APPENDIX H

TRAFFIC AND PARKING

Appendix H: Traffic and Parking

A. COLUMBIA UNIVERSITY ON-LINE TRAVEL SURVEY

INTRODUCTION

An on-line travel survey of Columbia University faculty, administrators, staff, and students was conducted to determine current travel characteristics to various University facilities. The results of this survey are intended to be the basis for developing travel demand estimates for the University's planned development of the Manhattanville university area.

The on-line survey was administered over a three-week period in the spring of 2004. It was designed for all Columbia University personnel and students based at the Morningside Heights and Medical Center campuses, and at the Lamont-Doherty Earth Observatory and Nevis Laboratories. The survey questions and the relevant survey results are summarized below.

SURVEY DESIGN

The survey questionnaires were grouped into an algorithm that directs participants to different "blocks" of the survey, depending on how certain questions were answered. The layout of this algorithm and the associated blocks of questionnaires are summarized below and illustrated in Figure 1.

BACKGROUND INFORMATION

The first few questions were used to identify a participant by primary status at the University, and by the campus where he/she works or studies. These questions were followed by the survey participants' housing information during the school year. If a person resided in University housing, questions with regard to car ownership and minor children were also asked. The survey participants' housing situations were used to correlate travel patterns to and from the campus.

TRAVEL CHARACTERISTICS

A series of questions were asked regarding a survey participant's typical trip, including travel mode, origin of travel, home and non-home-based travel, and frequency of travel. The answers to these questions were used to develop trip distribution parameters by mode. For those who traveled via auto and taxi, additional questions were asked to determine vehicle occupancy and current parking behaviors.

SURVEY RESULTS

The detailed survey statistics were organized and summarized in numerous spreadsheet tables and databases. The key interpretation of these statistics and illustration of the results are described below.

BACKGROUND INFORMATION

Survey participation was requested from 15,845 University employees and 22,983 students. The specific breakdowns of this target population are summarized in Table H-1.

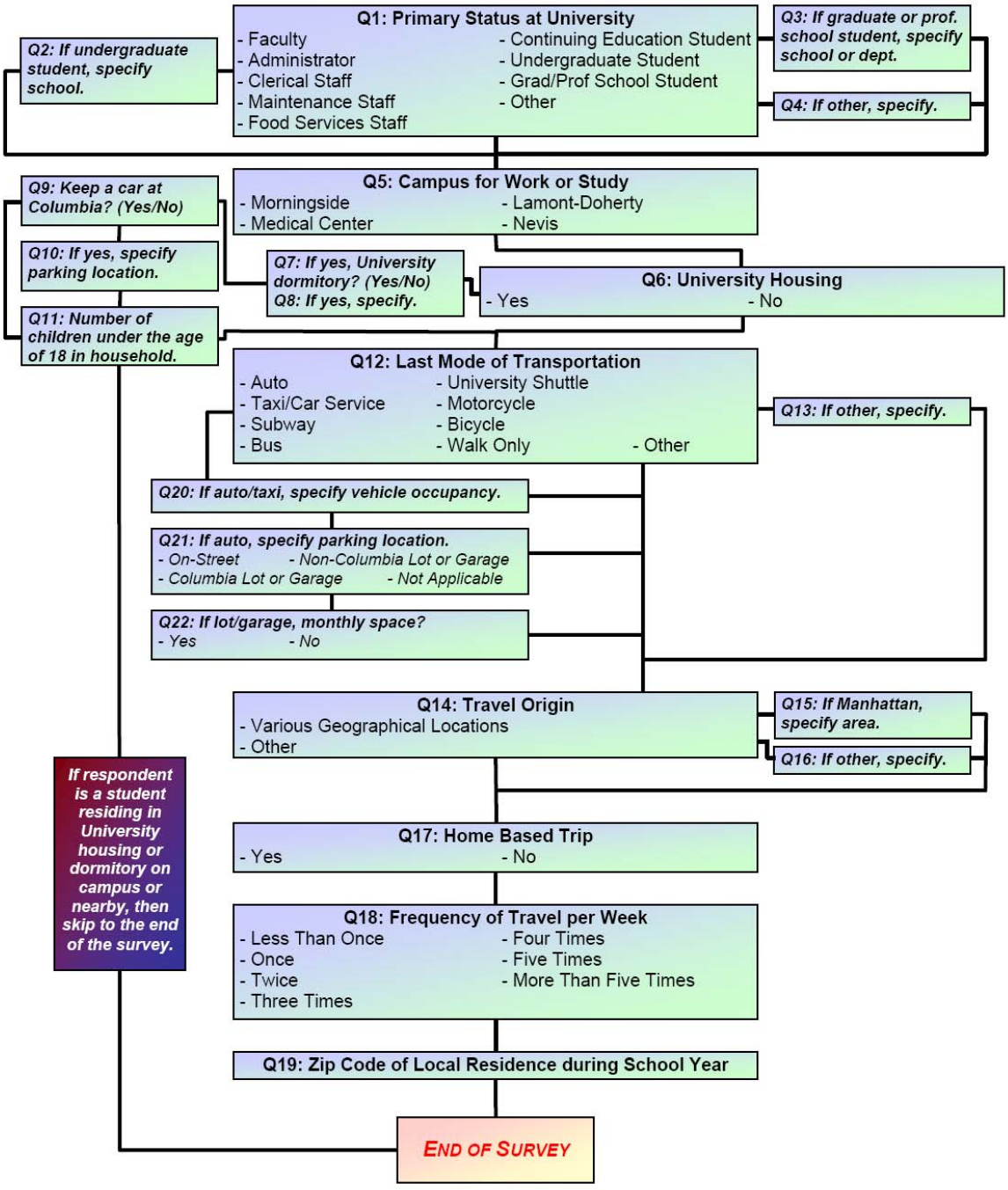


Figure 1
Survey Algorithm

MANHATTANVILLE IN WEST HARLEM REZONING

Table H-1
On-Line Survey Target Populations

Employees					
Title Group Name	**Morningside Heights**	**Health Science**	**Lamont-Doherty Earth Observatory**	**Nevis Laboratories**	**Total**
Officers of Administration	2,183	1,638	78	5	**3,904**
Officers of Instruction	2,069	2,937	31	1	**5,038**
Officers of Research	495	2,239	232	33	**2,999**
Officers of the Libraries	122	10			**132**
Support Staff	2,125	1,515	113	19	**3,772**
Total	**6,994**	**8,339**	**454**	**58**	**15,845**
Students					
Schools	**Undergrad**	**Graduate**	**Professional**	**Others**	**Total**
Morningside Campus	7,759	6,321	5,701	752	**20,533**
Health Sciences	163	557	1,712	18	**2,450**
Total	**7,922**	**6,878**	**7,413**	**770**	**22,983**

Note: The "Others" student category includes certificate, non-degree and special students.
Source: Columbia University, June/July 2004.

In total, 9,186 survey responses were recorded, representing 23.7 percent of the target population. The corresponding response rates for University employees and students are 24.7 (3,908 out of 15,845) and 23.0 (5,278 out of 22,983) percent, respectively. While each Columbia affiliated personnel is classified by a specific status (e.g., officer of administration at the School of Business, or full-time undergraduate student at the School of General Studies), an individual may take on multiple roles at the University. For example, an officer of instruction may also be undertaking post-doctorate studies and research, while a graduate student could be working at a laboratory as a research assistant. Since the survey design provides the participants the opportunity to indicate their University status, rather than strictly responding to a list of choices, it was possible to further differentiate the surveyed University personnel through a series of post processing of the recorded survey data. Table H-2 presents a summary of the primary status of the surveyed University personnel by campus.

Of the 3,908 surveyed employees, 603 (15.4 percent) currently live in University housing. The car ownership of these employees is 36.8 percent (222 out of 603), and nearly 75 percent (163 out of 222) of these vehicles are kept in off-street lots or garages. As for the 5,278 surveyed students, 2,689 (50.9 percent) currently live in University housing or dormitories. The car ownership of these students is 4.6 percent (123 out of 2689), and just over 10 percent (14 out of 123) of these vehicle are kept off-street.

In addition to the vehicle ownership questions, those residing in University housing were also asked to indicate the numbers of minor children (under the age of 18) who currently live with them. For the 603 surveyed employees residing in University housing, 118 (19.6 percent) answered one child, 71 (11.8 percent) answered two children, and 8 (1.3 percent) answered three or more children currently live with them. As for the 2,689 surveyed students residing in University housing or dormitories, 32 (1.2 percent) answered one child, 5 (0.2 percent) answered two children, and 4 (0.1 percent) answered three or more children currently live with them.

Table H-2
Primary Status of University Personnel by Campus

Status	Campus				
	Morningside Heights	Health Science	Lamont-Doherty Earth Observatory	Nevis Laboratories	Total
Employees					
Faculty	599	708	26	5	1,338
Administrator	1,105	505	20	1	1,631
Clerical Staff	309	139	7	0	455
Maintenance Staff	34	12	0	1	47
Food Services Staff	10	1	0	1	12
Researcher	98	288	36	3	425
Total	**2,155**	**1,653**	**89**	**11**	**3,908**
Students					
Graduate/Professional	2,710	602	26	5	3,343
Undergraduate	1,733	42	0	0	1,775
Non-Degree, Cont Ed, Others	157	2	1	0	160
Total	**4,600**	**646**	**27**	**5**	**5,278**

Sources: Columbia University On-Line Travel Survey, April/May 2004

TRAVEL CHARACTERISTICS

Travel modes were divided into eight categories: auto, taxi/car service, subway, bus, University shuttle, motorcycle, bicycle, and walk only. Since travel between employees and students, and between those who live in University housing and those who live in private housing is expected to vary considerably, the survey results were summarized separately for the various University affiliations and geographic locations of residence, as presented in Tables H-3 and H-4.

Overall, approximately 25 percent of all employees and 5 percent of all students travel via auto. Transit shares, which include subway and bus trips, make up nearly 50 and 35 percent of the total employee and student populations, respectively. With over half of all students residing in University housing or dormitories, travel on foot to and from University facilities is their primary mode of travel (56 percent), while only 18 percent of the employees travel via walk only.

Information on travel origins was also obtained from the on-line survey. Geographically, specific locations were categorized into five Manhattan sections, the outer New York City boroughs, Long Island, Westchester, Upstate New York, Connecticut, and New Jersey. A summary of the recorded travel origins for both employees and students are presented in Table H-5. It should be noted that while most commuting trips to Columbia University facilities originate from home (home-based trips), some are made from places of employment or elsewhere (non-home-based trips). For the latter, a traveler's trip origin would be different from his/her location of residence. This pattern is evident in the statistics presented in Table 5, as some employees and students who live in University housing had indicated travel origin locations where Columbia University housing or dormitories do not exist.

Table H-3
Travel Mode of University Employees

Status	Auto		Taxi		Subway		Bus		Shuttle		Motorcycle		Bicycle		Walk Only		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Employees Residing in University Housing																		
Faculty	24	6.8	6	1.7	49	14.0	9	2.6	9	2.6	0	0.0	3	0.9	251	71.5	351	100
Administrator	6	4.7	3	2.3	7	5.4	4	3.1	4	3.1	0	0.0	1	0.8	104	80.6	129	100
Staff	0	0.0	0	0.0	0	0.0	1	3.0	1	3.0	0	0.0	0	0.0	31	93.9	33	100
Subtotal	**30**	**5.8**	**9**	**1.8**	**56**	**10.9**	**14**	**2.7**	**14**	**2.7**	**0**	**0.0**	**4**	**0.8**	**386**	**75.2**	**513**	**100**
Researchers	7	7.8	1	1.1	22	24.4	2	2.2	9	10.0	0	0.0	0	0.0	49	54.4	90	100
Total	**37**	**6.1**	**10**	**1.7**	**78**	**12.9**	**16**	**2.7**	**23**	**3.8**	**0**	**0.0**	**4**	**0.7**	**435**	**72.1**	**603**	**100**
Employees Residing in Private Housing																		
Faculty	444	45.1	39	4.0	368	37.4	49	5.0	15	1.5	0	0.0	11	1.1	59	6.0	985	100
Administrator	359	24.1	20	1.3	762	51.1	162	10.9	25	1.7	1	0.1	20	1.3	141	9.5	1,490	100
Staff	68	14.3	8	1.7	282	59.4	58	12.2	15	3.2	0	0.0	0	0.0	44	9.3	475	100
Subtotal	**871**	**29.5**	**67**	**2.3**	**1,412**	**47.9**	**269**	**9.1**	**55**	**1.9**	**1**	**0.0**	**31**	**1.1**	**244**	**8.3**	**2,950**	**100**
Researchers	59	17.8	2	0.6	184	55.4	24	7.2	16	4.8	1	0.3	6	1.8	40	12.0	332	100
Total	**930**	**28.3**	**69**	**2.1**	**1,596**	**48.6**	**293**	**8.9**	**71**	**2.2**	**2**	**0.1**	**37**	**1.1**	**284**	**8.7**	**3,282**	**100**
Employees Total																		
Faculty	468	35.0	45	3.4	417	31.2	58	4.3	24	1.8	0	0.0	14	1.0	310	23.2	1,336	100
Administrator	365	22.5	23	1.4	769	47.5	166	10.3	29	1.8	1	0.1	21	1.3	245	15.1	1,619	100
Staff	68	13.4	8	1.6	282	55.5	59	11.6	16	3.1	0	0.0	0	0.0	75	14.8	508	100
Subtotal	**901**	**26.0**	**76**	**2.2**	**1,468**	**42.4**	**283**	**8.2**	**69**	**2.0**	**1**	**0.0**	**35**	**1.0**	**630**	**18.2**	**3,463**	**100**
Researchers	66	15.6	3	0.7	206	58.8	26	6.2	25	5.9	1	0.2	6	1.4	89	21.1	422	100
Total	**967**	**24.9**	**79**	**2.0**	**1,674**	**43.1**	**309**	**8.0**	**94**	**2.4**	**2**	**0.1**	**41**	**1.1**	**719**	**18.5**	**3,885**	**100**

Note: The travel modes of a small percentage of the survey population could not be identified, and therefore, were not included in the above summary.

Source: Columbia University On-Line Travel Survey, April/May 2004

Table H-4
Travel Mode of University Students

Status	Auto		Taxi		Subway		Bus		Shuttle		Motorcycle		Bicycle		Walk Only		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Students Residing in University Housing																		
Graduate/Prof	8	0.6	2	0.2	46	3.5	8	0.6	20	1.5	0	0.0	2	0.2	1,239	93.5	1,325	100
Undergraduate	11	0.8	5	0.4	55	4.0	1	0.1	0	0.0	1	0.1	3	0.2	1,285	94.4	1,361	100
Other	1	33.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	66.7	3	100
Total	**20**	**0.7**	**7**	**0.3**	**101**	**3.8**	**9**	**0.3**	**20**	**0.7**	**1**	**0.0**	**5**	**0.2**	**2,526**	**93.9**	**2,689**	**100**
Students Residing in Private Housing																		
Graduate/Prof	185	9.6	72	3.7	1,263	65.2	107	5.5	10	0.5	7	0.4	21	1.1	271	14.0	1,936	100
Undergraduate	39	10.3	9	2.4	239	63.4	19	5.0	1	0.3	2	0.4	9	2.4	59	15.6	377	100
Other	24	15.5	9	5.8	100	64.5	9	5.8	1	0.6	0	0.0	1	0.6	11	7.1	155	100
Total	**248**	**10.0**	**90**	**3.6**	**1,602**	**64.9**	**135**	**5.5**	**12**	**0.5**	**9**	**0.4**	**31**	**1.3**	**341**	**13.8**	**2,468**	**100**
Students Total																		
Graduate/Prof	193	5.9	74	2.3	1,309	40.1	115	3.5	30	0.9	7	0.2	23	0.7	1,510	46.3	3,261	100
Undergraduate	50	2.9	14	0.8	294	16.9	20	1.2	1	0.1	3	0.2	12	0.7	1,344	77.3	1,738	100
Other	25	15.8	9	5.7	100	63.3	9	5.7	1	0.6	0	0.0	1	0.6	13	8.2	158	100
Total	**268**	**5.2**	**97**	**1.9**	**1,703**	**33.0**	**144**	**2.8**	**32**	**0.6**	**10**	**0.2**	**36**	**0.7**	**2,867**	**55.6**	**5,157**	**100**

Note: The travel modes of a small percentage of the survey population could not be identified, and therefore, were not included in the above summary.

Source: Columbia University On-Line Travel Survey, April/May 2004

Table H-5
Origin of Travel

Location	Employees						Students					
	University Housing		Private Housing		Total		University Housing		Private Housing		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Manhattan												
Below 59th Street	0	0.0	278	8.5	278	7.2	30	1.1	479	19.4	509	9.9
Upper East Side (59th to 110th Streets)	2	0.3	184	5.6	186	4.8	4	0.1	176	7.1	180	3.5
Upper West Side (59th to 110th Streets)	38	6.3	459	14.0	497	12.8	29	1.1	574	23.3	603	11.7
Between 110th and 125th Streets	508	84.2	210	6.4	718	18.5	2,318	86.7	232	9.4	2,550	49.6
Above 125th Street	45	7.5	366	11.2	411	10.6	239	8.9	208	8.4	447	8.7
Subtotal	**593**	**98.3**	**1,497**	**45.7**	**2,090**	**53.8**	**2,620**	**97.9**	**1,669**	**67.7**	**4,289**	**83.4**
Brooklyn	0	0.0	248	7.6	248	6.4	4	0.1	206	8.4	210	4.1
Queens	1	0.2	188	5.7	189	4.9	7	0.3	118	4.8	125	2.4
Staten Island	0	0.0	13	0.4	13	0.3	3	0.1	2	0.1	5	0.1
The Bronx	1	0.2	243	7.4	244	6.3	3	0.1	72	2.9	75	1.5
New York City Subtotal	**595**	**98.7**	**2,189**	**66.8**	**2,784**	**71.7**	**2,637**	**98.6**	**2,067**	**83.9**	**4,704**	**91.5**
Westchester	1	0.2	329	10.0	330	8.5	4	0.1	74	3.0	78	1.5
Nassau	0	0.0	77	2.3	77	2.0	3	0.1	34	1.4	37	0.7
Suffolk	1	0.2	19	0.6	20	0.5	1	0.0	17	0.7	18	0.4
Connecticut	2	0.3	43	1.3	45	1.2	3	0.1	43	1.7	46	0.9
Upstate NY (incl. Rockland, Orange & Put.)	2	0.3	147	4.5	149	3.8	18	0.7	26	1.1	44	0.9
New Jersey	0	0.0	451	13.8	451	11.6	7	0.3	188	7.6	195	3.8
Other	2	0.3	24	0.7	26	0.7	2	0.1	16	0.6	18	0.4
Total	**603**	**100**	**3,279**	**100**	**3,882**	**100**	**2,675**	**100**	**2,465**	**100**	**5,140**	**100**

Note: The origins of a small percentage of the survey population could not be identified, and therefore, were not included in the above summary. Also, since non-home based trips are also included in the above summary, travel origins do not necessary correlate with places of residence.
Source: Columbia University On-Line Travel Survey, April/May 2004

The survey results on travel origin indicate that nearly 85 percent of Columbia students and fewer than 55 percent of Columbia employees travel to Columbia University from areas in Manhattan. This pattern is attributed to the substantially higher proportion of students (over half) than employees (15 percent) residing in University housing or dormitories near the Morningside Heights and Medical campuses, and the fact that most trips originate from home. Similar to the statistics presented for travel mode, patterns on travel origins are largely dependent on locations of residence or on the numbers of employees and students residing in University housing.

For those traveling to Columbia facilities via auto or taxi, additional information was obtained with regard to vehicle occupancy and parking locations. For employees, the auto and taxi occupancies are 1.25 and 1.17, respectively, and for students, they are 1.17 and 1.35, respectively. Parking locations vary considerably among employees and students. Nearly 65 percent of the employees traveling by car are accommodated at University parking lots or garages, while only 9 percent of the students traveling by car make use of University-owned or affiliated parking facilities. On the other hand, approximately 65 percent of the students who travel via auto park on-street, while less than 20 percent of University employees make use of on-street parking. These statistics are summarized in Table H-6.

Table H-6
Parking Statistics of Columbia Employees and Students

Parking Location	Employees		Students	
	Number	Percent	Number	Percent
On-Street	189	19.5	181	65.1
Columbia University Parking Lot/Garage	625	64.5	25	9.0
Non-Columbia University Parking Lot/Garage	123	12.7	63	22.7
Not Applicable–Dropped Off	32	3.3	9	3.2
Total	**969**	**100**	**278**	**100**
Off-Street Parking	**Employees**		**Students**	
	Number	**Percent**	**Number**	**Percent**
Monthly Parking	604	80.7	25	28.4
Transient Parking	144	19.3	63	71.6
Total	**748**	**100**	**88**	**100**

Sources: Columbia University On-Line Travel Survey, April/May 2004

The employees and students who live in private housing were also sampled for two additional travel-related questions. The number of employees from whom responses to these questions were obtained is nearly 85 percent of the total employees surveyed, while the number of students sampled is fewer than 50 percent of the total students surveyed. The results of the survey responses indicate that approximately 93 percent of employee trips and 89 percent of student trips are home-based trips (trips originating from the place of residence). For the question regarding trip frequency, over 80 percent of the surveyed employees travel regularly (5 or more times per week) to campus, while just over 40 percent of the surveyed students exhibit similar patterns. These statistics are summarized in Table H-7.

Table H-7
Travel Frequencies for Employees and Students

Status	< 1		1		2		3		4		5		> 5		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Employees Residing in Private Housing																
Faculty	44	4.5	55	5.6	76	7.7	90	9.1	90	9.1	385	39.1	244	24.8	984	100
Administrator	52	3.5	16	1.1	23	1.5	30	2.0	38	2.5	1,046	70.1	287	19.2	1,492	100
Staff	22	4.6	6	1.3	7	1.5	13	2.7	7	1.5	348	73.3	72	15.2	475	100
Subtotal	**118**	**4.0**	**77**	**2.6**	**106**	**3.6**	**133**	**4.5**	**135**	**4.6**	**1,779**	**60.3**	**603**	**20.4**	**2,951**	**100**
Researchers	19	5.7	4	1.2	11	3.3	9	2.7	15	4.5	155	46.5	120	36.0	333	100
Total	**137**	**4.2**	**81**	**2.5**	**117**	**3.6**	**142**	**4.3**	**150**	**4.6**	**1,934**	**58.9**	**723**	**22.0**	**3,284**	**100**
Students Residing in Private Housing																
Graduate/Prof	74	3.8	199	10.3	282	14.6	229	11.8	324	16.7	401	20.7	426	22.0	1,935	100
Undergraduate	2	0.5	2	0.5	22	5.9	48	12.8	100	26.7	92	24.5	109	29.1	375	100
Other	0	0.0	25	16.1	52	33.5	27	17.4	28	18.1	19	12.3	4	2.6	155	100
Total	**76**	**3.1**	**226**	**9.2**	**356**	**14.4**	**304**	**12.3**	**452**	**18.3**	**512**	**20.8**	**539**	**21.9**	**2,465**	**100**

Note: The responses of a small percentage of the survey population could not be identified, and therefore, were not included in the above summary.

Source: Columbia University On-Line Travel Survey, April/May 2004

CONCLUSIONS

For a large survey sample size, such as the one targeted for the Columbia on-line travel survey, a response rate of 10 to 12 percent typically would be considered statistically significant. As detailed in the initial discussions of the survey results, this travel survey achieved an overall response rate of over 23 percent. This level of response rate lends credibility to subsequent conclusions made from the information obtained. These conclusions or statistics would provide a comprehensive and accurate depiction of travel behavior and characteristics of the entire Columbia University employee and student populations. Specific components of these statistics would be used to derive estimates on projecting future travel to the Manhattanville university area.

B. OFF-STREET PARKING UTILIZATION

Table H-8
2006 Existing Conditions Off-Street Parking Utilization

	Company Name	Address	License Number	Capacity	Utilization Rate (Percent)			Utilized Spaces			Available Spaces		
					AM	MD	PM	AM	MD	PM	AM	MD	PM
1	MTP 3300 Broadway Corp.	627 West 129th Street	0974364	200	100	100	100	200	200	200	0	0	0
2	West 129th Street LLC	605 West 129th Street	0959388	134	100	100	100	134	134	134	0	0	0
3	Uni Facility Corp.	631-635 West 131st Street	1117939	100	75	75	75	75	75	75	25	25	25
4	Y & H Enterprises Inc.	526-534 West 134th Street	735702	175	75	75	75	131	131	131	44	44	44
5	Columbia Waterfront LLC	69 St. Clair Pl.	1115799	70	100	100	100	70	70	70	0	0	0
6	Morningside Heights Housing Corp.	3100 Broadway	0469448	291	100	100	75	291	291	218	0	0	73
7	Edison Riverside Corp.	3333 Broadway	761734	360	75	50	100	270	180	360	90	180	0
8	Marvel Parking Corp.	673 St. Nicholas Avenue	1099665	180	100	100	100	180	180	180	0	0	0
9	Uptown Parking Corp.	1721-1735 Amsterdam Avenue	1148653	53	100	100	75	53	53	40	0	0	13
10	Nicholson & Nichols Park	503 West 151st Street	469138	20	75	50	75	15	10	15	5	10	5
11	LAZ Parking Limited	457 West 150th Street	1181103	125	75	50	75	94	63	94	31	62	31
12	Giselle Garage Corp.	310 West 144th Street	0926991	100	75	100	50	75	100	50	25	0	50
13	Stanns Parking	234-40 West 148th Street	1148672	110	50	50	50	55	55	55	55	55	55
14	Giselle Garage Corp.	161 West 132nd Street	427219	130	100	100	100	130	130	130	0	0	0
15	EZ Going Park	2201 Seventh Avenue	1157099	48	75	75	50	36	36	24	12	12	24
16	Stable Car Parking Inc	616 West 153rd Street	1097397	135	50	50	75	68	68	101	67	67	34
17	Impark HSW LLC	2130-38 Seventh Avenue		71	75	100	25	53	71	18	18	0	53
18	Impark HSW LLC	215 West 125th Street	1102349	60	75	25	25	45	15	15	15	45	45
19	EZ Going Park	270 West 126th Street	1157098	159	90	50	0	143	80	0	16	79	159
20	Uptown Parking Corp.	160 West 124th Street	427520	175	100	100	25	175	175	44	0	0	131

Note: Data collected in September 2006

Table H-8 (cont'd)
2006 Existing Conditions Off-Street Parking Utilization

	Company Name	Address	License Number	Capacity	Utilization Rate (Percent)			Utilized Spaces			Available Spaces		
					AM	MD	PM	AM	MD	PM	AM	MD	PM
21	Easy Cross Parking Corp.	225 St. Nicholas Avenue	955730	160	75	75	25	120	120	40	40	40	120
22	SoLo Parking	316 West 118th Street	886059	130	100	100	25	130	130	33	0	0	97
23	Park GMC Garage Management Corp.	532 West 122nd Street	921479	180	100	100	50	180	180	90	0	0	90
24	Rapid Park Industries	480 Claremont Avenue	906438	200	75	100	75	150	200	150	50	0	50
25	ProPark America	1090 Amsterdam Avenue	1171647	135	75	100	75	101	135	101	34	0	34
26	GGMC Garage Corp.	516-20 West 112th Street	859390	75	75	100	25	56	75	19	19	0	56
Total				3576	0.85	0.83	0.67	3030	2957	2387	546	619	1189

Note: Data collected in September 2006

C. PROPOSED ROADWAY AND OPERATIONAL IMPROVEMENTS

Table H-9
2015 Build Condition
Peak Hour Signal Timing Improvements

Intersection	Existing 2006 AM	Build 2015 AM	Existing 2006 MD	Build 2015 MD	Existing 2006 PM	Build 2015 PM
Marginal Street & 133rd Street	Unsignalized	WB = 28 SB = 62	Unsignalized	WB = 28 SB = 62	Unsignalized	WB = 25 SB = 65
Marginal Street & 132nd Street	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55
Marginal Street & St. Clair Place	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55
12th Avenue & 131st Street	Unsignalized	EW = 36 NS = 54	Unsignalized	EW = 36 NS = 54	Unsignalized	EW = 36 NS = 54
12th Avenue & 130th Street	Analyzed Together with 125th Street	Peds = 38 NS = 23 NS = 29	Analyzed Together with 125th Street	Peds = 38 NS = 23 NS = 29	Analyzed Together with 125th Street	Peds = 32 NS = 28 NS = 30
12th Avenue & 125th Street	Analyzed Together with 130th Street	WB = 38 SB = 23 NS = 29	Analyzed Together with 130th Street	WB = 38 SB = 23 NS = 29	Analyzed Together with 130th Street	WB = 32 SB = 28 NS = 30
Broadway NB & 133rd Street	EW = 40 NB = 50	WB = 40 NB = 36 NB = 14	EW = 40 NB = 50	WB = 40 NB = 36 NB = 14	EW= 40 NB = 50	WB = 40 NB = 30 NB = 20
Broadway SB & 133rd Street	EW = 40 SB = 50	WB = 54 SB = 36	EW = 40 SB = 50	WB = 54 SB = 36	EW = 40 SB = 50	WB = 60 SB = 30
Broadway & 125th Street	EW = 36 SB = 27 NB = 27	EW = 33 NS Left = 21 NS Thru & RT = 36	EW = 36 SB = 27 NB = 27	EW = 40 NS Left = 19 NB = 31	EW = 36 SB = 27 NB = 27	EW = 32.5 NS Left = 21 NS Thru & RT = 36.5
125th Street & 129th Street/St. Clair Place	Unsignalized	EW = 32 Peds = 21 NS = 37	Unsignalized	EW = 32 Peds = 21 NS = 37	Unsignalized	EW = 31 Peds = 21 NS = 38
Riverside Drive & St. Clair Place	Unsignalized	EB = 70 SB = 20	Unsignalized	EB = 70 SB = 20	Unsignalized	EB = 70 SB = 20
12th Avenue & St. Clair Place	Unsignalized	EB = 35 NB = 35 SB = 20	Unsignalized	EB = 35 NB = 35 SB = 20	Unsignalized	EB = 35 NB = 35 SB = 20
Broadway NB & W 131st Street	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54
Broadway SB & W 131st Street	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54
Broadway NB & 132nd Street	EW = 40 SB = 50	EW = 43 NB Only = 47	EW = 40 SB = 50	EW = 43 NB Only = 47		
Broadway SB & 132nd Street	EW = 40 SB = 50	EW = 43 SB Only = 47	EW = 40 SB = 50	EW = 43 SB Only = 47		

Table H-10
2015 Build Condition
Primary Study Area Intersection Geometry Improvements

Intersection		Existing 2006			Build 2015		
		Group	# Lanes	Lane Width	Group	# Lanes	Lane Width
Marginal & 133rd St.*	SB	T	1	19.7	T	1	15.8
	WB	L	1	15.1	L	1	15.1
Marginal & 132nd St.*	WB	L	1	14.1	-	-	-
	SB	LT	2	17.6	LT	2	12.0
Marginal & 125th St.*	WB	L	2	16.0	L	2	12.0
	SB	L	1	10.3			
		LT	2	12.1	T	2	12.0
Marginal & St. Clair*	SB	L	1	16.2	L	1	13.0
		T	1	16.2	LT	2	12.0
12th Ave & W 133rd St.	WB	LTR	1	10.8	L	1	10.0
					TR	2	10.0
	NB	L	1	10.1	L	1	10.1
		LTR	1	16.0	LT	1	16.0
	SB	LTR	2	11.2	TR	2	11.2
12th Ave & W 132nd St.	EB	LTR	1	14.0	LTR	2	15.0
	WB	LTR	1	16.0	-	-	-
	NB	LTR	2	11.5	TR	2	11.5
	SB	LTR	2	11.4	LT	2	11.4
12th Ave & W 131st St.	EB	LTR	1	15.0	LR	1	15.0
	WB	LTR	1	16.0	L	1	10.0
					TR	1	10.0
					R	1	10.0
	NB	LT	1	9.7	LT	2	9.7
		TR	1	9.7			
	SB	LT	1	11.9	TR	2	11.9
		TR	1	11.9			
12th Ave & 130th St.	NB	New analysis in Build 2030			TR	2	10.5
	SB				L	1	10.0
					T	2	10.0
12th Ave & W 125th St.	EB	LTR	2	13.2	-	-	-
	WB	L	1	10.0	LT	2	10.0
		T	1	10.5			
		R	1	11.5	R	1	11.0
	NB	LTR	1	16.0	LTR	2	10.5
	SB	LT	1	12.1	L	1	10.0
					TR	2	10.0
12th Ave & 125th St. SB Right	EB	T	2	13.2	Not Analyzed in Build Scenario		
	WB	T	2	15.6			
	SB	R	1	16.0			
Broadway NB & 133rd	EB	LT	1	16.0	-	-	-
	WB	TR	1	14.7	TR	1	14.7
	NB	LT	2	10.1	L	1	10.2
		R	1	10.1	TR	2	10.0
Broadway SB & 133rd	EB	TR	1	16.0	-	-	-
	WB	LT	1	14.7	LT	1	16.0
					T	1	16.0
	SB	LTR	3	9.8	TR	3	10.0
Broadway NB & 132nd	EB	L	1	11.8	LT	1	16.0
	WB	-	-	-	TR	1	16.0
	NB	LT	2	15.1	TR	3	10.0

Table H-10 (cont'd)
2015 Build Condition
Primary Study Area Intersection Geometry Improvements

Intersection		Existing 2006			Build 2015		
		Group	# Lanes	Lane Width	Group	# Lanes	Lane Width
Broadway SB & 132nd	EB	TR	1	11.8	TR	2	10.0
					R	1	10.0
	WB	LT	1	12.0	L	1	14.0
	SB	LTR	2	15.7	LT	2	12.4
Broadway & 131st	EB	LTR	1	16.0	Analyzed as H intersection in Build 2015: See Broadway NB & 131st and Broadway SB & 131st		
	WB	LT	1	9.0			
		R	1	9.0			
	NB	LTR	3	13.1			
	SB	LTR	3	10.3			
Broadway NB & 131st	EB	Analyzed as H intersection in Build 20: See Broadway & 131st			T	1	10.0
	WB				TR	2	9.0
	NB				LTR	3	10.0
Broadway SB & 131st	WB				LT	2	10.0
	SB				LTR	2	12.4
Broadway & 130th	EB	LR	1	14.0	L	2	10.0
					R	1	10.0
	NB	LT	3	12.7	T	3	10.0
	SB	LT	3	10.8	LT	2	12.4
Broadway & 129/126 St.	WB	LT	1	16.0	LT	1	16.0
		R	1	12.0	R	1	12.0
	NB	DefL	0	9.7	LT	3	9.9
		T	3	10.3			
	SB	TR	3	10.6	TR	2	12.4
Broadway & 125th St.	EB	L	1	10.5	L	1	10.0
		TR	2	10.8	T	2	10.0
					R	1	11.0
	WB	L	1	10.0	L	1	10.5
		TR	2	11.0	T	2	10.0
					R	1	9.4
	NB	L	1	12.4	L	2	10.0
		LT	2	11.0	T	2	10.0
		R	1	11.8	R	1	10.0
	SB	L	1	16.0	L	2	10.0
		LTR	2	12.6	T	2	10.0
					R	1	10.8
125th St. & 129th/St. Clair	EB	L	1	16.0	R	2	12.0
		R	1	16.0			
	WB	L	1	16.0	R	2	12.0
		R	1	16.0			
	NB	T	2	12.0	T	2	11.5
	SB	T	2	12.0	T	2	11.5
Riverside Dr. & St. Clair	EB	LTR	1	16.0	L	1	15.3
					TR	1	15.2
	SB	LT	2	9.6	LT	2	10.5
12th Ave & St. Clair Pl	EB	T	1	-	T	2	15.0
	NB	R	1	-	R	2	10.0
	SB	L	1	-	L	1	16.0

Note: *. The intersection along Marginal Street has been revised to reflect improvements based on construction of West Harlem Waterfront Park in No Build analysis.

Table H-11
2030 Build Condition
Peak Hour Signal Timing Improvements

Intersection	Existing 2006 AM	Build 2030 AM	Existing 2006 MD	Build 2030 MD	Existing 2006 PM	Build 2030 PM
Marginal Street & 133rd Street	Unsignalized	WB = 28 SB = 62	Unsignalized	WB = 28 SB = 62	Unsignalized	WB = 25 SB = 65
Marginal Street & 132nd Street	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55
Marginal Street & St. Clair Place	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55	Unsignalized	Peds = 35 SB = 55
12th Avenue & 131st Street	Unsignalized	EW = 36 Thru = 54	Unsignalized	EW = 36 NS = 54	Unsignalized	EW = 36 NS = 54
12th Avenue & 130th Street	Analyzed Together with 125th Street	NS = 34 NS = 30 NS = 26	Analyzed Together with 125th Street	NS = 38 NS = 33 NS = 29	Analyzed Together with 125th Street	NS = 33 NS = 33 NS = 24
12th Avenue & 125th Street	Analyzed Together with 130th Street	WB = 34 SB = 30 NS = 26	Analyzed Together with 130th Street	WB = 38 SB = 23 NS = 29	Analyzed Together with 130th Street	WB = 33 SB = 33 NS = 24
Broadway NB & 133rd Street	EW = 40 NB = 50	WB = 40 NB = 36 NB = 14	EW = 40 NB = 50	WB = 40 NB = 36 NB = 14	EW = 40 NB = 50	WB = 39 NB = 32 NB = 19
Broadway SB & 133rd Street	EW = 40 SB = 50	WB = 54 SB = 36	EW = 40 SB = 50	WB = 54 SB = 36	EW = 40 SB = 50	WB = 58 SB = 32
Broadway & 125th Street	EW = 36 SB = 27 NB = 27	EW = 35 NS Left = 21 NS Thru & RT = 34	EW = 36 SB = 27 NB = 27	EW = 40 NS Left = 19 NS Thru & RT = 31	EW = 36 SB = 27 NB = 27	EW = 32.5 NS Left = 21 NS Thru & RT = 36.5
125th Street & 129th Street/St. Clair Place	Unsignalized	EW = 32 Peds = 21 NS = 37	Unsignalized	EW = 32 Peds = 21 NS = 37	Unsignalized	EW = 27 Peds = 21 NS = 42
Riverside Drive & St. Clair Place	Unsignalized	EB = 70 SB = 20	Unsignalized	EB = 70 SB = 20	Unsignalized	EB = 70 SB = 20
12th Avenue & St. Clair Place	Unsignalized	EB = 31 NB = 39 SB = 20	Unsignalized	EB = 35 NB = 35 SB = 20	Unsignalized	EB = 35 NB = 35 SB = 20
Broadway NB & W 131st Street	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54
Broadway SB & W 131st Street	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54	Analyzed as Single Intersection	EW = 36 NS = 54
Broadway & W 130th Street					EB = 32 NS = 58	EB = 35 NS = 55
Broadway and 129th Street/ 126 Street					WB Only = 45 NS = 45	WB Only = 42 NS = 48

Table H-12
2030 Build Condition
Primary Study Area Intersection Geometry Improvements

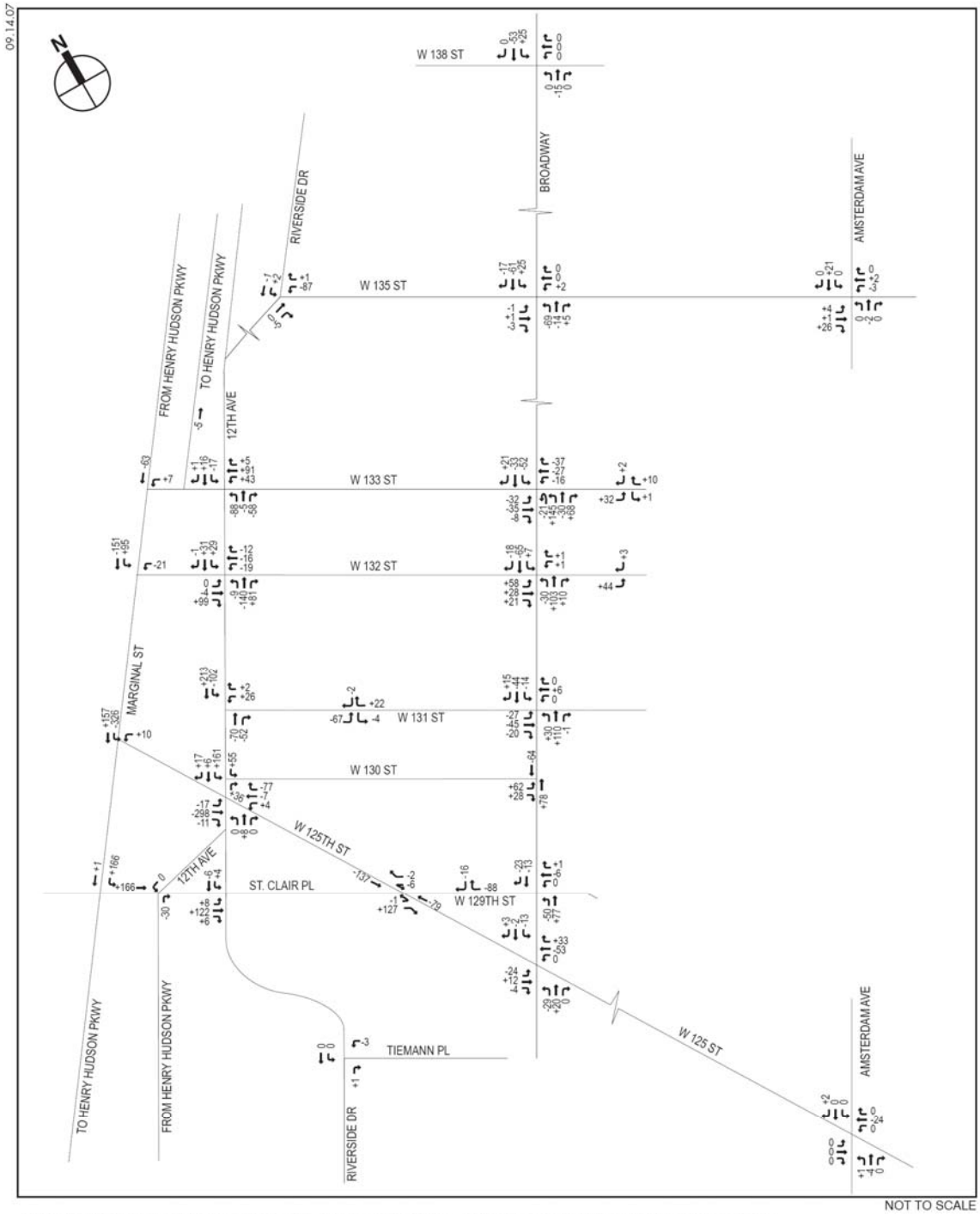
Intersection		Existing 2006			Build 2030		
		Group	# Lanes	Lane Width	Group	# Lanes	Lane Width
Marginal & 133rd St.*	SB	T	1	19.7	T	1	15.8
	WB	L	1	15.1	L	1	15.1
Marginal & 132nd St.*	WB	L	1	14.1	-	-	-
	SB	LT	2	17.6	LT	2	12.0
Marginal & 125th St.*	WB	L	2	16.0	L	2	12.0
	SB	L	1	10.3			
		LT	2	12.1	T	2	12.0
Marginal & St. Clair*	SB	L	1	16.2	L	1	13.0
		T	1	16.2	LT	2	12.0
12th Ave. & W 133rd St.	WB	LTR	1	10.8	L	1	10.0
					TR	2	10.0
	NB	L	1	10.1	L	1	10.3
		LTR	1	16.0	LT	1	10.5
	SB	LTR	2	11.2	TR	2	11.2
12th Ave. & W 132nd St.	EB	LTR	1	14.0	LTR	2	15.0
	WB	LTR	1	16.0	-	-	-
	NB	LTR	2	11.5	TR	2	10.5
	SB	LTR	2	11.4	L	1	10.0
					LT	1	11.0
12th Ave. & W 131st St.	EB	LTR	1	15.0	L	1	15.0
					R	1	15.0
	WB	LTR	1	16.0	L	1	10.0
					LR	1	10.0
					R	1	10.0
	NB	LT	1	9.7	T	2	10.5
		TR	1	9.7			
	SB	LT	1	11.9	T	2	10.5
		TR	1	11.9			
12th Ave & 130th St.	NB	New analysis in Build 2030			T	1	10.5
					R	1	10.5
	SB				L	1	10.0
					T	2	10.0
12th Ave & W 125th St.	EB	LTR	2	13.2	-	-	-
	WB	L	1	10.0	LT	2	11.3
		T	1	10.5			
		R	1	11.5	R	1	10.0
	NB	LTR	1	16.0	LTR	2	10.5
	SB	LT	1	12.1	L	1	10.0
					TR	2	10.0
12th Ave & 125th St. SB Right	EB	T	2	13.2	Not Analyzed in Build Scenario		
	WB	T	2	15.6			
	SB	R	1	16.0			
Broadway NB & 133rd St.	EB	LT	1	16.0	-	-	-
	WB	TR	1	14.7	TR	1	14.7
	NB	LT	2	10.1	L	1	10.2
		R	1	10.1	TR	2	10.0
Broadway SB & 133rd	EB	TR	1	16.0	-	-	-
	WB	LT	1	14.7	LT	1	16.0
					T	1	16.0
	SB	LTR	3	9.8	TR	3	10.0
Broadway NB & 132nd	EB	L	1	11.8	L	2	15.0
	NB	LT	2	15.1	T	3	10.0

Note: *. The intersection along Marginal Street has been revised to reflect improvements based on construction of West Harlem Waterfront Park in No Build analysis.

Table H-12 (cont'd)
2030 Build Condition
Primary Study Area Intersection Geometry Improvements

Intersection		Existing 2006			Build 2030		
		Group	# Lanes	Lane Width	Group	# Lanes	Lane Width
Broadway SB & 132nd St.	EB	TR	1	11.8	TR	2	10.0
					R	1	10.0
	WB	LT	1	12.0	-	-	-
	SB	LTR	2	15.7	LT	2	12.4
Broadway & 131st	EB	LTR	1	16.0	Analyzed as H intersection in Build 2030: See Broadway NB & 131st and Broadway SB & 131st		
	WB	LT	1	9.0			
		R	1	9.0			
	NB	LTR	3	13.1			
	SB	LTR	3	10.3			
Broadway NB & 131st	EB	Analyzed as H intersection in Build 2030: See Broadway & 131st			T	1	10.0
	WB				TR	2	9.0
	NB				LTR	3	10.0
Broadway SB & 131st	WB				LT	2	10.0
	SB				LTR	2	12.4
Broadway & 130th St.	EB	LR	1	14.0	L	2	10.0
					R	1	10.0
	NB	LT	3	12.7	T	3	10.0
	SB	LT	3	10.8	LT	2	12.4
Broadway & 129/126 St.	WB	LT	1	16.0	LT	1	16.0
		R	1	12.0	R	1	12.0
	NB	DefL	0	9.7	LT	3	9.9
		T	3	10.3			
	SB	TR	3	10.5	TR	2	12.4
Broadway & 125th St.	EB	L	1	10.5	L	1	12.0
		TR	2	10.8	T	2	10.0
					R	1	10.0
	WB	L	1	10.0	L	1	10.5
		TR	2	11.0	T	2	10.0
					R	1	9.4
	NB	L	1	12.4	L	2	10.0
		LT	2	11.0	T	2	10.0
		R	1	11.8	R	1	10.0
	SB	L	1	16.0	L	2	10.0
		LTR	2	12.6	T	2	10.0
					R	1	10.8
125th St. & 129th St./ St. Clair Pl.	EB	L	1	16.0	R	2	13.3
		R	1	16.0			
	WB	L	1	16.0	R	2	12.0
		R	1	16.0			
	NB	T	2	12.0	T	2	11.5
	SB	T	2	12.0	T	2	11.5
Riverside Dr. & St. Clair	EB	LTR	1	16.0	L	1	15.3
					TR	1	15.2
	SB	LT	2	9.6	LT	2	10.5
12th Ave & St. Clair Pl	EB	T	1	-	T	2	15.0
	NB	R	1	-	R	2	10.0
	SB	L	1	-	L	1	16.0
Mid-Block Crosswalk @ 130th	EB	Analyzed in Build 2030 only			T	2	10.0
Mid-Block Crosswalk @ 131st	WB				T	2	10.0
Mid-Block Crosswalk @ 132nd	EB				T	2	10.0

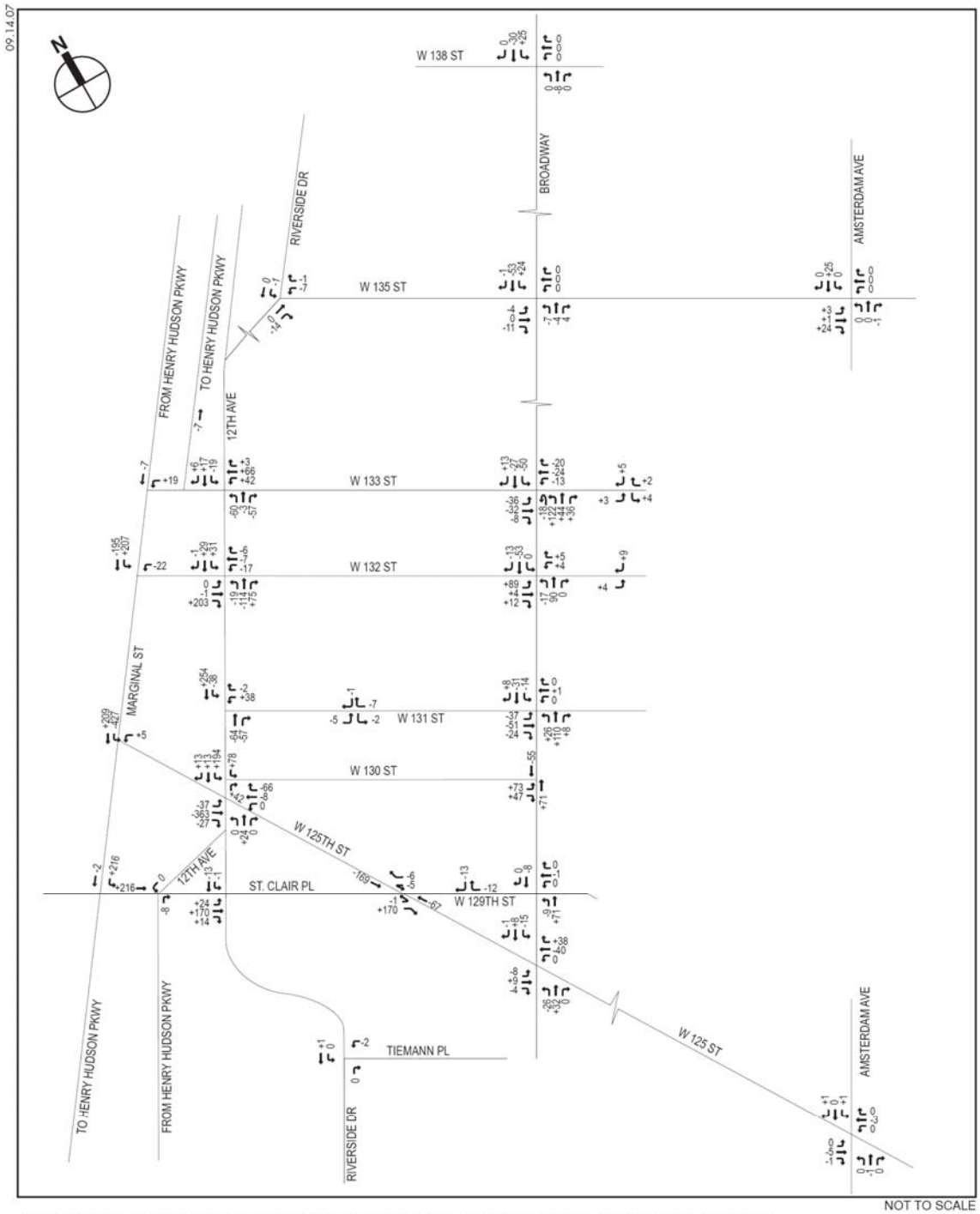
D. TRAVEL DIVERSION AND PROJECT INCREMENTS



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-1
Primary Study Area
Traffic Diversions 2015 Morning Peak Hour

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



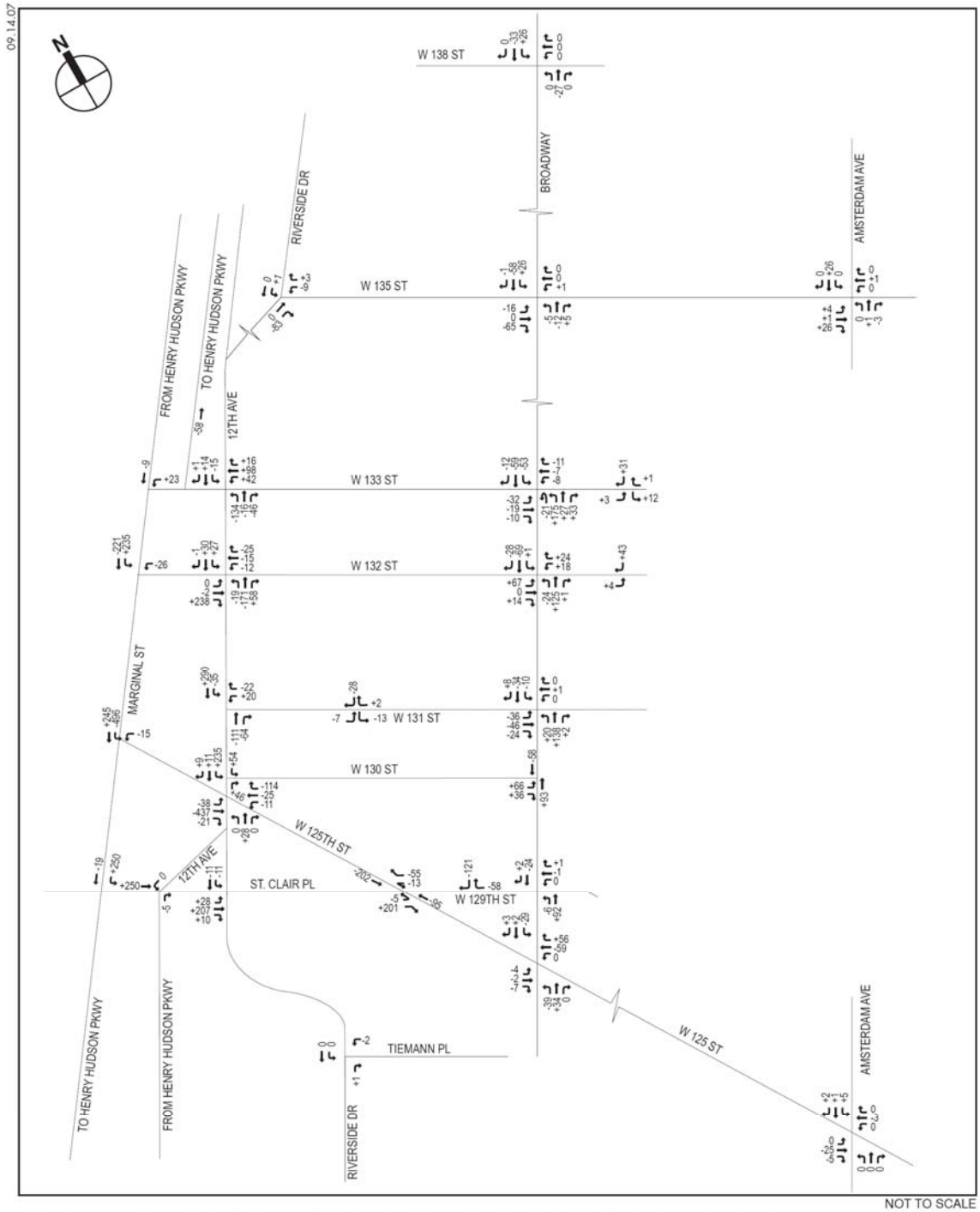
Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-2

Primary Study Area

Traffic Diversions 2015 Midday Peak Hour

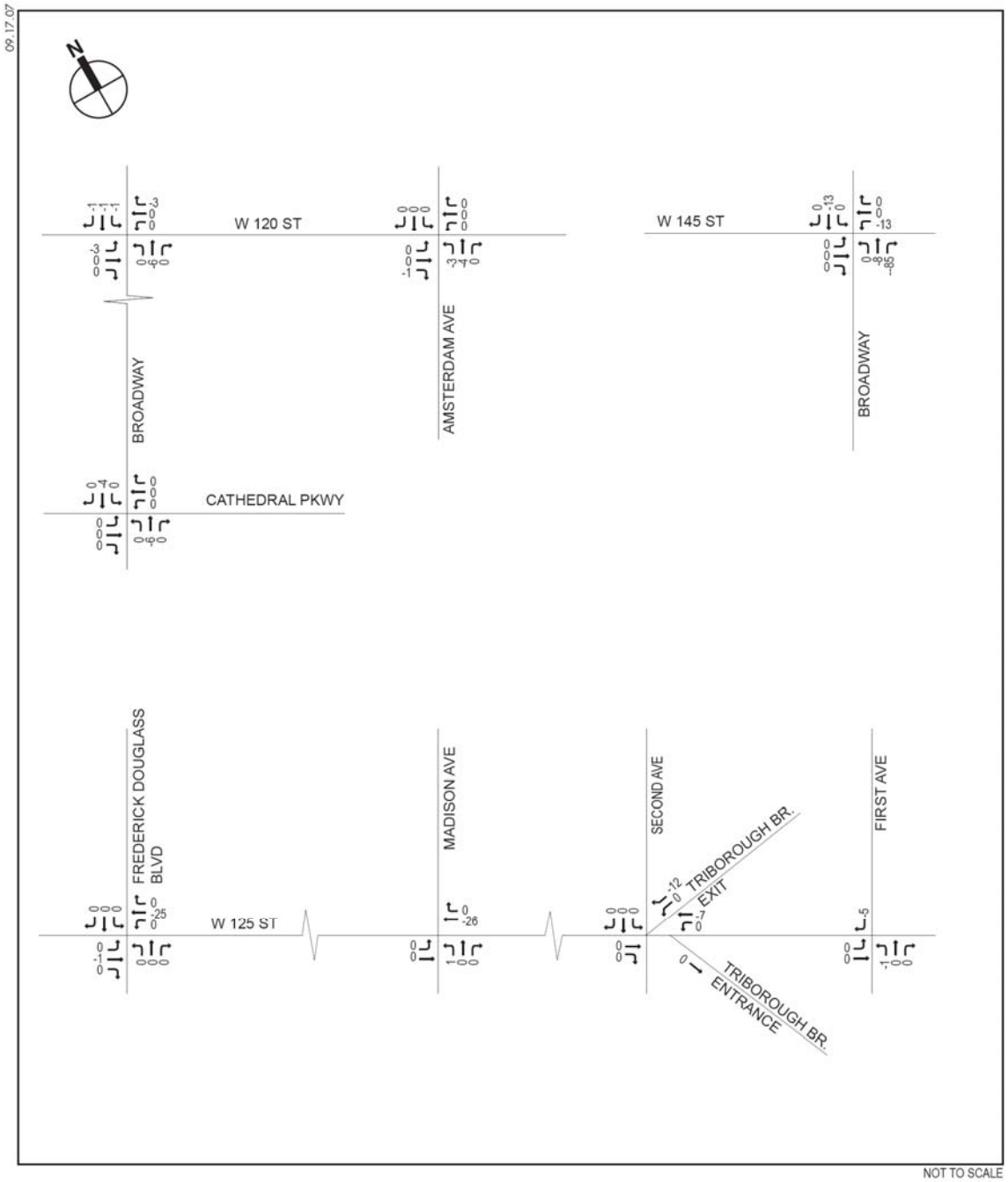
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-3
Primary Study Area
Traffic Diversions 2015 Evening Peak Hour

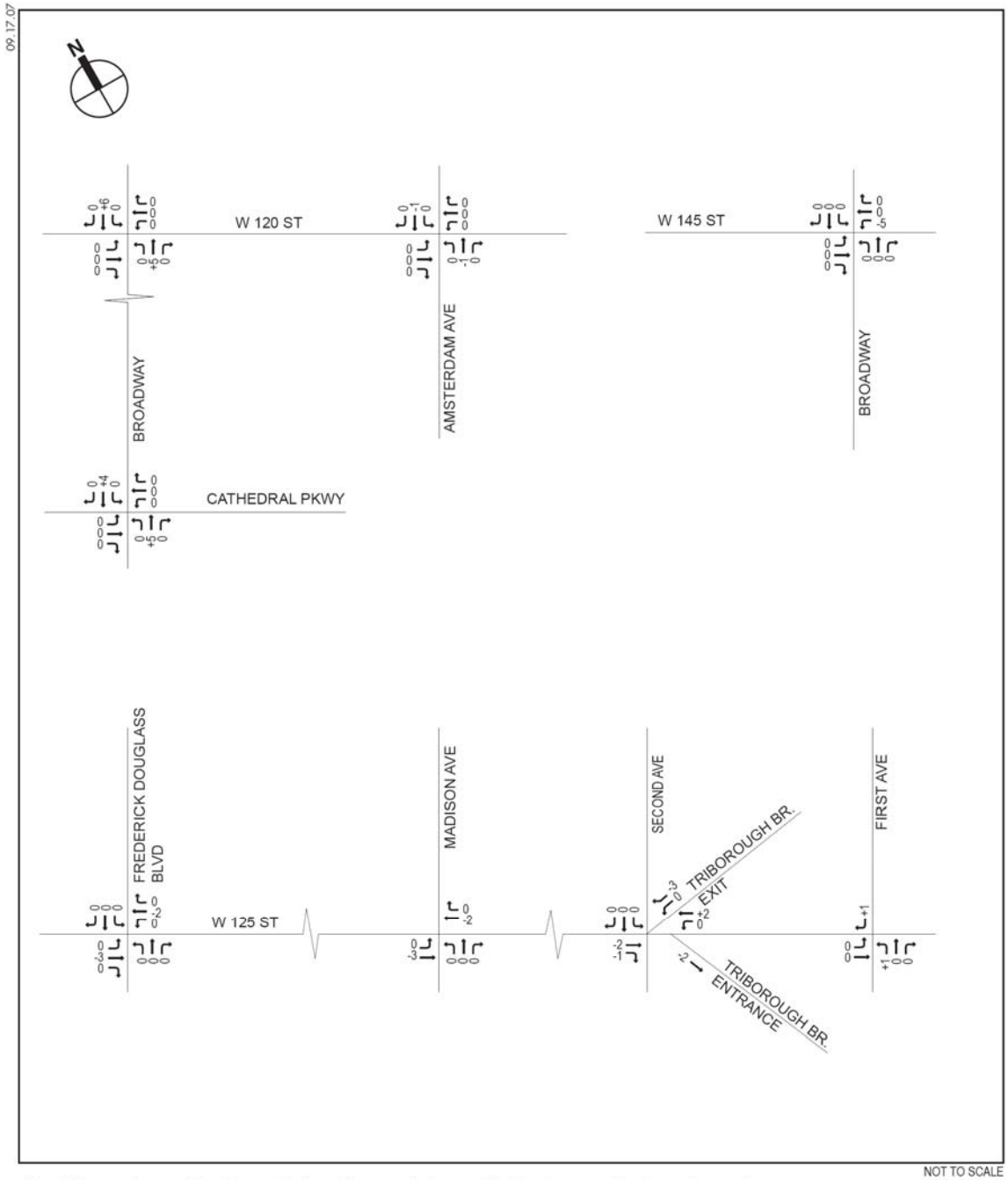
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-4
Secondary Study Area
Traffic Diversions 2015 Morning Peak Hour

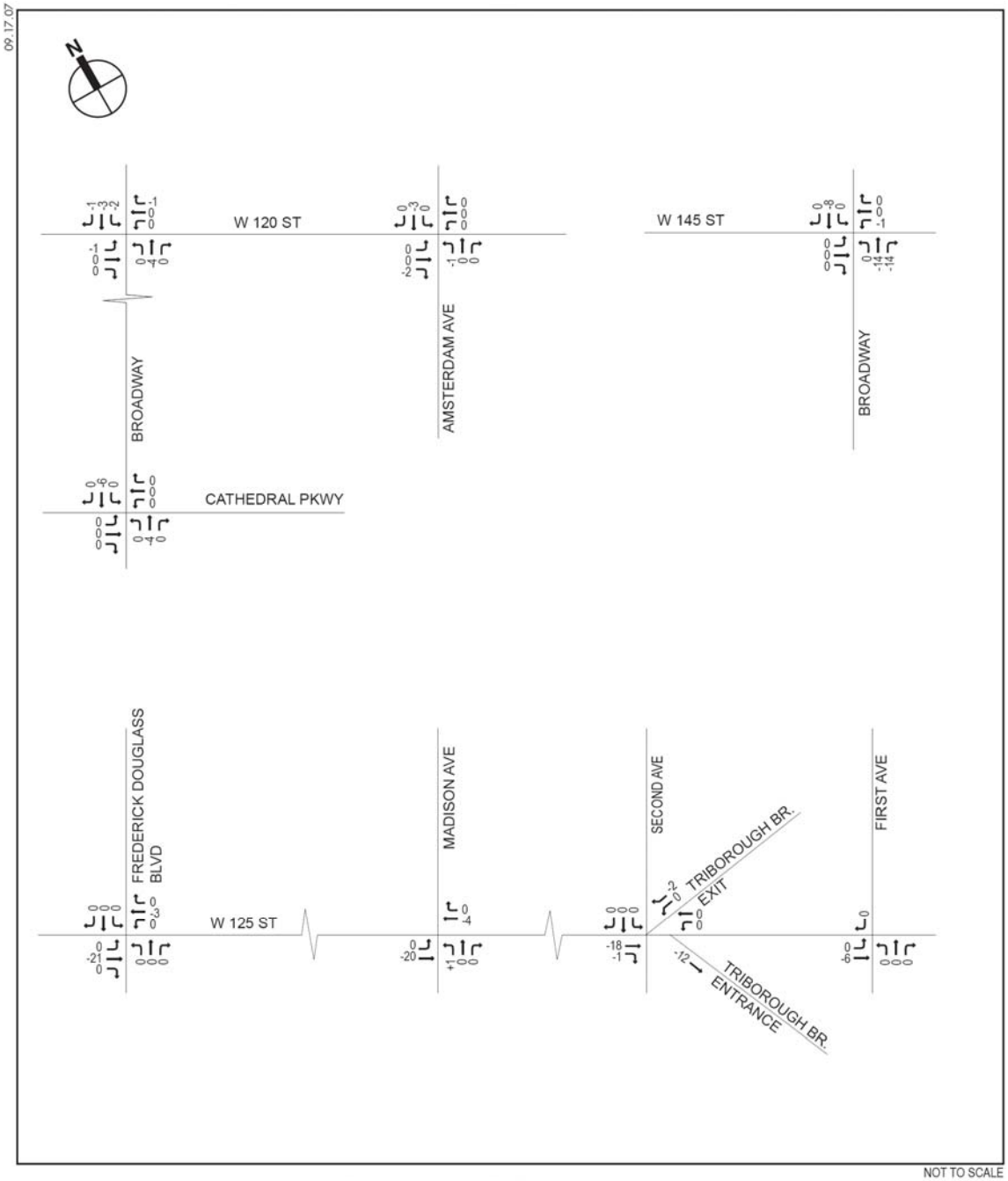
MANHATTANVILLE IN WEST HARLEM REZONING
AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

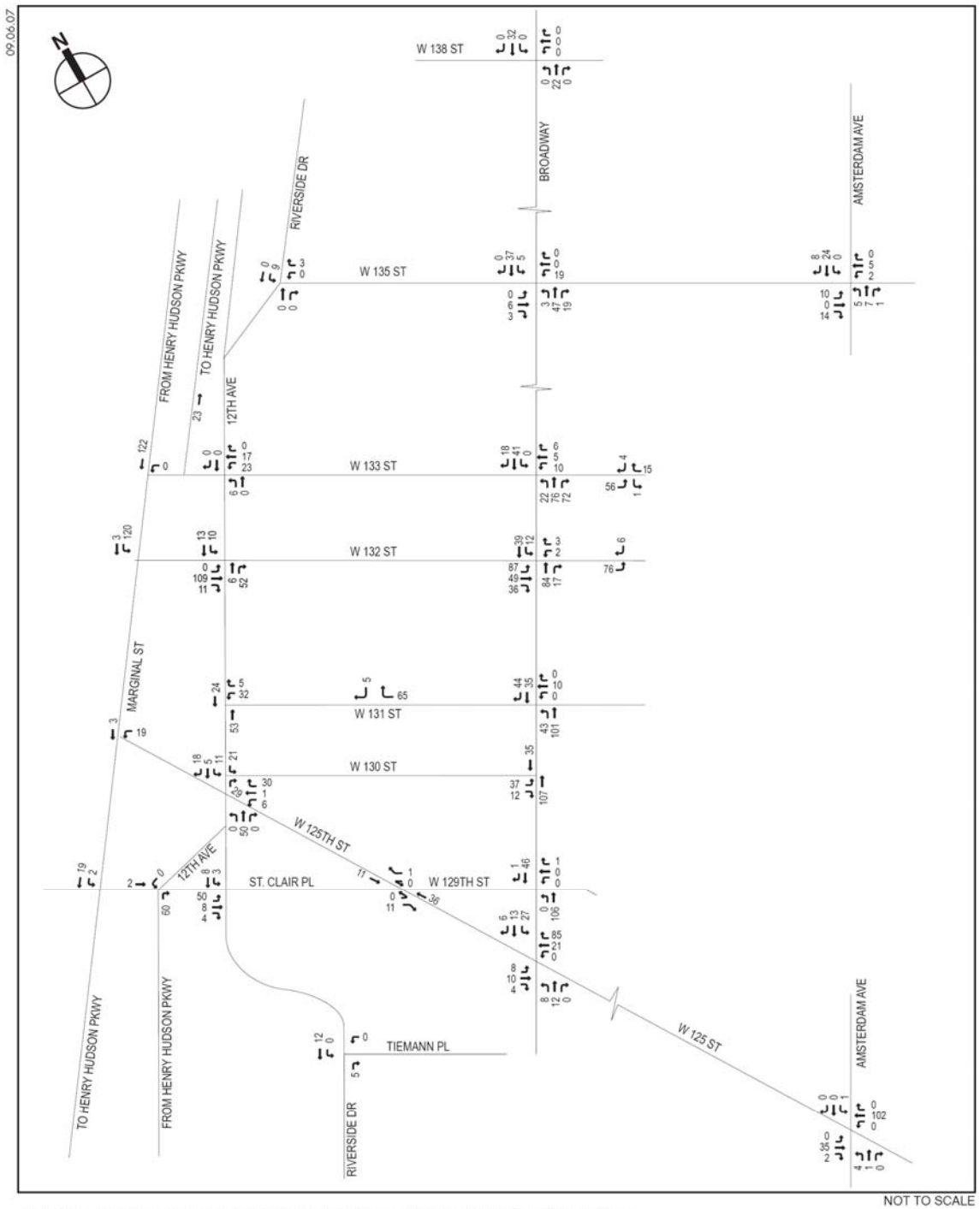
Figure H-5
Secondary Study Area
Traffic Diversions 2015 Midday Peak Hour



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

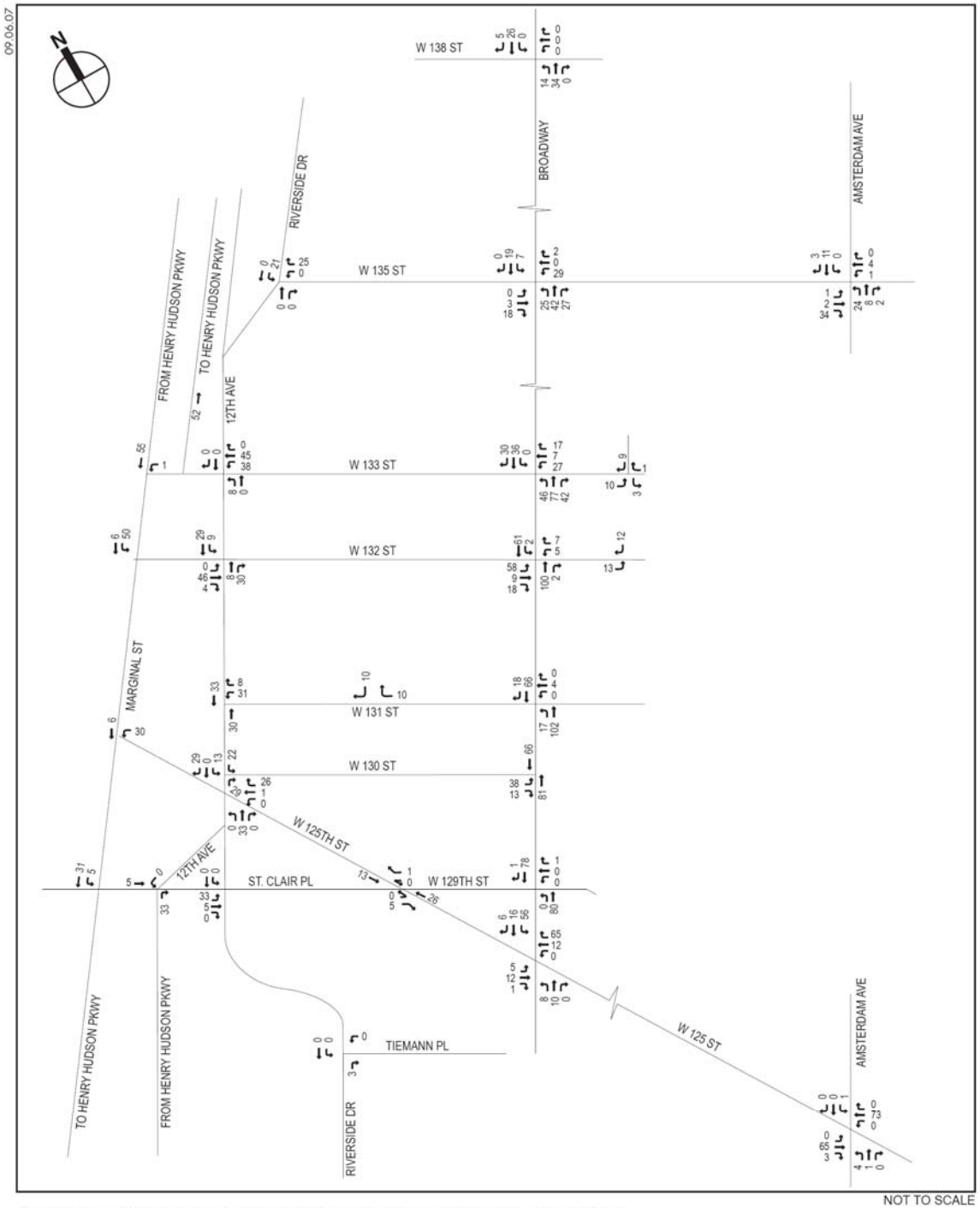
Figure H-6
Secondary Study Area
Traffic Diversions 2015 Evening Peak Hour



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-7
Primary Study Area
Project-Generated 2015 Morning Peak Hour

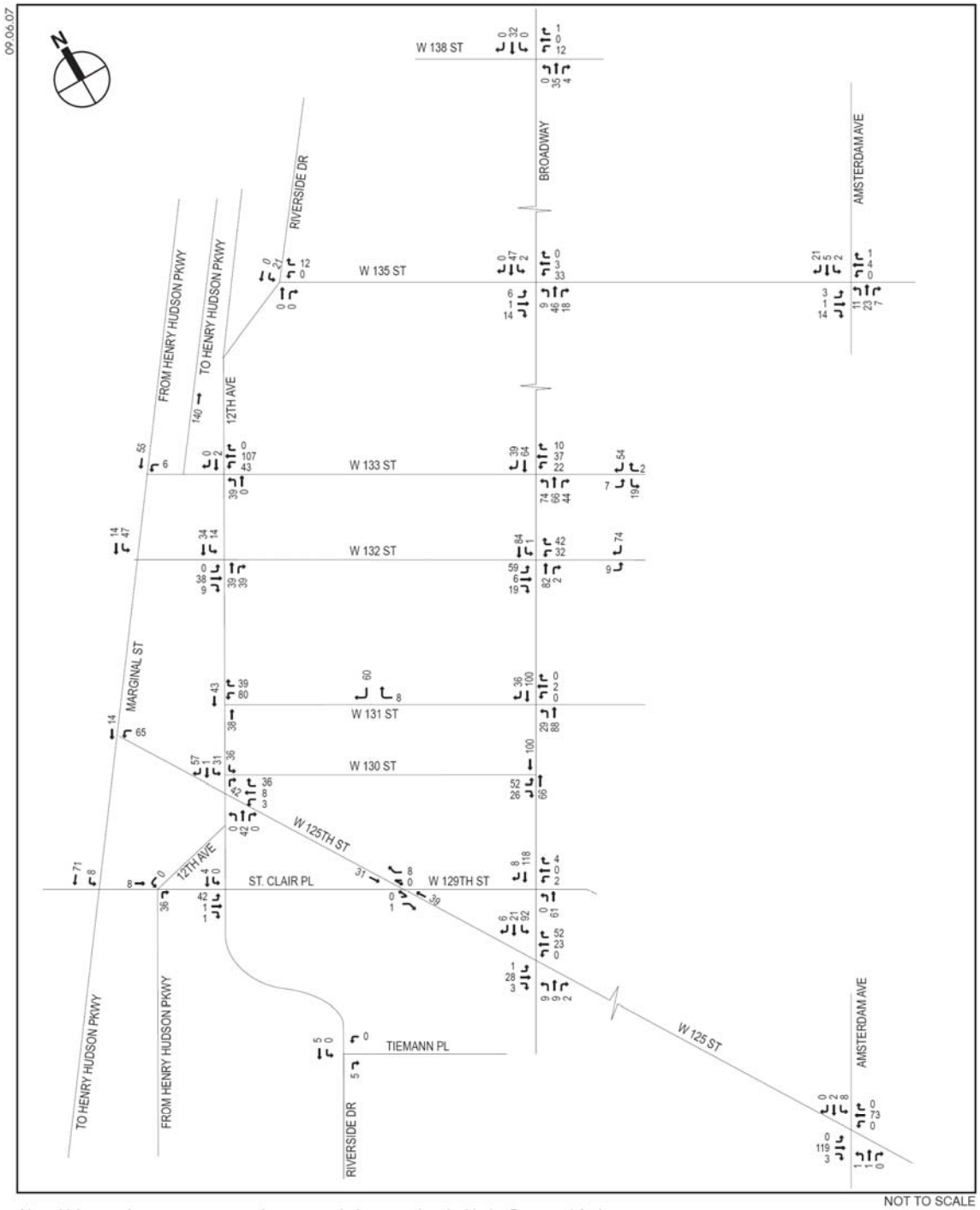
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-8
Primary Study Area
Project-Generated 2015 Midday Peak Hour

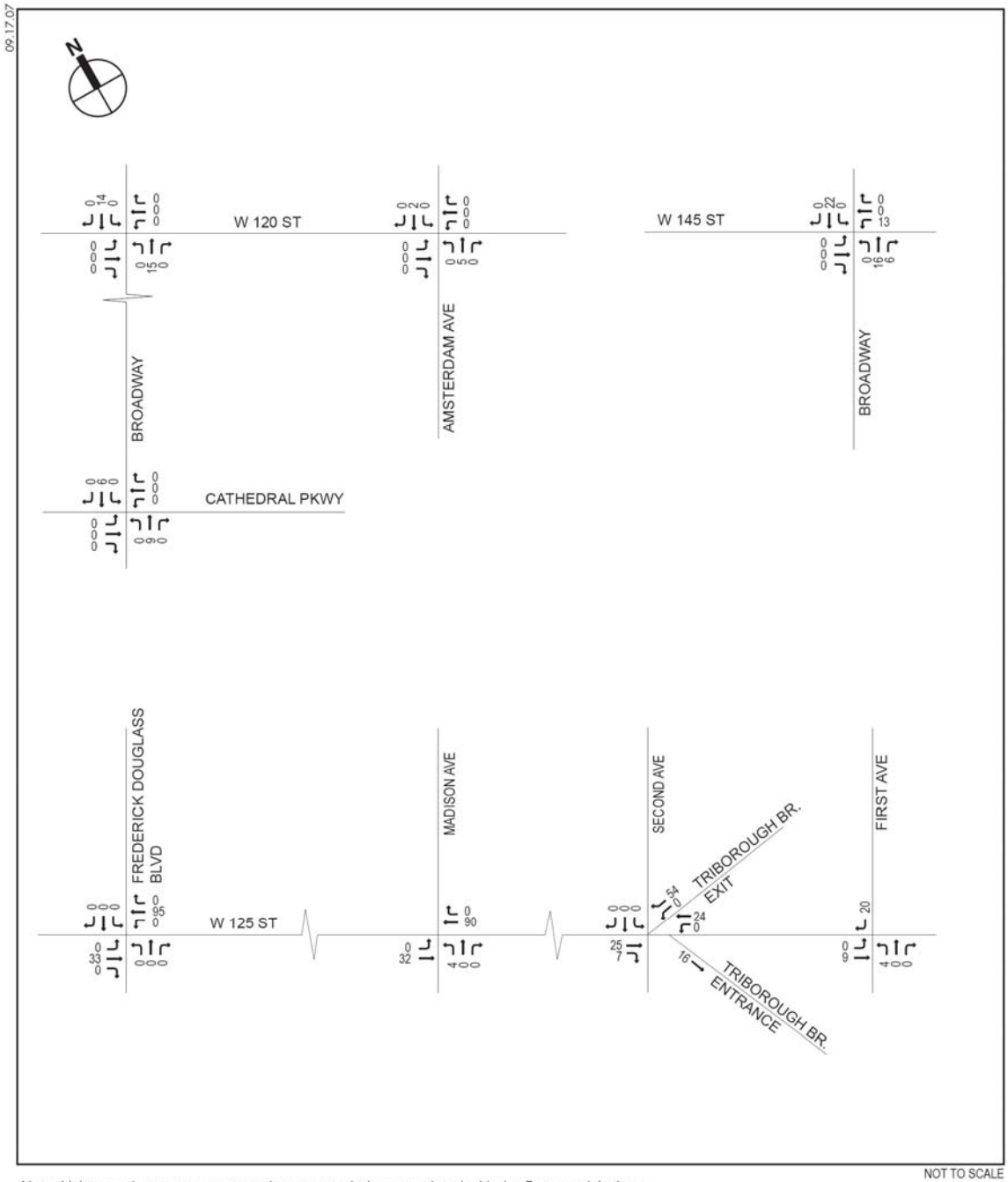
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-9
Primary Study Area
Project-Generated 2015 Evening Peak Hour

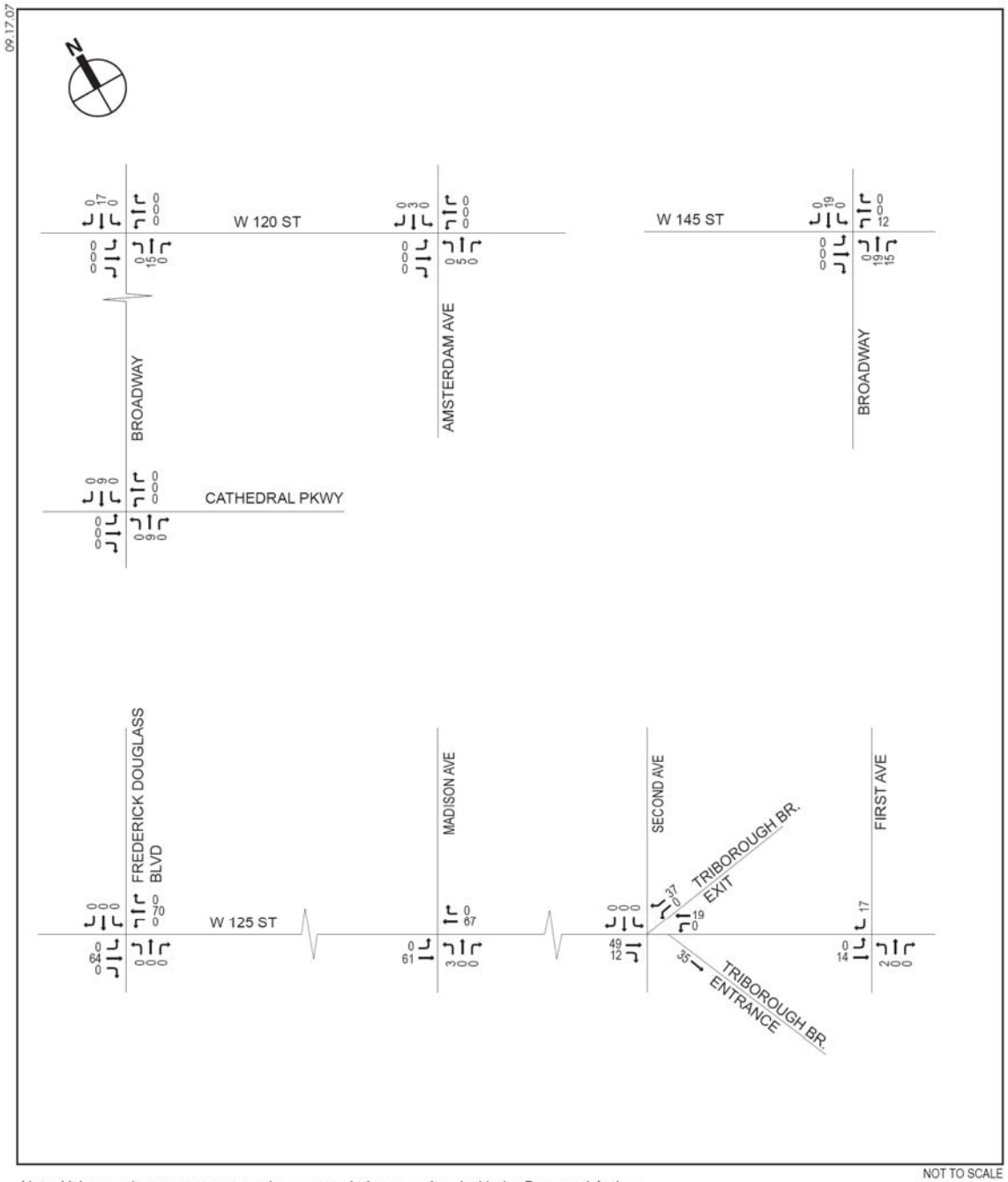
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-10
Secondary Study Area
Project Generated 2015 Morning Peak Hour

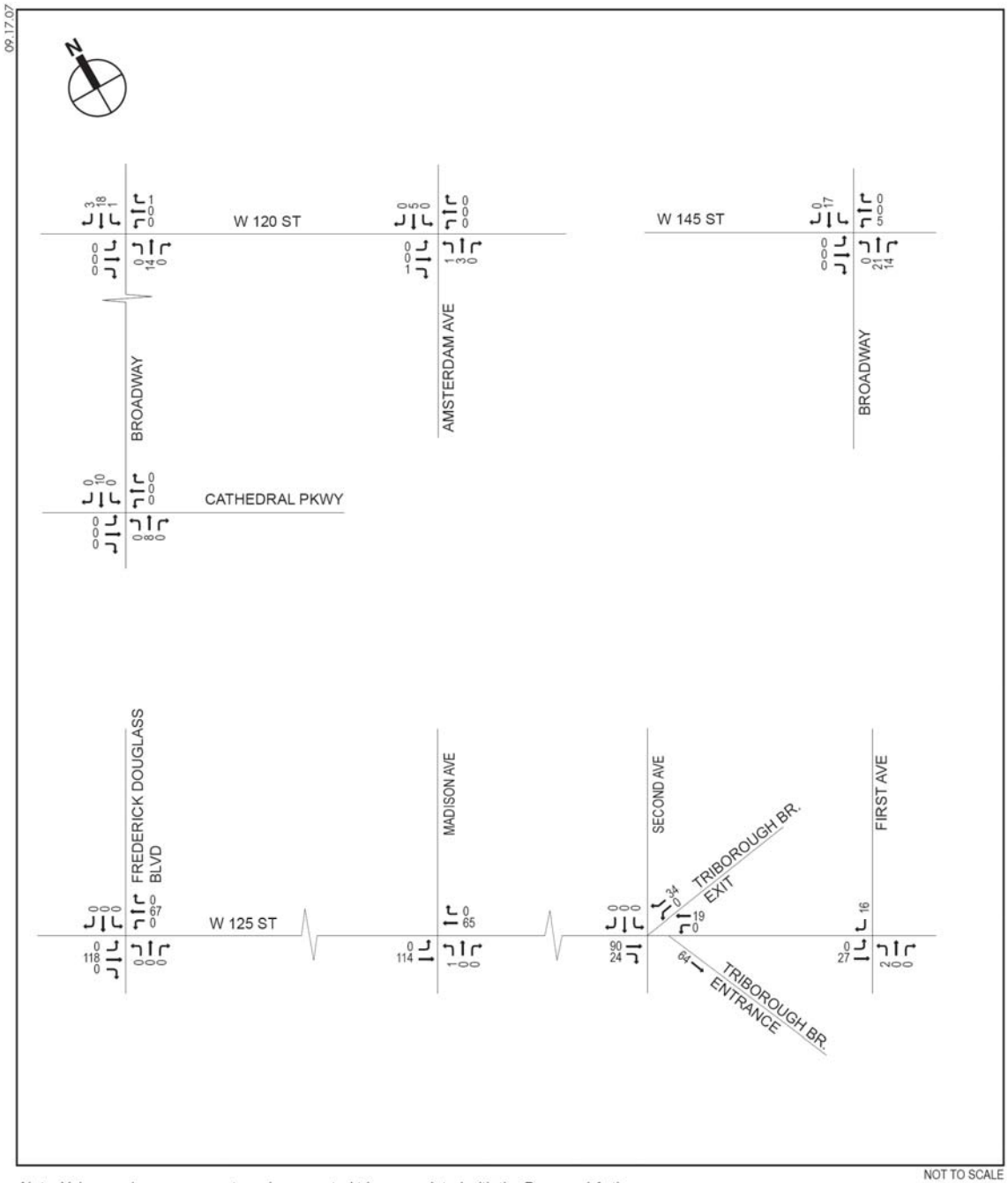
MANHATTANVILLE IN WEST HARLEM REZONING
AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-11
Secondary Study Area
Project Generated 2015 Midday Peak Hour

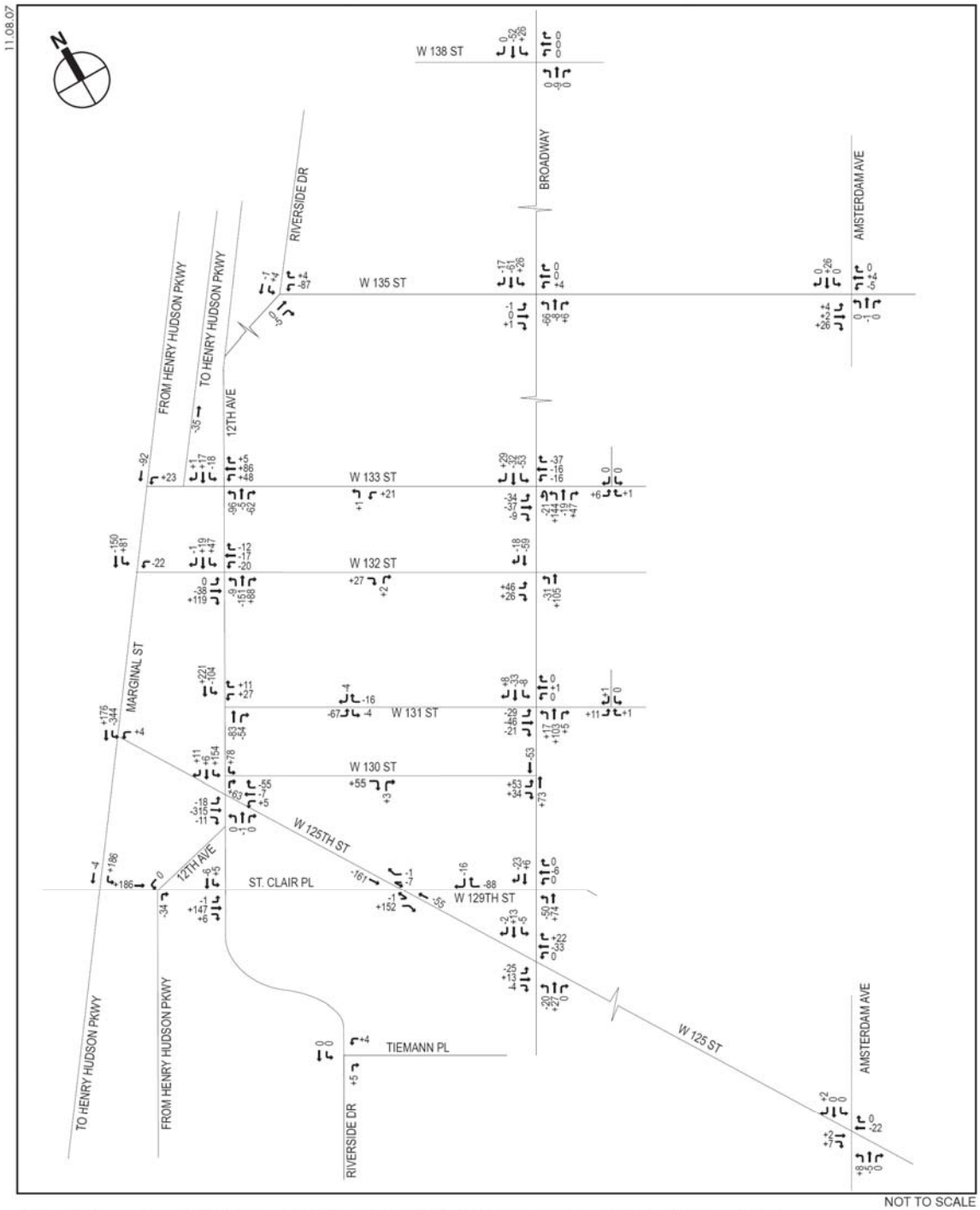
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-12
Secondary Study Area
Project Generated 2015 Evening Peak Hour

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

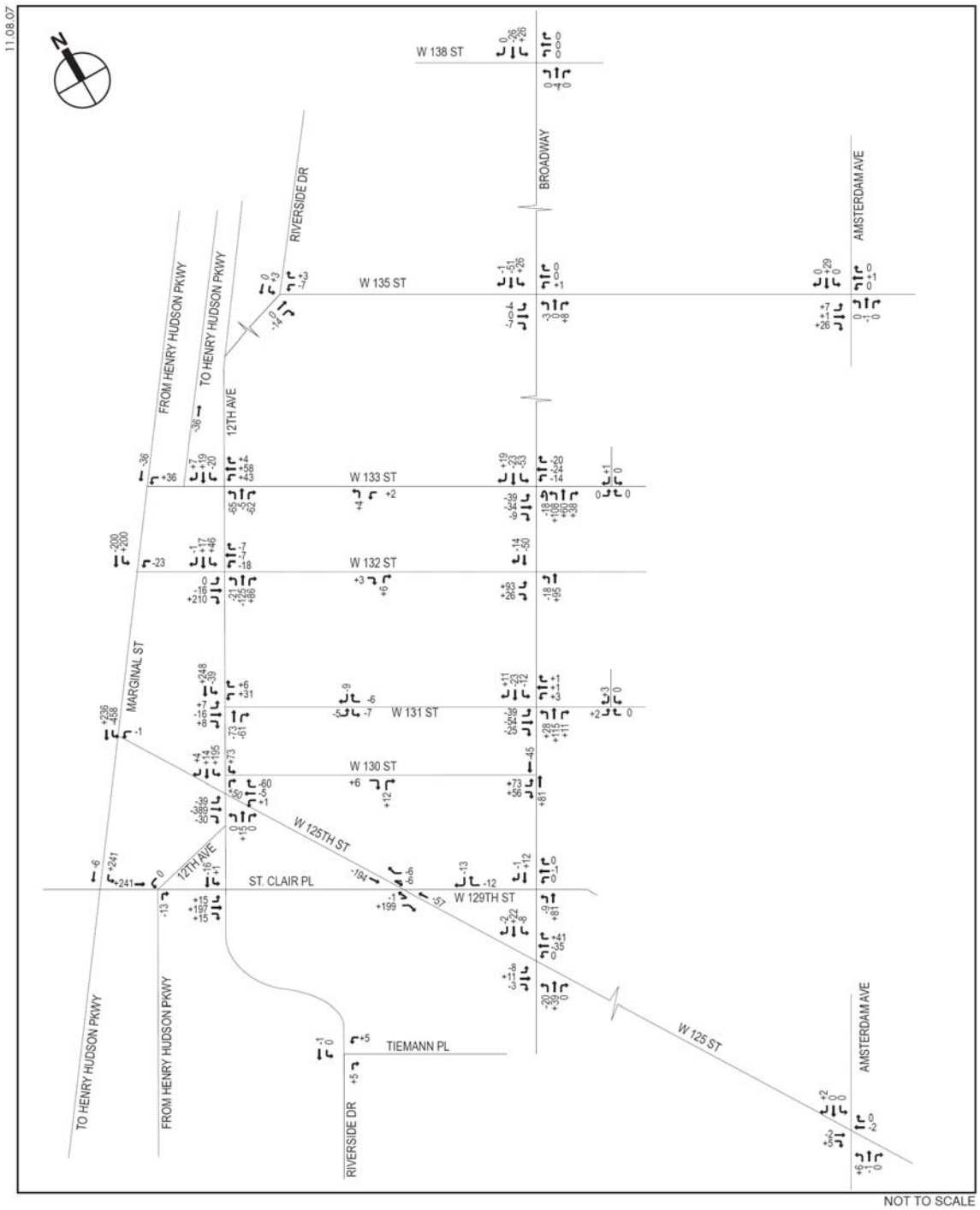


Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-13

Primary Study Area
Traffic Diversions 2030 Morning Peak Hour

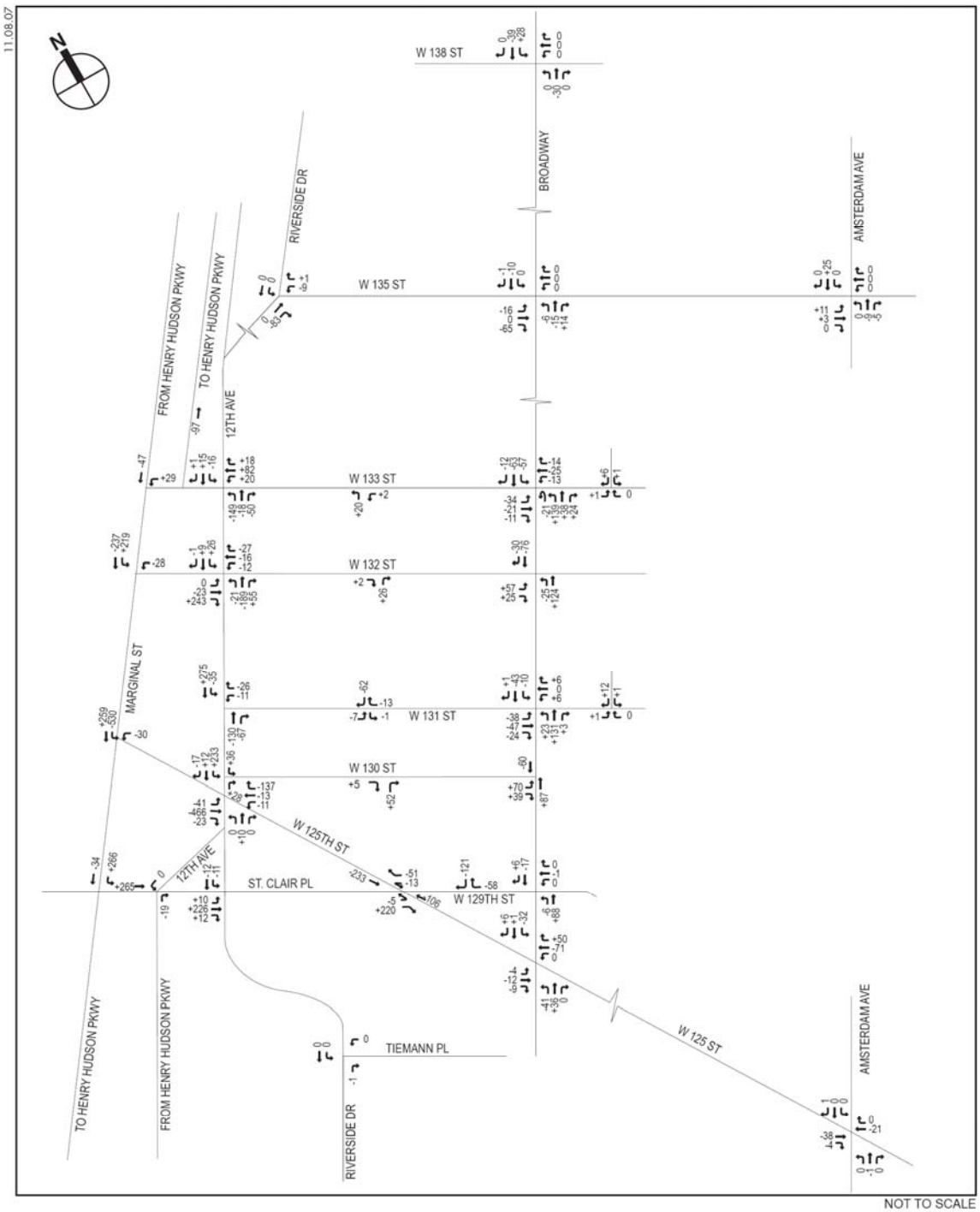
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-14
Primary Study Area
Traffic Diversions 2030 Midday Peak Hour

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

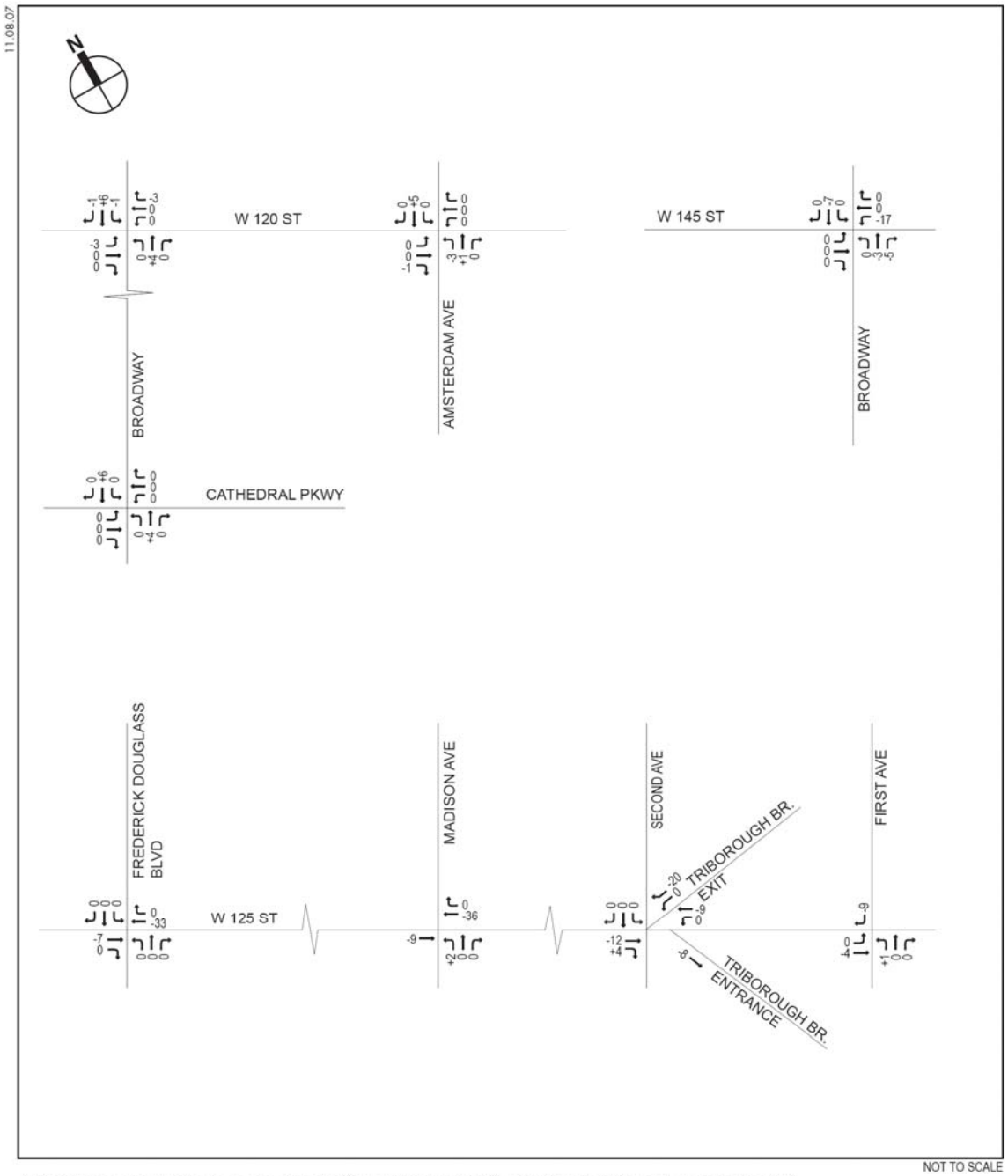


Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-15

Primary Study Area
Traffic Diversions 2030 Evening Peak Hour

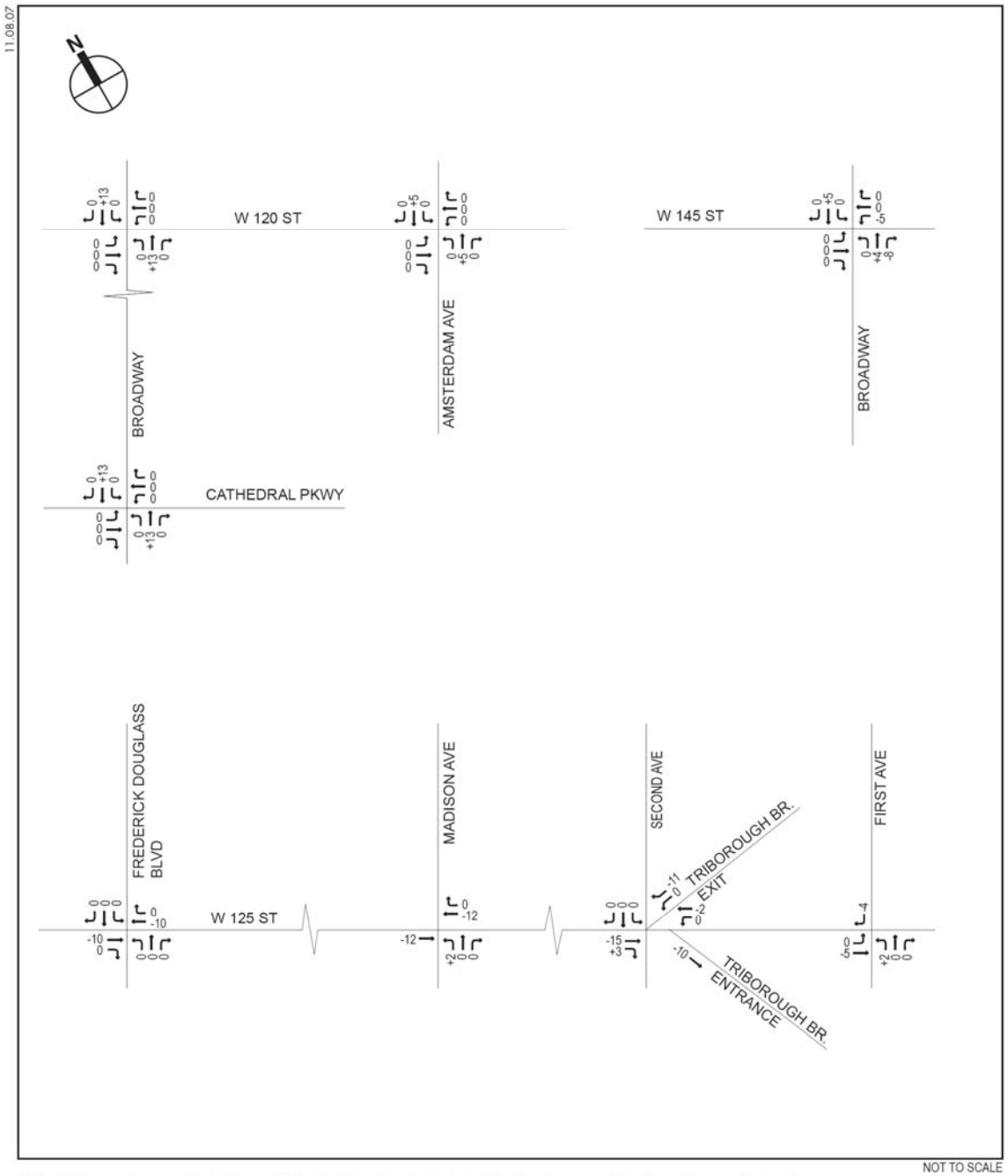
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-16
Secondary Study Area
Traffic Diversions 2030 Morning Peak Hour

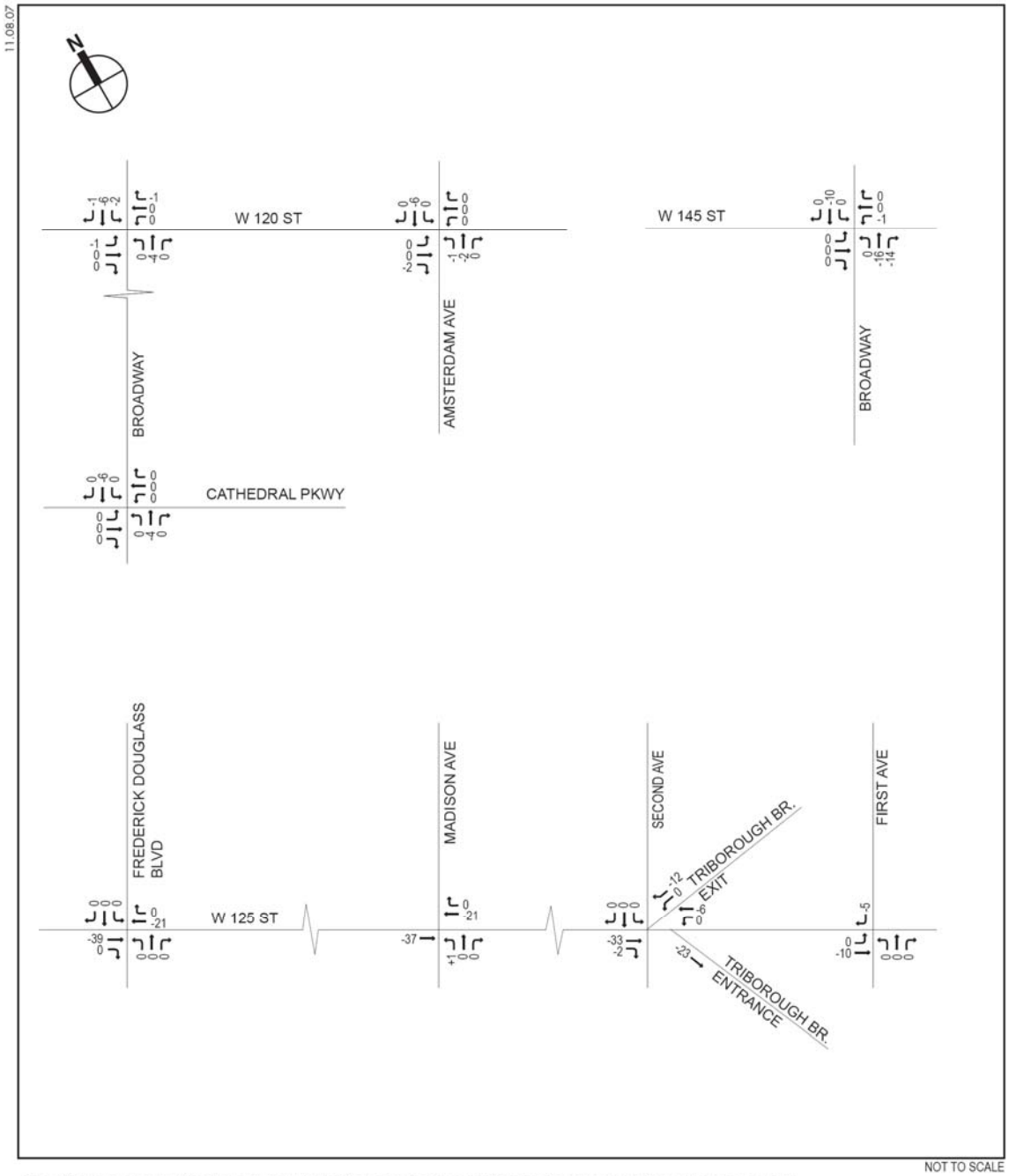
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-17
Secondary Study Area
Traffic Diversions 2030 Midday Peak Hour

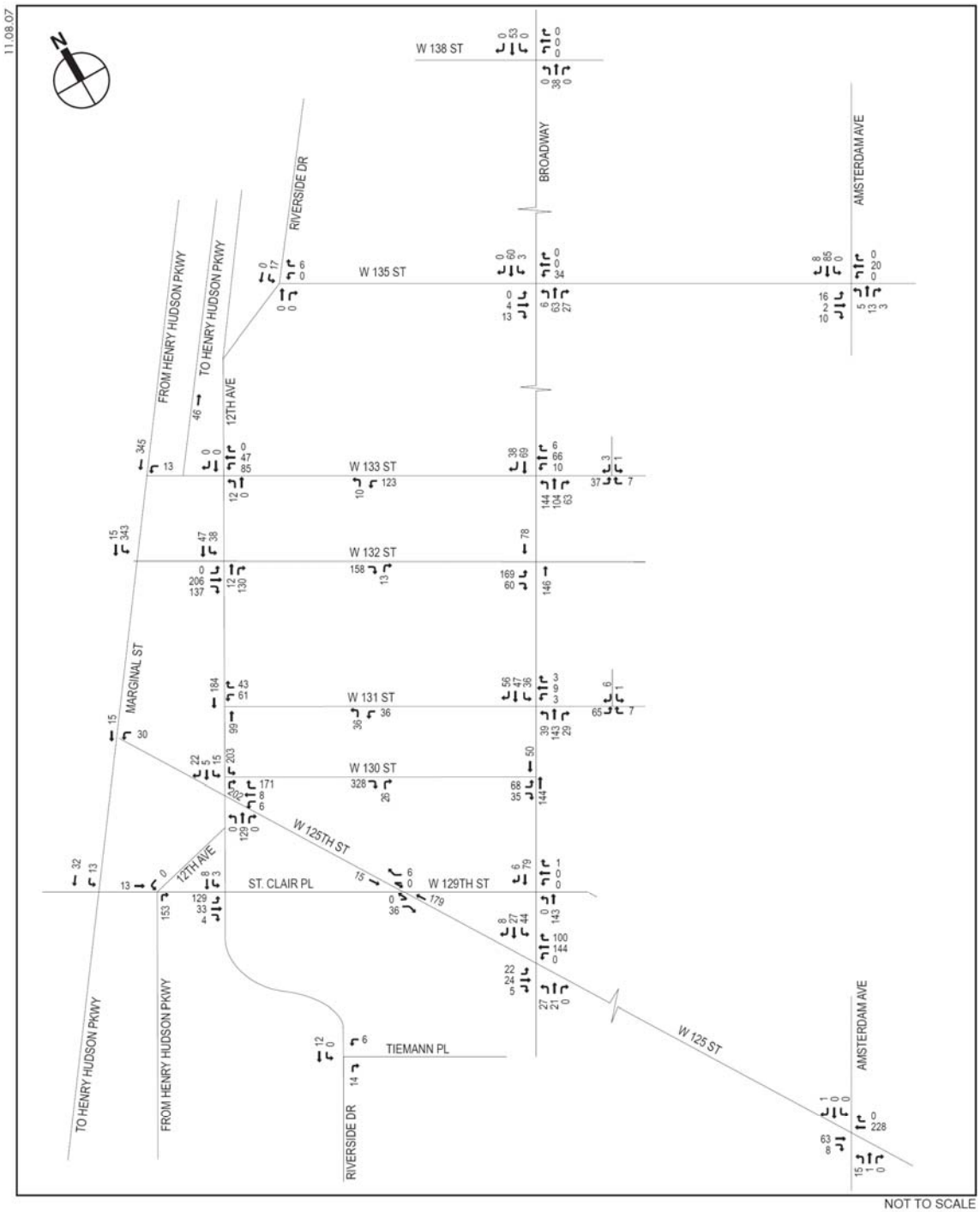
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown reflect changes in the traffic network due to traffic diversions resulting from changes in street direction and parking patterns, and status of several No Build projects within the study area under the Build condition.

Figure H-18
Secondary Study Area
Traffic Diversions 2030 Evening Peak Hour

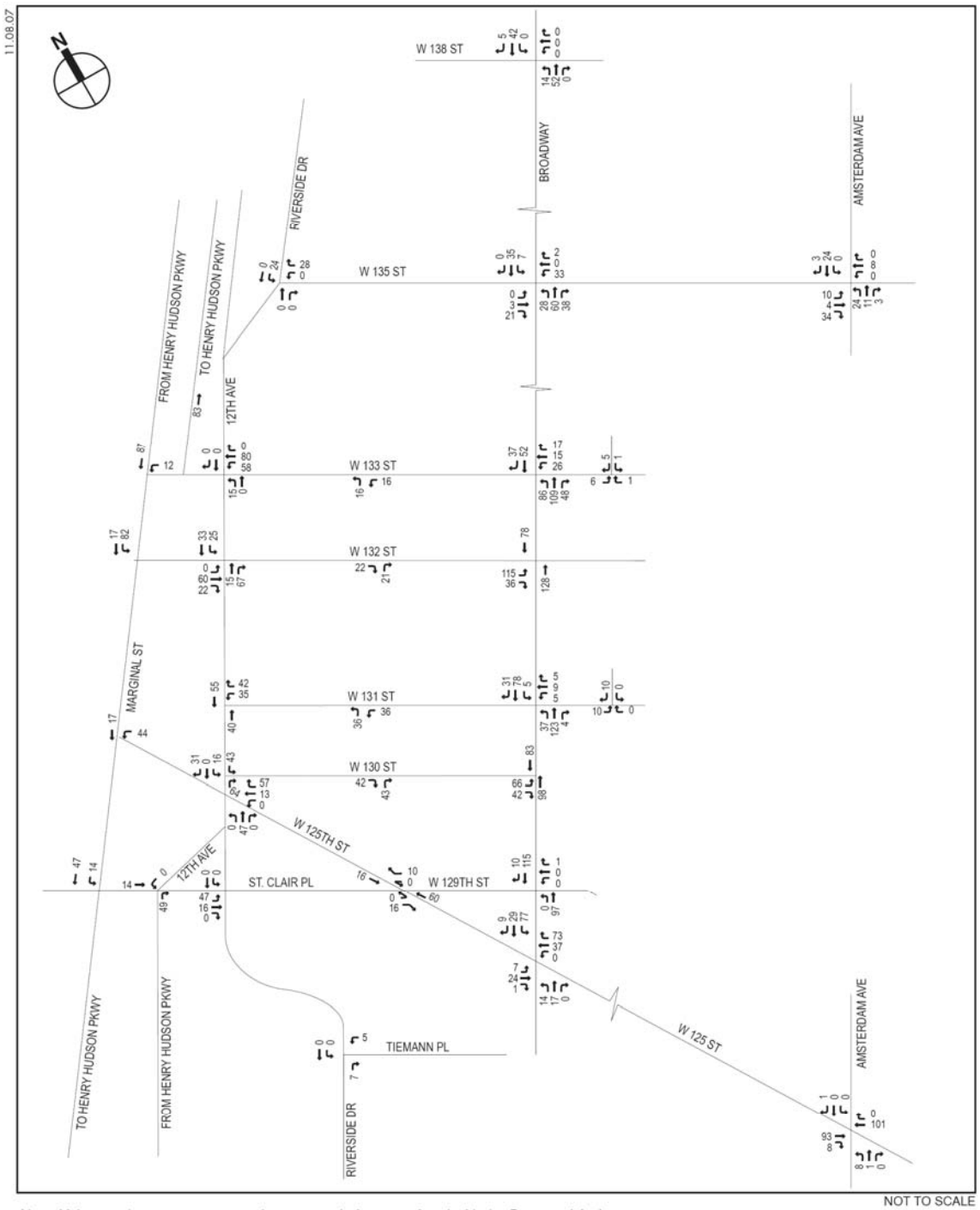
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-19
Primary Study Area
Project-Generated 2030 Morning Peak Hour

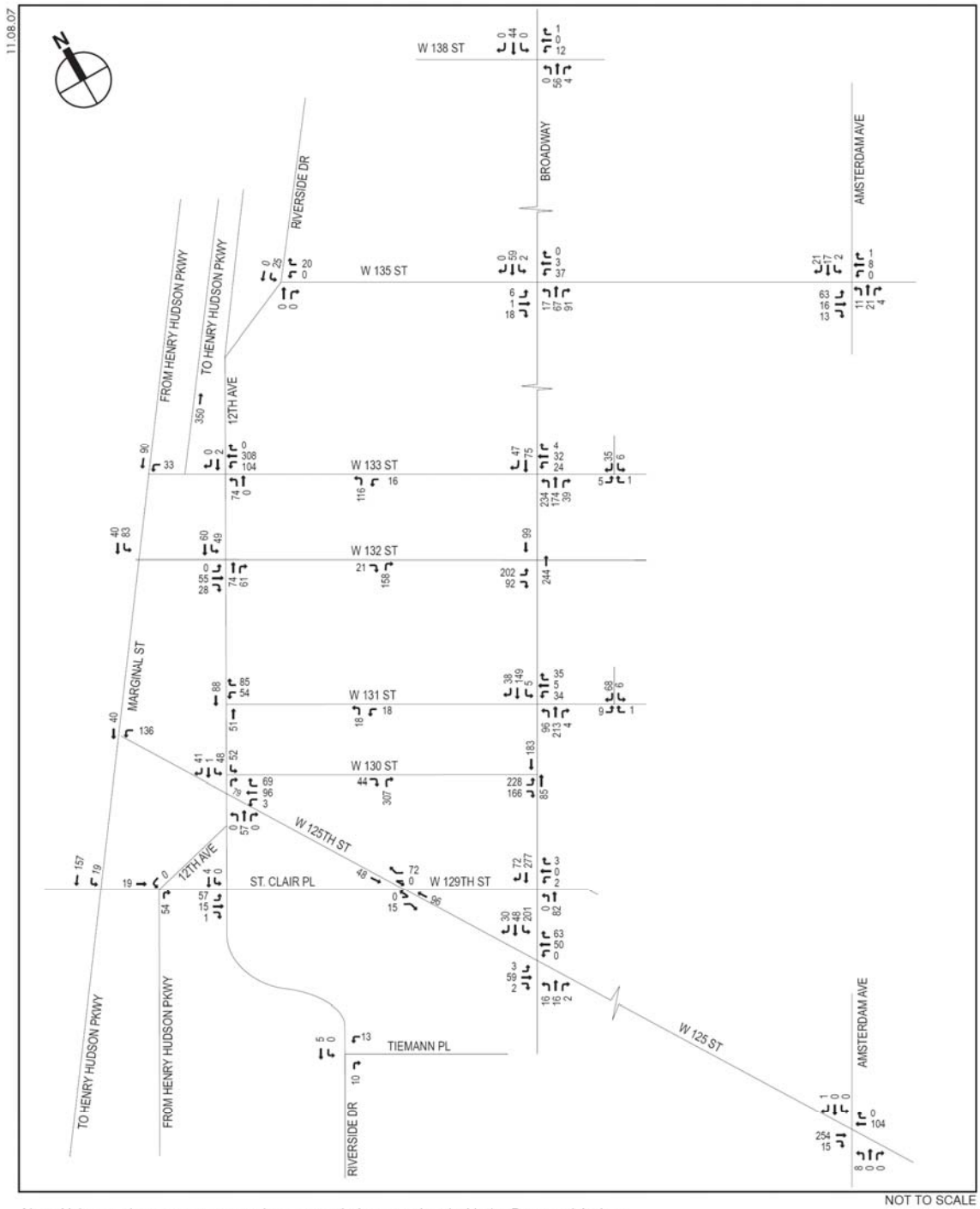
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-20
Primary Study Area
Project-Generated 2030 Midday Peak Hour

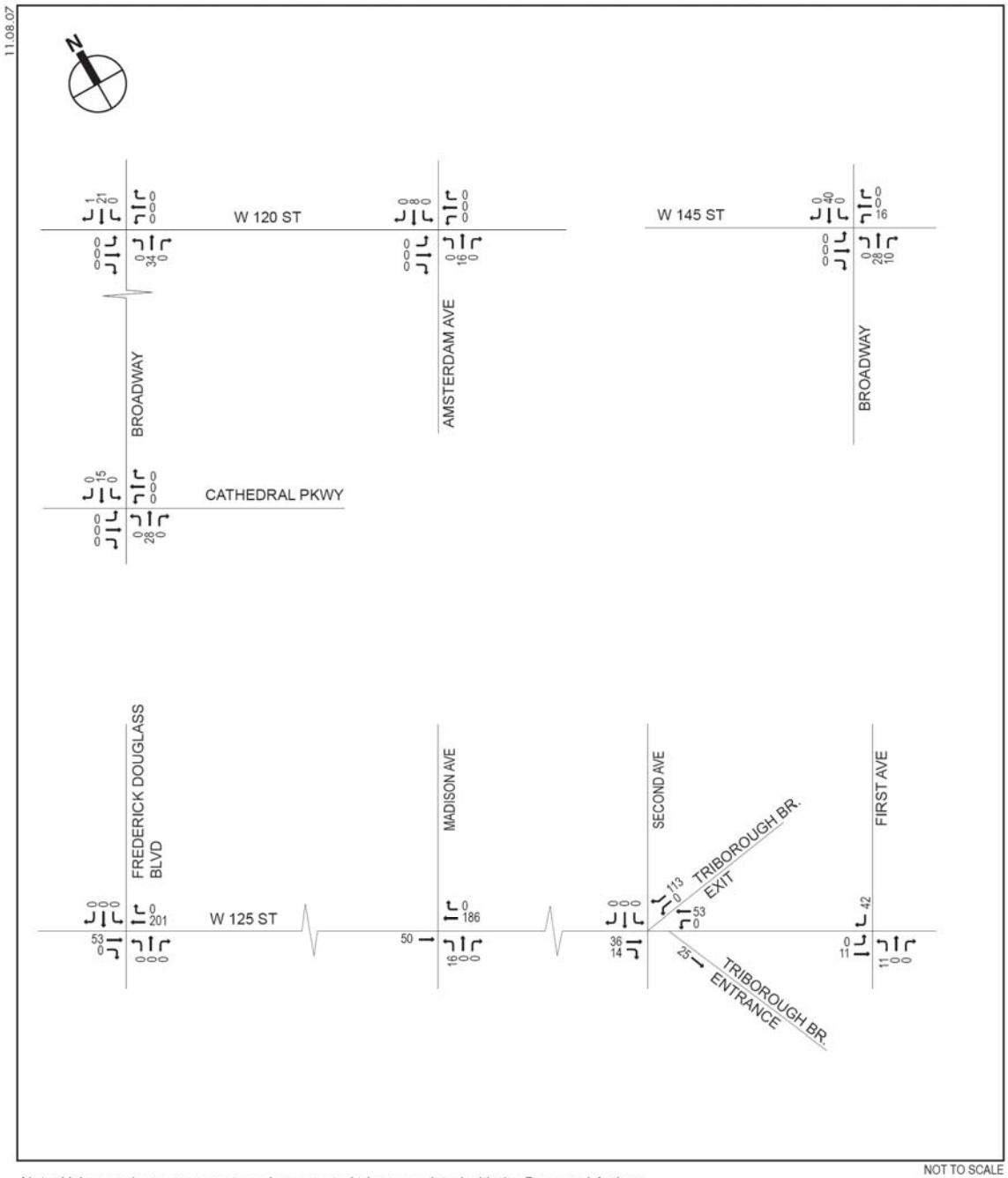
MANHATTANVILLE IN WEST HARLEM REZONING
AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-21
Primary Study Area
Project-Generated 2030 Evening Peak Hour

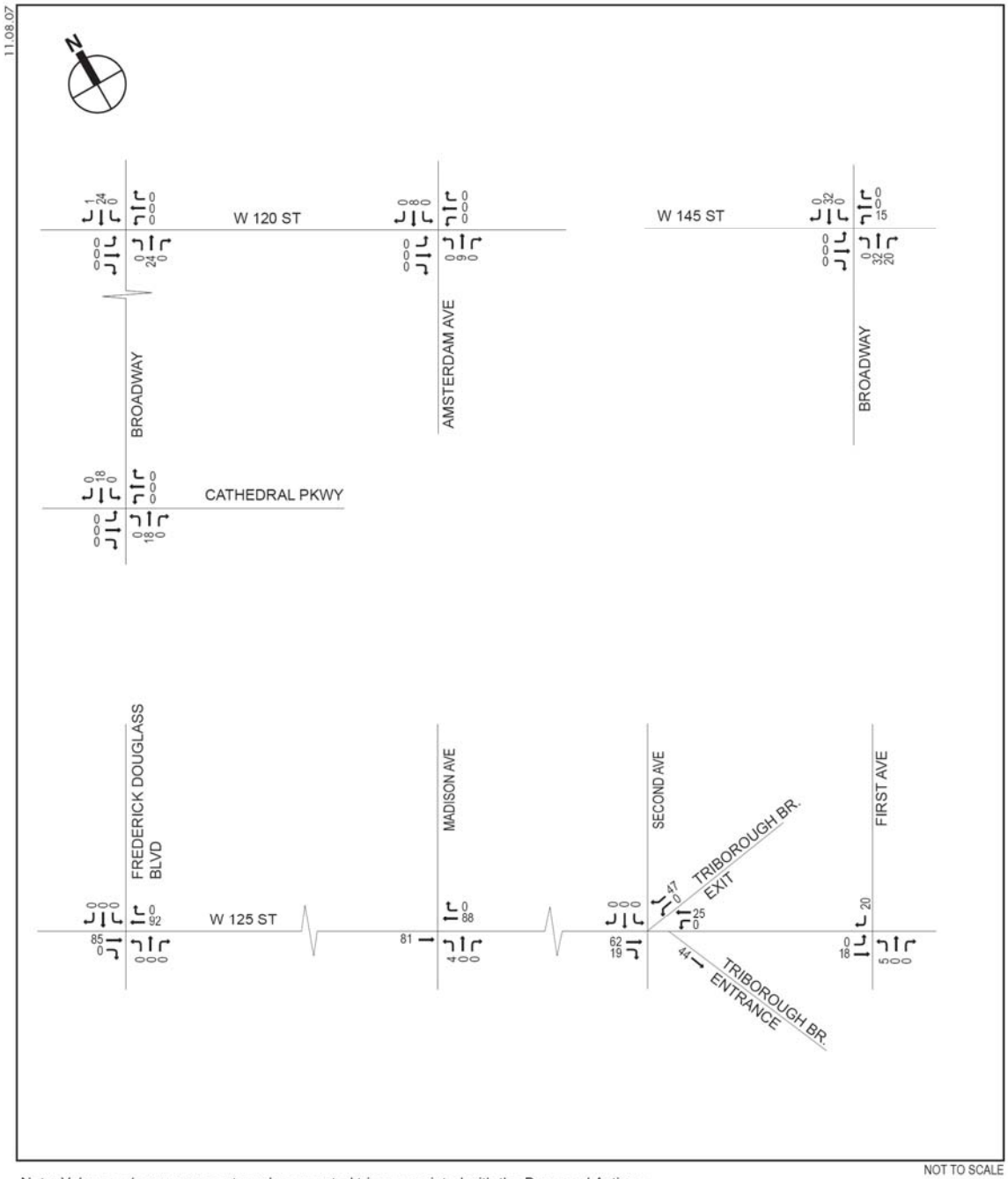
MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

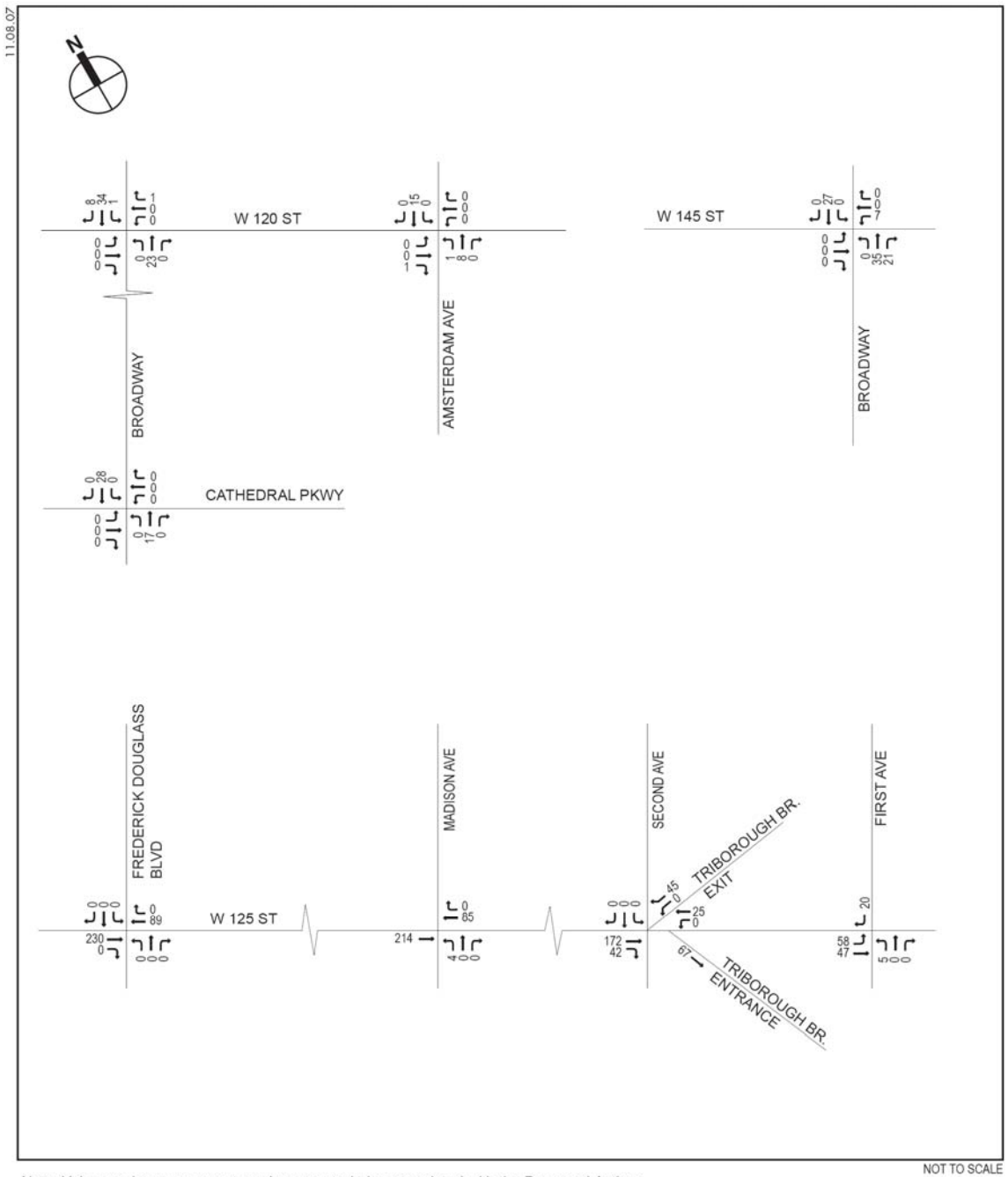
Figure H-22
Secondary Study Area
Project Generated 2030 Morning Peak Hour



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-23
Secondary Study Area
Project Generated 2030 Midday Peak Hour

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT



Note: Volumes shown represent newly-generated trips associated with the Proposed Actions.

Figure H-24
Secondary Study Area
Project Generated 2030 Evening Peak Hour

MANHATTANVILLE IN WEST HARLEM REZONING
AND ACADEMIC MIXED-USE DEVELOPMENT

E. NO BUILD PARKING ASSUMPTIONS

Table H-13
No Build Projects Trip Generation

Columbia University, No Build Projects Trip Generation*									
No Build Project #	**Project Name**	**Description**	**Size of the Project**	**Daily Person Trip Rate**	**Unit**	**Per**	**Auto %**	**Vehicle Occupancy**	**Total Auto Trips**
1	Eliminated from No Build Projects								
2	West Harlem Waterfront EAS	Waterfront Open Space	120387	3.19	1000	gsf	15.0%	2.80	21
		Site Building	9000	26.6	1000	gsf	30.0%	1.65	44
		Ferry Pier	1	350	1	slip	1.0%	1.50	2
3	Striver's Garden	Retail Component	46000	47.42	1000	Sf	2.0%	1.60	27
		Residential Component	170	8.075	1	DU	19.5%	1.20	223
4	Citrella (Taystee)	Office Component	50000	18	1000	Sf	23.0%	1.20	173
		Retail Component	30000	47.42	1000	Sf	2.0%	1.60	18
5	Mink Building	Office Component	120000	18	1000	Sf	23.0%	1.20	414
6	W.127th St Cornerstone	Retail Component	40000	47.42	1000	Sf	2.0%	1.60	24
		Residential Component	200	8.075	1	DU	13.0%	1.20	175
7	Mart 125	Retail Component	10000	47.42	1000	Sf	2.0%	1.60	6
		Office Component	40000	18	1000	Sf	25.0%	1.20	150
8 & 9	Harlem Dowling & United	Retail Component	4000	47.42	1000	Sf	2.0%	1.60	2
		Office Component	65200	18	1000	Sf	25.0%	1.20	245
		Residential Component	40	8.075	1	DU	16.0%	1.20	43
10	Harlem Park Hotel	Outside of 1 Mile study area							
11	Vincent Cyrus Plaza	Outside of 1 Mile study area							
12	Uptown NY	Outside of 1 Mile study area							
13	Harlem Auto Mall	Outside of 1 Mile study area							
14	East River Plaza	Outside of 1 Mile study area							
15, 16 & 17	Shabazz & Kalahari	Outside of 1 Mile study area							
18	CU New Acad-Bdg (McDonald Site)	Columbia Operated no build project							
19	CU New Acad-Res Bdg (120)	Research	185000	19.5	1000	Sf	14.5%	1.20	436
20	CUNY Dorm	Residential Component	600	4.75	1	Resident	2.0%	1.50	38
21	CU Admin Bdg (Studebaker Bdg)	Columbia Operated no build project							
22	Science High School	Columbia Operated no build project							
23	CU Office Bdg (Nash)	Columbia Operated no build project							
24	CU Office Bdg (U-Haul)	Columbia Operated no build project							
25	CUNY Science Bdgs & Others	Research	350000	19.5	1000	Sf	14.5%	1.20	825

Notes:
*. No build trip generation data is based on data provided by AKRF.

Table H-14
No Build Projects Parking Requirement

Columbia University, No Build Projects Parking Requirement*

No Build Project #	Project Name	Description	Size of the Project	Zoning	Parking Requirement	per	unit(s)	Total Requirement (as per zoning)	Total Requirement (as per parking limit)	Sources/ Notes:
1	Eliminated from No Build Projects									
2	West Harlem Waterfront EAS	Waterfront Open Space Site Building Ferry Pier	120387 9000 1							
3	Striver's Garden	Retail Component	46000	C4-6	none required			0	0	Zoning Resolution T 36-20
		Residential Component	170	C4-6	40%		170	68	68	Zoning Resolution T 36-332
4	Citarella (Taystee)	Office Component	50000	M1-1 (use group 6, PRC B1)	1	300	sf	167	150	Zoning Resolution T 44-21
		Retail Component	30000	M1-1	1	200	sf	150	150	Zoning Resolution T 44-21
5	Mink Building	Office Component	120000	M1-1 (use group 6, PRC B1)	1	300	sf	400	150	Zoning Resolution T 44-22
6	W.127th St Cornerstone	Retail Component	40000	C1-4	1	1000	sf	40	40	Zoning Resolution T 36-20
		Residential Component	200	R7-2	40%		200	80	80	Zoning Resolution T 36-332
7	Mart 125	Retail Component	10000	C4-4	1	1000	sf	10	10	Zoning Resolution T 36-20
		Office Component	40000	C4-4	1	1000	sf	40	40	Zoning Resolution T 36-20
8 & 9	Harlem Dowling & United	Retail Component	4000	C1-4	1	1000	sf	4	16	Zoning Resolution T 36-20
		Office Component	65200	C1-4	1	1000	sf	66	66	Zoning Resolution T 36-20
		Residential Component	40	C1-4	50%		40	20	20	Zoning Resolution T 36-332
10	Harlem Park Hotel	Outside of 1 Mile study area								
11	Vincent Cyrus Plaza	Outside of 1 Mile study area								
12	Uptown NY	Outside of 1 Mile study area								
13	Harlem Auto Mall	Outside of 1 Mile study area								
14	East River Plaza	Outside of 1 Mile study area								
15, 16 & 17	Shabazz & Kalahari	Outside of 1 Mile study area								
18	CU New Acad-Bdg (McDonald Site)	Columbia Operated no build project								
19	CU New Acad-Res Bdg (120)	Research	185000	R8	none required				0	Zoning Resolution T 25-31
20	CUNY Dorm	Residential Component	600	R7-2	none required				0	Zoning Resolution T 25-31
21	CU Admin Bdg (Studebaker Bdg)	Columbia Operated no build project								
22	Science High School	Columbia Operated no build project								
23	CU Office Bdg (Nash)	Columbia Operated no build project								
24	CU Office Bdg (U-Haul)	Columbia Operated no build project								
25	CUNY Science Bdgs & Others	Research	350000	R7-2	none required				0	Zoning Resolution T 25-31
								1045	**790**	

Notes;
*. Based on Zoning Handbook, NYCDCP, 2006 and Zoning Resolution, The City of New York.

Table H-15
No Build Projects Parking Accumulation

	Office Component			Research Component[1]			Retail Component[1]			Residential Component[2]			Total Accumulation		
Time Period	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
	At start		0	At start		0	At start		0	At start		168			
Before 7 AM	0	0	0	0	8	0	0	0	0	10	10	168	10	18	168
7- 8 AM	7	0	7	33	0	33	0	0	0	3	16	155	43	16	195
8 -9 AM	98	6	99	177	9	201	4	4	1	7	37	125	286	56	425
9- 10 AM	85	92	92	146	25	322	0	4	0	7	25	107	238	146	521
10 -11 AM	65	65	92	91	31	381	4	0	4	10	14	103	170	110	580
11- 12 PM	92	85	99	20	16	386	4	4	5	11	11	103	128	115	593
12- 1 PM	59	59	99	28	28	386	13	11	7	11	11	103	111	109	595
1 - 2 PM	32	26	105	22	28	380	8	11	4	11	11	103	73	76	592
2 - 3 PM	13	20	98	8	13	375	8	4	9	10	10	103	39	46	585
3 - 4 PM	13	13	98	8	23	359	4	7	6	13	13	103	38	57	567
4 - 5 PM	13	13	98	19	169	209	4	7	3	21	14	110	57	203	421
5 - 6 PM	13	92	19	16	131	94	8	7	5	36	15	131	73	246	248
6 - 7 PM	0	13	6	22	84	31	8	7	6	32	14	149	62	119	192
7- 8 PM	0	7	0	11	30	12	4	7	3	26	14	161	41	58	176
8 -9 PM	0	0	0	17	16	14	0	0	3	12	6	167	29	22	184
9- 10 PM	0	0	0	8	8	14	0	0	3	3	10	160	11	18	177
	490	**491**		**626**	**619**		**72**	**72**		**223**	**231**		**1410**	**1413**	

Notes:

1. Parking accumulation based on Columbia University PDEIS.

2. Parking accumulation based on Hudson Yards FEIS.

3. Total ins and outs may not equal due to rounding.

F. COLUMBIA NO BUILD & BUILD PARKING ACCUMULATION

Table H-16
Columbia No Build Projects Parking Accumulation

No Build Project			New Columbia Universtiy Academic Building			Science, Math and Engineering Secondary School			New Columbia Administrative Building (Studebaker)			New Columbia Office Building (No. 23), Warren Nash Service Station building			New Columbia Office Building (No. 24), U-Haul Site		
Time Period			In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation	In	Out	Accumulation
Before 7:00AM			0	0	0			0			0	0	0	0	0	0	0
7:00 AM	---	8:00 AM	11	0	11	0	0	0	8	1	7	3	0	3	2	0	2
8:00 AM	---	9:00 AM	40	3	48	13	0	13	95	16	86	78	4	77	48	2	48
9:00 AM	---	10:00 AM	41	7	82	0	0	13	70	7	149	28	31	74	15	17	46
10:00 AM	---	11:00 AM	37	8	111	0	0	13	18	14	153	20	20	74	10	10	46
11:00 AM	---	12:00 PM	13	7	118	0	0	13	4	9	148	31	28	77	18	16	48
12:00 PM	---	1:00 PM	9	9	118	0	0	13	16	16	148	8	15	70	5	8	45
1:00 PM	---	2:00 PM	11	13	116	0	0	13	17	9	156	9	6	73	8	7	46
2:00 PM	---	3:00 PM	5	8	113	0	0	13	10	5	161	5	6	72	3	5	44
3:00 PM	---	4:00 PM	5	15	103	0	0	13	3	4	160	5	6	71	3	3	44
4:00 PM	---	5:00 PM	4	38	69	0	13	0	16	87	89	8	62	17	5	38	11
5:00 PM	---	6:00 PM	7	39	36	0	0	0	11	84	16	5	30	0	3	24	0
6:00 PM	---	7:00 PM	7	29	13	0	0	0	4	18	2	0	4	0	0	3	0
7:00 PM	---	8:00 PM	7	16	4	0	0	0	1	3	0	0	3	0	0	2	0
8:00 PM	---	9:00 PM	8	8	4	0	0	0	1	0	1	0	0	0	0	0	0
9:00 PM	---	10:00PM	5	3	5	0	0	0	0	0	1	0	0	0	0	0	0
			208	**203**		**13**	**13**		**274**	**273**		**200**	**215**		**120**	**135**	

Notes:
1. Total ins and total outs may not equal due to rounding.
2. Parking accumulation for Studabaker Building, Science, Math and Engineering School, New Columbia University Academic Building based on data provided by AKRF..

Table H-17
Columbia Subdistrict B and "Other Area" Parking Accumulation

Non-Columbia Projects			Residential (Other Area)			Commercial (District B)			Retail (District B)			Retail (Other Area)			Community (Other Area)			Total without Averages		
Hour			In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum
Accumulation at start					52			0			0			0			0			52
Before 7:00AM			2	8	46	0	0	0	70	8	62	1	0	1	9	1	8	82	17	117
7:00 AM	-	8:00 AM	0	12	34	1	0	1	15	19	58	0	0	1	2	2	8	18	33	102
8:00 AM	-	9:00 AM	3	16	21	26	2	25	20	20	58	0	0	1	39	0	47	88	38	152
9:00 AM	-	10:00 AM	2	11	12	17	9	33	21	16	63	0	0	1	3	4	46	43	40	155
10:00 AM	-	11:00 AM	4	2	14	8	8	33	32	32	63	0	0	1	4	4	46	48	46	157
11:00 AM	-	12:00 PM	3	1	16	4	11	26	60	30	93	1	0	2	5	3	48	73	45	185
12:00 PM	-	1:00 PM	5	5	16	6	11	21	46	46	93	1	1	2	5	5	48	63	68	180
1:00 PM	-	2:00 PM	2	2	16	6	5	22	64	27	130	0	0	2	6	2	52	78	36	222
2:00 PM	-	3:00 PM	8	4	20	3	4	21	47	70	107	0	1	1	6	9	49	64	88	198
3:00 PM	-	4:00 PM	9	5	24	3	3	21	49	58	98	0	0	1	7	7	49	68	73	193
4:00 PM	-	5:00 PM	13	6	31	3	3	21	45	45	98	0	0	1	6	6	49	67	60	200
5:00 PM	-	6:00 PM	15	7	39	2	21	2	63	63	98	1	1	1	0	39	10	81	131	150
6:00 PM	-	7:00 PM	11	8	42	0	1	1	0	65	33	0	1	0	0	8	2	11	83	78
7:00 PM	-	8:00 PM	8	7	43	0	0	1	0	37	0	0	0	0	0	1	1	8	45	45
8:00 PM	-	9:00 PM	7	6	44	0	0	1	6	6	0	0	0	0	1	1	1	14	13	46
9:00 PM	-	10:00PM	6	4	46	0	0	1	0	0	0	0	0	0	0	0	1	6	4	48
Daily Total			**98**	**104**		**79**	**78**		**538**	**542**		**4**	**4**		**93**	**92**		**812**	**820**	

Notes:
1. Based on Pushkarev & Zupan, *Urban Space for Pedestrians* (1975); starting accumulation based on Census auto ownership rate for 88 Leonard Census tract
2. Based on East 76th Street Rezoning DEIS
3. Based on 2003 survey of existing parking facility
4. Peak hour parking accumulation represents the average of the time period.
5. Total ins and outs may not equal due to rounding.

Table H-18
2015 Columbia University Parking Accumulation

Total Columbia Auto Trips

Time Beginning	Columbia No Build Sites												Columbia Build Traffic and Transportation Worst-Case															Grand Total		
	Prentis Hall*			New Academic Bldg**			Studebaker Building			Subtotal			Research			Academic			University Housing			Administrative Office			Retail & Support			Subtotal					
	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum
Midnight	0	1	2	0	2	2	0	0	0	0	3	4	0	1	1	1	7	8	0	0	0	0	0	0	0	0	1	1	8	10	1	11	14
1:00 AM	0	1	1	0	2	0	0	0	0	0	3	1	0	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	9	1	0	12	2
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
3:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
4:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
5:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
6:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
7:00 AM	3	0	4	7	0	7	8	1	7	18	1	18	10	0	10	33	0	33	0	0	0	0	0	0	0	0	1	43	0	44	61	1	62
8:00 AM	16	1	19	29	6	30	95	16	86	140	23	135	52	4	58	156	10	179	0	0	0	0	0	0	1	1	1	209	15	238	349	38	373
9:00 AM	12	2	29	25	4	51	70	7	149	107	13	229	43	8	93	119	21	277	0	0	0	0	0	0	0	1	0	162	30	370	269	43	599
10:00 AM	12	2	39	23	5	69	18	14	153	53	21	261	27	10	110	112	20	369	0	0	0	0	0	0	1	0	1	140	30	480	193	51	741
11:00 AM	4	1	42	8	4	73	4	9	148	16	14	263	5	4	111	22	9	382	0	0	0	0	0	0	1	1	1	28	14	494	44	28	757
12:00 PM	4	4	42	9	9	73	16	16	148	29	29	263	7	7	111	24	24	382	0	0	0	0	0	0	3	3	1	34	34	494	63	63	757
1:00 PM	3	4	41	7	8	72	17	9	156	27	21	269	6	7	110	18	23	377	0	0	0	0	0	0	3	2	2	27	32	489	54	53	758
2:00 PM	1	3	39	3	5	70	10	5	161	14	13	270	2	3	109	9	13	373	0	0	0	0	0	0	2	1	3	13	17	485	27	30	755
3:00 PM	1	4	36	3	9	64	3	4	160	7	17	260	2	6	105	7	24	356	0	0	0	0	0	0	1	2	2	10	32	463	17	49	723
4:00 PM	2	15	23	7	27	44	16	87	89	25	129	156	6	50	61	17	147	226	0	0	0	0	0	0	1	2	1	24	199	288	49	328	444
5:00 PM	2	12	13	4	24	24	11	84	16	17	120	53	6	38	29	17	115	128	0	0	0	0	0	0	2	2	1	25	155	158	42	275	211
6:00 PM	2	9	6	4	18	10	4	18	2	10	45	18	7	25	11	21	86	63	0	0	0	0	0	0	2	2	1	30	113	75	40	158	93
7:00 PM	2	5	3	4	10	4	1	3	0	7	18	7	3	9	5	18	48	33	0	0	0	0	0	0	1	2	0	22	59	38	29	77	45
8:00 PM	2	3	2	5	5	4	0	0	0	7	8	6	5	5	5	22	28	27	0	0	0	0	0	0	0	0	0	27	33	32	34	41	38
9:00 PM	1	2	1	3	2	5	0	0	0	4	4	6	2	3	4	12	13	26	0	0	0	0	0	0	0	0	0	14	16	30	18	20	36
10:00 PM	1	1	1	1	2	4	0	0	0	2	3	5	1	1	4	5	12	19	0	0	0	0	0	0	0	0	0	6	13	23	8	16	28
11:00 PM	0	1	0	0	2	2	0	0	0	0	3	2	0	2	2	2	6	15	0	0	0	0	0	0	0	0	0	2	8	17	2	11	19
Total	**68**	**71**	**139**	**142**	**144**	**286**	**273**	**273**	**546**	**483**	**488**	**971**	**184**	**184**	**368**	**615**	**614**	**1,229**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**19**	**37**	**817**	**817**	**1,634**	**1,300**	**1,305**	**2,605**

* Projected existing demand of Prentis Hall. ** New Academic Building also incorporates Science High School and existing McDonald's, the parking demand of which is not part of this estimate.
Note: Total ins and total outs may not equal due to rounding.

Table H-19
2030 Columbia University Parking Accumulation

Total Columbia Auto Trips

Time Beginning	Columbia No Build Sites												Columbia Build Traffic and Transportation Worst-Case															Grand Total		
	Prentis Hall*			New Academic Bldg**			Studebaker Building			Subtotal			Research			Academic			University Housing			Administrative Office			Retail & Support			Subtotal					
	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum	In	Out	Accum
Midnight	0	1	2	0	2	2	0	0	0	0	3	4	1	8	6	2	19	19	2	1	141	0	0	0	0	0	0	5	28	166	2	31	170
1:00 AM	0	1	1	0	2	0	0	0	0	0	3	1	0	6	0	1	20	0	1	0	142	0	0	0	0	0	0	2	26	142	2	29	143
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	141	0	0	0	0	0	0	0	1	141	0	1	142
3:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	140	0	0	0	0	0	0	0	1	140	0	1	141
4:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	139	0	0	0	0	0	0	0	1	139	0	1	140
5:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	138	0	0	0	0	0	0	0	1	138	0	1	139
6:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	137	0	0	0	0	0	0	0	1	137	0	1	138
7:00 AM	3	0	4	7	0	7	8	1	7	18	1	18	60	1	59	82	0	82	2	6	133	0	0	0	0	0	0	144	7	274	162	8	292
8:00 AM	16	1	19	29	6	30	95	16	86	140	23	135	329	19	369	389	23	448	3	15	121	0	0	0	1	1	0	722	58	938	862	81	1,073
9:00 AM	12	2	29	25	4	51	70	7	149	107	13	229	270	48	591	298	52	694	3	10	114	0	0	0	1	0	1	572	110	1,400	679	123	1,629
10:00 AM	12	2	39	23	5	69	18	14	153	53	21	261	170	57	704	280	50	924	4	6	112	0	0	0	2	0	3	456	113	1,743	509	134	2,004
11:00 AM	4	1	42	8	4	73	4	9	148	16	14	263	25	19	710	45	19	950	5	4	113	0	0	0	2	2	3	77	44	1,776	93	58	2,039
12:00 PM	4	4	42	9	9	73	16	16	148	29	29	263	34	34	710	49	49	950	5	5	113	0	0	0	8	8	3	96	96	1,776	125	125	2,039
1:00 PM	3	4	41	7	8	72	17	9	156	27	21	269	27	34	703	37	46	941	5	5	113	0	0	0	6	7	2	75	92	1,759	102	113	2,028
2:00 PM	1	3	39	3	5	70	10	5	161	14	13	270	10	14	699	18	26	933	4	5	112	0	0	0	4	5	1	36	50	1,745	50	63	2,015
3:00 PM	1	4	36	3	9	64	3	4	160	7	17	260	9	28	680	14	50	897	7	5	114	0	0	0	4	3	2	34	86	1,693	41	103	1,953
4:00 PM	2	15	23	7	27	44	16	87	89	25	129	156	37	311	406	42	370	569	10	5	119	0	0	0	4	3	3	93	689	1,097	118	818	1,253
5:00 PM	2	12	13	4	24	24	11	84	16	17	120	53	30	242	194	43	287	325	14	8	125	0	0	0	4	4	3	91	541	647	108	661	700
6:00 PM	2	9	6	4	18	10	4	18	2	10	45	18	31	166	59	54	214	165	13	6	132	0	0	0	3	5	1	101	391	357	111	436	375
7:00 PM	2	5	3	4	10	4	1	3	0	7	18	7	21	55	25	46	119	92	12	5	139	0	0	0	2	3	0	81	182	256	88	200	263
8:00 PM	2	3	2	5	5	4	0	0	0	7	8	6	33	28	30	56	68	80	6	1	144	0	0	0	0	0	0	95	97	254	102	105	260
9:00 PM	1	2	1	3	2	5	0	0	0	4	4	6	14	16	28	31	31	80	2	4	142	0	0	0	0	0	0	47	51	250	51	55	256
10:00 PM	1	1	1	1	2	4	0	0	0	2	3	5	5	10	23	12	29	63	3	4	141	0	0	0	0	0	0	20	43	227	22	46	232
11:00 PM	0	1	0	0	2	2	0	0	0	0	3	2	3	12	14	4	17	50	2	3	140	0	0	0	0	0	0	9	32	204	9	35	206
Total	**68**	**71**	**139**	**142**	**144**	**286**	**273**	**273**	**546**	**483**	**488**	**971**	**1,109**	**1,108**	**2,217**	**1,503**	**1,489**	**2,992**	**103**	**103**	**206**	**0**	**0**	**0**	**41**	**41**	**82**	**2,756**	**2,741**	**5,497**	**3,239**	**3,229**	**6,468**

* Projected existing demand of Prentis Hall. ** New Academic Building also incorporates Science High School and existing McDonald's, the parking demand of which is not part of this estimate.
Note: Total ins and total outs may not equal due to rounding, university housing assumed for use by faculty and students with a weighted faculty car ownership of 25 perc

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