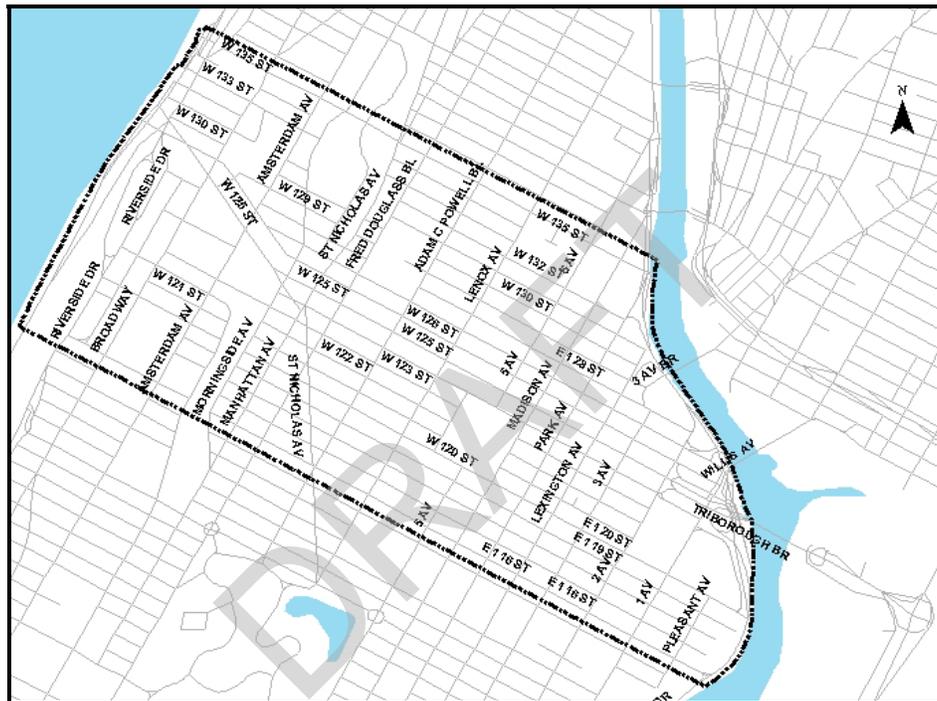


Harlem/Morningside Heights Transportation Study



Technical Memorandum No. 1- Existing Conditions



Michael R. Bloomberg, Mayor
The City of New York



New York City
Department of Transportation
Iris Weinshall, Commissioner



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EXECUTIVE SUMMARY

S.1 PROJECT DESCRIPTION

The Harlem/Morningside Heights Transportation Study is a collaborative effort of the city Department of Transportation (DOT) and the Department of City Planning (DCP). The study was initiated in response to community concerns about development trends as well as increase in congestion and changes to neighborhood characteristics. The purpose of the study is to assess current and future land use development and transportation needs of the Harlem/Morningside Heights area. The study area is bounded by 135th Street to the north, 116th Street to the south, Hudson River to the west and Harlem River to the east. The study will investigate land use, zoning, demographics and other factors that influence traffic and transportation. The study seeks to provide effective solutions to the problems identified and to improve mobility, circulation, and safety of vehicular and pedestrian traffic in the study area.

S.2 DEMOGRAPHICS

The Harlem Morningside study area cuts across three Community Districts: 9, 10 and 11 and consists of 40 Census Tracts. There are 24 tracts located entirely within the Study Area, while 16 are partially located in the study area.

The demographic analysis for the study area examined population trends from 1980 to 2000. The study area experienced a decline in population by 3.6% between 1980 and 1990 and increased by 9.8% between 1990 and 2000. The population over 20 years in the study area increased by 6.2%, slightly lower than the population growth experienced for the borough of Manhattan and New York City, which was 7.5% and 13%, respectively. The labor force for the study area increased by 6.5% between 1980 and 1990; it was higher than the Manhattan and New York City increases which were 3.7% and 3.4%, respectively. Between 1990-2000 labor force in New York City decreased by 3.9%, Manhattan decreased by 1.9% while in the study area labor force remained constant for this period. The number of households in the study area declined by 5.1% during 1980-1990 and increased by 8.8% between 1990-2000. In Manhattan the number of households increased over both decades by 1.7% and 3.1%, respectively; while for New York City, it

decreased by 19.5% during the first decade 1980-1990, but increased by 7.2% between 1990-2000. The median income for the residents in the study area grew from 1980 to 2000; however it was lower than the median income increase experienced for Manhattan and New York City residents. Distribution of journey to work by mode shows that the majority of the study area residents in year 2000 used public transportation (subway and buses) to work; a similar trend was observed for the New York City and Manhattan residents.

S.3 LAND USE AND ZONING

A land use and zoning analysis of the study area was done by examining the existing land use, zoning patterns and trends. The land use analysis included categories such as residential, commercial, manufacturing, institutional, and parks. It included a review of existing land use maps and the New York City Zoning Resolution. It also looked at recent rezoning actions such as the West Harlem/Manhattanville, East Harlem, Frederick Douglass Boulevard and 125th Street.

The report shows that the predominant land use in the Harlem/Morningside study area is residential while the land use along 125th Street is mainly commercial, comprising of national chain stores, restaurants and fast food chain stores and offices.

S.4 TRAFFIC AND TRANSPORTATION

The Existing 2003 traffic conditions were determined through field surveys conducted in October and November of 2003. The surveys included an inventory of street geometry, signal timing, traffic volumes and parking regulations. Manual turning movements and vehicle classification counts were conducted at many locations. In addition Automatic Traffic Recorders (ATR) machines were placed at seven locations to record 24 hours traffic volumes within the study area. The existing condition capacity and level of service analyses showed that there are intersections with poor level of service (LOS) throughout the study area. From a total of 39 intersections analyzed for the various peak hours about half experienced LOS D, E, and F in some or all lane groups. The following lists the number of locations that experienced LOS D, E or F for the respective peak hours:

- During the AM peak hour there are 13 locations;
- During the MD peak hour there are 4 locations;
- During the PM peak hour there are 10 locations; and
- During the Saturday peak hour there are 8 locations.

The most congested corridor in the study area is 125th Street as seen from the LOS and travel speed analysis. However the average travel speed along 125th Street is 11 miles per hour approximately, which is about 1.5 times faster than the other congested cross-town corridors in Manhattan.

S.5 PUBLIC TRANSPORTATION

The study conducted a transit analysis within the area of study by examining the public transportation facilities and services (subway and bus services) under existing conditions. The capacity and ridership volumes on the buses were also analyzed. The study area is well served and has adequate bus service on all bus routes (a total of twenty-two local buses provide service within the area).

In addition, the existing conditions information for the subway stairwells, corridors, passageways and turnstiles volumes were included in the analysis. The study reveals that the study area is served by eleven subway lines along four routes and has eleven subway stations. All analyses are for peak 15-minute conditions during weekday morning, midday and evening and for Saturday midday. According to the results obtained all subway station elements operate at LOS A or B except for one subway station (125th Street and Lexington Avenue) which has elements operating at LOS C due to construction activities.

S.6 PARKING

A parking analysis of the study area was done by examining existing on-street and off-street parking spaces, the extent to which parking is available and utilized under existing conditions. The study also inventoried and evaluated curb street parking regulations within the study area.

The study reveals that:

- There are 24 off-street privately owned parking facilities in the study area with a total capacity of 3, 932 parking spaces.
- The off-street public parking supply is adequate currently and can accommodate the existing demand.
- The on-street parking utilization on the avenues from 124th to 126th Streets shows very few empty parking spaces.

S.7 PEDESTRIAN AND BICYCLE ANALYSIS

The pedestrian and bicycle analyses for the study area were conducted by examining the current conditions. The analysis included:

- the identification of high pedestrian volume locations along the street network generated by subway stations, bus stops, and adjacent land uses. It also provided an overview of general pedestrian concentration and flows at selected locations within the study area and assessed vehicle, pedestrian/bike conflicts and capacity problems that exist under current conditions.
- an overview of conditions on existing bicycle facilities listed in the New York City Bicycle Master Plan and the New York City Cycling Map within the area of study.

The data collection effort for pedestrians and bicycles included counts on one mid-week day (Tuesday, Wednesday or Thursday) during the morning, afternoon and evening peak hours. The pedestrian analysis also covered the level of service (LOS) analysis of sidewalks, corners and crosswalks and was done using the HCM methodology. The LOS analysis shows that the facilities at the 13 locations surveyed operate at a LOS A, except for two crosswalks which operate at a LOS B (the south crosswalk of Park Avenue and 125th Street during the evening peak period and the south crosswalk of Broadway and 116th Street during the midday peak period).

S.8 ACCIDENTS/SAFETY ANALYSIS

A detailed accident analysis was conducted for thirteen locations in the study area where the average annual total accidents were 20 or more during the period from 1998 to 2000. A preliminary screening for the frequency of accidents showed that there was one location that averaged between 41 to 50 accidents per year, six locations with 31 to 40 accidents per year, and six locations with 20 to 30 accidents per year.

S.9 GOODS MOVEMENT

Goods movement in the study area is a function of truck routes and the origin and destination of goods and services. The distribution of commercial/retail, residential, industrial, and manufacturing can be gleaned from the existing land use and zoning.

There is a significant concentration of commercial and office activities along 125th Street. There are also institutional uses in the study area that attract truck traffic as well. Deliveries are made mainly during the late morning and early afternoon hours from 10am to 3pm. Generally, inbound volumes are highest during the morning and midday peak. The number of trucks coming to Manhattan decreases after 4PM. Most of these trucks are medium size trucks such as the UPS trucks (2 axles, 6 wheels). The study area does not have any through truck route but is adequately served by local truck routes which provide connections to through routes. Truck activity in the study area is very high, particularly along the 125th Street corridor where many commercial/retail activities are located.