STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of Proactive Planning for Upgraded Electric Grid Infrastructure	)))	Case 24-E-0364

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

URGENT PROJECTS PROPOSAL

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I. Introduction

On August 15, 2024, the Commission directed the Joint Utilities[1] to propose a framework for proactive planning to support transportation and building electrification.[2] Recognizing that utilities may have already identified projects that cannot wait for implementation of that framework, the Commission directed each utility to propose urgent infrastructure upgrade projects ("Urgent Projects") within 90 days. Con Edison commends the Commission for recognizing the need for a focused approach to proactive planning, including the need to approve Urgent Projects. [3] The Commission's foresight will facilitate electrification and smooth the transition to clean energy.

In this filing, Con Edison proposes nine Urgent Projects for approval. In proposing projects, the Company was guided by two main principles:

- **Need to Begin Now**. The Company focused on projects where infrastructure build must begin now. The Company considered the need to keep pace with customer timelines, current customer queues and plans, and comply with deadlines in state and local laws.[4] The Company also considered the need to account for the lead time and supply chain constraints for larger and more complex infrastructure and equipment that can create a timing mismatch between customer needs and infrastructure availability.

[1] The Joint Utilities are Central Hudson Gas & Electric Corp. (Central Hudson); Consolidated Edison Company of New York, Inc. (Con Edison); Niagara Mohawk Power Corporation d/b/a National Grid (National Grid); New York State Electric & Gas Corporation (NYSEG); Orange & Rockland Utilities, Inc. (O&R); and Rochester Gas and Electric Corporation (RG&E).

[2] Case 24-E-0364, *In the Matter of Proactive Planning for Upgraded Electric Grid Infrastructure* (Proactive Planning Proceeding), Order Establishing Proactive Planning Proceeding (issued August 15, 2024) (Order).

[3] New York State Department of Public Service press release stated, "…the rate at which consumers are electrifying buildings and vehicles has the potential to outpace the existing grid planning processes" and that this effort will "identify timely electric grid upgrades to support electrification across a number of sectors of the economy." August 15, 2024. Available at https://dps.ny.gov/news/commission-announces-new-proactive-grid-planning-proceeding-prepare-new-yorks-electric-grid

[4] New York State has adopted ambitious statewide electrification targets, including enacting policy goals for medium and heavy-duty vehicle (MHDV) decarbonization through the Advanced Clean Trucks (ACT) rule enacted in 2021, Advanced Clean Cars II enacted in 2022, and the Zero-Emission School Bus requirement enacted in 2023. Similarly, New York City has adopted a number of policies including the Green Rides Rule in 2023, New York City Council passed Local Law 154 (LL 154) in December 2021, which took effect in 2024 for low-rise buildings and 2027 for high-rise buildings. LL 154 bans fossil fuel heating in newly constructed buildings, accelerating heating electrification in new construction projects. Local Law 97 also took into effect in 2024 and will impose fines on buildings above a certain size with greenhouse gas emissions in excess of increasingly more stringent requirements. Local Law 32 requires more stringent LEED design and other designated standards for city-funded capital projects (amendments to Local Law 85 of 2005).

- **Holistic Approach**. The Company considered electrification needs holistically. This means designing projects that can be expandable as new load materializes at an accelerated pace; avoiding temporary and piecemeal solutions that support only a portion of electrification load in the near term and are cost inefficient in the longer term; and considering the impacts to communities, in particular disadvantaged communities,[5] including avoiding having to repeatedly revisit an area with disruptive construction activities.

Applying these principles, the Company identified two types of projects. The first type consists of seven projects[6] that will proactively prepare the grid for customer electrification. Four projects upgrade the primary distribution feeders necessary to bring power to areas the Company has identified as future electric vehicle charging "hotspots" for transportation electrification,[7] while the remaining three upgrade the sub-transmission feeders and area substation equipment that supports these hotspots. Execution of these projects will span multiple years and cost recovery will be spread over the life of the assets.

The second project type consists of two distribution system programs that require additional funding to accommodate existing customer demand for electrification. The first program is the New Business program. With an increase in customer requests for transportation and building electrification, the Company has had to absorb higher New Business[8] costs for 2023 and 2024 and expects this to continue in 2025. The Company has moved money from other capital programs to cover these higher costs, but that is not sustainable going forward. The second program is the transformer program. Because of increasing customer demand for electrification, the Company needs to procure larger sized and a greater number of transformers to opportunistically upsize equipment and prepare for the growing number of New Business

[5] New York State Energy Research and Development Authority (NYSERDA), Disadvantaged Communities Map, https://www.nyserda.ny.gov/ny/Disadvantaged-Communities.

[6] The Company proposes these projects in this proceeding due to their urgency. Given such urgency, the Company also plans to reflect the cost of the Primary Distribution Feeder and Area Station & Sub-transmission Urgent Projects as part of its upcoming Rate Case for 2026-2028.

[7] The hotspot areas are localized load areas smaller than the Company's networks, ranging between a few city blocks to a few square miles.

[8] New Business refers to work required to upgrade or provide new customer services and reinforce the grid in response to customer load requests.

requests. The Urgent Project proposals for these two distribution system programs is for modest incremental funds to be used in 2025.

The Commission should approve these projects. Each must begin construction-related activities or receive additional funding before the proactive planning process is completed in the first half of 2026.[9] And, as demonstrated in the attached whitepapers, each is consistent with the Urgent Projects Criteria outlined in the Joint Utilities' Companion Filing.[10]

II. Summary of Urgent Projects Proposals

The two types of Urgent Projects proposed in this filing are necessary to prepare the grid for expected transportation and building electrification. As explained herein, the Company identified these projects after extensive study and consideration of existing customer plans and active projects, clean energy policy and regulations, and state law.[11]

A. Primary Distribution Feeders Projects

Con Edison is seeking authorization for four primary feeder/system reinforcement projects: Zerega Avenue in the Northeast Bronx Network;[12] Hunts Point in the Central Bronx Network; Steinway (LaGuardia) in the Long Island City and Jackson Heights Networks; and East New York in the Richmond Hill, Ridgewood, and Crown Heights Networks.

The Zerega Avenue Project is a multi-year phased project that is estimated to include, among other work, 42,076 feet of roadway conduit, 237 sections of primary cable, and 123

[9] The Order established two requirements for approving Urgent Projects. First, the utility must show that the project must begin construction before the proactive planning process is completed in the first half of 2026. Second, the utility must show that the projects are consistent with "enhanced evaluation criteria" developed by the Joint Utilities "to ensure that only the truly urgent investments are made while other upgrades are funded when required in the future." Order at 12.

[10] For each Urgent Project proposed in this filing, the Company has provided a Whitepaper (Exhibits A through I) that includes a description of how each project meets the Urgent Project Criteria. Proactive Planning Proceeding, *Joint Utilities' Proactive Planning Urgent Upgrade Project Evaluation and Funding Proposal* (filed November 13, 2024) (Companion Filing). These criteria include (1) the upgrade is required to support transportation or building electrification, (2) the upgrade is urgently needed, (3) there is a high degree of certainty of the need for the upgrade, and (4) the investment plans appropriately consider risks and benefits.

[11] See note 4, *supra*.

[12] A Network is an isolated load area associated fed by a single substation. The Zerega Avenue hotspot area is currently part of the Southeast Bronx Network, but under the Company's proposal it will become part of the Northeast Bronx Network by extending feeders from the Parkchester No. 2 area station, which supports the Northeast Bronx Network.

manholes. The overall estimated cost is approximately $117 million. Details of the Zerega Avenue Project are included in the accompanying Whitepaper in Exhibit A.

The Hunts Point Project is a multi-year phased project that is estimated to include, among other work, 39,491 feet of roadway conduit, 220 sections of primary cable, 113 manholes, a new 138 kV supply feeder, and 113 manholes. The overall estimated cost is approximately $105 million. Details of the Hunts Point Project are included in the accompanying Whitepaper in Exhibit B.

The Steinway (LaGuardia) Project is a multi-year phased project that is estimated to include, among other work, 79,261 feet of roadway conduit, 478 sections of primary cable, 411 manholes, and 16 camera-operated disconnect switches with control capability. The overall estimated cost is approximately $238 million. Details of the Steinway Project are included in the accompanying Whitepaper in Exhibit C.

The East New York Project is a multi-year phased project that is estimated to include, among other work, 42,228 feet of roadway conduit, 174 sections of primary cable, 171 manholes, and six camera-operated disconnect switches with control capability. The overall estimated cost is approximately $111 million. Details of the East New York Project are included in the accompanying Whitepaper in Exhibit D.

B. Area Substations & Sub-Transmission Projects

Con Edison is seeking authorization for three area substation[13] and sub-transmission projects needed to support the load growth in and near the hotspot areas: Parkchester No. 1 in the Southeast Bronx Network; Parkchester No. 2 in the Northeast Bronx Network; and Mott Haven in the Central Bronx Network. These investments are required to be in service as soon as 2028. As a result, Construction-Related Activities[14] to meet the in-service date of these projects must begin as early as possible and in 2025.

The Parkchester No. 1 Project is a multi-year project that includes the installation of a fifth 138 kV/13 kV transformer bank at the Parkchester No. 1 area substation and a new 138 kV

[13] Con Edison's networks are served by area substations. More details available in Appendix Exhibit K.

[14] In the Companion Filing, the Joint Utilities define Construction Related Activities to include construction-related prerequisites, such as detailed design and engineering, permitting, equipment procurement, and site preparation. Companion Filing at p. 7.

feeder from the Company's East 179th Street Substation. This work will increase the capacity of the Parkchester No. 1 area substation by 73 MW and will support the increased load in the Southeast Bronx network, just outside the Zerega Avenue hotspot. The overall estimated cost is $127 million. Details of the Parkchester No. 1 Project are included in the accompanying Whitepaper in Exhibit E.

The Parkchester No. 2 Project is a multi-year project that includes, among other work, the installation of a fourth 138 kV/13 kV transformer bank at the Parkchester No. 2 area substation and a new 138 kV feeder. This work will increase the capacity of the Parkchester No. 2 area substation by 81 MW and will directly support the increased load in the Zerega Avenue hotspot (thereby shifting the hotspot into Northeast Bronx Network that Parkchester No. 2 supports). The overall estimated cost is approximately $44 million. Details of the Parkchester No. 2 Project are included in the accompanying Whitepaper in Exhibit F.

The Mott Haven Project is a multi-year project that includes, among other work, the installation of a fifth 138 kV/13 kV transformer at the Mott Haven distribution area substation and a new 138 kV feeder to the Mott Haven transmission substation. This work will increase the capacity of the Mott Haven Distribution Area Substation by 83 MW and will support the increased load in the Hunts Point hotspot in the Central Bronx network. The overall estimated cost is approximately $47 million. Details of the Mott Haven Project are included in the accompanying Whitepaper in Exhibit G.

C. Distribution System Programs

Con Edison is seeking authorization for additional funding for two programs in 2025: the New Business Capital Urgent Proactive Funding, and the Proactive Planning Transformer Program. Both programs are designed to support customer electrification requests in 2025 while minimizing the impact on other Company operations.

The New Business Capital Urgent Proactive Funding is necessary due to the rapid increase in the number and complexity of electrification requests. Driven by local electrification

laws in New York City,[15] the Company has seen a rise in all-electric buildings and buildings converting to electric heating. These projects often have high peak load at the service level and thus require significant and expensive secondary reinforcement.[16] The rapid growth in building electrification has caused the Company to absorb higher-than-expected New Business costs for such projects in 2023 and 2024, which the Company expects to continue again in 2025. Consequently, the Company requires additional funds in 2025 of approximately $31 million to avoid having to continue diverting resources from other important planned programs, such as reliability initiatives. Details of the New Business Capital Urgent Proactive Funding are included in the accompanying Whitepaper at Exhibit H.

The Proactive Planning Transformer Program will enable the Company to accomplish two objectives. First, the additional funding in this program will proactively plan for increasing customer needs through opportunistic upsizing of 100 transformers when completing already planned transformer replacements; 500 kVA transformers will be replaced with 750 kVA transformers in selected locations, increasing capacity for future customer electrification. This proactive upsizing is especially important given the equipment has a 25-year or more life expectancy. Second, the Company will procure 243 padmount transformers and 32 network transformers, larger volumes than planned in the current rate period. This will support the increasing demand for these transformers for electrification jobs and account for continued supply chain challenges and lead time uncertainty. This program has an estimated cost of approximately $36 million in 2025. Details of the Proactive Planning Transformer Program are included in the accompanying Whitepaper at Exhibit I.

[15] New York City has adopted a number of policies including the Green Rides Rule in 2023, New York City Council passed Local Law 154 (LL 154) in December 2021, which took effect in 2024 for low-rise buildings and 2027 for high-rise buildings. LL 154 bans fossil fuel heating in newly constructed buildings, accelerating heating electrification in new construction projects. Local Law 97 also took into effect in 2024 and will impose fines on buildings above a certain size with greenhouse gas emissions in excess of increasingly more stringent requirements. Local Law 32 requires more stringent LEED design and other designated standards for city-funded capital projects (amendments to Local Law 85 of 2005).

[16] As an example of the complexity of these projects, a single school in the Bronx required $3 million in secondary reinforcement to support heating electrification.

Table 1: Urgent Project Proposal

Infrastructure Type	Project/Program Name	Impact Area
Primary Distribution Feeders	**Zerega Avenue**	Northeast Bronx Network[17]
	Hunts Point	Central Bronx Network
	East New York	Richmond Hill, Ridgewood, and Crown Heights Networks
	Steinway (LaGuardia)	Long Island City and Jackson Heights Networks
Area Substation & Sub-Transmission	**Mott Haven**	Central Bronx Network
	Parkchester No. 1	Southeast Bronx Network
	Parkchester No. 2	Northeast Bronx Network
Distribution System Programs	**New Business Capital Urgent Proactive Funding**	Territory-wide impact
	Proactive Planning Transformer Program	Territory-wide impact

III. Project Identification, Prioritization, and Portfolio Development

To identify Urgent Projects, Con Edison used load studies to analyze the effect transportation electrification would have on its system, taking into account electrification and all other loads across the system. The Company then refined its analysis using the Urgent Filing Criteria to prioritize the most urgent and important projects that will deliver benefits to electrification and other Company customers. The Company identified (A) area substation, sub-transmission, and primary feeder[18] capacity needs through granular load analysis,[19] and (B) distribution system program needs driven by higher levels of New Business requests and for opportunistic distribution transformer upsizing through customer load request analysis.

[17] The Zerega Avenue hotspot area is currently part of the Southeast Bronx Network, but under the Company's proposal it will become part of the Northeast Bronx Network by extending feeders from the Parkchester No. 2 area station, which supports the Northeast Bronx Network.

[18] See Appendix Exhibit K for a brief overview of the Con Edison electric system.

[19] Granular bottom-up load forecasting refers to a bottoms-up approach to load forecasting, which starts by estimating load within a localized discrete area at the distribution level and aggregates upwards. This approach allows for increased precision in dealing with highly clustered load pockets and allows for more targeted investment identification that may not be well-captured in a traditional less granular or top-down load forecasting approach.

A. Granular Load Analysis for Primary Feeder, Area Substation, and Sub-transmission Needs

The Company traditionally forecasts system and network-level loads using econometric measures as well as bottom-up network-level analysis using near-term customer load requests and numerous other data sets. However, these network-level projections do not fully address the localized needs of emerging EV loads, especially medium- and heavy-duty vehicle (MHDV) fleets, which tend to cluster in specific locations because of local conditions like zoning and land costs. This is especially true for dense urban areas, such as New York City, that have zoning restrictions, industrial business zones (IBZs), and high land costs that make fleets generally unable, and thus highly unlikely, to relocate. While these conditions provide a high degree of certainty of locations where electrification load is likely to materialize, they are also likely to result in areas of large, concentrated load–sometimes within a few city blocks. This requires more granular load projections to address expected load.

A.1. Granular Load Analysis

Using a granular load study, the Company identified fourteen initial transportation electrification hotspots with high vehicle concentrations today, and where large EV charging load is likely to materialize to comply with State and local policies. The Company developed an expected load for each hotspot by creating a granular spatial and temporal bottom-up EV load projection model ("Granular EV Load Projections") to identify and quantify the EV charging load hotspots. The Granular EV Load Projections assumed compliance with all policy mandates, including State and City regulations and requirements. After layering in all forecasted load (including building electrification) to the EV projections, the Company focused on specific areas by considering (a) areas where there may be near-term impacts on the grid and (b) strategic locations (e.g., IBZs, airports, etc.). See Appendix Exhibit J for details on the Granular EV Load Projections study.

After further analysis, the Company determined that four of the fourteen hotspots require urgent near-term distribution system investments, and in some cases, sub-transmission and area station investments, to meet projected customer loads: Zerega Avenue, Hunts Point, East New York, and Steinway (LaGuardia). At each of these hotspot locations, the Company has identified

significant customer EV charging project activity ranging from early customer interest to projects under construction and in operation. This customer activity provides validation from an independent data set that load is already materializing at these locations today.[20]

A.2. Identifying Urgent Primary Feeder needs

From the original list of 14 hotspot locations, the Company reduced the project list to four proposed locations using the Urgent Projects Criteria. Ten of the fourteen hotspots with high expected load growth and in strategic locations were not included as Urgent Projects since there was not a current demonstrated need to start Construction-Related Activities before mid-2026. For example, because of the timing of when additional capacity is needed in the Eastchester hotspot, the Company can begin construction after mid-2026 and still support electrification. Thus, this hotspot was not included among the Urgent Projects.

The decision criteria that set the timing—and therefore urgency—of the primary feeder buildout is based on 1) the projected EV load within each hotspot, by year, using the Granular EV Load Projections and 2) current system constraints (i.e., capacity of infrastructure, location on the network fringe, and location in a lower capacity 4 kV network). 4 kV network areas, such as at the Zerega Ave and Hunts Point hotspots, typically have ratings ranging from 7 to 13 MVA. These lower capacity networks, that have successfully provided reliable electric service to commercial, industrial, and residential loads in the past, will be inadequate to support large EV loads projected in the near-term years. While the 4 kV network feeders will remain in place and continue to supply existing loads going forward, the new primary feeders will be put in place to support large EV loads and other grid needs such as building electrification. The Company used a similar approach to design the new Springfield network,[21] which will be supplied by the Idlewild substation. There, the 4 kV network will remain, while new feeders will be able to supply large new EV loads.

[20] The customer activity at each hotspot is detailed in the "Justification Summary" section of each sub-transmission/area station and primary feeder whitepaper (Appendix Exhibits A through I).

[21] Case 22-E-0064 - Petition of Consolidated Edison Company of New York, Inc. for Authorization and Cost Recovery for the Reliable Clean City - Idlewild Project (filed, August 22, 2023), approved by the Commission in its Order Addressing Cost Recovery of Idlewild Project, issued and effective January 19, 2024.

A.3. Identifying Urgent Area Substation and Sub-transmission needs

To identify urgent area substation and sub-transmission needs in the hotspot locations, the Company followed its standard load relief planning process[22] using both the Company electric network peak demand forecast ("Network Independent Peak Load Forecast") and Load Relief Program (LRP)—augmented with the Granular EV Load Projections at the network level—to identify projects that will create capacity for transportation electrification and other forecasted new loads in the short term that require immediate action before a full proactive planning framework is developed.

The decision criteria that set the timing, and therefore urgency, of these sub-transmission and area substation projects is based on forecasted load exceeding the sub-transmission line and area substation capability ratings.[23] The Company identified numerous infrastructure projects that will need to be completed to serve forecasted electrification and other loads in the 10-year window since the largest infrastructure projects can take up to 8 years—from design and procurement to construction—to be placed in service.

Considering Urgent Projects must meet the Urgent Projects Criteria, Con Edison prioritized projects with the highest needs in the nearest-term; the Company reduced the scope of proactive planning urgent investments from 32 area station projects at 22 area stations within in the 10-year window to three area station infrastructure projects that meet the Urgent Projects Criteria. One example of this prioritization effort is the Inwood hotspot location, which was ultimately deprioritized because of sufficient capacity at the Sherman Creek area substation through 2030s, based on the Company's current forecast. Another example of area station work that did not meet the Urgent Projects Criteria was the Washington Street load transfer to relieve area station capacity, where the substation does not have constraints until the 2030s. Other area station projects that can wait to begin in 2026 or later may be proposed in the Company's Rate Case expected to be filed in January 2025 or under the Proactive Planning Proceeding once a long-term framework is established.

[22] See Appendix Exhibit J for a brief overview of the Con Edison electric system and standard planning processes.

[23] Sub-transmission line and area substation capability ratings are using thermal ratings of the various equipment and area substation design criteria and follow the Company's standard processes.

As the Company's service territory transitions from an era of modest load growth to a period of relatively rapid large load increases, Con Edison designed infrastructure solutions that consider forecasted load increases through the 20-year window. Looking at the longer-term horizon when designing the infrastructure solution allows Con Edison to leverage a "dig once" approach, where feasible, in choosing solutions that build capacity towards the full electrification scenario. This approach supports long-term policy compliance and customer need projections, with the benefit of forgoing costly sequential short-term solutions, ultimately resulting in more cost-effective grid buildout for customers. By creating capacity ahead of time for future electrification, the Company shifts from just-in-time planning to preparing the grid ahead of time to serve customer electrification needs. The financial benefits of creating capacity ahead of time to support future electrification load were described in a recent study.[24]

To illustrate the "dig once" approach, one alternative solution the Company considered for the Southeast Bronx network, that supports the Zerega Ave hotspot currently supplied by the Parkchester No.1 area substation, was a near-term 70 MW load transfer from Parkchester No. 1 to Parkchester No. 2 in 2028 to support load growth. In the Urgent Projects, the Company is proposing to forgo that short term solution due to (a) the additional future growth projected in both the Southeast Bronx and Northeast Bronx networks throughout the 20-year window, and (b) the high cost of the load transfer due to the topography and complexity of the transfer. Thus, the Company is proposing to advance addition of a transformer at Parkchester No. 1, which is less expensive than the load transfer, to proactively create new capacity required to support 52 MW of electrification in the next decade. More information on the proposed solution to support the Southeast Bronx and Northeast Bronx networks can be found in the Parkchester No. 1 and No. 2 Project Whitepapers in Appendix Exhibits E and F, respectively.

A similar approach was used to support the Hunts Point hotspot in Central Bronx that is fed by the Mott Haven area substation. To support electrification activities and growth at Hunts Point, such as the proposed redevelopment of the produce market,[25] substation upgrades at Mott

[24] For example, a recent Black & Veatch report prepared for the Environmental Defense Fund of the costs and benefits of building the grid ahead of time for electrification load shows that proactive approaches can result in capital expenditure reductions. "Proactive Grid Assessment: Medium- and Heavy-Duty Vehicle Transportation Electrification" (EDF Report). Published November 6, 2024, available at https://library.edf.org/AssetLink/atal4338qv8ucl8226qok35dmm170r4e.pdf.

[25] Hunts Point Forward: A Vision for the Future, https://huntspointforward.nyc/

Haven are needed by 2029 to meet projected loads. Therefore, the Company is proposing to install the fifth transformer and 138 kV supply feeder in 2029, as opposed to a piecemeal sequential solution that would have entailed installing cooling on Transformers No. 3 & 4 in the near term and capacitor banks in 2034, which would ultimately be followed by installation of the fifth transformer and 138 kV supply feeder in 2036.

A.4. Appropriately sizing and timing the solutions

While the granular load analysis initially focused on EV charging load, the final solution designs[26] account for building electrification load and all other forecasted load, based on the Network Independent Peak Load Forecast. In other words, the Urgent Projects in the four hotspot areas will not be used solely to support electric vehicle charging as capacity will be available for building electrification, New Business needs, and other emerging needs. For building electrification, and other customers in the hotspot areas, the proposed solutions create the foundational distribution feeder work needed to interconnect customers faster than they would otherwise experience without the proactive advanced distribution work.

Despite the robust methodology and detailed and diverse data sets used to develop the granular EV load projections discussed above, there remains some uncertainty around the time, location, and magnitude of load projections included in even the best forecasts. Therefore, the granular load forecast methodology was designed to mitigate the risks associated with unavoidable uncertainty in the following ways:

(i) Location: vehicle telematics information was used to understand where vehicles are located; within a dense urban environment, such as New York City, fleet depots are unlikely to move due to space constraints, zoning limitations, and land costs, resulting in minimal locational risk.

(ii) Magnitude: the analysis was detailed enough to consider vehicle weight class and use case,[27] vehicle return-to-base operational requirements (i.e., vehicle miles traveled) to determine charging energy needs and dwell time, including opportunities to charge

[26] See more detail in Appendix Exhibits A through I.

[27] Examples of use cases include school bus, public transit, and delivery/logistics.

overnight, when possible, to determine charging power demands. This level of specificity helps minimize uncertainty in magnitude.

(iii) Time: the electrification rate was driven by policy adherence, with economics driving further adoption beyond policy targets in later years based on total cost of ownership-driven customer behavior,[28] applicable for a limited number of lighter vehicle classes and use cases. While the exact timing of the load may vary from the Company's granular EV load projections, there is reasonable certainty the load will materialize at that location and the infrastructure will ultimately be needed based on the low uncertainties in location and magnitude. Additionally, given the Company's mesh network grid architecture and dense urban electrical loads, new infrastructure will immediately be used to support electrification customers regardless of the precise time of load growth based on customer plans and active customer projects. This reasonable certainty that the load will materialize, along with the existing customer activity ultimately contains the small risk of building infrastructure early. However, if capacity is not available to support electrification, the negative impacts that would occur are disproportional to the cost of early action: for example, disadvantaged communities often bear the impacts of electrification delays through higher localized pollution and noise resulting in significant health impacts. Additionally, New York misses out on the greenhouse gas (GHG) emissions reduction, economic development, and job creation benefits of electrification.

To further test the necessity of the Urgent Projects, the Company explored the sensitivity of the assumptions used to determine the impact on infrastructure plans and found that (1) assumptions that lower the load projections did not preclude the need for near-term infrastructure investments, and (2) assumptions that increase the load projections may surface the need for additional infrastructure in the future.[29] Ultimately, the risk of being too early is low, where the

[28] Based on Con Edison's internal analysis on total cost of ownership.

[29] For example, the load model did not include the impact of potential additional incremental adoption accelerators, such as from incentives for a full-scale MHDV make-ready program that may be authorized in Case 23-E-0070, *Proceeding on Motion of the Commission to Address Barriers to Medium- and Heavy-Duty Electric Vehicle Charging Infrastructure*. Further, Con Edison's study only considers vehicles domiciled within its service territory—the charging behavior of vehicles from neighboring states may further increase the projected charging demand. Additionally, while managed charging shows promise as an effective load management tool, there is

only impact is that capacity may be put in place one or two years before it was needed, compared to the risk of being too late.[30] If the infrastructure is in place in advance of customer load letters, the additional capacity can provide benefits such as capacity for other electrification needs, improved system reliability, and, importantly, to signal an area of capacity for customers with flexible locational needs. Conversely, if we continue the "just-in-time" planning, there is a risk infrastructure is not in place when customers apply for new or increased service.[31]

The primary feeder projects also provide examples of how planning for future electrification on 20-year timescales can allow for efficient futureproofing of infrastructure through expandable designs. For example, the Zerega hotspot project and Steinway/LGA hotspot project both propose three feeder runs today and the installation of extra conduit for additional feeders needed to serve future projected electrification loads. The phased project plan is based on an expandable design that entails completing all of the most labor-intensive and disruptive civil work upfront for all phases of the project, including digging in the street and laying the conduit for all feeders needed to serve longer term load. However, cable will only be pulled to support the near-term projected load, while additional cable can be pulled into the additional conduit in the future to support the projected load growth. This "dig once" approach can reduce the overall cost of the project and disruption to communities, while shortening the timeline to install feeders in the future to support customers in a compressed timeframe.

B. Distribution System Programs

B.1. Identifying New Business Needs

Since the Company's rate case settlement in 2022, electrification activity has significantly accelerated with New Business spending exceeding the Company's budget amounts

extremely limited data on EV charging patterns by vehicle class and use case in the New York City area, especially for the limited number of MHDVs on the road today; As such, the Company concluded there is not enough information available to estimate the impact of managed charging programs on customer behavior to justify changes to load projections at this time. However, as noted above, the analysis included opportunities for naturally managed charging—where the fleet's operational requirements allow for off-peak charging.

[30] See note 27, *supra*. The EDF report comes to the same conclusion.

[31] Additional discussion on risk determination and benefits is outlined in the "Risk of No Action," and "Project Risks and Mitigation Plan" in of each sub-transmission/area station and primary feeder whitepaper.

by 28% in 2023 and 40% in 2024 (to date)[32]; 37% of the New Business requests include electrification load. Additionally, the number of buildings applying for incentives under the Company's Clean Heat[33] program rose by over 350% from 2022 to 2023. There are three primary reasons for the higher New Business costs: (1) the rising costs of materials and equipment, including transformers, due to inflation and supply chain constraints in the post-COVID era, (2) success of New York City's clean energy policies[34] and customer preferences have led to high levels of building and transportation electrification; and (3) the cost of grid upgrades to support these new electrification projects are larger than similar historic projects—influenced by factors including the size of the loads, the complexity of the work to be completed, and the project locations in areas where there is less available grid capacity today.

While these factors will inform the Company's next rate request, in 2025 the Company has an urgent need for a modest level of additional funding to keep pace in 2025. The New Business budget forecast process in rate cases relies on historical trends and near-term customer load requests to project future needs to develop a sufficient budget to support new customer projects. The Company determined the incremental funding needed to support customer New Business requests in 2025 by evaluating pending New Business cases where construction has not yet begun. The Company developed a forecast based on recent trends in the Company's New Business spending that included transportation and building electrification. The timing, and therefore urgency, and level of investment in New Business work is based on the number of customer projects currently in the interconnection queue above 5 MVA.[35] The Company determined the scope of New Business work for each customer project using the Company's PVL model.[36]

[32] See Table 3 below for full Investment Need Summary.

[33] Case 18-M-0084, In the Matter of a Comprehensive Energy Efficiency Initiative ("NENY Proceeding"), Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (issued and effective January 16, 2020).

[34] See Note 4, *supra*.

[35] Analysis included transportation and building electrification projects between 5-10 MVA.

[36] Poly-voltage load-flow (PVL) modeling is standard to Con Edison design practice to determine grid impact on additional load.

The analysis also reflects today's higher project costs as described above, as well as investments such as for climate resilience, such as FEMA+5,[37] that strengthen Con Edison's infrastructure to withstand extreme weather conditions and the physical impacts of climate change. This aligns with the Company's strategic objective to increase the resilience of energy infrastructure to adapt to climate change and address other threats and hazards.

B.2. Identifying Transformer Procurement Needs

The Company has identified two opportunities to proactively plan transformer procurement for increasing electrification demand: 1) opportunistic upsizing of distribution system equipment during the planned replacement of existing 500 kVA transformers with 750 kVA transformers, and 2) advanced procurement of long lead time transformers for New Business requests, such as 3-phase padmount and network transformers, to mitigate the risk of customer delays.[38] The Company proposes to increase the transformer budget for 2025 by $36M.

i. Creating Capacity Through Opportunistic Transformer Replacement

The Company's transformer installation program supports replacement of transformers as part of system relief and reinforcement ("Transformer Installation Program") across the service territory. The transformers may be targeted for replacement proactively through inspections and preventative maintenance or removed as a result of failure. The program's core objective is to replace equipment that exhibits warning signs of potential failure to ensure public safety and maintain system reliability. Historically under this program, transformers requiring replacement are replaced with a transformer of similar capacity.

The Company has an opportunity to create new capacity on the distribution system with a relatively modest increased upfront cost by replacing 500 kVA transformers with 750KVA transformers designed to fit in the same structure. Because the life expectancy of transformers can be 25 years or more, and the Company plans to replace 100 transformers in 2025 under its Transformer Installation Program, there is an urgency to begin transformer futureproofing as

[37] To address the impacts of rising sea levels, new installations will use a projected floodplain of FEMA +5. Transformers, network protectors, and associated equipment in the floodplain must either be submersible or elevated above the floodplain.

[38] All transformer purchases, such as to support customer load requests, are made through the transformer purchase program. New Business program funds are used to support the installation of equipment, not equipment purchase.

soon as possible with certainty that the increased capacity will be used. This opportunistic incremental grid buildout, especially in areas with a high propensity to support electrification, can preclude the need for future grid upgrades and streamline energization timelines when customers are ready to electrify. Conversely, a piecemeal approach, where utilities wait for customer load letters to increase capacity, can be more costly for all customers over the long term, lead to customer delays, and can be more disruptive for communities. Finally, given Con Edison has standard transformers that it can use across its system, the Company is confident that the equipment will be utilized.

ii. *Transformer for New Business Requests*

The Company forecasts distribution system equipment needs and procures certain longer lead time items in advance through its "Transformer Purchase Program," which is distinct from the New Business program. An increasing number of New Business requests require a higher volume and larger 3-phase padmount and network transformers to support the growing number of distributed generation and electric vehicle connections. With a dramatic increase in demand for these transformers globally, which created significant supply chain challenges in recent years, a longer planning runway is required. The Company must purchase transformers far in advance of customer load requests to be able to meet customers' often aggressive project schedules. Based on the increased rate of electrification New Business requests within the current rate period, the Company estimates 243 large padmount transformers – compared to the previous historical annual average of 65 transformers – and 32 network transformers needed to support customers until the next rate period starts in 2026.

IV. Project Proposals

Based on the foregoing description, Con Edison proposes nine projects to prepare the grid for transportation and building electrification that sufficiently meet the Urgent Project criteria—upgrade required to enable transportation or building electrification, urgency determination, degree of certainty, and risk management strategies. Tables 2 and 3, below, outline (1) the urgency determination and (2) how the upgrade is required to enable transportation or building electrification and cannot wait until the full framework to be developed. Table 4 provides an

overview of the spend across the project lifetimes. Appendices A through I include full details on how the projects specifically meet all criteria, including the degree of certainty and risk management strategies criteria.

Table 2: Proactive Investment Plan Summary to support primary distribution feeders and area substation & sub-transmission

Need Year[39]	Build time (Start Year)[40]	Distribution System Infrastructure[41]	Area Substation Infrastructure	Sub-Transmission Infrastructure	Transportation and Building Electrification Share of Incremental Substation Load[42]
Zerega Avenue, Parkchester No. 1, and Parkchester No. 2 Projects					
As early as 2025	2 yrs.[43] (2025)	(3) New 13kV network feeders and associated equipment			Parkchester No. 2: 70% Parkchester No. 1: 43%
2028	3 yrs. (2025)		(1) fourth transformer at Parkchester No.2	(1) 138kV supply feeder	
By 2030		(3) New 13kV network feeders and associated equipment	(1) fifth transformer at Parkchester No. 1[44]		
Hunts Point and Mott Haven Projects					
As early as 2025	2 yrs. (2025)	(3) New 13kV network feeders and associated equipment			Mott Haven: 62%
2029	4 yrs. (2025)		(1) fifth transformer at Mott Haven	(1) 138kV supply feeder	
By 2030		(3) New 13kV network feeders and associated equipment			
East New York Project					
As early as 2025	2 yrs. (2025)	(1) New 13kV network feeder and associated equipment			N/A – No Substation Work
By 2030		(2) New 13kV network feeders and associated equipment			
Steinway (LaGuardia) Project					
As early as 2025	2 yrs. (2025)	(2) New 13kV network feeders and associated equipment			N/A – No Substation Work
By 2028	3 yrs. (2025)	(6) New 13kV network feeders and associated equipment			
By 2035		(8) New 13kV network feeders and associated equipment			

Table 3: Basis of Need for Distribution System Programs (as of 2024)

Initial Funding Request (Million)	2024 Rate Case Settlement (Million)	Actual Spend Forecast (Million)	Delta between Settlement and Projected Actual Spend Forecast (Million)	Primary Driver
New Business Capital Urgent Proactive Funding				
$268	$177	$248	($70)	Transportation and Building electrification
Proactive Planning Transformer Program				
$159	$139	$225	($85)	Transportation and Building electrification

[39] The year by which the infrastructure upgrade must be complete based on customer plans and load projections. Given existing customer plans and project activity at all four EV charging hotspots, the optimal in-service year for the primary feeders would be by 2025. However, based on even the most aggressive construction schedules, the first feeders are projected to be available in 2026 or 2027, with the final phases of the project completed later as loads increase over time. Before the new feeders are in service, the existing primary distribution infrastructure will be utilized and reinforced, where necessary, under the existing New Business process to meet customer demand until the new distribution feeders can be installed and energized.

[40] The "Start Year" is the year the project must begin so that the infrastructure will be in place on time to meet projected loads.

[41] Distribution feeder counts shown are the number of feeders added, not the cumulative number.

[42] Share of incremental load added at the substation between today and the need year, that supports transportation and/or building electrification.

[43] Initial Zerega supply feeders will be constructed by 2027 but will need Parkchester No. 2 substation work completed in 2028 to energize.

[44] While the Zerega Ave hotspot is currently part of the Southeast Bronx network, fed by Parkchester No. 1, the Urgent Projects infrastructure would supply feeders to Zerega Ave from Parkchester No. 2. In the future, Parkchester No. 1 will still supply electric vehicle and building electrification loads within the Southeast Bronx network *near* but not *within* the Zerega Ave hotspot. See Appendix Exhibits A and F for details.

Table 4: Urgent Project Spending Summary*

Infrastructure Type	Project/Program Name	Minimum Annual Spend (Million)	Maximum Annual Spend (Million)	Peak Year of Spend	Duration of Spend
Primary Distribution Feeders	Zerega Avenue	$7	$69	2026	5 years
	Hunts Point	$11	$55	2026	5 years
	East New York	< $1	$37	2028	6 years
	Steinway (LaGuardia)	< $1	$50	2028	11 years
Area Substation & Sub-Transmission	Mott Haven	$2	$20	2028	5 years
	Parkchester No. 1	$2	$60	2027	5 years
	Parkchester No. 2	$8	$13	2027	4 years
Distribution System Programs	New Business Capital Urgent Proactive Funding	$31	$31	2025	1 year
	Proactive Planning Transformer Program	$36	$36	2025	1 year

**Note that cost recovery for each project will begin once the infrastructure goes into service, with the revenue requirement collection spread across the lifetime of the infrastructure, typically many decades.*

V. Cost Allocation and Recovery

Con Edison requests that the Commission issue an order authorizing cost recovery for the development and construction of the Urgent Projects no later than the March 2025 Public Service Commission Open Session, so that the Company can timely begin the Urgent Projects. As laid out in the Companion Filing, cost recovery is proposed through a surcharge or base rates, depending upon the timing of the project coming into service. The Company will reflect funding for all Urgent Projects in its upcoming rate case filing for 2026-2028. Once included in base rates, the Urgent Projects will be incorporated into the Company's electric and gas net plant targets. Costs for the Urgent Projects will be allocated in line with the Company's current tariff.

VI. Conclusion

Con Edison respectfully requests that, no later than the March 2025 Open Session, the Commission authorize the Company to build and recover the costs of the Urgent Projects as set forth herein.

Dated: November 13, 2024

Respectfully submitted,

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

By: /s/ David P. Warner

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VII. Appendices – Table of Contents

EXHIBIT A

Zerega Avenue Electrification Hotspot

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Figure 2 • Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☒ Project ☐ Program	**Category: ☒ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Proactive Planning – Zerega Avenue Electrification Hotspot	
Project/Program Manager:	**Project/Program Number (Level 1):**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service:**
2025-2029 Funding Request ($000) **Capital: $116,595** **O&M:**	

Work Description:

The Zerega Electrification hotspot targets the concentrated load pocket within Con Edison's Southeast Bronx,[1] shown in Figure 1.

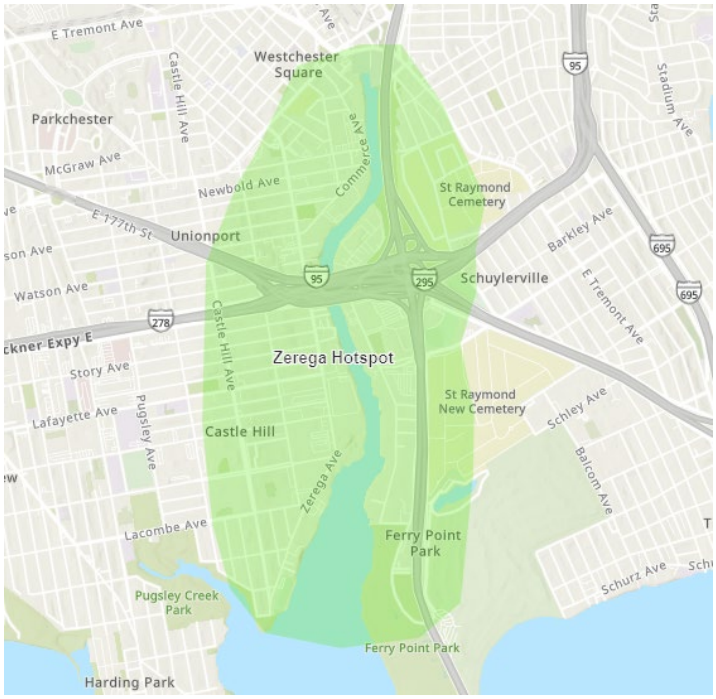

Figure 1. Visual of the Zerega hotspot; green shading represents the hotspot boundary.

[1] The hotspot area is currently part of the Southeast Bronx Network, but under the Company's proposal it become part of the Northeast Bronx Network.

Zerega Avenue in the East Bronx spans just under two miles and encompasses the area where the Cross Bronx Expressway, the Bruckner Expressway, and the Hutchinson River Parkway intersect. There are over twenty fleet depots and service centers on the street, serving over 5,000 medium- and heavy-duty vehicles (MHDVs) with diverse use cases, including delivery, logistics, sanitation, transit, and over 2,000 school buses. Given the number of highly clustered MHDVs, three major thoroughfares interconnecting in the area, and fleet depots and service centers located on Zerega Avenue, Con Edison has identified this area as a fleet charging hotspot where significant future electric vehicle (EV) charging load is expected. Based on a granular bottoms-up load forecasting analysis, the Zerega hotspot is expected to have an estimated 61 MW of additional load from transportation electrification by 2043.

Existing feeders in the Southeast Bronx 4 kV network do not have the capacity or feeder configuration capable of supporting the projected electrification hotspot loading. To resolve capacity constraints at the distribution level the Company will install six (6) new 13 kV network distribution feeders, with load projections showing three (3) of these feeders needed urgently, and the other three (3) needed in the coming years. The feeders will be installed from available potheads in Parkchester No. 2 (as L or M legs with existing feeders), which feeds the Northeast Bronx network, and extend toward the Zerega load pocket in three (3) separate underground conduit systems, each traveling roughly two to three miles. As a result, the Zerega Avenue hotspot will become part of the Northeast Bronx Network and supported by the Parkchester No. 2 area station.

In addition to providing capacity, the installation of network feeders will increase the reliability of service provided by introducing second contingency design in an area currently serviced by non-network 4kV systems. Furthermore, it will diminish the risk of significant delays in responding to customer load requests and minimize disruption to the local areas, while optimizing cost and construction work. Existing feeder programs are not funded or structured to address proactive planning needs and leave a gap in preparing for rapidly increasing electrification loads. Proactive Planning would create a new funding pathway for the Company to build new feeders in concentrated load pockets based on more granular projected electrification loads. This enables the Company to be ready ahead of time in anticipation of customer load requests in comparison to the existing feeder programs focused on reliability, resiliency, and new business.

In order to meet the second contingency design criteria of the network system and maintain reliability, the initial investment must include at least three (3) primary distribution feeders by 2027, with engineering and pre-planning starting immediately in 2025. All conduit work to support projected loads will be constructed upfront, while feeders will be pulled and energized in accordance with the projected electrification load. These timelines are subject to change once engineering and survey is completed, along with the number of feeders required and sequencing of work pending future forecasted load.

To solve capacity constraints at Parkchester No. 2 that will be created, in part, by the new loads in the Zerega Avenue Hotspot, the Company will advance the installation of a 4th transformer and associated 138 kV supply feeder by 2028. This work is required to serve the Zerega Avenue hotspot. Details on the Parkchester No. 2 project are available in the "Proactive Planning **-** Parkchester No. 2 TR13 & B/S 13A & 13B Installation" Whitepaper (Appendix Exhibit F).

Major scopes of work to be completed under this project include:

- Install 42,076 feet of roadway conduit
- Install 237 sections (250 feet per section) of primary cable
- Install 123 manholes
- Associated cubicle work

High-level schedule:

- Engineering design – 2-3 years
- Civil and electrical construction – 4-5 years

This schedule is designed to line up with when the 4th transformer at Parkchester No. 2 is completed so that the Company can energize each distribution feeder at the substation. The project has been designed with a phased expandable approach. The most time-consuming work that has the greatest community impact – digging the street and laying the feeders – is completed all at once up front, and then capacity is added through pulling of feeders through the conduit as the load grows over time.

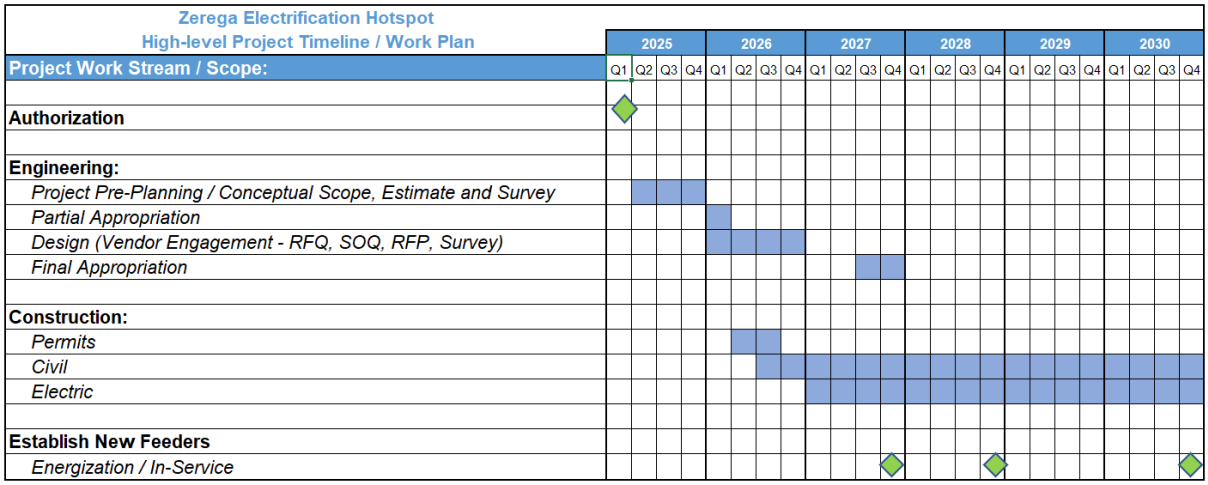

Figure 2. High-level project schedule.[2]

Justification Summary:

There is a **high degree of certainty** of the need for this project. The Zerega hotspot, shown in Figure 1, supports the electrification of multiple types of fleets, serving a total of almost 15,000 estimated commercial fleet vehicles. Given these vehicles will electrify in the coming years to meet policy mandates and several specific customers have electrification plans in various stages of development from exploratory stage to electric vehicles already operating on the road, the Company is confident that this Proactive Planning project is required to serve future expected load in the timeframe proposed.

- There are over twenty fleet depots and service centers on the street, serving diverse fleet vehicle use cases, including food delivery, logistics, sanitation, school bus, and transit. Nearly the entire street is included in the Zerega Avenue Industrial Business Zone (IBZ).[3] The entire area is included in the New York State Disadvantaged Community criteria map[4] and is located in a Clean Air Act pollutant nonattainment area for 8-Hour Ozone.[5]
- The area houses over 20% of New York City's school buses, with over 2,000 vehicles located across nine different school bus depots, some of which have begun electrification and all of which are expected to electrify by 2035, due to the State electric school bus mandate.

[2] Project schedule and the in-service years for the feeders to be energized are subject to change.
[3] New York City Economic Development Corporation, p. 12. Available at: https://edc.nyc/sites/default/files/2020-02/nycedc-all-ratified-ibzs-fall-2013.pdf
[4] New York State, "Disadvantaged Communities Criteria." Available at: https://climate.ny.gov/resources/disadvantaged-communities-criteria.
[5] United States Environmental Protection Agency, "New York Nonattainment/ Maintenance Status for Each County by Year for All Criteria Pollutants." Available at: https://www3.epa.gov/airquality/greenbook/anayo_ny.html.

- Additionally, vehicles belonging to the New York City Department of Sanitation were mandated in October of 2023 to electrify as early as 2030.[6]
- In addition to projected load growth, current customer activity is evidence that transportation electrification is already underway. For example: five school bus operators have projects across 6 depots underway at various levels of progress (ranging from planning to construction of charging stations and awaiting delivery of vehicles); and a municipal fleet charging project is under construction, and one fleet is already operating electric school buses from a depot today.
- Moreover, further market signals also come through Con Edison's pre-engagement and advisory services which engage prospective charger developers and fleet owners to help them plan their charger installation projects before project commitments are made. From these engagements, and including current customer activity just highlighted, customers expressed interest in 19 projects to install charging for fleet electrification in the Zerega hotspot. Based on data provided for 13 of these projects the average project would install 55 L2 plugs, and based on data provided for six of these projects the average project would install 17 DCFC plugs.
- The Company also consulted other transportation electrification projections to validate the density of load in this hotspot. The Electric Power Research Institute's (EPRI's) eRoadMap tool shows this area as one of the densest areas of expected electrification by 2030.[7]

The Company is also confident that the infrastructure upgrades will be utilized. The initial three feeders (and supporting infrastructure) will be utilized by electrification customers in the near term, while also improving system reliability. The additional feeders pulled after 2027 will also be utilized since they will go into service along with customer electrification.

These depots and fleet vehicles are projected to add over 60 MW of load in the next 20 years. As shown in the "Technical Evaluation" section below, the granular study projections show load in the hotspot materializing in 2025 and growing to 11 MW by 2028. With immediate authorization in 2025, three (3) primary distribution feeders are expected to be feasibly energized by 2027 and up to six (6) primary distribution feeders energized by 2030 to support the 19MW of projected transportation electrification load by 2030. Given existing feeders do not have the capacity or configuration capable of supporting this incremental electrification load growth in the hotspot, this project meets the **urgency criteria** because the Company must begin Construction Related Activities as soon as possible (see Figure 2 above); there are already real risks of delayed action based on the customer plans and early interest.

Thus, it is imperative that distribution infrastructure upgrades start now in order to be ready to supply customers when they complete construction; failure to act now has a high likelihood of leading to delays.

In summary, the upgrade in the Zerega hotspot is **required to enable transportation electrification**, which accounts for the vast majority of the total incremental load needed to be served by the new feeders. Other loads, including electrification of buildings in this area that can have high loads that exceed the capability of the 4 kV distribution system, can also be supported by these new network feeders. As such, this project will also support building decarbonization and State goals and regulations by providing capacity for customers to connect to the grid.

[6] New York City Administrative Code, § 6-121.

[7] EPRI eRoadMap tool is part of the EVs2Scale 2030 project. The tool measures cumulative energy needs in MWh per day at granularity down to 0.28 square mile hexagonal geographic areas and groups each hexagon into one of five tiers. These hexagons do not map one-to-one with Con Edison's hotspots, but of the two hexagons that mostly overlap with the Zerega hotspot, one falls into the highest tier of transportation electrification energy needs and the other into the second highest tier. eRoadMap tool available at https://eroadmap.epri.com.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The infrastructure upgrades proposed in this hotspot support other Company and statewide initiatives related to (1) benefits for Disadvantaged Communities, (2) reductions in transportation and building emissions, (3) energy storage, and (4) climate adaptation.

1. The areas within the Zerega Avenue electrification hotspot are classified as Disadvantaged Communities. These plans will provide the infrastructure needed to electrify the area to reduce greenhouse gas emissions and local air and noise pollution, directly improving the quality of life within the Southeast Bronx neighborhoods and surrounding regions.

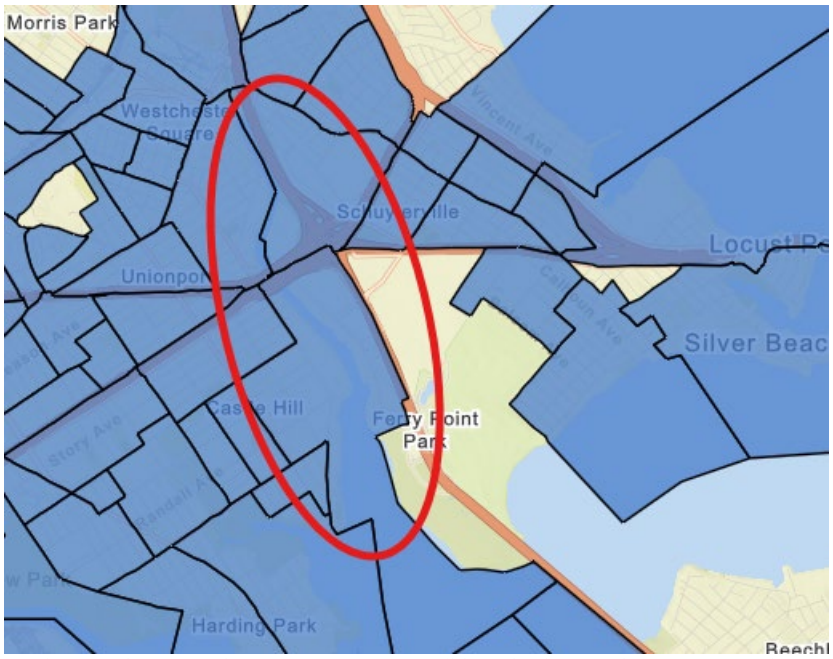

Figure 3. NYSERDA's Disadvantaged Communities map (blue shading indicates a Disadvantaged Community).

2. This project will also help achieve goals in Con Edison's Clean Energy Commitment and Long-Range Plans, as well as New York State's Climate Leadership and Community Protection Act (CLCPA), with goals of reducing emissions by 85% by 2050. It will support customers in meeting policies that require all new school buses sold in New York State be zero-emission by 2027 and all school buses on the road to be zero-emission by 2035.[8] In addition, it will support the infrastructure required to meet the State zero-emission 2035 new sales mandates for passenger vehicles and light-duty trucks.[9] This project will also enable building electrification as customers look to reduce their building carbon emissions, in line with the CLCPA goals of

[8] The State clean school bus mandate requires all school bus sales starting July 1, 2027 to be zero emissions vehicles (ZEV), and all fleets to convert their buses to ZEV by 2035. https://www.budget.ny.gov/pubs/press/2022/fy23-budget-clean-energy.html

[9] NYSERDA. "DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales." Available at: https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II.

85% of homes and commercial building spaces statewide being electrified with heat pumps and/or thermal energy networks by 2050.[10]

3. Increasing the capacity on the distribution grid in currently constrained areas will not only put the infrastructure in place to be ready for customers who are looking to electrify, but it will also enable and support the adoption and installation of energy storage systems. In these select areas, energy storage systems can be strategically placed to support nearby large customer electrification load, and the infrastructure is used and useful until the customer's full load materializes. Energy Storage resources can be more easily scaled than traditional solutions alone to meet initial customer needs in time. Through Proactive Planning, the Company can enable projects fitting the Bridge to Wires (BTW) application described in the Joint Utilities' recent Utility Integrated Storage filing[11] which includes opportunities for energy storage systems to shift amongst multiple use-cases throughout its lifecycle.[12] BTW creates expanded opportunities for Company owned and third-party batteries to interconnect using optimally placed new infrastructure capable of supporting multiple projects. Initially, the energy storage resources would be part of a bridge solution to provide reliability. While more customers continue to electrify, energy storage can support the incremental load until the full traditional solution is online freeing up the energy storage to participate in multiple applications: grid management operations, resiliency applications, and supporting renewable integration.

4. Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

2. Supplemental Information

Alternatives

Alternative 1 – Follow the standard New Business process to connect customers to the distribution grid, which means waiting for customers to supply load letters. Typically, customer load letters come in one-by-one, which results in the necessary studies to be performed on a per-customer basis in order to develop solutions as customers request additional supply.

This alternative was rejected since this would lead to delays in connecting customers, based on the existing customer activity, load projections, and duration of the project, require repeated engineering analysis. Performing grid upgrades in this sequential process loses the efficiency of developing a holistic plan to build the infrastructure needed for the general area in advance considering long-term loads. Additionally, it can lead to long energization timelines, which can create economic hardships for customers since distribution buildout typically takes longer than customer construction. It will also delay the transition to zero-emission vehicles and the various CLCPA goals and policies set for electrification, as well as the air quality improvements and noise reductions in the local community.

[10] New York State Climate Action Council. 2022. "New York State Climate Action Council Scoping Plan," p. 11. Available at: https://climate.ny.gov/resources/scoping-plan/.
[11] Case 18-E-0130, *In the Matter of Energy Storage Deployment Program*, Joint Utilities' Study of Non-Market Transmission and Distribution Energy Storage Use Cases and Related Process Proposals.
[12] Case 18-E-0130, *In the Matter of Energy Storage Deployment Program*, Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.'s Comments on New York's 6 GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage (filed March 20, 2023).

Risk of No Action

Risk 1 – Insufficient grid capacity to meet customer demands, including major delays in connecting customer transportation or building electrification new business load. Should no proactive action be taken there would be a reliance on the existing, reactionary process of waiting for customer load letter submittals. Through this process, upgrades would not be triggered until a customer's load request exceeds the available capacity. Current lead times to make utility-sided infrastructure operational range from 2-3 years for distribution work and 6+ years for substation upgrades, which is out of sync with the 6-12 month timeline customers typically need for EV purchases and charger installation. In the event that a single customer triggers the need for these investments, they would not be able to receive full power until those upgrades can be designed, permitted, and completed. This can also lead to customer financial burdens by missing incentive deadlines, sunk costs of delay, or potentially leading to fines by not meeting electrification laws and regulations. Specifically for transportation electrification, it will not be economically viable for customers to invest in vehicles or electric vehicle supply equipment if they cannot reliably charge them for several years after their request.

Risk 2 - Severely delayed EV charger installations causing the State to miss its adoption goals and the CLCPA targets, furthering greenhouse gas emissions and air pollution that impact community quality-of-life. For example, over 6,000 vehicles are expected to electrify in the Zerega hotspot area in 2030 based on granular load forecasts. If upgrades are not completed proactively and EV charging stations seeking to connect in 2030 are delayed by 5 years (the duration of this project), the electrification of some or all those vehicles – plus nearly 55,000 more vehicles expected to electrify between 2031 and 2035 – may similarly be delayed.

Risk 3 - Overloaded grid areas, while staying within design standards, impacting grid reliability and increasing customer outages.

Risk 4 - Increased costs and reduced construction efficiency due to potentially conducting multiple projects to build "just-in-time" rather than conducting the work proactively and building to area wide plans. If upgrades are not performed urgently, electrification customers would be picked up on existing feeders which may lead to future overloads, and then require other complex load relief work to maintain N-2 design. Furthermore, urgent authorization of the full scope of work is critical because even partial authorization would forgo cost efficiencies and thus lead to higher costs and greater community disruption in the long term.

Non-Financial Benefits

- Increases the safety, reliability, and resiliency while optimizing cost and efficiency.
- Supports the Clean Energy goals of NY state and the Company's targets are met, aiming to positively impact the environment by lowering greenhouse gas emissions and local air pollution, and supporting customer decarbonization efforts. Based on Con Edison's internal analysis, by 2040 this project will support charging of enough light-, medium-, and heavy-duty vehicles to avoid 128 thousand tons of carbon dioxide equivalent (CO2e) that year, with a total avoided emissions of 1,031 thousand tons CO2e from the in-service date through 2040, and even more in the years beyond.
- The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans.
- Strengthens relationships with customers, communities, and regulators. By proactively building out the grid to be ready for new loads, the Company increases customer trust and improves the customer experience to enable a smoother and expedited new business process.
- The "dig-once" approach - wherein the civil work is done all upfront rather than in multiple stages – will minimize community disruption from construction **and maximize benefits to the local**

Disadvantaged Communities. By proactively installing all conduit to support full electrification, the Company will not have to return multiple times in the future to excavate.

- Supports the installation of energy storage systems to meet system needs, enabling and managing the transition to renewables, and meeting State goals in areas optimizing grid support and other customer benefits, while reducing costs. These can include both market and non-market projects.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Proactively planning and building the necessary infrastructure to meet State policy electrification goals for both transportation and building decarbonization will provide optimized planning and construction and cost efficiency. Transportation electrification also potentially provides downward pressure on customer bills.

Cost efficiency is central to the "dig once" project design (see "Non-Financial Benefits"). The vast majority of the hotspot project costs are civil related items, such as excavation and laying conduits, which would be built out immediately for the full electrification projected load. If constructing just in time as customer load letters are submitted, there would be constant excavation of the street which can lead to higher costs from repeated system reinforcement work as well as negative customer and community impacts.

3. Basis for estimate

The basis for this estimate is an order of magnitude cost derived from the proposed scope of work and unit cost by activity. Unit costs are based on historical spend of similar projects and evaluated on a per foot or per structure basis and incorporate labor, material, and associated overheads. Equipment costs were projected based on past purchases.

Activities	Quantity	Unit of Measure	Unit Cost	Cost ($000)
Install Conduit	42,076	Trench Feet	$1,237	$52,048
Install UG Cable[13]	237	Section	$179,820	$42,617
Install UG Structures	123	Structure	$109,181	$13,429
Engineering Consultant				$8,500
Total				**$116,595**

Figure 4. Unit cost breakdown by activity.

Project Risks and Mitigation Plan

Risk 1: Subsurface interference/construction delays.

Mitigation plan: Feeder routes will be fully surveyed to understand constructability and potential subsurface impacts. Additional engineering resources will be brought on to address special considerations such as trenching below underpasses and over railyards.

Risk 2: Increased costs due to long-lead time horizon of twenty years, which is much longer than typical planning timelines.

[13] UG stands for underground.

Mitigation Plan: Similar projects were evaluated to project costs as accurately as possible. Increased contingency costs and escalations were incorporated to account for the rising cost of material, equipment, labor as well as emergent scope changes.

Risk 3: Risk of overbuilding or underbuilding
Mitigation Plan: This project avoids underbuilding by installing conduit to support the full electrification scenario and enabling the Company to more easily add capacity by pulling future feeders in accordance with load projections from the granular load study. This project mitigates the risk of overbuilding because the assets (a) immediately improve system reliability and resiliency, and (b) will immediately support existing customers already electrifying, and (c) creates capacity for other non-transportation or building electrification loads.

Risk 4: Uncertainty of timing, location, and magnitude of load materialization.
Mitigation Plan: There is some uncertainty around which depot locations will electrify at what exact time, and how many vehicles (and thus how much load) they will need at a given time. However, the Company performed detailed studies to understand the most likely locations, timing, and magnitude of electric vehicle adoption. These studies were directly linked to State policy objectives, considered available funding, and were corroborated by extensive outreach to fleet customers.

- Timing: as discussed in the Justification section above, policy objectives and specific customer plans dictate electrification timelines, which the Company used to mitigate the risk of being late. The risk of being too early is minimal due to the design: the immediate work is installing three new feeders and laying conduit to support full electrification; the additional thirteen feeders will be pulled and energized over time as the electrification load materializes. Furthermore, once feeders are installed, they will increase system reliability. All this work will signal to the customers in the Zerega hotspot – school bus fleet operators, the Department of Sanitation, and logistics fleet operators – that the grid is ready to accommodate their electrification without long lead times for utility construction.
- Locations: depot locations in this hotspot are known and not expected to change over time given restricted land availability in the area. Furthermore, given the density of vehicles expected to electrify and need access to charging in this hotspot, the new infrastructure built as part of this project could serve several customers along the feeder run. The solution design will run the feeder through the densest part of this area. Then as customers submit load requests, the Company will run services and/or spurs off the primary feeders to reach customers nearby, or even customers just outside the current hotspot borders. Therefore, the fact that the Company does not know which precise location will electrify its fleet first is not a risk but rather accounted for by constructing this proactive solution.
- Magnitude: the Company's granular model projected the charging needs of each type of vehicle to determine the magnitude of load needed for transportation electrification – see Appendix Exhibit J for details. This project is sized to meet the electrification load growth in the hotspot, 61MW by 2043.

Zerega Avenue specifically is one of the largest concentrations of school buses in New York City and will need to electrify to support State climate goals. Designing new infrastructure with this as an anchor load significantly reduces the uncertainty of timing and location of additional load. Additionally, BTW will help mitigate against risk of building in advance of the load, making the assets "used and useful" as installed until the full customer load materializes.

Technical Evaluation / Analysis

The Company developed a robust bottom-up study to determine the location today of cars, trucks, and buses throughout the Con Edison service territory, and then project the amount of EV charging load needed to serve these vehicles as they electrify on an accelerated path to meet existing State and New York City policy mandates and customer commitments. Please refer to Appendix Exhibit J for details on the study methodology.

Based on this study, the Zerega hotspot area which does not span the full Southeast Bronx network, is expected to have a combined electrification load of 15 MW in 2029 (expected project completion) and 61 MW by 2043 from transportation electrification, shown in Figure 5. The impact of this load growth, in addition to electrification in other areas of the network, is that system capacity in Parkchester No. 2 will be exceeded by 2027. The existing, 4kV non-network, distribution system is inadequate to serve electrification requirements of large commercial fleets. Given the current lead times for infrastructure upgrades and immediate capacity constraints identified in this study the Company must start work by as soon as possible.

Year	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43
Load (MW)	3	5	7	11	15	19	24	29	34	39	44	48	51	54	56	58	60	61	61

Figure 5. Cumulative EV Load Projections (MW) for Zerega hotspot.

Project Relationships (if applicable)

While the Zerega Avenue hotspot is currently part of the Southeast Bronx network, fed by Parkchester No. 1, the Urgent Projects infrastructure would supply feeders to Zerega Avenue from Parkchester No. 2. Going forward, Parkchester No. 1 will still supply vehicle and building electrification loads within the Southeast Bronx network near Zerega Avenue, but outside the Zerega Avenue hotspot. As such, Area substation work is required to create enough capacity to support the distribution infrastructure needed for the electrification loads within the Zerega hotspot. Both Area substation projects, including the Parkchester No. 1 5th Transformer 9S and Supply Feeder 38X05 and the Parkchester No. 2 TR13 & B/S 13A & 13B Installation are necessary for area substation capacity and reliability to feed these areas.

3. Funding Detail ($000)

Total Request By Year:

	2025	2026	2027	2028	2029
Capital (Total)	$25,711	$68,570	$7,374	$7,374	$7,566
Labor	$8,500	$11,167	$975	$975	$975
M&S	$2,055	$14,179	$1,404	$1,404	$1,448
Contract Services	$9,087	$18,449	$2,343	$2,343	$2,381
Overheads	$6,069	$24,776	$2,652	$2,652	$2,722

M&S = materials and supplies.

EXHIBIT B

Hunts Point Electrification Hotspot

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Figure 2 • Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☒ Project ☐ Program	**Category: ☒ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☐ ☒ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Proactive Planning – Hunts Point Electrification Hotspot	
Project/Program Manager:	**Project/Program Number (Level 1):**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service:**
2025-2029 Funding Request ($000) **Capital: $104,998** **O&M:**	

Work Description:

The roughly 2 square mile Hunts Point Electrification hotspot is located in Con Edison's Central Bronx network, and will support the many transportation fleets, delivery fleets, and depots in the area and the Hunts Point Food Distribution Center (FDC) (see Figure 1 for reference).

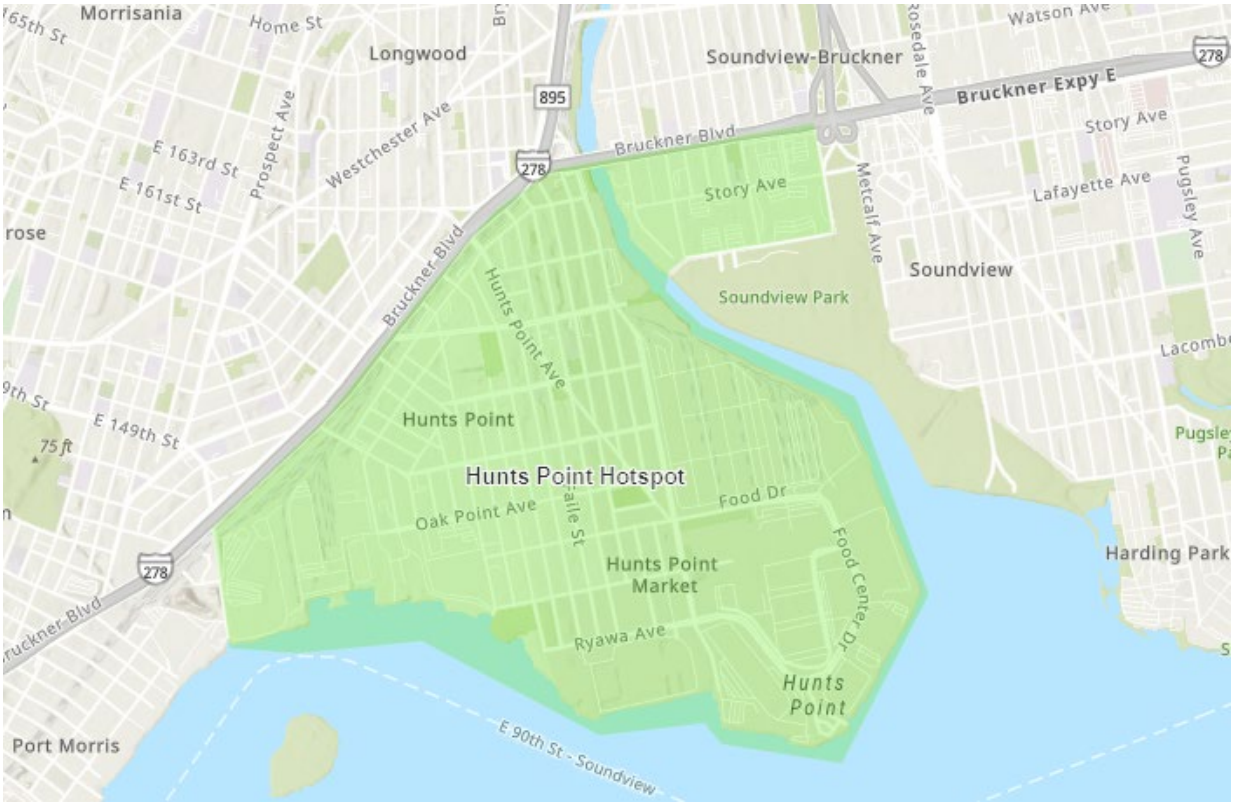

Figure 1. Visual of the Hunts Point hotspot (green shading is the hotspot boundary).

To enable the electrification expected in the Hunts Point hotspot, the Company will need to proactively invest in infrastructure at both the distribution level and the area substation. Electrification in this hotspot, driven primarily by electric vehicles (EVs), is projected to result in over 80 MW of load in the Central Bronx network. Approximately half of the feeders in the Central Bronx network are operating close to their normal rating. Therefore, the creation of new feeders to accommodate the projected electrification load is essential to prevent overloads on the existing feeders, which minimizes impact and benefits network reliability, while accommodating the large projected loads. This necessitates the installation of (6) six new distribution feeders and associated breaker cubicle work by 2040, as well as the installation of a 5th transformer and 138 kV supply feeder at Mott Haven Area Station by 2029. The six new, 1000MCM distribution feeders will be installed from available breaker positions in Mott Haven Area Station and extended towards the Hunts Point FDC in (3) three separate bands each traveling roughly 2-2.5 miles, in accordance with Company design specifications.

To meet the second contingency design criteria of the network system and maintain reliability, the initial investment must include at least (3) three primary distribution feeders by 2027, with engineering and pre-planning starting immediately in 2025. These timelines are subject to change once engineering and survey is completed, along with the number of feeders required and sequencing of work pending future forecasted load. All conduit work to support projected loads will be constructed upfront, while feeders will be pulled and energized in accordance with the electrification load. Installing the new distribution feeders will benefit reliability, diminish the risk of significant delays in responding to customer load requests and minimize disruption to the local areas, while optimizing cost and construction work. Existing feeder programs are not funded or structured to address proactive planning needs and leave a gap in preparing for rapidly increasing electrification loads. Proactive Planning would create a new funding pathway for the Company to build new feeders in concentrated load pockets based on more granular projected electrification loads. This enables the Company to be ready ahead of time in anticipation of customer load requests in comparison to the existing feeder programs focused on reliability, resiliency, and new business.

Furthermore, the project has been designed with a phased expandable approach. The most time-consuming work that has the greatest community impact – digging the street and laying the feeders – is completed all at once up front, and then capacity is added through pulling of feeders through the conduit as the load grows over time.
Major scopes of work to be completed under this project include:

- Install 39,491 feet of roadway conduit
- Install 220 sections (250 feet per section) of primary cable
- Install 113 manholes
- Install 5th 138/13 kV Transformer and associated 138kV supply feeder[1]
- Associated cubicle work

High-level schedule:

- Equipment Procurement – Four Years
- Engineering Design – Two years
- Civil and Electrical Construction – Three years

[1] The Mott Haven 13kV 5th Transformer & 138kV Supply Feeder 38X30 work and cost is captured separately under the "Mott Haven 13kV – Install 5th Transformer & 138kV Supply Feeder 38X30" Whitepaper (Appendix Exhibit G).

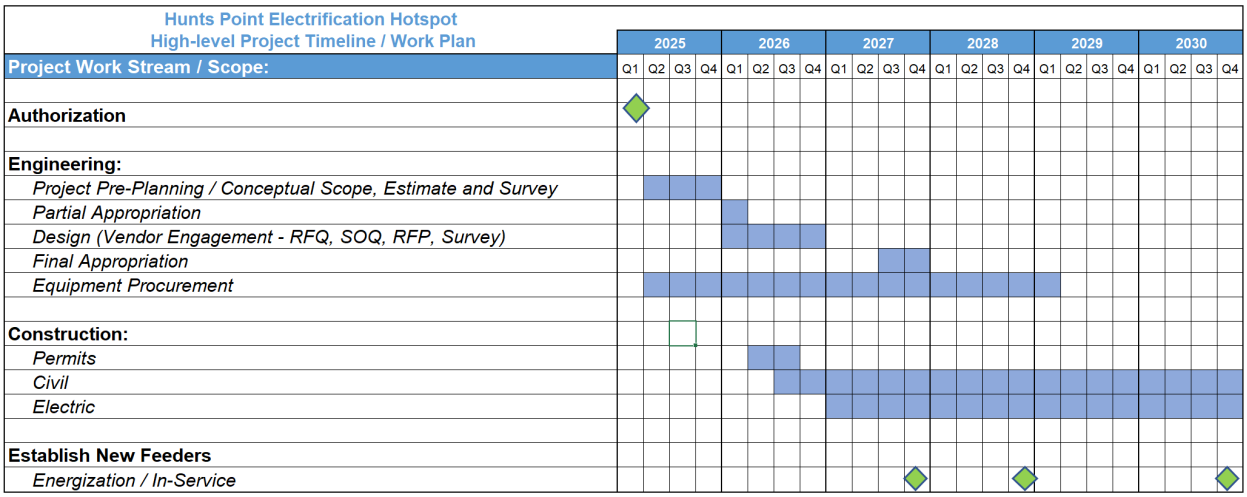

Figure 2. High level project schedule.[2]

Justification Summary:

There is a **high degree of certainty** of the need for this project. Hunts Point is home to over 12,000 residents, significant industrial activity, and one of the largest wholesale FDCs in the country. This FDC provides 12% of all food distributed to New York City, and almost the entirety of Hunts Point is within an Industrial Business Zone with close to 650 businesses and 18,000 workers. Poor air quality in the region has caused significant and disproportionate suffering from poor health outcomes in the community. Residents and workers in Hunts Point experience higher levels of the most harmful air pollutant (fine particulate matter PM 2.5) compared to the Bronx on average or New York City overall.[3] Additionally, Hunts Point has the highest asthma rates for public school children ages 5 to 14 of any neighborhood in New York City.[4]

New York City is looking to electrify the FDC and build a first-of-its-kind freight-focused EV charging facility, as indicated by the request for proposals issued in July 2024.[5] With this facility, there are several thousand fleet vehicles that park at depots in the hotspot area that must electrify to meet policy mandates, and several specific customers have electrification plans in various stages of development from exploratory stage to electric vehicles already operating on the road. Thus, the Company is confident that this Proactive Planning project is required to serve future expected load.

- The Hunts Point hotspot supports the electrification of over 15,000 commercial fleet vehicles that will benefit from the proactive infrastructure build. Over 400 of these vehicles are trucks belonging to utilities, many of which are expected to electrify based on existing policies (requiring 75% of new utility trucks purchases by 2034) and due to utility fleet commitments,

[2] Project schedule and the in-service years for the feeders to be energized are subject to change.
[3] New York City Economic Development Company (NYCEDC), "Hunts Point Forward: A Vision for the Future," p. 70. June 2022. Available at: https://edc.nyc/sites/default/files/2023-09/Hunts-Point-Forward-Vision-Plan-Web-English.pdf
[4] Ibid, p. 26.
[5] NYCEDC, "NYCEDC Issues Request for Proposals (RFP) for New York City's First-of-its-Kind Freight-Focused Electric Vehicle Charging Facility and Multi-Purpose Welcome Center in The Hunts Point Peninsula in the Bronx." July 10, 2024. Available at https://edc.nyc/press-release/nycedc-issues-rfp-freight-ev-charging-depot-hunts-point#:~:text=The charging depot will establish a supportive ecosystem for zero-emission

including Con Edison's commitment.[6] Over 500 vehicles are school buses located at multiple depots throughout the hotspot area and are expected to begin electrification in the near-term based on existing policies, with full electrification by 2035 due to the New York State (the State) electric school bus mandate.

- Many of the remaining commercial fleet vehicles support the FDC's operations, as well as other industrial and residential activities in the hotspot area.
- Many more trucks serving the Hunts Point FDC are not domiciled in the area and are not registered in the State. Thus, they were not included in the Company's Granular EV Load Projection analysis. Nonetheless, they will have significant charging needs while dwelling at the distribution center. Additional EV charging may be needed to support these vehicle in- and out-flows above what has been projected, which would ultimately accelerate the Company's phased plan to pull feeder cable as needed based on customer requests.
- In addition to projected load growth, current customer activity is evidence that transportation electrification is already underway. For example: a private charging hub with 72 direct current fast chargers (DCFC) and 96 level 2 plugs is under development in this area; New York City Economic Development Company (NYCEDC) is developing an approximately 5-10 MW DCFC charging hub; and a municipal fleet has plans to install chargers (see Figure 3). Furthermore, with the Hunts Point Food Market lease expiring in 2031, New York City will be forced to act, making action to electrify the site timebound.[7]
- Moreover, further market signals also come through Con Edison's pre-engagement and advisory services which engage prospective charger developers and fleet owners to help them plan their charger installation projects before project commitments are made. From these engagements, and including current customer activity just highlighted, customers expressed interest in 14 projects to install charging for fleet electrification in the Hunts Point hotspot. Based on data provided for 4 of these projects the average project would install 76 L2 plugs, and based on data provided for 10 of these projects the average project would install 34 DCFC plugs.
- The Company also consulted other transportation electrification projections to validate the density of load in this hotspot. EPRI's eRoadMap tool shows this area as one of the densest areas of expected electrification by 2030.[8]

[6] Con Edison, "Our Clean Energy Commitment." Available at: https://www.coned.com/en/our-energy-future/our-energy-vision/our-energy-future-commitment.

[7] AEG Hunts Point Task Force, available at https://static1.squarespace.com/static/570b03987c65e49ce6174883/t/6262e14a93ddcd541293e056/1650647372621/_AEG+New+York+21Q3+Task+Force+Updates+at+22Q2.pdf

[8] EPRI eRoadMap tool is part of the EVs2Scale 2030 project. The tool measures cumulative energy needs in MWh per day at granularity down to 0.28 square mile hexagonal geographic areas and groups each hexagon into one of five tiers. These hexagons do not map one-to-one with Con Edison's hotspots, but of the 5 hexagons that mostly overlap with the Hunts Point hotspot, 2 fall into the highest tier of transportation electrification energy needs, 1 into the second highest tier, and 2 in the third tier. eRoadMap tool available at https://eroadmap.epri.com.

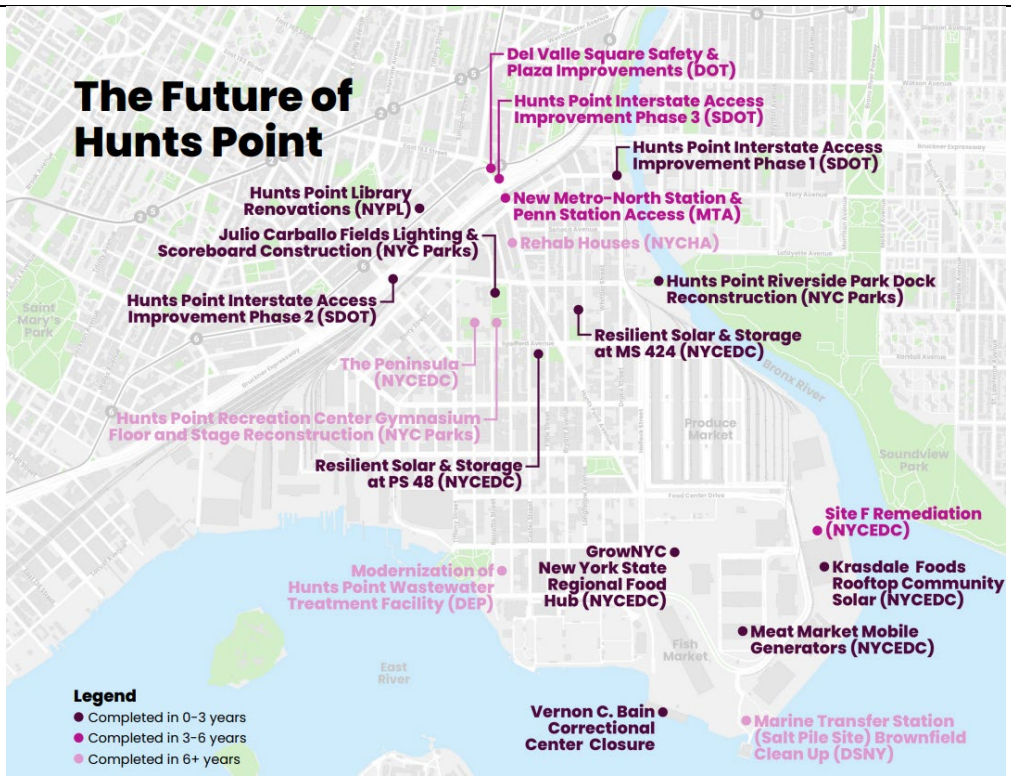

Figure 3. The future of electrification plans at Hunts Point.[9]

The Company is also confident that the infrastructure upgrades will be utilized. The initial three feeders (and supporting infrastructure) will be utilized by electrification customers in the near term, while also improving system reliability. The additional feeders pulled in the future will also be utilized since they will go into service along with customer electrification.

These depots and FDC-related vehicle traffic are projected to add over 80 MW of load to the Central Bronx network in the next 20 years. As discussed in the "Technical Evaluation" section below, the granular load study projections show load in the hotspot materializing in 2025 and growing quickly. This is expected to strain existing feeders, especially given about half of the feeders in the Central Bronx network are already operating close to their normal rating. Installing new feeders as soon as possible through this project can avoid more costly grid upgrades and/or delaying customer electrification once those existing feeders reach or exceed equipment limits. With immediate authorization in 2025, three (3) primary distribution feeders are expected to be feasibly energized by 2027 and provide enough capacity to support the 10 MW of transportation electrification load projected by 2027. The remaining three (3) primary distribution feeders are expected to be energized by 2030 to support the 25 MW of transportation electrification load, including the future transportation load projections through 2043. This project meets the **urgency criteria** because the Company must begin Construction Related Activities for this project as soon as possible to meet the need in an efficient and effective way (see Figure 2 above).

Thus, it is imperative that distribution infrastructure upgrades start now in order to be ready to supply customers when they complete construction; failure to act now will lead to delays.

In summary, the upgrade in the Hunts Point hotspot is **required to enable transportation electrification**, which accounts for the vast majority of the total incremental load needed. Building electrification is not

[9] "Hunts Point Forward: A Vision for the Future." June 2022, available at https://edc.nyc/sites/default/files/2023-09/Hunts-Point-Forward-Vision-Plan-Web-English.pdf

driving the urgent upgrade need because building electrification load peaks in the winter (for heating) and the local grid is still summer-peaking. Nonetheless, this project will also support building decarbonization and State goals and regulations by providing capacity for customers to connect to the grid. Additionally, proactively planning and building the necessary infrastructure to meet State policy electrification goals will provide optimized planning, construction, and cost efficiency.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The infrastructure upgrades proposed in this hotspot support other Company and statewide initiatives related to (1) benefits for disadvantaged communities, (2) reductions in transportation and building emissions, (3) energy storage, and (4) climate adaptation.

1. Hunts Point is classified as a Disadvantaged Community and is home to thousands of residents, where asthma rates for the youth are estimated to be 2.5 times higher than the average rate in New York City.[10] The neighborhood houses multiple recycling yards, a wastewater treatment plant, the FDC, as well as many other fleets that contribute to 15,000 truck trips each day, resulting in poor air quality.[11] These plans will provide the infrastructure needed to electrify the area to reduce greenhouse gas (GHG) emissions and local air and noise pollution, directly improving the quality of life within the Hunts Point neighborhood and surrounding regions.

Figure 4. NYSERDA's Disadvantaged Communities map (blue shading indicates a Disadvantaged Community).

2. This project will also help achieve goals in Con Edison's Clean Energy Commitment and Long-Range Plans, as well as the State's Climate Leadership and Community Protection Act (CLCPA), with goals of reducing emissions by 85% by 2050. It will support customers in meeting policies that require all new school buses sold in the State be zero-emission by 2027 and all school buses on the road to be zero-emission by 2035.[12] In addition, it will support the infrastructure required to meet the State zero-emission 2035 new sales mandates for passenger vehicles and light-duty

[10] Argonne National Laboratory, "The Bronx is Breathing: Reimagining a Cleaner Hunts Point." January 2024. Available at: https://www.anl.gov/sites/www/files/2024-01/Bronx%20Is%20Breathing%2C%20Jan.%202024.pdf.
[11] Ibid
[12] The State clean school bus mandate requires all school bus sales starting July 1, 2027 to be zero emissions vehicles (ZEV), and all fleets to convert their buses to ZEV by 2035. https://www.budget.ny.gov/pubs/press/2022/fy23-budget-clean-energy.html

trucks.[13] This project will also enable building electrification as customers look to reduce their building carbon emissions, in line with the CLCPA goals of 85% of homes and commercial building spaces statewide being electrified with heat pumps and/or thermal energy networks by 2050.[14]

3. Increasing the capacity on the distribution grid in currently constrained areas will not only put the infrastructure in place to be ready for customers who are looking to electrify, but it will also enable and support the adoption and installation of energy storage systems. In these select areas, energy storage systems can be strategically placed to support nearby large customer electrification load, and the infrastructure is used and useful until the customer's full load materializes. Energy Storage resources can be more easily scaled than traditional solutions alone to meet initial customer needs in time. Through Proactive Planning, the Company can enable projects fitting the Bridge to Wires (BTW) application described in the Joint Utilities' recent Utility Integrated Storage filing[15] which includes opportunities for energy storage systems to shift amongst multiple use-cases throughout its lifecycle.[16] BTW creates expanded opportunities for Company owned and third-party batteries to interconnect using optimally placed new infrastructure capable of supporting multiple projects. Initially, the energy storage resources would be part of a bridge solution to provide reliability. While more customers continue to electrify, energy storage can support the incremental load until the full traditional solution is online freeing up the energy storage to participate in multiple applications: grid management operations, resiliency applications, and supporting renewable integration.

4. Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

2. Supplemental Information

Alternatives

Alternative 1 – Follow the standard New Business process to connect customers to the distribution grid, which means waiting for customers to supply load letters. Typically, customer load letters come in one-by-one, which results in the necessary studies to be performed on a per-customer basis in order to develop solutions as customers request additional supply.

This alternative was rejected since this would lead to delays in connecting customers, based on the existing customer activity, load projections, and duration of the project, require repeated engineering analysis. Performing grid upgrades in this sequential process loses the efficiency of developing a

[13] NYSERDA, "DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales." Available at: https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II.
[14] New York State Climate Action Council. 2022. "New York State Climate Action Scoping Plan." Available at: climate.ny.gov/ScopingPlan.
[15] Case 18-E-0130, In the Matter of Energy Storage Deployment Program, Joint Utilities' Study Of Non-Market Transmission And Distribution Energy Storage Use Cases And Related Process Proposals.
[16] Case 18-E-0130, *In the Matter of Energy Storage Deployment Program*, Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.'s Comments on New York's 6 GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage (filed March 20, 2023).

holistic plan to build the infrastructure needed for the general area in advance considering long-term loads. Additionally, it can lead to long energization timelines, which can create economic hardships for customers since distribution buildout typically takes longer than customer construction. It will also delay the transition to zero-emission vehicles and the various CLCPA goals and policies set for electrification, as well as the air quality improvements and noise reductions in the local community.

Risk of No Action

Risk 1 – Not having enough capacity to be able to meet customer demands, including major delays in connecting customer transportation or building electrification new business load. Should no proactive action be taken, the Company would resort to existing, reactionary process of waiting for customer load letter submittals. Through this process, upgrades would not be triggered until a customer's load request exceeds the available capacity. Current lead times for utility-sided infrastructure range from 2-3 years for distribution work and 6+ years for substation upgrades, which is out of sync with the 6-12-month timeline customers typically need for EV purchases and charger installation. In the event that a single customer triggers the need for these investments, they would not be able to receive full power until those upgrades can be designed, permitted, and completed. This can also lead to customer financial burdens by missing incentive deadlines, sunk costs of delay, or potentially leading to fines by not meeting electrification laws and regulations. Specifically in the case of transportation electrification, it will not be economically viable for customers to invest in vehicles or electric vehicle supply equipment if they cannot reliably charge them for several years after their request.

Risk 2 - Severely delayed EV charger installations causing the State to miss its adoption goals and the CLCPA targets, furthering GHG emissions and air pollution that impact community quality-of-life. For example, over 5,500 vehicles are expected to electrify in the Hunts Point hotspot area in 2030 (project completion year) based on granular load forecasts. If upgrades are not completed proactively and EV charging stations seeking to connect in 2030 are delayed by 6 years (the duration of this project), the electrification of some or all those vehicles – plus nearly 65,000 more vehicles expected to electrify between 2031 and 2036 – may similarly be delayed.

Risk 3 - Overloaded grid areas, while staying within design standards, impacting grid reliability, and increasing customer outages.

Risk 4 - Increased costs and reduced construction efficiency due to potentially conducting multiple projects to build "just-in-time" rather than conducting the work proactively and building to area wide plans. If upgrades are not performed urgently, electrification customers would be picked up on existing feeders which may lead to future overloads, and then require other complex load relief work to maintain N-2 design. Furthermore, urgent authorization of the full scope of work is critical because even partial authorization would forgo cost efficiencies and thus lead to higher costs and greater community disruption in the long term.

Non-Financial Benefits

- Increases safety, reliability, and resiliency while optimizing cost and efficiency.
- Supports the Clean Energy goals of the State and the Company's targets, aiming to positively impact the environment by lowering GHG emissions and local air pollution, and supporting customer decarbonization efforts. Based on Con Edison's internal analysis, by 2040 this project will support charging of enough light-, medium-, and heavy-duty vehicles to avoid 99 thousand tons of carbon dioxide equivalent (CO2e) that year, with a total avoided emissions of 776 thousand tons CO2e from the in-service date through 2040, and even more in the years beyond.

- The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans.
- Strengthens relationships with customers, communities, and regulators. By proactively building out the grid to be ready for new loads, the Company increases customer trust and improves the customer experience to enable a smoother and expedited new business process.
- The "dig-once" approach - wherein the civil work is done all upfront rather than in multiple stages – will minimize community disruption from construction and **maximize benefits to the local Disadvantaged Communities**. By proactively installing all conduit to support full electrification, the Company will not have to return multiple times in the future to excavate.
- Supports the installation of energy storage systems to meet system needs, enabling and managing the transition to renewables, and meeting State goals in areas optimizing grid support and other customer benefits, while reducing costs. These can include both market and non-market projects.

Examples:
- *Increased safety, reliability, resilience (including climate adaptation), efficiency, or customer satisfaction*
- *Improved workflows and communication among departments*
- *Stronger relationships with community or with regulators*
- *Ensuring regulatory compliance*

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Proactively planning and building the necessary infrastructure to meet State policy electrification goals for both transportation and building decarbonization will optimize planning and construction and cost efficiency. Transportation electrification also potentially provides downward pressure on customer bills.

Cost efficiency is central to the "dig once" project design (see "Non-Financial Benefits"). The vast majority of the hotspot project costs are civil related items, such as excavation and laying conduits, which would be built out immediately for the full electrification projected load. If constructing just in time as customer load letters are submitted, there would be constant excavation of the street which can lead to higher costs from repeated system reinforcement work as well as negative customer and community impacts.

3. Basis for estimate

The basis for this estimate is an order of magnitude cost derived from the proposed scope of work and unit cost by activity. Unit costs are based on historical spend of similar projects and evaluated on a per-foot or per-structure basis and incorporate labor, material, and associated overheads. Equipment costs were projected based on past purchases.

Activities	Quantity	Unit of Measure	Unit Cost	Cost ($000)
Engineering Consultant				$4,250

Install Conduit	39,491	Trench Feet	$1,237	$48,850
Install UG Cable[17]	220	Section	$179,820	$39,560
Install UG Structures	113	Structure	$109,181	$12,338
Total				**$104,998**

Figure 5. Unit cost by activity code.

Project Risks and Mitigation Plan

Risk 1: Subsurface Interference/Construction Delays
Mitigation plan: Feeder routes will be fully surveyed to understand constructability and potential subsurface impacts. Additional engineering resources will be brought on to address special considerations such as trenching below underpasses and over railyards.

Risk 2: Risk of Overbuilding or Underbuilding
Mitigation Plan: This project avoids underbuilding by installing conduit to support the full electrification scenario and enabling the Company to more easily add capacity by pulling future feeders in accordance with load projections from the granular load study. This project mitigates the risk of overbuilding because the assets (a) immediately improve system reliability and resiliency, and (b) will immediately support existing customers already electrifying, and (c) creates capacity for other non-transportation or building electrification loads. Additionally, the risk of overbuilding is limited due to the number of trucks serving Hunts Point FDC that are not included in the Company's Granular EV Load Projection analysis (trucks not domiciled in the area and not registered in the State). This does introduce a risk of underbuilding, which the Company will mitigate by accounting for these vehicles in future versions of the granular study.

Risk 3: Uncertainty of Timing, Location, and Magnitude of Load Materialization
Mitigation Plan: There is some uncertainty around which depot locations will electrify at what exact time, and how many vehicles (and thus how much load) they will need at a given time. However, the Company performed detailed studies to understand the most likely locations, timing, and magnitude of electric vehicle adoption. These studies were directly linked to State policy objectives, considered available funding, and were corroborated by extensive outreach to fleet customers.

- Timing: as discussed in the Justification section above, policy objectives and specific customer plans dictate electrification timelines, which the Company used to mitigate the risk of being late. The risk of being too early is minimal due to the design: the immediate work is installing three new feeders and laying conduit to support full electrification; the additional thirteen feeders will be pulled and energized over time as the electrification load materializes. Furthermore, once feeders are installed, they will increase system reliability. All this work will signal to the customers in the Hunts Point hotspot – FDC fleets, municipal vehicles, utility fleets, and other commercial fleet vehicle owners – that the grid is ready to accommodate their electrification without long lead times for utility construction.
- Locations: depot locations in this hotspot are known and not expected to change over time given restricted land availability in the area. Furthermore, given the density of vehicles expected to electrify and need access to charging in this hotspot, the new infrastructure built as part of this project could serve several customers along the feeder run. The solution design will run the feeder through the densest part of this area. Then as customers submit load requests, the Company will run services and/or spurs off the primary feeders to reach customers nearby, or even customers just outside the current hotspot borders. Therefore, the fact that the

[17] UG stands for underground.

Company does not know which precise location will electrify its fleet first is not a risk but rather accounted for by constructing this proactive solution.

- Magnitude: the Company's granular model projected the charging needs of each type of vehicle to determine the magnitude of load needed for transportation electrification – see Appendix Exhibit J for details. This project is sized to meet the electrification load growth in the hotspot, 82 MW by 2043.

The Hunts Point FDC specifically is one of the busiest FDCs in the country and will need to electrify to support State climate goals. Designing new infrastructure with this as an anchor load significantly reduces the uncertainty of timing and location of additional load. Additionally, BTW will help mitigate against risk of building in advance of the load, making the assets "used and useful" as installed until the full customer load materializes.

Technical Evaluation / Analysis

The Company developed a robust bottom-up study to determine the location today of cars, trucks, and buses throughout the service territory, and then projected the amount of EV charging load needed to serve these vehicles as they electrify on an accelerated path to meet existing New York City and State policy mandates and customer commitments. Please refer to Appendix Exhibit J for details on the study methodology.

Based on this study, the Hunts Point hotspot area is expected to have a combined electrification load of 25 MW in 2030 (expected project completion date) and over 80 MW in the Central Bronx network by 2043 from transportation electrification, shown in Figure 6.

Year	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43
Load (MW)	4	6	10	14	19	25	31	38	45	52	58	63	67	71	75	78	80	81	82

Figure 6. Cumulative EV Load Projections for Hunts Point hotspot.

Project Relationships (if applicable)

Area Station work is required at the Mott Haven area substation to support the distribution infrastructure needed for the electrification loads within the Hunts Point hotspot. Reference Mott Haven 13kV – Install 5th Transformer & 138kV Supply Feeder 38X30 Whitepaper for project details (Appendix Exhibit G).

3. Funding Detail ($000)

Total Request by Year:

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
O&M											
Regulatory Asset											
Capital (Total)	$17,952	$54,792	$10,731	$10,671	$10,851						

Labor	$4,250	$8,957	$1,393	$1,373	$1,433						
M&S	$1,636	$11,349	$2,029	$2,011	$2,065						
Contract Svcs.	$7,234	$14,687	$3,450	$3,450	$3,450						
Other											
Overheads	$4,832	$19,799	$3,858	$3,836	$3,903						

O&M = operations and maintenance.
M&S = materials and supplies.

EXHIBIT C

Steinway (LGA) Electrification Hotspot

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Figure 2 • Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☒ Project ☐ Program	**Category: ☒ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Proactive Planning – LGA Electrification Hotspot	
Project/Program Manager:	**Project/Program Number (Level 1):**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service:**
2025-2029 Funding Request ($000) **Capital: $238,113** **O&M:**	

Work Description:

The LGA Electrification hotspot targets three individual load pockets: Astoria Generation complex, Ditmars Steinway industrial area, and LaGuardia Airport (see Figure 1 for reference). This hotspot covers roughly 2 square miles and includes portions of Con Edison's Long Island City network and Jackson Heights network.

Figure 1. Visual of the LGA hotspot (green shading represents the hotspot boundary).

Based on a granular bottom-up load forecasting analysis, the LGA hotspot is expected to have an estimated 82 MW of additional load from transportation electrification by 2043. This project will provide additional distribution capacity capable of supplying these future loads, while maintaining an N-2 design. To accomplish this, Con Edison will extend 16 feeders from North Queens No. 1 substation to these load pockets, upgrading the existing main run to 1000 mcm cable. Four feeders will be extended to the Astoria Generation complex. An additional 12 feeders will be extended, four feeders extending to the Ditmars Steinway industrial area and eight extending to LaGuardia Airport, with only one feeder supplying both load pockets.

The need for this infrastructure is key for the Company to meet the demands of transportation electrification. Building new conduit systems allows Con Edison to establish these feeder extensions as the load materializes, which is anticipated to grow over the next 20 years. Currently, the Long Island City Network does not have the capacity or feeder configuration capable of supporting these hotspot areas. The Astoria Generation complex does not have sufficient feeders in the area, and the Ditmars Steinway Industrial and LGA areas are at the fringe of the network with a limited number of feeders available. Additionally, the creation of new feeders to pick up the projected electrification load is the most suitable solution to prevent overloads on the existing feeders, especially at the fringe of the network, which minimizes impact and benefits network reliability.

In order to support the immediate load growth need, pre-planning and engineering will need to begin in 2025 after authorization, followed by survey and construction in 2026. With immediate authorization in 2025, two (2) primary distribution feeders are expected to be energized by 2027 and six (6) primary distribution feeders will be energized by 2028. Existing primary distribution infrastructure will be utilized and reinforced, where necessary, under the existing New Business process to meet customer demand initially until the new distribution feeders can be installed and energized. These timelines are subject to change once engineering and survey is completed, along with the number of feeders required and sequencing of work pending future forecasted load.

All conduit work to support full electrification projected loads will be constructed upfront, while feeders will be pulled and energized in accordance with the electrification load.[1] In addition, all pre-planning and engineering will be done upfront, when feasible, to enable an optimized plan. This will benefit reliability, diminish the risk of significant delays in responding to customer load requests, and minimize disruption to the local areas, while optimizing cost and construction work. Existing feeder programs are not funded or structured to address proactive planning needs and leave a gap in preparing for rapidly increasing electrification loads. Proactive Planning would create a new funding pathway for the Company to build new feeders in concentrated load pockets based on more granular projected electrification loads. This enables the Company to be ready ahead of time in anticipation of customer load requests in comparison to the existing feeder programs focused on reliability, resiliency, and new business.

Furthermore, the project has been designed with a phased expandable approach. The most time-consuming work that has the greatest community impact – digging the street and laying the feeders – is completed all at once upfront, and then capacity is added through pulling of feeders through the conduit as the load grows over time.

Due to the larger number of feeders required (16 feeders, versus 3 and 6 feeders to support the other hotspots), the location of the existing area station, the length of the feeder runs to supply the three individual load pockets (see Figure 1 for reference), the conduit, cable, and manhole quantities listed below, and other costs, are higher compared to Con Edison's other hotspot primary feeder projects.

[1] Additional feeder work will be conducted over time to coincide with when load is expected to go into service based on granular load projections.

Major scopes of work to be completed under this project include:

- Install 79,261 feet of roadway conduit
- Install 478 sections (250 feet per section) of primary cable
- Install 411 manholes
- Install 16 switches and Cam Operated (Cam Op)

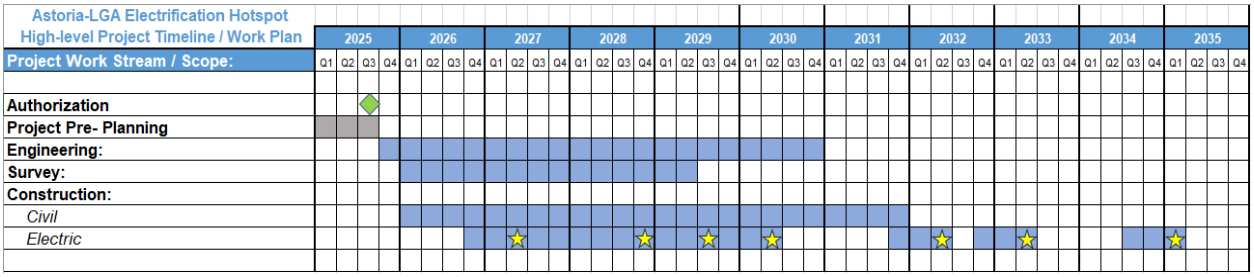

Figure 2. High-level project schedule.[2]

Justification Summary:

There is a **high degree of certainty** of the need for this project. The LGA hotspot, shown in Figure 1, supports the electrification of multiple types of fleets within the Jackson Heights and the Long Island City networks, serving a total of over 9,000 estimated commercial fleet vehicles. Given these vehicles will electrify in the coming years to meet policy mandates and several specific customers have electrification plans in various stages of development from exploratory stage to electric vehicles already operating on the road, the Company is confident that this Proactive Planning project is required to serve future expected load.

- The nearby area west of the LaGuardia Airport located in Steinway and fed by the Long Island City network also has a high number of depots and heavy vehicle traffic that are expected to electrify. This includes over 1,300 Con Edison utility vehicles, and the Company has committed to electrify many of them by 2035 to reduce the Company's footprint.[3] It also includes over 4,000 Class 2 vehicles; in 2026, 35% of Class 2a sales and 10% of Class 2b sales must be zero-emission (increasing to 100% and 55% in 2035) per existing policies, respectively.
- The Jackson Heights network feeds the area surrounding the LaGuardia Airport, which houses several fleets and depots including the Metropolitan Transportation Authority's (MTA's) LaGuardia Depot, totaling over 230 buses that will benefit from the proactive infrastructure build. The MTA has committed to replace and transform its entire bus fleet with zero-emissions vehicles by 2040.[4]
- Part of the LaGuardia Airport is fed from Jackson Heights. The airport has an abundance of public and commercial vehicles that pass through daily, including rideshare and taxi vehicles – which must be zero-emission by 2030[5]- and has numerous private vehicles that will need to charge to support daily operations.
- In addition to projected load growth, current customer activity is evidence that transportation electrification is already underway. For example: high-capacity fast chargers projects by the New

[2] Project schedule and the in-service years for the feeders to be energized are subject to change.
[3] Con Edison, "Our Clean Energy Commitment." Available at: https://www.coned.com/en/our-energy-future/our-energy-vision/our-energy-future-commitment.
[4] MTA zero-emission bus fleet transition project details available at https://new.mta.info/project/zero-emission-bus-fleet#:~:text=As%20part%20of%20our%20commitment%20to%20sustainability,%20the.
[5] New York City Taxi and Limousine Commission, "Electrification in Motion," p. 2. September 2024. Available at: https://www.nyc.gov/assets/tlc/downloads/pdf/electrification_in_motion_report_2024.pdf.

York City Department of Transportation (NYCDOT)[6] and Revel[7] are planned for installation, with Revel's fast-charging hub with 48 DC fast chargers to open in 2025 Port Authority has expressed plans to use buses instead of a plane train as a connection to the airport; and a vehicle OEM has identified a high likelihood of customers electrifying in the LGA area.

- Moreover, further market signals also come through Con Edison's pre-engagement and advisory services which engage prospective charger developers and fleet owners to help them plan their charger installation projects before project commitments are made. From these engagements, and including current customer activity just highlighted, customers expressed interest in seven projects to install charging for fleet electrification in the LGA hotspot. Based on data provided for six of these projects the average project would install 19 DCFC plugs.
- The Company also consulted other transportation electrification projections to validate the density of load in this hotspot. The Electric Power Research Institute's (EPRI's) eRoadMap tool shows this area as one of the densest areas of expected electrification by 2030.[8]

Currently, the transportation electrification customers that have already submitted load requests may utilize (where applicable) the existing PowerReady program budget[9] for applicable infrastructure upgrades. However, this would be done piecemeal without planning holistically, optimizing cost and construction efficiencies. In addition, it would most likely lead to delays for customers to be connected since it relies on waiting for customers load letters and the timeline to build for utility infrastructure upgrades is significantly longer than customer EV charging installations. The Company is also confident that the infrastructure upgrades will be utilized. The initial feeders (and supporting infrastructure) will be utilized by electrification customers and new business in the near term, while also improving system reliability. The future feeders pulled will also be utilized since they will go into service along with customer electrification timelines.

These depots and airport-related vehicle traffic including the many fleets that support airport operations and logistics activity, are projected to add 82 MW of load to the Long Island City and Jackson Heights networks collectively in the next 20 years. As shown in the "Technical Evaluation" section below, the granular study projections show load in the hotspot materializing in 2025 and growing quickly. This is expected to add strain to existing feeders and require new feeders to support the fringe areas of the grid. Installing new feeders as soon as possible through this project can avoid more costly grid upgrades and/or delaying customer electrification once the existing feeders are at or exceeding equipment limits. With immediate authorization in 2025, two (2) primary distribution feeders are expected to be feasibly energized by 2027 to support the 10 MW of projected transportation electrification load by 2027 and six

[6] New York State, "Governor Hochul Announces More Than 100 New Electric Vehicle Fast Chargers to be Built in New York City." March 28, 2024. Available at: https://www.governor.ny.gov/news/governor-hochul-announces-more-100-new-electric-vehicle-fast-chargers-be-built-new-york-city.

[7] Metropolitan Airport News, "Revel Signs Lease to Build Nation's Largest Airport EV Fast-Charging Station by LaGuardia Airport." March 7, 2024. Available at: https://metroairportnews.com/revel-signs-lease-to-build-nations-largest-airport-ev-fast-charging-station-by-laguardia-airport/.

[8] EPRI eRoadMap tool is part of the EVs2Scale 2030 project. The tool measures cumulative energy needs in MWh per day at granularity down to 0.28 square mile hexagonal geographic areas and groups each hexagon into one of five tiers. These hexagons do not map one-to-one with Con Edison's hotspots, but of the eight hexagons that at least partially overlap with the LGA/Steinway hotspot, two fall into the highest tier of transportation electrification energy needs, three are in the second highest tier, and three in the third tier. eRoadMap tool available at https://eroadmap.epri.com.

[9] PowerReady is Con Edison's light-duty EV Make Ready Program, authorized in Case 18-E-0138, Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure, *Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs* (July 16, 2020), and updated in *Order Approving Midpoint Review Whitepaper's Recommendations with Modifications* (November 16, 2023).

(6) primary distribution feeders will be energized by 2028 to support the 15 MW by 2028. Thus, this project meets the **urgency criteria** because the Company must begin Construction Related Activities by the first quarter of 2026 to meet the need in an efficient and effective way (see Figure 2 above).

It is imperative that distribution infrastructure upgrades start now to be ready to supply customers when they complete construction; failure to act now will lead to delays.

In summary, the upgrade in the LGA hotspot is **required to enable transportation electrification**, which accounts for the vast majority of the total incremental load across the two networks. Building electrification is not driving the urgent upgrade need because building electrification load peaks in the winter (for heating) and the local grid is still summer-peaking. Nonetheless, this project will not only aid in transportation electrification but also support building decarbonization and State goals and regulations by providing capacity for customers to connect to the grid. Additionally, proactively planning and building the necessary infrastructure to meet State policy electrification goals will optimize planning, construction, and cost efficiency.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The infrastructure upgrades proposed in this hotspot support other Company and statewide initiatives related to (1) benefits for Disadvantaged Communities, (2) reductions in transportation and building emissions, (3) energy storage, and (4) climate adaptation.

1. Parts of Steinway and the surrounding areas of the LaGuardia airport are classified as Disadvantaged Communities. These plans will provide the infrastructure needed to electrify the area to reduce greenhouse gas emissions and local air and noise pollution, directly improving the quality of life within the Jackson Heights and Long Island City neighborhoods and surrounding regions. This project in particular will bring convenient public fast-charging to these communities to support personal EV adoption as well as charging for local resident for-hire vehicle drivers. This area contains the largest number of registered EV drivers in a single zip code across the Company's service area.

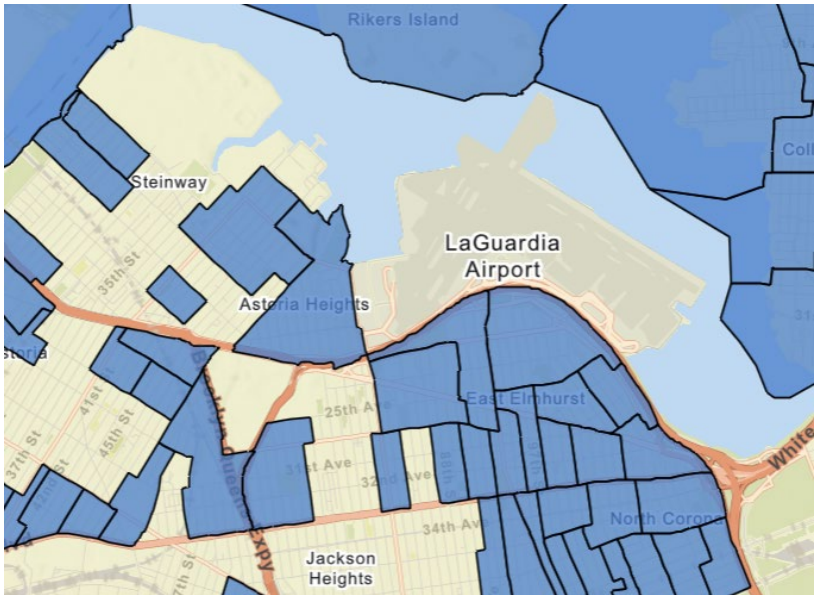

Figure 3. NYSERDA's Disadvantaged Communities map (blue shading indicates a Disadvantaged Community).

2. This project will also help achieve goals in Con Edison's Clean Energy Commitment and Long-Range Plans, as well as the State's Climate Leadership and Community Protection Act (CLCPA), with goals of reducing emissions by 85% by 2050. It will support customers in meeting policies that require all new school buses sold in the State to be zero-emission by 2027 and all school buses on the road to be zero-emission by 2035.[10] In addition, it will support the infrastructure required to meet the State zero-emission 2035 new sales mandates for passenger vehicles and light-duty trucks.[11] This project will also enable building electrification as customers look to reduce their building carbon emissions, in line with the CLCPA goals of 85% of homes and commercial building spaces statewide being electrified with heat pumps and/or thermal energy networks by 2050.[12]

3. Increasing the capacity on the distribution grid in currently constrained areas will not only put the infrastructure in place to be ready for customers who are looking to electrify, but it will also enable and support the adoption and installation of energy storage systems. In these select areas, energy storage systems can be strategically placed to support nearby large customer electrification load, and the infrastructure is used and useful until the customer's full load materializes. Energy Storage resources can be more easily scaled than traditional solutions alone to meet initial customer needs in time. Through Proactive Planning, the Company can enable projects fitting the Bridge to Wires (BTW) application described in the Joint Utilities' recent Utility Integrated Storage filing[13] which includes opportunities for energy storage systems to shift amongst multiple use-cases throughout its lifecycle.[14] BTW creates expanded opportunities for Company owned and third-party batteries to interconnect using optimally placed new infrastructure capable of supporting multiple projects. Initially, the energy storage resources would be part of a bridge solution to provide reliability. While more customers continue to electrify, energy storage can support the incremental load until the full traditional solution is online freeing up the energy storage to participate in multiple applications: grid management operations, resiliency applications, and supporting renewable integration.

4. Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

[10] The State clean school bus mandate requires all school bus sales starting July 1, 2027 to be zero emissions vehicles (ZEV), and all fleets to convert their buses to ZEV by 2035. https://www.budget.ny.gov/pubs/press/2022/fy23-budget-clean-energy.html

[11] NYSERDA. "DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales." Available at: https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II.

[12] New York State Climate Action Council. 2022. "New York State Climate Action Council Scoping Plan," p. 11. Available at: https://climate.ny.gov/resources/scoping-plan/.

[13] Case 18-E-0130, *In the Matter of Energy Storage Deployment Program*, Joint Utilities' Study of Non-Market Transmission and Distribution Energy Storage Use Cases and Related Process Proposals.

[14] Case 18-E-0130, *In the Matter of Energy Storage Deployment Program*, Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.'s Comments on New York's 6 GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage (filed March 20, 2023).

2. Supplemental Information

Alternatives

Alternative 1 – Utilize the feeders that are available from the Corona No. 2 area substation.

This alternative was rejected since there is no capacity at the Corona No.2 area substation to accommodate the amount of load that the electrification in this area will add to the system.

Alternative 2 – Extend transmission and build new area station in the area.

This alternative was rejected since a project of this magnitude would require a longer lead time for the equipment needed to execute the project compared to the proposed project. Space constraints affecting property and cost make this option not feasible for this project.

Alternative 3 – Follow the standard New Business process to connect customers to the distribution grid, which means waiting for customers to supply load letters. Typically, customer load letters come in one-by-one, which results in the necessary studies to be performed on a per-customer basis in order to develop solutions as customers request additional supply.

This alternative was rejected since this would lead to delays in connecting customers, based on the existing customer activity, load projections, and duration of the project, require repeated engineering analysis. Performing grid upgrades in this sequential process loses the efficiency of developing a holistic plan to build the infrastructure needed for the general area in advance considering long-term loads. Additionally, it can lead to long energization timelines, which can create economic hardships for customers since distribution buildout typically takes longer than customer construction. It will also delay the transition to zero-emission vehicles and the various CLCPA goals and policies set for electrification, as well as the air quality improvements and noise reductions in the local community.

Risk of No Action

Risk 1: Insufficient grid capacity to meet customer demands, including major delays in connecting customer transportation or building electrification new business load. Should no proactive action be taken there would be a reliance on the existing, reactionary process of waiting for customer load letter submittals. Through this process, upgrades would not be triggered until a customer's load request exceeds the available capacity. Current lead times to make utility-sided infrastructure operational range from 2-3 years for distribution work and 6+ years for substation upgrades, which is not synchronized with the 6-12-month timeline customers typically need for EV purchases and charger installation. In the event that a single customer triggers the need for these investments, they would not be able to receive full power until those upgrades can be designed, permitted, and completed. This can also lead to customer financial burdens by missing incentive deadlines, sunk costs of delay, or potentially leading to fines by not meeting electrification laws and regulations. Specifically in the case of transportation electrification, it will not be economically viable for customers to invest in vehicles or EV supply equipment if they cannot reliably charge them for several years after their request.

Risk 2: Severely delayed EV charger installations causing the State to miss its adoption goals and the CLCPA targets, furthering GHG emissions and air pollution that impact community quality-of-life. For example, more than 750 vehicles are expected to electrify in the LGA/Steinway hotspot area in 2026 (completion of first set of feeders for this project) based on granular load forecasts. If upgrades are not completed proactively and EV charging stations seeking to connect in 2026 are delayed to 2027 (or

later), the electrification of some or all those vehicles – plus 34,000 more vehicles between 2027 and 2035 – may similarly be delayed.

Risk 3: Overloaded grid areas, while staying within design standards, impacting grid reliability, and increasing equipment and customer outages.

Risk 4: Increased costs and reduced construction efficiency due to potentially conducting multiple projects to build "just-in-time" rather than conducting the work proactively and building to area wide plans. If upgrades are not performed urgently, electrification customers would be serviced by existing feeders which may lead to future overloads, and then require other complex load relief work to maintain N-2 design. Furthermore, urgent authorization of the full scope of work is critical because even partial authorization would forgo cost efficiencies and thus lead to higher costs and greater community disruption in the long term.

Non-Financial Benefits

- Increases the safety, reliability, and resiliency of the grid while optimizing cost and efficiency.
- Supports the Clean Energy goals of the State and the Company's targets are met, aiming to positively impact the environment by lowering greenhouse gas emissions and local air pollution, and supporting customer decarbonization efforts. Based on Con Edison's internal analysis, by 2040 this project will support charging of enough light-, medium-, and heavy-duty vehicles to avoid 81 thousand tons of carbon dioxide equivalent (CO2e) that year, with a total avoided emissions of 653 thousand tons of CO2e from the in-service date through 2040, and even more in the years beyond.
- The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans.
- Strengthens relationships with customers, communities, and regulators. By proactively building out the grid to be ready for new loads, the Company increases customer trust and improves the customer experience to enable a smoother and expedited new business process.
- The "dig-once" approach - wherein the civil work is done all upfront rather than in multiple stages – will minimize community disruption from construction **and maximize benefits to the local Disadvantaged Communities.** By proactively installing all conduit to support full electrification, the Company will not have to return multiple times in the future to excavate.
- Supports the installation of energy storage systems to meet system needs, enabling and managing the transition to renewable, and meeting State goals in areas optimizing grid support and other customer benefits, while reducing costs. These can include both market and non-market projects.

Summary of Financial Benefits and Costs (attach backup)
1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Proactively planning and building the necessary infrastructure to meet State policy electrification goals for both transportation and building decarbonization will optimize planning, construction, and cost efficiency. Transportation electrification also potentially provides downward pressure on customer bills.

Cost efficiency is central to the "dig once" project design (see "Non-Financial Benefits"). The vast majority of the hotspot project costs are civil construction items, such as excavation and laying conduits, which would be built out immediately for the full electrification projected load. If constructing just in time as customer load letters are submitted, there would be constant excavation of the street which can lead to higher costs from repeated system reinforcement work as well as negative customer and community impacts.

3. Basis for estimate

The funding request is based on an initial order of magnitude estimate based on the scope of work and major equipment described above. The unit costing method was used to estimate the cost for the distribution system establishment of the LGA Electrification Hotspot. The number of required units of equipment and material are multiplied by a loaded unit cost that contains material, labor, and overheads. The initial scope of work was studied, and specific units of work needed were obtained.

Discipline	Name	Unit Cost	Units
UG	3-1000 EPR (splicing included)	$179,821	478
CM - Structure	M14	$109,180	411
CM - Conduit	Roadway Conduit 6"	$1,237	79,261
UG	Viso Vacs	$465,000	16
UG	Cam-ops	$64,160	16
ENG	Preliminary Engineering/Survey	$750,000	1

Figure 4. High-level scope of work and unit cost.[15]

Project Risks and Mitigation Plan

Risk 1: Unknown Gas & Electric Transmission interference
Mitigation Plan: Survey route during engineering design process and develop alternatives as needed.

Risk 2: Environmental Concerns
Mitigation Plan: Work with company and external stakeholders to evaluate remediation plans within Astoria, consult with construction groups to address flood zone constructability.

Risk 3: Interference with third-party projects & permitting (i.e., Public Improvement, NYCDOT, etc.)
Mitigation Plan: Work with company government liaison and city agencies to coordinate efforts. Coordinate with Port Authority (LGA), New York Power Authority, and other Astoria Generation Complex utility stakeholders.

Risk 4: Risk of overbuilding or underbuilding
Mitigation Plan: This project avoids underbuilding by installing conduit to support the full electrification scenario and enabling the Company to more easily add capacity by pulling future feeders in accordance with load projections from the granular load study. This project mitigates the risk of overbuilding because the assets (a) immediately improve system reliability and resiliency, and (b) will immediately support existing customers already electrifying, and (c) creates capacity for other non-transportation or building electrification loads.

Risk 5: Uncertainty of timing, location, and magnitude of load materialization

[15] "Discipline" column represents the internal Company group responsible: UG stands for underground, CM stands for Construction Management, and ENG for engineering.

Mitigation Plan: There is some uncertainty around which depot locations will electrify at what exact time, and how many vehicles (and thus how much load) they will need at a given time. However, the Company performed detailed studies to understand the most likely locations, timing, and magnitude of EV adoption. These studies were directly linked to the State's policy objectives, considered available funding, and were corroborated by extensive outreach to fleet customers.

- Timing: as discussed in the Justification section above, policy objectives and specific customer plans dictate electrification timelines, which the Company used to mitigate the risk of being late. The project design minimizes the timing risk: the immediate work installs two new feeders by 2027 and lays conduit to support full electrification, which will allow the Company to schedule the future work (additional thirteen feeders) more precisely based on any updates to granular load projections. Furthermore, once feeders are installed, they will increase system reliability. All this work will signal to the customers in the LGA hotspot – airport vehicles, the MTA, rideshare fleets, charging station developers, and other commercial fleet vehicle owners – that the grid is ready to accommodate their electrification without long lead times for utility construction.
- Locations: depot locations in this hotspot are known and not expected to change over time given restricted land availability in the area. Furthermore, given the density of vehicles expected to electrify and needing access to charging in this hotspot, the new infrastructure built as part of this project could serve several customers along the feeder run. The solution design will run the feeder through the densest part of this area. Then as customers submit load requests, the Company will run services and/or spurs off the primary feeders to reach customers nearby, or even customers just outside the current hotspot borders. Therefore, the fact that the Company does not know which precise location will electrify its fleet first is not a risk but rather accounted for by constructing this proactive solution.
- Magnitude: the Company's granular model projected the charging needs of each type of vehicle to determine the magnitude of load needed for transportation electrification – see Appendix Exhibit J for details. This project is sized to meet the electrification load growth in the hotspot, 82MW by 2043.

Additionally, BTW and staggering feeder extension timelines will help mitigate against risk of building in advance of the load, making the assets "used and useful" as installed until the full customer load materializes.

Technical Evaluation / Analysis

The Company developed a robust bottom-up study to determine the location today of cars, trucks, and buses throughout the service territory, and then project the amount of EV charging load needed to serve these vehicles as they electrify on an accelerated path to meet existing State and New York City policy mandates and customer commitments. Please refer to Appendix Exhibit J for details on the study methodology.

Based on this study, the Steinway/LGA hotspot area is expected to have a combined electrification load of 4 MW in 2025 growing to 82 MW by 2043 from transportation electrification, shown in Figure 5.

Year	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43
Load (MW)	4	7	10	15	20	26	32	39	47	54	60	65	70	74	77	79	80	81	82

Figure 5. Cumulative EV Load Projections (MW) for LGA hotspot.

Project Relationships (if applicable)

N/A.

3. Funding Detail ($000)

Total Request by Year:

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
O&M											
Regulatory Asset											
Capital (Total)	$750	$24,867	$40,603	$49,817	$37,506	$29,512	$18,136	$11,161	$11,161	$11,161	$3,438
Labor	$750	$474	$1,650	$2,105	$1,403	$1,238	$474	$1,403	$1,403	$1,403	$413
M&S	$0	$5,469	$11,237	$14,261	$10,505	$8,712	$4,777	$6,128	$6,128	$6,128	$1,829
Contract Services	$0	$10,377	$14,028	$16,270	$12,619	$9,160	$6,726	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Overheads	$0	$8,547	$13,689	$17,182	$12,979	$10,402	$6,158	$3,631	$3,631	$3,631	$1,197

O&M = operations and maintenance.
M&S = materials and supplies.

EXHIBIT D

East New York Electrification Hotspot

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Figure 2 • Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☒ Project ☐ Program	**Category: ☒ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☒ Regulatory Mandated ☐ Operationally Required ☒ Strategic	
Project/Program Title: Proactive Planning – East New York Electrification Hotspot	
Project/Program Manager:	**Project/Program Number (Level 1):**
Status: ☒ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date:	**Estimated Date In Service:**
2025-2029 Funding Request ($000) **Capital: $110,532** **O&M:**	

Work Description:
This project will support the projected acceleration in electricity demand due to transportation electrification at one of the most transit-rich Industrial Business Zones in New York City. The East New York ("East NY") hotspot was identified through a granular load projection analysis, using vehicle telematics information to develop an analysis of future electrification demand and infrastructure needs to support load growth. The East NY hotspot, shown in Figure 1, targets the projected transportation electrification load demands within a roughly 0.5 square mile area in sections of Con Edison's Crown Heights, Richmond Hill, and Ridgewood networks.

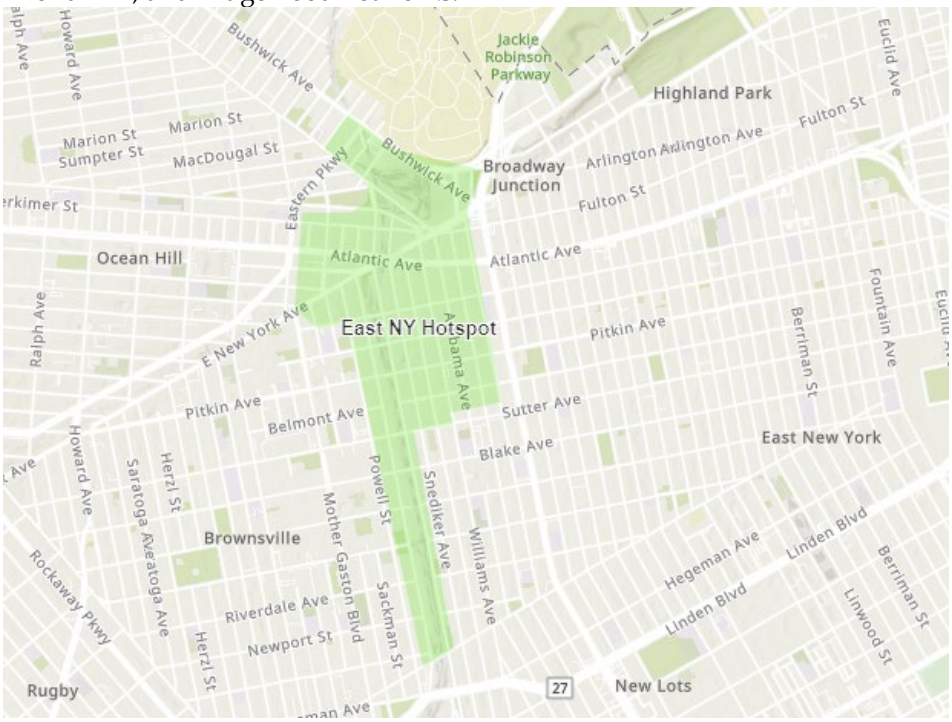

Figure 1. Visual of the East NY hotspot (green shading represents the hotspot boundary).

Based on the granular bottoms-up load projection analysis, the East NY hotspot is expected to have an estimated 23 MW of additional transportation electrification load by 2043 from transportation electrification, primarily driven by Metropolitan Transportation Authority (MTA) and school bus depots in the area. This necessitates the installation of (3) three new distribution feeders and associated breaker cubicle work, as well as future advancement of area station planning work causing the transfer of Brownsville No. 2 to Gateway No. 2 to advance from 2035 to 2034, work on which would need to start in the future (outside the scope of this proposal).

To establish the three new 1000MCM distribution feeders, Con Edison will use the second potheads available in the existing cubicles out of Brownsville No. 1 Substation; currently there are no spare cubicles at this station. Three new feeder legs will be established from the station and extended so that they reach the identified load pockets while maintaining N-2 design criteria.

These additional feeders are critical to supplying the expected load growth from both the electrification efforts as well as other new business load growth. The proposed East NY project will provide more capacity in the area while minimizing impacts and benefiting network reliability. Furthermore, it will diminish the risk of significant delays in responding to customer load requests and minimize disruption to the local areas, while optimizing cost and construction work. Existing feeder programs are not funded or structured to address proactive planning needs and leave a gap in preparing for rapidly increasing electrification loads. Proactive Planning would create a new funding pathway for the Company to build new feeders in concentrated load pockets based on more granular projected electrification loads. This enables the Company to be ready ahead of time in anticipation of customer load requests in comparison to the existing feeder programs focused on reliability, resiliency, and new business.

In order to support the immediate load growth need, pre-planning and engineering will need to begin in 2025 after authorization, followed by survey and construction in 2026. With immediate authorization in 2025, one (1) primary distribution feeder is expected to be feasibly energized by 2027 and up to three (3) primary distribution feeders by 2030 to provide enough capacity to support up to 8 MW of transportation electrification load projected by 2030. The conduit and construction work are expected to be completed by 2030 for the three (3) primary distribution feeders due to feasibility from construction resource constraints and shared resources. Existing primary distribution infrastructure will be utilized and reinforced, where necessary, under the existing New Business process to meet customer demand initially until the new distribution feeders can be installed and energized. All conduit work to support projected loads will be constructed upfront, while feeders will be pulled and energized in accordance with the electrification load. These timelines are subject to change once engineering and survey are completed, along with the number of feeders required and sequencing of work pending future forecasted load.

Furthermore, the project has been designed with a phased expandable approach. The most time-consuming work that has the greatest community impact – digging the street and laying the feeders – is completed all at once up front, and then capacity is added through pulling of feeders through the conduit as the load grows over time.

Major scopes of work to be completed under this project include:

- Install 42,228 feet of roadway conduit
- Install 174 sections (250 feet per section) of primary cable
- Install 171 manholes
- Install 6 switches and Cam Operated (Cam Op)
- Cubicle Work – one cubicle per feeder

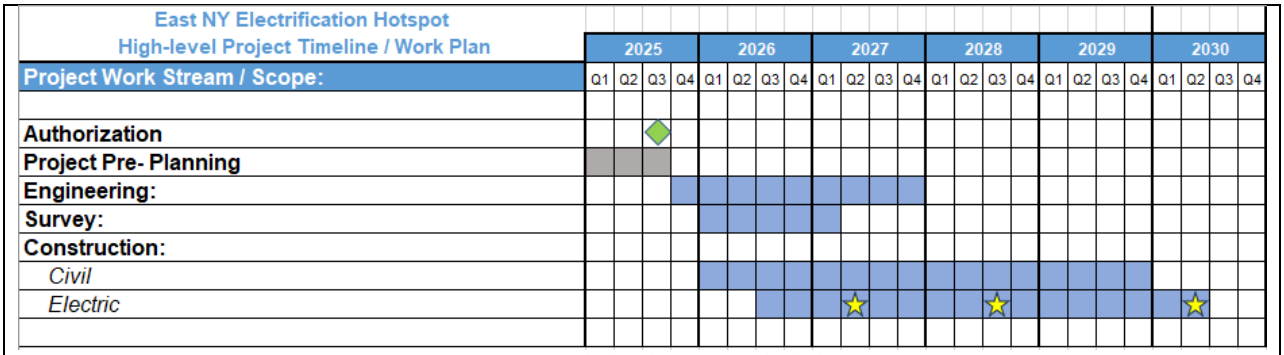

Figure 2. High-level project schedule.[1]

Justification Summary:

There is a **high degree of certainty** of the need for this project. The East NY hotspot, shown in Figure 1 above, is located in one of the most transit-rich Industrial Business Zones in New York City, and continues to see growth in commercial activity.[2] The project supports the electrification of multiple types of fleets within the Crown Heights, Richmond Hill, and Ridgewood networks, serving a total of 4,000 estimated commercial fleet vehicles. Given these vehicles must electrify to meet policy mandates and several specific customers have electrification plans, the Company is confident that this Proactive Planning project is required to serve future expected load.

- There are six fleets of school buses in the center of the hotspot area. The fleets total over 1,300 school buses, which will start electrifying in 2027 at the latest and complete electrification by 2035 in compliance with the New York State (the State) electric school bus mandate.[3]
- The Broadway Junction houses the MTA's East NY Depot totaling over 230 buses that will benefit from this proactive infrastructure build. The MTA has committed to replace and transform its entire bus fleet with zero-emissions vehicles by 2040. Furthermore, the New York City Economic Development Corporation (NYCEDC) and New York City are creating equitable growth opportunities with $500M in funding to bring full American with Disabilities Act (ADA) access to the Broadway Junction Station and the areas surrounding.
- In addition to projected load growth, current customer activity is evidence that transportation electrification is already underway. For example: MTA is awaiting delivery of transit buses; one school bus operator is applying for Environmental Protection Agency funding for electric school buses and another school bus operator is planning charging at a depot; and a municipal fleet is planning to install chargers.
- The Company demonstration project partnership with the school bus operator First Student will introduce new electric school bus charging to their depot just outside the hotspot in 2025.
- Moreover, further market signals also come through Con Edison's pre-engagement and advisory services which engage prospective charger developers and fleet owners to help them plan their charger installation projects before project commitments are made. From these engagements, and including current customer activity just highlighted, customers expressed interest in 8 projects to install charging for fleet electrification in the East NY hotspot. Based on data provided for 5 of these projects the average project would install 53 L2 plugs and based on data provided for 2 of these projects the average project would install 9 DCFC plugs.

[1] Project schedule and the in-service years for the feeders to be energized are subject to change.
[2] NYCEDC, "East New York Industrial Business Zone Sites." Available at: https://edc.nyc/sites/default/files/2024-10/NYCEDC-East-NY-RFP-IBZ-Informational-Flyer.pdf
[3] New York State clean school bus mandate available at https://www.budget.ny.gov/pubs/press/2022/fy23-budget-clean-energy.html

- The Company also consulted other transportation electrification projections to validate the density of load in this hotspot. EPRI's eRoadMap tool shows this area as one of the densest areas of expected electrification by 2030.[4]

The Company is also confident that the infrastructure upgrades will be utilized. The three feeders (and supporting infrastructure) will be utilized by electrification customers in the near term, while also improving system reliability.

These MTA and school bus depots are projected to add 23 MW of load to the Crown Heights, Richmond Hill, and Ridgewood networks collectively in the next 20 years. As shown in the "Technical Evaluation" section below, the granular study projections show incremental load in the hotspot materializing in 2025 and growing to 8 MW by the time this project enters service in 2030. This is expected to add strain to existing feeders. Installing new feeders as soon as possible through this project can avoid more costly grid upgrades and/or delaying customer electrification once the existing feeders are at or exceeding equipment limits. With immediate authorization in 2025, one (1) primary distribution feeder is expected to be feasibly installed by 2027 and up to three (3) primary distribution feeders by 2030 to provide enough capacity to support up to 8 MW of transportation electrification load projected by 2030. Thus, this project meets the **urgency criteria** because the Company must begin Construction Related Activities by the first quarter of 2026 to meet the need in an efficient and effective way (see Figure 2 above).

Thus, it is imperative that distribution infrastructure upgrades start now in order to be ready to supply customers when they complete construction; failure to act now will lead to delays.

In summary, the upgrade in the East NY hotspot is **required to enable transportation electrification**, which accounts for the vast majority of the total incremental load needed. Building electrification is not driving the urgent upgrade need because building electrification load peaks in the winter (for heating) and the local grid is still summer-peaking. Nonetheless, this project will not only aid in transportation electrification but also support building decarbonization and State goals and regulations by providing additional capacity for customers to connect to the grid. Moreover, proactively planning and building the infrastructure necessary for State electrification targets will help optimize project design, construction, and cost efficiency (as discussed in the "Non-Financial Benefits" and "Summary of Financial Benefits and Costs" sections).

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

The infrastructure upgrades proposed in this hotspot support other Company and statewide initiatives related to (1) benefits for disadvantaged communities, (2) reductions in transportation and building emissions, (3) energy storage, and (4) climate adaptation.

1. The neighborhoods within the East NY hotspot area are all classified as Disadvantaged Communities (see Figure 3). These plans will provide the infrastructure needed to electrify the area to reduce greenhouse gas emissions and local air and noise pollution, directly improving the quality of life within the neighborhoods and surrounding regions.

[4] EPRI eRoadMap tool is part of the EVs2Scale 2030 project. The tool measures cumulative energy needs in MWh per day at granularity down to 0.28 square mile hexagonal geographic areas and groups each hexagon into one of five tiers. These hexagons do not map one-to-one with Con Edison's hotspots, but of the 4 hexagons that mostly overlap with the East NY hotspot, one falls into the highest tier of transportation electrification energy needs, two into the second highest tier, and one in the third tier. eRoadMap tool available at https://eroadmap.epri.com.

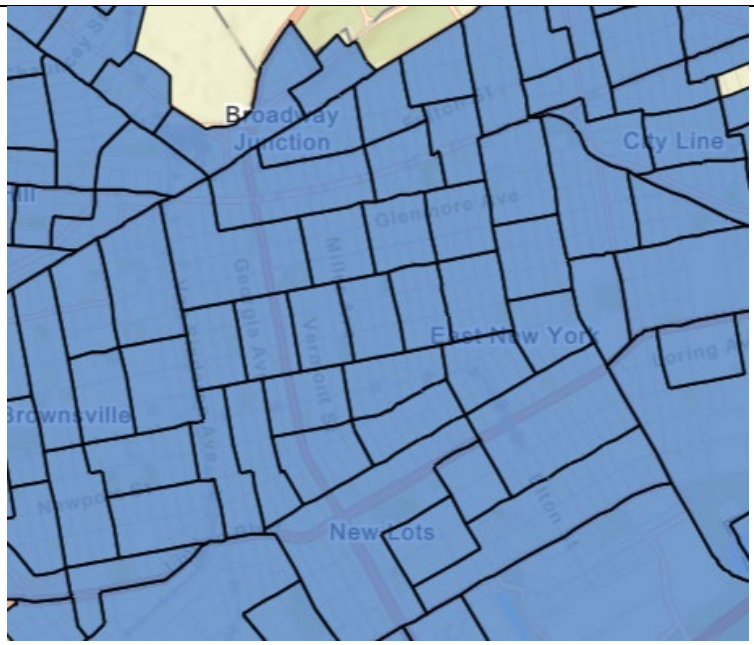

Figure 3. NYSERDA's Disadvantaged Communities map (blue shading indicates a Disadvantaged Community).

2. This project will also help achieve goals in Con Edison's Clean Energy Commitment and Long-Range Plans, as well as the State's Climate Leadership and Community Protection Act (CLCPA), with goals of reducing emissions by 85% by 2050. It will support customers in meeting policies that require all new school buses sold in the State to be zero-emission by 2027 and all school buses on the road to be zero-emission by 2035.[5] In addition, it will support the infrastructure required to meet the State zero-emission 2035 new sales mandates for passenger vehicles and light-duty trucks.[6] This project will also enable building electrification as customers look to reduce their building carbon emissions, in line with the CLCPA goals of 85% of homes and commercial building spaces statewide being electrified with heat pumps and/or thermal energy networks by 2050.[7]

3. Increasing the capacity on the distribution grid in currently constrained areas will not only provide the infrastructure to be ready for customers who are looking to electrify, but it will also enable and support the adoption and installation of energy storage systems. In these select areas, energy storage systems can be strategically placed to support nearby large customer electrification load, and the infrastructure is used and useful until the customer's full load materializes. Energy Storage resources can be more easily scaled than traditional solutions alone to meet initial customer needs in time. Through Proactive Planning, the Company can enable projects fitting the Bridge to Wires (BTW) application described in the Joint Utilities'

[5] NYSERDA, "$100 Million Available For Zero-Emission School Buses." September 28, 2023. Available at: https://www.nyserda.ny.gov/About/Newsroom/2023-Announcements/2023-09-28-Governor-Hochul-Announces-100-Million-For-Zero-Emission-School-Buses#:~:text=The%20NYSBIP%20is%20a%20New%20York%20State-wide%20point-of-sale. $100 Million Available For Zero-Emission School Buses - NYSERDA

[6] NYSERDA, "DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales." Available at: https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II.

[7] New York State Climate Action Council. 2022. "New York State Climate Action Scoping Plan." Available at: climate.ny.gov/ScopingPlan.

recent Utility Integrated Storage filing[8] which includes opportunities for energy storage systems to shift amongst multiple use-cases throughout its lifecycle.[9] BTW creates expanded opportunities for Company owned and third-party batteries to interconnect using optimally placed new infrastructure capable of supporting multiple projects. Initially, the energy storage resources would be part of a bridge solution to provide reliability. While more customers continue to electrify, energy storage can support the incremental load until the full traditional solution is online freeing up the energy storage to participate in multiple applications: grid management operations, resiliency applications, and supporting renewable integration.

4. Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

2. Supplemental Information

Alternatives

Alternative 1 - Utilize the Bensonhurst #1 & 2 Area Station instead of the Brownsville No. 1 Area Station to feed the newly proposed distribution feeders to the East NY hotspot.

This alternative was rejected since the Bensonhurst #1 & 2 Area station is much further away, which would lead to increased costs and potential constructability issues. Thus, the newly proposed three (3) primary distribution feeders were designed to be fed from the Brownsville No. 1 Area Station.

Alternative 2 – Follow the standard New Business process to connect customers to the distribution grid, which means waiting for customers to supply load letters. Typically, customer load letters come in one-by-one, which results in the necessary studies to be performed on a per-customer basis in order to develop solutions as customers request additional supply.

This alternative was rejected since this would lead to delays in connecting customers, based on the existing customer activity, load projections, and duration of the project, require repeated engineering analysis. Performing grid upgrades in this sequential process loses the efficiency of developing a holistic plan to build the infrastructure needed for the general area in advance considering long-term loads. Additionally, it can lead to long energization timelines, which can create economic hardships for customers since distribution buildout typically takes longer than customer construction. It will also delay the transition to zero-emission vehicles and the various CLCPA goals and policies set for electrification, as well as the air quality improvements and noise reductions in the local community.

Risk of No Action

[8] Case 18-E-0130, In the Matter of Energy Storage Deployment Program, Joint Utilities' Study Of Non-Market Transmission And Distribution Energy Storage Use Cases And Related Process Proposals.
[9] Case 18-E-0130, *In the Matter of Energy Storage Deployment Program*, Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.'s Comments on New York's 6 GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage (filed March 20, 2023).

Risk 1: Not having enough capacity to be able to meet customer demands, including major delays in connecting customer transportation or building electrification new business load. Should no proactive action be taken, the Company would resort to the existing, reactionary process of waiting for customer load letter submittals. Through this process, upgrades would not be triggered until a customer's load request exceeds the available capacity. Current lead times for utility-sided infrastructure range from 2-3 years for distribution work and 6+ years for substation upgrades, which is out of sync with the 6–12-month timeline customers typically need for EV purchases and charger installation. In the event that a single customer triggers the need for these investments, they would not be able to receive full power until those upgrades can be designed, permitted, and completed. This can also lead to customer financial burdens by missing incentive deadlines, sunk costs of delay, or potentially leading to fines by not meeting electrification laws and regulations. Specifically in the case of transportation electrification, it will not be economically viable for customers to invest in vehicles or electric vehicle supply equipment if they cannot reliably charge them for several years after their request.

Risk 2: Severely delayed EV charger installations causing the State to miss its adoption goals and the CLCPA targets, furthering GHG emissions and air pollution that impact community quality-of-life. For example, nearly 1,500 vehicles are expected to electrify in the East NY hotspot area in 2030 (project completion year) based on granular load forecasts. If upgrades are not completed proactively and EV charging stations seeking to connect in 2030 are delayed by 6 years (the duration of this project), the electrification of some or all those vehicles – plus over 12,500 more vehicles expected to electrify between 2031 and 2036 – may similarly be delayed.

Risk 3: Overloaded grid areas, while staying within design standards, impacting grid reliability and increasing customer outages.

Risk 4: Increased costs and reduced construction efficiency due to potentially conducting multiple projects to build "just-in-time" rather than conducting the work proactively and building to area wide plans. If upgrades are not performed urgently, electrification customers would be picked up on existing feeders which may lead to future overloads, and then require other complex load relief work to maintain N-2 design. Furthermore, urgent authorization of the full scope of work is critical because even partial authorization would forgo cost efficiencies and thus lead to higher costs and greater community disruption in the long term.

Non-Financial Benefits

- Increases the safety, reliability, and resiliency of the grid while optimizing cost.
- Supports the Clean Energy goals of the State and the Company's targets, aiming to positively impact the environment by lowering greenhouse gas emissions and local air pollution, and supporting customer decarbonization efforts. Based on Con Edison's internal analysis, by 2040 this project will support charging of enough light-, medium-, and heavy-duty vehicles to avoid 58 thousand tons of carbon dioxide equivalent (CO2e) that year, with a total avoided emissions of 486 thousand tons CO2e from the in-service date through 2040, and even more in the years beyond.
- The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans.
- Strengthens relationships with customers, communities, and regulators. By proactively building out the grid to be ready for new loads, The Company increases customer trust and improves the customer experience to enable a smoother and expedited new business process.

- The "dig-once" approach - wherein the civil work is done all upfront rather than in multiple stages – will minimize community disruption from construction **and maximize benefits to the local Disadvantaged Communities**. By proactively installing all conduit to support full electrification, the Company will not have to return multiple times in the future to excavate.
- Supports the installation of energy storage systems to meet system needs, enabling and managing the transition to renewable energy sources, and meeting State goals in areas optimizing grid support and other customer benefits, while reducing costs. These can include both market and non-market projects.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

Proactively planning and building the infrastructure necessary for State policy electrification targets will help optimize project design, construction, and cost efficiency. Transportation electrification also potentially provides downward pressure on customer bills.

Cost efficiency is central to the "dig once" project design (see "Non-Financial Benefits"). The vast majority of the hotspot project costs are civil related items, such as excavation and laying conduits, which would be built out immediately for the full electrification projected load. If constructing just in time as customer load letters are submitted, there would be constant excavation of the street which can lead to higher costs from repeated system reinforcement work as well as negative customer and community impacts.

3. Basis for estimate

The funding request is based on an initial order of magnitude estimate based on the scope of work and major equipment described above. The unit costing method was used to estimate the cost for the distribution system establishment of the East NY Hotspot. The number of required units of equipment and material was multiplied by a loaded unit cost that contains material, labor and overheads. The initial scope of work was studied, and specific units of work needed were obtained.

Discipline	Name	Unit Cost	Units
UG	3-1000 EPR (splicing included)	$179,821	174
CM - Structure	M14	$109,180	171
CM - Conduit	Roadway Conduit 6"	$1,237	42,228
Substations	CUBICLE UPGRADE	$1,550,000	3
UG	New Switches	$465,000	6
UG	Cam-ops	$64,160	6
ENG	Preliminary Engineering/Survey	$500,000	1

Figure 4. High-level scope of work and unit cost.[10]

Project Risks and Mitigation Plan

Risk 1: Unknown Constructability Issues

Mitigation Plan: Survey route during engineering design process and develop alternatives as needed. Consult with Substation construction groups to address any known/found constructability concerns.

[10] "Discipline" column represents the internal Company group responsible: UG stands for underground, CM stands for Construction Management, and ENG for engineering.

Work with company government liaison and city agencies to coordinate efforts, such as the MTA, the Long Island Rail Road, the Department of Transportation, etc.

Risk 2: Risk of Overbuilding or Underbuilding
Mitigation Plan: This project avoids underbuilding by installing conduit to support the full electrification scenario and enabling the Company to more easily add capacity by pulling future feeders in accordance with load projections from the granular load study. This project mitigates the risk of overbuilding because the assets (a) immediately improve system reliability and resiliency, and (b) will immediately support existing customers already electrifying, and (c) creates capacity for other non-transportation or building electrification loads.

Risk 3: Uncertainty of Timing, Location, and Magnitude of Load Materialization
Mitigation Plan: There is some uncertainty around which depot locations will electrify at what exact time, and how many vehicles (and thus how much load) they will need at a given time. However, the Company performed detailed studies to understand the most likely locations, timing, and magnitude of electric vehicle adoption. These studies were directly linked to State policy objectives, considered available funding, and were corroborated by extensive outreach to fleet customers.

- Timing: As discussed in the Justification section above, policy objectives and specific customer plans dictate electrification timelines, which the Company used to mitigate the risk of being late. The risk of being too early is minimal because if electrification load arrives later than expected, the infrastructure will increase system reliability. Furthermore, the availability of capacity created by this work will signal to the customers in the East NY hotspot – the MTA, school bus fleets, and other commercial fleet vehicle owners – that the grid is ready to accommodate their electrification without long lead times for utility construction.
- Locations: Depot locations in this hotspot are known and not expected to change over time given restricted land availability in the area. Furthermore, given the density of vehicles expected to electrify and need access to charging in this hotspot, the new infrastructure built as part of this project could serve several customers along the feeder run. The solution design will run the feeder through the densest part of this area. Then as customers submit load requests, the Company will run services and/or spurs off the primary feeders to reach customers nearby, or even customers just outside the current hotspot borders. Therefore, the fact that the Company does not know which precise location will electrify its fleet first is not a risk but rather accounted for by constructing this proactive solution.
- Magnitude: The Company's granular model projected the charging needs of each type of vehicle to determine the magnitude of load needed for transportation electrification – see Appendix Exhibit J for details. This project is sized to meet the electrification load growth in the hotspot, 23 MW by 2043.

Additionally, BTW will help mitigate against risk of building in advance of the load, making the assets "used and useful" as installed until the full customer load materializes.

Technical Evaluation / Analysis

The Company developed a robust bottom-up study to determine the location today of cars, trucks, and buses throughout the service territory, and then project the amount of EV charging load needed to serve these vehicles as they electrify on an accelerated path to meet existing State and New York City policy mandates and customer commitments. Please refer to Appendix Exhibit J for details on the study methodology.

Based on this detailed bottom-up study, the East NY hotspot is expected to have an electrification load of 8 MW by 2030 (expected project completion) and 23 MW by 2043 from transportation electrification, shown in Figure 5.

Year	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43
Load (MW)	1	2	3	5	6	8	10	12	14	16	18	19	20	21	22	22	22	22	23

Figure 5. Cumulative EV Load Projections (MW) for East NY hotspot

Project Relationships (if applicable)

These areas identified for electrification add enough load to the distribution system that it advances area station planning work. This will cause the transfer of Brownsville No. 2 to Gateway No. 2 to advance from 2035 to 2034.

3. Funding Detail ($000)

Total Request by Year:

	2025	2026	2027	2028	2029	2030
O&M						
Regulatory Asset						
Capital (Total)	$500	$15,114	$33,892	$36,714	$18,055	$6,258
Labor	$500	$326	$1,588	$1,831	$1,506	$751
M&S	$0	$2,673	$8,809	$10,431	$7,171	$3,329
Contract Svcs.	$0	$7,082	$12,464	$12,324	$3,541	$0
Other	$0	$0	$0	$0	$0	$0
Overheads	$0	$5,033	$11,031	$12,128	$5,837	$2,178

O&M = operations and maintenance.
M&S = materials and supplies.

EXHIBIT E

Parkchester No. 1 5th Transformer 9S and Supply Feeder 38X05

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Figure 1 • Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☒ Project ☐ Program	**Category: ☒ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Parkchester No. 1 5th Transformer 9S and Supply Feeder 38X05	
Project/Program Manager: Partha Roy	**Project/Program Number (Level 1):** 27809976
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service: 2030**
2025-2029 Funding Request ($000) **Capital: $126,900** **O&M:**	

Work Description:

This project is designed to increase the capability at Parkchester No. 1 substation by 73 MW to mitigate risks associated with the projected load growth as a result of electrification loads. This project will establish a fifth 138/13.8kV transformer bank at Parkchester No. 1 Substation, to be supplied by a new 138kV feeder originating from E179th St. 138kV Substation.

Major scopes of work to be completed under this project include:

- Install new 138kV feeder 38X05 from existing bus section BTEW at E179th St. to new transformer TR9S at Parkchester No. 1 Substation.
  - Install new below grade duct bank for supply feeder from E179th St. Substation to Parkchester No. 1 Substation.
  - Connect new 38X05 supply feeder to E179th St. Substation between breakers BTW and BTE.
  - Install new 138kV disconnect and ground switch, coupling capacitor potential devices (CCPDs) and surge arresters at E179th St. Substation.
  - Install new prefabricated relay enclosure with panels at E179th St. Substation.
- Install new transformer TR9S at Parkchester No. 1 Substation.
  - Install new foundations and spill containment for transformer TR9S.
  - Install new 13kV secondary bus connecting to existing Syn Bus Tie.
  - Install new 138kV circuit switcher and ground switch.
  - Install new 13kV circuit breaker cubicle with Potential Transformer (PT) compartment and associated relay panels.
- Install new foundations for the following:
  - E179th St – Feeder 38X05 potheads, 138kV disconnect & ground switches, CCPDs, surge arresters, relay enclosure.
  - Parkchester No. 1 – 138/13.8kV Transformer TR9S, 138kV circuit switcher, 13kV PT and circuit breaker cubicle.

Major or long lead equipment requirements for the project include, but are not limited to:

Major Equipment Type	Number to be Purchased	Expected Lead Time
138 kV 3Ø Feeder Disconnect with Ground Switch	1 each	24 months
138 kV 3Ø CCPDs	1 each	24 months
Prefabricated relay enclosure with 5 panels	1 each	24 months
65 MVA 138/13.8 kV Transformer	1 each	60 months
138kV Circuit Switcher with Ground Switch	1 each	24 months
13kV Switchgear – Circuit breaker, PT, relay cubicle	1 each	24 months

Engineering and long lead equipment procurement will begin in 2025 for this project and site preparation for construction is expected to begin in 2027 and to be completed in 2030. The estimated timeline to complete the major scopes of work associated with the project is below. This timeline is subject to change at any time, as the Company optimizes the project schedule and incorporates impacts of other projects and system performance.

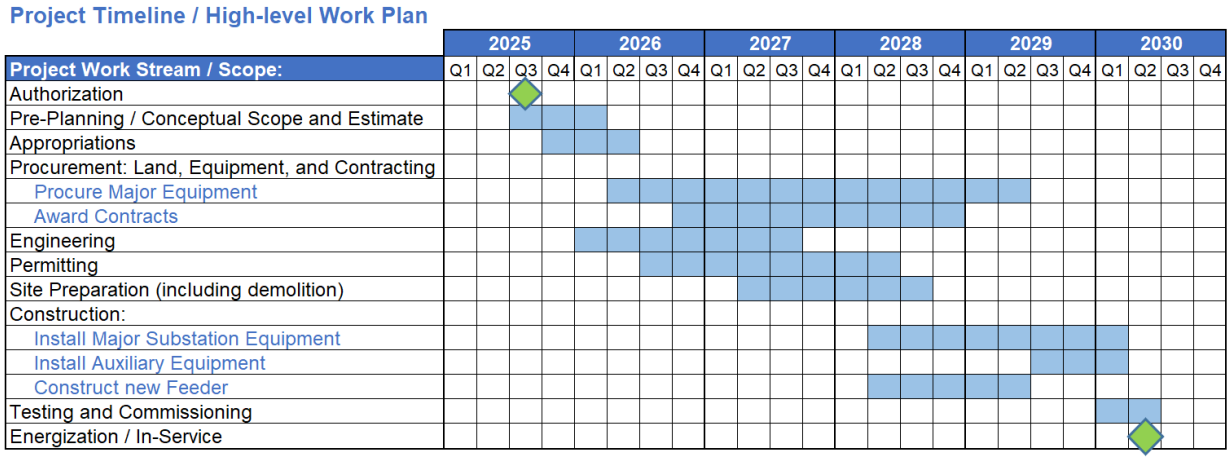

Figure 1. High-level project schedule.[1]

Justification Summary:

This project is part of the solution being implemented to support electrification in the Southeast Bronx network. Based on forecasts of load growth in the Southeast Bronx load area included in the 2024 Load Relief Program (LRP), and layering on the results of the robust bottom-up EV load study the Company developed, station capability at Parkchester No. 1 will be over 100% utilized in 2028. Transferring approximately 20 MW of load from Parkchester No. 1 to Parkchester No. 2 alleviates this forecasted constraint at Parkchester No. 1, but only until 2030, which is the earliest the 5th transformer at Parkchester No. 1 can be completed.

This potential overload at Parkchester No. 1 in 2030 is alleviated by the additional 73 MW in substation capacity resulting from this project. This project meets the **urgency criteria** because the Company must

[1] Project schedule and the in-service years for the feeders to be energized are subject to change.

begin Construction Related Activities for this project by the first quarter of 2026 to meet the need (see Figure 1 above and Figure 2 below).

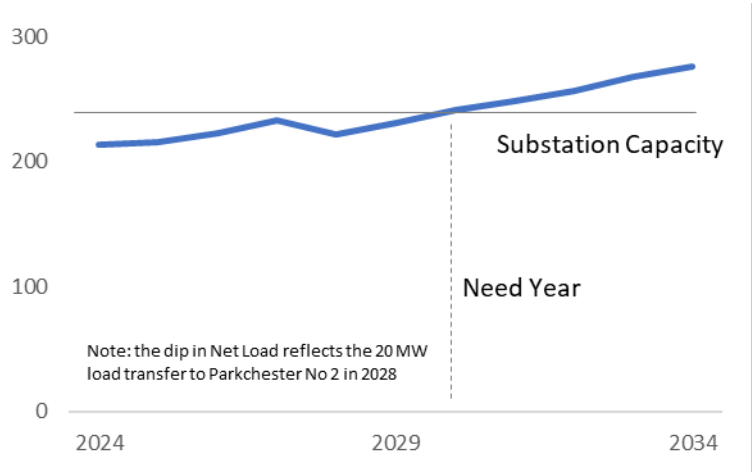

Figure 2. Net load projections (MW) for Parkchester No. 1.

There is a **high degree of certainty** of the need for this project. The rapid load growth in the network over the next several years is primarily driven by electrification and associated economic activity in the area expected to continue. While this electrification does not include the Zerega Avenue hotspot, which will be supported by Parkchester No. 2, it does include (1) almost one thousand additional school buses and utility trucks, (2) thousands of other personal and commercial fleet vehicles in the area that must electrify to meet policy mandates, and (3) several specific customer electrification plans, making the Company confident that this Proactive Planning project is required to serve future expected load.

The capacity expansion at Parkchester No. 1 will support a variety of new loads, however the upgrade in the Southeast Bronx load area is specifically **required to enable transportation and building electrification**, which account for 43% of the total incremental load needed in 2030. This project will not only aid in transportation electrification but also support building decarbonization and State goals and regulations by providing capacity for customers to connect to the grid. Additionally, proactively planning and building the necessary infrastructure to meet State policy electrification goals will provide optimized planning, construction, and cost efficiency.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project will strengthen the overall transmission system and networks served by the Parkchester No. 1 Substation including Disadvantaged Communities in the area or downstream from this project. The infrastructure upgrades proposed here support other Company and statewide initiatives related to (1) reductions in transportation and building emissions, (2) safe and reliable service, and (3) climate adaptation.

1. Increasing the capacity at this area substation will ultimately help achieve goals in Con Edison's Clean Energy Commitment and Long-Range Plans, as well as the State's Climate Leadership and Community Protection Act (CLCPA), specifically the goal of reducing emissions by 85% by 2050. It will support Con Edison's customers within the subsequent areas in meeting policies that require all new school buses sold in the State to be zero-emission by 2027 and all school

buses on the road to be zero-emission by 2035.[2] In addition, it will support the infrastructure required to meet the State zero-emission 2035 new sales mandates for passenger vehicles and light-duty trucks.[3] This project will also enable building electrification as customers look to reduce their building carbon emissions, in line with the CLCPA goals of 85% of homes and commercial building spaces statewide being electrified with heat pumps and/or thermal energy networks by 2050.[4]

2. This project is a core investment that enables the Company to continue to provide safe and reliable service, even as the nature of the grid changes and customer loads significantly increase. This aligns with Con Edison's strategic objective of providing world-class safety, reliability, and security, while managing the equity challenges of the energy transition.
3. Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

2. Supplemental Information

Alternatives

Alternative 1
Load Transfer – One alternative solution considered was a 70 MW load transfer from Parkchester No. 1 to Parkchester No. 2 before 2028. At a cost of over $230 million, this solution was deemed too costly since it would only delay the need for an additional transformer at Parkchester No. 1. Additionally, the solution was not selected since it would not actually increase capacity in the load area.

Risk of No Action

If no action is taken to alleviate forecasted capability exceedances at the Parkchester No. 1 substation, there is a high risk of overloading the substation equipment during peak load conditions. Exceeding the rated capacity of the substation could result in load shedding if contingencies occur during peak loading conditions. This load shedding could result in customer outages, increased risk of equipment failure, and adverse impact to the community served, as well as the potential inability to maintain reliable system power flow controls, system reliability and resiliency concerns.

There is a real risk of delays in providing service to customers, impacting critical customer plans, and delaying achievement of intermediate climate policy goals related to transportation and building electrification as well as delaying improvements in the air quality in these communities.

Non-Financial Benefits
This project will provide the necessary load relief for overloaded feeders and equipment, benefiting the reliability of service in the areas served by the Parkchester No. 1 Substation.

[2] The State clean school bus mandate requires all school bus sales starting July 1, 2027 to be zero-emissions vehicles (ZEV), and all fleets to convert their buses to ZEV by 2035. https://www.budget.ny.gov/pubs/press/2022/fy23-budget-clean-energy.html
[3] NYSERDA. "DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales." Available at: https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II.
[4] New York State Climate Action Council. 2022. "New York State Climate Action Scoping Plan," p. 11. Available at: climate.ny.gov/ScopingPlan.

This project will also add the capacity needed to support transportation and building electrification, which will improve air quality, noise pollution, and reduce greenhouse gas emissions. Based on Con Edison's internal analysis, by 2040 this project will support charging of enough light-, medium-, and heavy-duty vehicles and electrification of enough heating systems to avoid 455 thousand tons of carbon dioxide equivalent (CO2e) that year, with a total avoided emissions of 3,480 thousand CO2e from the in-service date through 2040, and even more in the years beyond.

The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans. This project will thus strengthen relationships with our customers and communities. By proactively building out the grid to be ready for new loads, Con Edison is increasing customer trust and a better customer experience to enable a smoother and expedited new business process.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)
N/A

2. Major financial benefits
N/A

3. Basis for estimate
The estimate is based on an order of magnitude estimate of project costs based on a conceptual design and historical costs for similar scopes of work. High-level estimates of total costs, by primary spend category, are shown below, including escalation, overheads, and contingency.

	Estimated Direct Costs	*Esc., OH, & Other Loading**	*Estimated Total*	*% of Total*
01-Labor	$ 8,622,178	$ 12,692,631	$ 21,314,807	16.8%
02-Materials, Supplies, and Handling	$ 16,731,957	$ 14,501,260	$ 31,233,217	24.6%
03-Cont Svcs	$ 35,127,498	$ 30,444,319	$ 65,571,815	51.7%
09-Other	$ 4,701,400	$ 4,074,612	$ 8,776,011	6.9%
Total	**$ 65,183,033**	**$ 61,712,822**	**$126,895,850**	

*Includes: Escalation (11%), Central Engineering Overheads (13.25%), Administrative & Supervisory Expenditures (2.53%), Payroll Taxes and Pension (39.35%), Allowance for Funds Used During Construction (6.62%), and Contingency (30%)

Figure 3. High-level scope of work and associated costs.

Project Risks and Mitigation Plan

Risk 1:
The vicinity of the above ground trains can make it difficult to find crossings/lanes for feeders.

Mitigation Plan:
Confirm via surveys that enough lanes are available for the feeder band runs. Obtain all permits ahead of time. Explore other options to go under any obstacles like trains.

Risk 2:
Risk of overbuilding or underbuilding

Mitigation Plan:
This project avoids underbuilding by planning in accordance with load projections from the granular load study that ramp up to support the full electrification scenario. Three mitigating factors counteract the risk of overbuilding: (1) the assets immediately improve system reliability and resiliency, (2) the assets can create capacity for other non-transportation or building electrification loads, and (3) if the electrification load does not materialize, the transformer could be removed and used to support new capacity elsewhere on the system.

Risk 3:
Uncertainty of timing, location, and magnitude (i.e., appropriate sizing) of load materialization.

Mitigation Plan:
While there is some uncertainty around the exact timing of customer electrification and which customers will electrify at any given time, the general timeframe for load increases across the area is well known given existing policies. The Company's Granular EV Load Projection analysis significantly constrains the locations and magnitude of EV adoption. This analysis links directly to State policy objectives, considers available funding and active electrification projects, and was corroborated by extensive outreach to fleet customers.

- Timing: As discussed in the Justification section above, policy objectives and specific customer plans dictate electrification timelines, which the Company used to mitigate the risk of being late. The risk of being too early is minimal due to the accelerating project plans already identified in the region and the high confidence in the load materializing. Furthermore, once transformers are installed, they will increase system reliability. All this work will signal to the customers in this region of the Bronx – school bus fleet operators, the Department of Sanitation, and logistics fleet operators – that the grid is ready to accommodate their electrification without long lead times for utility construction.
- Locations: Depot locations in this region are known and not expected to change over time given restricted land availability in the area. Furthermore, given the density of vehicles expected to electrify and need access to charging in this hotspot, the new infrastructure built as part of this project could serve several customers along the feeder run. Therefore, the fact that the Company does not know which precise location will electrify its fleet first is not a risk but rather accounted for by constructing this proactive solution.
- Magnitude: The Company's granular EV load model projected the charging needs of each type of vehicle to determine the magnitude of load needed for transportation electrification.

Technical Evaluation / Analysis

Load projections in the 2024 Load Relief Program (LRP), layered with the results of the robust bottom-up EV load study the Company developed, indicate that the forecasted loads will exceed the substation's capability in 2028. Please refer to the "EV Granular Load Analysis Methodology" (Appendix Exhibit J) for the details around the methodology of the Granular EV Load Projections and identification of urgent area substation needs.

Project Relationships (if applicable)

This project is related to Parkchester No. 2 TR13 & B/S 13A & 13B Installation and new supply feeder. Both substation projects, Parkchester No. 1 5th Transformer 9S and Supply Feeder 38X05 and the Parkchester No. 2 TR13 & B/S 13A & 13B Installation, are necessary to provide area substation capacity and reliability to feed the Southeast Bronx and Northeast Bronx, respectively. While the Zerega Avenue hotspot is currently part of the Southeast Bronx network, fed by Parkchester No. 1, the Urgent

Projects infrastructure would supply feeders to Zerega Avenue from Parkchester No. 2. Going forward, Parkchester No. 1 will still supply vehicle and building electrification loads within the Southeast Bronx network near Zerega Avenue, but outside the Zerega Avenue hotspot.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	2025	2026	2027	2028	2029
O&M					
Regulatory Asset					
Capital (Total)	**$2,000**	**$10,000**	**$60,140**	**$49,760**	**$5,000**
Labor	$209	$1,044	$6,281	$5,197	$522
M&S	$402	$2,012	$12,099	$10,011	$1,006
Contract Services	$765	$3,824	$22,996	$19,027	$1,911
Other	$102	$512	$3,078	$2,547	$256
Overheads	$522	$2,608	$15,687	$12,979	$1,300

O&M = operations and maintenance.
M&S = materials and supplies.

*The test year runs from 10/1/2023 to 9/30/2024

EXHIBIT F

Parkchester No. 2 TR13 & B/S 13A & 13B Installation

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Figure 1 • Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☐ Project ☐ Program	**Category: ☐ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☐ Regulatory Mandated ☐ Operationally Required ☐ Strategic	
Project/Program Title: Proactive Planning - Parkchester No. 2 TR13 & B/S 13A & 13B Installation	
Project/Program Manager: Roy A. Young	**Project/Program Number (Level 1):** 10035263
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2025	**Estimated Date In Service:** 2028
2025-2029 Funding Request ($000) **Capital: $44,025** **O&M:**	

Work Description:

This project is designed to increase the capability at Parkchester No. 2 13kV substation by 81 MW in 2028 to facilitate the transfer of 20 MW of load from the Parkchester No. 1 13 kV substation. This load transfer will relieve a forecasted load constraint on Parkchester No. 1 (which serves the Southeast Bronx network), while creating capacity at Parkchester No. 2 to support forecasted load growth in the Northeast Bronx network. This project will install a fourth 138/13kV transformer in an existing spare transformer vault at Parkchester No. 2 by installing 138kV tertiary feeder 38X02T from existing 138kV feeder 38X02 (which currently serves as an alternative feed for Transformer 11) to new Transformer 13 within Parkchester No. 2.

Major scopes of work to be completed under this project include:

- Install 138/13.8kV, 65 MVA transformer
- Install 138 kV circuit switcher with ground switch (1)
- Install 138kV circuit interrupter with ground switch (1)
- Install 138kV set of potheads with stand (2)
- Install 138kV solid dielectric feeder from new pothead stand at TR11 to new pothead stand at TR13
- Install 13.8kV phase segregated bus (100ft)
- Install high voltage flex and solid bus with connectors (1 lot)
- Install 13.8kV switchgear sections 13A and 13B
- Install new and modify existing relay protection as necessary
- Install deluge system
- Install new foundations and spill containment for transformer TR13
- Install switchgear pads
- Install new foundations for circuit switcher and pothead stands.

Major or long lead equipment requirements for the project include, but are not limited to:

Major Equipment Type	Number to be Purchased	Average Lead Time
138/13.8 kV, 65 MVA transformer	1	36 months
Secondary Bus (Low Voltage 13kV)	100′	6 months
Circuit Switcher with Ground Switch	1	21 months
Circuit Interrupter with Ground Switch	1	21 months
Switchgear sections 13A and 13B	1	14 months

Engineering and long lead equipment procurement will begin in 2025 for this project and construction is expected to begin in 2026 and to be completed in 2028. The estimated timeline to complete the major scopes of work associated with the project is below. This timeline is subject to change at any time, as the Company optimizes the project schedule and incorporates impacts of other projects and system performance.

Project Timeline / High-level Work Plan

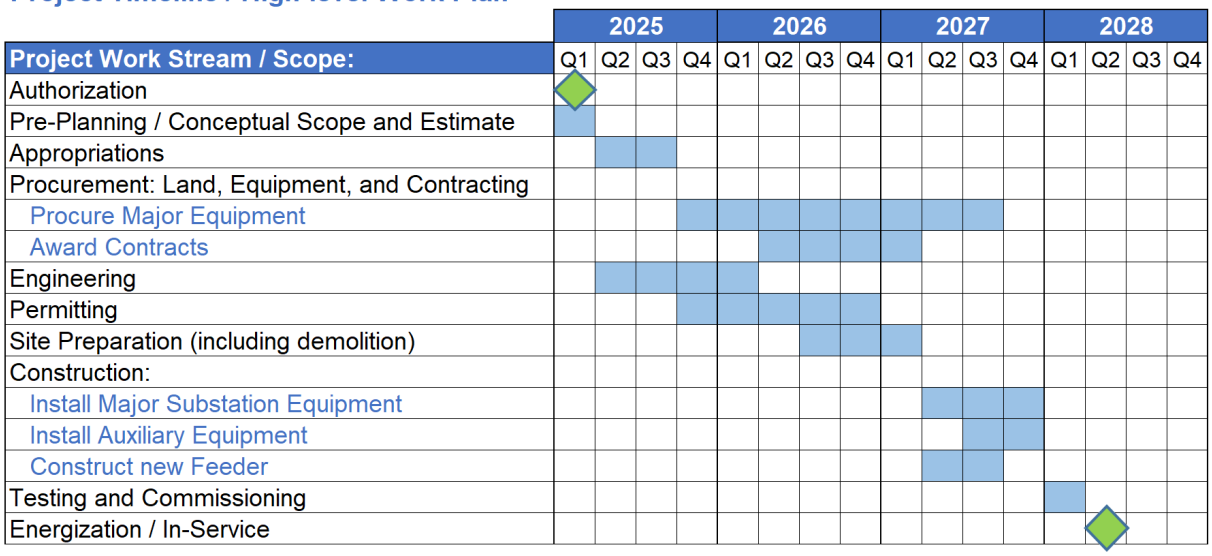

Figure 1. High level project schedule.[1]

Justification Summary:

This project is part of the solution being implemented to support electrification based on forecasts in the Northeast Bronx network included in the 2024 Load Relief Program (LRP) and layering on the results of the robust bottom-up EV load study the Company developed. It will also support the 20 MW loads that will be transferred over from the Southeast Bronx in 2028 due to capacity constraints at Parkchester No. 1 (see Figure 2 below).

[1] Project schedule and the in-service years for the feeders to be energized are subject to change.

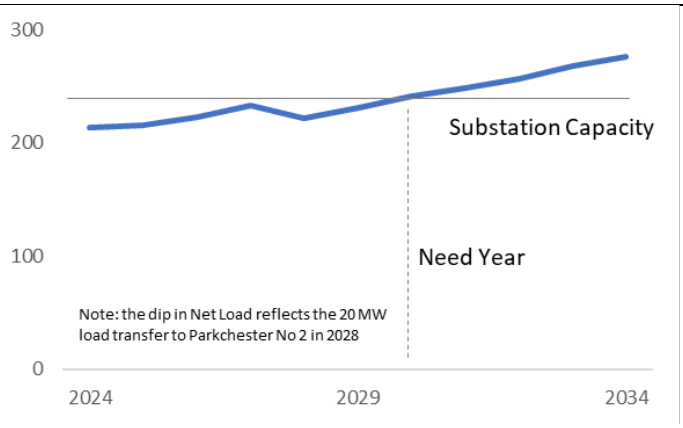

Figure 2. Net load projections (MW) for Parkchester No. 1.

This project will also deliver energy to the 60 MW transportation electrification load expected in the Zerega Avenue hotspot (thereby shifting the hotspot into the Northeast Bronx Network). Supplying this area will require six (6) new distribution feeders, which will originate from the new bus section installed by this project.

Based on forecasts of load growth in the Northeast Bronx load area included in the 2024 LRP, station capability at Parkchester No. 2 will be over 100% utilized in 2027 (see Figure 3 below). A solution to be determined will be leveraged to alleviate this forecasted constraint for a year until 2028 when this project can be completed. The addition of the 20 MW to Parkchester No. 2 from Parkchester No. 1, however, further overloads the capability of that substation. This potential overload at Parkchester No. 2 is alleviated by the additional 81 MW in substation capacity resulting from this project. This project meets the **urgency criteria** because the Company must begin Construction Related Activities for this project by the first quarter of 2025 to meet the need (see Figure 1 above).

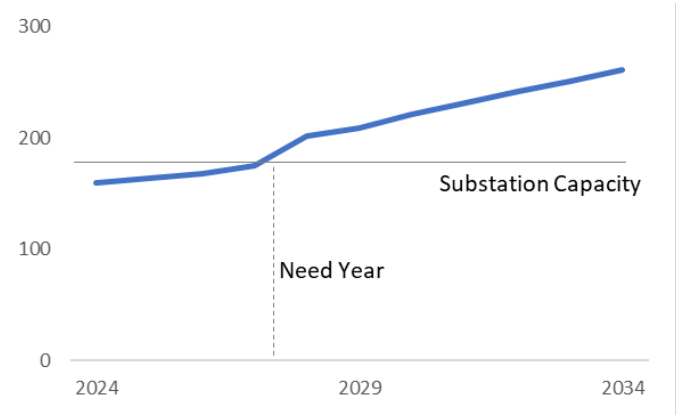

Figure 3. Net load projections (MW) for Parkchester No. 2.

There is a **high degree of certainty** of the need for this project. The rapid load growth in the Southeast Bronx and Northeast Bronx load areas over the next several years is primarily driven by electrification and associated economic activity in the area. This electrification includes thousands of personal and commercial vehicles in the area that must electrify to meet policy mandates, as well as several specific customer electrification plans, making the Company confident that this Proactive Planning project is required to serve future expected load. This project will also enable the electrification of the Zerega Avenue hotspot. The high degree of certainty in the transportation and building electrification load

growth associated with the Zerega Avenue hotspot - including a list of customers and their plans – is detailed in the "Justification Summary" section of the "Zerega Avenue Electrification Hotspot" Whitepaper (Appendix Exhibit A).

The capacity expansion at Parkchester No. 2 will support a variety of new loads. However, the upgrade in the Northeast Bronx load area is specifically **required to enable transportation and building electrification**, which account for 70% of the total incremental load needed in 2028. This project will not only aid in transportation electrification but also support building decarbonization and State goals and regulations by providing capacity for customers to connect to the grid. Additionally, proactively planning and building the necessary infrastructure to meet State policy electrification goals will provide optimized planning, construction, and cost efficiency.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project will strengthen the overall transmission system and networks served by the Parkchester No. 2 Substation including Disadvantaged Communities in the area or downstream from this project. The infrastructure upgrades proposed here support other Company and statewide initiatives related to (1) reductions in transportation and building emissions, (2) safe and reliable service, and (3) climate adaptation.

1. Increasing the capacity at this area substation will ultimately help achieve goals in Con Edison's Clean Energy Commitment and Long-Range Plans, as well as the State's Climate Leadership and Community Protection Act (CLCPA), specifically the goal of reducing emissions by 85% by 2050. It will support our customers within the subsequent areas in meeting policies that require all new school buses sold the State to be zero-emission by 2027 and all school buses on the road to be zero-emission by 2035.[2] In addition, it will support the infrastructure required to meet the State zero-emission 2035 new sales mandates for passenger vehicles and light-duty trucks.[3] This project will also enable building electrification as customers look to reduce their building carbon emissions, in line with the CLCPA goals of 85% of homes and commercial building spaces statewide being electrified with heat pumps and/or thermal energy networks by 2050.[4]
2. This project is a core investment that enables the Company to continue to provide safe and reliable service, even as the nature of the grid changes and customer loads significantly increase. This aligns with Con Edison's strategic objective of providing world-class safety and reliability, while managing the equity challenges of the energy transition.
3. Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

[2] The State clean school bus mandate requires all school bus sales starting July 1, 2027 to be zero-emissions vehicles (ZEV), and all fleets to convert their buses to ZEV by 2035. https://www.budget.ny.gov/pubs/press/2022/fy23-budget-clean-energy.html

[3] NYSERDA. "DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales." Available at: https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II.

[4] New York State Climate Action Council. 2022. "New York State Climate Action Scoping Plan,-" p. 11. Available at: climate.ny.gov/ScopingPlan.

2. Supplemental Information

Alternatives

Alternative 1

An alternative would be to avoid the 20 MW transfer from Parkchester No. 1 to Parkchester No. 2 and rely upon Customer Sided Solutions (CSS) to mitigate any future capacity deficiencies at both area stations. Energy efficiency programs can provide cost-beneficial solutions across multiple customer segments by accelerating load relief through little-to-no cost energy efficient upgrades and may aid in the deferral of traditional solutions for multiple years. Any additional capacity deficiencies would have to be addressed by operational moves. Based on the magnitude of load relief required to address the overload constraints in the Southeast Bronx and Northeast Bronx load areas under a limited time frame, it has been assessed that CSS are not a viable option for the full project. However, CSS may provide load relief for a portion of the need, such as the 6 MW capacity deficit in 2027 that would exist if electrification loads materialize as forecasted.

There is no known contingency plan other than to pursue the identified traditional solution since there is no other capacity expansion plans available.

Risk of No Action

Overloads on the area substation transformers supplying Parkchester No. 1 & 2 Substations are predicted to occur. In the event the transmission feeders or area substation overload, load shedding may be required during peak conditions which would cause thousands of customers to encounter service outages.

Without pursuing the project, the Company networks will encounter the potential inability to maintain reliable system power flow controls, system reliability and resiliency concerns and/or possible customer outages for an extended period during peak load conditions.

There is a real risk of delays in providing service to customers, impacting critical customer plans, and delaying achievement of intermediate climate policy goals related to transportation and building electrification as well as delaying improvements in the air quality in these communities.

More details on the impacts of delays are available in the "Risk of No Action" section of the "Zerega Avenue Electrification Hotspot" Whitepaper (see Appendix Exhibit A).

Non-Financial Benefits

This project will provide the necessary reliability and resiliency in both the Northeast Bronx and Southeast Bronx networks, densely populated areas of New York City that serve many critical loads (e.g., transportation hubs, and hospitals).

- The non-financial benefits of enabling electrification in the Zerega Avenue hotspot are detailed in the "Non-Financial Benefits" section of the "Zerega Avenue Electrification Hotspot" Whitepaper (Appendix Exhibit A).
- Increased substation capability at Parkchester No. 2 will provide continued reliable service to the Southeast Bronx network by facilitating the transfer of load from Parkchester No. 1 and will allow both stations to maintain the area substation N-1 reliability design criteria for long-term projected load growth in the Bronx.
- This project will also add the capacity needed to support transportation and building electrification, which will improve air quality, noise pollution, and reduce greenhouse gas emissions. Based on Con Edison's internal analysis, by 2040 this project will support charging

of enough light-, medium-, and heavy-duty vehicles and electrification of enough heating systems to avoid 279 thousand tons of carbon dioxide equivalent (CO2e) that year, with a total avoided emissions of 3,030 thousand CO2e from the in-service date through 2040, and even more in the years beyond.

- The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans.
- This project will also strengthen relationships with our customers and communities. By proactively building out our grid to be ready for new loads, we are increasing customer trust and a better customer experience to enable a smoother and expedited new business process.

Summary of Financial Benefits and Costs (attach backup)

1. Cost-benefit analysis (if required)

N/A

2. Major financial benefits

N/A

3. Basis for estimate

This estimate is based on an order of magnitude estimate of project costs based on a conceptual design and historical costs for similar scopes of work. High-level estimates of total costs, by primary spend category, are shown below, including escalation, overheads, and contingency.

	Estimated Direct Costs	*Esc., OH, & Other Loading**	*Estimated Total*	*% of Total*
01-Labor	$ 7,033,761	$ 11,599,290	$ 18,633,051	42.3%
02- Materials, Supplies, and Handling	$ 9,785,163	$ 9,788,405	$ 19,573,568	44.5%
03-Cont Svcs	$ 1,096,503	$ 1,096,867	$ 2,193,370	5.0%
09-Other	$ 1,686,075	$ 1,938,938	$ 3,625,012	8.2%
Total	**$19,601,502**	**$ 24,423,500**	**$ 44,025,002**	

*Includes: Escalation (31%), Central Engineering Overhead (13.25%), Administrative & Supervisory Expenditures (2.53%), Payroll Taxes and Pension (39.35%), Allowance for Funds Used During Construction (2.32%), and Contingency (23%)

Figure 4. High-level scope of work and associated costs.

Project Risks and Mitigation Plan

Risk 1

In 2027, there is a potential 6 MW capacity deficit if electrification loads materialize as forecasted. A risk would be that a viable solution (e.g., CSS) can't be determined and called upon in time to meet this need.

Mitigation plan

The Company will review in advance and confirm that a solution such as CSS (energy storage) will be available in the region and on standby to support capacity deficit need of 6 MW if the load materializes.

Risk 2:
Risk of overbuilding or underbuilding

Mitigation Plan:
This project avoids underbuilding by planning in accordance with load projections from the granular load study that ramp up to support the full electrification scenario. Three mitigating factors counteract the risk of overbuilding: (1) the assets immediately improve system reliability and resiliency, (2) the assets can create capacity for other non-transportation or building electrification loads, and (3) if the electrification load does not materialize, the transformer could be removed and used to support new capacity elsewhere on the system.

Risk 3:
Uncertainty of timing, location, and magnitude (i.e., appropriate sizing) of load materialization.

Mitigation Plan:
While there is some uncertainty around the exact timing of customer electrification and which customer will electrify at any given exact time, the general timeframe for load increases across the area is well known given existing policies. The Company's Granular EV Load Projection analysis significantly constrains the locations and magnitude of EV adoption. This analysis links directly to State policy objectives, considers available funding, and was corroborated by extensive outreach to fleet customers.

- Timing: As discussed in the Justification section above, policy objectives and specific customer plans dictate electrification timelines, which the Company used to mitigate the risk of being late. The risk of being too early is minimal due to the accelerating project plans already identified in the region and the high confidence in the load materializing. Furthermore, once transformers are installed, they will increase system reliability. All this work will signal to the customers in this region of the Bronx – school bus fleet operators, the Department of Sanitation, transit buses, and utility fleets – that the grid is ready to accommodate their electrification without long lead times for utility construction.
- Locations: Depot locations in this region are known and not expected to change over time given restricted land availability in the area. Furthermore, given the density of vehicles expected to electrify and need access to charging in this hotspot, the new infrastructure built as part of this project could serve several customers along the feeder run. Therefore, the fact that the Company does not know which precise location will electrify its fleet first is not a risk but rather accounted for by constructing this proactive solution.
- Magnitude: The Company's granular EV load model projected the charging needs of each type of vehicle to determine the magnitude of load needed for transportation electrification.

Zerega Avenue has one of the largest concentrations of school buses in New York City, home to 20% of all New York City school buses, and will need to electrify to support the State's climate goals. Designing new infrastructure with this as an anchor load significantly reduces the uncertainty of timing and location of additional load.

Technical Evaluation / Analysis

Load projections in the 2024 Load Relief Program (LRP), layered with the results of the robust bottom-up EV load study the Company developed, indicate that the forecasted loads will exceed the substation's capability in 2027. Please refer to the "EV Granular Load Analysis Methodology" (Appendix Exhibit J) for the details around the methodology of the Granular EV Load Projections and

identification of urgent area substation needs, as well as the Zerega Avenue Electrification Hotspot filing for further information on the Company's grid investment plans specifically for Zerega Avenue.

Project Relationships (if applicable)

This project is related to the Zerega Avenue Electrification Hotspot project. Area substation work at Parkchester No.2 is required to create enough capacity to support the distribution infrastructure needed for the electrification loads within the Zerega hotspot.

This project is also part of the load relief measure planned to address load constraints at Parkchester No. 1 identified in the 2024 Load Relief Program, referenced in the Parkchester No. 1 5th Transformer 9S and Supply Feeder 38X05 project. Both Area substation projects, Parkchester No. 1 5th Transformer 9S and Supply Feeder 38X05 and the Parkchester No. 2 TR13 & B/S 13A & 13B Installation, are necessary to provide area substation capacity and reliability to feed the Southeast Bronx and Northeast Bronx, respectively. While the Zerega Avenue hotspot is currently part of the Southeast Bronx network, fed by Parkchester No. 1, the Urgent Projects infrastructure would supply feeders to Zerega Avenue from Parkchester No. 2. Going forward, Parkchester No. 1 will still supply vehicle and building electrification loads within the Southeast Bronx network near Zerega Avenue, but outside the Zerega Avenue hotspot.

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M	–	–	–	–	–	–
Regulatory Asset	–	–	–	–	–	–
Capital	–	–	–	–	–	–

2025-2029 Request:

Total Request by Year:

	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M	–	–	–	–	–
Regulatory Asset	–	–	–	–	–
Capital (Total)	$7,500	$11,175	$12,675	$12,675	$0
Labor	$1,919	$2,860	$3,244	$3,244	
M&S	$2,670	$3,978	$4,512	$4,512	
Contract Services	$299	$446	$506	$506	
Other	$530	$790	$896	$896	
Overheads	$2,081	$3,101	$3,517	$3,517	

O&M = operations and maintenance.
M&S = materials and supplies.

*The test year runs from 10/1/2023 to 9/30/2024

EXHIBIT G

Mott Haven 13kV – Install 5th Transformer & 138kV Supply Feeder 38X3

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Figure 1 • Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing
2025-2029

1. Project / Program Summary

Type: ☒ Project ☐ Program	**Category: ☒ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Mott Haven 13kV – Install 5th Transformer & 138kV Supply Feeder 38X30	
Project/Program Manager: Partha Roy	**Project/Program Number (Level 1):** 27733931
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: 2026	**Estimated Date In Service:** 2029
2025-2029 Funding Request ($000) **Capital: $47,340** **O&M:**	

Work Description:

This project is designed to increase the capability at the Mott Haven 13kV substation by 83 MW in 2029 to mitigate risks associated with future load growth forecasted for the Central Bronx load area. This project will establish a fifth 138/13kV transformer bank at Mott Haven, to be supplied by 138kV feeder 38X30.

Major scopes of work to be implemented under this project include:

- Mott Haven 13kV
  - Connect and install new 138kV/13kV transformer #5 and 138kV potheads.
  - Connect and install all associated fire protection, 138kV overhead bus, and 13kV overhead bus.
  - Install and connect new control cables and connect to existing relay panels. Modify relay protection, as necessary.
  - Install and establish new relay scheme for future feeder 38X30 and associated equipment.
- At Mott Haven 345kV
  - Install 138kV GIS circuit breaker 10X1 along with associated disconnect/ground switches.
  - Install 138kV GIS to open air potheads and connect 138kV feeder 38X30.
  - Install new 138kV feeder 38X30 (new cable to be installed in existing feeder conduit).
  - Provide structural supports for all elevated conduits, feeders, control cables, and penetrations through floors or walls.

Major or long lead equipment requirements for the project include, but are not limited to:

Major Equipment Type	Number to be Purchased	Expected Lead Time
138/13kV 65MVA Transformer	1 each	60 months
138kV GIS Circuit Breaker	1 each	24 months
345kV GIS M.O. Disconnect Switch w/ 3Ø Ground Switch	2 each	24 months
345kV GIS Circuit Breaker	1 each	24 months

Engineering and long-lead equipment procurement will begin in 2025 for this project and construction is expected to begin in 2026 and to be completed in 2029. The estimated timeline to complete the major scopes of work associated with the project is below. This timeline is subject to change at any time, as the Company optimizes the project schedule and incorporates impacts of other projects and system performance.

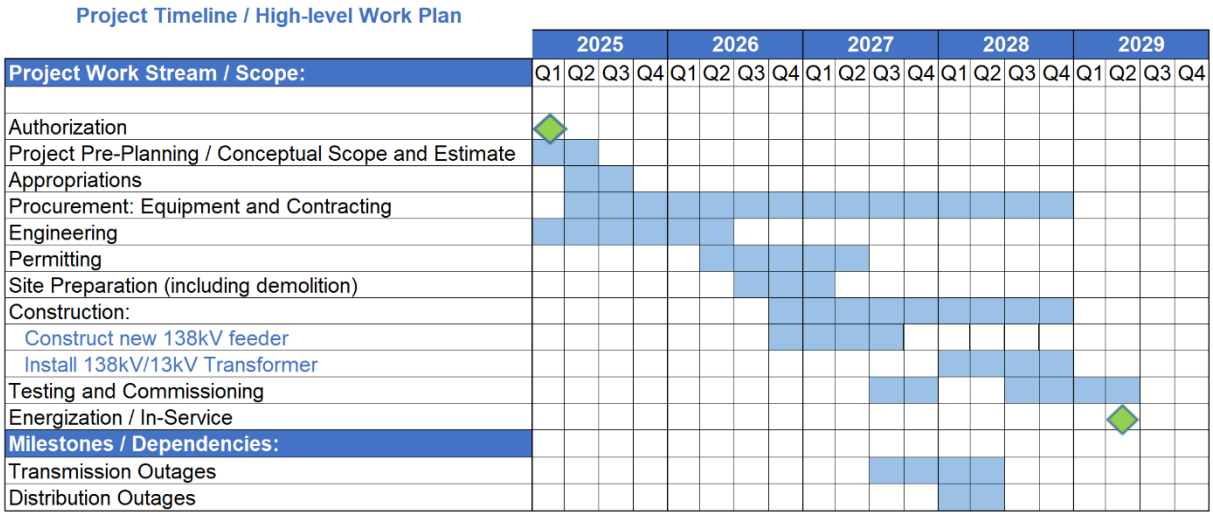

Figure 1. High-level project schedule.[1]

Justification Summary:

The latest load forecast shows significant load growth in the Central Bronx load area compared to last year's forecast, resulting in load constraints within the 10-year window and an acceleration of the timeline for this project from 2036 to 2029. Load projections in the 2024 Load Relief Program (LRP), layered with the results of the robust bottom-up electric vehicle (EV) load study the Company developed, indicate that station capability at Mott Haven will be over 100% utilized in 2029.

[1] Project schedule and the in-service years for the feeders to be energized are subject to change.

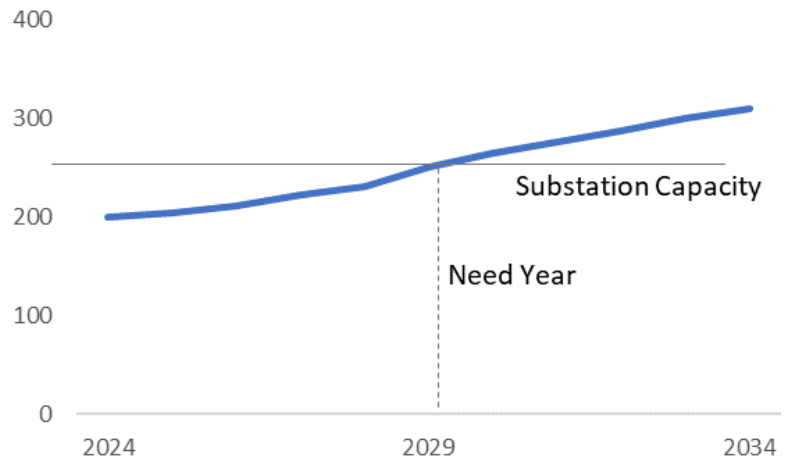

Figure 2. Net load projections (MW) for Mott Haven.

This project meets the **urgency criteria** because the Company must begin Construction Related Activities for this project by the first quarter of 2025 to meet the need (see Figures 1 and 2 above). Installation of a fifth 138kV/13kV transformer at Mott Haven 13kV and the 38X30 138kV supply feeder will increase the station capability to 330 MW, returning station margins to acceptable levels.

There is a **high degree of certainty** of the need for this project. The rapid load growth in the network over the next several years is primarily driven by electrification and associated economic activity in the area expected to continue. This electrification includes the Hunts Point Cooperative Market (and anticipated load growth from supporting trucks, truck refrigeration units, and a freight EV charging facility associated with it), thousands of personal and commercial vehicles in the area that must electrify to meet policy mandates, and several specific customer electrification plans, making the Company confident that this Proactive Planning project is required to serve future expected load. The high degree of certainty in the transportation and building electrification load growth associated with the Central Bronx load area – including a list of customers and their plans – is detailed in the "Justification Summary" section of the "Hunts Point Electrification Hotspot" Whitepaper (Appendix Exhibit B).

The capacity expansion of Mott Haven will support a variety of new loads. However, the upgrade in the Central Bronx load area is specifically **required to enable transportation and building electrification**, which accounts for 62% of the total incremental load needed through 2029. This project will not only aid in transportation electrification but also support building decarbonization and New York State (the State) goals and regulations by providing capacity for customers to connect to the grid. Additionally, proactively planning and building the necessary infrastructure to meet State policy electrification goals will provide optimized planning, construction, and cost efficiency.

Relationship to Broader Company Plans, Initiatives and the NYS Climate Leadership and Community Protection Act

This project will strengthen the overall transmission system and networks served by the Mott Haven Substation including Disadvantaged Communities (DACs) in the area or downstream from this project. The infrastructure upgrades proposed here support other Company and statewide initiatives related to (1) reductions in transportation and building emissions, (2) safe and reliable service, and (3) climate adaptation.

1. Increasing the capacity at this area substation will ultimately help achieve goals in Con Edison's Clean Energy Commitment and Long-Range Plans, as well as the State's Climate Leadership and Community Protection Act (CLCPA), specifically the goal of reducing emissions by 85% by 2050. It will support our customers meeting policies that require all new school buses sold in the State to be zero-emission by 2027 and all school buses on the road to be zero-emission by 2035.[2] In addition, it will support the infrastructure required to meet the State zero-emission 2035 new sales mandates for passenger vehicles and light-duty trucks.[3] This project will also enable building electrification as customers look to reduce their building carbon emissions, including at the food distribution center (FDC), in line with the CLCPA goals of 85% of homes and commercial building spaces statewide being electrified with heat pumps and/or thermal energy networks by 2050.[4]
2. This project is a core investment that enables the Company to continue to provide safe and reliable service, even as the nature of the grid changes and customer loads significantly increase. This aligns with Con Edison's strategic objective of providing world-class safety and reliability while managing the equity challenges of the energy transition.
3. Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

2. Supplemental Information

Alternatives

Alternative 1

Load Transfer – Transfer 30 MW load from the Central Bronx load area into the adjacent Fordham network supplied from the East 179 Street area substation. This alternative was rejected, as the East 179 Street area substation is slated to provide load relief to the Bruckner area substation in 2039 via 60 MW load transfer. For the East 179 Street area substation to accept 60 MW load transfer from Bruckner in 2039, in 2038 a 70 MW load transfer from East 179 Street must be sent to the Riverdale network supplied by the Sherman Creek area substation, which will have its 138kV sub-transmission supply feeders at 100% capacity in 2043 (20-year planning window). The load transfer would not add capacity to the electric system. Furthermore, Bruckner, East 179 Street, and Sherman Creek area substations are expected to see additional transportation electrification loads. Therefore, this solution is not feasible as well as temporary and inefficient.

Risk of No Action

If no action is taken to alleviate forecasted capability exceedances at the Mott Haven 13kV substation, there is a high risk of overloading the substation equipment during peak load conditions. Exceeding the rated capacity of the substation could result in load shedding if contingencies occur during peak

[2] The State clean school bus mandate requires all school bus sales starting July 1, 2027 to be zero emissions vehicles (ZEV), and all fleets to convert their buses to ZEV by 2035. https://www.budget.ny.gov/pubs/press/2022/fy23-budget-clean-energy.html

[3] NYSERDA, "DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales." Available at: https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II.

[4] New York State Climate Action Council. 2022. "New York State Climate Action Scoping Plan." Available at: climate.ny.gov/ScopingPlan.

loading conditions resulting in customer outages, increasing the risk of equipment failure, and adversely impacting the community served, as well as encountering the potential inability of maintaining reliable system power flow controls, system reliability and resiliency concerns.

There is a real risk of delays in providing service to customers, impacting critical customer plans, and delaying achievement of intermediate climate policy goals related to transportation and building electrification as well as delaying improvements in the air quality in these communities.

More details on the impacts of delays are available in the "Hunts Point Electrification Hotspot" Whitepaper (Appendix Exhibit B).

Non-Financial Benefits

The primary electric system non-financial benefits for this project are maintaining the robust system reliability standard as loads increase, as well as contributing to the State's clean energy goals. The area will undergo significant transportation and building electrification, and Hunts Point Cooperative market currently depends on diesel generation for their large-scale refrigeration, and this project will strengthen the system enough to accommodate the large increase in load from their electrification while simultaneously lowering the State's carbon emissions.

Based on Con Edison's internal analysis, by 2040 this project will support charging of enough light-, medium-, and heavy-duty vehicles and electrification of enough heating systems to avoid 256 thousand tons of carbon dioxide equivalent (CO2e) that year, with a total avoided emissions of 2,240 thousand CO2e from the in-service date through 2040, and even more in the years beyond.

From a societal perspective, there are large health benefits. Hunts Point is classified as a DAC and is a Clean Air Act pollutant nonattainment area,[5] and is home to thousands of residents, where youth asthma rates are estimated to be 2.5 times higher than the average rate in New York City.[6] The neighborhood houses multiple recycling yards, a wastewater treatment plant, the FDC, as well as many other fleets that contribute to 15,000 truck trips each day, resulting in poor air quality.[7] These projects will provide the capacity needed at the area substation for anticipated electrification loads to reduce greenhouse gas emissions, local particulate matter emissions, and associated vehicle noise, directly improving the quality of life within the Hunts Point neighborhood and surrounding regions.

The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans. This project will thus strengthen relationships with our customers and communities. By proactively building out our grid to be ready for new loads, we are increasing customer trust and a better customer experience to enable a smoother and expedited New Business process.

Summary of Financial Benefits and Costs (attach backup)
1. Cost-benefit analysis (if required)
N/A

[5] United States Environmental Protection Agency, "New York Nonattainment/ Maintenance Status for Each County by Year for All Criteria Pollutants." Available at: https://www3.epa.gov/airquality/greenbook/anayo_ny.html.
[6] Argonne National Laboratory, "The Bronx is Breathing: Reimagining a Cleaner Hunts Point." January 2024. Available at: https://www.anl.gov/sites/www/files/2024-01/Bronx%20Is%20Breathing%2C%20Jan.%202024.pdf.
[7] Ibid

2. Major financial benefits
N/A

3. Basis for estimate

The estimate is based on an order of magnitude estimate of project costs based on a conceptual design and historical costs for similar scopes of work. High-level estimates of total costs, by primary spend category, are shown below, including escalation, overheads, and contingency.

	Estimated Direct Costs	*Esc., OH, & Other Loading**	*Estimated Total*	*% of Total*
01-Labor	$ 4,950,536.00	$ 6,405,607.00	$ 11,356,143.00	24.0%
02- Materials, Supplies, and Handling	$ 9,288,553.00	$ 6,800,568.00	$ 16,089,120.00	34.0%
03-Cont Svcs	$ 9,744,005.00	$ 7,134,024.00	$ 16,878,029.00	35.7%
09-Other	$ 1,740,142.00	$ 1,274,036.00	$ 3,014,178.00	6.4%
Total	**$ 25,723,236.00**	**$ 21,614,235.00**	**$ 47,337,470.00**	

*Includes: Escalation (3.00%), Central Engineering Overheads (13.25%), Administrative & Supervisory Expenditures (2.53%), Payroll Taxes and Pension (39.35%), Allowance for Funds Used During Construction (6.62%), and Contingency (30%)

Figure 3. High-level scope of work and associated costs.

Project Risks and Mitigation Plan

Risk 1
The vicinity of the above ground trains can make it difficult to find crossings/lanes for feeders.

Mitigation plan
Perform surveys to find enough available lanes for the feeder band runs. Obtain all permits ahead of time. Explore other options to go under any obstacles like trains.

Risk 2
Risk of overbuilding or underbuilding.

Mitigation Plan:
This project avoids underbuilding by planning in accordance with load projections from the granular load study that ramp up to support the full electrification scenario. Two mitigating factors counteract the risk of overbuilding: (1) the assets immediately improve system reliability and resiliency, (2) the assets can create capacity for other non-transportation or building electrification loads, and (3) if the electrification load does not materialize, the transformer could be removed and used to support new capacity elsewhere on the system.

Risk 3:
Uncertainty of timing, location, and magnitude (i.e., appropriate sizing) of load materialization.

Mitigation Plan:
While there is some uncertainty around the exact timing of customer electrification and which customers will electrify at any given time, the general timeframe for load increases across the area is well known, given existing policies. The Company's Granular EV Load Projection analysis significantly constrains the locations and magnitude of EV adoption. This analysis links directly to State policy objectives, considers available funding and active electrification projects, and was corroborated by extensive outreach to fleet customers.

- Timing: as discussed in the Justification section above, policy objectives and specific customer plans dictate electrification timelines, which the Company used to mitigate the risk of being late. The risk of being too early is minimal due to the accelerating project plans already identified in the region and the high confidence in the load materializing. Furthermore, once transformers are installed, they will increase system reliability. All this work will signal to the customers in the Central Bronx – Hunts Point FDC buildings and fleets, municipal vehicles, utility fleets, and other commercial customers – that the grid is ready to accommodate their electrification without long lead times for utility construction.
- Locations: depot locations in this region are known and not expected to change over time given restricted land availability in the area and the established FDC. Furthermore, given the density of vehicles expected to electrify and need access to charging in this hotspot, the new infrastructure built as part of this project could serve several customers along the feeder run. Therefore, the fact that the Company does not know which precise location will electrify its fleet first is not a risk but rather accounted for by constructing this proactive solution.
- Magnitude: the Company's granular EV load model projected the charging needs of each type of vehicle to determine the magnitude of load needed for transportation electrification.

The Hunts Point FDC specifically is one of the busiest FDCs in the country and will need to electrify to support NYS climate goals. Designing new infrastructure with this facility as an anchor load significantly reduces the uncertainty of timing and location of additional load.

Technical Evaluation / Analysis
Load projections in the 2024 Load Relief Program (LRP), layered with the results of the robust bottom-up electric vehicle (EV) load study the Company developed, indicate that the forecasted loads will exceed the substation's capability in 2030. Please refer to the "EV Granular Load Analysis Methodology" (Appendix Exhibit J) for the details around the methodology of the Granular EV Load Projections and identification of urgent area substation needs, as well as the Hunts Point Electrification Hotspot Whitepaper (Appendix Exhibit B) for further information on the Company's grid investment plans specifically for Hunts Point.

Project Relationships (if applicable)
N/A

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M	–	–	–	–	–	–
Regulatory Asset	–	–	–	–	–	–
Capital	–	–	–	–	–	–

2025-2029 Request:
Total Request by Year:

	2025	2026	2027	2028	2029
O&M	–	–	–	–	–
Regulatory Asset	–	–	–	–	–
Capital (Total)	$2,000	$10,000	$10,000	$20,000	$5,340
Labor	280	1400	1400	2801	748

M&S	525	2627	2627	5255	1403
Contract Services	551	2756	2756	5512	1472
Other	98	492	492	984	263
Overheads	545	2724	2724	5448	1455

O&M = operations and maintenance
M&S = materials and supplies.

*The test year runs from 10/1/2023 to 9/30/2024

EXHIBIT H

New Business Capital Urgent Proactive Funding

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-Financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☐ Project ☒ Program	**Category: ☒ Capital ☐ O&M ☒ Regulatory Asset**
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: New Business Capital Urgent Proactive Funding	
Project/Program Manager: Joseph Lloyd	**Project/Program Number (Level 1): 10037475, 10037486, 10037519, 10037542, 10037572, 10037577, 10030330, 10030332, 10030361, 10030412, 10030414, 10030431, 10030473, 10030475, 10030552, 10030553**
Status: ☐ Initiation/Planning ☐ In-Progress (Projects Only) ☒ On-going (Programs Only)	
Estimated Start Date: Various	**Estimated Date In Service: Various**
2023-2025 Funding Request ($000) **Capital: $30,500** **O&M:**	

Work Description:

The Company is required to supply new load upon customer request. To do this, the Company evaluates the capability of the current electric facilities and in cases where existing facilities are inadequate for the new load makes the necessary infrastructure investments to add the new capability. The scope of infrastructure upgrades varies from the installation of new service lines to extensive reinforcement of primary and/or secondary systems (including primary cable, secondary cable, and transformers). This work will include all the associated underground structures, poles, conduits, or any other infrastructure determined necessary to provide safe and adequate service; some of the associated equipment, such as transformers, is supported by other programs.

New buildings that install electric heating and/or electric vehicle charging infrastructure add significantly more load compared to new buildings that use fossil fuel-based systems. With the rapid uptake in heating and transportation electrification in New York State ("the State"), driven by policy goals for decarbonization as well as local New York City and State laws, the Company is seeing an increase in customer requests for new load beyond what was forecasted in the Company's 2023-2025 rate case settlement.

Justification Summary:

The Company is seeking to increase capital funding by $30 million for the 3-year rate period of 2023-2025 to support increased New Business work in 2025 from customer requests for new load driven by electrification of heating. Since this funding is required for 2025 needs, this project meets the **urgency criteria.**

Table 1 shows the Company's budget set during the settlement process of the current rate period and the actual spend required to supply customers with new load. The actual expenditure in 2023 exceeded budget by $49 million and is anticipated to exceed funding by $70 million and $95 million in 2024 and 2025 respectively.

Table 1. New Business Budget

New Business Category ('000s)	2023	2024	2025	Total
Budget	$172,382	$177,600	$177,500	$527,482
Actual Spend/Forecast	$221,111	$248,000	$273,028	$742,139
Delta from Settlement Adjusted Budget	($48,729)	($70,400)	($95,528)	($214,657)

A major driver of the recent trends, which is expected to continue, is higher New Business expenditure that is **required to enable transportation and building electrification**. Over one-third of recent New Business projects include transportation electrification, building electrification or both. Determining the specific incremental costs due to electrification retroactively would require a significant study. So, for the purposes of this proceeding, Company engineers performed an analysis that evaluated cases and developed projections based on recent trends in the New Business program. For the purposes of this filing, the Company limited projections to those that were above 5 MVA and included electrification of heating and/or vehicle charging. These cases will require $30.5 million in capital funding in 2025. The Company will continue to develop and refine forecasting methods to better capture investments that support adoption of clean energy.

There is a **high degree of certainty** of the need for this program because the need already exists today. While the Company will forecast the increased New Business costs in its current rate case, the Company cannot delay the customer load requests until its next rate order. To fund the additional work in 2023 and 2024, the Company reduced investments in other planned capital work, especially Risk Reduction and Storm Hardening projects and programs. The Company urgently needs additional funding to continue investing to complete customer requests for new load and to resume important planned investments in the programs that have been delayed.

In recent years, the adoption of new policies and laws has contributed to increased uptake in electric heat and electric vehicle (EV) charging infrastructure that in turn is increasing load on the grid:

1. Local Law 154 was signed into law in December 2021, came into effect in 2024 for low-rise buildings, and will come into effect in 2027 for high-rise buildings.[1] The law bans fossil fuel heating in newly constructed buildings, thus driving heating electrification in new construction. As early as 2022 (two years before the law came into effect for low-rise buildings), the Company observed meaningful activity around electrification for new buildings in its Clean Heat program. In response to the observed early action by new buildings toward electric heating, the Company stopped offering building electrification incentives for new construction buildings in 2023. However, market activity toward electric heating for new construction continued, as evidenced by the increased number of load letters the Company has

[1] New York City Administrative Code, §24-177.1, §24-178, and §28-506.

received by new buildings. From 2022 to 2023 the number of electric heating load letters received increased by 103% and increased by another 34% as of November 2024.[2]

2. Local Law 97 came into effect in 2024, imposing fines for buildings with emissions exceeding the limits set by the law.[3] The Company observed a more than three-fold increase in the number of Local Law 97 covered buildings applying for incentives through its Clean Heat program, from 14 in 2022 to 51 in 2023.[4] The Company has established communication and collaboration processes with the New York City Accelerator to support buildings which are facing Local Law 97 fines to obtain incentives for electrification and other decarbonization upgrades through the Company's programs.
3. The electrification of transportation has increased, and will continue to increase, in the current rate period and in the foreseeable future. Customers requesting service with large loads, such as residential buildings, retail, and large commercial are increasingly installing EV charging infrastructure. The Company's service area has been seeing increased adoption and installation of light duty electric vehicle chargers in existing parking areas and in new buildings and homes and is growth is expected to continue. This growth can impact the New Business budget: while there is a separate mechanism to recover New Business costs for electric vehicle charging stations that are part of the Company's EV Make Ready program,[5] New Business costs for projects that do not go through that program come out of the New Business program budget.[6]

Relationship to Broader Company Plans, Initiatives and the New York State Climate Leadership and Community Protection Act

This funding request is for funds needed in 2025 in excess of budgets based on funding approved in the current rate plan for the New Business Program.

The transformers needed for this program are purchased with separate funding from the Proactive Planning Transformer Program (Appendix Exhibit I). Significant overages in the New Business program and in the Transformer Purchase program strongly tied to the need to proactively plan for electrification, have forced the Company to reduce spending well below budget targets for several key reliability and resiliency programs. Continued reduction in this work will likely impact system performance.

This program will help achieve the level of decarbonization required by the Climate Leadership and Community Protection Act (CLCPA) and Con Edison's strategic objectives. The State's plans call for

[2] Based on Analysis of the Company's Clean Heat Program Data, for more information about the Clean Heat Program see Case 18-M-0084, *In the Matter of a Comprehensive Energy Efficiency Program,* New York State Clean Heat Program 2023 Annual Report (Filed May 23, 2024).
[3] Local Law 97 requires most buildings over 25,000 square feet to meet certain energy efficiency and greenhouse gas emissions limits as of 2024, with stricter limits to be enforced in 2030. New York City Administrative Code, §28-320 and §28-321.
[4] Based on Analysis of the Company's Clean Heat Program Data.
[5] Case 18-E-0138, Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure, *Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs* (July 16, 2020), at pp. 81-82.
[6] Many but not all charging stations installed in the Company's service area receive incentives through the EV Make-Ready program. For example, EV chargers at single family homes are not eligible for EV Make-Ready incentives and some new housing developments include an EV charger in every garage, which can double (or more) the electric capacity needed. Additionally, the medium- and heavy-duty Make-Ready pilot has limited eligibility for incentives (must be publicly accessible or located in a Disadvantaged Community and participate in a vehicle voucher program).

electrifying 1 to 2 million homes, 10% to 20% of commercial space, and up to 3 million electric vehicles on the road by 2030.[7] Con Edison has set a corporate target to meet economy-wide net-zero greenhouse gas (GHG) emissions in its service territories by 2050.[8] This request will fund the infrastructure upgrades needed for customers who will contribute to meeting the State's and Con Edison's goals by electrifying.

This program services Con Edison's entire service territory, including Disadvantaged Communities.[9]

This program is a core investment that enables the Company to continue to provide safe and reliable service, even as the nature of the grid changes. This aligns with Con Edison's strategic objective of providing world-class safety, reliability, and security, while managing the equity challenges of the energy transition.

This program is a climate resilience investment that strengthens utility infrastructure to withstand extreme weather conditions and the physical impacts of climate change. This aligns with Con Edison's strategic objective to increase resilience of our energy infrastructure to adapt to climate change and address other threats and hazards.

Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review. For example, to maintain reliability and improve resiliency, designs, and construction for new customers must account for rising sea levels and the associated extension of the floodplain. To address the impacts of rising sea levels, new installations will use a projected floodplain of FEMA +5.[10] Transformers, network protectors, and associated equipment in the floodplain must either be submersible or elevated above the floodplain.

2. Supplemental Information

Alternatives

Alternative 1

Given that Con Edison has an obligation to serve new customers within the Company's service territory, there are limited alternatives regarding New Business capital. However, the Company considers and reviews specific alternatives for each major project. The Company's Design Review initiative continues to evaluate various options and collaborate to find the most cost-effective solutions.

[7] New York State Climate Action Council. 2022. "New York State Climate Action Scoping Plan." Available at: climate.ny.gov/ScopingPlan.
[8] Con Edison, "Our Clean Energy Commitment." Available at: https://www.coned.com/en/our-energy-future/our-energy-vision/our-energy-future-commitment
[9] Disadvantaged Communities are "communities that bear burdens of negative public-health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high concentrations of low- and moderate-income households…" ECL § 75-0101(5).
[10] Con Edison's Climate Change Planning and Design Guideline Document establishes the sea-level rise adjusted Design Flood Elevation (DFE) criteria of a 100-year storm with 3 feet of sea level rise and 2 feet of freeboard (FEMA + 5').

Risk of No Action

Risk 1
"No action" is not an option when it comes to capital spending associated with the connection of new customers. Compliance with New York Public Service Commission (PSC) regulations necessitates the connection of new customers to Con Edison's system. Because of this, the Company must delay other investments when new customer connection request costs exceed the budget.

Non-Financial Benefits

This project helps accommodate customer load requests to limit delays to their electrification plans. As a result, this project limits delays in reductions in greenhouse gas emissions, local air pollution, and noise pollution associated with transportation and building electrification.

Summary of Financial Benefits and Costs
1. Cost-benefit analysis
N/A

2. Major financial benefits

3. Basis for estimate

In 2023 the Company exceeded its budget for this program by $49 million. In 2024 the Company anticipates exceeding the program budget by $70 million. In 2025 the Company anticipates exceeding the budget by $95 million. For the purposes of this filing, the Company is seeking funding for a limited number of projects that are above 5 MVA with electrification of heating and/or vehicle charging. Based on this review of existing customer load requests, the company expects 14 cases in 2025 at an average cost of $2.2 million, based on costs for similar work in recent years, or each case for a total of $30.5 million in capital funding needed in 2025. The Company will continue to develop and refine forecasting methods to better capture investments that support adoption of clean energy.

Project Risks and Mitigation Plan

Risk 1
Customer requests occurring more quickly than anticipated, causing funding requirements to exceed funding provided.

Mitigation plan
Continue to divert funding from other programs.

Risk 2
Risk of overbuilding or underbuilding – *not applicable as this program will increase capacity directly in response to and according to customer requests.*

Risk 3
Uncertainty of timing, location, and magnitude of load materialization – *not applicable as this program will build when, where, and how much the customer requests.*

Technical Evaluation / Analysis

To better illustrate the breadth of infrastructure required to support new building electrification projects, three real-word examples supported by the New Business program are listed below:

- Large, existing commercial building in network area requiring new service. This building encompasses 2.4 million square feet and is designed to be an all-electric facility. Without electric heating and hot water, the building's demand would be 13,500KVA. However, with the inclusion of electric heating and hot water, the peak load increases to 18,500KVA. Without the additional load from electric heating, this building would be adequately served by six 460V transformers within the building. The additional building heating load requires connections to two additional 460V sources. This expansion entails 400 feet of trenching to connect to the existing electric distribution infrastructure, with an approximate additional cost of $950,000.
- 20MVA service request in a network area to support electric heating and 3MVA to support electric vehicle charging. This project necessitates the extension of six distribution feeders to meet the demand. Without the electrification load, the customer could have been supplied without the addition of long feeder extensions (due to the need to use feeders that are further from the customer site). The additional scope of this project adds approximately $11.4 million to the overall cost.
- A 350,000 square foot school installing electric space and water heating. The estimated summer peak load is 2,520 KVA, while the winter peak load is projected to be 3,199 KVA. Without electric heating, the summer peak would have surpassed the winter peak and serve as the basis for the service design.

The map shown in Figure 1 indicates areas where increased customer requests for electric heating are expected. Local Law 32 requires buildings to retire their #4 fuel oil services before July 1, 2027.[11] The Company expects that buildings identified in black on the map below to switch their heating system to be in compliance with the law—some of whom may decide to electrify. In addition, buildings identified in blue on the map below are subject to Local Law 97 fines starting in 2030. These buildings will be motivated in the short term to invest in heating electrification to reduce or avoid their fines.[12]

[11] New York City Administrative Code, §24-168.

[12] NYC Building Energy and Water Data Disclosure for Local Law 84 available at https://data.cityofnewyork.us/Environment/NYC-Building-Energy-and-Water-Data-Disclosure-for-/5zyy-y8am/about_data

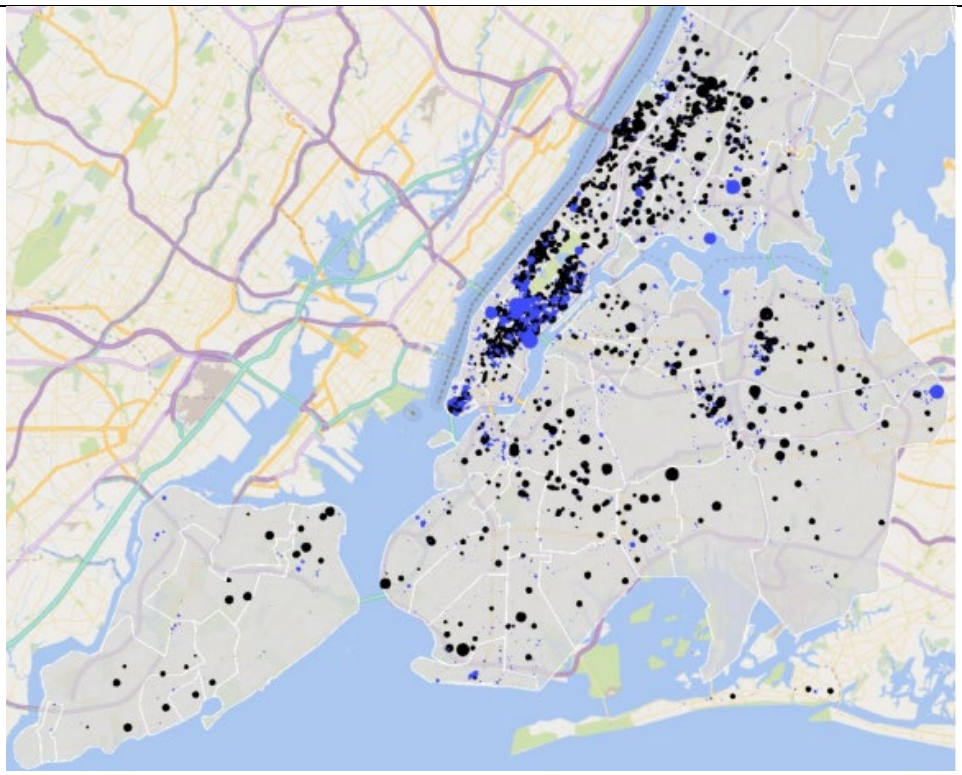

Figure 1: Buildings expected to need to electrify heat in compliance with Local Law 32 (black) and buildings subject to fines under Local Law 97 starting in 2030 (blue).

Building and transportation electrification is already happening and will continue to grow. The map below illustrates in green where the Company received New Business cases that include electrification of heating.

Many of the customer load request cases the Company has received are aligned with the areas projected to be most greatly impacted by Local Law 97 and Local Law 32. Given the urgent nature of this filing, the Company should not limit the funding to only support projects within these clusters so the most pressing customer needs can be addressed.

The Company requests an increase in funding to support budget overages that occurred in 2023 and are anticipated in 2024 and 2025 due to the urgent need to support new electric loads.

Project Relationships (if applicable)

This urgent funding request is in support of the work described in the Program Summary for the New Business program. The new business program is primarily a stand-alone initiative. However, there are instances where new business projects may impact load relief programs managed by the Company's Regional Engineering group. In such cases, the Company's Customer Engineering group and Regional Engineering group collaborate to develop cost-effective solutions that address both customer needs and Company requirements for load relief. This urgent request does not include purchase costs for transformers which are detailed in the Program Summary urgent request for funds for the Proactive Planning Transformer Program (Appendix Exhibit I).

The Company is requesting New Business funding for 2025. Therefore, there is no overlap with funding requested as a part of the Rate Case Proceeding for 2026-2028.

3. Funding Detail ($000)

Historic Spend

('000s)	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

('000s)	2025	2026 (RY1)	2027 (RY2)	2028 (RY3)	2029
O&M					
Regulatory Asset					
Capital (Total)	**30,500**				
Labor	**6,405**				
M&S	**4,880**				
Contract Services	**9,150**				
Other	**305**				
Overheads	**9,760**				

O&M = operations and maintenance.
M&S = materials and supplies.

EXHIBIT I

Proactive Planning Transformer Program

Sections addressing Urgent Project Criteria:				
Criteria	**Upgrade required to enable TE or BE**	**Urgency determination**	**Degree of certainty**	**Consideration of Risks and Benefits**
Section(s) addressed	• Justification Summary	• Justification Summary	• Justification Summary • Project Risks and Mitigation Plan	• Risks of No Action • Non-financial Benefits • Project Risks and Mitigation Plan

Proactive Planning (Case # 24-E-0364)
CECONY Urgent Projects Filing

1. Project / Program Summary

Type: ☐ Project ☒ Program	**Category: ☒ Capital ☐ O&M ☐ Regulatory Asset**
Work Plan Category: ☐ Regulatory Mandated ☒ Operationally Required ☐ Strategic	
Project/Program Title: Proactive Planning Transformer Program	
Project/Program Manager: Tim Amon	**Project/Program Number (Level 1):**
Status: ☒ Initiation/Planning ☒ In-Progress (Projects Only) ☐ On-going (Programs Only)	
Estimated Start Date: Ongoing	**Estimated Date In Service: Immediate installations through 2025**
2025-2029 Funding Request ($000) **Capital: $35,886** **O&M:**	

Work Description:

This urgent proactive planning request is intended to provide funding for the Proactive Planning Transformer Program that is necessary to support the rapidly increasing electrification needs and additional and larger transformers which is strongly connected to electrification. In addition, growing unit costs and significantly longer lead times are driving the immediate need for additional funding for these programs.

The work streams most affected by this need for proactive planning are:

- **Transformer replacement:** Rather than replace failed, defective, or condemned transformers with a like and kind unit, the Company's engineering group reviews loading and evaluates if an upgraded unit can be utilized to support future growth through design criteria. In most instances the 750 kVA upgrade is designed to fit into the same vault with no or minor modification. Thus, this program includes opportunistic replacement of 500 kVA transformers with 750 kVA transformers, the highest capacity option that fits into existing structures.
- **Transformer for New Business requests**: Customer schedules and requests for service can require transformers to be available before the equipment can be acquired on the market. Additionally, growing demand for certain equipment has placed a strain on the global supply chain, increasing lead time and decreasing available supply. The solution is that the Company secures equipment further in advance of the known need (e.g., a customer load request).

All transformer purchases are made through the Transformer Purchase program, including to support customer load requests. The New Business program funds are used to support equipment installation, not equipment purchases.

Units per Year (estimated based on number of applicable proactive planning and purchase instances from historical average):

- 750 kVA – Proactive Replacement: 100 transformers projected for 2025
- Transformer Purchase for New Business –
    - Large 3-phase 500+ kVA Padmounts: 243

- Network Transformers: 4 1000kVA and 28 2500kVA (2025 forecast based on criteria in New Business program)

High-Level Schedule and Synopsis

The equipment to support these other work streams requires that transformers be purchased immediately.

Justification Summary:

There is a **high degree of certainty** of the need for this program because, without the required funding, the Company would be unable to purchase electrical distribution equipment in a timely fashion. Issues affecting both supply and demand have considerably increased the planning runway and created a greater strain on the global supply chain for critical electrical equipment. Primarily due to rising unit costs, this urgent funding request is to provide funds for the purchase of transformers that have already exceeded previous forecasts and funding levels.

- **Transformer replacement**: Additional funding is **required to add capacity to accommodate load growth from transportation and building electrification**. Given electric vehicle (EV) charging and building electrification projections have increased beyond previous forecasts, there is a need for larger equipment to support the reliability of the system, new business requests for new customers, and more rapid and substantial growth due to electrification.

- **Transformer for New Business requests**: In the last year, the Company has already delayed other important programs to fund work to support transportation and building electrification. Therefore, this program provides equipment in support of various projects and programs including the New Business program. To continue supporting New Business requests that frequently require short project schedules and prepare for unknown future requests, the Company must purchase additional transformers far in advance to be available. Furthermore, installing higher capacity units proactively through this program is cost-efficient: the incremental cost to upsize the transformer replacements when replacement is needed is modest and avoids higher costs to add capacity in the future.

The table below shows the budgets and actual spend/forecast for this program each year. The program spend exceeded the budget in 2023 and is expected to exceed the budget in 2024 and 2025. The Company is requesting funding for only the equipment needed to support the projects identified in the New Business Program Whitepaper (Appendix Exhibit H) in this filing and upsized transformer replacements as described in the Summary of Financial Benefits and Costs section below.

Equipment Purchases (000's)	2023	2024	2025	Total
Budget	$136,000	$139,600	$139,600	$415,200
Actual Spend/Forecast	$175,947	$225,000	$215,000	$615,947
Variance actual/budget	($39,947)	($85,400)	($75,400)	($200,747)

While the Transformer Purchase program supports all Company programs that install transformers, the Company only seeks the funding needed to support transformers that support proactive planning for electrification as previously described above. For that scope, which is described in detail in the Work Description section, the funding necessary is $36 million.

This program meets the **urgent criteria** for proactive planning urgent projects. First, the ability to start the transformer replacement program today will have lasting impacts because the service life of transformers and associated equipment is typically at least 25 years. Inaction or delayed action could require resources and funding to upsize at a future date. Second, with lead times extending, all upsized equipment must be ordered immediately to be available for 2026 and beyond.

The Company is confident that the infrastructure upgrades will be utilized. Con Edison has standard transformers that it can use across its system. Therefore, the Company will make use of all transformers procured regardless of any deviation from the forecasts.

In addition to longer lead times, a strained inventory continues to limit the quantity of transformers available, requiring more to be purchased in advance to install "just in time". Prior to 2020, at least 300 high-usage network transformers were typically stored and available for an unexpected or urgent need. During the COVID-19 pandemic, while the supply chain was especially constrained and unit costs rose over 60%, these inventory numbers were depleted to 169 in 2022 and 121 in 2023. Despite less equipment in inventory, the total required inventory investment almost doubled in 5 years due to increased unit costs.

Relationship to Broader Company Plans, Initiatives and the New York State (the State) Climate Leadership and Community Protection Act (CLCPA)

This program is a core investment that enables the Company to continue to provide safe and reliable service, even as the design and operation of the grid changes. This aligns with Con Edison's strategic objective of providing world-class safety, reliability, and security while managing the equity challenges of the energy transition. Many programs rely on the Transformer Purchase program including the New Business program, and the Transformer Installation program, as well as the significant system expansion programs designed to meet increasing load growth, among other programs.

This program also supports the State's achievement of CLCPA goals by expanding capacity, preparing the grid to support electrification, and thus reducing future service delays for future customer requests for transportation and building electrification. This aligns with Con Edison's strategic objective to meet economy-wide net-zero greenhouse gas (GHG) emissions in its service territories by 2050.

This program is a climate resilience investment that strengthens utility infrastructure to withstand extreme weather conditions and the physical impacts of climate change. This aligns with Con Edison's strategic objective to increase the resilience of its energy infrastructure to adapt to climate change and address other threats and hazards.

Con Edison will also design these infrastructure solutions according to climate adaptation standards, considering appropriate design elements for increased precipitation, temperature rise, and sea level rise, pending further review.

2. Supplemental Information

Alternatives

Alternative 1: No Action

- **Description**: Delay providing service to customers, especially those with EV charging or electrification. Delay replacing transformers until equipment can be sourced and installed.
- **Reason for Rejection**: Replacements have already been delayed to the extent that can be tolerated while maintaining the same level of reliability. Delaying all replacements until a suitable replacement can be sourced directly would cause delays up to 1+ years for most customers or replacement needs. While some replacements can be deferred, this is unacceptable as a global strategy and the highest priority replacements and all customer service requests must be met with available inventory, which must be purchased proactively.

Risk of No Action

Risk 1: Reduced Distribution System Reliability

- As load growth continues, a failure to provide adequate capacity in the transformer fleet could lead to scenarios where transformers are overloaded, which could lead to cascading failure and service or even network-wide outages.

Risk 2: Delays in Electrification

- Reactively installing higher capacity transformers could result in delays in supplying customers who choose to use electric power for heat and transportation, which could, in turn, discourage customers from doing so.

Risk 3: Increased Cost

- Increased costs and reduced efficiency due to potentially needing to replace recently replaced transformers with higher capacity units rather than conducting the work proactively.

Non-Financial Benefits

- Proactively and opportunistically replacing transformers with higher capacity ones supports the shift to electrification by having a system ready to accept new load. The proactive approach in this program allows the Company to focus resources in the future on connecting new customers – including electric vehicle charging and building electrification – rather than replacing transformers.
- Having higher capacity transformers can limit or eliminate delays in accommodating customer load requests to limit delays to their electrification plans. As a result, this project limits delays in reductions in greenhouse gas emissions, local air pollution, and noise pollution associated with transportation and building electrification.
- The grid readiness resulting from this project will signal to customers looking to electrify in compliance with policy mandates that the grid is ready to accommodate their load requests without delaying their plans.
- Replacements with higher capacity transformers also reduce community disruption by avoiding the need to return to replace recently replaced units as electrification load growth accelerates.
- Additional capacity provides immediate reliability and resiliency benefits as the system will be better able to withstand equipment failures and other system anomalies.

Summary of Financial Benefits and Costs

1. Cost-benefit analysis

N/A

2. Major financial benefits
   Upsizing replacement transformers lowers net cost and is more cost-effective by avoiding complex operations to remove and replace transformers again in the future.

3. Basis for estimate
   Estimates are based on unit cost analysis and anticipated units needed to support new business and transformer replacements in 2025.

   Transformer replacement (750 kVA Network Transformers)
   A 750 kVA network transformer with an accompanying network protector costs an additional $83,010 per unit, compared to the 500 kVA equipment. In addition, there is $34,927 worth of cable upgrade work associated with installing the transformer. The total incremental cost over a 500 kVA installation is $117,937. In 2025, the Company plans to proactively install 100 of these units, totaling an additional cost of $11,793,674 in 2025.

   Transformer for New Business requests (Large Padmount and Network Transformers)
   New Business, electric vehicle, and distributed generation jobs in 2025 require large, 500 kVA+ transformers. The Company will purchase 243 units of large padmount transformers to meet projected demand, at a unit price of $72,265. This is compared to a previous average annual purchase of 65 large padmount transformers. After utilizing all available production slots from the Company's domestic suppliers, the Company needed to use international suppliers to meet the demand. The international purchases come at an additional premium, driving up the unit cost. The total incremental cost for these additional large padmount transformers in 2025 is $12,863,170. In addition to padmount transformers, the Company will have a need for additional network transformers and network protectors to support New Business/electrification needs, corresponding to the use cases identified in the New Business Proactive Planning Whitepaper (Appendix Exhibit H). The Company is forecasting an additional 4 1000 kVA and 28 2500 kVA network transformers and associated network protectors, for a total additional cost of $11,229,469. The total need for these additional padmount and network transformers to support New Business work in 2025 is $24,092,639.

Project Risks and Mitigation Plan

Risk 1: Material Availability

Mitigation Plan: Engineering will work with Supply Chain to establish a cohesive plan that aligns with vendor lead times. They will stay engaged with vendors to maintain lead times and adjust the plan as needed if shortages are encountered.

Risk 2: Risk of overbuilding or underbuilding

Mitigation Plan: Deploying higher capacity transformers proactively guards against the risk of underbuilding. It is also not overbuilding because the assets (a) immediately improve system reliability and resiliency, and (b) create capacity for other non-transportation or building electrification loads. Furthermore, if the electrification load does not materialize, the transformers could be removed and used to support new capacity elsewhere on the system.

Risk 3: Uncertainty of timing, location, and magnitude of load materialization.

Mitigation Plan: This project guards against the risks of uncertain (1) magnitude of load by increasing transformer capacity to avoid under-sizing, (2) location of load by deploying these transformers across the service territory to reach various customer locations, and (3) timing of load by installing these transformers proactively to avoid customer delays. The Company's engineering group will communicate to customers that this capacity has been added, supporting customers who express interest in electrifying.
Technical Evaluation / Analysis N/A
Project Relationships (if applicable) New Business Transformer Installation Transformer Purchase

3. Funding Detail ($000)

Historic Spend

	Actual 2020	Actual 2021	Actual 2022	Actual 2023	Test Year* (O&M Only)	Forecast 2024
O&M						
Regulatory Asset						
Capital						

2025-2029 Request:

Total Request by Year:

	2025	2026	2027	2028	2029
O&M					
Regulatory Asset					
Capital (Total)	**35,886**				
Labor	**1,076**				
M&S	**33,016**				
Contract Services	**358**				
Other					
Overheads	**1,436**				

O&M = operations and maintenance.
M&S = materials and supplies.

EXHIBIT J

Granular EV Load Projection Methodology

The Company developed a granular spatial and temporal bottom-up EV load projection model ("Granular EV Load Projections") to identify EV charging load hotspots. These "hotspots" refer to localized areas where the Company is seeing high vehicle concentrations where large EV charging loads will materialize as these vehicles electrify. The following methodology was used at both the network and IBZ[45] level:

(i) **Determine the location and type of vehicles**: Sources included Geotab vehicle telematics data, municipal fleet data, and other publicly available sources to determine the fleet size, use case (e.g., school bus, transit, delivery), and vehicle weight class. Additional datasets were layered in such as New York City fleet plans and Taxi and Limousine Commission projected ride-hail vehicle charging locations and information provided by local fleet operators.[46]

(ii) **Determine electrification adoption curves**: The Company used policy mandates, and NYC-specific policies, to project the timing of electrification by vehicle type. [47]

(iii) **Determine energy consumption and charging demand**: The Company used vehicle and fleet characteristics (e.g., expected battery size, dwell times) to develop an estimated typical charging load shape by location and vehicle type.

As a result, the Company developed an incremental expected load for discrete areas throughout the service territory for each network, which allows for planning at the sub-transmission and area station level. Figure 1 shows the fleet distribution as a result of this Con

[45] IBZ locations are selected and overseen by the New York City Economic Development Corporation (NYCEDC) and can range from a few blocks to a few miles in length.

[46] New York City Taxi and Limousine Commission (TLC) Electrification Report from 2022 provides a map of "Ideal Future DC Fast Charging Locations" using TLC data, including locations in Maspeth, Jamaica, Red Hook, TLC Woodside Facility (supporting LaGuardia Airport), and Jamaica.
https://www.nyc.gov/assets/tlc/downloads/pdf/Charged_Up!_TLC_Electrification_Report-2022.pdf

[47] See Note 4, *supra.*

Edison analysis.[48] The granular projections assume compliance with all policy mandates, including State and City regulations and requirements.

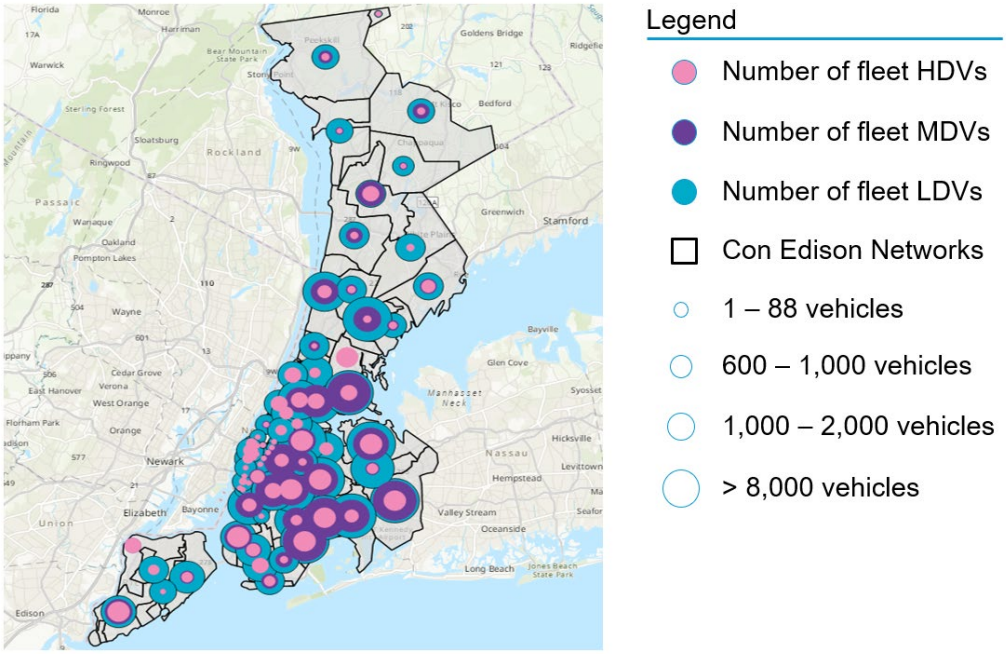

Figure 1: Fleet Distribution Across the Con Edison Service Area[49]

Next, the Company identified areas where there may be near-term impacts on the grid and the need for additional infrastructure to meet customer needs. While the Granular EV Load Projection analysis focused on EV charging load, the Company included all forecasted loads (including building electrification) when conducting its infrastructure capability analyses.[50] The Company identified key strategic locations with expected electrification growth by applying various prioritization criteria, such as geographic designations of IBZs, disadvantaged communities, airports, seaports, areas with high MHDV traffic patterns and/or depots, municipal and transit depots, areas with known existing grid constraints, and areas of expected economic development growth. After applying these prioritization screens to the key strategic locations, the

[48] Map was originally presented as part of the technical conference on November 2, 2023. *See* Case 23-E-0070, *Proceeding on Motion of the Commission to Address Barriers to Medium- and Heavy-Duty Electric Vehicle Charging Infrastructure (Technical Conference).*

[49] Light-duty vehicle (LDV), medium-duty vehicle (MDV), heavy-duty vehicle (HDV)

[50] Load forecasts at the area station level and the hotspot level are provided in the "Justification Summary" section of each sub-transmission/area station and primary feeder whitepaper (Appendices A through I).

Company identified 14 initial hotspot locations, shown in Figure 2.[51] Projections of loads at these more granular hotspots allows for planning at the primary feeder level.

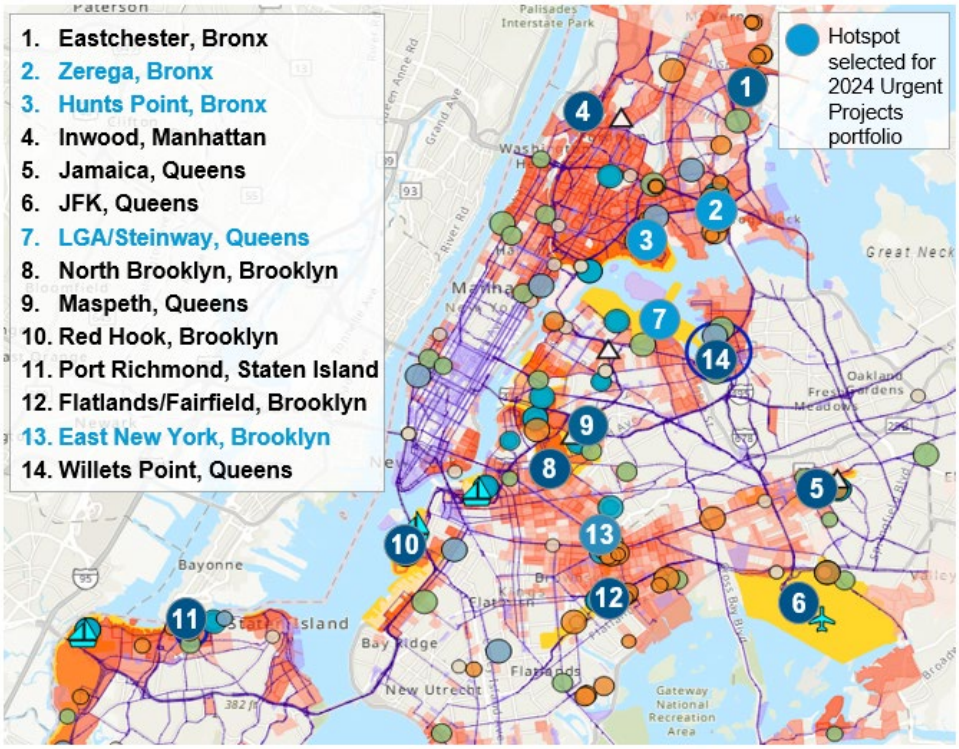

Figure 2: EV Charging Hotspot Locations

The resulting Granular EV Load Projections showed that four hotspots require urgent near-term investments at the distribution system level, and in some cases sub-transmission and area station level, to meet the projected customer loads: Zerega Avenue, Hunts Point, East New York, and Steinway (LaGuardia). At each of these hotspot locations, the Company has identified significant customer EV charging project activity ranging from early customer interest to projects under construction and in operation. This customer activity provides validation from an independent data set that load is already materializing at these locations today.[52]

[51] As presented in the November 2023 technical conference, the Company identified 14 initial hotspot locations: Bronx (Eastchester, Zerega, Hunts Point), Manhattan (Inwood), Brooklyn (North Brooklyn, Red Hook, Flatlands/Fairfield, East New York), Staten Island (Port Richmond), Queens (Jamaica, JFK, Steinway/LaGuardia, Maspeth, Willets Point).

[52] The customer activity at each hotspot will be detailed in the "Justification Summary" section of each sub-transmission/area station and primary feeder whitepaper.

EXHIBIT K

Electric System and Standard Planning Overview

Con Edison's electric service territory includes both New York City and Westchester Country, covering 660 square miles and serving 3.6 million customers. Con Edison's grid is a delivery system that connects energy sources to customers. Energy produced by generating sources is delivered via the Con Edison transmission system, which includes 430 circuit-miles of overhead transmission lines and the largest underground transmission system in the United States, with 749 circuit-miles of underground cable. The system also includes 39 transmission substations. The high-voltage transmission lines bring power from generating facilities to transmission substations, which supply substations, where the voltage is stepped down to distribution levels, as shown in the diagram below. Con Edison has two different distribution systems—the non-network (primarily overhead) system and the network (primarily underground) system.

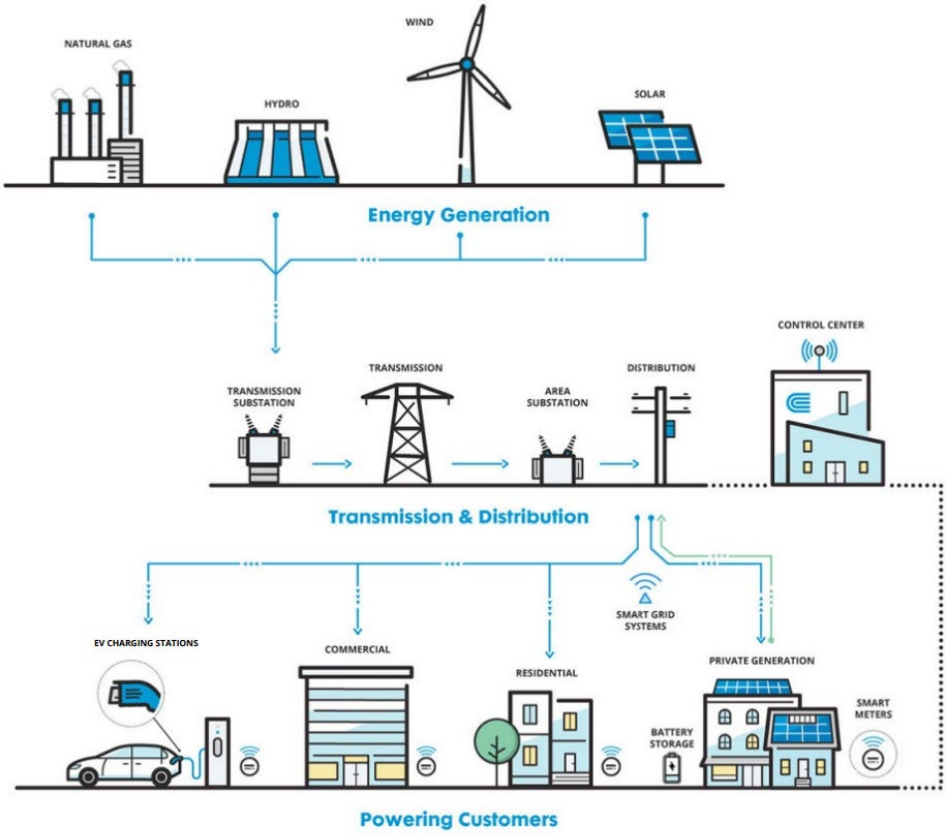

Figure 3: Con Edison Electric System Overview

Each year, the Company develops the electric network peak demand forecast ("Network Independent Peak Load Forecast") to estimate the electricity demand for each network and radial feeder in the Con Edison service area over a 20-year period. This peak forecast indicates the expected hourly load during each network's seasonal peak hour taking into account future load growth driven by new construction and overall economic development, as well as emerging energy technologies that could significantly influence electric demand during this period. In the early years of the forecast, the Company employs a bottom-up approach,[53] utilizing detailed information about specific new customer plans. For the later years, where such information is less available and uncertainty about new developments increases, a top-down method is applied. Additionally, the forecast considers systemwide assumptions, including the potential impact of rising temperatures due to climate change.

Using the Network Independent Peak Load Forecast, the Company prepares the Summer 10- and 20-year Load Relief Programs (LRP) to identify area substations and sub-transmission supply feeders that are projected to be above or near their normal and/or emergency capabilities over the applicable 10- and 20-year planning horizons. The LRP also identifies the most cost-effective load relief projects[54] needed to eliminate any projected overloads under the design contingency conditions applicable to that area substations and sub-transmission supply feeders.

[53] The bottom-up approach refers to a methodology starting with the most detailed data available, focusing on activity on the demand side. In this case, that refers to using data from specific customer plans and requests, and then combining that detailed data to create an overall dataset for each network and the entire service area. (The Granular EV Load Projections also use a bottom-up approach, but that analysis is separate from this network peak demand forecast.) A top-down approach, starting with broader data – such as market trends driven by economics and policies and extrapolating the overall number of expected requests – and then allocating that broader data to specific regions and networks.

[54] Load relief projects include the replacement of limiting equipment, installation of additional equipment (transformers/capacitor banks) to add capacity or provision of additional cooling to increase equipment rating, load transfers from constrained stations to other stations, or construction of a new area substations to serve load and possibly new transmission supply stations.

EXHIBIT L – CONFIDENTIAL

Area Substation Load Forecasts with Granular EV Load Projections (Cumulative MW)

[REDACTED]