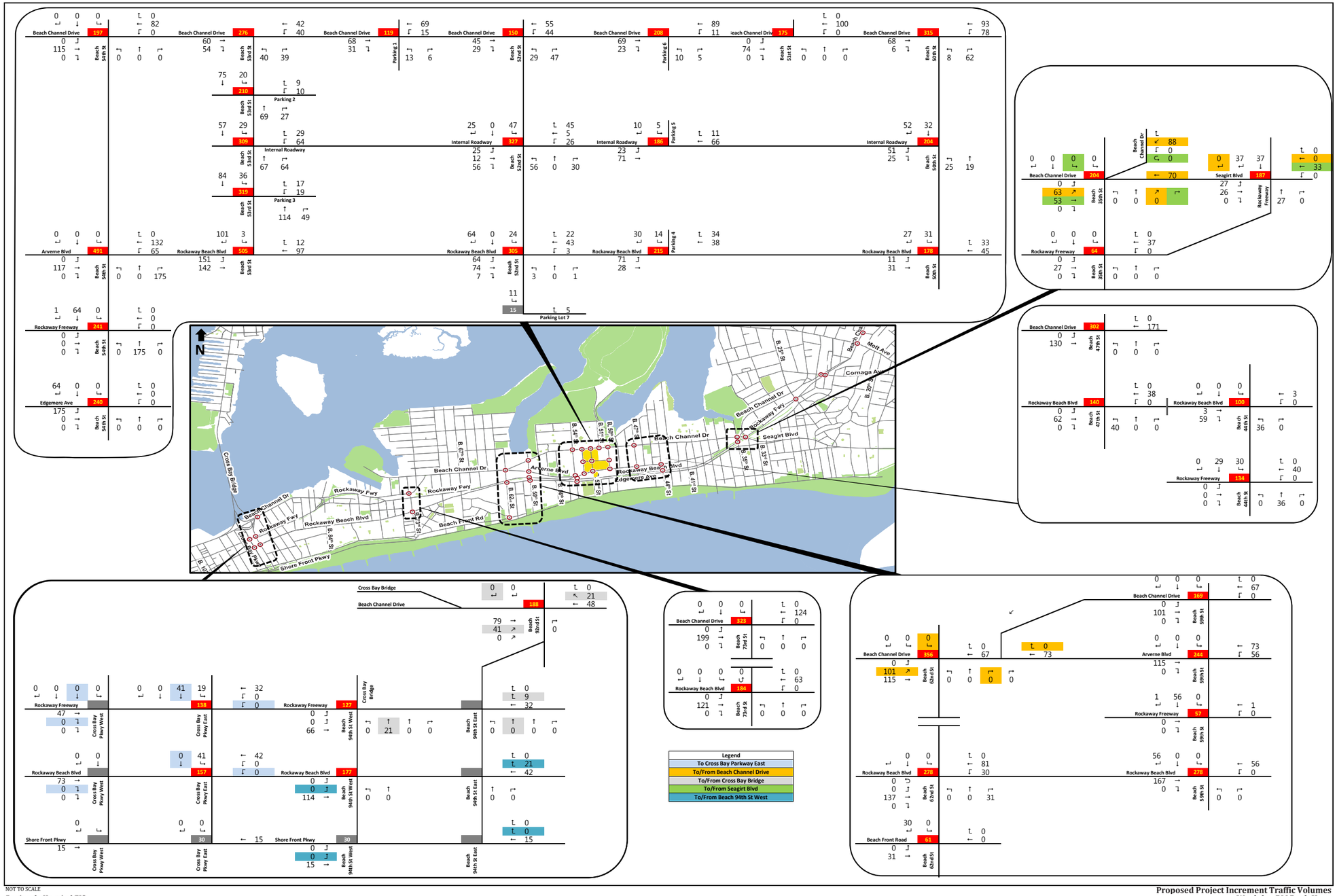


Legend
To Nasby Pl
To Far Rockaway Blvd

NOT TO SCALE

Peninsula Hospital EIS

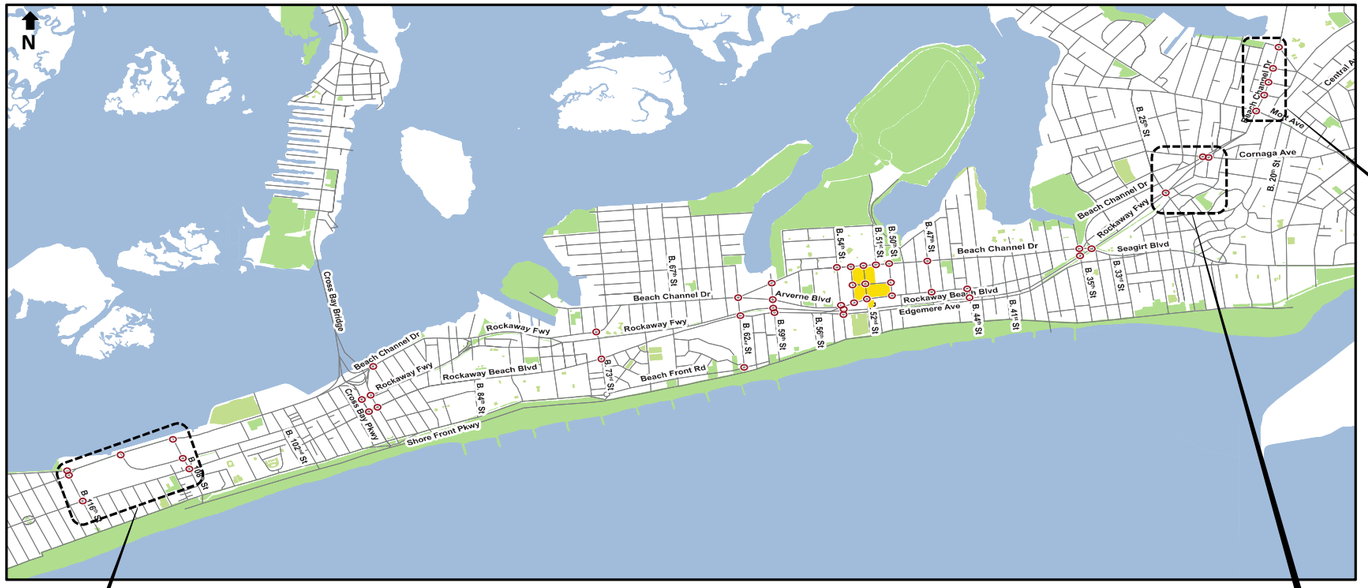
Proposed Project Increment Traffic Volumes
Weekday MD Peak Hour
Figure 12B

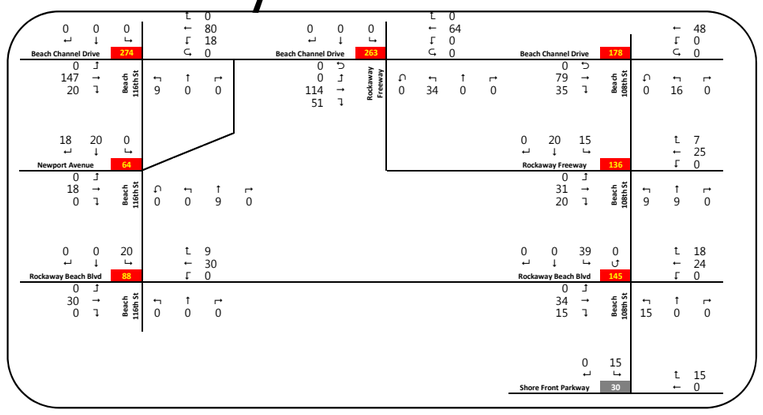


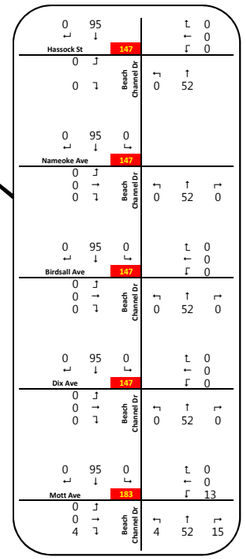
NOT TO SCALE

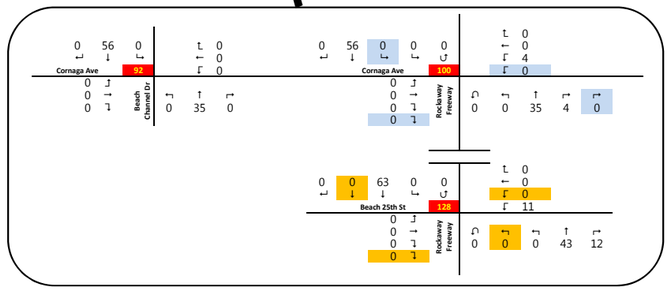
Peninsula Hospital EIS

Proposed Project Increment Traffic Volumes
Weekday PM Peak Hour
Figure 13A







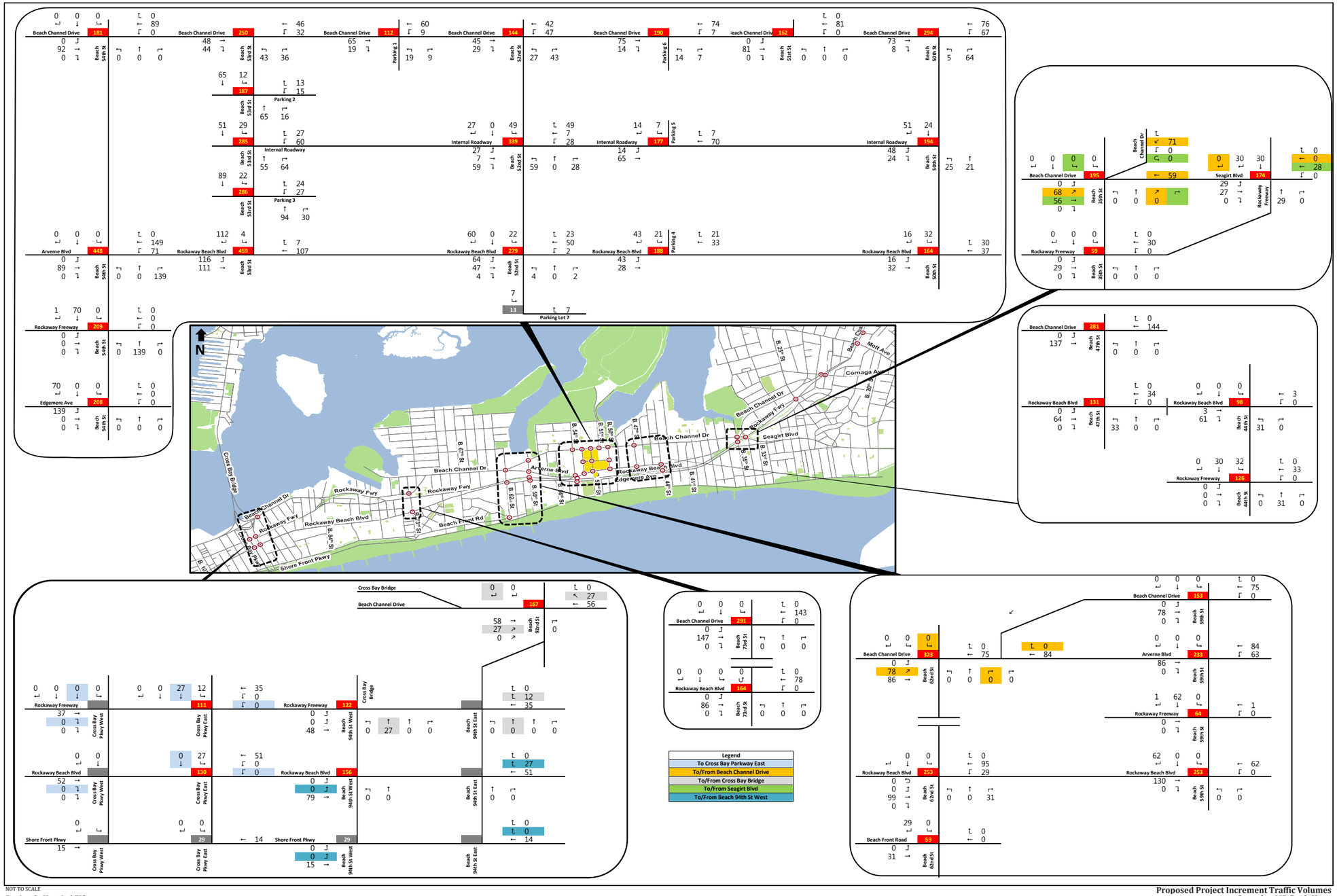


Legend
To Nasby Pl
To Far Rockaway Blvd

NOT TO SCALE

Peninsula Hospital EIS

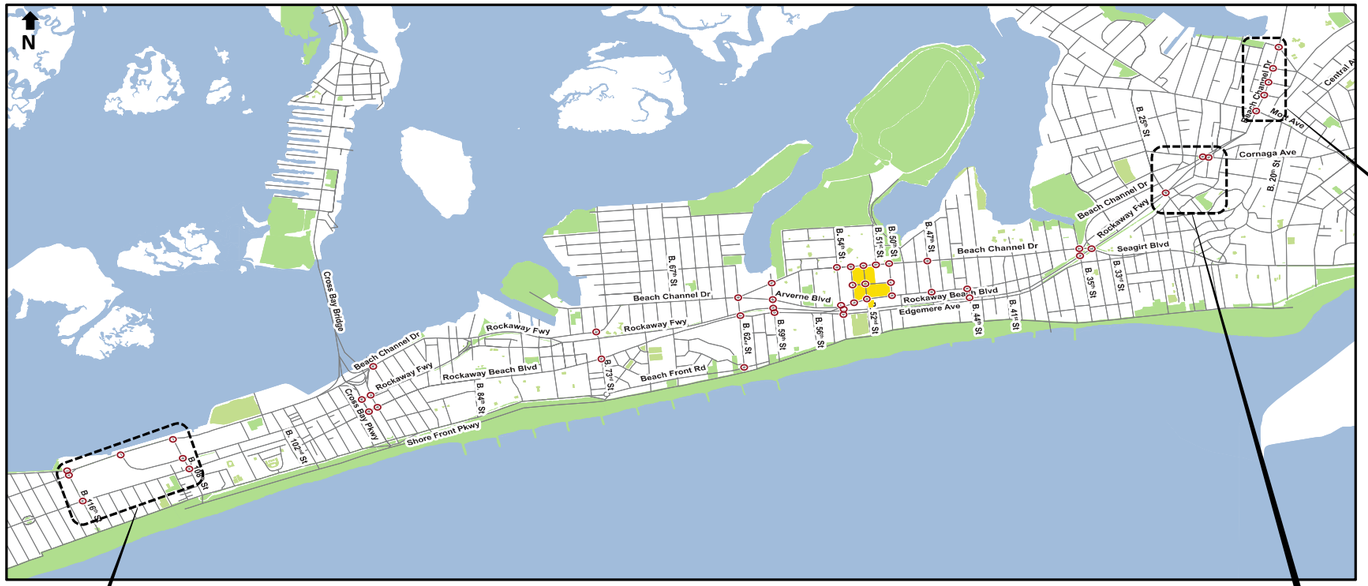
Proposed Project Increment Traffic Volumes
Weekday PM Peak Hour
Figure 13B

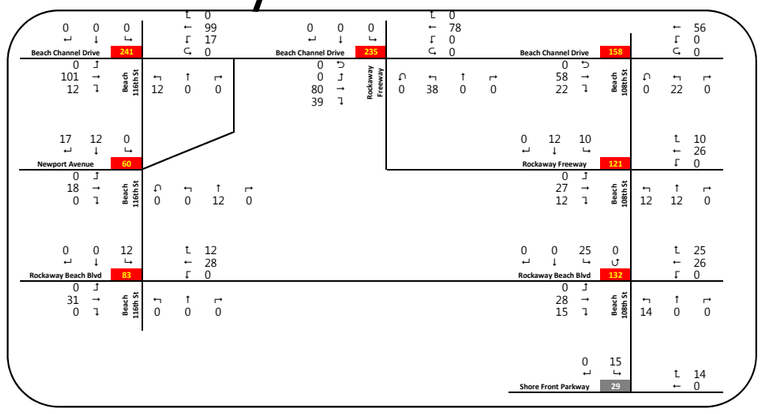


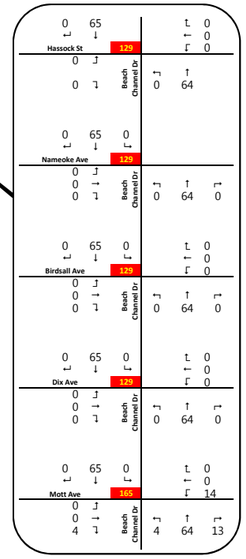
NOT TO SCALE

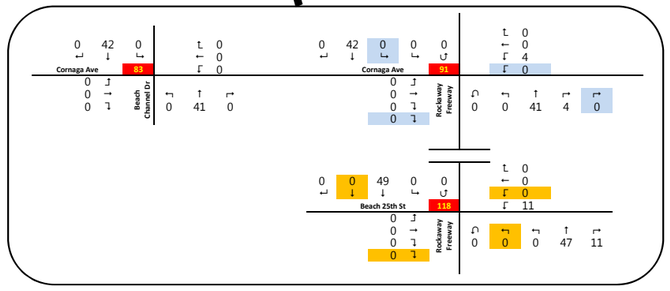
Peninsula Hospital EIS

Proposed Project Increment Traffic Volumes
Saturday MD Peak Hour
Figure 14A







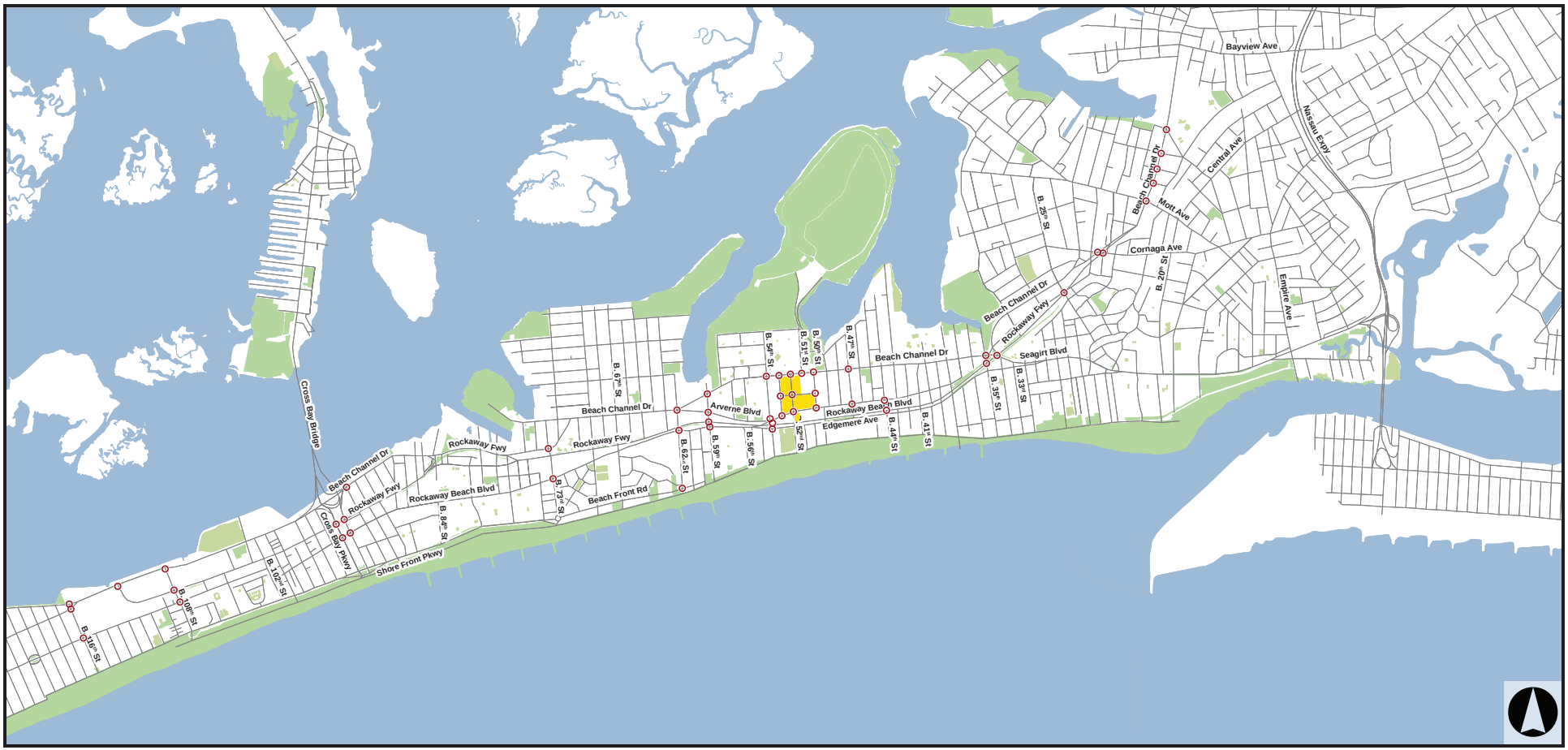


Legend
To Nasby Pl
To Far Rockaway Blvd

NOT TO SCALE

Peninsula Hospital EIS

Proposed Project Increment Traffic Volumes
Saturday MD Peak Hour
Figure 14B



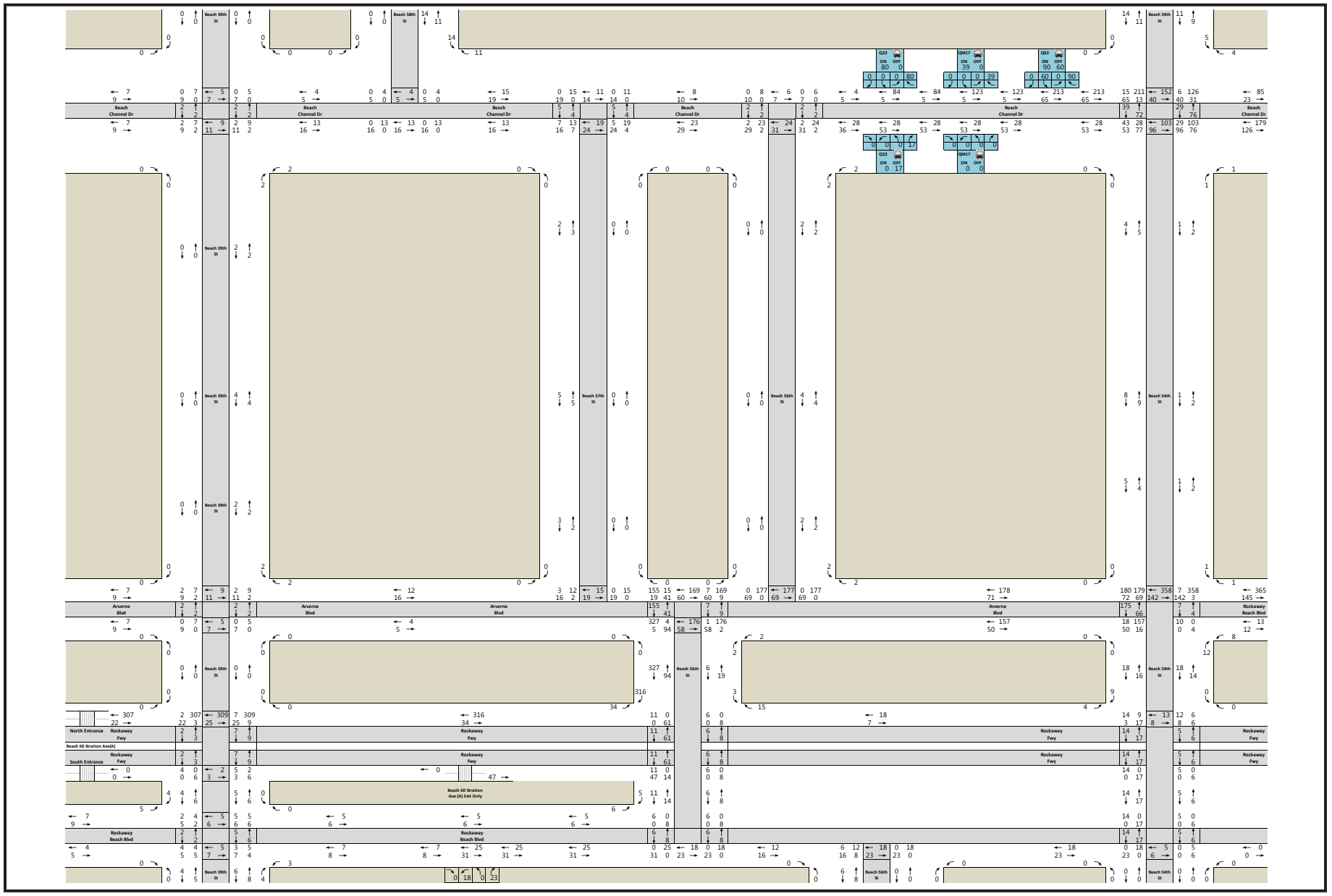
Proposed Project

Study Locations

STUDY AREA LOCATIONS

Figure 15

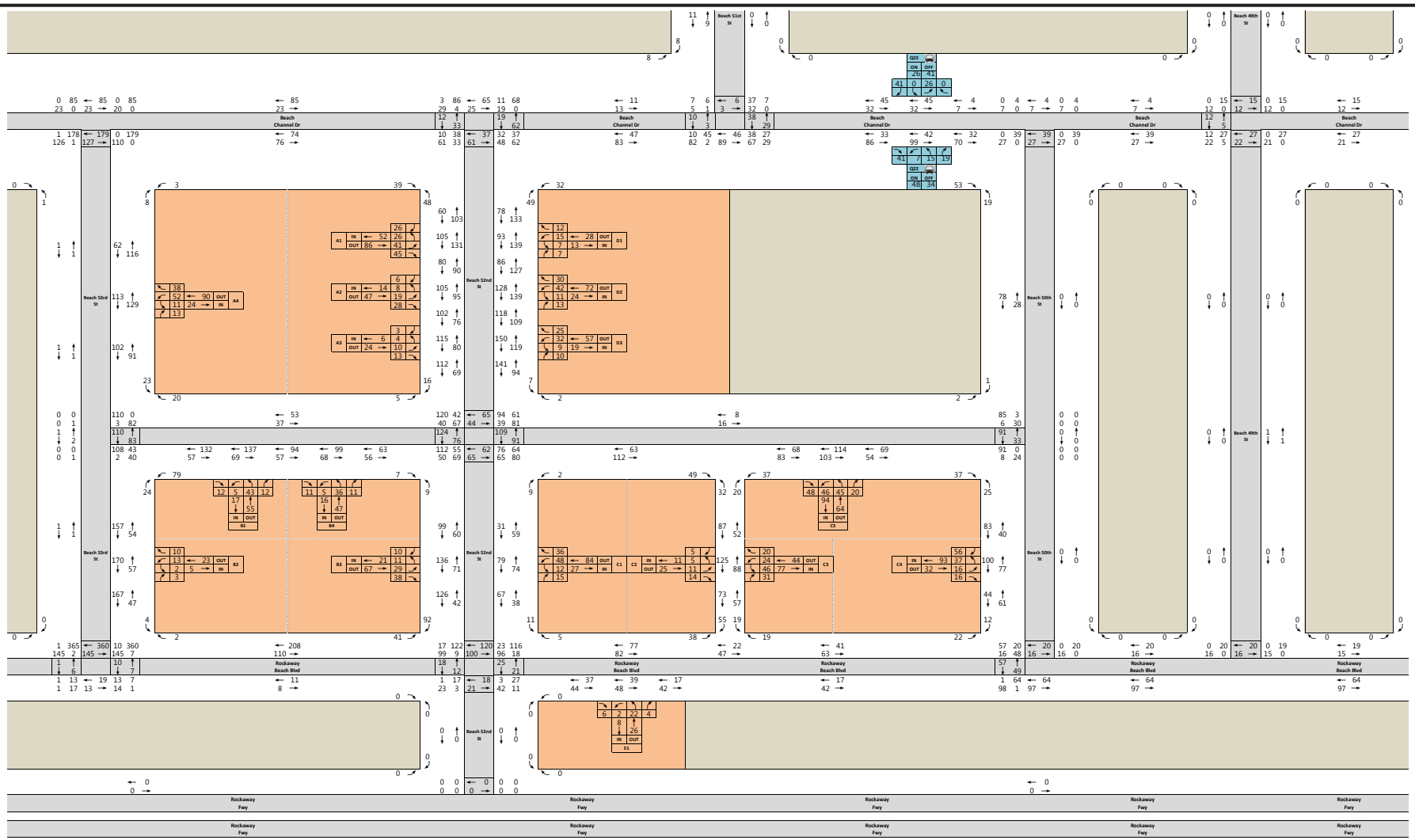
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY AM PEAK HOUR

Figure 16A

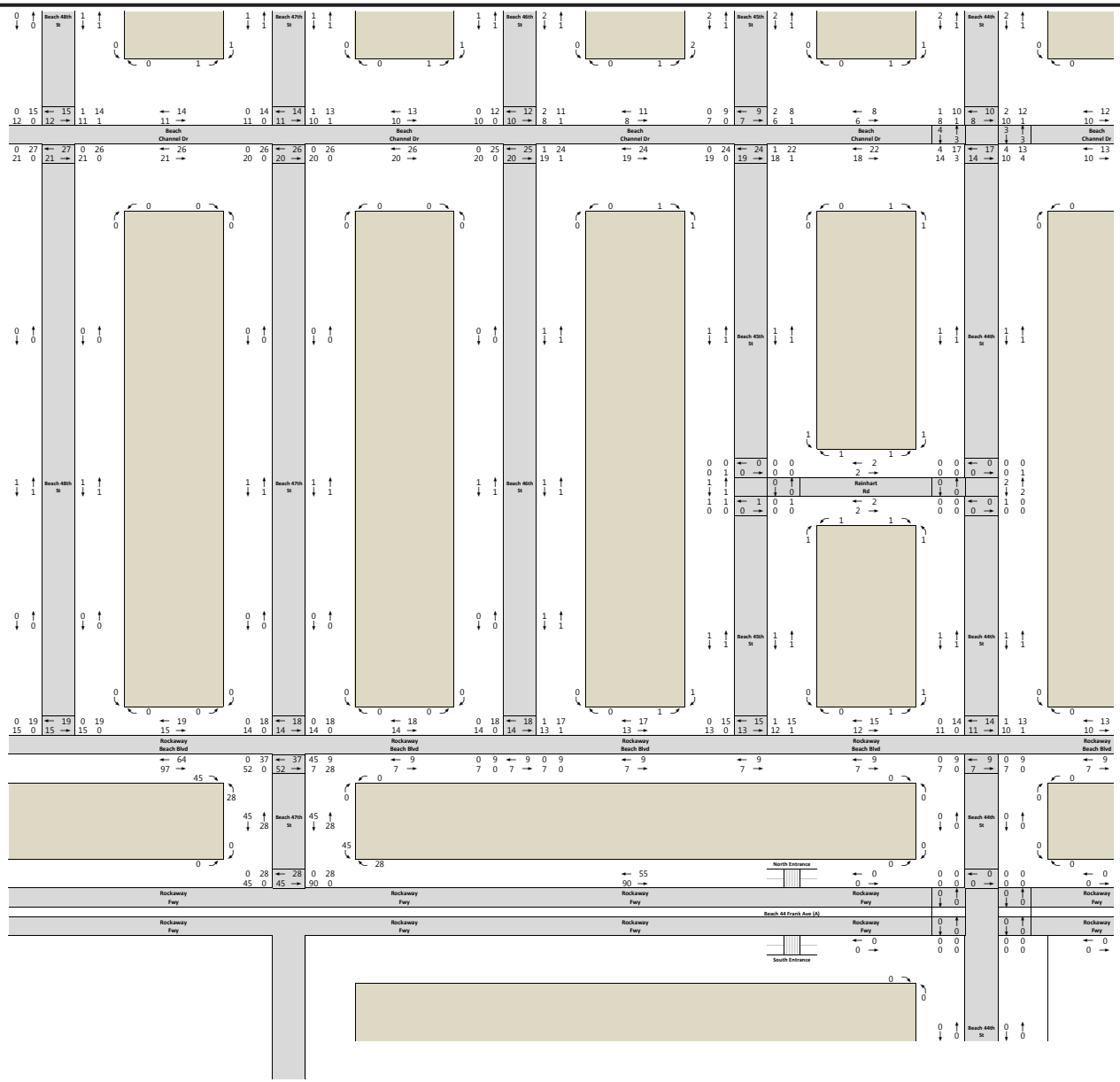
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY AM PEAK HOUR

Figure 16B

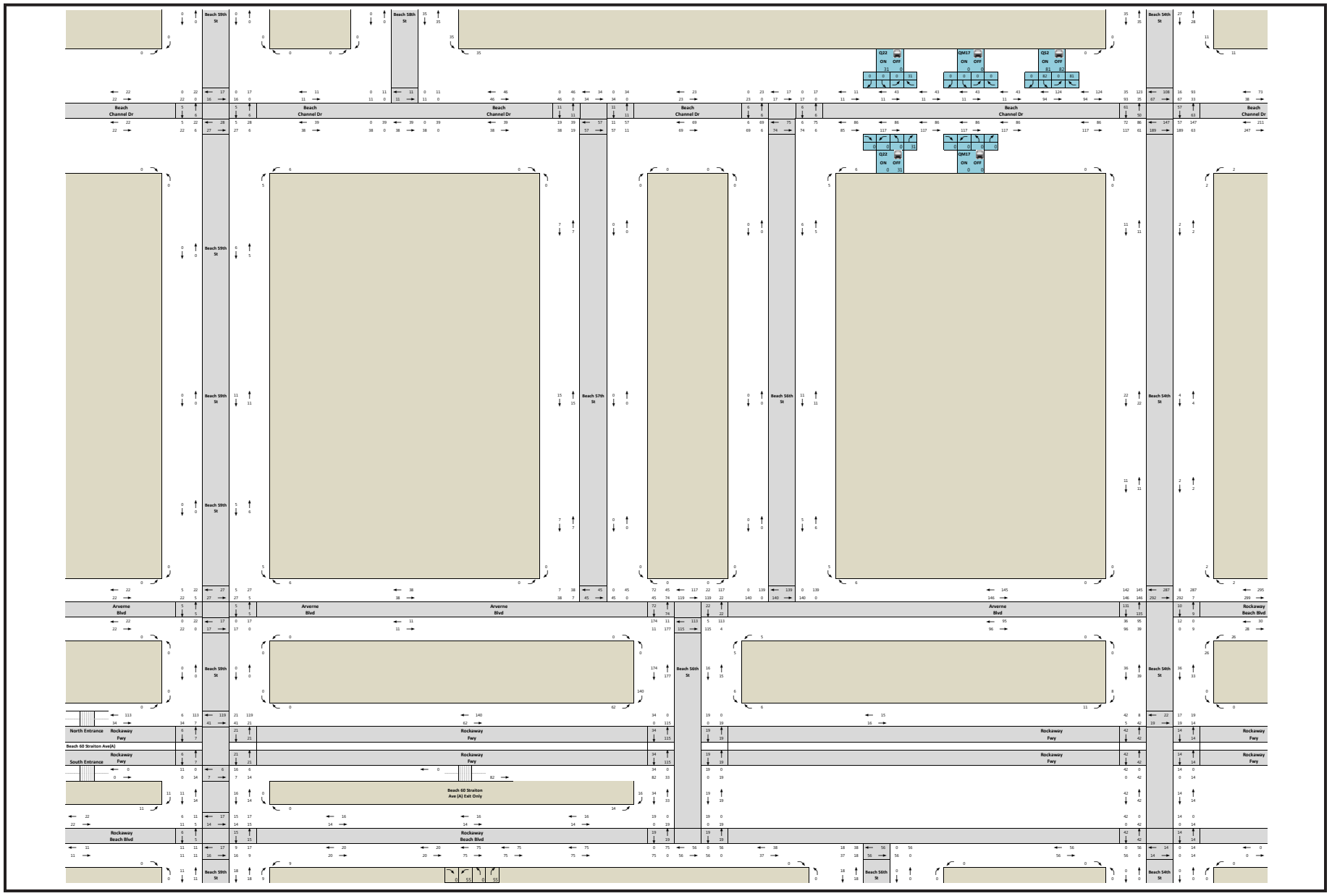
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY AM PEAK HOUR

Figure 16C

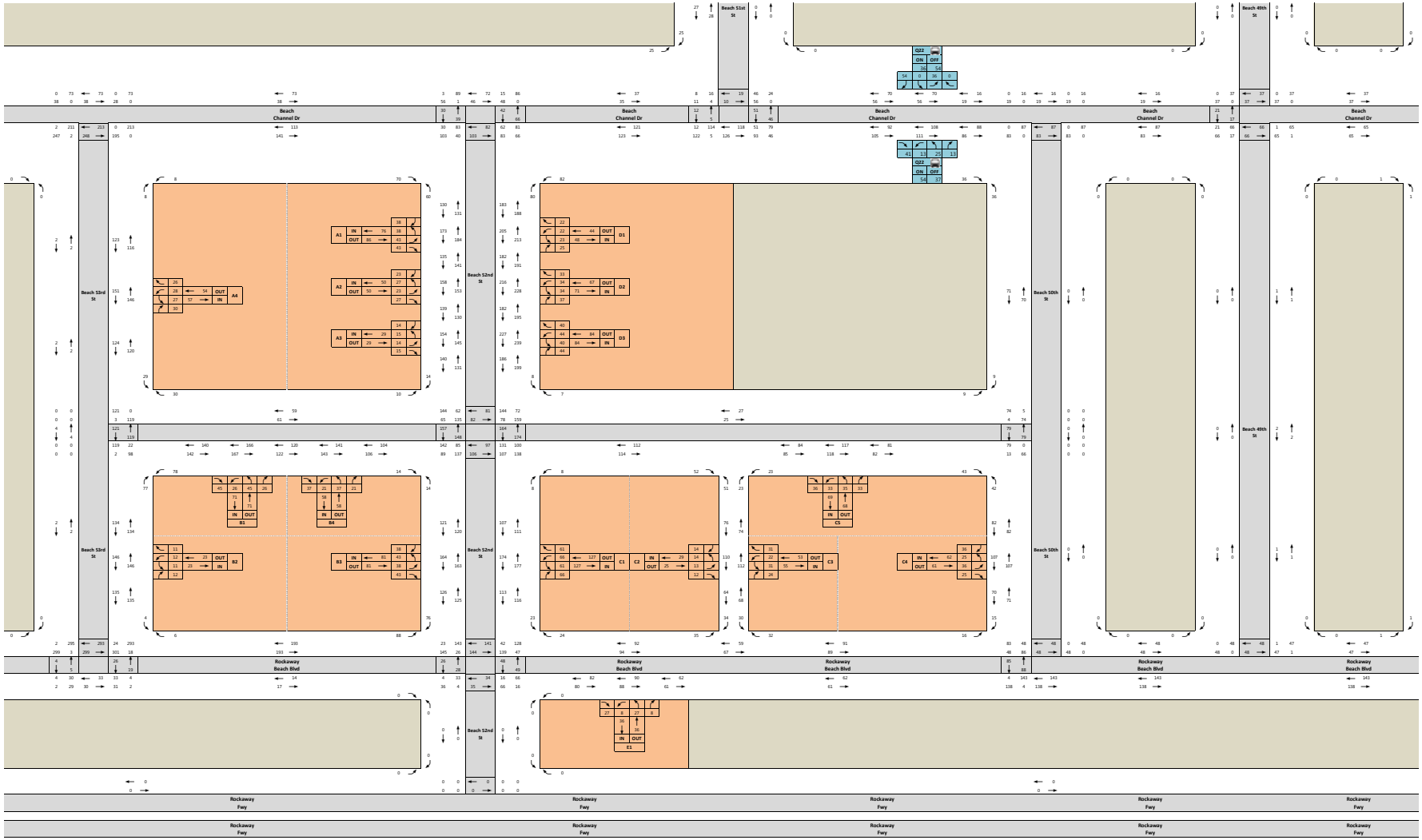
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY MD PEAK HOUR

Figure 17A

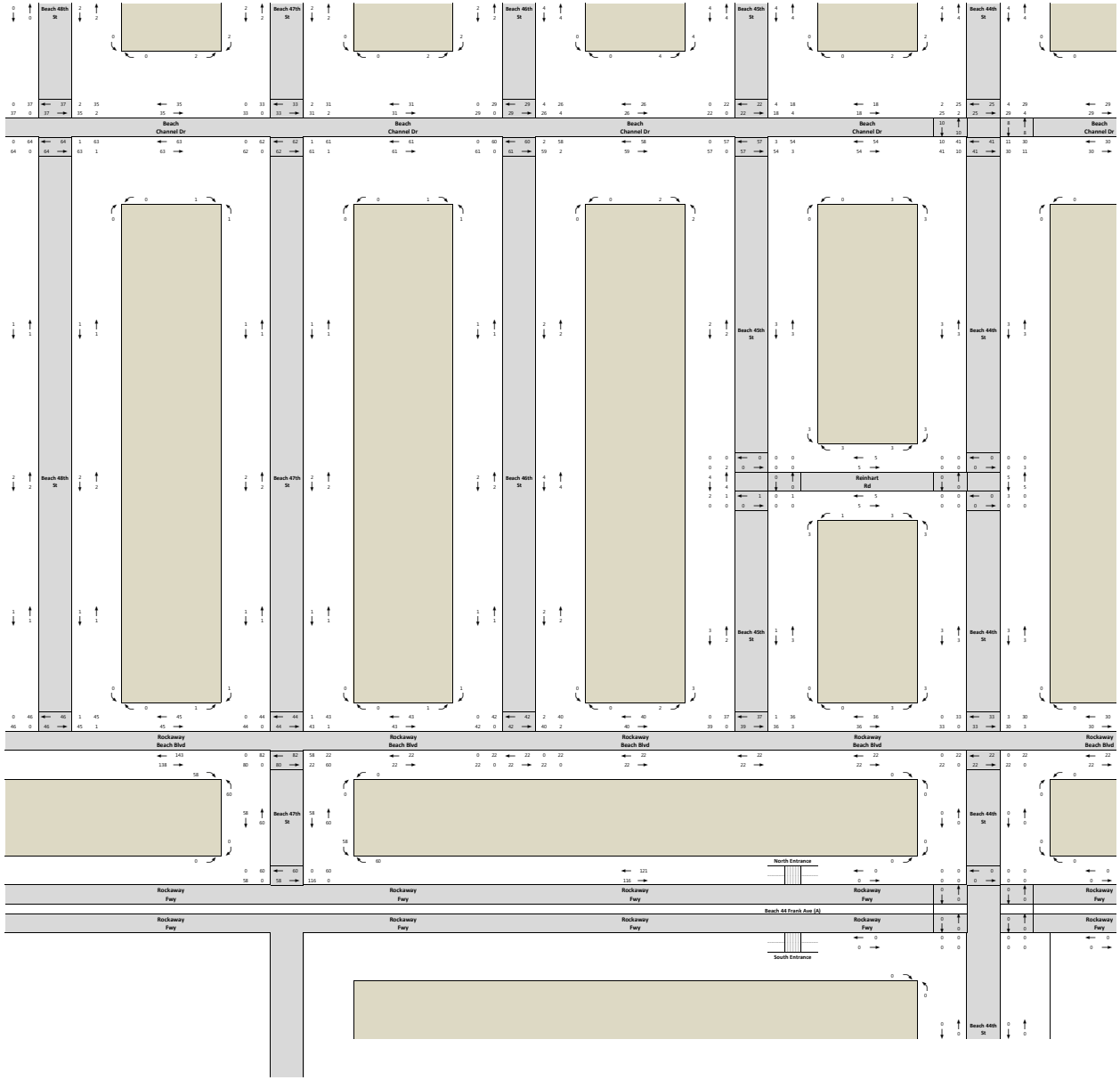
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY MD PEAK HOUR

Figure 17B

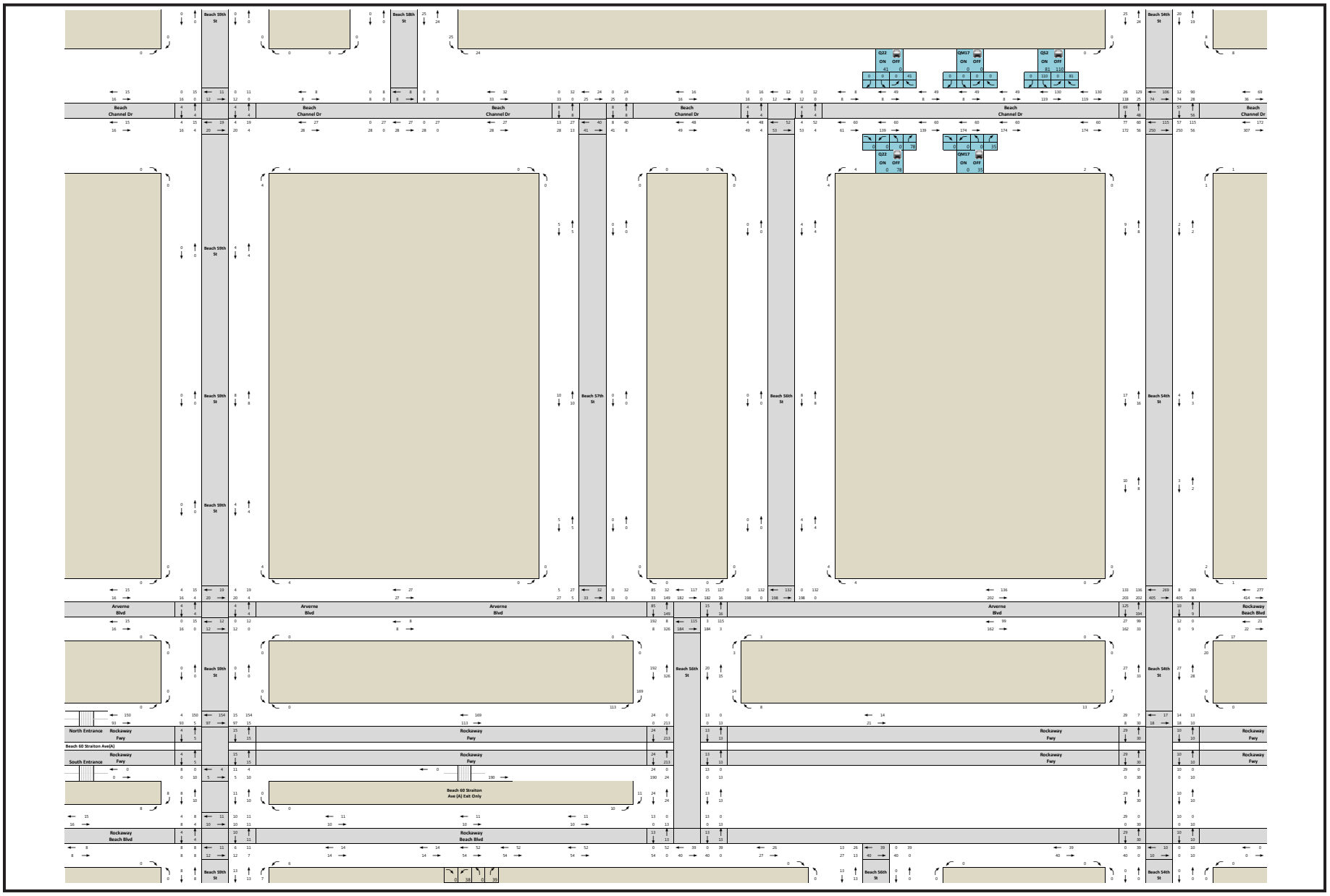
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY MD PEAK HOUR

Figure 17C

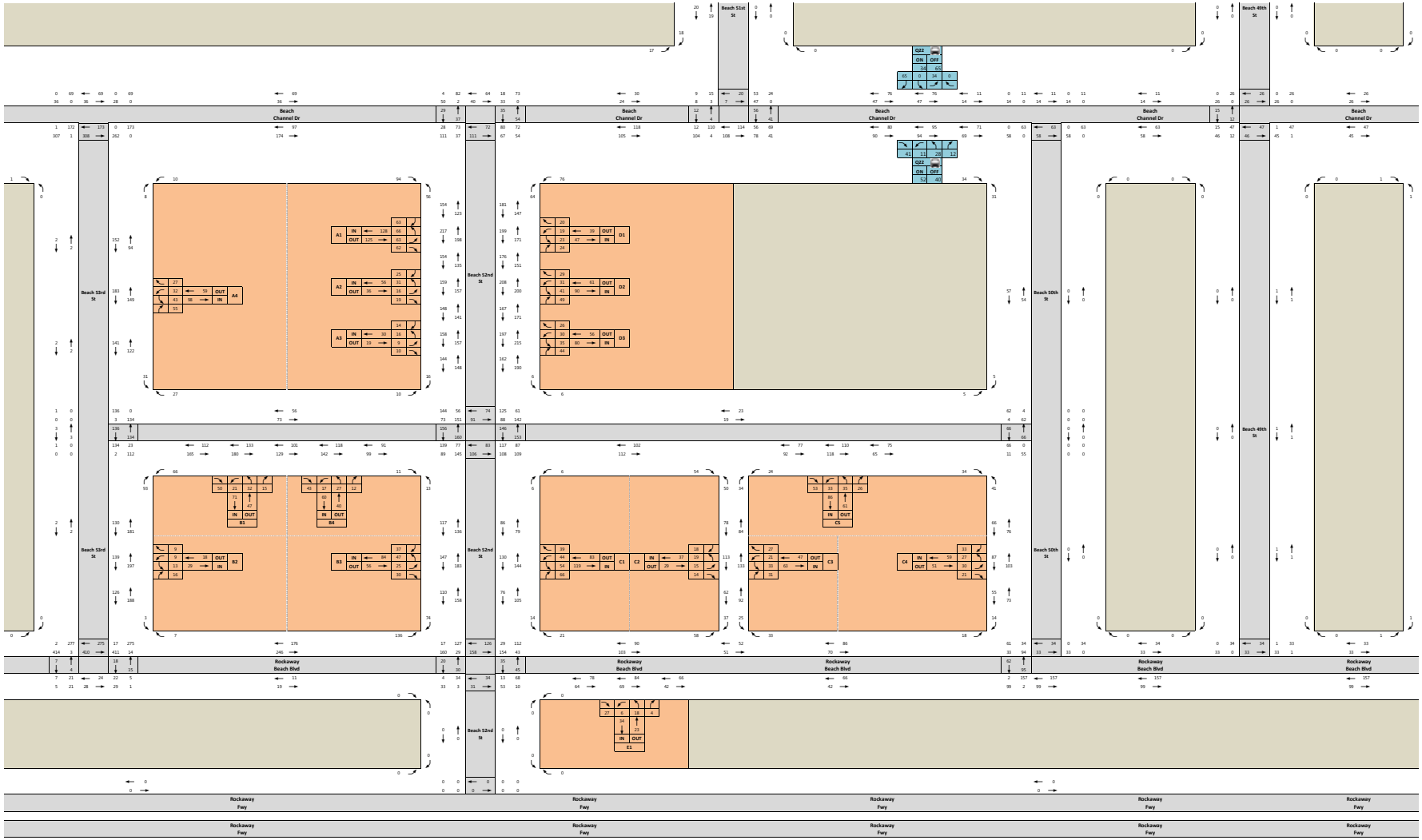
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY PM PEAK HOUR

Figure 18A

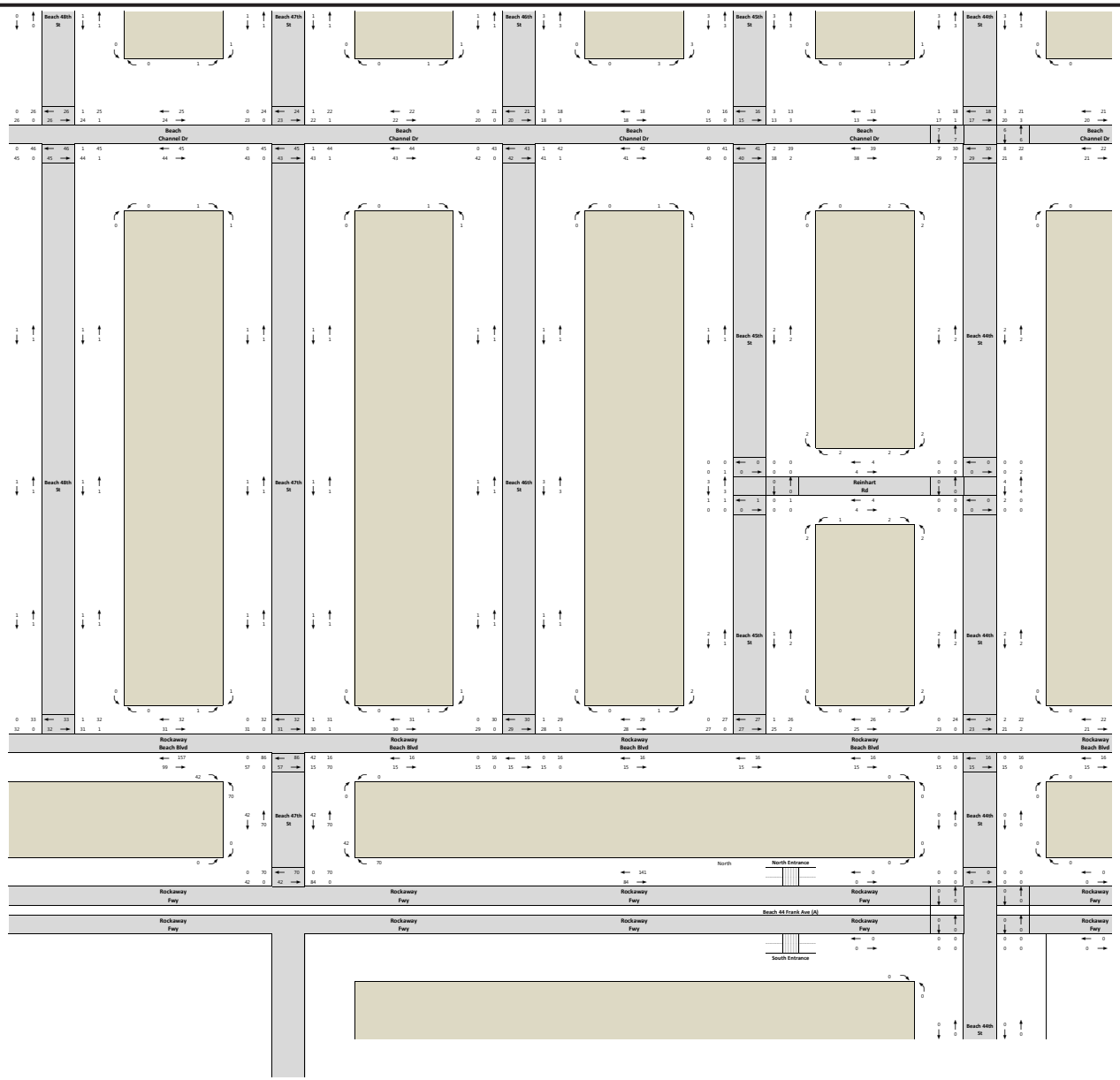
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY PM PEAK HOUR

Figure 18B

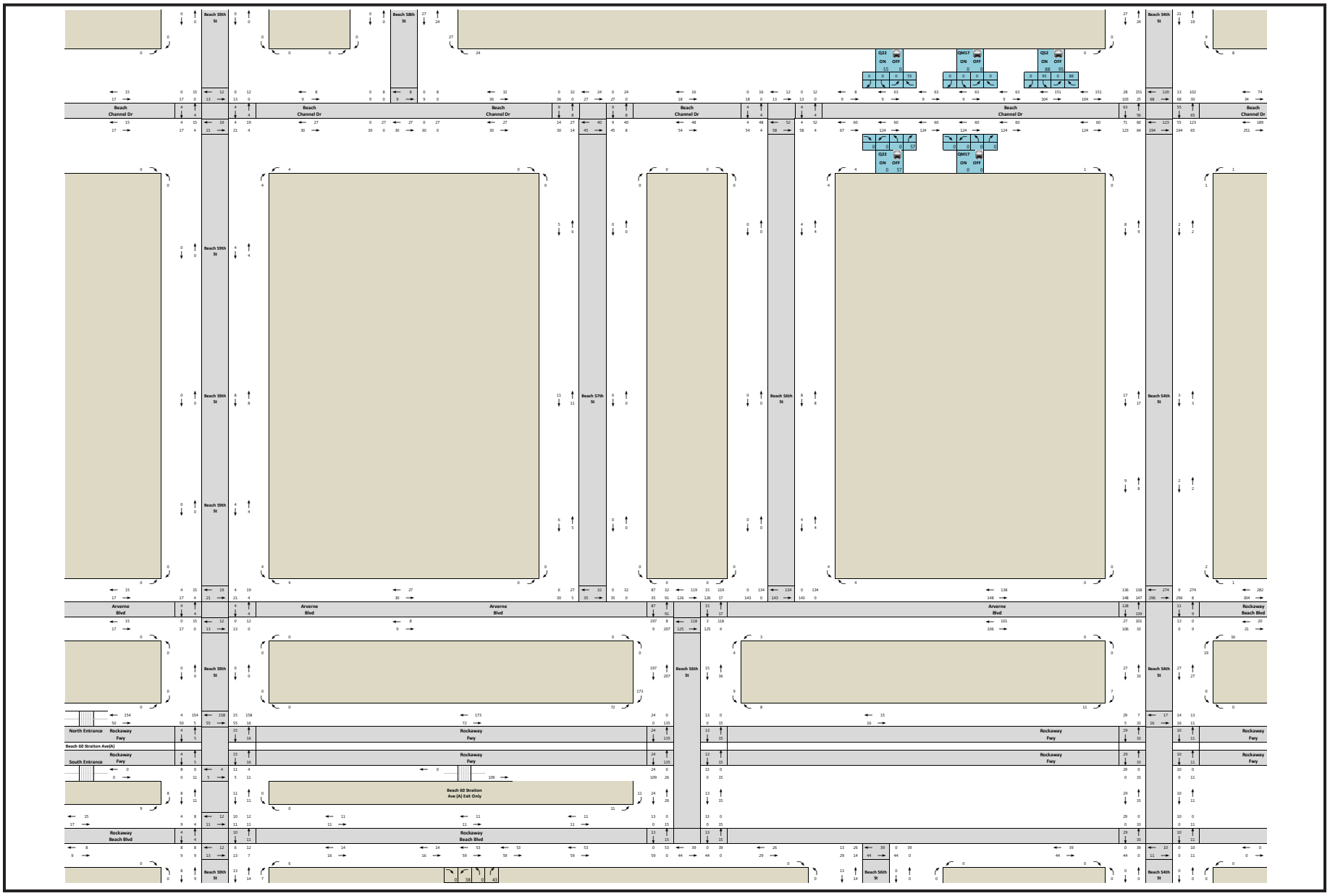
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
WEEKDAY PM PEAK HOUR

Figure 18C

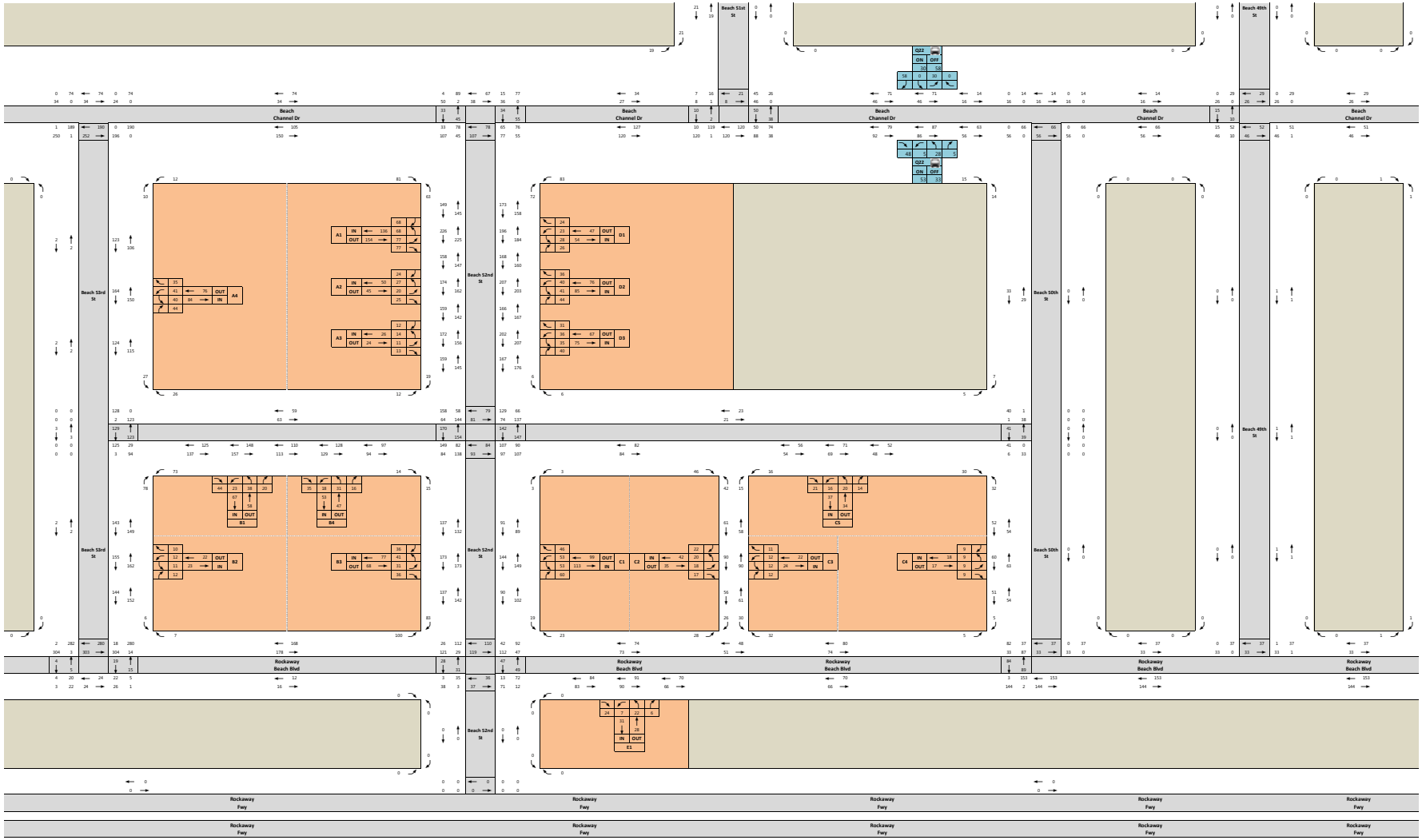
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
SATURDAY MD PEAK HOUR

Figure 19A

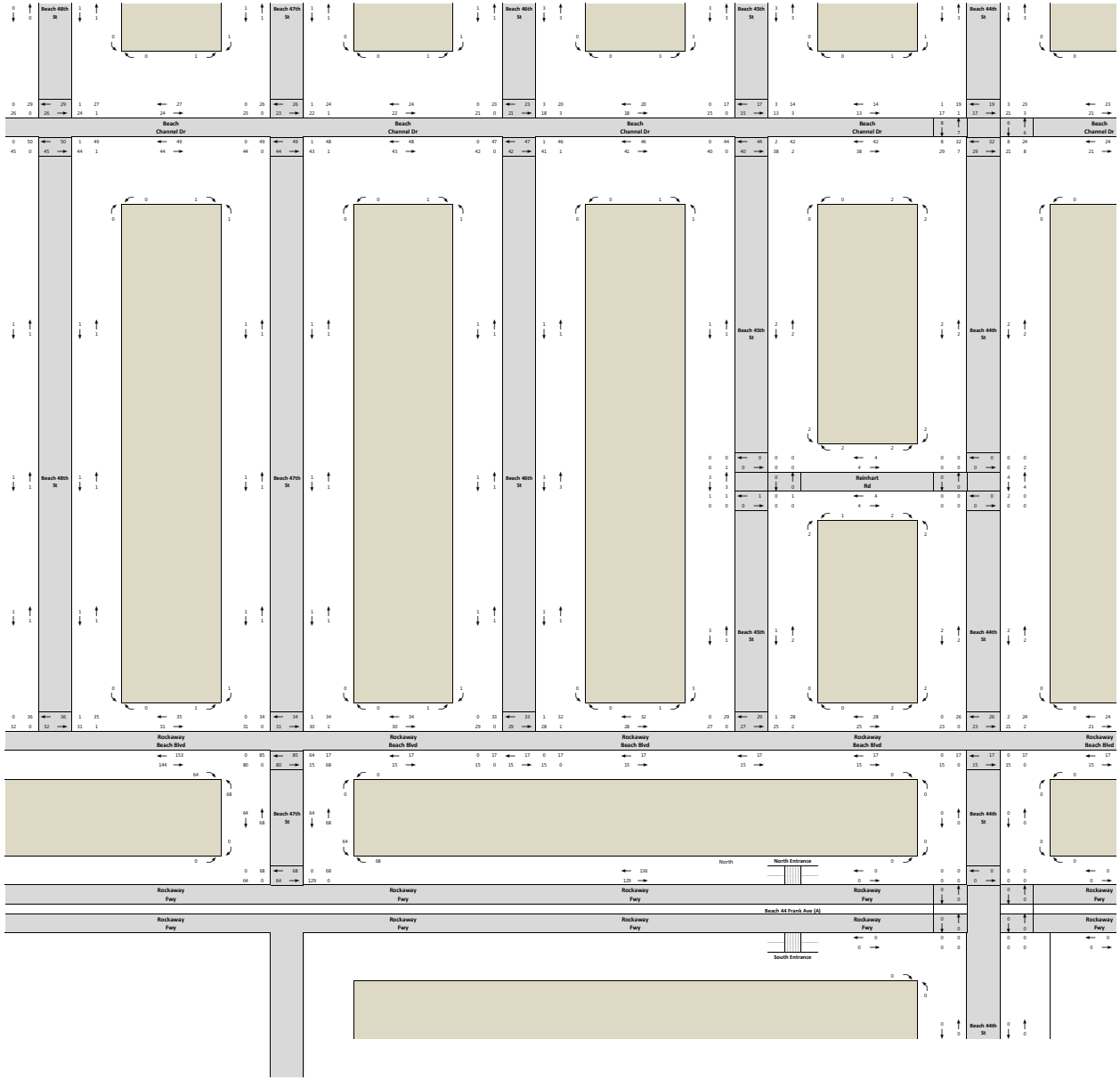
Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
SATURDAY MD PEAK HOUR

Figure 19B

Peninsula Hospital EIS



TOTAL PROJECT GENERATED PEDESTRIAN TRIPS
SATURDAY MD PEAK HOUR

Figure 19C

Peninsula Hospital EIS



PEDESTRIAN STUDY LOCATIONS

Figure 20

Peninsula Hospital EIS

APPENDIX B:
Draft Air Quality Protocol

Sam Schwartz Engineering, D.P.C.
322 Eighth Avenue, 5th Floor
New York, NY 10001
phone: (212) 598-9010
samschwartz.com

Memorandum

To: Mauricio Garcia (DCP)

CC: Diane McCarthy (DCP)

From: Nancy Neuman (Sam Schwartz)

Date: March 20, 2018

Re: Peninsula Hospital Site Redevelopment – Draft Air Quality Protocol

Introduction

This memorandum describes the proposed protocol for the assessment of the air quality impacts of the Peninsula Hospital Site Redevelopment. The results of the air quality impact assessment to be prepared in conformance to the proposed protocol will be incorporated in the Peninsula Hospital Site Redevelopment Draft Environmental Impact Statement (DEIS). The proposed protocol is based on guidance provided in the latest version of the *City Environmental Quality Review (CEQR) Technical Manual.*

Project Site Location

Peninsula Rockaway Limited Partnership (the "Applicant") is requesting several discretionary actions from the City Planning Commission (CPC) to facilitate a proposal by the Applicant to redevelop the former Peninsula Hospital site located at 51-15 Rockaway Beach Boulevard in Far Rockaway, Queens (Block 15843, Lot 1, Block 15842, Lot 1, and Lot 1 of Block 15857). The Project Site is bound by Rockaway Beach Boulevard, Beach Channel Drive, Beach 50th Street, and Beach 53rd Street, and has a total lot area of 409,928 square feet (sf).

The area in the vicinity of the Project Site contains a mix of land uses in low- to mid-rise buildings. The New York City Housing Authority (NYCHA)'s Ocean Front Apartments (Bayside) are to the north and west of the Project Site and range from seven to nine stories in height. Several commercial properties are also located west of the Project Site, including a possible drycleaner on Beach 54th Street. Further north is the Rockaway Community Park. The John F. Kennedy (JFK) Airport is located within two miles north of the Project Site. Across the street to the south of the Project Site are three industrial properties, two of which are listed as factory uses by the New York City Department of Finance and one of which is listed as a warehouse use. Further south is the Rockaway Beach and Boardwalk and the Rockaway Freeway. Rockaway Freeway, which is located south of the Project Site, is elevated and carries both motor vehicles and rail lines. To the east of the Project Site are vacant, commercial, and institutional properties.

Proposed Project (With-Action Condition)

In the future with the Proposed Actions (the "With-Action" condition), the Applicant plans to construct approximately 2,890,000 gross square feet (gsf) of development (the "Proposed Project"), which would be distributed across 17 buildings on five sub-sections of the Project Site (A, B, C, D, and E), with sub-sections A through D on the northern portion of the Project Site and sub-section E on the southern portion of the Project Site. The Proposed Project would include of approximately 2,200 residential dwelling units (DUs), of which 1,910 DUs are intended to be affordable with 270 DUs set aside for senior housing. In addition to the residential DUs, the Proposed Project would include approximately 151,800 gsf of retail space, of which approximately 25,000 gsf may be used for a gym; approximately 64,400 gsf of community facility space, and approximately 37,600 square feet (sf) of publicly-accessible open space. Retail and residential uses would be distributed across all five sub-sections of the Project Site, while community

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facility spaces programmed for medical uses are anticipated to be located on sub-section C. Building heights for the Proposed Project would range from approximately 75 to 154 feet.

Approximately 642 accessory parking spaces would be provided, comprised of 424 accessory parking spaces for residential use, 156 accessory parking spaces for retail use, and 62 accessory parking spaces for community facility medical office use. Parking would be distributed across all five sub-sections of the Project Site, with two parking lots (on sub-sections A and D), and underground parking structures on all sub-sections. Parking spaces provided in both parking lots and garages would be accessible 24/7 and be self-service.

The Proposed Project is expected to be constructed over the next 15 years for completion in 2034. **Table 1** provides a breakdown of the uses for the Proposed Project. **Figure 1** shows the Project Site, and **Figure 2** shows an axonometric diagram of the Proposed Project. **Figure 3** shows the Proposed Project site plan. The analysis year for the Proposed Project is 2034.

No-Action Condition

In the future absent the Proposed Actions (the "No-Action" condition), an as-of-right residential development and supporting retail space would be developed on the Project Site that would be comprised of 12 buildings, including approximately 482,523 gsf of residential space (providing 568 DUs); 21,659 gsf of retail space; 800 gsf of community facility space; and 557 accessory parking spaces comprised of 483 residential spaces, 72 retail spaces, and two spaces for community facility medical office use. Of the 557 parking spaces, 457 would be provided on surface parking lots and 100 would be in an underground parking garage in the center of the northern portion of the Project Site. The No-Action condition would result in approximately 544,982 gsf of development on the Project Site.

Increment

The incremental difference between the No-Action condition and With-Action condition consists of approximately 1,743,884 gsf comprised of the following uses: 1,336,550 gsf residential floor area providing approximately 1,632 DUs, 130,150 gsf of retail space, 63,555 gsf of community facility space programmed for medical offices, 193,571 gsf of parking space, and 85 accessory parking spaces.

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Table 1: Proposed Project

Sub-Section	Block/ Lot	Buildings	Residential (gsf)	Residential Units	Local Retail (gsf)	Medical (gsf)	Mechanical (gsf)	Parking (gsf)[1]	Total Area (gsf)	Height (ft)
A	15843/1	A1	116,569	94	22,441	0	4,685	67,446	599,004	115
		A2	115,548	135	5,021	0				153
		A3	66,614	65	3,024	0				133
		A4	181,063	270	16,593	0				126
B	15843/1	B1	90,432	146	7,790	0	4,488	66,489	500,309	106
		B2	66,187	65	2,424	0				88
		B3	145,096	182	8,608	0				154
		B4	102,557	123	6,238	0				135
C	15843/1	C1	126,905	221	14,241	0	6,027	28,842	642,092	116
	15843/1	C2	66,030	65	15,223	0				97
	15842/1	C3	104,617	111	0	18,690				125
	15842/1	C4	65,574	65	0	23,444				88
	15842/1	C5	150,278	174	0	22,221				154
D	15843/1	D1	65,926	65	17,817	0	3,798	63,741	471,786	87
		D2	132,460	206	19,017	0				134
		D3	159,533	148	9,494	0				153
E	15857/1	E1	63,684	65	3,878	0	1,060	7,053	75,675	75
TOTAL (Entire Project)			**1,819,073**	**2,200**	**151,809**	**64,355**	**20,058**	**233,571 (642 spaces)**	**2,288,866**	

[1] Parking gsf does not include the area of surface parking lots; only the area of parking structures is included as part of the total gsf of the Proposed Project.



Source: 2016 Pluto, DCP

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Project Site

1/4-Mile Radius

PROJECT LOCATION MAP

Figure 1



Source: Aufgang Architects
Note: For illustrative purposes only

EDGEMERE, QUEENS

PROPOSED PROJECT RENDERING

Figure 2

Peninsula Hospital Site Redevelopment



Source: Aufgang Architects
Note: Proposed landscape design features for illustrative purposes only

EDGEMERE, QUEENS

PROPOSED PROJECT SITE PLAN

Figure 3

Peninsula Hospital Site Redevelopment

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Proposed Air Quality Protocol

This protocol provides the proposed approach for the assessment of impacts of the construction and operation of the Proposed Project on air quality. The proposed assessment methodology and assumptions will conform to guidance in the latest version of the *CEQR Technical Manual*.

The public discretionary actions required to implement the Proposed Project have the potential to affect air quality at existing sensitive receptors due to additional traffic, parking facilities, and emissions from boiler stacks. Existing sources of traffic, heating ventilation and air conditioning (HVAC), or industrial activities could also affect the Project Site. In addition, the individual components of the Proposed Project could generate project-on-project impacts. Proposed methods for the assessment of each of these effects are described in the following discussion.

Standards and Evaluation Criteria

National Ambient Air Quality Standards

The National Ambient Air Quality Standards (NAAQS) were promulgated by The U.S. Environmental Protection Agency (EPA) for six major pollutants, deemed criteria pollutants, because threshold criteria can be established for determining adverse effects on human health. They consist of primary standards, established to protect public health, and secondary standards, established to protect plants and animals and to prevent economic damage. The six pollutants are:

- Carbon Monoxide (CO), which is a colorless, odorless gas produced from the incomplete combustion of gasoline and other fossil fuels,
- Lead (Pb) is a heavy metal principally associated with industrial sources,
- Nitrogen dioxide (NO_2), which is formed by chemical conversion from nitric oxide (NO), which is emitted primarily by industrial furnaces, power plants, and motor vehicles,
- Ozone (O_3), a principal component of smog, is formed through a series of chemical reactions between hydrocarbons and nitrogen oxides in the presence of sunlight,
- Inhalable Particulates (PM_{10}/$PM_{2.5}$) are primarily generated by diesel fuel combustion, brake and tire wear on motor vehicles, and the disturbance of dust on roadways. The PM_{10} standard covers those particulates with diameters of ten micrometers or less. The $PM_{2.5}$ standard covers particulates with diameters of 2.5 micrometers or less, and
- Sulfur dioxides (SO_2) are heavy gases primarily associated with the combustion of sulfur-containing fuels such as coal and oil.

Table 2: National and New York State Ambient Air Quality Standards shows the NAAQS, as well as monitored values at stations closest to the Project Site.

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Table 2: National And New York State Ambient Air Quality Standards

Pollutant	Averaging Period	Standard
Sulfur Dioxide	1-hour average[e]	197 µg/m^3 (75 ppb)
	3-hour average	1300 µg/m^3 (0.50 ppm)
Inhalable Particulates (PM_{10})	24-hour average	150 µg/m^3
Inhalable Particulates ($PM_{2.5}$)	3-yr average annual mean	12 µg/m^3
	3-yr average of 24-hr.[d]	35 µg/m^3
Ozone	Maximum daily 8-hr avg.[b]	0.075 ppm
Carbon Monoxide	8-hour average[a]	9 ppm
	1-hour average[a]	35 ppm
Nitrogen Dioxide	12-month arithmetic mean	100 µg/m^3 (53 ppb)
	1-hr average[e]	188 µg/m^3 (100 ppb)
Lead	Quarterly mean	1.5 µg/m^3

Notes: ppm = parts per million; μ g/m^3 = micrograms per cubic meter.
a. Not to be exceeded more than once a year.
b. Three-year average of the annual fourth highest maximum 8-hour average concentration effective May 27, 2008.
c. Not to be exceeded by the 98th percentile of 24-hour $PM_{2.5}$ concentrations in a year (averaged over 3 years).
d. Three-year average of the 98th percentile of the daily maximum 1-hour average, effective January 22, 2010.
e. Three-year average of the 99th percentile of the daily maximum 1-hour average, final rule signed June 2, 2010.

Sources: New York State Department of Environmental Conservation; New York State Ambient Air Quality Development Report, 2014; New York City Department of Environmental Protection, 2014.

NYC De Minimis Criteria and Interim Guidelines

For carbon monoxide from mobile sources, the New York City's *de minimis* criteria are used to determine the significance of the incremental increases in CO concentrations that would result from a proposed action. These set the minimum change in an 8-hour average carbon monoxide concentration that would constitute a significant environmental impact. According to these criteria, significant impacts are defined as follows:

- An increase of 0.5 parts per million (ppm) or more in the maximum 8-hour average carbon monoxide concentration at a location where the predicted No-Action 8-hour concentration is equal to or above 8 ppm, and
- An increase of more than half the difference between the baseline (i.e., No-Action condition) concentrations and the 8-hour standard, where No-Action condition concentrations are below 8 ppm.

For $PM_{2.5}$ analyses at the microscale level, the City's *de minimis* criteria for developing significance are:

- Predicted increase of more than half the difference between the background concentration and the 24-hour standard,
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.1 ug/m^3 at ground-level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately one square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations), or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.3 µg/m^3 at a discrete or ground-level receptor location.

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Based on the New York State Department of Environmental Conservation's (NYSDEC) annual air quality report (2016), which lists a 24-hour background value of 19.4 ug/m^3 for $PM_{2.5}$ for Queens (Queens College 2), the *de minimis* criterion for the 24-hour concentration of $PM_{2.5}$ would be 7.7 ug/m^3. If the project increment is greater than this value, an impact would occur.

New York State Short-Term and Annual Guideline Concentrations

The NYSDEC has established Short-Term Guideline Concentrations (SGCs) and Annual Guideline Concentrations (AGCs) for certain toxic or carcinogenic non-criteria pollutants for which EPA has no established standards. They are maximum allowable 1-hour and AGCs, respectively, that are considered acceptable concentrations below which there should be no adverse effects on the health of the general public.

SGCs are intended to protect the public from acute, short-term effects of pollutant exposures, and AGCs are intended to protect the public from chronic, long-term effects of the exposures. However, the New York City Department of Environmental Protection (DEP) considers that, for pollutants for which the NYSDEC-established AGC is based on a health risk criterion (i.e., a one in a million cancer risk), impacts less than ten times the AGC are not considered significant. This is because NYSDEC developed the AGCs for these pollutants by reducing the health risk criteria by a factor of ten as an added safety measure. In determining potential impacts, therefore, NYCDEP considers concentrations within ten times the AGC to be acceptable. Pollutants with no known acute effects have no SGC criteria but do have AGC criteria. NYSDEC DAR-1 (October 18, 2010) contains the most recent compilation of the SGC and AGC guideline concentrations.

No NAAQs, SGCs, or AGCs exist for emissions of pollutants that are grouped together such as total solid particulates, total hydrocarbons, or total organic solvents. Therefore, as recommended by NYCDEP, all solid particulates are assumed to be PM_{10}. For total organic solvents or total hydrocarbons, the SGCs and AGCs for specific compounds should be obtained and used in an analysis.

Background Concentrations

For SO_2, NO_2, and PM_{10}, the background concentrations were obtained from NYSDEC's annual report for 2016 and are as follows:

- 24.7 µg/m^3 for the 1-hour SO_2 concentration (Queens College 2),
- 29.7 µg/m^3 for the annual NO_2 average (Queens College 2),
- 120.9 µg/m^3 for the 1-hour NO_2 average (Queens College 2),
- 31 µg/m^3 for the 24-hour PM_{10} average (Queens College 2),
- 19.7 µg/m^3 for the 24-hour $PM_{2.5}$ average (JHS 126),
- 7.5 µg/m^3 for the annual $PM_{2.5}$ average (JHS 126),
- 1.9 ppm for the 1-hour CO average (Queens College 2), and
- 1.7 ppm for the 8-hour CO average (Queens College 2).

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Operational Air Quality Impacts

Mobile Sources. A screening analysis will be completed to determine whether the Proposed Project would have the potential to exceed the NAAQS and/or the City's *de minimis* standards for CO or $PM_{2.5}$.

- The threshold value that could trigger a more detailed analysis for CO is 170 or more new trips through an intersection during a peak-hour period, and
- The threshold value that could trigger a more detailed analysis for $PM_{2.5}$ is based on the exhaust emissions of heavy duty diesel vehicles (or equivalent volume of mixed traffic) and will be calculated from the spreadsheets provided on the website for the *CEQR Technical Manual*. The calculations generally show that the equivalent of 12 to 23 additional heavy trucks, depending on the type of roadway, would trigger the need for modeling.

The analysis will use information from traffic studies prepared for the Proposed Project to evaluate individual intersections for future With-Action and No-Action conditions. 50 intersections were identified in the traffic study area. The incremental traffic volumes for the intersections will be tabulated to identify intersections that exceed the screening thresholds. For $PM_{2.5}$, the roadway type for each intersection leg will be identified to determine the appropriate screening threshold for that intersection. Typically, the roadway link with the lowest volume threshold would be the applicable location for analysis.

Based on preliminary traffic data, a detailed analysis of CO and $PM_{2.5}$ from mobile sources is warranted for one or more intersections. Although the New York City Department of Transportation (NYCDOT) has not yet signed off on the traffic volumes, the local streets near the Proposed Project would likely surpass the screening threshold given the Proposed Project's size. The detailed analysis will select up to three worst-case intersections to model using the EPA MOVES14a and CAL3QHCR models to determine the potential for exceeding the City's *de minimis criteria* and NAAQS. The following two intersections currently are the most likely candidates for modeling because they are projected to have the greatest changes in traffic volume, and they are less than 300 feet apart:

1. Rockaway Beach Boulevard/Beach 53rd Street (unsignalized) with 348 new trips in the PM peak; and
2. Arverne Boulevard/Beach 54th Street (signalized) with 339 new trips in the PM peak.

Modeling with MOVES14a for emission factors and CAL3QHCR for dispersion concentrations will conform to the methods outlined in the CEQR Technical Manual. Speeds, volumes, and vehicular mixes will be obtained from the traffic study. The pollutants of interest would be CO and PM2.5.

For MOVES14a, the pollutant processes for free-flow links would include running exhaust and crankcase running exhaust, as well as brake and tire wear for PM_{10} and $PM_{2.5}$. The model will be run for January 1st for the analysis year during the worst-case peak period (weekday PM). The scope of work assumes that one future analysis year will be modeled. Need for modeling interim years is not anticipated. Post-processing will be carried out to obtain emission factors for CAL3QHCR. Fugitive dust from re-entrainment of dust will be calculated and added to the $PM_{2.5}$ emission factors for the 24-hour averaging period using EPA formulas from Section 13.2.1-3 of EPA's AP-42 document and silt loading factors from the CTM. No fugitive dust will be added to the emission factors for the annual averaging periods.

Roadway links will be set up as free-flowing traffic links in CAL3QHCR. EPA has stated that $PM_{2.5}$ cannot be modeled with queue links because the queuing algorithm in CAL3QHC/R is not appropriate for use for particulate matter analysis. Therefore, the accepted approach is to model an average speed that includes intersection delay. No queue links or traffic light information is required. Since particulate matter is modeled using this approach, for consistency, the CO analysis will also utilize the same approach. Speeds and volumes will vary for the modeled roadway links.

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Roadway links will be modeled for a distance of 1,000 feet from the target intersection in each direction or to the end of the roadway link if it is shorter than 1,000 feet. The mixing zone for free-flow links would be equal to the width of the traveled way plus an additional 10 feet (three meters) on each side of the travel lanes.

Receptor points will be modeled on the corners of the intersections, and additional points will be modeled at 20-meter intervals for a distance of 350 feet along both sides of each intersection leg. Receptors for the 24-hour averaging periods of $PM_{2.5}$ will be placed at mid-sidewalk and outside the air quality mixing zone. Receptors for $PM_{2.5}$ for the annual period will be placed outside the air quality mixing zone and at least 15 meters from the roadway. Receptors will be located at a height of 1.8 meters.

Per EPA guidance, the queuing algorithm should not be used with the CAL3QHCR model. Therefore, the analysis will use an average speed that includes intersection delay. This would obviate the need to model traffic signal timing and intersection approach links. Alternatively, the roadways can be modeled as line area sources using AERMOD.

CAL3QHCR will be run with five years of meteorological data (2012 – 2016) from JFK Airport. Each computer run will cover wind angles from 0 to 360 degrees and identify the worst-case wind angle for each receptor point. The model will be run with a surface roughness of 321 centimeters (cm).

The initial runs will be Tier I runs. A Tier I analysis assumes that traffic is the same for every hour of the day. A simple Tier II analysis will be carried out if the Tier I analysis shows potential impacts. It will use traffic volumes and emission factors specific to each hour of the day. In this case, emission factors will be run for the morning, midday, evening, and overnight periods. The intersection(s) will be modeled for No-Action and With-Action conditions for the 2034 analysis year.

For each pollutant, the modeled results for the receptor with the highest concentration will be added to background concentrations and compared with the NAAQS for the No-Action condition and the With-Action condition. In addition, for $PM_{2.5}$, 24-hour and annual impacts will be determined from the differences between the modeled No-Action and With-Action concentrations. In this case, the same receptor will be used for the comparison. That is, the worst-case receptor for the No-Action condition will also be used in the comparison to the With-Action condition. The differences then will be compared with the City's *de minimis* criteria.

If a Tier II analysis shows potential impacts, then an annual (neighborhood) $PM_{2.5}$ assessment will be carried out with all free-flow links within 500 meters of the intersection where the potential impacts are anticipated. Traffic and speeds for these individual roadway links will be determined for the AM, midday, PM, and overnight peak periods. Receptors for $PM_{2.5}$ for the annual period will be placed outside of the roadway links at 25-meter intervals over a one-kilometer neighborhood receptor grid. Receptors that fall within a roadway right-of-way, as well as receptors that are over water, will be removed from the grid. The modeled values for these receptors will be averaged together to obtain the annual averages for the No-Action condition and the With-Action condition.

Parking Facilities. The net increase in parking spaces in sub-sections A, B, C, and D of the Proposed Project would exceed the CEQR assessment threshold warranting a parking facility analysis. Therefore, a parking analysis will be carried out for CO and $PM_{2.5}$ for the worst-case hour for the largest enclosed parking facility, which would be the 200-space facility in sub-section B. The worst-case hour will be determined from the total of incoming and outgoing vehicles. No analysis of surface parking lots is anticipated since the enclosed garage facilities would be the worst-case in terms of size. In addition, the surface parking lot for the With-Action condition is assumed to be smaller than the surface parking lots allowable under the No-Action condition.

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The analysis will be carried out in conformance to the *CEQR Technical Manual*. Emission factors will be obtained from MOVES2014a. For vehicles within the garage, no brake wear, tire wear, or calculations of fugitive dust will be added to the emission factors. A line source contribution to the parking emissions will be carried out for the roadway in front of the garage entrance/exit using MOVES2014a for the emission factors and CAL3QHC/R to determine concentrations as described in the mobile sources section above.

The Metropolitan Transportation Authority (MTA) operates a bus depot across from the Project Site along Beach 50th Street that includes a surface parking lot. Additional information on the depot's size and the volume of traffic it generates will be obtained to determine whether it should be analyzed quantitatively for potential impacts on the Proposed Project.

Stationary Source HVAC. An air quality impact assessment of emissions from proposed HVAC systems will be completed to determine: 1) project-on-project impacts, 2) the Proposed Project's impacts on existing developments, 3) the effects of major sources within 1,000 feet on the Proposed Project, and.4) Cumulative impacts. Potential adverse effects due to HVAC are a function of fuel type, stack height, minimum distance from the source to the nearest building of similar or greater height, and square footage of the Proposed Project.

For analyzing the potential impacts of the Proposed Project on existing buildings, the graphs in the appendices of the *CEQR Technical Manual* will be used as a first step to determine whether the fuel combustion emissions for HVAC would cause potential impacts to surrounding land uses. These graphs are based on the proposed use, fuel type, the square footage, the height of the stack, and the distance to a building of similar or greater height. As a worse-case analysis for screening purposes, the distance between a stack and the nearest building of similar or greater height is assumed to be the distance between the lot lines of the two buildings, and the stacks are assumed to be at least three feet higher than the roof. If the plotted point is on or above the applicable curve on the graph, the potential for a significant air quality impact exists, and further analysis will be required using AERSCREEN or AERMOD. If the distance between the two lots is less than 30 feet, the analysis must be modeled using AERSCREEN and/or AERMOD. AERMOD will be run with five years of meteorological data (2012-2016) from JFK Airport that include surface mixing height, wind speed, stability class, temperature, and wind direction.

If the fuel type is not known, the HVAC analysis will use Figure 17-5 (SO_2 boiler screening for residential #2 fuel oil) from the appendices of the *CEQR Technical Manual*. If the Proposed Project passes this screening, no further analysis of the HVAC source will be undertaken. If it fails, a more detailed analysis will be completed. If the detailed analysis shows potential for impacts, then a screening for natural gas using Figure 17-7 in the appendices of the *CEQR Technical Manual* (NO_2 boiler screening for residential natural gas) will be carried out. If this screening fails, then a detailed analysis will be carried out. Based on the results of this detailed analysis, an E designation for the Project Site may be necessary to specify fuel type, boiler, and/or stack restrictions.

The Proposed Project would be comprised of multiple buildings of varying heights within close proximity to each other. Therefore, AERMOD modeling and five years of meteorological data may be necessary to determine the potential for project-on-project impacts. Project-on-project impacts will be analyzed using the same procedures proposed for use to assess the impact of the Proposed Project on existing buildings. Elevated receptors will be placed at window heights on the receiving buildings. If appropriate, a cluster analysis will be carried out.

Large or Major Sources. Existing land uses within 1,000 feet of the Project Site that are likely to have large boilers, such as the school or medical buildings, will be reviewed to determine whether they have permits and are likely to affect the Proposed Project. In conformance to guidance in the *CEQR Technical Manual*, major/large emission sources to be considered will include solid waste or medical waste incinerators, cogeneration facilities, asphalt and concrete plants, or power generating plants.

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NYCDEP was contacted in 2016 for information on registered boilers at specific sites within 1,000 feet of the Project Site. In addition, online permit information available from the NYSDEC for the State Facility Register was reviewed. NYCHA's Bayside housing development is located within 400 feet of the Project Site and will be reviewed for potential impacts to the Proposed Project. Covering three blocks, the housing development consists of 31 nine-story buildings comprising over 1.3 million sf. No large emission sources or medical, chemical, or research laboratories were identified within the 400-foot search radii. This protocol assumes that no modeling of existing uses with AERMOD would be required.

Air toxics. A manufacturing survey for potential toxic air emissions within 400 feet of the Project Site will be completed in conformance to the guidelines in the *CEQR Technical Manual*. According to the *CEQR Technical Manual*, existing facilities with the potential to cause adverse air quality impacts are those that would require permitting under City, state, and federal regulations. The *CEQR Technical Manual* lists the following types of uses as a source of concern for air toxics:

- A medical, chemical, or research laboratory nearby;
- A manufacturing or processing facility within 400 feet; and
- An odor producing facility within 1,000 feet.

To identify facilities in the categories listed above, online searches will be completed of the DEC Air Permit Facilities Registry and the EPA Facility Registry System for permitted facilities, DOB online data, the New York City Open Accessibly Space Information System (OASIS), telephone directory listings, available aerial photos provided by Google and/or Bing, internet websites, a search of permits from the NYCDEP and the New York City Bureau of Environmental Compliance (BEC), and field reconnaissance.

Preliminary information indicates that several industrial sources are within 400 feet of the Project Site. A list of these sites was sent to the DEP for a permit search or otherwise researched. They are shown in **Table 3: Sites of Interest for Air Toxics within 400 feet of the Project Site**.

Table 3: Sites of Interest for Air Toxics within 400 feet of Project Site

ID	Address	Block	Lot	Land Use Code	Notes	Comments
1	49-15 Rockaway Beach Boulevard	15857	42	E1- Warehouse	TKO Total Kitchen Outfitters	No permits found
2	49-15 Rockaway Beach Boulevard	15857	42	E1- Warehouse	A.P.E.C	No permits found
3	49-15 Rockaway Beach Boulevard	15857	42	E1- Warehouse	North American Van Lines Moving/Storage	No permits found
4	50-01 Rockaway Beach Boulevard	15857	7	F9- Factory/Industrial	Singh Hardwoods	No permits found
5	366 Beach 54th Street	15890	55	K1- One-story retail	Dry Cleaners	No permits found; likely vacant based on field observations
6	48-09 Rockaway Beach Boulevard	15855	1	G1- Parking garage	Bus Depot	No permits found

Preliminary information on some sites was obtained in 2016. TKO Total Kitchen Outfitters, at 49-15 Rockaway Beach Boulevard (Block 15857, Lot 42), is a cabinet maker specializing in cabinets and kitchen remodeling. No permits were found relating to painting or other activities that could generate particulates on-site.

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Singh Hardwoods, at 50-01 Rockaway Beach Boulevard (Block 15857, Lot 7), mills new and reclaimed wood on-site just 70 feet south of the Project Site and 100 feet east of the southernmost Proposed Project. No permits were identified.

The Far Rockaway Depot at 48-09 Rockaway Beach Boulevard (Block 1585, Lot 1) services buses for the MTA former Green Lines routes. No permits for painting or body work were identified.

The dry cleaners at 366 Beach 54th Street (Block 15890, Lot 55) did not appear to be in business during field assessment and, consequently, will not be considered in the assessment.

The wood working facilities (Block 15857, Lot 7) would require a generic assessment, even if they do not have permits, unless additional information indicates that they do not carry out manufacturing type activities on-site.

Construction Air Quality

Project Timing and Phasing

The 17 buildings that comprise the Proposed Project would be developed over several years. The Applicant expects to start construction sometime in 2019 and estimates that construction of all buildings could take approximately 15 years. Therefore, the analysis year for the Proposed Project is 2034. Construction activities during construction would be divided into 1) Demolition, Excavation and Foundation; 2) Super Structure; and 3) Interior Fit-Out. When more detailed information on the construction schedule and equipment is available, a construction analysis framework will be developed for the DEIS in consultation with DCP.

The construction analysis would analyze potential impacts to existing sensitive receptors in the vicinity of the site. In addition, due to the staggered construction phases, some buildings would be completed and occupied before others are finished. Therefore, the construction air quality analysis will include analysis of potential project-on-project impacts.

Screening Analysis

The *CEQR Technical Manual* states that preliminary assessments of construction impacts are warranted if project construction extends for a period greater than two years. The following criteria will be used to determine whether a preliminary analysis is needed. An assessment of air quality for construction activities is generally not warranted if the project's construction activities:

- Are considered short-term;
- Are not located near sensitive receptors;
- Do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final build-out; and
- The pieces of diesel equipment that would operate in a single location at peak construction are limited in number.

Given the size of the Proposed Project, all four of the above-mentioned threshold criteria would be exceeded, and therefore, detailed analyses will be completed of the construction period impacts on air quality. Of particular concern is the potential for some buildings to be completed and occupied while others are under construction. The worst-case periods for construction are during the excavation and foundation, site clearing, and preparation stages, when the highest numbers of large, diesel-powered equipment are deployed.

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The sizes, types, and number of construction equipment on each sub-section of the Project Site during each construction quarter will be obtained from the construction activity schedule provided by the Applicant. This will also include construction phasing.

Preliminary Construction Air Quality Analysis

Emissions from on-site construction equipment and on-road construction-related vehicles, as well as dust-generating construction activities, have the potential to affect air quality. In general, much of the heavy equipment used in construction has diesel-powered engines that generate carbon monoxide, nitrogen oxides, and fine particulates. Fugitive dust generated by equipment moving around on the Project Site also contributes to concentrations of fine particulates. Therefore, the primary air pollutants of concern for construction activities include CO, NO_2, PM_{10}, and $PM_{2.5}$. The modeled concentrations of nitrogen oxide (NO_x) are not required for trucks. Trucks will be included in the off-site analysis but are not considered for the on-site analysis if they just deliver and pick up materials at the Project Site boundaries.

Emission factors for equipment will be obtained from MOVES2014a. Exhaust emission factors will be modeled as point sources for equipment that would remain in one place most of the time, such as generators, compressors, and cranes. All stationary equipment is assumed to be at least 30 feet from a sidewalk and at least 50 feet from a residential building, school, or publicly-accessible open space. Where multiple pieces of the same equipment are planned, they would be spaced evenly along the façade(s) facing sensitive receptors to simulate worst-case conditions.

When more detailed information on the construction schedule and equipment is available, a construction analysis framework, including an equipment list will be developed for the analysis, will be developed for DEIS purposes in consultation with DCP. Exhaust emissions for backhoes and excavators, which move around the Project Site, will be modeled as area sources. They are assumed to move over a large area during the day, but to remain no closer than 10 feet to the lot line. In addition to engine emissions, fugitive dust emissions from mobile equipment will be calculated based on the formulas for unpaved roads in AP-42. Fugitive dust emissions will be added to the exhaust emissions and included in the modeling of mobile sources for the construction equipment.

Coordination with the New York City Department of City Planning (DCP) will be undertaken to prepare a screening analysis to determine whether construction traffic through neighborhoods would require a mobile source air quality analysis. As outlined in the *CEQR Technical Manual*, if the operational analysis indicates that the Proposed Project would not result in significant mobile source air quality impacts and the vehicular trip generation from construction would be less than that of the Proposed Project, then a more detailed assessment of construction traffic-related impacts is usually not necessary. Based on current preliminary traffic information, mobile source modeling for off-site construction traffic is not anticipated.

AERMOD modeling will be carried out for up to two worst-case construction periods. Short-term analysis periods (e.g., 1-hour, 8-hour, or 24-hour) will be based on worst-case construction quarters (i.e., 13 weeks). Annual analysis periods will be based on the worst-case period of 52 consecutive weeks. Sensitive receptors (locations in the model where concentrations are predicted) will be placed on the sidewalks and at residential and other sensitive uses at both ground-level and elevated locations (e.g., residential windows). This will include existing buildings as well as completed buildings on the Project Site, and at open spaces, where appropriate.

The determination of construction air quality impacts will be based on the same criteria as non-construction activities. In addition, the *CEQR Technical Manual* states that the significance of a likely consequence (i.e., whether it is material, substantial, large, or important) should be assessed based on its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people that it affects. In terms of the magnitude of air quality

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impacts, an action predicted to increase the concentrations of a criteria air pollutant to a level that would exceed the NAAQS or increase the concentration of $PM_{2.5}$ above the *de minimis* criteria could have an adverse impact of significant magnitude. The factors identified above will then be considered in determining the overall significance of the potential impact. The analysis will recommend measures to avoid air quality impacts such as placing tarps over storage piles, periodic wetting to reduce fugitive dust, tire cleaning stations, among other measures.

Emissions from on-site construction equipment and off-site construction-related vehicles would contribute to concentration increments concurrently, thereby warranting a cumulative assessment. Typically, the maximum projected pollutant concentrations due to on-site construction equipment would occur at receptors located near the construction site.

The peak emissions from off-site construction traffic may occur at an intersection some distance from the construction site or during an hour when the on-site equipment is not operating. The peak off-site construction traffic would be compared to the peak operational traffic increment. If the peak construction-related increment is lower and is not adjacent to the location of the highest on-site emission sources, or concurrent with the on-site equipment operation, then the traffic contribution to pollution during construction activities may be considered minimal and may not require further analysis.

APPENDIX C:
Draft Noise Protocol

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Memorandum

To: Mauricio Garcia (DCP)

CC: Diane McCarthy (DCP)

From: Nancy Neuman, Sam Schwartz

Date: March 20, 2018

Re: Peninsula Hospital Site Redevelopment – Draft Noise Protocol

Introduction

This memorandum describes the proposed protocol for the assessment of the noise impacts of the Peninsula Hospital Site Redevelopment. The results of the noise impact assessment to be prepared in conformance to the proposed protocol will be incorporated in the Peninsula Hospital Site Redevelopment Draft Environmental Impact Statement (DEIS). The proposed protocol is based on guidance provided in the latest version of the *City Environmental Quality Review (CEQR) Technical Manual.*

Project Site Location

Peninsula Rockaway Limited Partnership (the "Applicant") is requesting several discretionary actions from the City Planning Commission (CPC) to facilitate a proposal by the Applicant to redevelop former Peninsula Hospital site located at 51-15 Rockaway Beach Boulevard in Far Rockaway, Queens (Block 15843, Lot 1, Block 15842, Lot 1, and Lot 1 of Block 15857) (the "Project Site"). The Project Site is bound by Rockaway Beach Boulevard, Beach Channel Drive, Beach 50th Street, and Beach 53rd Street, and has a total lot area of 409,928 square feet (sf).

The area in the vicinity of the Project Site contains a mix of land uses in low- to mid-rise buildings. The New York City Housing Authority (NYCHA)'s Ocean Front Apartments (Bayside) are to the north and west of the Project Site and range from seven to nine stories in height. The Bay School (P.S. 105) is northeast of the Project Site and is located on the corner of Beach Channel Drive and Beach 51st Street. Several commercial properties are also located west of the Project Site. Further north is the Rockaway Community Park. The John F. Kennedy (JFK) Airport is located within two miles north of the Project Site. Across the street to the south of the Project Site are three industrial properties, two of which are listed as factory uses by the New York City Department of Finance and one of which is listed as a warehouse use. Further south is the Rockaway Beach and Boardwalk and the Rockaway Freeway. Rockaway Freeway, which is located south of the Project Site, is elevated and carries both motor vehicles and rail lines. To the east of the Project Site are vacant, commercial, and institutional properties.

Proposed Project (With-Action Condition)

In the future with the Proposed Actions (the "With-Action" condition), the Applicant plans to construct approximately 2,890,000 gross square feet (gsf) of development (the "Proposed Project"), which would be distributed across 17 buildings on five sub-sections of the Project Site (A, B, C, D, and E), with sub-sections A through D on the northern portion of the Project Site and sub-section E on the southern portion of the Project Site. The Proposed Project would include approximately 2,200 residential dwelling units (DUs), of which 1,910 DUs are intended to be affordable with 270 DUs set aside for senior housing. In addition to the residential DUs, the Proposed Project would include approximately 151,800 gsf of retail space, of which approximately 25,000 gsf may be used for a gym; approximately 64,400 gsf of community facility space, and approximately 37,600 square feet (sf) of publicly-accessible open space. Retail and residential uses would be distributed across all five sub-sections of the Project Site, while community

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facility spaces programmed for medical uses are anticipated to be located on sub-section C. Building heights for the Proposed Project would range from 75 feet to 154 feet.

Approximately 642 accessory parking spaces would be provided, comprised of 424 accessory parking spaces for residential use, 156 accessory parking spaces for retail use, and 62 accessory parking spaces for community facility medical office use. Parking would be distributed across all five sub-sections of the Project Site, with two parking lots (on sub-sections A and D), and underground parking structures on all sub-sections. Parking spaces provided in both parking lots and garages would be accessible 24/7 and be self-service.

The Proposed Project is expected to be constructed over the next 15 years for completion in 2034. **Table 1** provides a breakdown of the uses for the Proposed Project. **Figure 1** shows the Project Site, and Figure 2 shows an axonometric diagram of the Proposed Project. The analysis year for the Proposed Project is 2034.

No-Action Condition

In the future absent the Proposed Actions (the "No-Action" condition), an as-of-right residential development and supporting retail space would be developed on the Project Site that would be comprised of 12 buildings, including approximately 482,523 gsf of residential space (providing 568 DUs); 21,659 gsf of retail space; 800 gsf of community facility space; and 557 accessory parking spaces comprised of 483 residential spaces, 72 retail spaces, and two spaces for community facility medical office use. Of the 557 parking spaces, 457 would be provided on surface parking lots and 100 would be in an underground parking garage in the center of the northern portion of the Project Site. The No-Action condition would result in approximately 544,982 gsf of development on the Project Site.

Increment

The incremental difference between the No-Action condition and With-Action condition consists of approximately 1,743,884 gsf comprised of the following uses: 1,336,550 gsf residential floor area providing approximately 1,632 DUs, 130,150 gsf of retail space, 63,555 gsf of community facility space programmed for medical offices, 193,571 gsf of parking space, and 85 accessory parking spaces.

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Table 1: Proposed Project

Sub-Section	Block/ Lot	Buildings	Residential (gsf)	Residential Units	Local Retail (gsf)	Medical (gsf)	Mechanical (gsf)	Parking (gsf)[1]	Total Area (gsf)	Height (ft)
A	15843/1	A1	116,569	94	22,441	0	4,685	67,446	599,004	115
		A2	115,548	135	5,021	0				153
		A3	66,614	65	3,024	0				133
		A4	181,063	270	16,593	0				126
B	15843/1	B1	90,432	146	7,790	0	4,488	66,489	500,309	106
		B2	66,187	65	2,424	0				88
		B3	145,096	182	8,608	0				154
		B4	102,557	123	6,238	0				135
C	15843/1	C1	126,905	221	14,241	0	6,027	28,842	642,092	116
	15843/1	C2	66,030	65	15,223	0				97
	15842/1	C3	104,617	111	0	18,690				125
	15842/1	C4	65,574	65	0	23,444				88
	15842/1	C5	150,278	174	0	22,221				154
D	15843/1	D1	65,926	65	17,817	0	3,798	63,741	471,786	87
		D2	132,460	206	19,017	0				134
		D3	159,533	148	9,494	0				153
E	15857/1	E1	63,684	65	3,878	0	1,060	7,053	75,675	75
TOTAL (Entire Project)			**1,819,073**	**2,200**	**151,809**	**64,355**	**20,058**	**233,571 (642 spaces)**	**2,288,866**	

[1] Parking gsf does not include the area of surface parking lots; only the area of parking structures is included as part of the total gsf of the Proposed Project.



Source: 2016 Pluto, DCP

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Project Site

1/4-Mile Radius

PROJECT LOCATION MAP

Figure 1



Source: Aufgang Architects
Note: For illustrative purposes only

EDGEMERE, QUEENS

PROPOSED PROJECT RENDERING

Figure 2

Peninsula Hospital Site Redevelopment

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Proposed Noise Protocol

This protocol addresses the methods and assumptions to be applied in the assessment of operation- and construction-period noise impacts of the Proposed Project. The results of this assessment will be included in an EIS for the Proposed Project. The analyses will conform to guidance in the latest version of the *CEQR Technical Manual*.

Operational Noise

The assessment of operation-related noise impacts will be completed in conformance to the procedures outlined in the *CEQR Technical Manual*. It will establish existing noise levels, identify potential traffic noise level impacts due to the Proposed Project, and identify potential noise impacts to the Proposed Project due to the nearby elevated rail. Noise levels in the No-Action and the With-Action conditions will be projected and compared. The analysis will address criteria from both the *CEQR Technical Manual* and the US Department of Housing and Urban Development (HUD).

The Project Site is located 1.8 miles south of the nearest runway at JFK Airport. Review of the most recently available noise contours shows that the Project Site is very close to the 65 DNL contour projected for 2020. Additional studies at JFK Airport are underway, and information on revised noise contours will be incorporated into the analysis when available.

Noise Monitoring. Ambient noise levels were monitored in 2016 to determine baseline noise levels at the Project Site and to determine the required level of noise attenuation to be incorporated into the construction materials. Noise monitoring was carried out for the weekday peak AM, midday, and PM periods as well as the Saturday midday period. Since an elevated rail facility is located near the Project Site, noise levels at locations with direct site lines to the rail were monitored for 1-hour periods. Otherwise, the noise monitoring periods were 20 minutes long. Potential noise monitoring sites and noise monitoring periods are identified below and will be confirmed with the New York City Department of City Planning (DCP) as lead agency, are listed below:

1. Beach Channel Drive between Beach 50th and Beach 53rd Streets (20 minutes);
2. Beach 53rd Street between Beach Channel Drive and Rockaway Beach Boulevard (1 hour);
3. Rockaway Boulevard between Beach 50th and Beach 53rd Streets (1 hour); and
4. Beach 52nd Street at southern terminus (1 hour);
5. Beach 50th Street between Beach Channel Drive and Rockaway Beach Boulevard (1 hour); and
6. Beach 54th Street and Rockaway Beach Boulevard (1 hour).

Noise monitoring was carried out on August 13, 2016 (Saturday) and August 17, 2016 (Wednesday). Rail passbys, aircraft flyovers, and traffic classification counts were completed concurrently with the noise monitoring. Both rail passbys and traffic volumes would be lower at night. Thus, the daytime periods would constitute the worst-case conditions for the purposes of determining window/wall attenuation for the proposed residential DUs and daycare center. For the purposes of HUD or Federal Housing Administration (FHA) requirements, the 24-hour L_{dn} can be estimated from the peak-hour L_{eq}.

At the request of DCP, an additional 20-minute noise monitoring period will be carried out adjacent to P.S. 105 out during the school hours of 2 to 3 PM. Two more sites, one on Beach 50th Street and one at the elevated train platform on Beach 54th Street, will also be monitored for one-hour periods for the peak AM, Midday, PM, and Saturday periods.

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Traffic Noise. A screening analysis will be completed to determine whether the Proposed Project would generate sufficient vehicle trips to cause a significant noise impact to surrounding land uses. The screening is typically a three dBA increase in noise levels, although it could be as high as five dBA depending on the existing noise levels and time of day. To achieve a three dBA increase in traffic noise, the traffic volumes would have to double or the proportion of trucks would have to increase significantly. To determine this, future traffic noise for both the No-Action condition and the With-Action condition will be projected using the proportionality equation. The analysis will be carried out for all 38 key intersections. Preliminary information indicates that speeds and volumes within the Project Site may be low and traffic noise levels could be lower than background noise levels. Therefore, the decision to model interior noise levels with TNM will be made in consultation with DCP and will be based on the interior traffic speeds and volumes. The projected speeds and volumes may be too low for accurate modeling with TNM. An alternative to the model may be to use the FHWA's TNM 2.5 Look-Up tables to estimate noise levels based on speed and distance. However, CADNA, if used for the construction analysis, may also provide a means for analyzing interior roadway noise.

Rail Noise. For the purposes of Sections 213 and 332.3 of the *CEQR Technical Manual*, the effects of the elevated rail on noise levels at the Project Site will be obtained from fieldwork and noise monitoring data. It is assumed that future passbys and rail equipment would be the same as current conditions. If appropriate, elevated rail noise may be analyzed with CADNA.

Aircraft Noise. Aircraft flyovers were counted if they exceeded three dBA above ambient noise levels. The proximity of the Project Site to JFK Airport's 65 dBA DNL will be discussed.

Playground Noise. No schools or playgrounds are proposed on the Project Site. The playground for P.S. 105 is approximately 250 feet from the nearest new building planned for the Project Site and will be included in the analysis.

Window/Wall Attenuation. The analysis will recommend the degree of indoor to outdoor attenuation to be achieved by the walls and windows for each floor of each façade on the buildings. The recommendations may be expressed in both OITC ratings, for *CEQR Technical Manual* purposes, and STC ratings, which are used by HUD. No detailed analysis using the FHWA's formulas for calculating window attenuation based on the windows' percentage of the exposed exterior walls is anticipated to be required.

Construction Noise

Project Timing and Phasing

The 17 buildings that comprise the Proposed Project would be developed over a number of years. The Applicant expects to start construction sometime in 2019 and estimates that construction of all buildings could take approximately 15 years. Therefore, the analysis year for the Proposed Project is 2034. Activities during construction would be divided into 1) Demolition, Excavation and Foundation; 2) Super Structure; and 3) Interior fit-out. When more detailed information on the construction schedule and equipment is available, a construction analysis framework will be developed for the DEIS in consultation with DCP.

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Screening Analysis

The *CEQR Technical Manual* states that preliminary assessments of construction impacts are warranted if a project construction extends for a period of greater than two years. The following criteria will be used to determine whether a preliminary analysis is needed. An assessment of the impact of a proposed project on noise levels from construction activities is generally not warranted if the project's construction activities:

- Are considered short-term;
- Are not located near sensitive receptors;
- Do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final build-out; and
- The pieces of diesel equipment that would operate in a single location at peak construction are limited in number.

Given the size of the Proposed Project, all four of these threshold criteria would be exceeded and therefore, a detailed analyses of construction noise impacts will be carried out. The worst-case periods for construction are during the demolition, site clearing, and preparation stages, when the highest numbers of large, diesel-powered equipment are deployed.

The sizes, types, and number of construction equipment on each sub-section of the Project Site during each construction quarter will be obtained from the construction activity schedule provided by the Applicant. This will also include construction phasing.

Preliminary Construction Noise Analysis

Potential impacts on community noise levels can result from noise from construction equipment operation and from construction vehicles and delivery vehicles traveling to and from the construction site. Noise levels at a given location are dependent on the type and quantity of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating), the distance from the construction site, and any shielding effects (from structures such as buildings, walls, or barriers). Noise levels caused by construction activities would vary depending on the phase of construction (i.e., demolition, superstructure, interior fit-outs, etc.) and the location of the construction activities relative to noise-sensitive receptor locations. The most significant construction noise sources are expected to be the operation of backhoes/loaders, cranes, excavators, rebar bending machines, and vibratory plate compactors.

The *CEQR Technical Manual* states that significant noise impacts due to construction would occur, "only at sensitive receptors that would be subjected to high construction noise levels for an extensive period of time." Based on the *CEQR Technical Manual* and subsequent protocols established by review agencies, a construction noise impact may occur if sensitive receptors would experience:

- Cumulative construction noise levels exceeding ambient noise levels by three dBA or more for a period of two years or more;
- Cumulative construction noise levels exceeding 85 dBA for the duration of three months; and
- Cumulative construction noise levels exceeding ambient noise levels by 15 dBA or more for the duration of three months.

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For conservative analysis purposes, existing noise levels will be used as the baseline noise levels for determining construction-generated noise level increases.

In assessing the criteria above, further analysis should be performed if the Proposed Project would cause construction equipment to operate within 1,500 feet of a receptor for a period exceeding two years. In some circumstances, however, even a shorter-term construction phase may affect highly sensitive locations (such as schools, hospitals, etc.), warranting further quantitative analysis.

Based on the proposed construction schedule, up to two worst-case construction periods will be identified where sites would overlap each other during development. The evaluation will be based on quarterly construction periods. The construction analysis would analyze potential impacts to existing sensitive receptors in the vicinity of the site. In addition, due to the staggered construction phases, some buildings would be completed and occupied before others are finished. Therefore, the construction noise analysis will include analysis of potential project on project impacts.

To identify the worst-case periods, construction equipment noise first will be evaluated by examining all time periods and all potential receptor groups with a spreadsheet-based procedure that uses accepted noise attenuation calculations from the FHWA's RCNM noise model. The analysis of stationary source construction noise impacts will be based on the following average worst-case condition assumptions: 1/3 of the construction equipment would be located approximately 50 feet inside the building lot lines, 1/3 at 100 feet, and 1/3 at 150 feet. Equipment utilization factors and noise levels at a reference distance of 50 feet will be obtained from the Applicant for each month of each building's construction. Up to two worst-case construction periods will be selected for further analysis.

Construction noise from on-site equipment during the identified worst-case periods will be logarithmically added to existing noise levels for the affected receptors and compared to the criteria cited above. If the analysis shows potential noise impacts, more detailed analysis of selected worst-case receptor sites will be carried out using DataKustic's CADNA noise model.

Mitigation methods will be recommended to reduce construction noise levels. Potential methods include equipment enclosures, noise barriers, early electrification to maximize use of electric equipment, recommended truck routes, changes in construction phasing, and locating noise equipment in a manner that minimizes impacts. Equipment noise levels quieter than those of typical construction equipment could be achieved through better engine mufflers, refinements in fan design, improved hydraulic systems, and/or newer equipment with specific manufacture noise levels. Path controls (e.g., the placement of equipment and implementation of barriers between equipment and sensitive receptors) could include portable noise barriers, enclosures, acoustical panels, and curtains, dependent on feasibility and practicality.

Coordination with DCP will be undertaken in the preparation of a screening analysis to determine whether construction traffic through neighborhoods would require noise analysis. The scope of work assumes that the construction traffic would not require detailed noise analysis or modeling, but it may be included in the CADNA modeling.