



Parking and Traffic Impacts of Park Slope ASP Suspension

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Janette Sadik-Khan, Commissioner

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Executive Summary

In May 2008, the New York City Department of Transportation (NYCDOT) suspended street cleaning/alternate side parking (ASP) regulations for the purpose of changing ASP regulation signs in Park Slope, Brooklyn (shown in Map 1). ASP regulations apply to most residential streets in the city to clear the curb for street sweepers. During the suspension, ASP regulations in Park Slope were generally reduced from 3 hour to 90 minute durations, and from twice a week to just once a week.

The suspension provided NYCDOT with an opportunity to compare parking and traffic conditions in a residential neighborhood with and without ASP regulations. To that end, three separate surveys were performed: an on-street license plate survey to capture changes in parking space occupancy and turnover; traffic counts to measure any changes in traffic volumes; and a web-based community survey.

Parking Space Occupancy & Turnover

- On-street parking availability did not change significantly during the ASP regulation suspension (98% occupancy when ASP regulations were suspended, 98% when ASP was not suspended), indicating that on-street parking was saturated with or without ASP regulations.
- There was no change in turnover rates of vehicles parked at the curb during afternoon, and afternoon/overnight periods. (Longer-term turnover rates were not measured).
- The percentage of observed vehicles registered in the local ZIP code increased from 37% to 49%, indicating that non-residents did not store vehicles in the neighborhood during the ASP suspension.

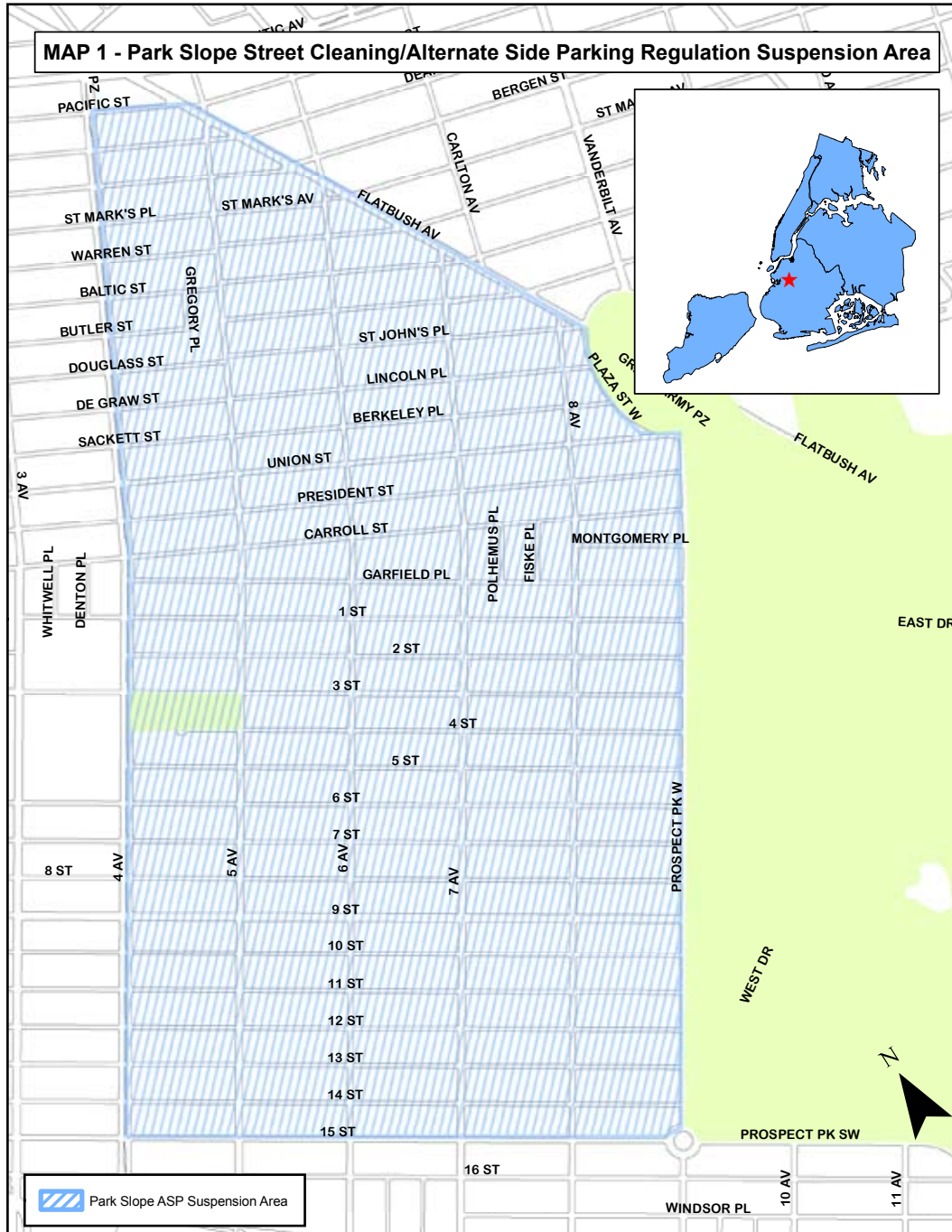
Traffic Volumes

- Traffic volumes were higher during the morning on days when ASP was in effect than when ASP was not in effect. Traffic volumes were 19% higher between 8 AM and 9 AM on days ASP was in effect, as compared with days that ASP was not in effect (either during the suspension or on non-ASP days). There were no differences in afternoon or evening traffic volumes.

Web Survey

- Residents were mixed on whether ASP suspension made it easier to find a parking space on weekdays: 47% said it was easier on weekdays while 31% said ASP suspension made finding parking harder. (The remainder said ASP had no effect.) Results were similar for weekends.

- ASP suspension tended to either have no effect on how often respondents used their cars on weekdays (47%) or caused residents to use their cars less (39%).
- 30% of respondents said curbs were less clean during ASP suspension, 45% said cleanliness was about the same, and 24% said that they didn't know/were unsure.



Methodology

Parking Space Occupancy and Turnover

To analyze parking space occupancy and turnover, a license plate survey was conducted prior to ASP suspension and during the suspension. Parking data collected in December 2007 for the PlaNYC Parking Management Study was used for the pre-ASP suspension period. This sample of 13 block faces (shown in Map 2) was collected in December 2007 on a Tuesday afternoon and evening and a Wednesday morning (ASP regulations were not in effect on Wednesdays).

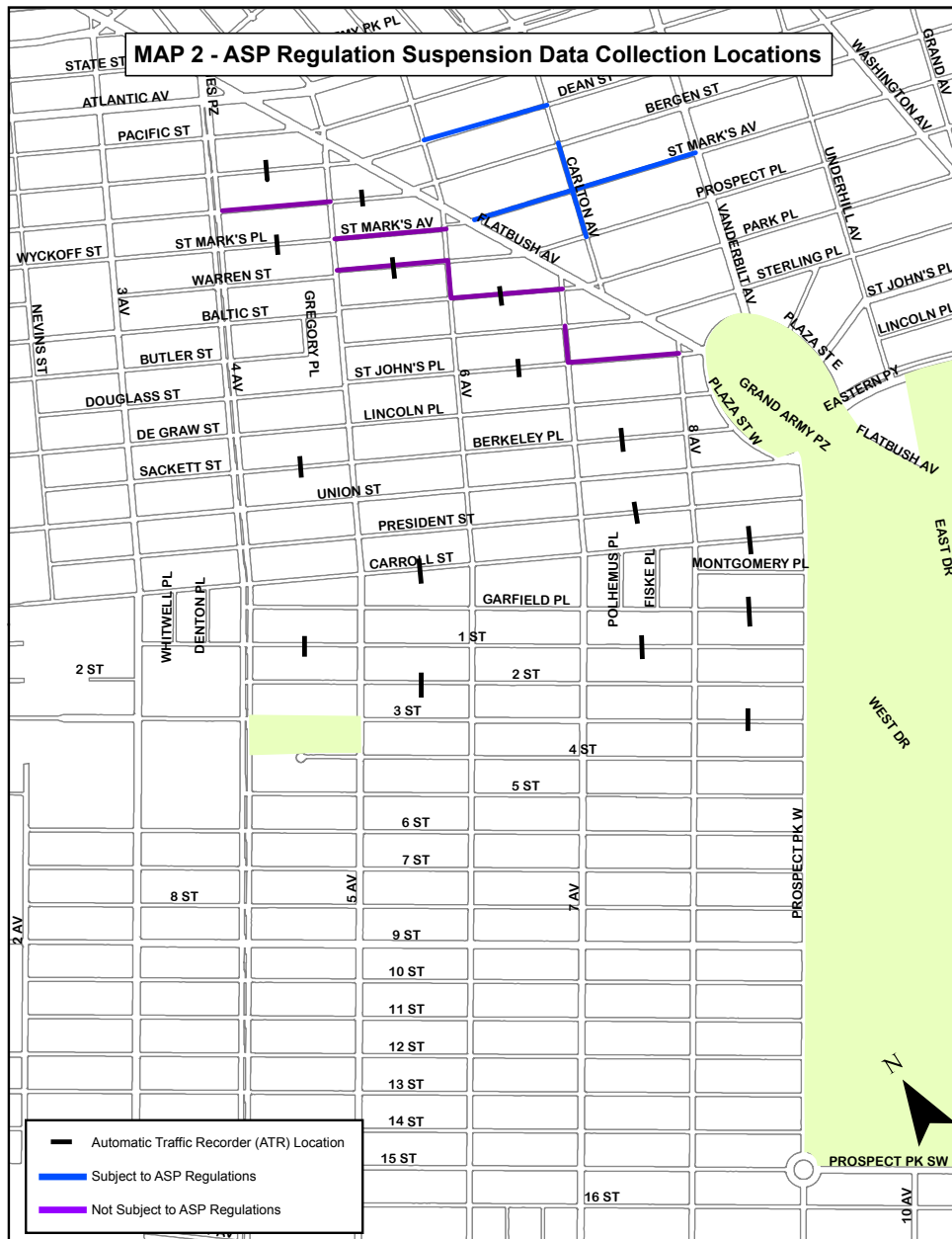
Another round of license plate surveys was performed in June 2008 during ASP suspension. Data were collected while schools were in session to be comparable to the December 2007 data. The survey was conducted on three consecutive days (Tuesday, Wednesday and Thursday) for the same block faces as in December 2007. During Tuesday and Thursday in June 2008, ASP was in effect for blockfaces north of Flatbush Avenue, which served as a control, but was suspended on blockfaces south of Flatbush Avenue (Table 1). Alternate side parking was not in effect for the study area on Wednesdays in December 2007 and June 2008. The license plate data was then used to assess parking conditions with and without ASP regulations.

TABLE 1 - GENERAL ASP REGULATION CHANGES			
Street Location (St. Side)	December 2008	June 2008	September 2008
S. of Flatbush Avenue (N/S)	11 AM - 2 PM MON	SUSPENDED	11 AM - 12:30 PM WED
S. of Flatbush Avenue (S/S)	11 AM - 2 PM TUE	SUSPENDED	11:30 AM - 1 PM TUE
N. of Flatbush Avenue (N/S)	11 AM - 2 PM MON/THUR	11 AM - 2 PM MON/THUR	11 AM - 2 PM MON/THUR
N. of Flatbush Avenue (S/S)	8 AM - 11 AM MON/THUR	8 AM - 11 AM MON/THUR	8 AM - 11 AM MON/THUR
Type of Data Collected	Parking occupancy/ turnover	Parking occupancy/ turnover and traffic volumes	Traffic volumes

Note: ASP regulations were suspended from May 19th to July 14th during signage replacement

Traffic Volumes

In order to estimate the effect of drivers searching for a parking space on overall traffic volumes, Automatic Traffic Recorders (ATR) were installed on 16 one-way street segments (shown in Map 2). Traffic volume data was collected for a 7-day/24-hour period in June 2008, during the suspension of ASP regulations and for another 7-day/24-hour period in September 2008, after ASP regulations had been re-introduced. Street segments near schools were intentionally avoided so as not to record pick up/drop traffic. These traffic volumes were then compared to determine if traffic volumes were affected by the ASP suspension.



Web Survey

To complement the quantitative evaluation and to gauge community perception of how ASP suspension changed parking and traffic conditions in Park Slope, an online survey of residents and visitors who park on-street in the affected area was conducted for a three-week period in late June and early July 2008. A hyperlink to the 14-question survey was distributed electronically through Brooklyn Community Board 6 and was also made available through the NYCDOT's website. Over 550 people responded to the survey, providing feedback on what effect the ASP suspension had on their daily lives.

Parking Evaluation

Parking Space Occupancy Rates

A summary of parking space occupancy is shown in Table 2.

Key Findings

- Parking availability did not change during the ASP regulation suspension (98% occupancy prior to the suspension, 98% during the suspension).
- Parking availability was the same north of Flatbush Avenue and south of Flatbush Avenue, both prior to and during the suspension of ASP regulations south of Flatbush Avenue.

TABLE 2 - PARKING SPACE OCCUPANCY RATES				
	South of Flatbush Avenue (ASP Suspended in June 2008)		North of Flatbush Avenue (ASP in Effect)	
	December 2007	June 2008	December 2007	June 2008
Tuesday Midday	100%	97%	98%	100%
Tuesday PM	99%	101%	97%	100%
Wednesday AM	95%	96%	97%	94%
Average	98%	98%	97%	98%
Occupancy by Time Period (June 2008)				
	South of Flatbush Avenue (ASP Suspended in June 2008)		North of Flatbush Avenue (ASP in Effect)	
	June 2008		June 2008	
Tuesday AM	96%		96%	
Tuesday Midday	97%		100%	
Tuesday PM	101%		100%	
Wednesday AM	96%		94%	
Wednesday Mid-day	97%		95%	
Wednesday PM	98%		102%	
Thursday AM	100%		77%	
Thursday Midday	98%		85%	
Thursday PM	100%		98%	

Notes:

- 1- Time periods: AM (5:30-6:30 AM), Midday (2:00-3:00 PM), PM (6:00-7:00 PM).
- 2- Occupancies over 100% indicates presence of double-parked or illegally parked vehicles.
- 3- ASP was in effect on Thursday north of Flatbush Avenue.

Parking Evaluation

Parking Space Turnover

A summary of parking space turnover is shown in Table 3. "Afternoon Turnover" is the percentage of vehicles that were observed in a parking space at 2 PM but not at 6 PM. "Afternoon/Overnight Turnover" is the percentage of vehicles that were observed in a parking space at 2 PM, but not 5:30 AM the following day. Because ASP was not in effect during these times in the study area, Tuesday/Wednesday data from December 2007 and June 2008 are used in the turnover analysis.

The results show significant increases in turnover from December 2007 to June 2008 - afternoon/overnight turnover percentages in the area north of Flatbush Avenue rose from 56% in December 2007 to 74% in June 2008 and south of Flatbush Avenue from 31% in December 2007 to 55% in June 2008. Since turnover increased in both areas, one with ASP suspension and one without, it appears that seasonal or other factors -- but not ASP suspension -- produced the increase in parking turnover. The turnover data thus do not support any effect on parking turnover rates from the suspension of ASP.

Key Findings

- There is no discernible change in turnover rates that can be attributed to the ASP suspension.
- The data show an increase in overnight turnover from December 2007 to June 2008 in areas both with and without the ASP suspension.

TABLE 3 - SUMMARY OF TURNOVER DATA				
			Average South of Flatbush Avenue (% of vehicles)	Average North of Flatbush Avenue (% of vehicles)
December 2007	Tuesday/ Wednesday	Tuesday Afternoon Turnover	15%	33%
		Afternoon/ Overnight Turnover	31%	56%
June 2008	Tuesday/ Wednesday	Tuesday Afternoon Turnover	30%	34%
		Afternoon/ Overnight Turnover	55%	74%
	Monday/ Tuesday	Monday Afternoon Turnover	25%	36%
		Afternoon/ Overnight Turnover	55%	67%

Notes:

1- "Afternoon Turnover" is the percentage of vehicles that were observed in a parking space at 2 PM but not at 6 PM.

2 - "Afternoon/Overnight Turnover" is the percentage of vehicles that were observed in a parking space at 2 PM but not 5:30 AM.

Parking Evaluation

Non-Residential Parkers

License plate data was used to determine whether people from other neighborhoods were taking advantage of the suspension of ASP regulation to store their vehicles in Park Slope for an extended period of time. For the purposes of this study, vehicles with license plates registered at the New York State Department of Motor Vehicles to the 11217 ZIP code were considered to belong to residents (referred to as “local” vehicles in this report).

The percentage of local vehicles observed south of Flatbush Avenue increased from 37% in December 2007 to 49% in June 2008. Because vehicles parked overnight (observed at 5:30 AM) are most likely owned by residents, this suggests that non-residents did not store vehicles in the suspension area.

It should be noted that not all residential vehicles are registered to the 11217 ZIP code. Drivers may have moved from another New York City neighborhood to Park Slope without changing their registration information. Also motorists may register their vehicles outside of the city to take advantage of lower insurance rates.

Key Findings

- The percentage of vehicles registered to ZIP code 11217 increased slightly from 37% to 49%, implying that vehicles from other neighborhoods were not stored in the study area during the suspension.

TABLE 4 - SUMMARY OF RESIDENTIAL PARKERS					
	MIDDAY			OVERNIGHT	
	SOUTH OF FLATBUSH AVENUE				
	December 2007	June 2008		December 2007	June 2008
Registered Address	%	%		%	%
ZIP 11217	35%	29%		37%	49%
Brooklyn	56%	46%		53%	59%
New York City	63%	59%		59%	70%
New York State	74%	66%		73%	77%
Out of State	26%	34%		27%	23%
Total	100%	100%		100%	100%
	NORTH OF FLATBUSH AVENUE				
	December 2007	June 2008		December 2007	June 2008
Registered Address	%	%		%	%
ZIP 11217	24%	21%		37%	26%
Brooklyn	47%	54%		58%	59%
New York City	57%	68%		64%	71%
New York State	75%	79%		81%	85%
Out of State	25%	21%		19%	15%
Total	100%	100%		100%	100%

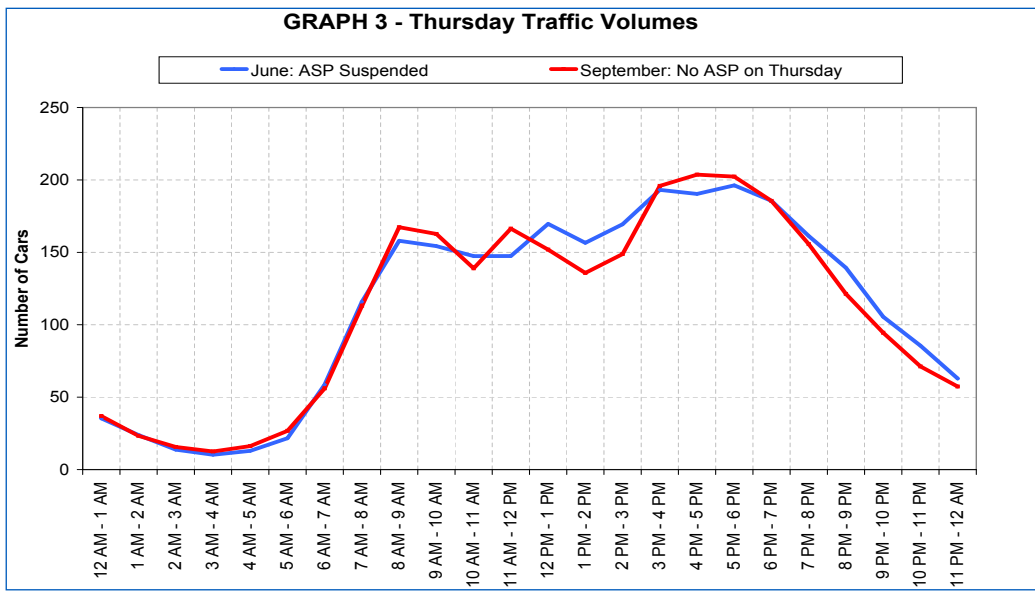
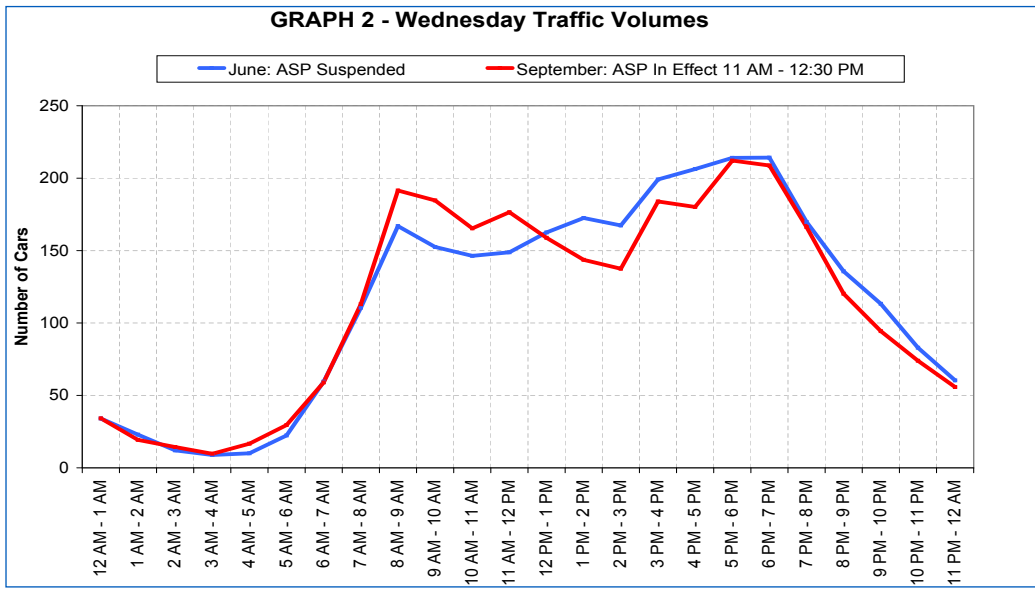
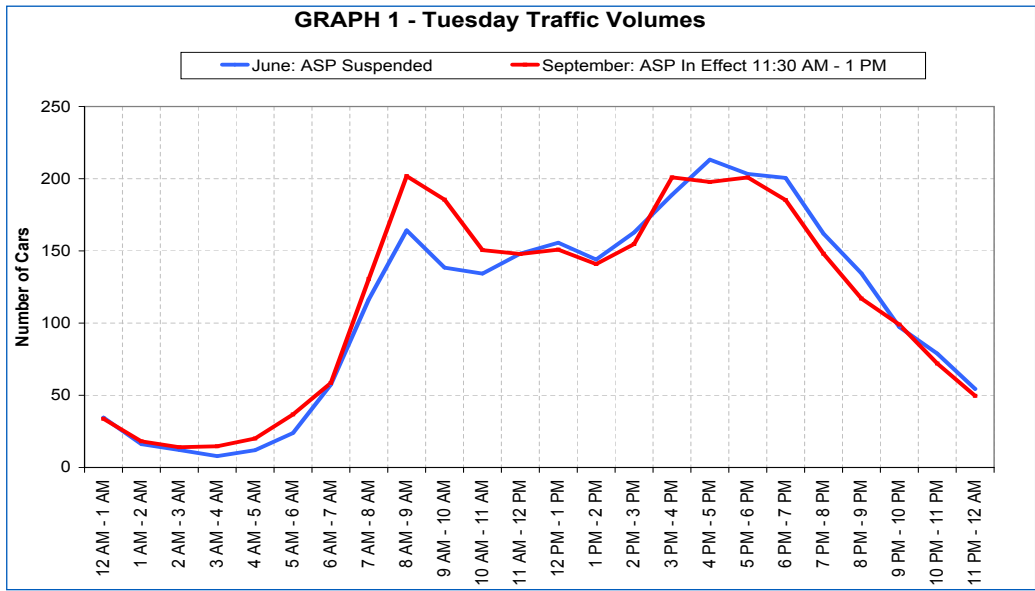
Traffic Volume Analysis

The near-saturation of on-street parking spaces in Park Slope means that drivers often spend considerable time searching for a parking space. Search traffic is likely to be higher on days alternate side regulations reduce the number of spaces that are available for all day parking. Alternate side parking was in effect on Mondays and Thursdays before the suspension and in effect Tuesdays and Wednesdays after the new ASP regulations were implemented. Graphs 1 and 2 show the effect of ASP regulations on traffic volumes on Tuesday and Wednesday, respectively. Graph 3 shows traffic volumes without ASP on Thursday. Traffic volumes were higher between 7 AM and 11 AM on days that ASP was in effect compared with days that ASP was not in effect or was suspended.

Traffic volumes have been adjusted for any seasonal variations using the seasonal adjustment factors provided by the New York State Department of Transportation.

Key Findings

- Traffic volumes were similar on days that ASP was not in effect (Graph 3).
- Traffic volumes were higher in the morning on days when ASP was in effect (Graphs 1 and 2). This difference is most likely due to motorists searching for a parking space that is good for the entire day.
- The largest difference in traffic volumes was from 8 a.m. to 9 a.m. (19%).



Web Survey Findings

The following section reports results from the 568 responses received from the web survey concerning the perceived impact of the ASP suspension on parking conditions in Park Slope.

Key Findings

- 80% of respondents were Park Slope residents.
- Respondents spend an average of 27 minutes looking for parking in Park Slope.
- 47% of respondents reported that it was easier to find a parking space during the ASP suspension, 31% harder and 22% about the same.
- The ASP suspension did not affect how often most respondents used their vehicles.
- Most perceived that the cleanliness of curbs and stormwater drains was about the same during the ASP suspension, although about 30% perceived that curbs and stormwater drains were less clean during the ASP suspension.

Web Survey Results

- Q1. Were you aware that the alternate side of the street parking regulations in your neighborhood have been suspended?

Yes 94% (534)

No 6% (34)

- Q2. What is the primary reason you drive to or within Park Slope?

Resident 80%

Work 6%

Shop 8%

School 2%

Other 4%

- Q3. How many days a week do you look for on-street parking in Park Slope?

5+ days 28%

3-4 days 26%

1-2 days 39%

Less than once a week 7%

- Q4. On weekdays, when do you most often look for parking in Park Slope?

Before 9 AM 9%

9 AM - Noon 7%

Noon - 6 PM 23%

After 6 PM 59%

Don't park car on weekdays 2%

- Q5. Before alternate side regulations were suspended, approximately how long would you spend looking for a parking space during the time period selected in Q.4?

0 - 10 minutes 23%

10 - 20 minutes 37%

20 - 30 minutes 23%

30 - 40 minutes 4%

40 - 60 minutes 13%

Average 27 mins

- Q6. Since alternate side regulations were suspended, is finding a parking space at this time on weekdays harder, easier or about the same?

Harder 31%
Easier 47%
About the same 22%

- Q7. Has suspension of alternate side regulations led you to change how often you use your car on weekdays?

Use car more 14%
Use car less 39%
No effect 47%

- Q8. On weekends, when do you most often look for parking in Park Slope?

Before Noon 9%
Noon - 6 PM 46%
After 6 PM 40%
Don't park car on weekends 5%

- Q9. Before alternate side regulations were suspended, approximately how long would you spend looking for a parking space during the time period selected in Q.8?

0 - 10 minutes 40%
10 - 20 minutes 37%
20 - 30 minutes 11%
30 - 40 minutes 2%
40 - 60 minutes 10%
Average 20 mins

- Q10. Since alternate side regulations were suspended, is finding a parking space at this time on weekends harder, easier or about the same?

Harder 25%
Easier 40%
About the same 35%

- Q11. Has suspension of alternate side regulations led you to change how often you use your car on weekends?

Use car more 12%

Use car less 23%

No effect 65%

- Q12. Since alternate side regulations were suspended, is finding a metered parking space harder, easier or about the same?

Harder 7%

Easier 7%

About the same 20%

Don't park at meters 66%

- Q13. Since alternate side regulations were suspended, has the cleanliness of the curbs changed on streets without ASP regulations?

Less clean 30%

More clean 1%

About the same 45%

Don't know/not sure 24%

- Q14. Since alternate side regulations were suspended, has the cleanliness of the stormwater drains changed on streets without ASP regulations?

Less clean 31%

More clean 2%

About the same 59%

Don't know/not sure 8%

New York City Department of Transportation

Janette Sadik-Khan
Commissioner

Bruce Schaller
Deputy Commissioner

Steven Weber
Assistant Commissioner

Dalila Hall
Director of Planning Studies

Willa Ng
Senior Project Manager

Adam Zaranko
Project Manager

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