APPENDIX D: TRAFFIC AND TRANSPORTATION

The following two reports were prepared for the Greenpoint 197a Committee. They helped the 197A Committee to develop informed proposals concerning environmental, transportation, traffic and related land use issues. The reports were prepared by the New Jersey Institute of Technology, under the supervision of Louis Pignataro [see item I] and by the traffic and transportation engineering firm of Konheim and Ketchum [see item II].

I. GREENPOINT COMMUNITY'S WATERFRONT/COMPREHENSIVE 197A-PLAN

Transport Part

1. The Existing Transportation Problems and Reasons:

1.1 *Roadway network*

1.1.1. Existing condition of the whole area

Greenpoint is located in the Northwest corner of Brooklyn on the East River and right across from Manhattan. It is connected with the rest of New York City by three bridges (Pulaski bridge, Greenpoint Avenue Bridge, Kosciuszko Bridge), the Brooklyn-Queens Expressway, one subway line and four bus lines. Also, the Midtown Tunnel, at the Long Island City side of the Pulaski Bridge provides easy access to Manhattan area.

These bridges have been recently reconstructed. (The Kosciuszko Bridge is under reconstruction now, with one lane in each direction closed from 10am to 3pm weekdays. This will last till next week.) They primarily provide vehicular access, but most of them also accommodate pedestrian and bicycle traffic with bridge sidewalks.

There are two north-south arteries in Greenpoint, Manhattan Avenue and McGuinness Boulevard, and one east-west artery, Greenpoint Avenue.

1.1.2 Reconstruction of Manhattan Avenue and McGuinness Boulevard

As most used roads in the are, Manhattan Avenue will be under construction in the near future, and McGuinness Boulevard's reconstruction work is undergoing now.

The reconstruction project of Manhattan Avenue will be from Driggs Avenue to Ash Street, that of McGuinness Boulevard will be from Meeker Avenue to Ash Street.

1.1.2.1 Manhattan Avenue

Manhattan Avenue is classified as a minor arterial from Driggs Avenue to Ash Street, and an urban collector from Broadway to Driggs Avenue. Between Nassau Avenue and Kent Street, it is one of the busiest commercial zones in the Greenpoint area. Between Greenpoint Avenue and Ash Street, it is a designated truck route providing local deliveries to commercial establishments.

The existing roadway pavement is uneven and consists of a concrete base varying in thickness from 5" to 8" and an asphaltic-concrete wearing course that varies in thickness from 2" to 10". One reason is the annual pavement overlaying from Bedford Avenue to

Greenpoint Avenue for accommodating the New York Marathon. The pavement is in a deteriorated condition and exhibits extensive patching due to pavement cuts made to service underground utility facilities.

The existing sidewalks are either settled, having excessive cross slopes (up to 14%), or are uneven and broken. At least half of the sidewalks are in poor condition. This has been a cause of concern to the local residents and merchants especially in the winter months.

The intersections of Manhattan Avenue with Greenpoint Avenue, Norman Avenue, and Meserole Avenue have a history of the most accidents. They have higher accident rates than the statewide average. Rear-end collisions associated with turning movements is the predominant type of accident that occurs at the Greenpoint Avenue intersection. This might be the result of change in the width and alignment of both roadways on either side of this intersection and a high volume of truck traffic making turning movements. Pedestrian-related accidents associated with overtaking vehicles on Norman Avenue are the predominant type of accident occurring at the Norman Avenue intersection. This is because Norman Avenue is narrow and carries two-way traffic with parking on both sides of the roadway. Accidents associated with overtaking vehicles are the predominant type occurring at the Meresole Avenue intersection. The contributing factor is the narrow roadway carries two-way traffic with both-sided parking.

Traffic counts taken on May 1994 show that the highest 24-hour volume on Manhattan Avenue is in the section between Norman Avenue and Nassau with over 9,000 vehicles (two-way) and a two-way peak volume of 743 vehicles per hour in the afternoon. In general, the principal peak hours were recorded between 9 a.m. and 10 a.m. and between 2 p.m. and 4 p.m. The highest percentage of trucks along Manhattan Avenue is 12 and is comprised primarily of trucks making local deliveries. The highest percentage of buses is 10 excepting between Ash Street and Box Street in the vicinity of the Transit Authority's bus depot where it is 28. It is also noted that Manhattan Avenue exhibits two distinct traffic flow patterns: between Driggs Avenue and Greenpoint Avenue (36' roadway) the 24 hour traffic volume is close to 9,500 vehicles whereas between Greenpoint Avenue and Ash Street (50'roadway) the 24 hour traffic volume is less than 5,000 vehicles.

The average approach delay of the signalized intersections along Manhattan Avenue ranges from 8.5 to 22.5 seconds per vehicle, with the minimum occurring at the westbound approach of Driggs Avenue intersection and the maximum occurring at the westbound approach of Greenpoint Avenue. The Level of Service (LOS) varies between B and C.

The busiest pedestrian intersections along Manhattan Avenue are intersections with Nassau Avenue, Norman Avenue, Meresole Avenue and Greenpoint Avenue, since most of them have subway entrances and exits. A pedestrian traffic study taken at these locations in March 1992 indicates the main pedestrian traffic is along Manhattan Avenue (North-South direction) and not along the intersecting streets. Peak pedestrian traffic is around 3:15 p.m. when students leaving school use these intersections. The LOS under normal conditions across Manhattan Avenue is A while the LOS with surge is estimated to be B.

1.1.2.2. McGuinness Boulevard

McGuinness Boulevard is a major arterial in Greenpoint area. It connects the Pulaski Bridge with the Brooklyn Queens Expressway.

The existing asphalt pavement is in fair or poor condition. Pavement markings are either worn or faded, which could hardly group traffic. There are many clogged drainage gratings and catch basins, which makes driving, or riding very uncomfortable.

The traffic accident studies between 1989 and 1992 show the intersections of McGuinness Boulevard with Greenpoint Avenue, Norman Avenue, Nassau Avenue and Meeker Avenue have a history of the most accidents. The Nassau Avenue intersection had the highest number of reported accidents during this three-year period. Pedestrian involved accidents (33%) comprised the largest group of accidents. Major factors related to this include that both intersecting streets accommodate two-way traffic, inadequate pedestrian refuge areas at the corners, undefined pedestrian crossing locations. The second largest group of accidents here is sideswipes (30%), which may be the result of faded, pavement markings, poor signal visibility, high volumes especially left turn vehicles blocking the median lane, crosswalks and the intersection area. Greenpoint Avenue intersection ranked second in accident frequency. Rear-end collision and pedestrian involved accidents are the predominant types. Major contributing factors include the absence of dedicated left turn facilities, poor pavement conditions and absence of lane markings, poor signal visibility, signal timing and insufficient capacity on the intersection approach, as well as limited sidewalk space. The most frequent type of accident at the Meeker Avenue intersection is angle collision. This may be attributed to the effect of BQE ramp traffic. The Norman Avenue intersection also had a high percentage of rear-end collision accidents. Most accidents occurring here involved motorists attempting to avoid a vehicle stopped in the intersection waiting to turn left. This suggested an absence of left turn facilities.

Traffic counts taken in 1993show that the highest morning peak hour volume on McGuinness Boulevard is on the section between Calyer Street and Meserole Avenue with 2490 vehicles (two-way), and the highest afternoon peak hour volume is on the section between Greenpoint Avenue and Calyer Street with 2674 vehicles (two-way).

During the morning peak, the average approach delay of the signalized intersections along McGuinness Boulevard ranges from 3.6 to 70.3 seconds per vehicle, with the minimum occurring at the southbound approach of Meserole Avenue intersection and the maximum occurring at the eastbound approach of Nassau Avenue intersection, while during the afternoon peak, the average approach delay ranges from 3.4 to 126.7 seconds per vehicle, with the minimum and maximum occurring at the Northbound and eastbound approaches of Calyer Street intersection respectively. The Level of Service (LOS) varies between A to F for both morning and afternoon peak.

1.2 Pedestrian access

Many of the area's streets, especially those along the waterfront, are very difficult for pedestrians to navigate. This problem arises from a combined set of conditions including insufficient sidewalk space, unsafe vehicle speeds.

1.3 Traffic generators

The commercial zone as well as two subway stations along Manhattan Avenue would attract pedestrian traffic. At the same time, those commercial establishments generate a considerable amount of vehicular activity due to the number of delivery trucks servicing these stores. In addition, the garbage transferring center at the east side and a gas transferring station at the west side generate truck traffic through Green point area. NYC Transit Authority bus storage and maintenance depot located at the northern section of the area generates bus traffic by serving several bus routes.

1.4 Transit

There is only one subway line, G, in the area. The G line goes north-sough under Manhattan Avenue. It has two stations within the district. They are Greenpoint Avenue station and Nassau Avenue station.

There are four bus lines serving the area. They are the B24, B43, B48 and B61. Among them, B43 and B61 go north-south in the area, mostly along Manhattan Avenue, while B24 and B48 go east-west mostly along Greenpoint Avenue and Nassau Avenue respectively. The East River waterfront is not well served since only one bus line, B24, runs to West Street, which is one block away from the water's edge.

1.5 Truck route

There are 21 streets in the Greenpoint area, which are designated as truck routes. They provide adequate service to the industrial and commercial activities of the community. However, there are problems caused by heavy truck traffic. Trucks often travel too fast, ignore local traffic laws, and do not always travel on designated truck route. Particularly, the loading and unloading process of delivery trucks on those narrow streets during the daytime cause traffic congestion.

2. Suggestions

(1) Increase bus service to the East River waterfront.

(2) Restrict truck delivery time on Manhattan Avenue particularly for those sections with high truck traffic percentage.

3. Community's Concerns

(1) Issue on the order of reconstruction work on McGuinness Boulevard and Manhattan Avenue

Contacted: RBA Group: 212-741-8090 x112 Linda

This consulting firm only did the feasibility study of conducting these two reconstruction works at the same time. The result is NO. Some reasons include:

- Too much influence on the community in terms of environmental impact, transportation rerouting, etc.
- If something on one of the projects goes wrong or way behind the schedule, the other project will be affected, thus increase the time for the whole work.

(2) Restricted Truck Delivery
Contacted: NYC Department of Transportation: 212-442-7638, Mary Jane Delvicario
There are no streets with truck delivery restrictions in terms of delivery time. Generally, the loading/unloading time is subject to the restriction of "No stopping or standing between 7 a.m. to 7 p.m." which is very common around the city.
Also Contacted: NYC Department of Design and Construction: 718-391-2230, Arkdey Lirtsman
The truck traffic percentage may be a criterion for implementing the limited truck delivery regulation. Please refer to the attached table for detail.

(3) The section of Ash Street to Newton Creek of Manhattan Avenue.
Contacted: NYC Department of Design and Construction, 718-391-2230, Arkdey Lirtsman
This section was previously included in the reconstruction project of Manhattan Avenue. The reason it was excluded in the final design stage was that this section is not a FAUS (Federal Aided Street System) street. And this project is federally funded. (This information was included in the letter from Syed Bokhari, P.E. of Dept. of Design and Construction).

(4) The Newton Creek bulkhead repair status
Contacted: NYC Department of Design and Construction, 718-391-2230, Arkdey Lirtsman
The bulkhead at the end of Manhattan Avenue is in a deteriorating condition. This repair work will require approximately one million dollars. Currently no one is pursuing this. It is suggested that the community contact the City concerning this.

Source: New Jersey Institute of Technology. Louis Pignataro, PhD., coordinator.

II. TRAFFIC IMPACTS OF CITY USE OF TRANSFER STATIONS IN GREENPOINT

Since mid-December 1998, the New York City Department of Sanitation (NYCDOS) has begun to transport 2,400 tons per day of putrescible solid waste to two private truck transfer stations in Williamsburg/Greenpoint, on the northern boundary of Brooklyn. The consequence is that NYCDOS has added 556 truck trips per day to a single highly congested area of Brooklyn, at the location in the borough furthest from the collection districts. The prior system relied on trucking NYCDOS-collected waste to three Brooklyn marine transfer stations, that are dispersed along the west shore of Brooklyn nearer to collection routes. To export the waste to out-of-city sites, the transfer stations generate an additional 216 tractor-trailer truck trips a day on the same local approach roads as the NYCDOS trucks to reach the Brooklyn-Queens Expressway. In total, NYCDOS's contract with Waste Management to export Brooklyn garbage is adding 700-800 truck trips per day to the streets of Greenpoint.

The waste being trucked to Williamsburg/Greenpoint represents more than 83% of 2,900 tons/day of non-recycled waste that the NYCDOS collects in Brooklyn. The two transfer stations, 215 Varick Avenue and 485 Scott Avenue, are located 1.5 miles apart in an area where there are more than 20 other commercial waste transfer stations, which account for much of the heavy truck traffic. The route that many trucks would take between 215 Varick and the BQE entrance ramp at Metropolitan Avenue would cause many trucks to use Grand and Metropolitan Avenues. These are both narrow streets lined with residences over storefronts and a high school on Grand Street, where the added trucks cause exposure to adverse effects of emissions, noise and accidents. The routes to and from 485 Scott Avenue result in close exposure of residences on several feeder streets west of the BQE, and on Beadel, Lombardy and Vandervoort Streets, near exit routes east of the BQE.

The direct impacts of this action on the Williamsburg/Greenpoint community is that it:

- concentrates truck travel in Greenpoint, an area where a detailed State study in 1995 found that 43 out of 48 intersections will operate at an unacceptable Level of Service (LOS F) in the year 2000. Of the six intersections that are common to both the Transfer EAS and the State study, five that are reported in the EAS as operating at a "B" or "C" LOS, are shown to be at LOS F for one or more approaches;
- increases travel from about 2,400 compactor truck-miles per day to 4,500 miles per day, an increase of 88%. This amounts to an additional 526,000 heavy truck miles of travel in Brooklyn annually.
- increasing noise to unacceptable levels. A single heavy-duty truck servicing the transfer stations produces the equivalent noise of 85 passenger cars. Consequently, noise levels measured at affected locations are twice as high as City and federal standards for residential exposure.
- increasing personal injury and property damage accidents in Brooklyn. Increasing heavy truck traffic by 526,000 miles a year largely through Brooklyn's narrow streets will result in four more people being injured each year, 12 more vehicles being damaged. The increase in heavy truck travel will also result in a traffic fatality approximately every 30 years.
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- adding hidden costs of these effects (lost productivity, traffic accident costs not covered by insurance, environmental damages) to the cost of living of residents along truck routes totaling $5,000,000/year.

TRANSPORT DEFICIENCY ALONG THE WATERFRONT OF GREENPOINT

Residents of Williamsburg/Greenpoint have among the lowest auto ownership rates, 0.35 to 0.75 per household, in the city, and are thus, highly dependent on transit. However, within a half-mile of the Greenpoint waterfront (the maximum distance people can be expected to walk), there is only one subway station, Greenpoint Avenue on the G line, which is an infrequent service that provides no direct access to Manhattan and poor connections to other routes. Within the half-mile corridor of the waterfront, there is no transit service along the waterfront of any kind.

Compared to the dense grid of bus routes that characterizes most of Brooklyn, there are bus routes on only three streets north of Bedford Avenue. In addition to meeting the needs of existing residents and businesses, good transit access is essential to attracting future residents and businesses to the area. The historical development of New York City along its subway lines, and the highly planned development of new towns in the outskirts of Tokyo and Paris around transit stations, demonstrate that clustering mixed uses at transit nodes provides people with high mobility, with low auto ownership and use. Each car that a household does not have to purchase and maintain represents at least $10,000 in earnings that are available for other purposes.

Source: Konheim and Ketcham