1. INTRODUCTION

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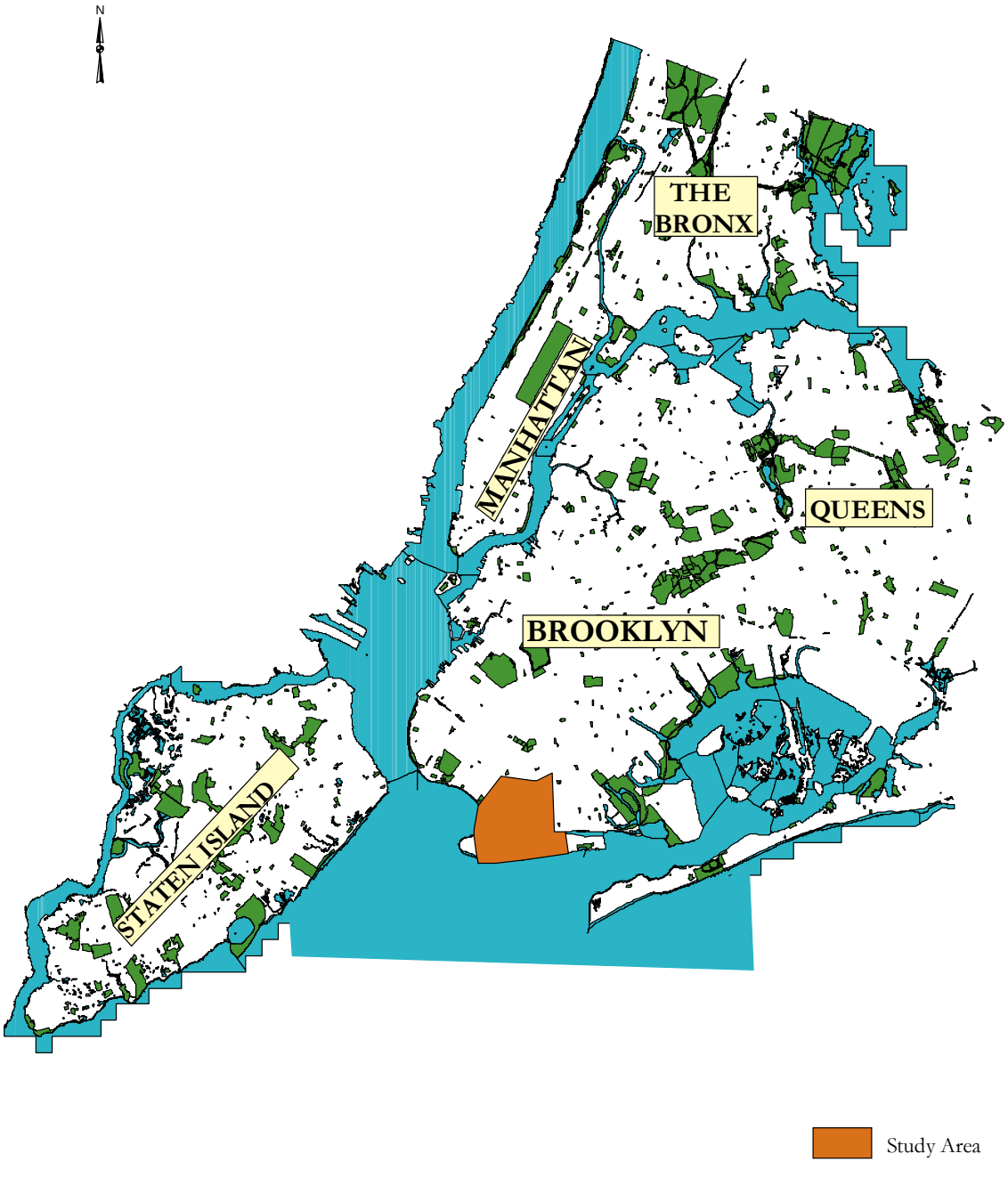
The Coney Island/Gravesend Sustainable Development Transportation Study is a multimodal transportation and planning study that was initiated in response to community concerns about development trends and the resultant negative externalities such as increased congestion, speeding, and changes to neighborhood characteristics. The purpose of the study is to assess current and future land use development and transportation conditions and to ensure developments are sustainable. From a transportation-centered perspective a sustainable development process occurs in a manner where the transportation system maintains its ability to serve communities in safe and environmentally friendly ways. A study of this kind provides a link between future land use changes and transportation developments; addresses both regional and local transportation needs; enhances long term economic vitality; and, promotes cooperation among communities and agencies. The study complements the regional multimodal transportation study – the Southern Brooklyn Transportation Investment Study – being conducted by the New York Metropolitan Transportation Council (NYMTC).

The study area includes all or portions of Coney Island, Brighton Beach, and Gravesend; and Community Boards 11, 13, and 15. The boundaries are Coney Island Avenue to the northeast and West End Avenue to the southeast, Riegelmann Boardwalk to the south, West 37th Street to the southwest and Bay Parkway to the northwest, and Kings Highway to the north. Figure 1-1 shows the study area within a regional context and Figure 1-2 shows its boundaries and community boards.

Coney Island, Gravesend, and Brighton Beach are three of southern Brooklyn's legendary communities, having been destination points for the beach and other recreational and entertainment purposes for several years. All three communities have diverse populations and neighborhood characteristics. Gravesend primarily has one-and two-family homes with pockets of high-rise multi-family dwelling units; while Coney Island and Brighton Beach are beachfront communities that primarily have multi-family dwelling units and pockets of two- and three-family homes. Coney Island is one of New York City's major summer destinations that attract

Figure 1-1: Study Area in a Regional Context



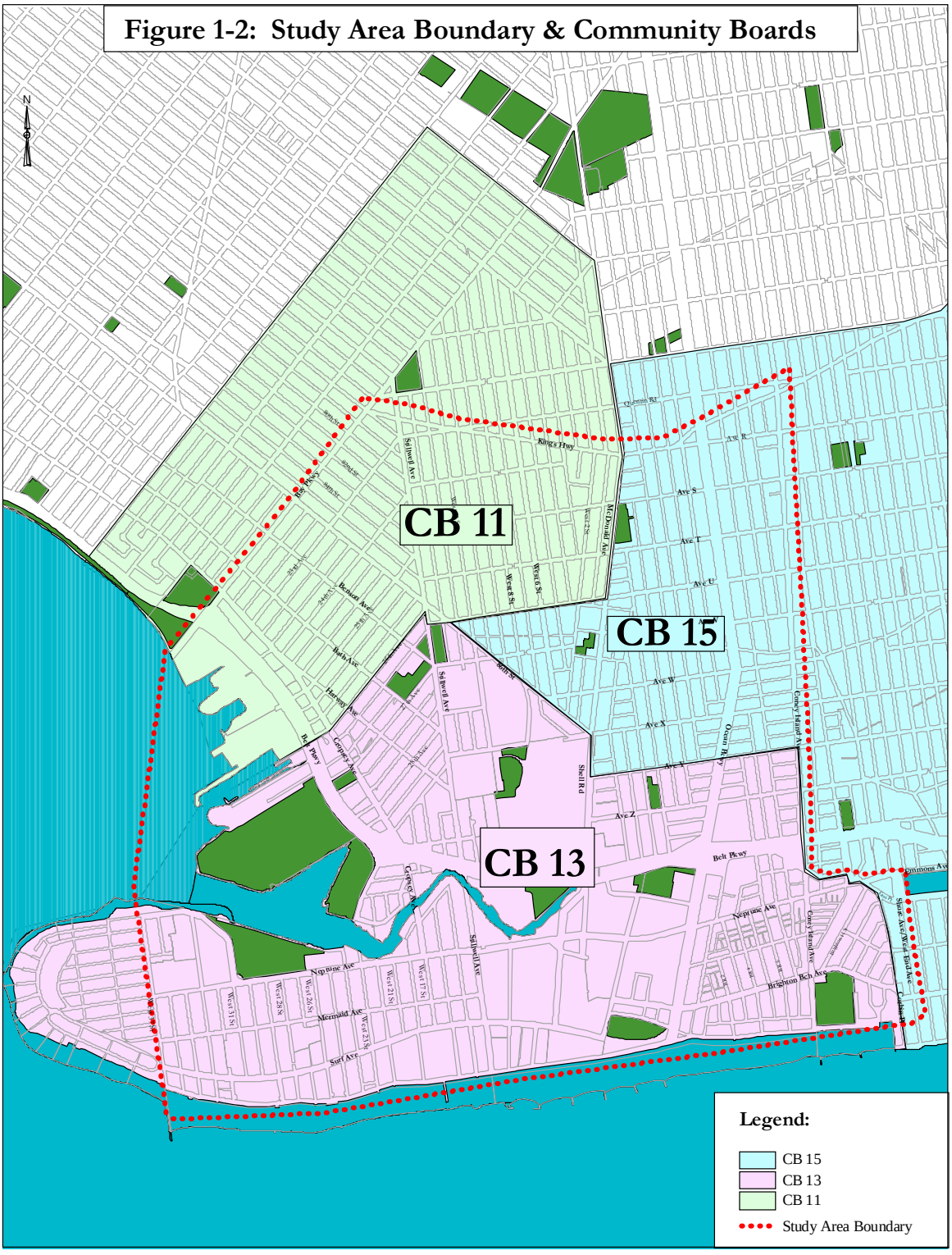


Figure 1-2: Study Area Boundary & Community Boards
CB 11
CB 15
CB 13
Legend:
CB 15
CB 13
CB 11
Study Area Boundary

millions of visitors each summer. It is especially attractive because it is home to an amusement park, the New York Aquarium, Keyspan Park (Steeplechase Park), Nathan's (home of the famous hot dog), and the beach.

All three communities that make up the study area are experiencing growth and revitalization or have the potential for further growth and development. New commercial, residential, and recreational developments are changing the economic and social trends in and around these communities. Three major recent developments in these communities are Home Depot (located in Gravesend) that was built in 2000, Keyspan Park (located in Coney Island) that was built in 2001, and Oceana, a large residential development (located in Brighton Beach), that will be completed in 2005. New developments, such as those above, that increase vehicular and pedestrian traffic add pressure to the traffic and transportation system and create the need to develop measures to alleviate the new pressures.

Based on the concept of sustainable development, the Coney Island/Gravesend Sustainable Development Transportation Study will examine the existing and future land use, demographic and socioeconomic characteristics, traffic and transportation conditions in the study area to identify its immediate and long-term transportation demands. The study involves significant community participation in an effort to support the vision of community stakeholders. The study's aim is to make proposals that expand transportation alternatives, improve travel conditions, air quality, preserve natural resources (waterfronts, parks), and help to restore local economic and social vitality.

1.2 Objectives of the Study

As a sustainable development study, the study's goal is to provide a framework to facilitate the development of improvement measures that safely accommodate future transportation needs (including those generated by new developments and economic growth), thereby satisfying future travel demand without negative environmental consequences. The study's main objectives therefore are:

- To examine the spatial distribution and intensity of land uses and its relationship to the derived demand for travel.

- To assess the area's economic base, employment opportunities and their implication for travel.
- To identify the travel and traffic characteristics, assess the existing and future transportation demand and needs of the study area, and evaluate their effects on the community.
- To develop and test land use/transportation scenarios.
- To improve travel conditions by reducing vehicular congestion, improving safety for all users (vehicular and pedestrian) and increasing the use of public transit or alternative modes.

An in-depth analysis of the following pertinent issues will provide the basis for realizing the study's goals and objectives along with extensive public outreach.

Public Participation – Community groups (residents, businesses, and other interested parties) in Coney Island, Gravesend, and Brighton Beach have been invited throughout the study process (open house, public meetings, etc) to provide input to the work being done in the study.

Demographics – An analysis of existing and future population trends in the study area that includes growth and decline, age distribution, household size, employment, income, journey to work choices, and car ownership rate will be addressed.

Land Use and Zoning – An analysis of existing and future zoning classifications and land use categories, spatial distribution and density of the various land uses (residential, commercial, community facilities, recreational and open spaces); identifies the major trip generators and examines land use trends and changes along with associated trip generating potential and characteristics.

Traffic – An analysis of the existing and future traffic conditions, an inventory of street and sidewalk widths, traffic flow directions, parking regulations, traffic controls, parking regulation compliance, and other items as required for traffic analysis; performs an area-wide traffic assessment using the Highway Capacity Manual (HCM) methodology to evaluate intersection volume-to-capacity (v/c) ratios, vehicular delay, and levels-of-service for the weekday AM, midday, and PM peak hour as well as Saturday peak hour.

Pedestrians/Bicycles – An analysis of existing and future pedestrian volume and level of service (LOS) during the summer (in proximity to the amusement/recreational activities) and non-summer periods at critical intersections; examines the demand for use of bicycles as an alternative mode and the need to create or enhance the bicycle network in the study area.

Accidents – The accident analysis includes the history of accidents at selected intersections for a five-year period using NYCDOT, NYPD, NYSDOT, and DMV's records; examines the types, frequency, severity, and causes of accidents; develops measures, where appropriate, to improve safety for motorists, pedestrians, and bicyclists.

Parking – The parking analysis for the existing and future conditions examines on- and off-street parking facilities during the weekday AM, midday, and PM peak periods; assesses available capacity and utilization of on-and off-street parking during the peak periods.

Goods Movement – An assessment of the effect of goods movements generated by retail, commercial, and other developments; and examines existing and future goods movements including truck routes, volume, frequency, and loading and unloading requirements.

Transit – An analysis of existing and future subway and bus routes, ridership, frequency of service, and adequacy of layover areas within the study area; examines the potential for alternative transportation services would also be examined.

1.3 The Study Area

The study area is well linked to the transportation network. It is currently served by five subway lines and ten bus lines (eight regular NYCT buses and two express buses with service to Manhattan). Access to the regional transportation network is also relatively easy as the Belt Parkway skirts the study area with several on and off ramps within it. In addition to the Belt Parkway, there are other major arterials in the study area including Ocean Parkway, Kings Highway, and Bay Parkway.

The primary north-south corridors in the study area are:

1. Coney Island Avenue
2. Ocean Parkway
3. Shell Road/McDonald Avenue
4. Stillwell Avenue
5. Bay Parkway

The primary east-west corridors are:

1. Kings Highway
2. 86th Street
3. Neptune Avenue
4. Surf Avenue
5. Cropsey Avenue

There are several commercial/retail strips in the study area that generate significant vehicular and pedestrian activity. These strips are concentrated along Kings Highway, 86th Street, Avenue X, Avenue U, Brighton Beach Avenue, and Coney Island Avenue. Smaller attractors are located along Neptune Avenue where there is a strip mall between West 8th and West 5th Streets, McDonald Avenue and Cropsey Avenue where there are car repair shops and other similar entities, and along Surf Avenue and Mermaid Avenue where there are a variety of stores.

1.4 Project Organization and Methodology

The project is organized in a series of task as follows:

Task 1 – Project Organization and Management (completed)

A detailed work program that outlines tasks, subtasks, task products, and schedule including Technical Advisory Committee (TAC) meetings.

Task 2 – Literature Search (completed)

A review of relevant major studies or project obtained from NYCDOT's Environmental Impact Statement Library, the Office of Environmental Coordination, EDC, the Department of City Planning, and other public or private agencies.

Task 3 – Public Participation (on-going)

Conduct community outreach activities to ensure the input of community groups throughout the study process.

Task 4 - Data Collection and Identification of Issues (completed)

Collect and analyze data on the study area's demographics, zoning and land-use, traffic, parking, pedestrians, accidents, goods movement and transit. The traffic data includes Automatic Traffic Recorder (ATR) counts, turning movements, vehicle classification, pedestrian counts, and an inventory of existing conditions on the traffic and transportation network.

Task 5 - Analysis of Existing Conditions (completed)

A comprehensive analysis of existing conditions (2002) covering data collected for the various subject areas was conducted and incorporated in Technical Memorandum No. 1. A Technical Advisory Committee (TAC) meeting and a public forum will be held to present and discuss findings of Technical Memorandum No. 1. A public forum will be held to present the findings of this task.

Task 6 – Analysis of Future Conditions

An analysis of future conditions (2012) will be conducted for all issues including traffic, transit, parking, goods movement, accidents and pedestrian activity and develop preliminary recommendations. This will be compiled in Technical Memorandum No. 2; a Technical Advisory Committee meeting and a public forum will be held to present and discuss findings of Technical Memorandum No. 2. A public forum will be held to present the findings of this task.

Task 7 – Development and Evaluation of Improvement Scenarios

Develop and evaluate alternatives (scenarios) in terms of effectiveness, community acceptance, cost, and consistency with objectives and long term strategy. A public forum will be held to present the findings of this task.

Task 8 – Recommendations and Implementation Plan

Recommend the preferred alternative based on Task 6 and develop a detailed implementation plan including cost and schedule. This will be presented in Technical Memorandum No. 3. A Technical Advisory Committee meeting and a public forum will be held to present and discuss the final technical memorandum.

1.5 Pubic Participation

Community involvement is a critical component of any development project, especially for those embracing the sustainable development concept. To ensure that the community is actively involved and their valuable input received from the outset of the study, five public outreach meetings exclusively for this study (details provided below) were held. Additionally, information obtained from the Southern Brooklyn Transportation Investment Study's public meetings was also incorporated into the database of community concerns and issues. The five public meetings were held in June and November 2002, November 2003, and April 2004 in Coney Island and Gravesend.

The first public meeting (an Open House) was held on June 27, 2002 at Our Lady of Solace School at 2865 West 19th Street (Coney Island). The meeting's format provided community residents with an opportunity to voice their perspectives on a variety of issues of concern to them. Although meeting participants were asked to express their concern and vision on any topic or issue affecting community life, a majority of their responses focused on issues relating to public transit and the street network (traffic – speeding, congestion, and faulty signals). The meetings format allowed participants to identify the community strengths, weaknesses, opportunities, and threats (SWOT). Participants were also asked to identify development issues and trends in the community as well as their visions and long term goals for the community. A summary of the issues raised by the community are as follows:

Strengths:

- Well served by public transportation;
- Access to the Belt Parkway; and
- Proximity to retail destinations.

Weaknesses:

- Insufficient express bus service;
- Some streets need maintenance;
- Need handicap access to subway, boardwalk and beach; and
- Inadequate parking at Keyspan Park.

Opportunities:

- Increase frequency of bus service;
- Reinstate express train service on the 'F' and 'Q' lines; and
- Expand train service between Brooklyn and Queens (provide direct service).

Threats:

- Noise from elevated subway lines;
- General safety of all transit users at particular locations;
- Poor street lighting; and
- Limited accessibility to Coney Island during games at Keyspan Park.

Development issues:

- Provision of ferry service to Manhattan;
- Improved access to airports via public transportation;
- Direct bus service to Kingsborough Community College from Coney Island; and
- Develop lots currently being used to park school buses.

Vision:

- Improved maintenance of subway facilities so that it is clean and safe;
- Provision of friendly and timely transit service; ferry service to Manhattan;
- Mermaid Avenue as a destination area (pedestrian mall with specialty stores);
- Gambling casinos, funeral home, movie theatre and entertainment, high school and junior high schools; and

- Development of commercial/retail activities on the pier.

Long Term Goals:

- Community renewal; and
- Establishment of a local development corporation.

Trends:

- Low income housing;
- Potential for new and infill development;
- Larger sports complex and the possibilities for 2012 Olympics; and
- Restoration of the Cyclone.

The second and third public meetings were held on Saturday, November 2nd (at the New York Aquarium in Coney Island) and Thursday, November 7, 2002 (at Lafayette High School in Gravesend). These meetings were organized as charrettes. Participants built on the information obtained at the meeting held in June. New issues included the need to develop an interconnected transit system between Coney Island, Brighton Beach, and Sheepshead Bay, especially during the summer; and the need to create a park and ride lot for trips to the city. The information was categorized into three groups – future development, community transportation issues, and community services and facilities – that formed the basis for discussion and further investigation.

In addition to the three initial Coney Island/Gravesend Sustainable Development Transportation Study meetings, New York Metropolitan Transportation Council (NYMTC) held two meetings in the study area as part of the visioning sessions for the Southern Brooklyn Transportation Investment Study. The information gathered at these meetings that specifically pertained to the Coney Island/Gravesend Sustainable Development Transportation Study area was obtained from NYMTC, and incorporated into the study.

The fourth and fifth meetings involved a presentation of the findings from the analysis of existing conditions and a discussion of the alternative development scenarios that will be tested with the Best Practice Model.