

DOWNTOWN BROOKLYN COUNCIL

Downtown Brooklyn Residential
Permit Parking Study
Turnover and Windshield Surveys

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Turnover and Windshield Surveys

Introduction

The purpose of this study is to examine the feasibility of implementing a Residential Permit Parking (RPP) Program in the residential neighborhoods surrounding Downtown Brooklyn: Brooklyn Heights, Boerum Hill, and Fort Greene (see Figure 1). Feasibility refers to the potential for an RPP program to bring about specific changes in current on-street parking conditions in favor of neighborhood residents without significantly impacting other land uses. The two primary objectives of an RPP program within this Study Area would be to provide an increase in on-street parking availability and a reduction in search traffic on local streets.

To examine the feasibility of affecting these changes to existing parking conditions the study team began with a comprehensive survey of parking conditions within the Study Area.

The Turnover Survey

An integral part of the study of on-street parking conditions in the Study Area was a survey of parking occupancy levels and turnover rates during weekday mornings and afternoons. Occupancy refers to the number of parking spaces utilized throughout the day. Turnover refers to the length of time each vehicle occupies each parking space.

Thirty-nine blocks were randomly selected from among the non-metered blocks in the Study Area (see Figure 2). These blocks were surveyed hourly between 10AM to 5PM to document the location and identity (license plate) of each vehicle parked along these blocks. This data was matched with a previously established inventory of parking spaces within the Study Area to calculate occupancy levels and turnover rates for each block.

Data was collected through field observation of the Study Area on Tuesday, September 20th, when schools were in session, no significant holidays were being observed, and parking regulations were enforced. These efforts were undertaken to assess existing parking behavior within the Study Area during typical hours of RPP enforcement (8AM – 5PM).

Surveyors also noted the presence and type of any vehicles with municipal agency issued parking permit placards. The location and volume of such vehicles were then calculated for each block.

Figure 1 The Study Area

Please insert Map – Study Area Map

Figure 2 Turnover Survey-Eligible Blocks

Please insert Map – Survey_Eligible_Blocks

Occupancy

Study Area

Occupancy rates were consistently high throughout the day within the overall Study Area, and individually within each of the three neighborhoods; see Figure 3. (The only exception to the high occupancy rate was midday in Fort Greene, when occupancy drops to 57 percent.) The Study Area reached peak occupancy around 1 PM when 433 vehicles were observed compared to a supply of 434 parking spaces (see Figure 4 and Figure 5).

Figure 3 Study Area Occupancy

Occupancy	Study Area	Brooklyn Heights	Boerum Hill	Fort Greene
Total Spaces	434	137	186	111
Total Space Hours	3028	959	1302	767
Occupied Space Hours	2939	1047	1242	650
Double-Parked-Vehicle Space Hours	15	7	8	0
Total Number of Vehicles Parked	703	248	262	193
Overall occupancy (%)	97.06%	109.18%	95.39%	84.75%
Overall occupancy, including Double Parking (%)	97.56%	109.91%	96.01%	84.75%

Figure 4 Study Area Hourly Occupancy

Occupancy by the Hour	Study Area	Brooklyn Heights	Boerum Hill	Fort Greene
10:00 AM	95.85%	105.84%	96.24%	82.88%
11:00 AM	98.39%	109.49%	99.46%	82.88%
12:00 PM	92.86%	113.14%	99.46%	56.76%
1:00 PM	99.77%	113.14%	97.85%	86.49%
2:00 PM	98.16%	107.30%	92.47%	96.40%
3:00 PM	97.00%	108.03%	90.32%	94.59%
4:00 PM	95.16%	107.30%	91.94%	85.59%

Figure 5 Overall Occupancy

Please Insert Map "Occupancy"

Brooklyn Heights

The highest occupancy levels of the survey were found in the Brooklyn Heights neighborhood (see Figure 6). As presented in Figure 7, overall occupancy for the neighborhood was over 100 percent throughout the day, and peaked at just over 113 percent from Noon to 1 PM (155 cars compared to 137 parking spaces).

Figure 6 Brooklyn Heights Occupancy

Occupancy	Brooklyn Heights	Study Area
Total Spaces	137	434
Total Space Hours	959	3028
Occupied Space Hours	1047	2939
Double-Parked-Vehicle Space Hours	7	15
Total Number of Vehicles Parked	248	703
Overall occupancy (%)	109.18%	97.06%
Overall occupancy, including Double Parking (%)	109.91%	97.56%

Figure 7 Brooklyn Heights Hourly Occupancy

Occupancy by the Hour	Brooklyn Heights	Study Area
10:00 AM	105.84%	95.85%
11:00 AM	109.49%	98.39%
12:00 PM	113.14%	92.86%
1:00 PM	113.14%	99.77%
2:00 PM	107.30%	98.16%
3:00 PM	108.03%	97.00%
4:00 PM	107.30%	95.16%

Boerum Hill

Boerum Hill's highest occupancy levels were observed in the early part of the day, remaining at 96 percent or higher from the beginning of the survey through 1 PM (see Figure 8). Occupancy dropped slightly in the afternoon, but remained steady at approximately 91% from 2 PM to the conclusion of the survey (see Figure 9).

Figure 8 Boerum Hill Occupancy

Occupancy	Boerum Hill	Study Area
Total Spaces	186	434
Total Space Hours	1302	3028
Occupied Space Hours	1242	2939
Double-Parked-Vehicle Space Hours	8	15
Total Number of Vehicles Parked	262	703
Overall occupancy (%)	95.39%	97.06%
Overall occupancy, including Double Parking (%)	96.01%	97.56%

Figure 9 Boerum Hill Hourly Occupancy

Occupancy by the Hour	Boerum Hill	Study Area
10:00 AM	96.24%	95.85%
11:00 AM	99.46%	98.39%
12:00 PM	99.46%	92.86%
1:00 PM	97.85%	99.77%
2:00 PM	92.47%	98.16%
3:00 PM	90.32%	97.00%
4:00 PM	91.94%	95.16%

Fort Greene

Occupancy levels within Fort Greene varied much more significantly throughout the day than in the other neighborhoods. In the morning, occupancy remained at a steady 83 percent, before dropping to 57 percent during the Noon hour, and rising back up into the mid-80's again by 1 PM (see Figure 10). Occupancy then rose into the high 90's for the next two hours and then dropped back into the 80's in the late afternoon (see Figure 11). This is likely a reflection of the concentration of schools and other academic destinations in the area, with lunch-time departures of staff reducing midday occupancies and vehicular student pick-ups increasing mid-afternoon counts.

Figure 10 Fort Greene Occupancy

Occupancy	Fort Greene	Study Area
Total Spaces	111	434
Total Space Hours	767	3028
Occupied Space Hours	650	2939
Double-Parked-Vehicle Space Hours	0	15
Total Number of Vehicles Parked	193	703
Overall occupancy (%)	84.75%	97.06%
Overall occupancy, including Double Parking (%)	84.75%	97.56%

Figure 11 Fort Greene Hourly Occupancy

Occupancy by the Hour	Fort Greene	Study Area
10:00 AM	82.88%	95.85%
11:00 AM	82.88%	98.39%
12:00 PM	56.76%	92.86%
1:00 PM	86.49%	99.77%
2:00 PM	96.40%	98.16%
3:00 PM	94.59%	97.00%
4:00 PM	85.59%	95.16%

Rate of Turnover

Study Area

The average length of stay for vehicles parked within the Study Area was just under four hours. As presented in Figure 12 and Figure 14, approximately 41 percent of vehicles stayed less than three hours, while just over 48 percent remained parked at least five hours.

Figure 12 Study Area Rates of Turnover

Turnover	Study Area	Brooklyn Heights	Boerum Hill	Fort Greene
Mean Parking Stay (Hours)	3.94	4.22	4.74	2.75
% of Vehicles Staying Less Than 3 Hours	40.88%	44.35%	29.77%	49.58%
% of Vehicles Staying 5 or More Hours	48.26%	44.35%	59.16%	40.25%

Brooklyn Heights

Turnover in Brooklyn Heights was slightly higher than the Study Area average, with vehicles remaining parked for just over four and one quarter hours on average (see Figure 13). Vehicles in this area were evenly split between those staying less than three hours and those staying at least five hours.

Figure 13 Brooklyn Heights Rates of Turnover

Turnover	Brooklyn Heights	Study Area
Mean Parking Stay (Hours)	4.22	3.94
% of Vehicles Staying Less Than 3 Hours	44.35%	40.88%
% of Vehicles Staying 5 or More Hours	44.35%	48.26%

Figure 14 Mean Parking Stay (Hours)

Please Insert Map "Mean_Parking_Stay"

Boerum Hill

Turnover patterns in this neighborhood displayed a stronger long-term utilization trend compared to the rest of the Study Area. Lengths of stay averaged close to five hours with nearly 60 percent of vehicles staying at least five hours (see Figure 15).

Figure 15 Boerum Hill Rates of Turnover

Turnover	Boerum Hill	Study Area
Mean Parking Stay (Hours)	4.74	3.94
% of Vehicles Staying Less Than 3 Hours	29.77%	40.88%
% of Vehicles Staying 5 or More Hours	59.16%	48.26%

Fort Greene

Turnover within the Fort Greene neighborhood was much more frequent compared to the Study Area. The average length of stay was two hours and 45 minutes (see Figure 16). Approximately half of all parked vehicles stayed for less than three hours, with only 40 percent staying as long as five hours.

Figure 16 Fort Greene Rates of Turnover

Turnover	Fort Greene	Study Area
Mean Parking Stay (Hours)	2.75	3.94
% of Vehicles Staying Less Than 3 Hours	49.58%	40.88%
% of Vehicles Staying 5 or More Hours	40.25%	48.26%

Placard Occupancies

Study Area

Overall, vehicles displaying municipal agency parking-permits accounted for approximately five percent of all occupied space-hours in the Study Area (138 out of 2,939; see Figure 17 and Figure 19). The New York City Police Department, the Fire Department of New York City, and the New York City Department of Transportation accounted for 107 of the 138 hours, with 45, 32, and 30 hours, respectively.

Vehicles with permits accounted for 25 percent or more of the occupied space hours on only four of the 39 blocks surveyed. While vehicles with permits are perceived as utilizing a large portion of the on-street parking supply, the parking turnover survey indicates these vehicles are a less significant factor, at least on unmetered streets. (The survey of metered blocks in Brooklyn Heights will provide a more detailed representation of the parking patterns for these vehicles.)

Figure 17 Study Area Placard Parking

Occupancy by Permit Type	Study Area		Brooklyn Heights		Boerum Hill		Fort Greene	
	Space Hours	Share	Space Hours	Share	Space Hours	Share	Space Hours	Share
No Permit	2801	95.30%	984	93.98%	1171	94.28%	646	99.38%
All Permits	138	4.70%	63	6.02%	71	5.72%	4	0.62%
NYPD	45	1.53%	13	1.24%	28	2.25%	4	0.62%
FDNY	32	1.09%	0	0.00%	32	2.58%	0	0.00%
NYCDOT	30	1.02%	23	2.20%	7	0.56%	0	0.00%

Brooklyn Heights

Vehicles with government permits accounted for six percent of the occupied space hours in this neighborhood (see Figure 18).

Figure 18 Brooklyn Heights Agency-Permit Parking

Occupancy by Permit Type	Brooklyn Heights		Study Area	
	Space Hours	Share	Space Hours	Share
No Permit	984	93.98%	2801	95.30%
All Permits	63	6.02%	138	4.70%
NYPD	13	1.24%	45	1.53%
FDNY	0	0.00%	32	1.09%
NYCDOT	23	2.20%	30	1.02%

Figure 19 Vehicles Parked with Municipal Placards

Please Insert Map "VehiclesParked_MunicipalPlacards"

Boerum Hill

Vehicles with government permits accounted for approximately six percent of the occupied space hours in this neighborhood (see Figure 20).

Figure 20 Boerum Hill Agency-Permit Parking

Occupancy by Permit Type	Boerum Hill		Study Area	
	Space Hours	Share	Space Hours	Share
No Permit	1171	94.28%	2801	95.30%
All Permits	71	5.72%	138	4.70%
NYPD	28	2.25%	45	1.53%
FDNY	32	2.58%	32	1.09%
NYCDOT	7	0.56%	30	1.02%

Fort Greene

Vehicles with government permits were nearly non-existent in this neighborhood, accounting for a mere four occupied spaces hours all day (see Figure 21).

Figure 21 Fort Greene Agency-Permit Parking

Occupancy by Permit Type	Fort Greene		Study Area	
	Space Hours	Share	Space Hours	Share
No Permit	646	99.38%	2801	95.30%
All Permits	4	0.62%	138	4.70%
NYPD	4	0.62%	45	1.53%
FDNY	0	0.00%	32	1.09%
NYCDOT	0	0.00%	30	1.02%

The Windshield Survey

On September 21st, 2005, 1,003 surveys were placed on the windshields of cars parked on streets within the Study Area. Streets to be surveyed were randomly selected in advance to provide a statistically significant representation of the Study Area. The survey (see Appendix B) contained a brief explanation of the purpose of the survey, a series of seven parking-related questions, and an entry form for a raffle offering a chance to win a gift certificate to Junior's Restaurant.

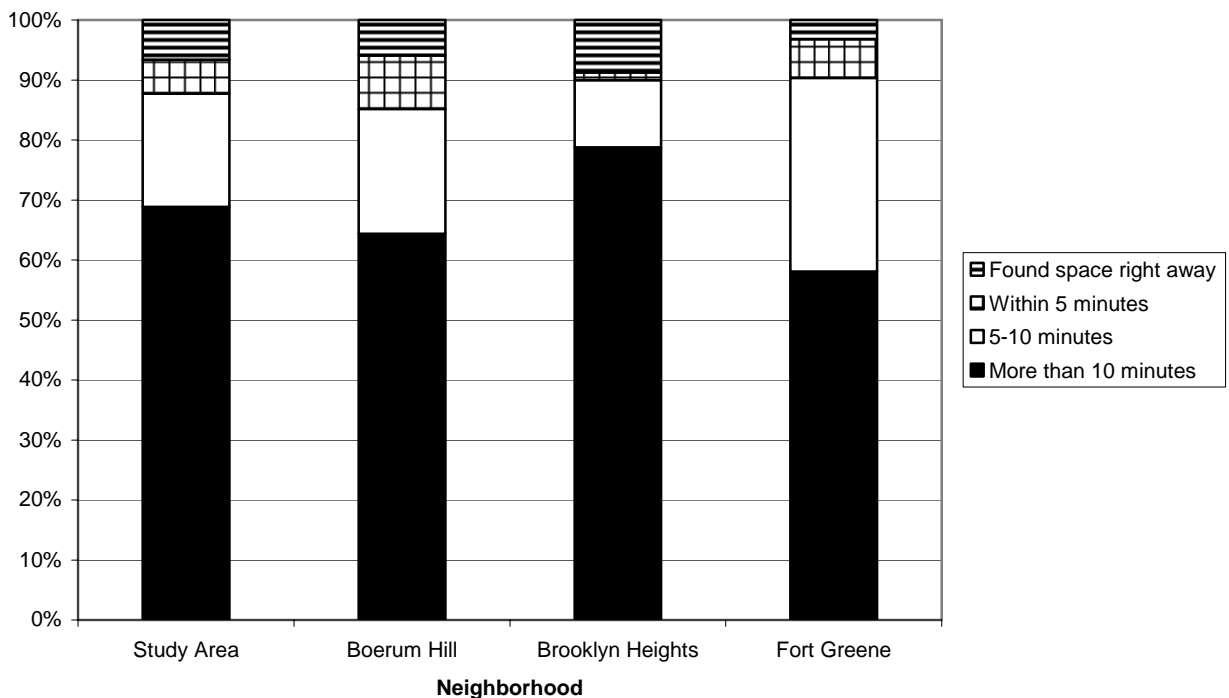
215 surveys were returned. The following sections present a review of the seven survey questions and the responses received for each question.

Question 1 – Search Times

Responses to Question 1 indicate that on-street parking demand is generating a high level of search traffic within the Study Area. Sixty-nine percent of overall respondents indicated that they spent more than 10 minutes searching for their parking space. Among individual neighborhoods, Brooklyn Heights had the highest incidence rate for searches of more than 10 minutes (79 percent), while Fort Greene had the lowest (58 percent); see Figure 22.

Figure 22 Search Time

1	<i>Approximately how much time did you spend looking for a parking space today?</i>	Study Area	Boerum Hill	Brooklyn Heights	Fort Greene
A	Found space right away	14	6	7	1
B	Within 5 minutes	12	9	1	2
C	5-10 minutes	40	21	9	10
D	More than 10 minutes	146	65	63	18
ALL		212	101	80	31

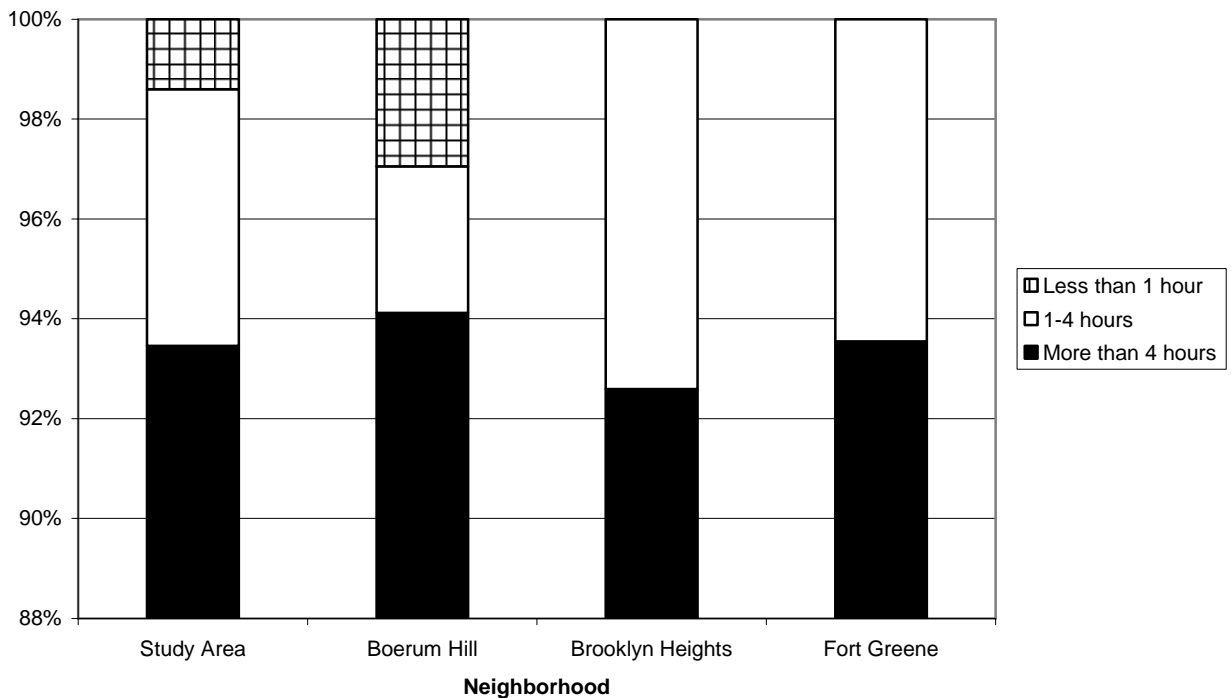


Question 2 – Turnover

Responses to Question 2 indicate that long-term parking is the primary generator of on-street demand in the Study Area. Ninety-three percent of respondents indicated that they had parked for more than four hours; this response rate was consistent among the three Study Area neighborhoods with each neighborhood reporting levels between 93 and 94 percent (see Figure 23).

Figure 23 Turnover Rates

2	<i>How long did you park in this neighborhood today?</i>	Study Area	Boerum Hill	Brooklyn Heights	Fort Greene
A	Less than 1 hour	3	3	0	0
B	1-4 hours	11	3	6	2
C	More than 4 hours	200	96	75	29
ALL		214	102	81	31

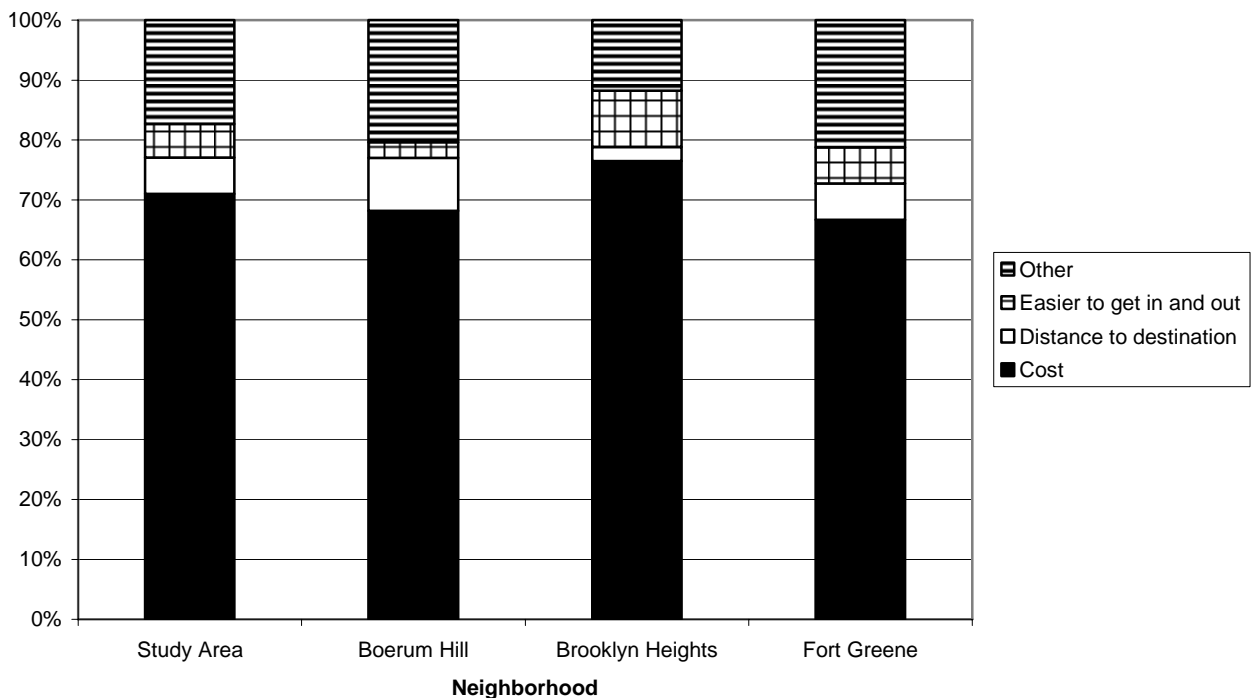


Question 3 – Reason for Choosing On-Street

Responses to Question 3 indicate that cost is the primary incentive for parking on the street rather than parking in an off-street lot or garage in the Study Area (see Figure 24). Cost was indicated by 71 percent of Study Area respondents as their reason for parking on the street. This response was fairly consistent between the neighborhoods, ranging from 67 to 76 percent (see Figure 24). “Other” was the second-most common response in the Study Area and for each neighborhood, with no other reason other than cost accounting for more than nine percent of responses.

Figure 24 On-Street Incentives

3	<i>Reason for parking on the street?</i>	Study Area	Boerum Hill	Brooklyn Heights	Fort Greene
A	Cost	164	77	65	22
B	Distance to destination	14	10	2	2
C	Easier to get in and out	13	3	8	2
D	Other	40	23	10	7
ALL		231	113	85	33

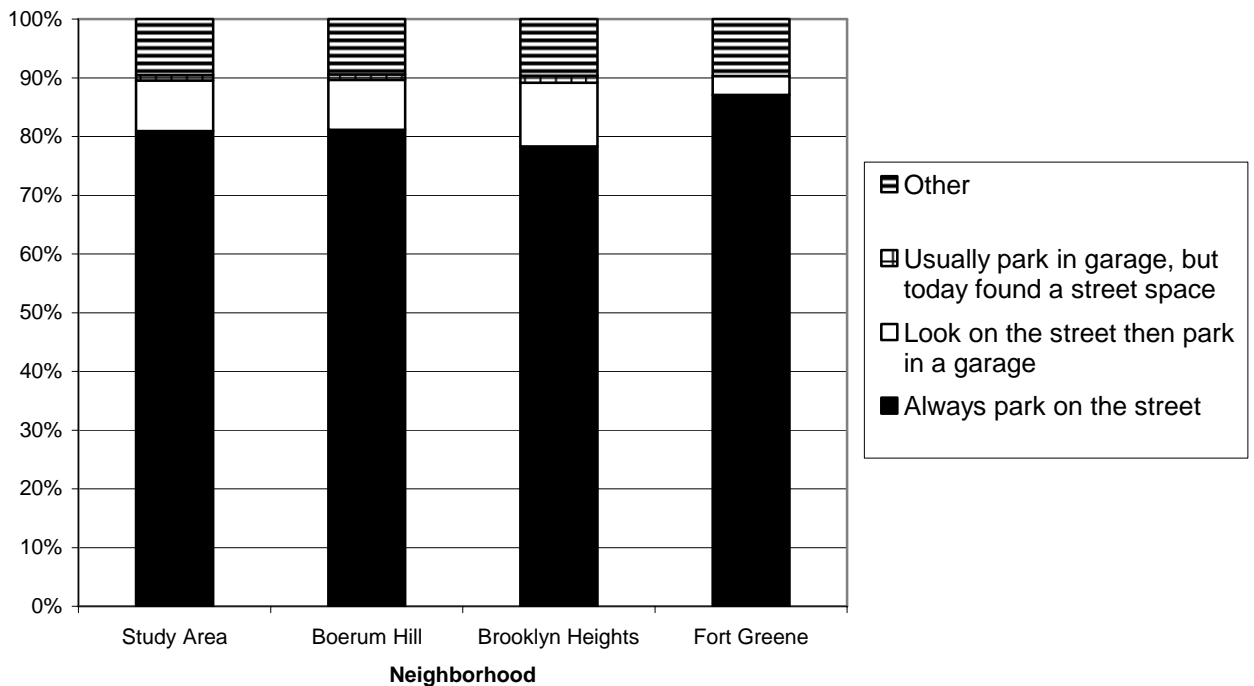


Question 4 – Parking Tendencies

Responses to Question 4 indicate that those who parked on the street on the day of the survey, nearly always park on-street. Eighty-one percent of respondent indicated that they “always” park on-street, while just one percent indicated that a garage is a more typical choice for them (see Figure 25). This was consistent among the neighborhoods, with “always park on the street” accounting for between 78 and 87 percent, and “usually park in garage...” remaining at one percent.

Figure 25 Behavior Patterns

4		Study Area	Boerum Hill	Brooklyn Heights	Fort Greene
A	Always park on the street	178	86	65	27
B	Look on the street then park in a garage	19	9	9	1
C	Usually park in garage, but today found a street space	2	1	1	
D	Other	21	10	8	3
ALL		220	106	83	31

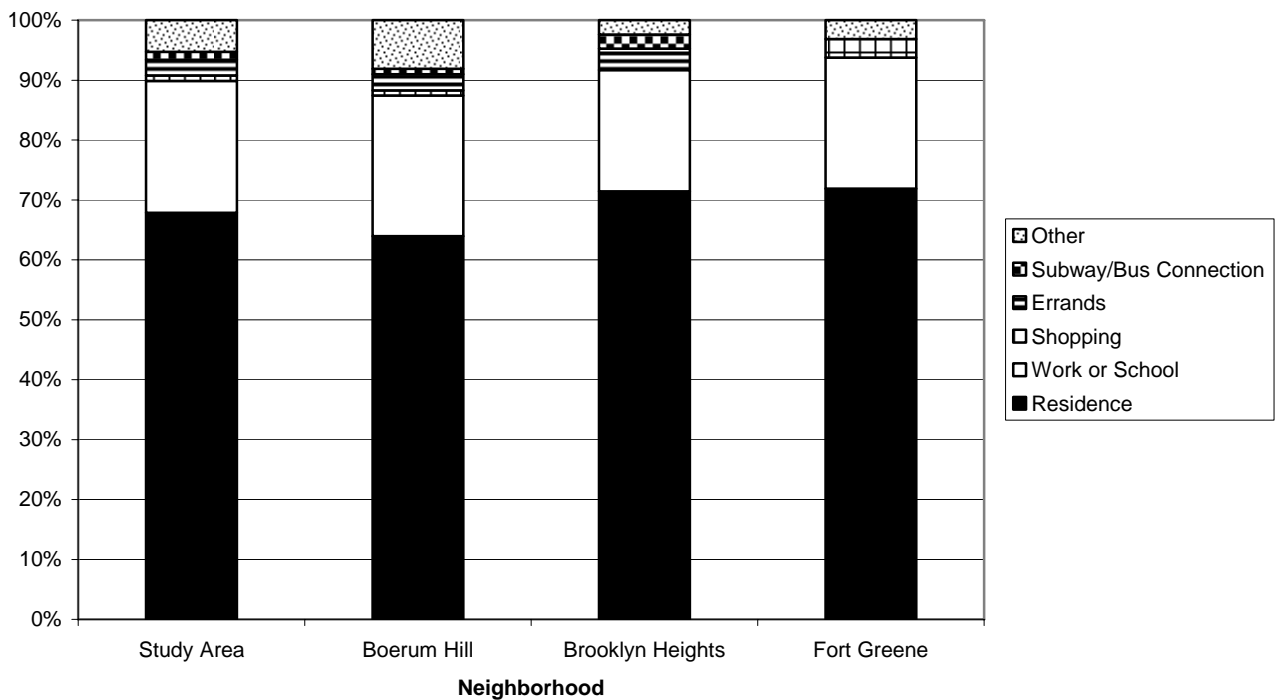


Question 5 – Trip Purpose

Responses to Question 5, which asked respondents to identify their primary reason for driving to the area, indicate a strong presence of local resident-owned vehicles on Study Area streets. Across the area, “Residence” was indicated by 68 percent of respondents (see Figure 26). This was consistent among the neighborhoods, ranging from 64 percent to 72 percent. For the Study Area, and for each neighborhood, “Work or School” received a response rate of between 20 and 23 percent. Shopping and errands was indicated by less than five percent of respondents across the Study Area and within each neighborhood.

Figure 26 Trip Purpose

5	Primary reason you drove here?	Study Area	Boerum Hill	Brooklyn Heights	Fort Greene
A	Work or School	50	26	17	7
B	Shopping	2	1	0	1
C	Errands	6	3	3	0
D	Residence	154	71	60	23
E	Subway/Bus Connection	3	1	2	0
F	Other	12	9	2	1
ALL		227	111	84	32

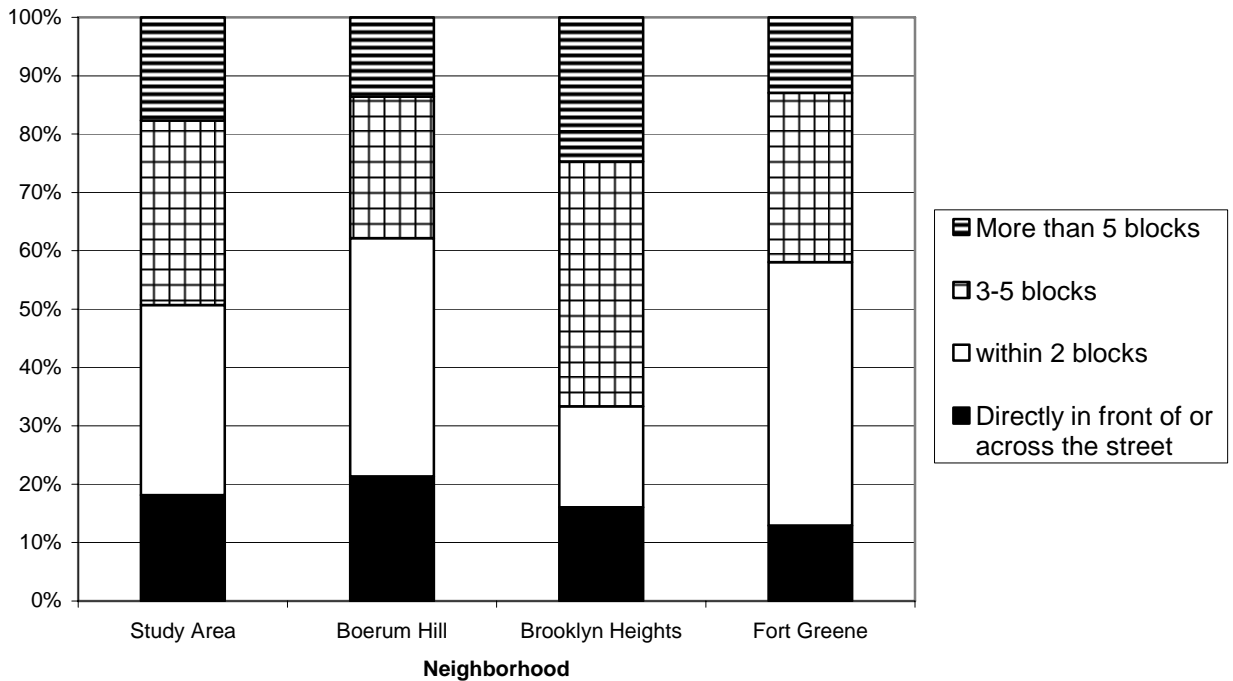


Question 6 – Proximity to Destination

Responses to Question 6 support the answers given to Question 3, which indicated that destination proximity was not a major reason for choosing on-street parking. Across the study area, nearly 50 percent of respondents indicated that they had parked at least three blocks away from their destination (see Figure 27). Furthermore, only one more respondent parked adjacent to the destination than five blocks away from the destination (39 and 38, respectively). This condition is most chronic in Brooklyn Heights where two-thirds of respondents indicated that they had parked at least three blocks from their destination, while approximately 60% of respondents from the other neighborhoods parked within two blocks of their destination.

Figure 27 Proximity to Destination

6	How close to your destination did you park?	Study Area	Boerum Hill	Brooklyn Heights	Fort Greene
A	Directly in front of or across the street	39	22	13	4
B	within 2 blocks	70	42	14	14
C	3-5 blocks	68	25	34	9
D	More than 5 blocks	38	14	20	4
ALL		215	103	81	31

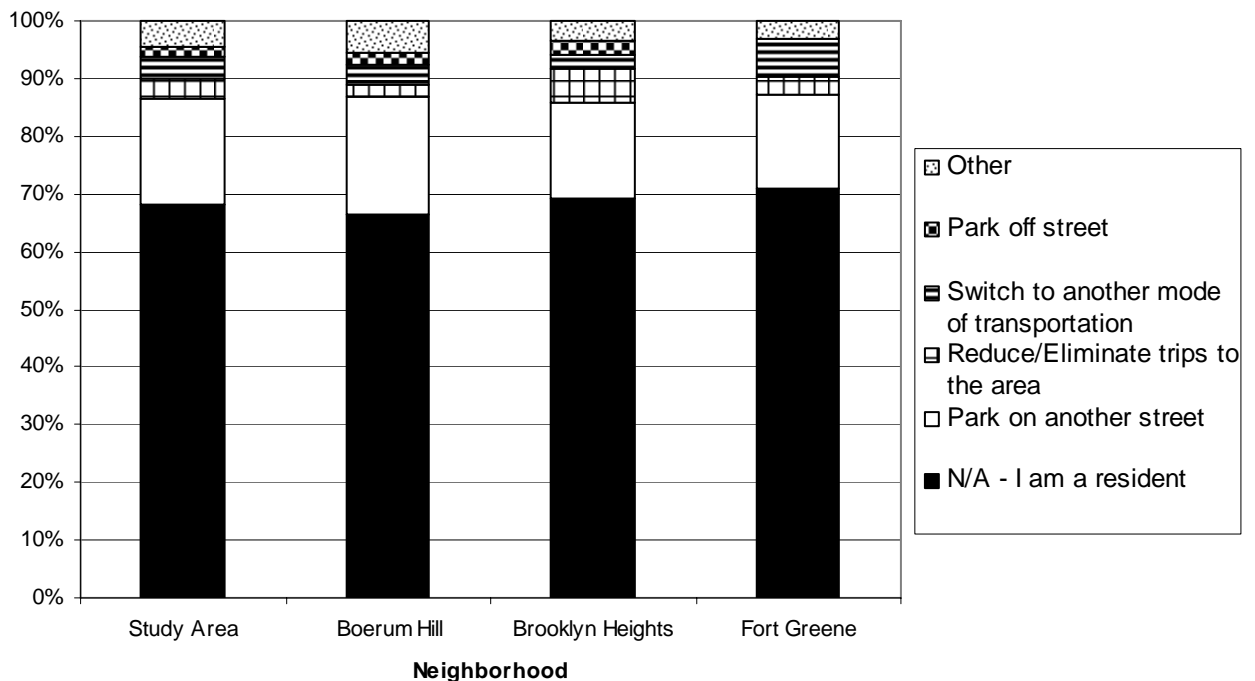


Question 7 – Probable Response to Program Implementation

Asked if and how their parking choices would change if an RPP program restricted their parking space to residential use, non-residents indicated a strong inclination to continue parking on-street. Fifty-eight percent of non-residents indicated that they would “park on another street” (see Figure 28). This represents only 18 percent of overall respondents however, and no other answer accounted for as much as five percent of those surveyed.

Figure 28 Probable Response

7	<i>If parking on the street were limited to residents, would you:</i>	Study Area	Boerum Hill	Brooklyn Heights	Fort Greene
A	Park off street	4	2	2	0
B	Park on another street	41	22	14	5
C	Switch to another mode of transportation	8	4	2	2
D	N/A - I am a resident	151	71	58	22
E	Reduce/Eliminate trips to the area	8	2	5	1
F	Other	10	6	3	1
ALL		222	107	84	31



Brooklyn Heights Meter Survey

A survey of metered streets in the Brooklyn Heights neighborhood was conducted on Thursday, September 15, 2005. The purpose of the survey was to assess the rate at which these commercially-oriented spaces are occupied by vehicles displaying a municipal-agency parking permit.

On-street spaces are regulated by meters for several reasons. One of the most common reasons is to ensure a consistent rate of turnover for spaces in close proximity to commercial businesses. This is particularly important for businesses in urban areas where land constraints restrict off-street options for customer parking. Thus a high occupancy rate by vehicles displaying a permit that, in effect, allows indefinite parking stays would reduce the effectiveness of these meters to serve local commercial interests.

Based on recommendations provided by the Project Advisory Committee, the project team designed the meter-survey to collect data regarding this issue. The Brooklyn Heights portion of the Study Area was specified for this survey because of its concentration of metered streets and commercial businesses. A survey of this neighborhood, would be representative of parking patterns within the study area, and thus could substitute for a more exhaustive (and expensive) survey of the entire area. In addition, a previous study of Atlantic Avenue parking conditions will provide the parking data from meters in Boerum Hill.

All Brooklyn Heights blocks which are regulated by parking meters were included in the survey. The effort consisted of visually surveying all metered spaces during the mid-afternoon to note vehicles displaying agency permits as well as the agency identified on each permit. The rates of occupancy were analyzed for all permits, as well as for permits with New York City Police Department (NYPD), Fire Department of New York (FDNY), and New York City Department of Transportation (DOT) identified on them.

Figure 29 Placard Occupancy at Brooklyn Heights Meters

Category	Occurrences	Share
Total Spaces	322	100.00%
Vehicles with Placards	24	7.45%
Vehicles with NYPD Placards	11	3.42%
Vehicles with Official Business Placards	1	0.31%
Vehicles with NYCDOT Placards	12	3.73%

As shown in Figure 29, the occupancy rates for placarded vehicles at these spaces are quite low. Of the 322 parking spaces surveyed, only 24 were found to be occupied by permit-displaying vehicles (7.5 percent). Permits issued to the DOT accounted for 12 of the 24, while permits issued to the NYPD accounted for 11.

Review and Summary of Previous Boerum Hill Study

A similar study and survey of placard use at metered parking spaces was conducted for the Boerum Hill neighborhood in August of 2003. The *Atlantic Avenue On-Street Permit Parking Study* was conducted by Yuko Nakanishi, an independent consultant, on behalf of the Atlantic Avenue Betterment Association. The survey documented agency-placard use along 18 streets in the neighborhood, each of which was surveyed at least three times during a 3-week period.

This study found that, on average, approximately 50 percent of the 175 meters surveyed were occupied by vehicles with agency-placards. The following is a list of blocks with the highest observed rate of meter-use by placard-displaying vehicles.

- Bond between State and Schermerhorn – 100%
- Smith between Atlantic and State – 100%
- Hoyt between Atlantic and State – 95%
- Atlantic between Boerum and Smith – 94%
- Schermerhorn between Hoyt and Bond – 80%

The survey also documented that approximately 24 percent of the placards observed at meters were bogus. In addition, while most placard types allow only three hours of parking at a meter, 35 percent of the placard-displaying vehicles found at meters violated this time-limit for their placard-type.

This study points to a much higher rate of metered-space utilization by placard-displaying vehicles than was found in Brooklyn Heights. While a higher rate can still be expected under present conditions, the vacation of the Brooklyn House of Detention and municipal enforcement actions focused on reducing permit abuse are expected to have reduced this level of meter-occupancy significantly.

Next Steps

Concurrent with these efforts, a license plate survey of all 262 blocks in the study area was conducted. Information collected from this survey will serve as the second source of data for the RPP Study.

The license plate survey was conducted at three weekday time periods (Midday, Evening, and Overnight) on all blocks within the Study Area. Additionally, the 64 blocks within the Fort Greene neighborhood were surveyed on a Saturday at midday to assess demand from Atlantic Center at this time. Vehicles parked with government placards during each time period were also noted.

License plate information for each observed vehicle was submitted to the New York State Department of Motor Vehicles (DMV). Information received from the DMV will be used to determine local-ownership rates for vehicles parked on Study Area streets. This will provide a basis from which all other study data will be analyzed.

APPENDIX A

TURNOVER BY BLOCK – ALL BLOCKS

Turnover by Block - All Blocks

Block #	Name	Cross Streets	Side	Neighborhood	Space Hours	Overall Occupancy	Mean Stay (Hours)	Shares of Occupied Space-Hours				
								Permits	Non-Permits	NYPD	FDNY	NYCDOT
1	Columbia Heights	Montague to Pierrepont	EAST	BKH	21	66.67%	3.50	100.00%	0.00%	7.14%	0.00%	92.86%
2*	Willow Street	Clark to Pineapple	EAST	BKH	0	-	-	-	-	-	-	-
3*	Willow Street	Pineapple to Orange	EAST	BKH	0	-	1.00	0.00%	100.00%	0.00%	0.00%	0.00%
4	Hicks Street	Love Lane to Clark	EAST	BKH	238	99.58%	5.39	0.00%	100.00%	0.00%	0.00%	0.00%
5	Hoyt Street	Wyckoff to Warren	WEST	BMH	56	92.86%	5.78	0.00%	100.00%	0.00%	0.00%	0.00%
6*	College Pl.	Love Ln. to end	EAST	BKH	0	-	3.71	0.00%	100.00%	0.00%	0.00%	0.00%
7	Boerum Place	Bergen to Dean Street	EAST	BMH	42	100.00%	4.20	0.00%	100.00%	0.00%	0.00%	0.00%
8	Hoyt Street	Wyckoff St. to Bergen	EAST	BMH	49	100.00%	5.44	0.00%	100.00%	0.00%	0.00%	0.00%
9*	Bond Street	Dean to Pacific	EAST	BMH	0	-	-	-	-	-	-	-
10*	Nevins Street	Dean to Pacific	EAST	BMH	0	-	-	-	-	-	-	-
11	Saint Felix Street	Lafayette to Fulton	EAST	FG	42	76.19%	4.57	12.50%	87.50%	12.50%	0.00%	0.00%
12	South Elliott Place	Fulton to Hanson Place	WEST	FG	126	110.32%	5.56	0.00%	100.00%	0.00%	0.00%	0.00%
13	S. Portland Ave.	Fulton to Lafayette	EAST	FG	77	68.83%	2.52	0.00%	100.00%	0.00%	0.00%	0.00%
14	S. Oxford Street	Lafayette to Hanson Place/Greene Ave.	EAST	FG	112	94.64%	2.04	0.00%	100.00%	0.00%	0.00%	0.00%
15	Carlton Avenue	Fulton to Greene	EAST	FG	84	61.90%	2.17	0.00%	100.00%	0.00%	0.00%	0.00%
16	Carlton Avenue	Greene to Fulton	WEST	FG	91	97.80%	5.69	0.00%	100.00%	0.00%	0.00%	0.00%
17	Orange Street	Willow to Columbia Heights	NORTH	BKH	70	120.00%	6.00	0.00%	100.00%	0.00%	0.00%	0.00%
18	Cranberry Street	Hicks to Henry	NORTH	BKH	105	99.05%	3.85	0.00%	100.00%	0.00%	0.00%	0.00%
19	Orange Street	Willow to Hicks	NORTH	BKH	56	100.00%	4.67	0.00%	100.00%	0.00%	0.00%	0.00%
20	Pierrepont Street	Hicks to Willow	SOUTH	BKH	56	91.07%	4.25	0.00%	100.00%	0.00%	0.00%	0.00%
21	Pierrepont Street	Clinton to Henry	NORTH	BKH	105	114.29%	3.43	18.33%	81.67%	6.67%	0.00%	8.33%
22*	Pierrepont Street	Clinton to Henry	SOUTH	BKH	0	-	1.40	40.00%	60.00%	11.43%	0.00%	8.57%
23	Montague Street	Willow to Hicks	NORTH	BKH	126	99.21%	5.00	0.00%	100.00%	0.00%	0.00%	0.00%
24*	Remsen Street	Hicks to Henry	SOUTH	BKH	0	-	2.20	54.55%	45.45%	0.00%	0.00%	54.55%
25	Joralemon Street	Hicks to Garden Place	SOUTH	BKH	63	93.65%	4.54	11.86%	88.14%	0.00%	0.00%	0.00%
26	Joralemon Street	Garden Pl. to Henry	SOUTH	BKH	70	102.86%	6.00	0.00%	100.00%	0.00%	0.00%	0.00%
27	State Street	Henry to Garden Pl.	NORTH	BKH	49	106.12%	4.33	0.00%	100.00%	0.00%	0.00%	0.00%
28	Pacific Street	Court to Boerum Place	SOUTH	BMH	112	73.21%	3.15	42.68%	57.32%	34.15%	0.00%	8.54%
29	Pacific Street	Smith to Boerum Place	NORTH	BMH	84	134.52%	4.71	0.00%	100.00%	0.00%	0.00%	0.00%
30	Dean Street	Court to Boerum Place	SOUTH	BMH	77	128.57%	5.21	32.32%	67.68%	0.00%	32.32%	0.00%
31	Bergen Street	Boerum Place to Court	NORTH	BMH	70	121.43%	5.31	0.00%	100.00%	0.00%	0.00%	0.00%
32	Bergen Street	Nevins to Bond	NORTH	BMH	175	100.00%	5.65	1.71%	98.29%	0.00%	0.00%	0.00%
33	Warren Street	Smith to Court	NORTH	BMH	245	75.10%	3.76	0.00%	100.00%	0.00%	0.00%	0.00%
34	Wyckoff Street	Smith to Court	NORTH	BMH	203	88.67%	4.50	0.00%	100.00%	0.00%	0.00%	0.00%
35	De Kalb Avenue	Cumberland to Carlton Ave.	SOUTH	FG	60	93.33%	4.31	0.00%	100.00%	0.00%	0.00%	0.00%
36	Lafayette Avenue	Fort Greene to S. Elliott	SOUTH	FG	42	50.00%	1.75	0.00%	100.00%	0.00%	0.00%	0.00%
37	Lafayette Avenue	Cumberland to S. Oxford	NORTH	FG	56	101.79%	4.07	0.00%	100.00%	0.00%	0.00%	0.00%
38	Green Avenue	Cumberland to Carlton	SOUTH	BMH	77	58.44%	1.88	0.00%	100.00%	0.00%	0.00%	0.00%
39	Warren Street	Nevins to Bond	NORTH	FG	189	95.77%	6.24	0.55%	99.45%	0.00%	0.00%	0.00%

* Seven blocks were observed to have no legal parking during the time of the survey. While a few cars were observed on some of these blocks, they were too few to calculate a meaningful occupancy rate for these blocks.

APPENDIX B

WINDSHIELD SURVEY FORM

Insert "APP B"