A. INTRODUCTION

This chapter discusses the potential impacts of new vehicle trips associated with the proposed action on the local street network and at key intersections in the study area as well as the effect on off-street parking facilities. The action's potential impacts to transit and pedestrian facilities are described in Chapter 15, "Transit and Pedestrians."

Analysis results show that the proposed action would result in significant adverse traffic impacts at three intersections during the AM peak hour, two intersections during the midday peak hour, and four intersections during the PM peak hour. There would be no significant parking impacts. Measures that would mitigate the predicted impacts are presented in Chapter 20, "Mitigation."

B. METHODOLOGY

The operation of signalized intersections in the study area was analyzed by applying the methodologies presented in the 2000 *Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS)*. The *HCM* procedure evaluates signalized intersections for average delay per vehicle and level of service (LOS).

LOS for the signalized intersections is based on the average stopped delay per vehicle for the various lane group movements within the intersection. This delay is the basis for an LOS determination for individual lane groups, the approaches, and the overall intersection. The levels of service are defined as follows:

LOS Criteria for Signalized Intersections

Level of Service (LOS)	Delay
A	≤10.0 seconds
B	>10.0 and ≤20.0 seconds
C	>20.0 and ≤35.0 seconds
D	>35.0 and ≤55.0 seconds
E	>55.0 and ≤80.0 seconds
F	>80.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables

affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio, delay, and LOS. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally perceived as the threshold between acceptable and unacceptable operations.

C. EXISTING CONDITIONS

STUDY AREA

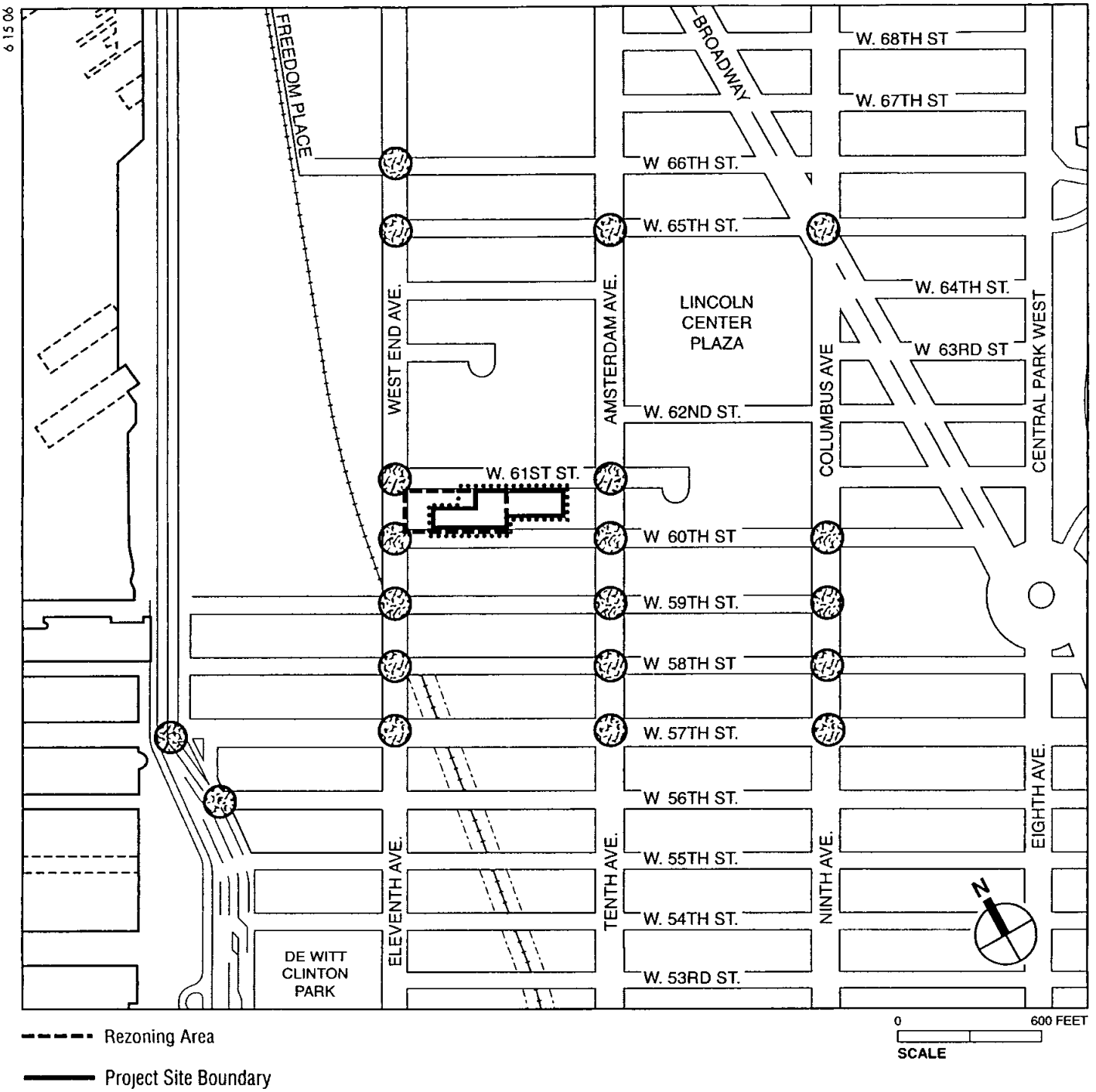
To assess the traffic impacts associated with the proposed action, an overall study area was defined that considers the location of the proposed project, primary access routes to and from the site, and key intersections likely to be affected by project-generated trips. The study area is bounded by West 66th Street to the north, West 56th Street to the south, Columbus Avenue to the east, and Route 9A to the west. As shown in Figure 14-1, the study area consists of a network containing 20 intersections, as follows:

- Columbus Avenue at West 57th, West 58th, West 59th, West 60th, and West 65th Streets/Broadway;
- Amsterdam Avenue at West 57th, West 58th, West 59th, West 60th, West 61st, and West 65th Streets;
- West End Avenue at West 57th, West 58th, West 59th, West 60th, West 61st, West 65th, and West 66th Streets; and
- Route 9A at West 56th and West 57th Streets.

STUDY AREA INTERSECTION AND ROADWAY CHARACTERISTICS

The traffic study area is located in West Midtown and the Upper West Side of Manhattan. The roadway system surrounding the project site is configured in a grid system of north–south avenues and east–west cross-town streets. Columbus and Amsterdam Avenues are one-way arterials with five to six lanes (including parking lanes). Amsterdam Avenue serves northbound traffic while Columbus Avenue serves southbound traffic. West End Avenue is a two-way arterial with three to four lanes in each direction (including left-turn bays at principal cross-town streets and parking lanes).

Route 9A (or West Side Highway or Twelfth Avenue) is an urban north–south highway that serves the full-length of Manhattan along the West Side. Above 57th Street, Route 9A is a limited access elevated parkway. Trucks are not permitted on this stretch of Route 9A. South of 57th Street, Route 9A is at-grade and is signalized to its terminus at the Brooklyn-Battery Tunnel. Trucks are permitted on the at-grade highway. The New York State Department of Transportation (NYSDOT) reconstructed the at-grade portion of Route 9A over the past decade, which has resulted in significant improvement to the roadway's capacity, including new geometry, reconfiguration of major intersections, limited access to and from minor cross-town



Traffic Study Area
Figure 14-1

streets, and a full-length signal coordination. Within the study area, Route 9A operates with four to seven lanes including turning pockets at major intersections. Parking is prohibited along this stretch of the highway and pedestrian access is limited.

West 57th Street is a major cross-town street in this area that operates with three lanes in each direction, although bus movements and parking limit the use of the curbside lane. The other cross-town streets generally operate with one to two moving lanes with parking or curbside delivery. West 65th and West 66th Streets, on the northern edge of the study area, connect with eastbound and westbound Central Park transverse roads to the east side of Manhattan.

All 20 analysis locations are controlled by pre-timed traffic signals with 90- to 150-second cycle lengths. Along Route 9A, signals have variable cycle lengths depending on the time of day.

TRAFFIC VOLUMES

Existing traffic volumes in the study area were generated based on traffic data collected between November 2002 and October 2004. The initial field program conducted in November 2002 included traffic data collection at all study area intersections. Automated traffic recorders (ATRs) were placed at key locations for a full week to identify temporal and daily traffic variations. Manual turning movement and vehicle classification counts were conducted at study area intersections during the weekday AM, midday, and PM peak hours. An inventory of the analyzed intersections was performed to determine traffic signal timings, phasing, and cycle lengths, street and curbside signage, pavement markings, and lane dimensions to be used in the calculation of street capacities. Official signal timing data were also collected from the New York City Department of Transportation (NYCDOT) to confirm field observations and for incorporation into the HCS analysis.

In February 2003, baseline traffic data were collected as part of evaluating updated conditions resulting from the Riverside South development and the anticipated closure of the Route 9A northbound exit ramp at West 72nd Street. These data were used as the primary source for establishing existing traffic levels at Route 9A and West End Avenue intersections. In June 2003, additional supplemental data were again collected along West End Avenue to reconcile differences between the previous two sets of collected traffic data. Since the median of West End Avenue was removed and new left-turn pockets were created after the initial data collection, updated manual turning movement counts and ATRs were also conducted in October 2004 to monitor potential changes in traffic flow. As part of these subsequent efforts, physical inventory and signal timing information of analysis locations was also updated.

Figures 14-2, 14-3, and 14-4 show the 2004 baseline traffic volumes for the weekday AM, midday, and PM peak hours. Based on the data collected, the weekday AM, midday, and PM peak hours of traffic in the study area were determined to take place from 8 AM to 9 AM, 1 PM to 2 PM, and 5:30 PM to 6:30 PM, respectively. These peak hours of existing traffic correspond with the peak hours of project-generated trips, and therefore have been selected as the analysis periods for the proposed action.

Peak hour volumes on Columbus Avenue range from 1,390 to 2,080 vehicles per hour (vph), and volumes on Amsterdam Avenue range from 1,260 to 1,910 vph. The northbound and southbound approaches of West End Avenue carry peak hour volumes ranging from 330 to 800 vph and 720 to 1,300 vph, respectively. On Route 9A, volumes range from 2,560 to 4,010 vph northbound and 2,480 to 4,060 vph southbound. Peak hour volumes on eastbound and westbound West 57th Street vary from 330 to 600 vph and 470 to 860 vph, respectively. Traffic

volumes on other cross-streets are generally 90 to 330 vph, with West 65th Street and West 66th Street volumes as high as 790 vph during the analysis peak hours.

LEVEL OF SERVICE

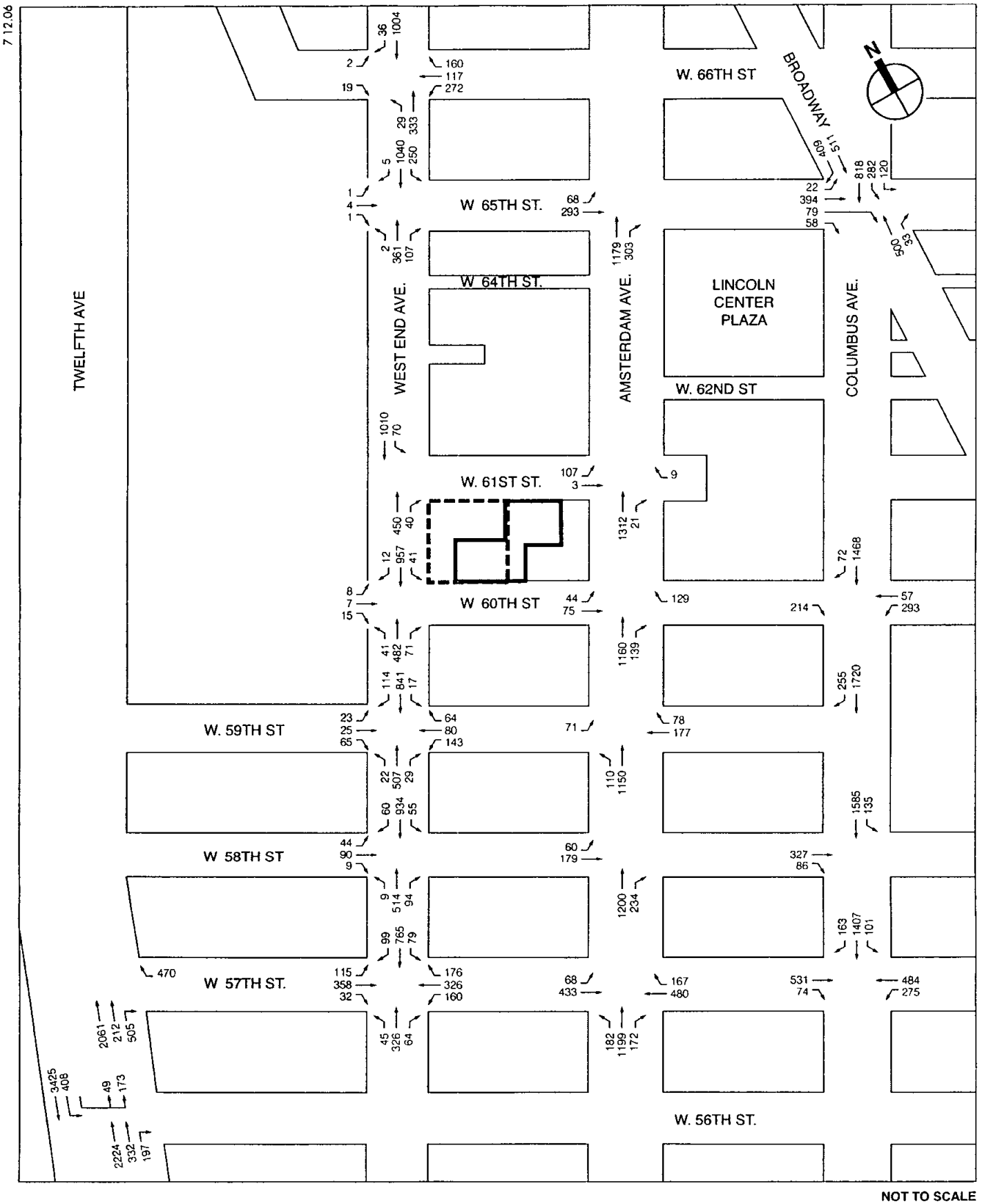
The capacity analysis results for the study area intersections are presented in Table 14-1. Locations with notable service constraints, those operating at mid-LOS D (45.0 seconds per vehicle [spv] of delay) or worse and/or those having v/c ratios of 0.90 or greater, are described below.

AM PEAK HOUR

- *Columbus Avenue and West 57th Street*: The eastbound through movement operates at LOS D with 53.6 spv of delay and a v/c ratio of 0.92. The westbound defacto left-turn movement operates at LOS F with 90.3 spv of delay and a v/c ratio of 1.05 while the through movement operates at LOS E with 66.9 spv of delay and a v/c ratio of 1.02. The southbound through-right movement operates at LOS D with 46.6 spv of delay and a v/c ratio of 0.98.
- *Columbus Avenue/Broadway and West 65th Street*: The southbound Broadway approach operates at LOS E with 76.1 spv of delay and a v/c ratio of 1.05. The southbound Columbus Avenue approach operates at LOS D with 45.9 spv of delay and a v/c ratio of 0.95.
- *West End Avenue and West 57th Street*: The westbound defacto left-turn movement operates at LOS F with 86.6 spv of delay and a v/c ratio of 0.98.
- *West End Avenue and West 59th Street*: The westbound left-through movement operates at LOS E with 63.9 spv of delay and a v/c ratio of 0.90.

MIDDAY PEAK HOUR

- *Columbus Avenue and West 57th Street*: The eastbound right-turn movement operates at LOS F with 112.4 spv of delay and a v/c ratio of 1.04. The westbound approach operates at LOS D with 38.0 spv of delay and a v/c ratio of 0.92. The southbound approach operates at LOS D with 46.1 spv of delay and a v/c ratio of 0.98.
- *Columbus Avenue and West 60th Street*: The eastbound approach operates at LOS F with 94.0 spv of delay and a v/c ratio of 1.05.
- *Columbus Avenue/Broadway and West 65th Street*: The southbound Broadway approach operates at LOS D with 46.6 spv of delay and a v/c ratio of 0.91.
- *Amsterdam Avenue and West 59th Street.* The eastbound approach operates at LOS D with 45.8 spv of delay and a v/c ratio of 0.68.
- *West End Avenue and West 57th Street*: The westbound defacto left-turn movement operates at LOS D with 52.9 spv of delay and a v/c ratio of 0.84.
- *Route 9A and West 56th Street*: The southbound left-turn movement operates at LOS E with 59.3 spv of delay and a v/c ratio of 0.83.

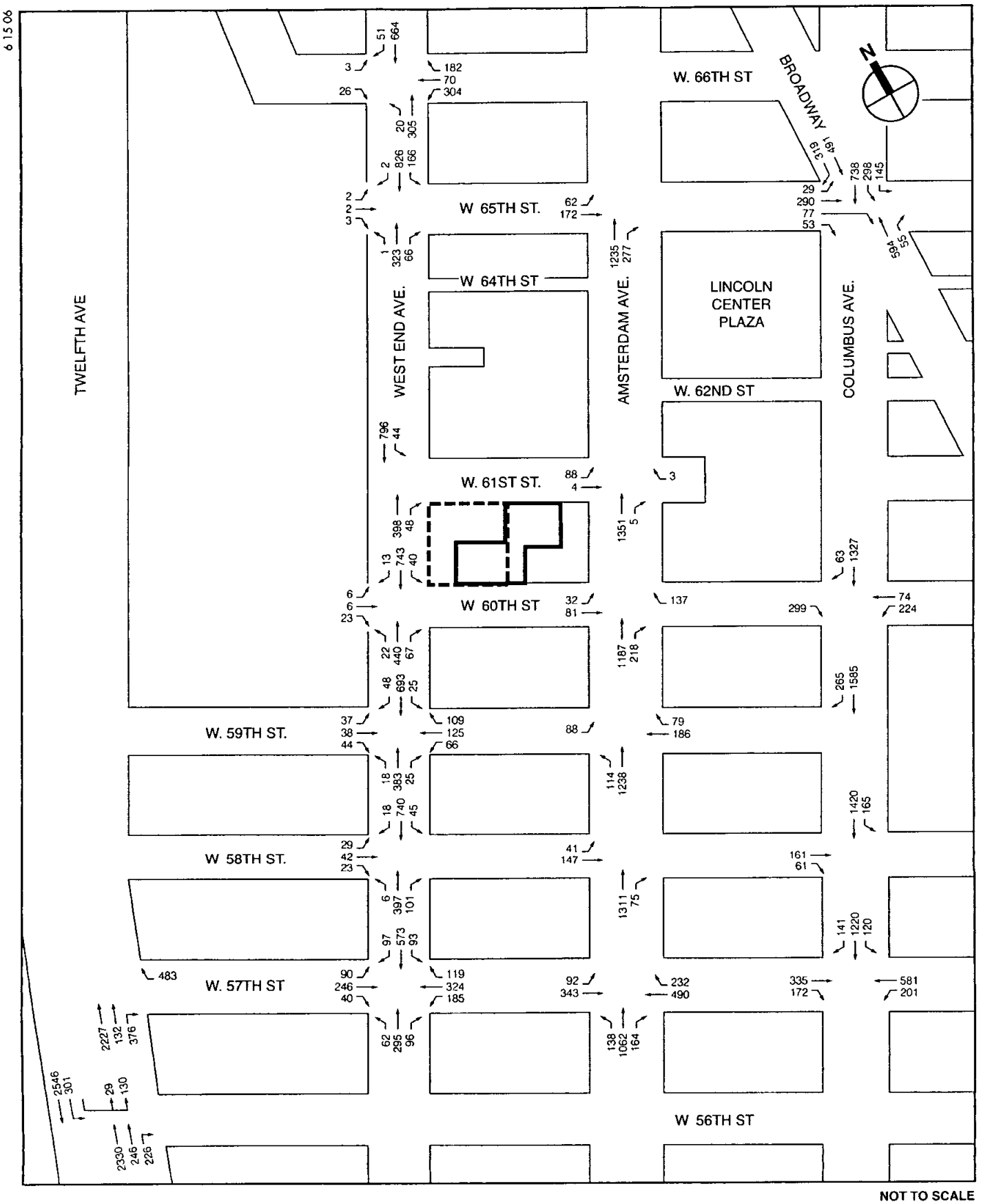


Rezoning Area

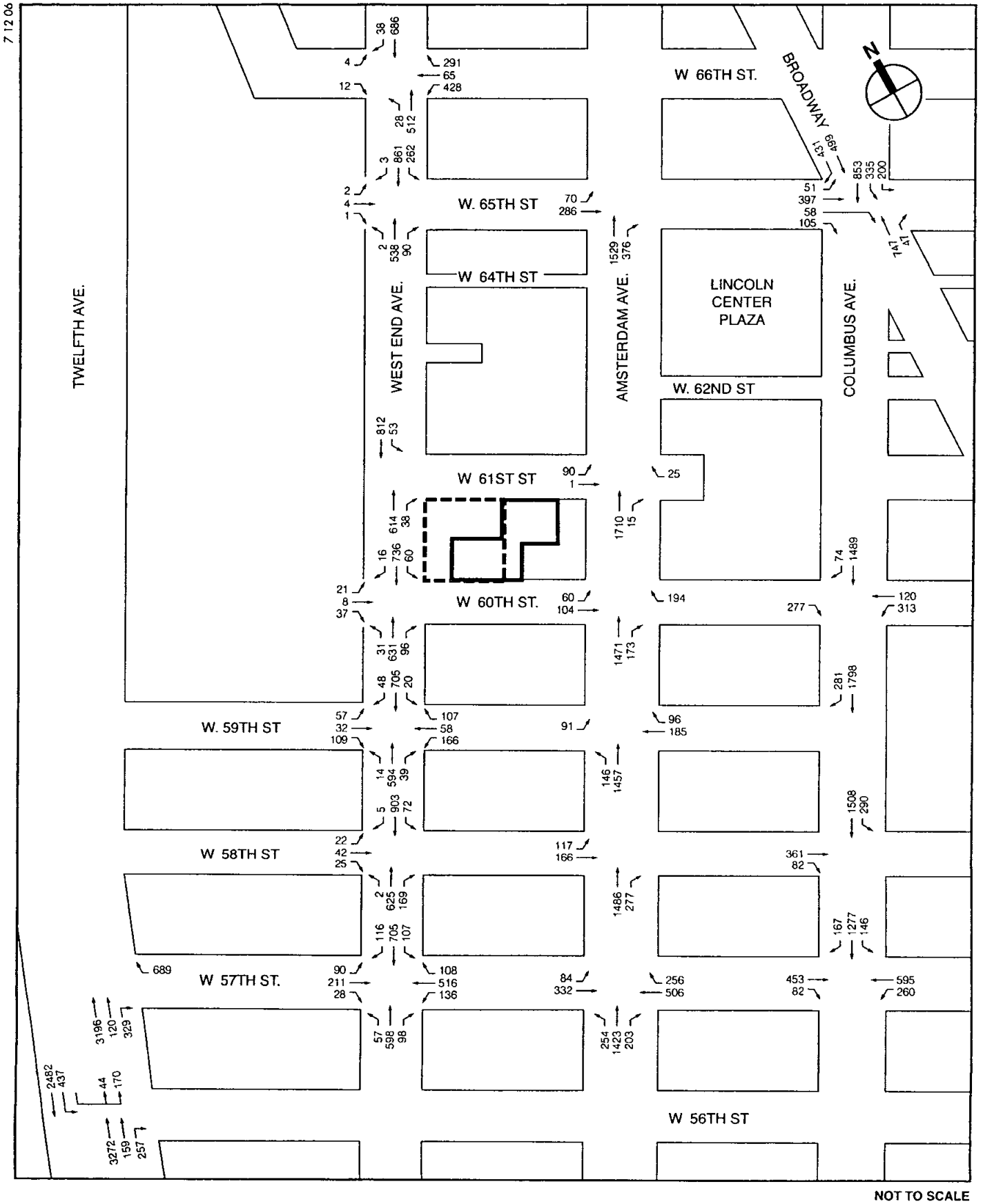
Algin Property Site

2004 Baseline Traffic Volumes
AM Peak Hour
Figure 14-2

West 61st Street Rezoning



2004 Baseline Traffic Volumes
Midday Peak Hour
Figure 14-3



Rezoning Area

Algin Property Site

West 61st Street Rezoning

2004 Baseline Traffic Volumes
PM Peak Hour

Figure 14-4

Table 14-1

Level-of-Service Analysis Results for Signalized Intersections: 2004 Baseline Conditions

Analysis Locations	AM Peak Hour				Midday Peak Hour				PM Peak Hour			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Columbus Ave & W 57th St												
Eastbound	T	0 92	53 6	D	T	0 51	32 0	C	T	0 79	41 9	D
	R	0 54	42 7	D	R	1 04	112 4	F	R	0 58	44 8	D
Westbound	DefL	1 05	90 3	F					DefL	0 86	41 7	D
	T	1 02	66 9	E	LT	0 92	38 0	D	T	1 04	70 4	E
Southbound	L	0 31	23 0	C					L	0 48	26 7	C
	TR	0 98	46 6	D	LTR	0 98	46 1	D	T	0 71	26 6	C
									R	0 62	32 7	C
Intersection			54 6	D			46 1	D			39 7	D
Columbus Ave & W 58th St												
Eastbound	T	0 79	41 0	D	T	0 45	27 6	C	T	0 84	44 7	D
	R	0 37	27 5	C	R	0 30	26 1	C	R	0 33	26 4	C
Southbound	LT	0 72	10 9	B	LT	0 61	9 4	A	LT	0 68	10 3	B
Intersection			15 9	B			11 9	B			16 4	B
Columbus Ave & W 59th St												
Southbound	TR	0 78	13 7	B	TR	0 74	12 8	B	TR	0 81	14 4	B
Intersection			13 7	B			12 8	B			14 4	B
Columbus Ave & W 60th St												
Eastbound	R	0 58	30.1	C	R	1 05	94 0	F	R	0 73	35 5	D
Westbound	L	0 52	30 4	C	L	0 49	29 4	C	L	0 67	35 9	D
	LT	0 53	29 7	C	LT	0 48	28 0	C	LT	0 70	35.6	D
Southbound	TR	0 56	9 5	A	TR	0 61	10 0	A	TR	0 60	9 9	A
Intersection			15 4	B			24 6	C			18 6	B
Columbus Ave/Broadway & W 65th St												
Eastbound	L	0 11	26 7	C	L	0 14	27 2	C	L	0 23	28 6	C
	TR	0 61	33 3	C	TR	0.52	31 4	C	TR	0 72	36 4	D
	R	0 50	34 8	C	R	0.43	33 9	C	R	0 56	38 9	D
Northbound	TR	0 66	33 8	C	TR	0 76	37 1	D	TR	0 97	56 1	E
Broadway Southbound	T	1 05	76 1	E	T	0 91	46 6	D	T	0 99	58 7	E
Columbus Ave Southbound	LT	0 95	45 9	D	LT	0 88	38 6	D	LT	0 99	52 3	D
Intersection			50 4	D			39 4	D			52 1	D
Amsterdam Ave & W 57th St												
Eastbound	LT	0 84	37 1	D	LT	0 77	33 4	C	LT	0 86	40 6	D
Westbound	TR	0 86	36 4	D	TR	0 88	38 4	D	TR	0 89	38 8	D
Northbound	LT	0 73	15 7	B	LT	0 54	12 6	B	LT	0 67	14 4	B
	R	0 46	14 4	B	R	0.51	16 7	B	R	0 58	18 8	B
Intersection			24 1	C			23 5	C			24 7	C
Amsterdam Ave & W 58th St												
Eastbound	LT	0 39	24 4	C	LT	0 27	22 8	C	LT	0 38	24 3	C
Northbound	TR	0 69	11 2	B	TR	0 55	9 4	A	TR	0 74	12 1	B
Intersection			13 2	B			11 0	B			13 7	B
Amsterdam Ave & W 59th St												
Eastbound	L	0 49	32 8	C	L	0 68	45 8	D	L	0 64	41 1	D
Westbound	T	0.47	26 6	C	T	0 50	27 3	C	T	0 45	26 0	C
	R	0.35	25 8	C	R	0.36	26 0	C	R	0 37	25 8	C
Northbound	LT	0.59	10 5	B	LT	0.59	10 5	B	LT	0 65	11 3	B
Intersection			14.2	B			15 2	B			15 1	B
Amsterdam Ave & W 60th St												
Eastbound	LT	0 30	23 3	C	LT	0 30	23.4	C	LT	0 40	25 0	C
Westbound	R	0 38	24.6	C	R	0 56	31 3	C	R	0 39	24 4	C
Northbound	TR	0 57	10 3	B	TR	0.62	10 9	B	TR	0 67	11 6	B
Intersection			12 8	B			13 7	B			14 0	B
Amsterdam Ave & W 61st St												
Eastbound	LT	0.44	27 8	C	LT	0 37	26 2	C	LT	0 31	24 3	C
Westbound	R	0 07	21.1	C	R	0 02	20 2	C	R	0 12	21 6	C
Northbound	TR	0 54	9 3	A	TR	0 50	8 9	A	TR	0 67	10 8	B
Intersection			11 0	B			10 3	B			11 8	B
Amsterdam Ave & W 65th St												
Eastbound	L	0 20	20 7	C	L	0 20	20 7	C	L	0 17	20 0	C
	T	0 72	33 9	C	T	0 46	25 0	C	T	0 68	32 0	C
Northbound	TR	0 68	13 2	B	TR	0 70	13 5	B	TR	0 84	17 0	B
Intersection			17 0	B			15 0	B			18 9	B

Note: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

Table 14-1(cont'd)

Level-of-Service Analysis Results for Signalized Intersections: 2004 Baseline Conditions

Analysis Locations	AM Peak Hour				Midday Peak Hour				PM Peak Hour			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
West End Ave & W 57th St												
Eastbound	LTR	0 82	35 0	D	LTR	0 56	24 7	C	LTR	0.69	29 7	C
Westbound	DefL	0 98	86 6	F	DefL	0 84	52 9	D				
	T	0 67	29 0	C	T	0 62	27 3	C	LT	0 88	38 7	D
	R	0 53	26 1	C	R	0 33	21 6	C	R	0.29	20 8	C
Northbound	L	0 29	17 5	B	L	0 33	17 6	B	L	0 38	20 4	C
	TR	0 33	14 2	B	TR	0 38	14 9	B	TR	0.62	18 6	B
Southbound	L	0.25	14 5	B	L	0 31	15 9	B	L	0 56	25.9	C
	TR	0.66	19 4	B	TR	0.52	16 7	B	TR	0 66	19 2	B
Intersection			28 0	C			22 4	C			25 1	C
West End Ave & W 58th St												
Eastbound	LTR	0.37	28.5	C	LTR	0 27	26 8	C	LTR	0 25	26 6	C
Northbound	L	0.08	8 2	A	L	0 02	7 1	A	L	0 01	6.9	A
	T	0 38	9.6	A	T	0 26	8 4	A	T	0 43	10.0	B
	R	0 19	8 4	A	R	0 18	8 3	A	R	0 32	9 9	A
Southbound	L	0 22	9 6	A	L	0 13	8 0	A	L	0 27	10 4	B
	TR	0 80	18 0	B	TR	0 52	11 2	B	TR	0 60	12 5	B
Intersection			15 6	B			11 3	B			12 1	B
West End Ave & W 59th St												
Eastbound	LT	0 19	26 2	C	LT	0 29	28 0	C	LT	0 46	33 0	C
	R	0 29	28 1	C	R	0 19	26 3	C	R	0 47	32 5	C
Westbound	LT	0 90	63 9	E	LT	0 67	39 7	D	LT	0 86	59.5	E
	R	0 24	27 1	C	R	0.41	30 6	C	R	0 36	29 2	C
Northbound	L	0 11	8 3	A	L	0 07	7 6	A	L	0 06	7 4	A
	TR	0 36	9 4	A	TR	0 28	8 7	A	TR	0 46	10.4	B
Southbound	L	0 05	7 3	A	L	0 06	7.3	A	L	0 07	7 5	A
	TR	0 63	12.9	B	TR	0 50	10 9	B	TR	0 47	10 5	B
Intersection			19 6	B			16 5	B			19.1	B
West End Ave & W 60th St												
Eastbound	LTR	0 08	24 3	C	LTR	0 09	24 4	C	LTR	0.17	25 4	C
Northbound	L	0 22	10 3	B	L	0 08	7 8	A	L	0 12	8.2	A
	TR	0 42	10 0	B	TR	0 37	9 5	A	TR	0 54	11 6	B
Southbound	L	0 13	8 2	A	L	0 12	7 9	A	L	0 24	10.0	B
	TR	0 68	14 0	B	TR	0 54	11 4	B	TR	0 54	11.4	B
Intersection			12 6	B			10 9	B			12.0	B
West End Ave & W 61st St												
Northbound	T	0 31	8 9	A	T	0.27	8.5	A	T	0 42	9 9	A
	R	0 08	7 4	A	R	0 09	7.5	A	R	0 07	7.4	A
Southbound	L	0 19	8 9	A	L	0 13	8.1	A	L	0 18	9.0	A
	T	0 61	12.6	B	T	0 56	11.8	B	T	0.49	10 8	B
Intersection			11 1	B			10 5	B			10 3	B
West End Ave & W 65th St												
Eastbound	LTR	0 02	25 9	C	LTR	0 02	25 9	C	LTR	0 02	25.9	C
Northbound	L	0 01	11 9	B	L	0 00	11 8	B	L	0 01	11.9	B
	TR	0 46	16 5	B	TR	0 38	15 4	B	TR	0 56	18.1	B
Southbound	L	0 64	15 1	B	L	0 38	9 4	A	L	0 75	21.5	C
	TR	0 61	11 0	B	TR	0 50	9 5	A	TR	0 54	10 0	B
Intersection			13 1	B			11 4	B			14 7	B
West End Ave & W 66th St												
Eastbound	LR	0 07	20.2	C	LR	0 10	20 5	C	LR	0 05	20 0	B
Westbound	L	0.56	30 8	C	L	0 61	32.9	C	L	0 80	45 5	D
	LT	0 59	30.3	C	LT	0 63	32 3	C	LT	0 82	45 1	D
	R	0 50	28 5	C	R	0.61	32 3	C	R	0.94	63 9	E
Northbound	L	0 32	24.9	C	L	0 13	16 2	B	L	0.17	15 6	B
	T	0 29	16 6	B	T	0.30	16 7	B	T	0 43	16 4	B
Southbound	T	0 86	30 5	C	T	0 57	20.5	C	T	0.63	19 8	B
	R	0.09	14 9	B	R	0 13	15 5	B	R	0.10	13 4	B
Intersection			27.5	C			23 7	C			30 7	C
Route 9A & W 56th St												
Northbound (main)	T	0 84	33 3	C	T	0 56	2 8	A	T	0.78	7 0	A
Northbound (service)	TR	0.30	22 0	C	TR	0 17	1 7	A	TR	0.16	3 0	A
Southbound	L	0 47	29 0	C	L	0 83	59.3	E	L	0 94	78 8	E
	T	0 61	1.0	A	T	0 45	0 5	A	T	0.43	0 4	A
Intersection			15 8	B			6 2	A			11 2	B
Route 9A & W 57th St												
Westbound	R	0.40	33 0	C	R	0 54	39.2	D	R	0 89	66.8	E
Northbound	T	0 60	17.9	B	T	0 56	6 1	A	T	0 73	6 1	A
Intersection			20 8	C			11.4	B			17.0	B

Note: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service.

PM PEAK HOUR

- *Columbus Avenue and West 57th Street*: The westbound through movement operates at LOS E with 70.4 spv of delay and a v/c ratio of 1.04.
- *Columbus Avenue/Broadway and West 65th Street*: The northbound approach operates at LOS E with 56.1 spv of delay and a v/c ratio of 0.97. The southbound Broadway approach operates at LOS E with 58.7 spv of delay and a v/c ratio of 0.99. The southbound Columbus Avenue approach operates at LOS D with 52.3 spv of delay and a v/c ratio of 0.99.
- *West End Avenue and West 59th Street*: The westbound left-through movement operates at LOS E with 59.5 spv of delay and a v/c ratio of 0.86.
- *West End Avenue and West 66th Street*: The westbound left turn movement operates at LOS D with 45.5 spv of delay and a v/c ratio of 0.80, while the left-through movement operates at LOS D with 45.1 spv of delay and a v/c ratio of 0.82 and the right turn movement operates at LOS E with 63.9 spv of delay and a v/c ratio of 0.94.
- *Route 9A and West 56th Street*: The southbound left-turn movement operates at LOS E with 78.8 spv of delay and a v/c ratio of 0.94.
- *Route 9A and West 57th Street*: The westbound approach operates at LOS E with 66.8 spv of delay and a v/c ratio of 0.89.

PARKING SUPPLY AND UTILIZATION

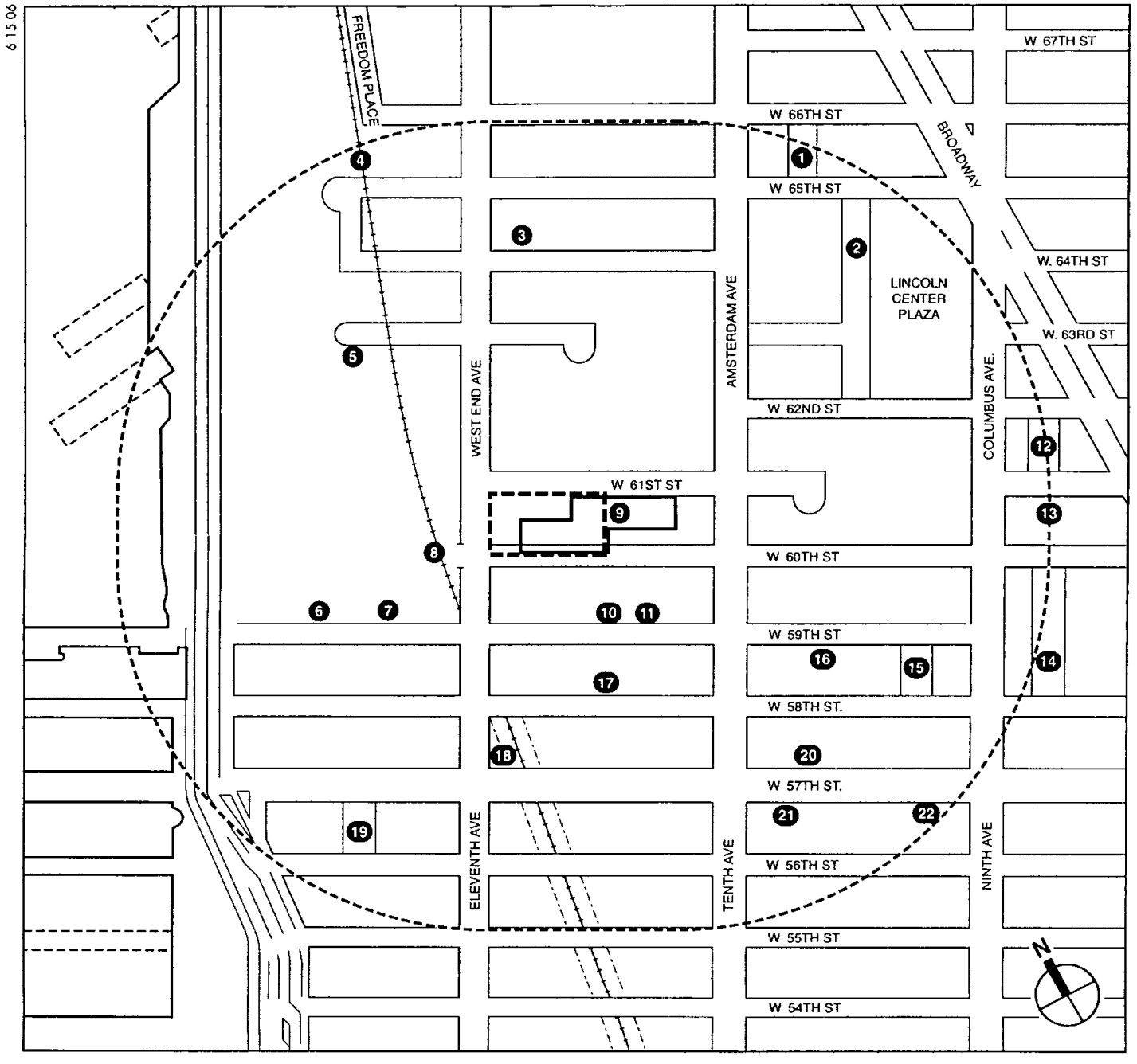
A survey of off-street public parking facilities within a ¼-mile radius of the project site was conducted in November 2002 to assess their capacities and approximate utilization rates. This information was updated in July 2004 via another off-street parking survey (see Figure 14-5 and Table 14-2). Based on this survey, there are 22 public garages and lots in the area with a combined capacity of 8,923 spaces. Currently, these facilities are 74 and 73 percent utilized, with 2,298 and 2,398 available spaces during the midday and overnight peak periods, respectively.

There is also a supply of on-street parking spaces in the study area, along the avenues and cross-town streets, but not on Route 9A where parking/standing is prohibited. During the morning and evening commuter peak periods, some of these spaces along the major travel corridors are restricted to facilitate more efficient traffic flow. Based on field observations, on-street parking conditions in the area are at or near capacity during most of the day. Figure 14-6 and Table 14-3 summarize the on-street parking regulations within ¼-mile from the project site and encompassing all traffic study area intersections.

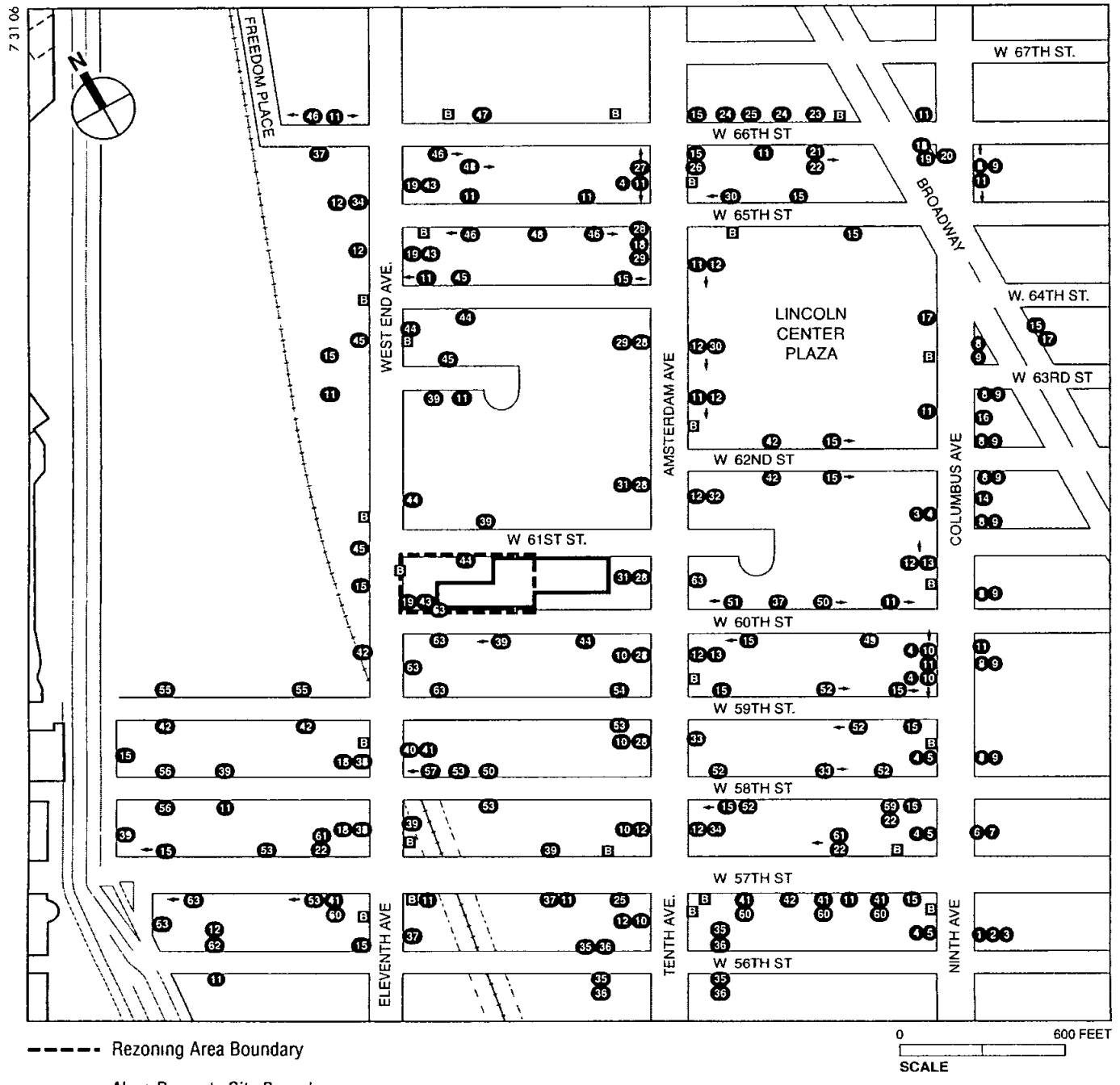
Table 14-2
2004 Baseline Conditions Off-Street Parking Utilization

	Company Name	Address	License No.	Capacity	Utilization Rate (%)		Utilized Spaces		Available Spaces	
					MD	Night	MD	Night	MD	Night
1	Performance Parking Corp.	127-137 Amsterdam	858712	375	95	100	356	375	19	0
2	Lincoln Center Park & Lock	140 W.65th St.	1079021	721	72	100	519	721	202	0
3	Icon Parking	110 West End Ave	761016	106	55	45	58	48	48	58
4	Icon Parking	101 West End Ave	1061198	166	70	30	116	50	50	116
5	West End Towers Garage	35-101 West End Ave.	0948832	441	55	50	243	221	198	220
6	Central Parking System	641 W.59th St.	0903540	993	70	50	695	497	298	496
7	MTP 59th Street LLC	641 W.59th St	1097071	537	65	60	349	322	188	215
8	Central Parking System	115 West End Ave.	964023	1,850	95	100	1,758	1,850	92	0
9	LHL Parking Corporation	218 W.61st St.	898520	100	85	100	85	100	15	0
10	Impark	515 W 59th St.	1089991	190	55	60	105	114	85	76
11	Concerto Garage Corp	200 W.60th St.	884653	265	55	60	146	159	119	106
12	Garage Management Corp	44 W 62nd St.	1013719	143	80	40	114	57	29	86
13	Prior Parking LLC	40-50 W.61st St.	1033066	205	70	100	144	205	61	0
14	Central Parking System	910-924 Ninth Ave	1113135	318	61	60	194	191	124	127
15	1 Columbus Place Garage	1 Columbus Place	960635	294	70	65	206	191	88	103
16	John Jay College Parking	425 W 59th St	813398	125	70	50	88	63	37	62
17	MTP	520-550 W 59th St.	954199	497	90	100	447	497	50	0
18	Kinney Systems	838-852 Eleventh Ave.	1137953	84	65	30	55	25	29	59
19	GMC Parking Corporation	622 W.57th St.	429031	1,000	65	45	650	450	350	550
20	Effective Parking LLC	435 W.57th St.	368157	55	80	80	44	44	11	11
21	Apex Parking LLC	440 W.57th St.	368300	378	50	70	189	265	189	113
22	Sydney Parking LLC	408 W 57th St.	1113944	80	80	100	64	80	16	0
			Total	8,923	74%	73%	6,625	6,525	2,298	2,398

Source: Survey conducted by AKRF, Inc. in November 2002



Off-Street Parking
Figure 14-5



West 61st Street Rezoning

Parking Regulations

Figure 14-6

Table 14-3
On-Street Parking Regulations

No.	Parking Regulations
1	No Standing 7AM-10AM Except Sunday
2	No Standing 6AM-6PM Wed & Sat Except Farmers' Market
3	No Parking 7AM-7PM Except Sunday
4	No Standing 4PM-7PM Except Sunday
5	1 Hour Parking 9AM-4PM Except Sunday
6	No Standing 7AM-10AM 4PM-7PM Except Sunday
7	1 Hour Parking 10AM-4PM Except Sunday
8	No Parking 7AM-7 30AM Except Sunday
9	1 Hour Parking 7.30AM-7PM Except Sunday
10	1 Hour Parking 9AM-4PM Mon-Sat 9AM-7PM Sunday
11	No Parking Anytime
12	No Standing 7AM-10AM Mon-Fri
13	1 Hour Parking 10AM-7PM Except Sunday
14	No Standing Except Trucks Loading & Unloading 7 30AM-7PM Mon-Fri
15	No Standing Anytime
16	No Parking 7 30AM-10PM Except Sunday
17	No Standing Anytime Taxi Stand
18	No Parking 7 30AM-8AM Except Sunday
19	1 Hour Parking 8AM-7PM Except Sunday
20	No Standing 7AM-7PM Except Sunday
21	No Parking 8 30AM-9AM Tue & Fri
22	1 Hour Parking 9AM-7PM Except Sunday
23	No Standing Hotel Loading Zone
24	No Parking 8 30AM-9AM Mon & Thur
25	No Standing 7AM-7PM Except Trucks Loading Monday-Fri
26	No Standing Anytime Except Authorized Vehicles Fire Dept
27	No Standing Fire Zone
28	No Standing 4PM-7PM Mon-Fri
29	2 Hour Parking 8AM-4PM Mon-Fri 8AM-7PM Sat & Sun
30	No Standing Except Trucks Loading & Unloading
31	2 Hour Parking 10AM-4PM Mon-Fri 9AM-7PM Sat
32	2 Hour Parking 10AM-7PM Mon-Fri 9AM-7PM Sat
33	No Standing 7AM-7PM Mon-Fri
34	1 Hour Parking 10AM-7PM Mon-Fri 9AM-7PM Sat
35	No Standing 8AM-9 30AM Mon-Fri
36	No Parking 8AM-7PM Mon-Fri
37	No Standing Anytime Except Authorized Vehicles NYP Plates
38	2 Hour Parking 8AM-7PM Except Sunday
39	No Parking 8AM-6PM Mon-Fri
40	2 Hour Parking 8 30AM-7PM Except Sunday
41	No Parking 8AM-8 30AM Except Sunday
42	Bus Layover Area No Standing Anytime
43	No Parking 7 30AM-8AM Mon Tue Thur Fri
44	No Parking 9AM-10 30AM Tue & Fri
45	No Parking 9AM-10.30AM Mon & Thur
46	No Parking 8AM-9 30AM Tue & Fri
47	No Parking 8AM-9.30AM Mon 7 Thur
48	No Standing 7AM-4PM School Days
49	No Standing Except Authorized Vehicles Doctor's Vehicles
50	No Standing Except Authorized Vehicles 7AM-7PM Office of Criminal Justice
51	No Parking 8AM-5PM Mon-Fri
52	No Standing Except Authorized Vehicles 7AM-7PM Doctor's Vehicles
53	No Parking 8AM-6PM Except Sunday
54	No Parking 8AM-Midnight Including Sunday
55	No Parking 8AM-7PM Except Sunday
56	No Standing Anytime Except Authorized Vehicles Dept of Sanitation
57	No Standing 7AM-7PM Except Authorized Vehicles NYP Plates
58	No Standing 8AM-5PM School Days
59	No Parking 8AM-9AM Except Sunday
60	1 Hour Parking 8 30AM-7PM Except Sunday
61	No Parking 8 30AM-9AM Except Sunday
62	No Parking 10AM-7PM Mon-Fri
63	No Standing Anytime Construction

Source: Survey conducted by AKRF

D. THE FUTURE WITHOUT THE PROPOSED ACTION

Traffic and parking conditions in the future without the proposed action were assessed to establish a baseline, or the "No Build" condition, against which to evaluate the potential project impacts. The No Build analysis focuses on conditions in 2008, the year during which the proposed project would be completed. As discussed in Chapter 2, "Land Use, Zoning, and Public Policy," a number of developments within or just outside of the traffic and land use study areas were identified, independent of the proposed project. Among these, several are currently under construction and expected to be occupied by the year 2008.

TRAFFIC

Future 2008 No Build peak hour traffic levels were estimated by first applying a background growth of 0.50 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 2.0 percent by 2008. Trips generated by each of the "No Build projects" were developed based on information provided in approved studies and standard references, such as the *CEQR Technical Manual*, Pushkarev and Zupan's *Urban Space for Pedestrians* and the U.S. census database. The estimated vehicle trips were then assigned to the study area analysis locations. In addition to No Build projects that are within approximately ¼-mile of the project site, as listed in Chapter 2, "Land Use, Zoning, and Public Policy," several other projects (i.e., Hearst Tower, 1930 Broadway, and the Mayflower Hotel site) located just beyond this area but are expected to generate vehicular trips through the study area intersections, were also included for analysis. As part of the Riverside South development, West 61st, West 63rd, and West 64th Streets are expected to be extended west of West End Avenue to provide additional access and connections to the future Riverside Boulevard.

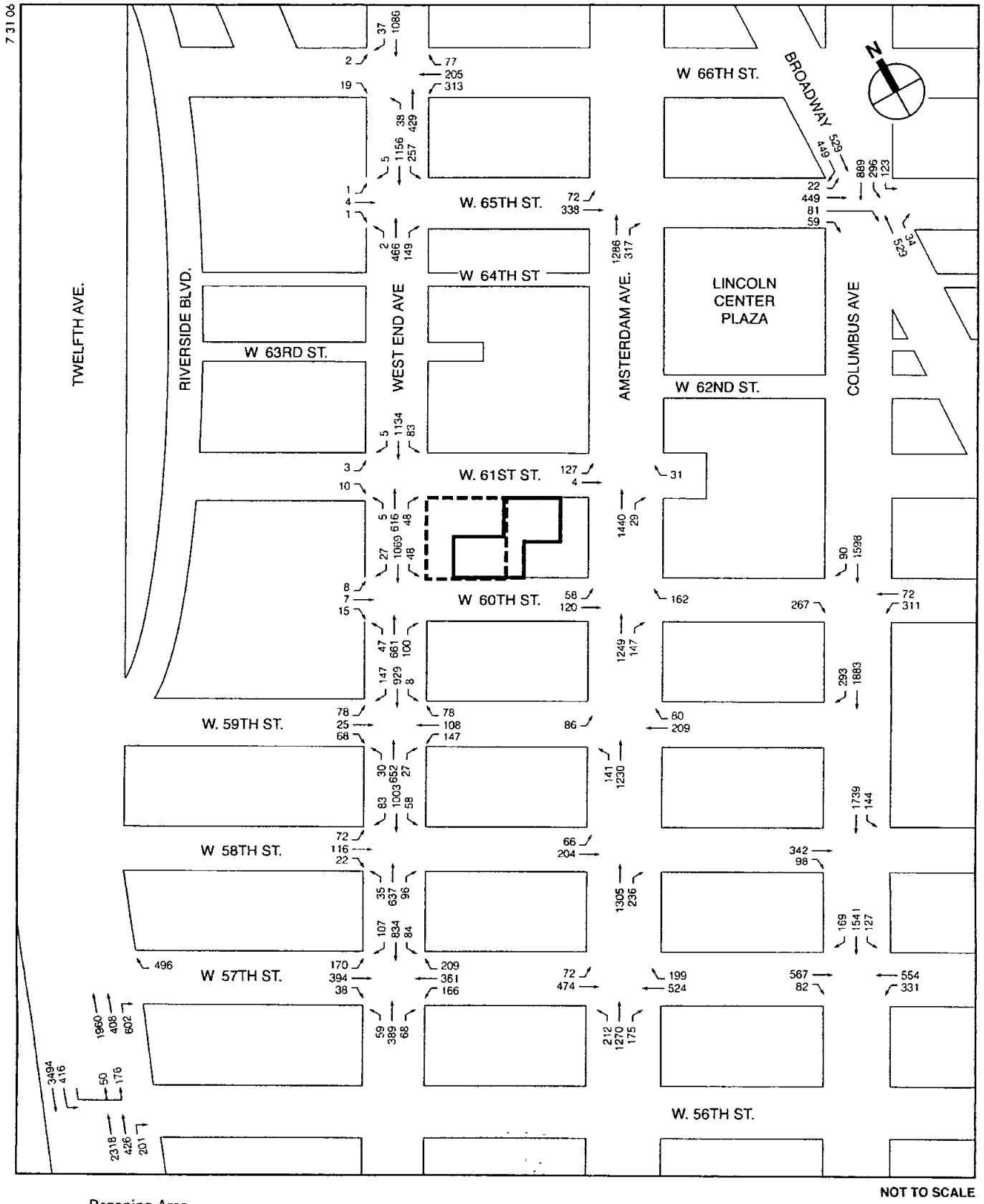
Figures 14-7, 14-8, and 14-9 present the future 2008 No Build traffic volumes for the weekday AM, midday, and PM peak analysis hours.

LEVEL OF SERVICE

Table 14-4 presents a comparison of the existing and No Build service conditions for the study area intersections. The following are the notable deteriorations in LOS at the analyzed intersections:

AM PEAK HOUR

- *Columbus Avenue and West 57th Street*: The eastbound through movement would deteriorate from LOS D with a delay of 53.6 spv and a v/c ratio of 0.92 to LOS E with a delay of 64.9 spv and a v/c ratio of 0.98. The westbound through movement would deteriorate from LOS E with a delay of 66.9 spv and a v/c ratio of 1.02 to LOS F with a delay of 116.8 spv and a v/c ratio of 1.16. The southbound through-right movement would deteriorate from LOS D with a delay of 46.6 spv and a v/c ratio of 0.98 to LOS E with a delay of 71.5 spv and a v/c ratio of 1.07.
- *Columbus Avenue/Broadway and West 65th Street:* The southbound approach on Broadway would deteriorate from LOS E with a delay of 76.1 spv and a v/c ratio of 1.05 to LOS F with a delay of 99.5 spv and a v/c ratio of 1.12. The southbound approach on Columbus Avenue would deteriorate from LOS D with a delay of 45.9 spv and a v/c ratio of 0.95 to LOS E with a delay of 60.1 spv and a v/c ratio of 1.02.

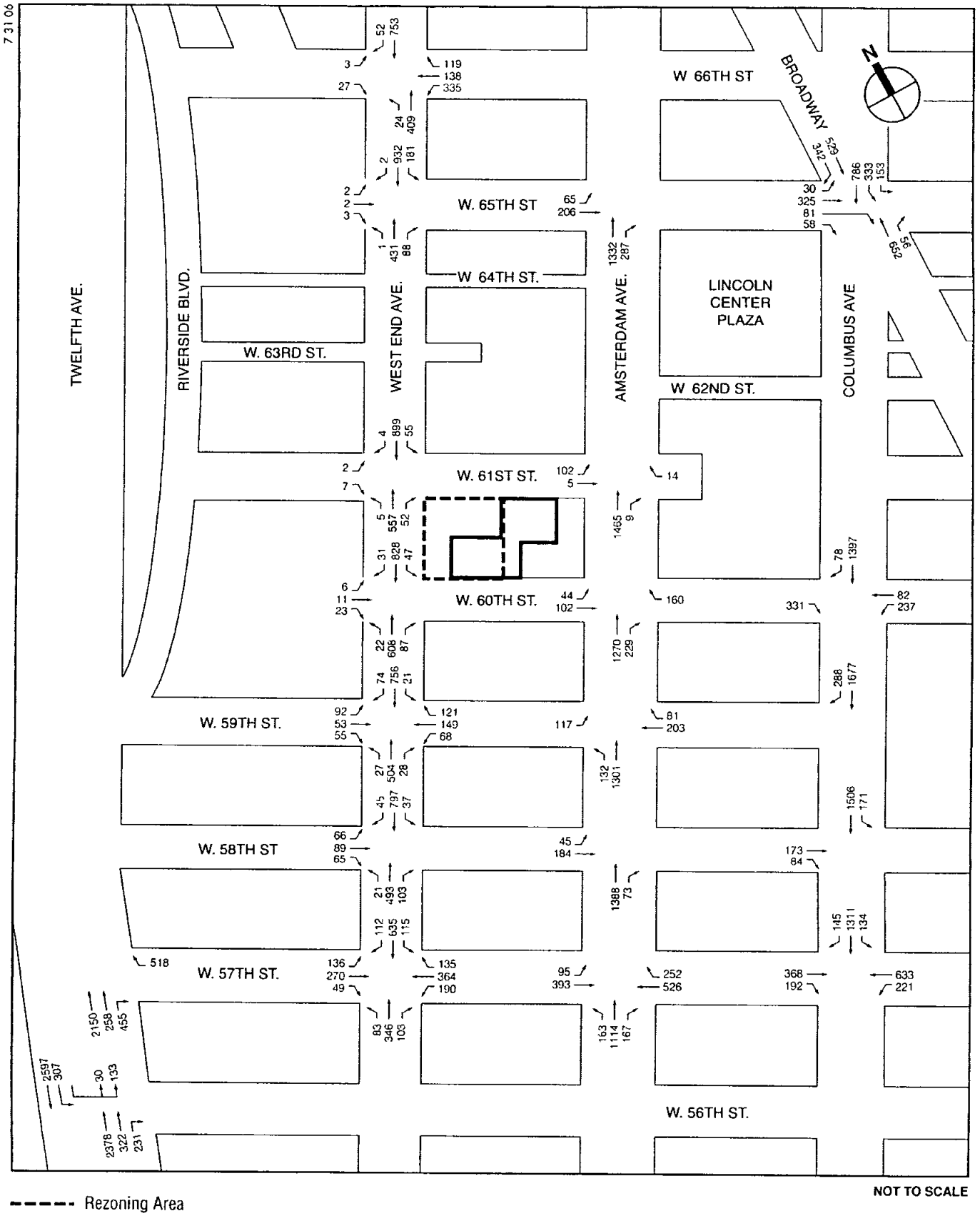


Rezoning Area

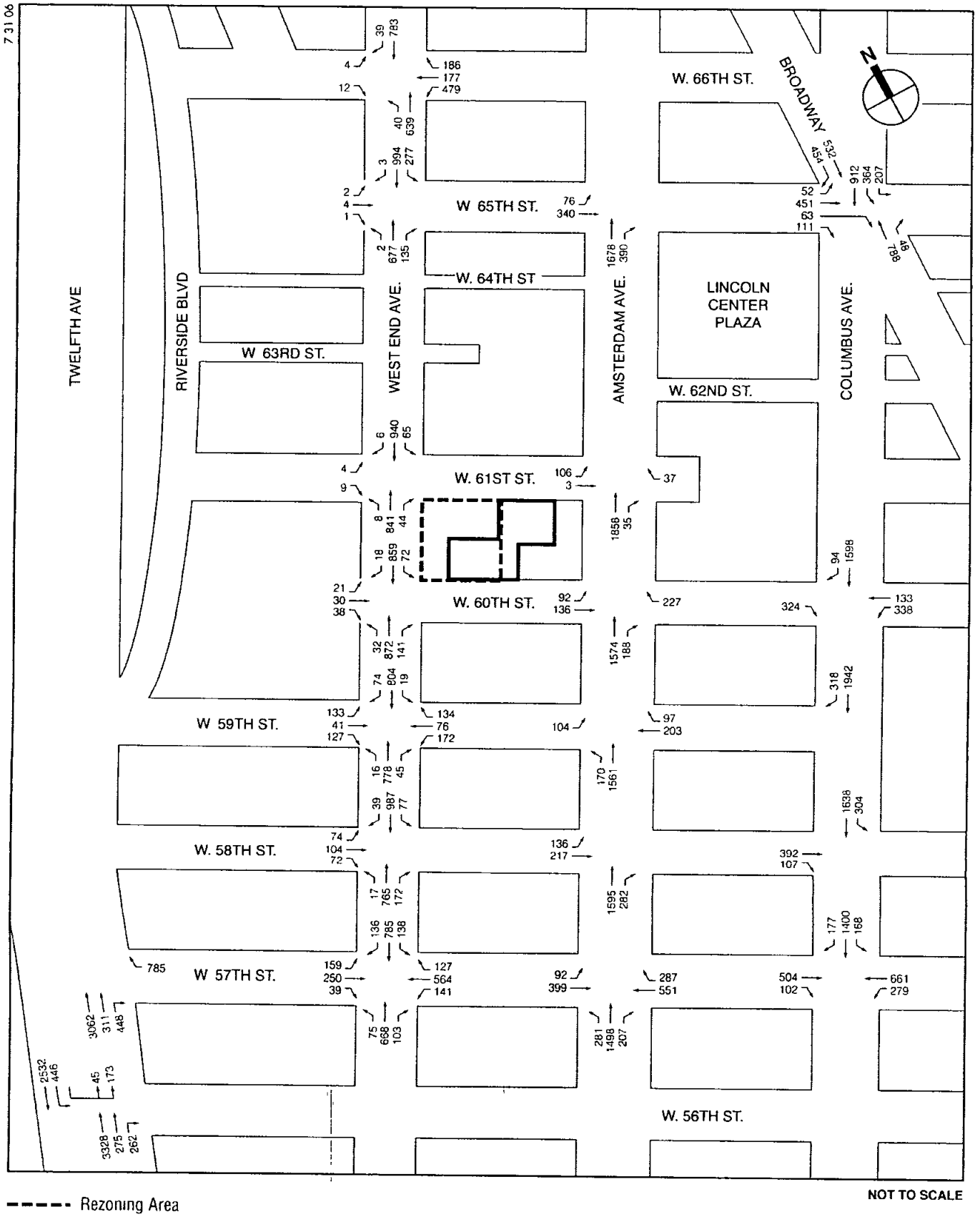
Algin Property Site

West 61st Street Rezoning

2008 No-Build Traffic Volumes
AM Peak Hour
Figure 14-7



2008 No-Build Traffic Volumes
Midday Peak Hour
Figure 14-8



2008 No-Build Traffic Volumes
PM Peak Hour
Figure 14-9

West 61st Street Rezoning

- *Amsterdam Avenue and West 57th Street:* The eastbound approach would deteriorate from LOS D with a delay of 37.1 spv and a v/c ratio of 0.84 to LOS E with a delay of 56.7 and a v/c ratio of 0.97.
- *West End Avenue and West 57th Street*: The eastbound approach would deteriorate from LOS D with a delay of 35.0 spv and a v/c ratio of 0.82 to LOS E with a delay of 74.6 spv and a v/c ratio of 1.04.
- *West End Avenue and West 59th Street*: The eastbound left-through movement would deteriorate from LOS C with a delay of 26.2 spv and a v/c ratio of 0.19 to LOS E with a delay of 61.5 spv and a v/c ratio of 0.79. The westbound left-through movement would deteriorate from LOS E with a delay of 63.9 and a v/c ratio of 0.90 to LOS F with a delay of 98.2 spv and a v/c ratio of 1.04.

MIDDAY PEAK HOUR

- *Columbus Avenue and West 57th Street*: The westbound approach would deteriorate from LOS D with a delay of 38.0 spv and a v/c ratio of 0.92 to LOS E with a delay of 56.2 spv and a v/c ratio of 1.01. The southbound approach would deteriorate from LOS D with a delay of 46.1 spv and a v/c ratio of 0.98 to LOS E with a delay of 64.9 spv and a v/c ratio of 1.05.

Table 14-4
Level-of-Service Analysis Results for Signalized Intersections: 2004 Baseline and 2008 No Build Conditions

Analysis Locations	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2004 Baseline				2008 No Build				2004 Baseline				2008 No Build				2004 Baseline				2008 No Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Columbus Ave & W 57th St																								
Eastbound	T	0.92	53.6	D	T	0.98	64.9	E	T	0.51	32.0	C	T	0.56	33.0	C	T	0.79	41.9	D	T	0.88	49.0	D
	R	0.54	42.7	D	R	0.59	46.1	D	R	1.04	112.4	F	R	1.16	151.7	F	R	0.58	44.8	D	R	0.72	56.0	E
Westbound	DefL	1.05	90.3	F	DefL	1.27	169.4	F									DefL	0.86	41.7	D	DefL	0.96	61.1	E
	T	1.02	66.9	E	T	1.16	116.8	F	LT	0.92	38.0	D	LT	1.01	56.2	E	T	1.04	70.4	E	T	1.15	110.0	F
Southbound	L	0.31	23.0	C	L	0.39	24.7	C									L	0.48	26.7	C	L	0.55	29.0	C
	TR	0.98	46.6	D	TR	1.07	71.5	E	LTR	0.98	46.1	D	LTR	1.05	64.9	E	T	0.71	26.6	C	T	0.78	28.3	C
																	R	0.62	32.7	C	R	0.66	34.6	C
Intersection			54.6	D			86.0	F			46.1	D			64.1	E			39.7	D			51.6	D
Columbus Ave & W 58th St																								
Eastbound	T	0.79	41.0	D	T	0.83	44.0	D	T	0.45	27.6	C	T	0.48	28.3	C	T	0.84	44.7	D	T	0.91	53.7	D
	R	0.37	27.5	C	R	0.42	29.0	C	R	0.30	26.1	C	R	0.42	29.1	C	R	0.33	26.4	C	R	0.43	29.0	C
Southbound	LT	0.72	10.9	B	LT	0.78	12.2	B	LT	0.61	9.4	A	LT	0.64	9.8	A	LT	0.68	10.3	B	LT	0.73	11.1	B
Intersection			15.9	B			17.3	B			11.9	B			12.6	B			16.4	B			18.7	B
Columbus Ave & W 59th St																								
Southbound	TR	0.78	13.7	B	TR	0.87	16.4	B	TR	0.74	12.8	B	TR	0.79	13.8	B	TR	0.81	14.4	B	TR	0.89	17.3	B
Intersection			13.7	B			16.4	B			12.8	B			13.8	B			14.4	B			17.3	B
Columbus Ave & W 60th St																								
Eastbound	R	0.58	30.1	C	R	0.73	36.0	D	R	1.05	94.0	F	R	1.16	132.0	F	R	0.73	35.5	D	R	0.85	44.7	D
Westbound	L	0.52	30.4	C	L	0.56	31.6	C	L	0.49	29.4	C	L	0.52	30.3	C	L	0.67	35.9	D	L	0.72	39.1	D
	LT	0.53	29.7	C	LT	0.58	31.4	C	LT	0.48	28.0	C	LT	0.51	28.9	C	LT	0.70	35.6	D	LT	0.77	39.3	D
Southbound	TR	0.56	9.5	A	TR	0.62	10.2	B	TR	0.61	10.0	A	TR	0.65	10.5	B	TR	0.60	9.9	A	TR	0.66	10.6	B
Intersection			15.4	B			17.1	B			24.6	C			31.1	C			18.6	B			21.3	C
Columbus Ave/Broadway & W 65th St																								
Eastbound	L	0.11	26.7	C	L	0.11	26.7	C	L	0.14	27.2	C	L	0.15	27.3	C	L	0.23	28.6	C	L	0.24	28.7	C
	TR	0.61	33.3	C	TR	0.69	35.5	D	TR	0.52	31.4	C	TR	0.57	32.5	C	TR	0.72	36.4	D	TR	0.80	40.4	D
	R	0.50	34.8	C	R	0.51	35.1	D	R	0.43	33.9	C	R	0.45	34.8	C	R	0.56	38.9	D	R	0.59	40.4	D
Northbound	TR	0.66	33.8	C	TR	0.70	34.8	C	TR	0.76	37.1	D	TR	0.83	40.3	D	TR	0.97	56.1	E	TR	1.02	67.8	E
Broadway Southbound	T	1.05	76.1	E	T	1.12	99.5	F	T	0.91	46.6	D	T	0.98	58.0	E	T	0.99	58.7	E	T	1.05	75.0	E
Columbus Ave Southbound	LT	0.95	45.9	D	LT	1.02	60.1	E	LT	0.88	38.6	D	LT	0.95	45.5	D	LT	0.99	52.3	D	LT	1.05	71.0	E
Intersection			50.4	D			62.7	E			39.4	D			45.7	D			52.1	D			66.0	E
Amsterdam Ave & W 57th St																								
Eastbound	LT	0.84	37.1	D	LT	0.97	56.7	E	LT	0.77	33.4	C	LT	0.89	44.0	D	LT	0.86	40.6	D	LT	1.06	84.5	F
Westbound	TR	0.86	36.4	D	TR	0.97	51.0	D	TR	0.88	38.4	D	TR	0.95	48.0	D	TR	0.89	38.8	D	TR	0.98	53.8	D
Northbound	LT	0.73	15.7	B	LT	0.79	17.1	B	LT	0.54	12.6	B	LT	0.57	13.1	B	LT	0.67	14.4	B	LT	0.72	15.2	B
	R	0.46	14.4	B	R	0.46	14.6	B	R	0.51	16.7	B	R	0.52	17.0	B	R	0.58	18.8	C	R	0.60	19.3	B
Intersection			24.1	C			32.0	C			23.5	C			28.5	C			24.7	C			36.4	D
Amsterdam Ave & W 58th St																								
Eastbound	LT	0.39	24.4	C	LT	0.44	25.2	C	LT	0.27	22.8	C	LT	0.32	23.5	C	LT	0.38	24.3	C	LT	0.47	25.7	C
Northbound	TR	0.69	11.2	B	TR	0.74	12.1	B	TR	0.55	9.4	A	TR	0.58	9.7	A	TR	0.74	12.1	B	TR	0.79	13.1	B
Intersection			13.2	B			14.2	B			11.0	B			11.5	B			13.7	B			15.0	B
Amsterdam Ave & W 59th St																								
Eastbound	L	0.49	32.8	C	L	0.64	42.5	D	L	0.68	45.8	D	L	0.94	86.9	F	L	0.64	41.1	D	L	0.77	53.7	D
Westbound	T	0.47	26.6	C	T	0.55	28.8	C	T	0.50	27.3	C	T	0.54	28.5	C	T	0.45	26.0	C	T	0.50	27.1	C
	R	0.35	25.8	C	R	0.36	26.0	C	R	0.36	26.0	C	R	0.37	26.2	C	R	0.37	25.8	C	R	0.38	25.9	C
Northbound	LT	0.59	10.5	B	LT	0.64	11.3	B	LT	0.59	10.5	B	LT	0.63	11.0	B	LT	0.65	11.3	B	LT	0.70	12.1	B
Intersection			14.2	B			15.7	B			15.2	B			19.0	B			15.1	B			16.7	B
Amsterdam Ave & W 60th St																								
Eastbound	LT	0.30	23.3	C	LT	0.45	26.1	C	LT	0.30	23.4	C	LT	0.40	25.1	C	LT	0.40	25.0	C	LT	0.57	29.1	C
Westbound	R	0.38	24.6	C	R	0.48	26.6	C	R	0.56	31.3	C	R	0.66	35.7	D	R	0.39	24.4	C	R	0.45	25.6	C
Northbound	TR	0.57	10.3	B	TR	0.61	10.8	B	TR	0.62	10.9	B	TR	0.66	11.4	B	TR	0.67	11.6	B	TR	0.72	12.4	B
Intersection			12.8	B			14.3	B			13.7	B			15.1	B			14.0	B			15.5	B
Amsterdam Ave & W 61st St																								
Eastbound	LT	0.44	27.8	C	LT	0.52	30.3	C	LT	0.37	26.2	C	LT	0.43	27.7	C	LT	0.31	24.3	C	LT	0.37	25.5	C
Westbound	R	0.07	21.1	C	R	0.24	24.1	C	R	0.02	20.2	C	R	0.07	21.0	C	R	0.12	21.6	C	R	0.18	22.5	C
Northbound	TR	0.54	9.3	A	TR	0.59	9.9	A	TR	0.50	8.9	A	TR	0.55	9.4	A	TR	0.67	10.8	B	TR	0.74	11.9	B
Intersection			11.0	B			12.2	B			10.3	B			10.9	B			11.8	B			13.0	B
Amsterdam Ave & W 65th St																								
Eastbound	L	0.20	20.7	C	L	0.21	20.9	C	L	0.20	20.7	C	L	0.21	20.8	C	L	0.17	20.0	C	L	0.18	20.2	C
	T	0.72	33.9	C	T	0.83	42.0	D	T	0.46	25.0	C	T	0.55	27.3	C	T	0.68	32.0	C	T	0.81	40.1	D
Northbound	TR	0.68	13.2	B	TR	0.73	14.2	B	TR	0.70	13.5	B	TR	0.74	14.4	B	TR	0.84	17.0	B	TR	0.91	20.5	C
Intersection			17.0	B			19.4	B			15.0	B			16.1	B			18.9	B			23.1	C

Note: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.

Table 14-4 (cont'd)
Level-of-Service Analysis Results for Signalized Intersections: 2004 Baseline and 2008 No Build Conditions

Analysis Locations	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2004 Baseline				2008 No Build				2004 Baseline				2008 No Build				2004 Baseline				2008 No Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
West End Ave & W 57th St																								
Eastbound																					DefL	1.34	218.7	F
	LTR	0.82	35.0	D	LTR	1.04	74.6	E	LTR	0.56	24.7	C	LTR	0.75	31.4	C	LTR	0.69	29.7	C	TR	0.76	35.3	D
Westbound	DefL	0.98	86.6	F	DefL	1.23	173.3	F	DefL	0.84	52.9	D	DefL	0.97	82.1	F								
	T	0.67	29.0	C	T	0.75	32.3	C	T	0.62	27.3	C	T	0.70	30.2	C	LT	0.88	38.7	D	LT	0.90	40.9	D
	R	0.53	26.1	C	R	0.63	29.5	C	R	0.33	21.6	C	R	0.37	22.4	C	R	0.29	20.8	C	R	0.34	21.7	C
Northbound	L	0.29	17.5	B	L	0.43	23.5	C	L	0.33	17.6	B	L	0.51	24.2	C	L	0.38	20.4	C	L	0.60	33.9	C
	TR	0.33	14.2	B	TR	0.39	14.9	B	TR	0.38	14.9	B	TR	0.44	15.6	B	TR	0.62	18.6	B	TR	0.68	20.2	C
Southbound	L	0.25	14.5	B	L	0.28	15.4	B	L	0.31	15.9	B	L	0.42	18.7	B	L	0.56	25.9	C	L	0.82	50.4	D
	TR	0.66	19.4	B	TR	0.72	20.9	C	TR	0.52	16.7	B	TR	0.59	17.8	B	TR	0.66	19.2	B	TR	0.74	21.4	C
Intersection			28.0	C			43.1	D			22.4	C			26.7	C			25.1	C			39.1	D
West End Ave & W 58th St																								
Eastbound	LTR	0.37	28.5	C	LTR	0.56	32.7	C	LTR	0.27	26.8	C	LTR	0.64	35.5	D	LTR	0.25	26.6	C	LTR	0.72	39.3	D
Northbound	L	0.08	8.2	A	L	0.38	18.0	B	L	0.02	7.1	A	L	0.10	8.2	A	L	0.01	6.9	A	L	0.11	8.6	A
	T	0.38	9.6	A	T	0.48	10.6	B	T	0.26	8.4	A	T	0.32	8.9	A	T	0.43	10.0	B	T	0.53	11.2	B
	R	0.19	8.4	A	R	0.20	8.5	A	R	0.18	8.3	A	R	0.18	8.3	A	R	0.32	9.9	A	R	0.33	10.0	A
Southbound	L	0.22	9.6	A	L	0.28	11.0	B	L	0.13	8.0	A	L	0.11	8.0	A	L	0.27	10.4	B	L	0.35	12.8	B
	TR	0.80	18.0	B	TR	0.89	22.7	C	TR	0.52	11.2	B	TR	0.59	12.2	B	TR	0.60	12.5	B	TR	0.69	14.2	B
Intersection			15.6	B			19.0	B			11.3	B			14.3	B			12.1	B			15.8	B
West End Ave & W 59th St																								
Eastbound	LT	0.19	26.2	C	LT	0.79	61.5	E	LT	0.29	28.0	C	LT	0.84	63.9	E	LT	0.46	33.0	C	LT	1.15	145.8	F
	R	0.29	28.1	C	R	0.30	28.4	C	R	0.19	26.3	C	R	0.23	27.1	C	R	0.47	32.5	C	R	0.55	35.2	D
Westbound	LT	0.90	63.9	E	LT	1.04	98.2	F	LT	0.67	39.7	D	LT	0.79	48.4	D	LT	0.86	59.5	E	LT	1.20	157.6	F
	R	0.24	27.1	C	R	0.30	28.1	C	R	0.41	30.6	C	R	0.46	31.8	C	R	0.36	29.2	C	R	0.45	31.4	C
Northbound	L	0.11	8.3	A	L	0.18	9.8	A	L	0.07	7.6	A	L	0.12	8.4	A	L	0.06	7.4	A	L	0.08	7.7	A
	TR	0.36	9.4	A	TR	0.46	10.4	B	TR	0.28	8.7	A	TR	0.37	9.5	A	TR	0.46	10.4	B	TR	0.60	12.4	B
Southbound	L	0.05	7.3	A	L	0.03	7.1	A	L	0.06	7.3	A	L	0.06	7.4	A	L	0.07	7.5	A	L	0.09	8.0	A
	TR	0.63	12.9	B	TR	0.71	14.7	B	TR	0.50	10.9	B	TR	0.56	11.9	B	TR	0.47	10.5	A	TR	0.55	11.6	B
Intersection			19.6	B			26.5	C			16.5	B			21.1	C			19.1	C			38.7	D
West End Ave & W 60th St																								
Eastbound	LTR	0.08	24.3	C	LTR	0.08	24.3	C	LTR	0.09	24.4	C	LTR	0.10	24.5	C	LTR	0.17	25.4	C	LTR	0.22	26.1	C
Northbound	L	0.22	10.3	B	L	0.31	13.1	B	L	0.08	7.8	A	L	0.10	8.1	A	L	0.12	8.2	A	L	0.15	8.9	A
	TR	0.42	10.0	B	TR	0.58	12.2	B	TR	0.37	9.5	A	TR	0.51	11.2	B	TR	0.54	11.6	B	TR	0.76	16.4	B
Southbound	L	0.13	8.2	A	L	0.20	9.6	A	L	0.12	7.9	A	L	0.18	9.0	A	L	0.24	10.0	A	L	0.45	17.5	B
	TR	0.68	14.0	B	TR	0.77	16.5	B	TR	0.54	11.4	B	TR	0.61	12.6	B	TR	0.54	11.4	B	TR	0.62	12.9	B
Intersection			12.6	B			14.7	B			10.9	B			12.2	B			12.0	B			15.3	B
West End Ave & W 61st St																								
Eastbound					LTR	0.07	24.4	C					LTR	0.05	24.1	C					LTR	0.07	24.3	C
Northbound					L	0.03	7.3	A					L	0.03	7.2	A					L	0.04	7.3	A
	T	0.31	8.9	A	T	0.42	10.0	A	T	0.27	8.5	A	T	0.38	9.5	A	T	0.42	9.9	A	T	0.57	11.9	B
	R	0.08	7.4	A	R	0.09	7.5	A	R	0.09	7.5	A	R	0.10	7.6	A	R	0.07	7.4	A	R	0.09	7.5	A
Southbound	L	0.19	8.9	A	L	0.29	10.7	B	L	0.13	8.1	A	L	0.20	9.2	A	L	0.18	9.0	A	L	0.31	12.0	B
	T	0.61	12.6	B	TR	0.69	14.1	B	T	0.56	11.8	B	TR	0.64	13.1	B	T	0.49	10.8	B	TR	0.58	11.9	B
Intersection			11.1	B			12.5	B			10.5	B			11.6	B			10.3	B			11.9	B
West End Ave & W 65th St																								
Eastbound	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C
Northbound	L	0.01	11.9	B	L	0.01	12.0	B	L	0.00	11.8	B	L	0.00	11.8	B	L	0.01	11.9	B	L	0.01	11.9	B
	TR	0.46	16.5	B	TR	0.60	19.1	B	TR	0.38	15.4	B	TR	0.51	17.3	B	TR	0.56	18.1	B	TR	0.73	22.4	C
Southbound	L	0.64	15.1	B	L	0.75	22.3	C	L	0.38	9.4	A	L	0.47	11.4	B	L	0.75	21.5	C	L	0.94	47.5	D
	TR	0.61	11.0	B	TR	0.68	12.3	B	TR	0.50	9.5	A	TR	0.57	10.4	B	TR	0.54	10.0	B	TR	0.63	11.3	B
Intersection			13.1	B			15.7	B			11.4	B			12.9	B			14.7	B			20.4	C
West End Ave & W 66th St																								
Eastbound	LR	0.07	20.2	C	LR	0.07	20.2	C	LR	0.10	20.5	C	LR	0.10	20.6	C	LR	0.05	20.0	B	LR	0.05	20.0	B
Westbound	L	0.56	30.8	C	L	0.70	38.0	D	L	0.61	32.9	C	L	0.72	39.1	D	L	0.80	45.5	D	L	0.99	78.8	E
	LT	0.59	30.3	C	LT	0.76	38.0	D	LT	0.63	32.3	C	LT	0.77	39.6	D	LT	0.82	45.1	D	LT	1.02	81.0	F
	R	0.50	28.5	C	R	0.24	22.7	C	R	0.61	32.3	C	R	0.40	25.8	C	R	0.94	63.9	E	R	0.60	31.9	C
Northbound	L	0.32	24.9	C	L	0.50	38.5	D	L	0.13	16.2	B	L	0.18	17.6	B	L	0.17	15.6	B	L	0.31	20.0	B
	T	0.29	16.6	B	T	0.37	17.5	B	T	0.30	16.7	B	T	0.41	17.9	B	T	0.43	16.4	B	T	0.53	18.0	B
Southbound	T	0.86	30.5	C	T	0.93	37.5	D	T	0.57	20.5	C	T	0.65	22.1	C	T	0.63	19.8	B	T	0.72	22.0	C
	R	0.09	14.9	B	R	0.10	15.0	B	R	0.13	15.5	B	R	0.14	15.5	B	R	0.10	13.4	B	R	0.11	13.4	B
Intersection			27.5	C			32.7	C			23.7	C			25.6	C			30.7	C			37.0	D
Route 9A & W 56th St																								
Northbound (main)	T	0.84	33.3	C	T	0.88	35.1	D	T	0.56	2.8	A	T	0.58	2.9	A	T	0.78	7.0	A	T	0.80	7.3	A
Northbound (service)	TR	0.30	22.0	C	TR	0.35	22.7	C	TR	0.17	1.7	A	TR	0.20	1.8	A	TR	0.16	3.0	A	TR	0.20	3.1	A
Southbound	L	0.47	29.0	C	L	0.48	29.2	C	L	0.83	59.3	E	L	0.85	60.9	E	L	0.94	78.8	E	L	0.96	82.5	F
	T	0.61	1.0	A	T	0.62	1.0	A	T	0.45	0.5	A	T	0.46	0.5	A	T	0.43	0.4	A	T	0.43	0.4	A
Intersection			15.8	B			16.6	B			6.2	A			6.3	A			11.2	B			11.6	B
Route 9A & W 57th St																								
Westbound	R	0.40	33.0	C	R	0.42	33.4	C	R	0.54	39.2	D	R	0.57	40.0	D	R	0.89	66.8	E	R	1.01	89.0	F
Northbound	T	0.60	17.9	B	T	0.63	18.3	B	T	0.56	6.1	A	T	0.57	6.2	A	T	0.73	6.1	A	T	0.74	6.2	A
Intersection			20.8	C			21.3	C			11.4	B			11.9	B			17.0	B			22.6	C

Note: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.

- *Columbus Avenue/Broadway and West 65th Street:* The southbound approach on Broadway would deteriorate from LOS D with a delay of 46.6 spv and a v/c ratio of 0.91 to LOS E with a delay of 58.0 spv and a v/c ratio of 0.98.
- *Amsterdam Avenue and West 59th Street:* The eastbound left-turn movement would deteriorate from LOS D with a delay of 45.8 spv and a v/c ratio of 0.68 to LOS F with a delay of 86.9 spv and a v/c ratio of 0.94.
- *West End Avenue and West 57th Street*: The westbound defacto left-turn movement would deteriorate from LOS D with a delay of 52.9 spv and a v/c ratio of 0.84 to LOS F with a delay of 82.1 spv and a v/c ratio of 0.97.
- *West End Avenue and West 59th Street*: The eastbound left-through movement would deteriorate from LOS C with a delay of 28.0 spv and a v/c ratio of 0.29 to LOS E with a delay of 63.9 spv and a v/c ratio of 0.84.

PM PEAK HOUR

- *Columbus Avenue and West 57th Street*: The eastbound right-turn movement would deteriorate from LOS D with a delay of 44.8 spv and a v/c ratio of 0.58 to LOS E with a delay of 56.0 spv and a v/c ratio of 0.72. The westbound defacto left-turn movement would deteriorate from LOS D with a delay of 41.7 spv and a v/c ratio of 0.86 to LOS E with a delay of 61.1 spv and a v/c ratio of 0.96. The westbound through movement would deteriorate from LOS E with a delay of 70.4 spv and a v/c ratio of 1.04 to LOS F with a delay of 110.0 spv and a v/c ratio of 1.15.
- *Columbus Avenue/Broadway and West 65th Street:* The southbound approach on Columbus Avenue would deteriorate from LOS D with a delay of 52.3 spv and a v/c ratio of 0.99 to LOS E with a delay of 71.0 spv and a v/c ratio of 1.05.
- *Amsterdam Avenue and West 57th Street:* The eastbound approach would deteriorate from LOS D with a delay of 40.6 spv and a v/c ratio of 0.86 to LOS F with a delay of 84.5 spv and a v/c ratio of 1.06.
- *West End Avenue and West 57th Street*: The eastbound approach (left-through-right movement) would change from LOS C with a delay of 29.7 spv and a v/c ratio of 0.69 to a defacto left-turn movement operating at LOS F with a delay of 218.7 spv and a v/c ratio of 1.34, and a through-right movement operating at LOS D with a delay of 35.3 spv and a v/c ratio of 0.76.
- *West End Avenue and West 59th Street*: The eastbound left-through movement would deteriorate from LOS C with a delay of 33.0 spv and a v/c ratio of 0.46 to LOS F with a delay of 145.8 spv and a v/c ratio of 1.15. The westbound left-through movement would deteriorate from LOS E with a delay of 59.5 spv and a v/c ratio of 0.86 to LOS F with a delay of 157.6 spv and a v/c ratio of 1.20.
- *West End Avenue and West 66th Street:* The westbound left-turn movement would deteriorate from LOS D with a delay of 45.5 spv and a v/c ratio of 0.80 to LOS E with a delay of 78.8 spv and a v/c ratio of 0.99. The westbound left-through movement would deteriorate from LOS D with a delay of 45.1 spv and a v/c ratio of 0.82 to LOS F with a delay of 81.0 spv and a v/c ratio of 1.02.

- *Route 9A and West 56th Street:* The southbound left-turn movement would deteriorate from LOS E with a delay of 78.8 spv and a v/c ratio of 0.94 to LOS F with a delay of 82.5 spv and a v/c ratio of 0.96.
- *Route 9A and West 57th Street*: The westbound approach would deteriorate from LOS E with a delay of 66.8 spv and a v/c ratio of 0.89 to LOS F with a delay of 89.0 spv and a v/c ratio of 1.01.

PARKING SUPPLY AND UTILIZATION

The utilization of off-street parking facilities in the study area would increase due to the area's background growth in traffic (2.0 percent over existing by 2008) and additional demand generated by nearby developments. As shown in Table 14-5, the overall utilization rates of the off-street parking facilities in the study area would increase slightly to approximately 81 and 79 percent (with 1,787 and 1,897 available spaces) during the midday and overnight hours, respectively. As with existing conditions, on-street parking in the area is expected to be at or near capacity during most of the day under the future without the proposed action.

Table 14-5
2008 No Build Conditions Off-Street Parking Utilization

	Company Name	Address	License No.	Capacity	Utilization Rate (%)		Utilized Spaces		Available Spaces	
					MD	Night	MD	Night	MD	Night
1	Performance Parking Corp.	127-137 Amsterdam	858712	375	97	100	363	375	12	0
2	Lincoln Center Park & Lock	140 W.65th St.	1079021	721	74	100	532	721	189	0
3	Icon Parking	110 West End Ave.	761016	106	56	58	59	61	47	45
4	Icon Parking	101 West End Ave.	1061198	166	71	45	118	75	48	91
5	West End Towers Garage	35-101 West End Ave.	0948832	441	56	61	248	270	193	171
6	Central Parking System	641 W 59th St.	0903540	993	91	61	906	608	87	385
7	MTP 59th Street LLC	641 W 59th St.	1097071	537	89	69	479	371	58	166
8	Central Parking System	115 West End Ave.	964023	1,850	97	100	1,793	1,850	57	0
9	LHL Parking Corporation	218 W.61st St.	898520	100	87	100	87	100	13	0
10	Impark	515 W.59th St	1089991	190	83	69	157	131	33	59
11	Concerto Garage Corp.	200 W.60th St.	884653	265	86	69	255	183	10	82
12	Garage Management Corp	44 W.62nd St.	1013719	143	82	53	117	76	26	67
13	Prior Parking LLC	40-50 W.61st St.	1033066	205	74	100	151	205	54	0
14	Central Parking System	910-924 Ninth Ave.	1113135	318	62	69	198	221	120	97
15	1 Columbus Place Garage	1 Columbus Place	960635	294	72	73	213	216	81	78
16	John Jay College Parking	425 W.59th St.	813398	125	73	62	91	77	34	48
17	MTP	520-550 W.59th St.	954199	Closed	-	-	-	-	-	-
18	Kinney Systems	838-852 Eleventh Ave.	1137953	84	67	45	56	38	28	46
19	GMC Parking Corporation	622 W.57th St.	429031	1,000	66	57	663	571	337	429
20	Effective Parking LLC	435 W.57th St	368157	55	82	85	45	47	10	8
21	Apex Parking LLC	440 W.57th St.	368300	378	51	77	193	292	185	86
22	Sydney Parking LLC	408 W.57th St	1113944	80	81	100	65	80	15	0
			Durst West 57th Street	638	77	98	491	623	147	15
			2 West End Avenue	150	98	84	147	126	3	24
			Total	**9,214**	**81**	**79**	**7,427**	**7,317**	**1,787**	**1,897**

E. PROBABLE IMPACTS OF THE PROPOSED ACTION

The assessment of potential adverse impacts associated with the proposed action begins with and builds on the future No Build conditions described in the preceding section. As with the future No Build evaluation, 2008 is used as the analysis year for assessing project impacts, reflecting the time when all project elements are anticipated for completion.

The proposed project would result in the development of a mixed-use building containing 342 residential dwelling units, 4,420 square feet of medical office space, and 10,340 square feet of ground-floor retail space. In addition, as part of the rezoning action, the adjacent projected development sites were assumed for development into another 251 dwelling units, 2 penthouse units, and a middle school (extension of the adjacent Heschel School) for 500 students. To accommodate the proposed development's parking needs, an indoor garage containing 200 spaces would be constructed. The trip generation characteristics for the above uses are discussed below.

TRIP GENERATION

Travel demand forecasts for different uses estimate person trips by transportation modes and vehicle trips during typical weekday peak hours: 8 AM to 9 AM, 12 PM to 1 PM, and 5 PM to 6 PM. These trips were superimposed onto the area background peak periods (8 AM to 9 AM, 1 PM to 2 PM, and 5:30 PM to 6:30 PM) for a more conservative analysis.

RESIDENTIAL USE

The daily rate of 8 trips per dwelling unit (Urban Space for Pedestrians by Pushkarev & Zupan) was used to estimate the total trips generated from the proposed action's residential components. Modal split rates were obtained from the 2000 U.S. Census. The application of the above rates yields 592, 306, and 696 person trips, and 100, 48, and 101 vehicle trips (autos, taxis, and deliveries) during the AM, midday, and PM peak hours, respectively (see Table 14-6).

MEDICAL OFFICE USE

Daily trip generation rates, as well as modal split estimates, obtained from the *506 East 76th Street Rezoning FEIS* were used to develop projected trips by both staff and visitors of the medical office. A trip generation rate of 10 trips per 1,000 square feet, used for the medical office staff, would result in 10, 6, and 10 person trips, and 4, 2, and 4 vehicle trips during the AM, midday, and PM peak hours, respectively. A rate of 33.6 trips per 1,000 square feet applied to the medical office visitors would yield 8, 16, and 8 person trips, and 5, 8, and 4 vehicle trips during the same time periods, respectively. Summaries of these trip generation estimates are shown in Tables 14-7 and 14-8.

GROUND-FLOOR RETAIL USE

Travel demand assumptions for the ground-floor retail were obtained from the *River Center FEIS.* A trip generation rate of 205 person trips per 1,000 square feet was used, resulting in 66, 402, and 202 person trips, and 4, 16, and 8 vehicle trips during the AM, midday, and PM peak hours, respectively. Summaries of these trip generation estimates are shown in Tables 14-9.

SCHOOL USE

Part of the projected development sites (100,000 square feet of floor area located on the southeast corner West End Avenue and West 61st Street) has been assumed to serve as an extension to the adjacent Heschel High School to accommodate 500 middle school students (based on the school's current plans). Using the same faculty/staff to student ratio (3 to 10) projected for the partially occupied Heschel High School, the middle school was estimated to require 75 teachers and administrative staff. The trip generation estimates were developed based on previous surveys conducted for New York City Board of Education at P.S. 159 and I.S. 240, as presented in the *Columbia University 110th Street EAS*. The trip generation rate of 2.4 daily trips per person is based on the assumption that the entire school population would make one trip in the morning and one trip in the afternoon. During the midday, 20 percent of the school population would make a departure and a return trip.

Table 14-6
Trip Generation: Residential Component

812 Dwelling Units

Daily Trip Rates (1, 3)

Person Trips	8	Trips per dwelling unit
Truck Trips	0 03	Trips per dwelling unit

Temporal & Hourly In/Out Distribution (1, 3)

	Person Trips			Delivery Trips		
	Temporal	In	Out	Temporal	In	Out
AM Peak Hour	9.1%	15 0%	85 0%	9 7%	100%	100%
Midday Peak Hour	4.7%	50.0%	50 0%	7.8%	100%	100%
PM Peak Hour	10.7%	70 0%	30 0%	5 1%	100%	100%

Modal Split & Vehicle Occupancy (1, 2)

	Auto	Taxi	Subway	Local Bus	Walk/Other	Total
AM/Midday/PM	9 0%	6.1%	41 3%	9 6%	34 0%	100%
Vehicle Occupancy	1 10	1 40				

Person Trips by Mode & Distribution

	Auto		Taxi		Subway		Local Bus		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	8	45	5	31	37	208	9	48	30	171	89	503	592
Midday Peak Hour	14	14	9	9	63	63	15	15	52	52	153	153	306
PM Peak Hour	44	19	30	13	201	86	47	20	165	71	487	209	696

Taxi Trips

	Demand		Shared Trips		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak Hour	4	22	2	2	2	2	20	20	24	24
Midday Peak Hour	6	6	3	3	3	3	3	3	9	9
PM Peak Hour	21	9	9	9	12	12	0	0	21	21

Vehicle Trips by Mode & Distribution

	Auto		Taxi		Delivery		Total		
	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	7	41	24	24	2	2	33	67	100
Midday Peak Hour	13	13	9	9	2	2	24	24	48
PM Peak Hour	40	17	21	21	1	1	62	39	101

Sources:
(1) Pushkarev & Zupan, *Urban Space for Pedestrians*, 1975
(2) U S. Department of Commerce, Bureau of the Census, *2000 Census of Population and Housing*
(3) Wilbur Smith Associates, *Motor Trucks in the Metropolis*, 1969

Table 14-7
Trip Generation: Medical Office Component—Staff

4,420 Square feet

Daily Trip Rate (1)

Person Trips 10 Trips per 1,000 square feet

Temporal & Hourly In/Out Distribution (1)

	Temporal	In	Out
AM Peak Hour	24 0%	100%	0%
Midday Peak Hour	17 0%	50 0%	50.0%
PM Peak Hour	24.0%	0%	100%

Modal Split & Vehicle Occupancy (1)

	Auto	Taxi	Subway	Local Bus	Walk/Other	Total
AM/Midday/PM	20 0%	10.0%	30 0%	30 0%	10.0%	100%
Vehicle Occupancy	1 00	1.40				

Person Trips by Mode & Distribution

	Auto		Taxi		Subway		Local Bus		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	2	0	1	0	3	0	3	0	1	0	10	0	10
Midday Peak Hour	1	1	0	0	1	1	1	1	0	0	3	3	6
PM Peak Hour	0	2	0	1	0	3	0	3	0	1	0	10	10

Taxi Trips

	Demand		Shared Trips		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak Hour	1	0	0	0	1	1	0	0	1	1
Midday Peak Hour	0	0	0	0	0	0	0	0	0	0
PM Peak Hour	0	1	0	0	0	0	1	1	1	1

Vehicle Trips by Mode & Distribution

	Auto		Taxi		Total		
	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	2	0	1	1	3	1	4
Midday Peak Hour	1	1	0	0	1	1	2
PM Peak Hour	0	2	1	1	1	3	4

Source: (1) *506 East 76th Street Rezoning FEIS* (CEQR No. 98DC009M), October 1999

Table 14-8
Trip Generation: Medical Office Component—Visitors

4,420 Square feet

Daily Trip Rate (1)

Person Trips 33 6 Trips per 1,000 square feet

Temporal & Hourly In/Out Distribution (1)

	Temporal	In	Out
AM Peak Hour	6 0%	92 5%	7 5%
Midday Peak Hour	9 0%	50 0%	50 0%
PM Peak Hour	5.0%	31.4%	68 6%

Modal Split & Vehicle Occupancy (1)

	Auto	Taxi	Subway	Local Bus	Walk/Other	Total
AM/Midday/PM	25.0%	25 0%	29 0%	11 0%	10.0%	100%
Vehicle Occupancy	1.65	1 20				

Person Trips by Mode & Distribution

	Auto		Taxi		Subway		Local Bus		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	2	0	2	0	2	0	1	0	1	0	8	0	8
Midday Peak Hour	2	2	2	2	2	2	1	1	1	1	8	8	16
PM Peak Hour	1	1	1	1	1	1	0	1	0	1	3	5	8

Taxi Trips

	Demand		Shared Trips		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak Hour	2	0	0	0	2	2	0	0	2	2
Midday Peak Hour	2	2	1	1	1	1	1	1	3	3
PM Peak Hour	1	1	1	1	0	0	0	0	1	1

Vehicle Trips by Mode & Distribution

	Auto		Taxi		Total		
	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	1	0	2	2	3	2	5
Midday Peak Hour	1	1	3	3	4	4	8
PM Peak Hour	1	1	1	1	2	2	4

Source: (1) *506 East 76th Street Rezoning FEIS* (CEQR No. 98DC009M), October 1999

Table 14-9
Trip Generation: Ground-Floor Retail Component

10,340 Square feet

Daily Trip Rate (1, 2)

Person Trips	205	Trips per 1,000 square feet
Delivery Trips	0.35	Trips per 1,000 square feet

Temporal & Hourly In/Out Distribution (1, 2)

	Person Trips			Delivery Trips		
	Temporal	In	Out	Temporal	In	Out
AM Peak Hour	3.1%	50 0%	50.0%	6 0%	100%	100%
Midday Peak Hour	19 0%	50.0%	50.0%	11 0%	100%	100%
PM Peak Hour	9 6%	50.0%	50 0%	1 0%	100%	100%

Modal Split & Vehicle Occupancy (1)

	Auto	Taxi	Subway	Local Bus	Walk/Other	Total
AM/Midday/PM	2 0%	3 0%	6.0%	6 0%	83.0%	100%
Vehicle Occupancy	1 65	1 40				

Person Trips by Mode & Distribution

	Auto		Taxi		Subway		Local Bus		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	1	1	1	1	2	2	2	2	27	27	33	33	66
Midday Peak Hour	4	4	6	6	12	12	12	12	167	167	201	201	402
PM Peak Hour	2	2	3	3	6	6	6	6	84	84	101	101	202

Taxi Trips

	Demand		Shared Trips		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak Hour	1	1	1	1	0	0	0	0	1	1
Midday Peak Hour	4	4	2	2	2	2	2	2	6	6
PM Peak Hour	2	2	1	1	1	1	1	1	3	3

Vehicle Trips by Mode & Distribution

	Auto		Taxi		Delivery		Total		
	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	1	1	1	1	0	0	2	2	4
Midday Peak Hour	2	2	6	6	0	0	8	8	16
PM Peak Hour	1	1	3	3	0	0	4	4	8

Sources:
(1) *River Center FEIS (CEQR No 96DCP005M)*
(2) Federal Highway Administration, "*Curbside Pickup and Delivery and Arterial Traffic Impacts*", 1981

Auto trips associated with the school were divided into two categories. Travel by teachers and administrative staff was assumed to be similar to other journey-to-work type trips, with vehicles assigned to nearby parking facilities. Students who travel via auto, however, were assumed to be dropped off or picked up. These trips have similar characteristics as some taxi trips that arrive full and depart empty, or vice versa, in that each one-way trip would be considered two auto

trips. As shown in Table 14-10, the faculty/staff was estimated to generate 35, 14, and 3 person trips, and 7, 0, and 1 vehicle trips during the AM, midday, and PM peak hours, respectively. The 500 students would yield 500, 200, and 56 person trips, and 112, 0, and 14 vehicle trips during the same time periods, respectively, as presented in Table 14-11.

Table 14-10
Trip Generation: Middle School Component—Faculty/Staff

75 Faculty/Staff

Daily Trip Rate (1)

Person Trips 2.4 Trips per person

Temporal & Hourly In/Out Distribution (1)

	Temporal	In	Out
AM Peak Hour	18 8%	100%	0%
Midday Peak Hour	7 5%	50.0%	50.0%
PM Peak Hour	2.1%	0%	100%

Modal Split (1) & Vehicle Occupancy (2)

	Auto	Taxi	Subway	Local Bus	Walk/Other	Total
AM/PM Peak Hour	17.4%	1.8%	58 6%	11 8%	10.4%	100%
Midday Peak Hour	0%	0%	0%	0%	100%	100%
Vehicle Occupancy	1.20	1 40				

Person Trips by Mode & Distribution

	Auto		Taxi		Subway		Local Bus		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	6	0	1	0	20	0	4	0	4	0	35	0	35
Midday Peak Hour	0	0	0	0	0	0	0	0	7	7	7	7	14
PM Peak Hour	0	1	0	0	0	2	0	0	0	0	0	3	3

Taxi Trips

	Demand		Shared Trips		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak Hour	1	0	0	0	1	1	0	0	1	1
Midday Peak Hour	0	0	0	0	0	0	0	0	0	0
PM Peak Hour	0	0	0	0	0	0	0	0	0	0

Vehicle Trips by Mode & Distribution

	Auto		Taxi		Total		
	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	5	0	1	1	6	1	7
Midday Peak Hour	0	0	0	0	0	0	0
PM Peak Hour	0	1	0	0	0	1	1

Sources:
(1) Surveys conducted for New York City Board of Educatioin at P S. 159 and I S 240, as presented in *Columbia University 110th Street EAS* (CEQR No. 01-BSA-075M), March 2001
(2) U S. Department of Transportation, Bureau of Transportation Statistics, Census 2000 Reverse Journey to Work

Table 14-11
Trip Generation: Middle School Component—Students

500 Students

Daily Trip Rate (1)

Person Trips 2.4 Trips per person

Temporal & Hourly In/Out Distribution (1)

	Temporal	In	Out
AM Peak Hour	41 6%	100%	0%
Midday Peak Hour	16.7%	50.0%	50 0%
PM Peak Hour (2)	4 6%	0%	100%

Modal Split & Vehicle Occupancy (1)

	Auto	Taxi	Subway	Local Bus	Walk/Other	Total
AM/PM Peak Hour	10 0%	5 0%	20.0%	25.0%	40.0%	100%
Midday Peak Hour	0%	0%	0%	0%	100%	100%
Vehicle Occupancy	1.30	1 40				

Person Trips by Mode & Distribution

	Auto		Taxi		Subway		Local Bus		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	50	0	25	0	100	0	125	0	200	0	500	0	500
Midday Peak Hour	0	0	0	0	0	0	0	0	100	100	100	100	200
PM Peak Hour	0	6	0	3	0	11	0	14	0	22	0	56	56

Taxi Trips

	Demand		Shared Trips		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak Hour	18	0	0	0	18	18	0	0	18	18
Midday Peak Hour	0	0	0	0	0	0	0	0	0	0
PM Peak Hour	0	2	0	0	0	0	2	2	2	2

Vehicle Trips by Mode & Distribution

	Auto (3)		Taxi		Total		
	In	Out	In	Out	In	Out	In+Out
AM Peak Hour	38	38	18	18	56	56	112
Midday Peak Hour	0	0	0	0	0	0	0
PM Peak Hour	5	5	2	2	7	7	14

Sources:
(1) Surveys conducted for New York City Board of Education at P S 159 and I S 240, as presented in *Columbia University 110th Street EAS* (CEQR No. 01-BSA-075M), March 2001
(2) 32.5% for typical school departure hour 3-4PM
(3) Auto trips are assumed to be student pick-ups and drop-offs.

Based on the *2000 U.S. Census,* the residential use of the proposed project would generate a parking demand of approximately 188 spaces overnight. This demand could be fully accommodated by the proposed 200-space on-site parking garage. However, because this garage would be opened to the public, any excess supply could be occupied by other area residential demand, the site's non-residential demand (i.e., community facility, ground-floor retail, and

middle school), as well as, transient users. As shown in Table 14-12, the transient parking demand would result in an additional trip generation of 2, 1, and 1 vehicle trips during the AM, midday, and PM peak hours, respectively.

Overall, the proposed project and projected development sites would yield net increments of 1,211, 944, and 975 person trips, and 234, 75, and 133 vehicle trips during the AM, midday, and PM peak hours, respectively. A summary of the total peak hour trip generation estimates by travel mode is shown in Table 14-13.

Table 14-12
Trip Generation: Public Parking Garage

Time	Project Generated Vehicle Trips		Public Parking Garage Vehicle Trip Generation					Total Vehicle Trips		Utilized Spaces	Utilization Rate (%)
	In	Out	Temporal	In	Out	In	Out	In	Out		
Overnight	Residential (Project and Off-Site)									200	100%
7-8 AM	8	17	0 4%	100%	0%	0	0	8	17	191	96%
8-9 AM	16	42	9.3%	91%	9%	2	0	18	42	167	84%
9-10 AM	13	27	10.1%	74%	26%	2	1	15	28	154	77%
10-11 AM	12	17	11.2%	79%	21%	2	1	14	18	150	75%
11-12 PM	14	14	7 1%	58%	42%	1	1	15	15	150	75%
12-1 PM	17	17	5 6%	38%	62%	0	1	17	18	149	75%
1-2 PM	15	15	5 0%	39%	61%	0	1	15	16	148	74%
2-3 PM	12	12	6 7%	26%	74%	0	1	12	13	147	74%
3-4 PM	18	18	6 3%	34%	66%	0	1	18	19	146	73%
4-5 PM	25	20	9 7%	22%	78%	0	2	25	22	149	75%
5-6 PM	42	22	9 5%	27%	73%	0	1	42	23	168	84%
6-7 PM	32	18	13 1%	36%	64%	0	0	32	18	182	91%
7-8 PM	29	15	6.0%	61%	39%	0	0	29	15	196	98%
Source:	1926 Broadway EAS, survey conducted by AKRF										

Table 14-13
Trip Generation Summary

Peak Hour Person Trips

Analysis Time Period	Auto		Auto (1)		Taxi		Subway		Local Bus		Walk Only		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Pk Hr	19	46	50	0	35	32	164	210	144	50	263	198	675	536	1,211
MD Pk Hr	21	21	0	0	17	17	78	78	29	29	327	327	472	472	944
PM Pk Hr	47	25	0	6	34	21	208	109	53	44	249	179	591	384	975

Peak Hour Vehicle Trips

Analysis Time Period	Auto		Auto (1)		Auto (2)		Taxi		Deliveries		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Pk Hr	16	42	38	38	2	0	47	47	2	2	105	129	234
MD Pk Hr	17	17	0	0	0	1	18	18	2	2	37	38	75
PM Pk Hr	42	22	5	5	0	1	28	28	1	1	76	57	133

Notes:
1. Trips for school component, student pick-up and drop-off only
2. Trips for public parking component

TRIP DISTRIBUTION

Origin and destination patterns for project-generated vehicular trips were developed based on local traffic patterns and the location of major employment centers. Based on this information,

approximately 40 percent of the projected trips were distributed to points south along the west side of Manhattan, 30 percent to Midtown locations southeast of the project site, 20 percent to points north, and the remaining 10 percent to points east on the opposite side of Central Park. This travel pattern was used to distribute project-generated vehicular trips throughout the study area street network.

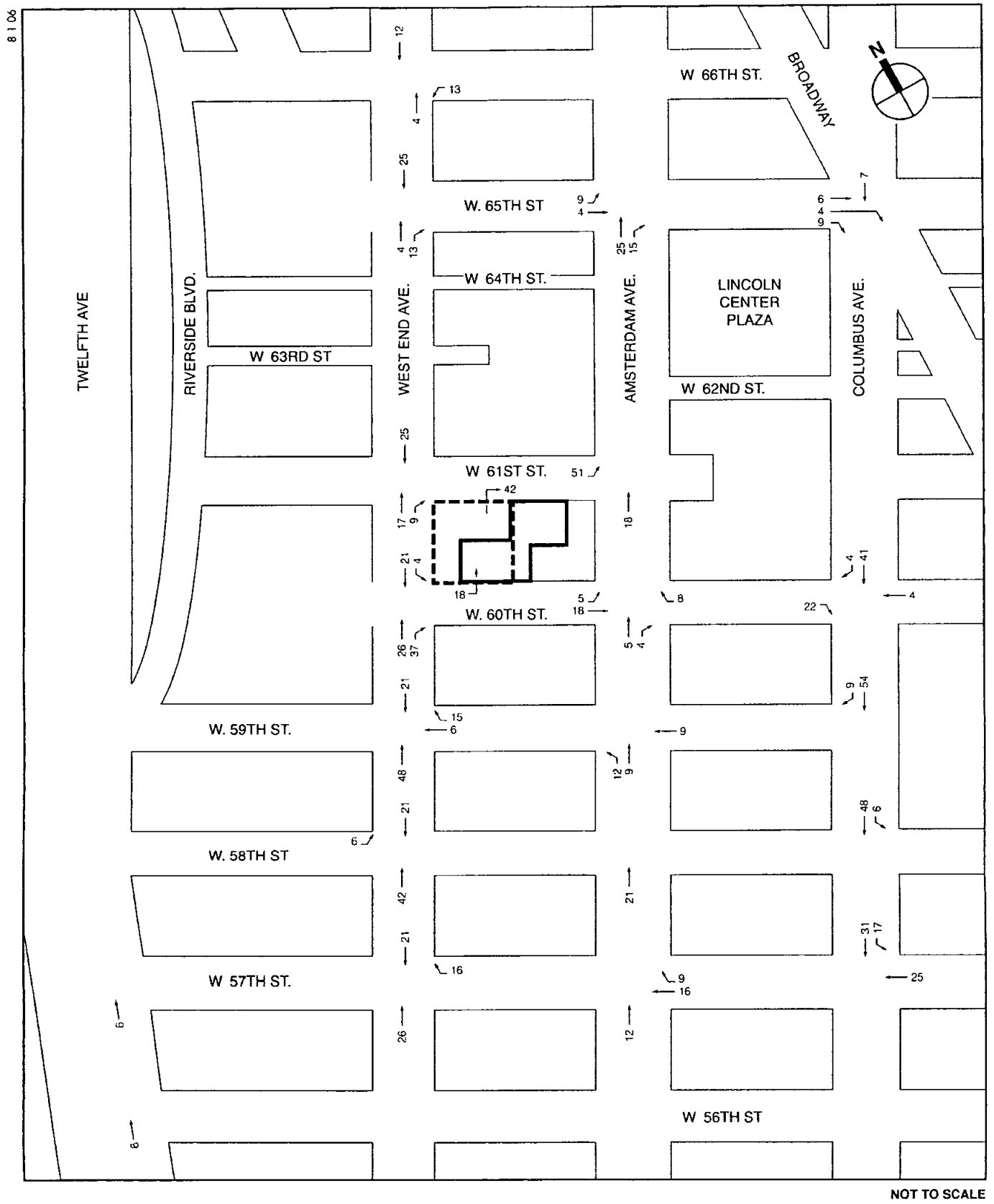
VEHICLE TRIP ASSIGNMENT

Using the trip distribution results, auto trips were assigned to the study area intersections based on logical routes of travel. These associated vehicle trips were assigned to the on-site parking garage. This garage, with a capacity of 200 spaces, would adequately accommodate the entire project-generated demand. Taxi and school drop-off and pick-up trips were assigned to the site's block faces, and delivery vehicles were routed to and from the project site via NYCDOT designated truck routes.

TRAFFIC VOLUMES AND LEVEL OF SERVICE

Figures 14-10, 14-11, and 14-12 present the project-generated traffic volumes for the weekday AM, midday, and PM peak analysis hours, respectively. Within the study area, peak hour traffic volumes would experience increases along the primary access and egress routes to the project site, with the West End Avenue intersections at West 59th and West 60th Streets incurring the highest incremental increases in traffic volume. The 2008 Build AM, midday, and PM peak hour traffic volumes are shown in Figures 14-13, 14-14, and 14-15, respectively.

Capacity and level-of-service analyses were performed for the study area intersections using the future Build peak hour traffic volumes. Table 14-14 compares the No Build and Build service levels for these intersections.

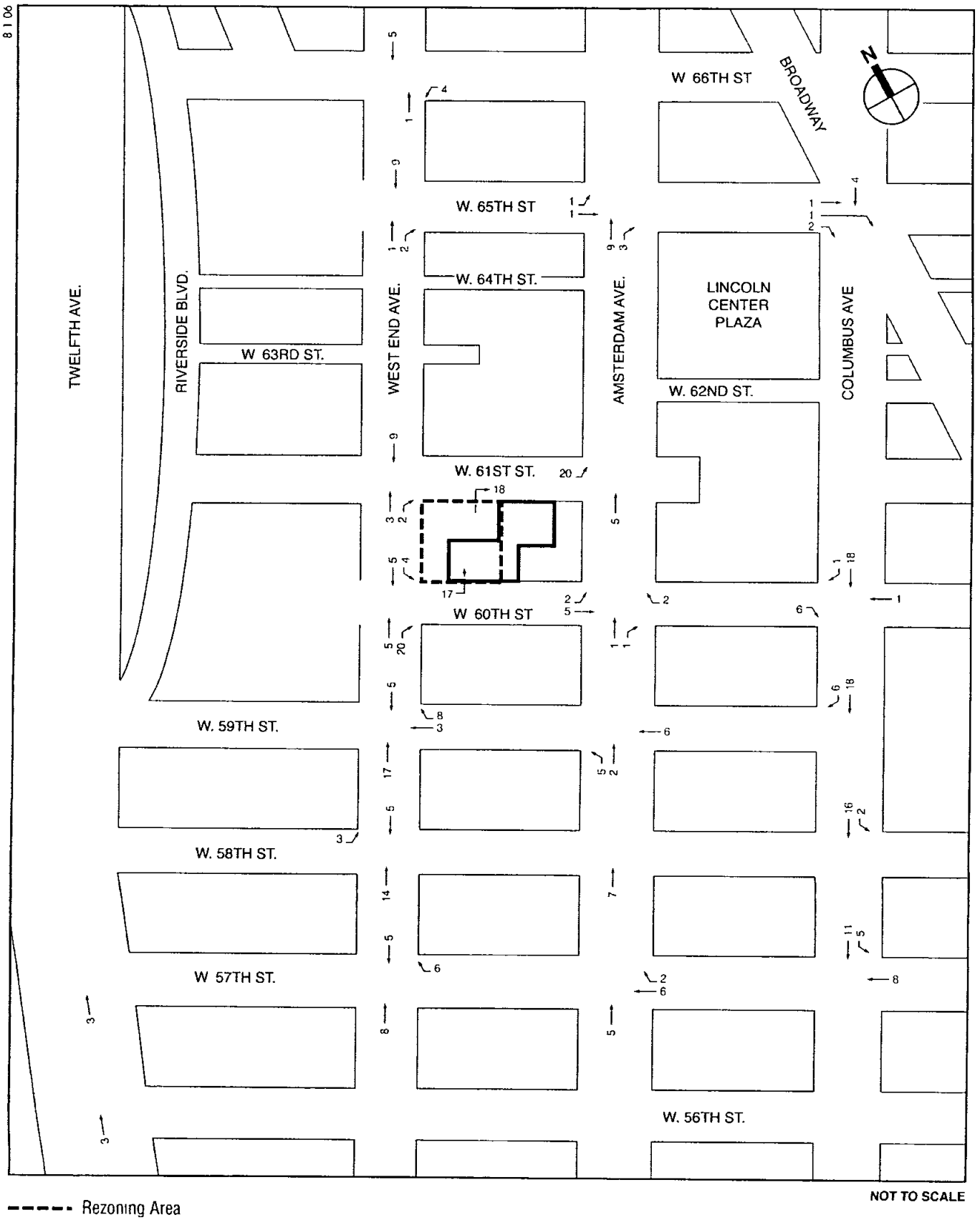


Rezoning Area

Algin Property Site

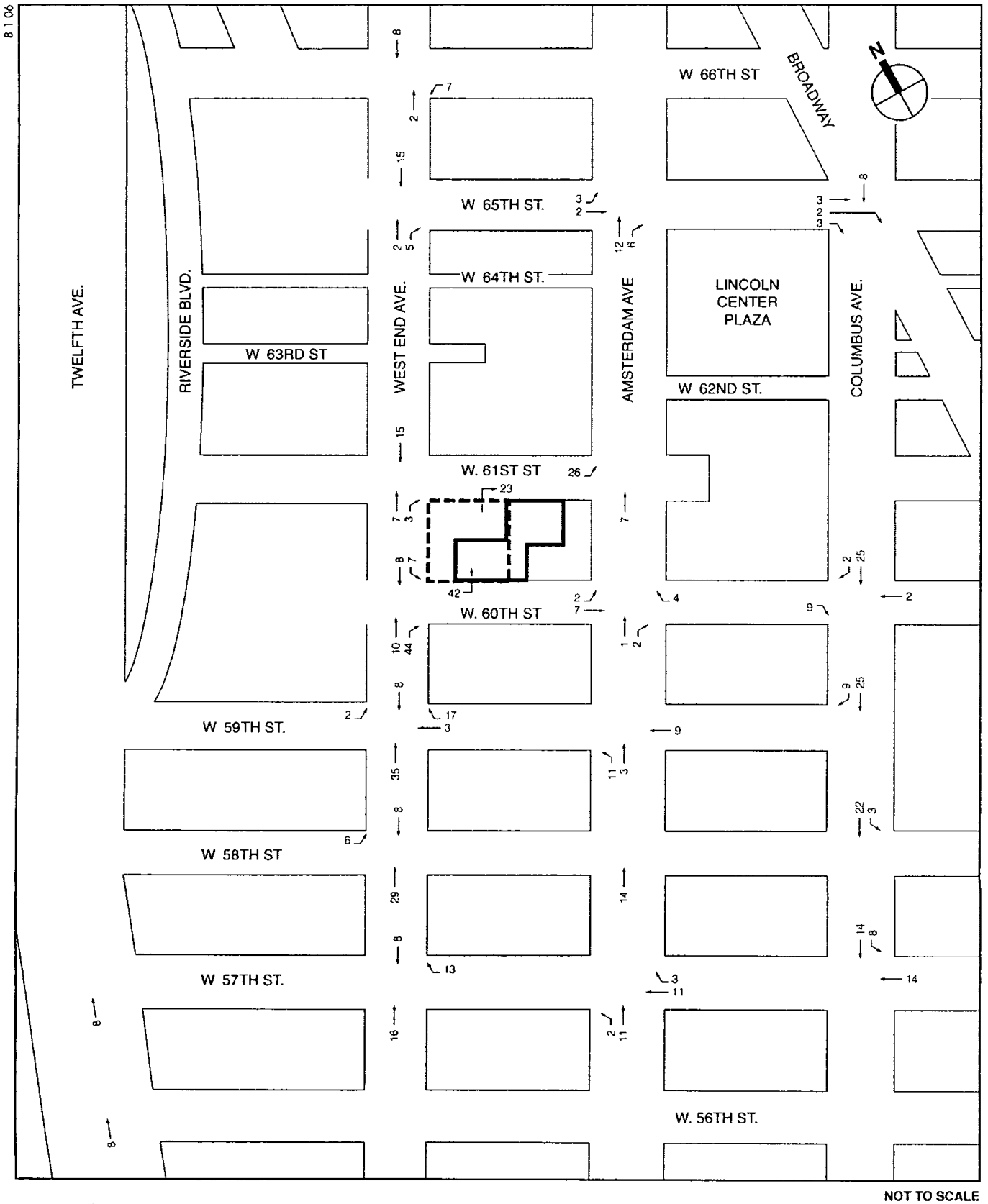
West 61st Street Rezoning

Project Generated Traffic Volumes
AM Peak Hour
Figure 14-10

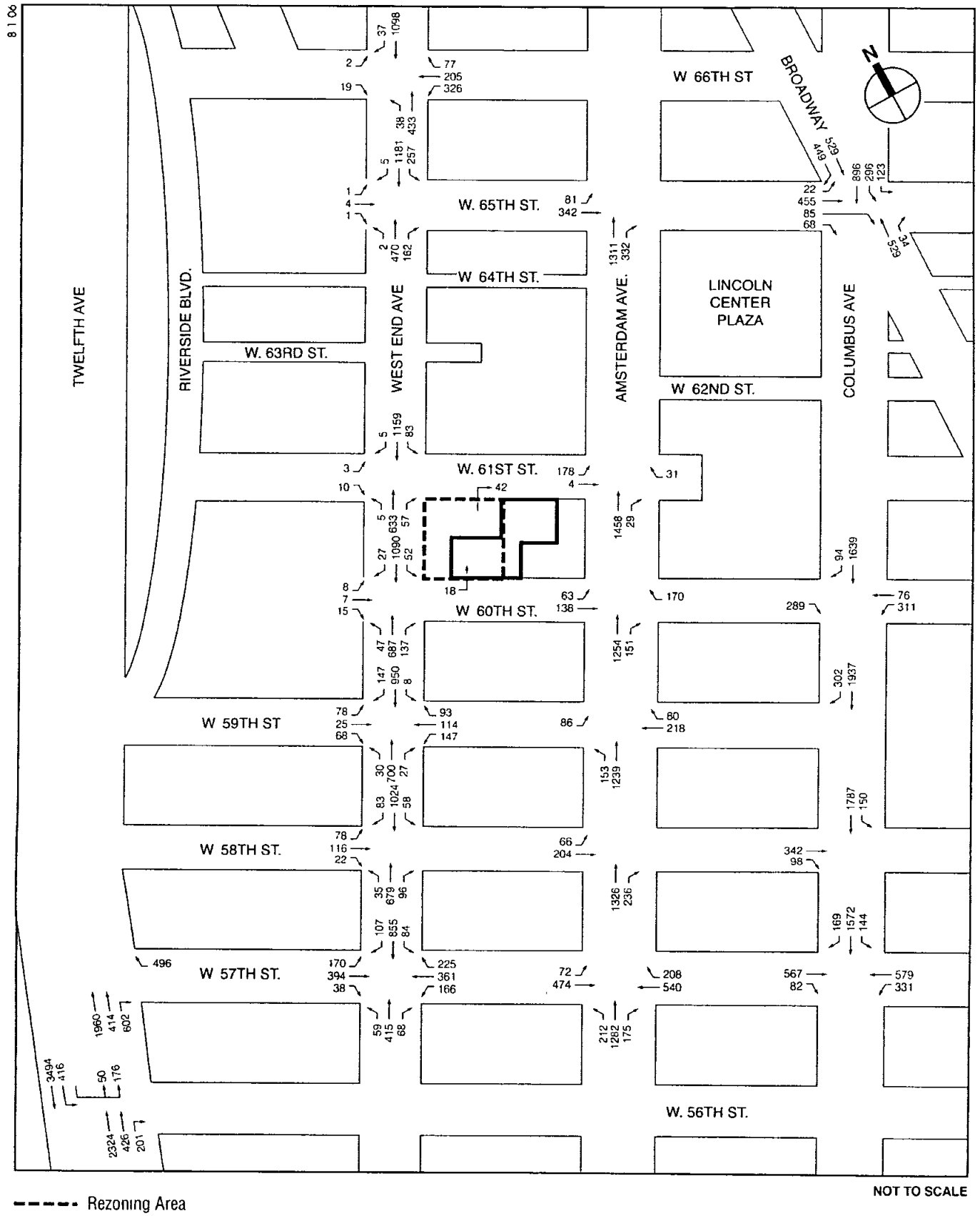


Project Generated Traffic Volumes
Midday Peak Hour
Figure 14-11

West 61st Street Rezoning



Project Generated Traffic Volumes
PM Peak Hour
Figure 14-12



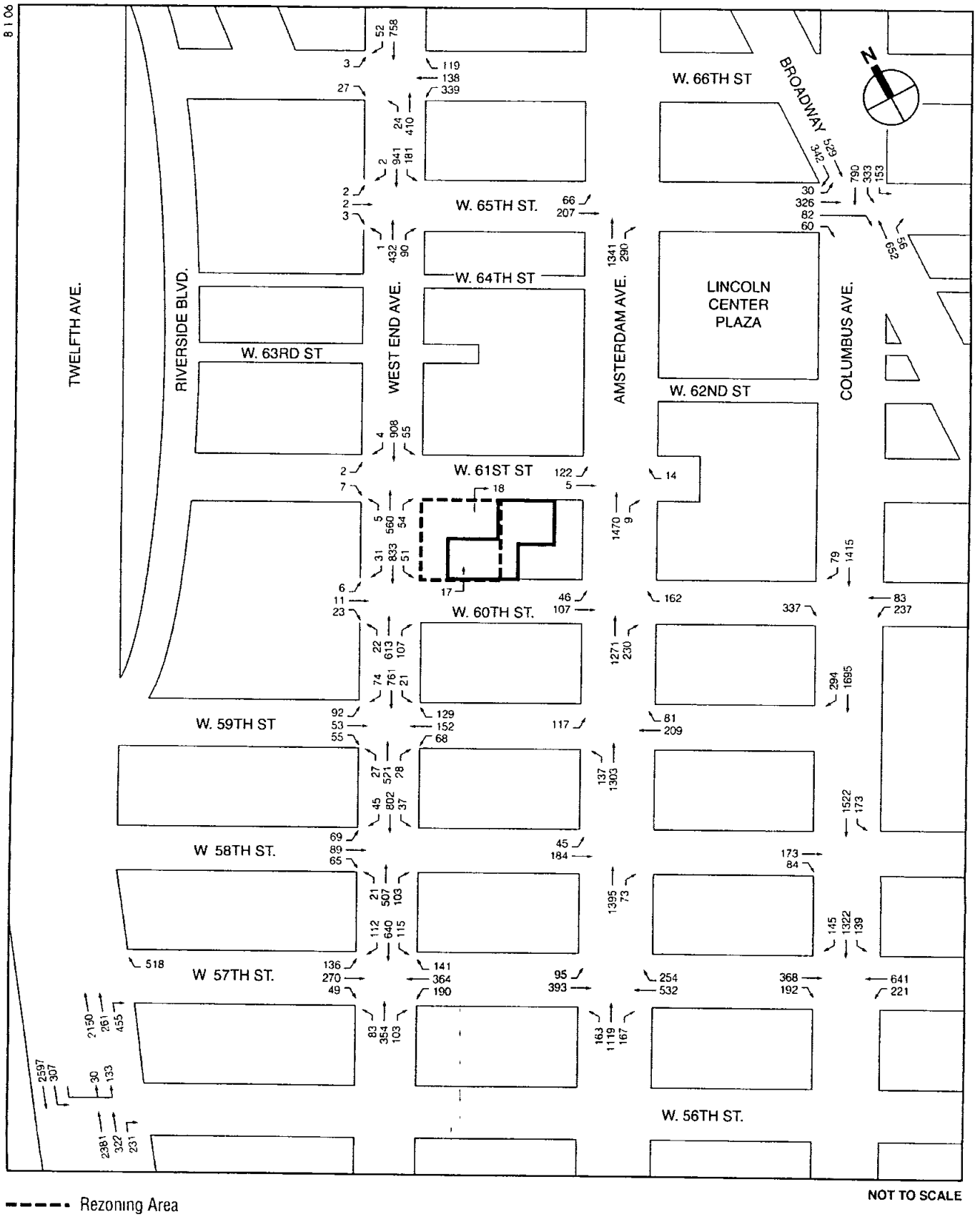
Rezoning Area

Algin Property Site

2008 Build Traffic Volumes
AM Peak Hour

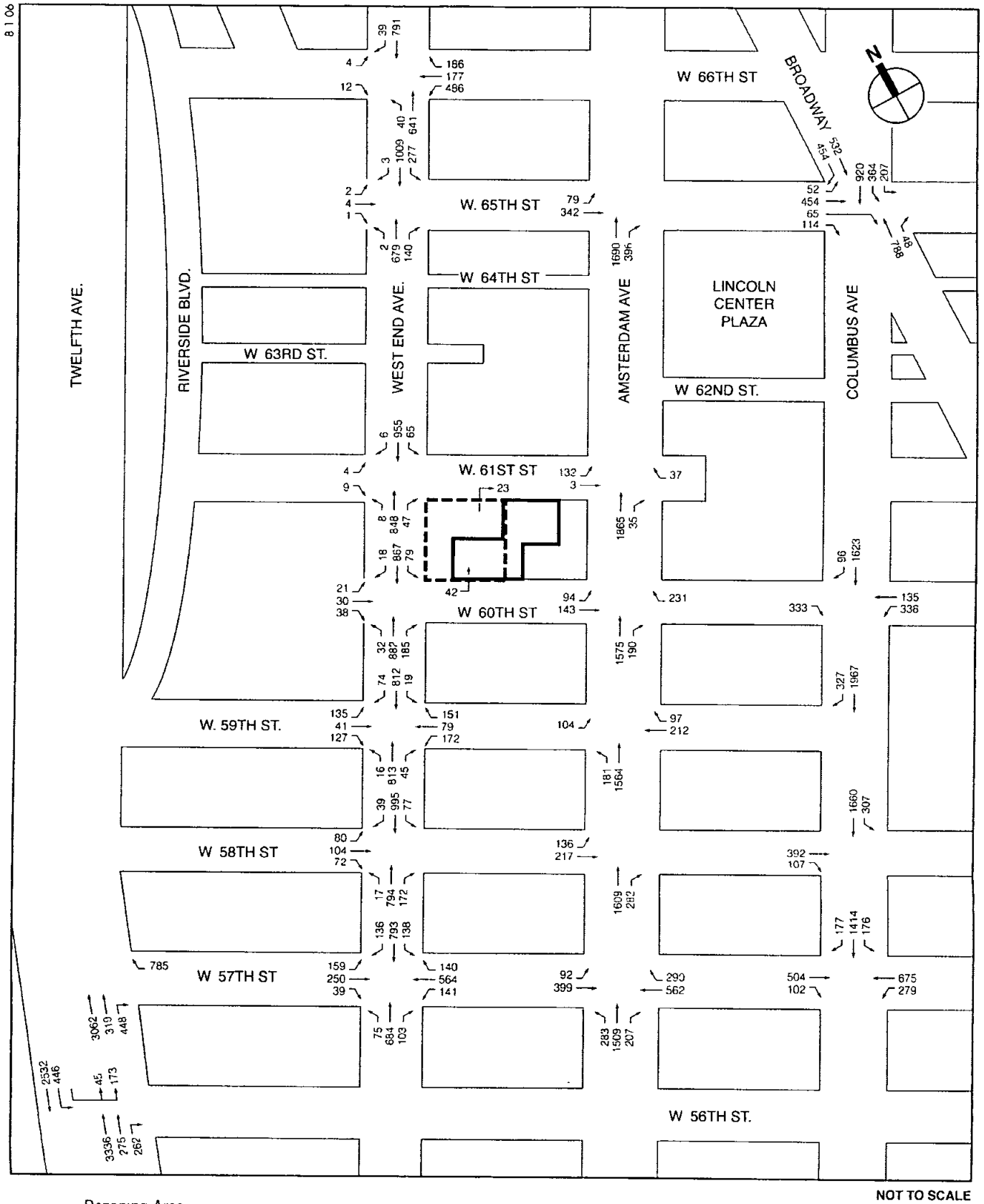
Figure 14-13

West 61st Street Rezoning



2008 Build Traffic Volumes
Midday Peak Hour
Figure 14-14

West 61st Street Rezoning



Rezoning Area

Algin Property Site

2008 Build Traffic Volumes
PM Peak Hour
Figure 14-15

West 61st Street Rezoning

Table 14-14
Level-of-Service Analysis Results for Signalized Intersections: 2008 No Build and Build Conditions

Analysis Locations	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2008 No Build				2008 Build				2008 No Build				2008 Build				2008 No Build				2008 Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Columbus Ave & W 57th St																								
Eastbound	T	0.98	64.9	E	T	0.98	64.9	E	T	0.56	33.0	C	T	0.56	33.0	C	T	0.88	49.0	D	T	0.88	49.0	D
	R	0.59	46.1	D	R	0.59	46.1	D	R	1.16	151.7	F	R	1.16	151.7	F	R	0.72	56.0	E	R	0.72	56.0	E
Westbound	DefL	1.27	169.4	F	DefL	1.27	169.4	F									DefL	0.96	61.1	E	DefL	0.96	61.1	E
	T	1.16	116.8	F	**T**	**1.22**	**137.4**	**+F**	LT	1.01	56.2	E	LT	1.02	58.5	E	T	1.15	110.0	F	**T**	**1.18**	**120.1**	**+F**
Southbound	L	0.39	24.7	C	L	0.45	26.0	C									L	0.55	29.0	C	L	0.58	29.9	C
	TR	1.07	71.5	E	**TR**	**1.09**	**78.2**	**+E**	LTR	1.05	64.9	E	LTR	1.06	68.7	E	T	0.78	28.3	C	T	0.79	28.5	C
																	R	0.66	34.6	C	R	0.66	34.6	C
Intersection			86.0	F			92.7	F			64.1	E			66.7	E			51.6	D			53.9	D
Columbus Ave & W 58th St																								
Eastbound	T	0.83	44.0	D	T	0.83	44.0	D	T	0.48	28.3	C	T	0.48	28.3	C	T	0.91	53.7	D	T	0.91	53.7	D
	R	0.42	29.0	C	R	0.42	29.0	C	R	0.42	29.1	C	R	0.42	29.1	C	R	0.43	29.0	C	R	0.43	29.0	C
Southbound	LT	0.78	12.2	B	LT	0.81	12.7	B	LT	0.64	9.8	A	LT	0.65	9.9	A	LT	0.73	11.1	B	LT	0.74	11.2	B
Intersection			17.3	B			17.6	B			12.6	B			12.7	B			18.7	B			18.8	B
Columbus Ave & W 59th St																								
Southbound	TR	0.87	16.4	B	TR	0.89	17.7	B	TR	0.79	13.8	B	TR	0.80	14.1	B	TR	0.89	17.3	B	TR	0.90	18.1	B
Intersection			16.4	B			17.7	B			13.8	B			14.1	B			17.3	B			18.1	B
Columbus Ave & W 60th St																								
Eastbound	R	0.73	36.0	D	R	0.79	40.0	D	R	1.16	132.0	F	**R**	**1.18**	**140.2**	**+F**	R	0.85	44.7	D	R	0.87	47.2	D
Westbound	L	0.56	31.6	C	L	0.56	31.6	C	L	0.52	30.3	C	L	0.52	30.3	C	L	0.72	39.1	D	L	0.72	39.1	D
	LT	0.58	31.4	C	LT	0.59	31.5	C	LT	0.51	28.9	C	LT	0.52	29.0	C	LT	0.77	39.3	D	LT	0.77	39.6	D
Southbound	TR	0.62	10.2	B	TR	0.64	10.4	B	TR	0.65	10.5	B	TR	0.66	10.6	B	TR	0.66	10.6	B	TR	0.67	10.7	B
Intersection			17.1	B			18.0	B			31.1	C			32.4	C			21.3	C			21.8	C
Columbus Ave/Broadway & W 65th St																								
Eastbound	L	0.11	26.7	C	L	0.11	26.7	C	L	0.15	27.3	C	L	0.15	27.3	C	L	0.24	28.7	C	L	0.24	28.7	C
	TR	0.69	35.5	D	TR	0.71	35.9	D	TR	0.57	32.5	C	TR	0.58	32.6	C	TR	0.80	40.4	D	TR	0.81	40.9	D
	R	0.51	35.1	D	R	0.56	36.9	D	R	0.45	34.8	C	R	0.47	35.2	D	R	0.59	40.4	D	R	0.61	41.3	D
Northbound	TR	0.70	34.8	C	TR	0.70	34.8	C	TR	0.83	40.3	D	TR	0.83	40.3	D	TR	1.02	67.8	E	TR	1.02	67.8	E
Broadway Southbound	T	1.12	99.5	F	T	1.12	99.5	F	T	0.98	58.0	E	T	0.98	58.0	E	T	1.05	75.0	E	T	1.05	75.0	E
Columbus Ave Southbound	LT	1.02	60.1	E	LT	1.02	61.6	E	LT	0.95	45.5	D	LT	0.95	46.1	D	LT	1.05	71.0	E	LT	1.06	73.0	E
Intersection			62.7	E			63.2	E			45.7	D			46.0	D			66.0	E			66.8	E
Amsterdam Ave & W 57th St																								
Eastbound	LT	0.97	56.7	E	LT	0.99	60.6	E	LT	0.89	44.0	D	LT	0.89	44.4	D	LT	1.06	84.5	F	**LT**	**1.07**	**87.9**	**+F**
Westbound	TR	0.97	51.0	D	**TR**	**1.00**	**59.0**	**+E**	TR	0.95	48.0	D	TR	0.96	49.6	D	TR	0.98	53.8	D	TR	1.00	57.6	E
Northbound	LT	0.79	17.1	B	LT	0.79	17.2	B	LT	0.57	13.1	B	LT	0.58	13.1	B	LT	0.72	15.2	B	LT	0.72	15.3	B
	R	0.46	14.6	B	R	0.46	14.6	B	R	0.52	17.0	B	R	0.52	17.0	B	R	0.60	19.3	B	R	0.60	19.3	B
Intersection			32.0	C			34.8	C			28.5	C			29.0	C			36.4	D			38.0	D
Amsterdam Ave & W 58th St																								
Eastbound	LT	0.44	25.2	C	LT	0.44	25.2	C	LT	0.32	23.5	C	LT	0.32	23.5	C	LT	0.47	25.7	C	LT	0.47	25.7	C
Northbound	TR	0.74	12.1	B	TR	0.74	12.2	B	TR	0.58	9.7	A	TR	0.58	9.7	A	TR	0.79	13.1	B	TR	0.79	13.2	B
Intersection			14.2	B			14.3	B			11.5	B			11.6	B			15.0	B			15.1	B
Amsterdam Ave & W 59th St																								
Eastbound	L	0.64	42.5	D	L	0.65	43.8	D	L	0.94	86.9	F	**L**	**0.95**	**90.3**	**+F**	L	0.77	53.7	D	L	0.79	56.5	E
Westbound	T	0.55	28.8	C	T	0.57	29.5	C	T	0.54	28.5	C	T	0.56	29.0	C	T	0.50	27.1	C	T	0.52	27.6	C
	R	0.36	26.0	C	R	0.36	26.0	C	R	0.37	26.2	C	R	0.37	26.2	C	R	0.38	25.9	C	R	0.38	25.9	C
Northbound	LT	0.64	11.3	B	LT	0.66	11.5	B	LT	0.63	11.0	B	LT	0.63	11.0	B	LT	0.70	12.1	B	LT	0.71	12.2	B
Intersection			15.7	B			16.0	B			19.0	B			19.4	B			16.7	B			17.0	B
Amsterdam Ave & W 60th St																								
Eastbound	LT	0.45	26.1	C	LT	0.50	27.4	C	LT	0.40	25.1	C	LT	0.41	25.4	C	LT	0.57	29.1	C	LT	0.59	29.7	C
Westbound	R	0.48	26.6	C	R	0.51	27.2	C	R	0.66	35.7	D	R	0.66	36.0	D	R	0.45	25.6	C	R	0.46	25.8	C
Northbound	TR	0.61	10.8	B	TR	0.61	10.8	B	TR	0.66	11.4	B	TR	0.66	11.5	B	TR	0.72	12.4	B	TR	0.73	12.4	B
Intersection			14.3	B			14.7	B			15.1	B			15.2	B			15.5	B			15.7	B
Amsterdam Ave & W 61st St																								
Eastbound	LT	0.52	30.3	C	LT	0.73	40.1	D	LT	0.43	27.7	C	LT	0.51	30.1	C	LT	0.37	25.5	C	LT	0.46	27.4	C
Westbound	R	0.24	24.1	C	R	0.24	24.1	C	R	0.07	21.0	C	R	0.07	21.0	C	R	0.18	22.5	C	R	0.18	22.5	C
Northbound	TR	0.59	9.9	A	TR	0.60	9.9	A	TR	0.55	9.4	A	TR	0.55	9.4	A	TR	0.74	11.9	B	TR	0.74	11.9	B
Intersection			12.2	B			14.0	B			10.9	B			11.4	B			13.0	B			13.4	B
Amsterdam Ave & W 65th St																								
Eastbound	L	0.21	20.9	C	L	0.24	21.3	C	L	0.21	20.8	C	L	0.21	20.9	C	L	0.18	20.2	C	L	0.19	20.3	C
	T	0.83	42.0	D	T	0.84	42.9	D	T	0.55	27.3	C	T	0.56	27.4	C	T	0.81	40.1	D	T	0.82	40.5	D
Northbound	TR	0.73	14.2	B	TR	0.75	14.6	B	TR	0.74	14.4	B	TR	0.75	14.5	B	TR	0.91	20.5	C	TR	0.92	21.2	C
Intersection			19.4	B			19.8	B			16.1	B			16.3	B			23.1	C			23.8	C

Notes:
L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.
+ = Significant Adverse Traffic Impact

Table 14-14 (cont'd)
Level-of-Service Analysis Results for Signalized Intersections: 2008 No Build and Build Conditions

Analysis Locations	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2008 No Build				2008 Build				2008 No Build				2008 Build				2008 No Build				2008 Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
West End Ave & W 57th St																								
Eastbound																	DefL	1.34	218.7	F	DefL	1.34	218.7	F
	LTR	1.04	74.6	E	LTR	1.04	74.6	E	LTR	0.75	31.4	C	LTR	0.75	31.4	C	TR	0.76	35.3	D	TR	0.76	35.3	D
Westbound	DefL	1.23	173.3	F	DefL	1.23	173.3	F	DefL	0.97	82.1	F	DefL	0.97	82.1	F								
	T	0.75	32.3	C	T	0.75	32.3	C	T	0.70	30.2	C	T	0.70	30.2	C	LT	0.90	40.9	D	LT	0.90	40.9	D
	R	0.63	29.5	C	R	0.67	31.6	C	R	0.37	22.4	C	R	0.39	22.8	C	R	0.34	21.7	C	R	0.37	22.4	C
Northbound	L	0.43	23.5	C	L	0.45	24.6	C	L	0.51	24.2	C	L	0.51	24.5	C	L	0.60	33.9	C	L	0.61	34.8	C
	TR	0.39	14.9	B	TR	0.41	15.1	B	TR	0.44	15.6	B	TR	0.45	15.7	B	TR	0.68	20.2	C	TR	0.70	20.5	C
Southbound	L	0.28	15.4	B	L	0.29	15.7	B	L	0.42	18.7	B	L	0.43	18.9	B	L	0.82	50.4	D	L	0.84	54.5	D
	TR	0.72	20.9	C	TR	0.74	21.4	C	TR	0.59	17.8	B	TR	0.59	17.8	B	TR	0.74	21.4	C	TR	0.74	21.6	C
Intersection			43.1	D			43.0	D			26.7	C			26.7	C			39.1	D			39.2	D
West End Ave & W 58th St																								
Eastbound	LTR	0.56	32.7	C	LTR	0.58	33.1	C	LTR	0.64	35.5	D	LTR	0.64	35.8	D	LTR	0.72	39.3	D	LTR	0.74	40.2	D
Northbound	L	0.38	18.0	B	L	0.40	19.2	B	L	0.10	8.2	A	L	0.10	8.2	A	L	0.11	8.6	A	L	0.11	8.6	A
	T	0.48	10.6	B	T	0.51	11.0	B	T	0.32	8.9	A	T	0.33	9.0	A	T	0.53	11.2	B	T	0.55	11.5	B
	R	0.20	8.5	A	R	0.20	8.5	A	R	0.18	8.3	A	R	0.18	8.3	A	R	0.33	10.0	A	R	0.33	10.0	A
Southbound	L	0.28	11.0	B	L	0.30	11.6	B	L	0.11	8.0	A	L	0.12	8.0	A	L	0.35	12.8	B	L	0.36	13.3	B
	TR	0.89	22.7	C	TR	0.90	24.1	C	TR	0.59	12.2	B	TR	0.59	12.3	B	TR	0.69	14.2	B	TR	0.69	14.3	B
Intersection			19.0	B			19.8	B			14.3	B			14.4	B			15.8	B			16.1	B
West End Ave & W 59th St																								
Eastbound	LT	0.79	61.5	E	LT	0.81	64.9	E	LT	0.84	63.9	E	LT	0.85	65.5	E	LT	1.15	145.8	F	**LT**	**1.18**	**156.3**	**+F**
	R	0.30	28.4	C	R	0.30	28.4	C	R	0.23	27.1	C	R	0.23	27.1	C	R	0.55	35.2	D	R	0.55	35.2	D
Westbound	LT	1.04	98.2	F	**LT**	**1.06**	**103.2**	**+F**	LT	0.79	48.4	D	LT	0.80	49.3	D	LT	1.20	157.6	F	**LT**	**1.22**	**165.2**	**+F**
	R	0.30	28.1	C	R	0.35	29.2	C	R	0.46	31.8	C	R	0.49	32.7	C	R	0.45	31.4	C	R	0.50	33.1	C
Northbound	L	0.18	9.8	A	L	0.18	9.9	A	L	0.12	8.4	A	L	0.12	8.4	A	L	0.08	7.7	A	L	0.08	7.8	A
	TR	0.46	10.4	B	TR	0.49	10.8	B	TR	0.37	9.5	A	TR	0.38	9.6	A	TR	0.60	12.4	B	TR	0.63	12.8	B
Southbound	L	0.03	7.1	A	L	0.03	7.1	A	L	0.06	7.4	A	L	0.06	7.4	A	L	0.09	8.0	A	L	0.09	8.1	A
	TR	0.71	14.7	B	TR	0.72	15.1	B	TR	0.56	11.9	B	TR	0.57	11.9	B	TR	0.55	11.6	B	TR	0.56	11.7	B
Intersection			26.5	C			27.4	C			21.1	C			21.4	C			38.7	D			40.2	D
West End Ave & W 60th St																								
Eastbound	LTR	0.08	24.3	C	LTR	0.08	24.3	C	LTR	0.10	24.5	C	LTR	0.10	24.5	C	LTR	0.22	26.1	C	LTR	0.22	26.1	C
Northbound	L	0.31	13.1	B	L	0.32	13.5	B	L	0.10	8.1	A	L	0.10	8.1	A	L	0.15	8.9	A	L	0.15	8.9	A
	TR	0.58	12.2	B	TR	0.63	13.2	B	TR	0.51	11.2	B	TR	0.53	11.5	B	TR	0.76	16.4	B	TR	0.81	18.2	B
Southbound	L	0.20	9.6	A	L	0.25	10.6	B	L	0.18	9.0	A	L	0.20	9..4	A	L	0.45	17.5	B	L	0.55	22.9	C
	TR	0.77	16.5	B	TR	0.78	17.0	B	TR	0.61	12.6	B	TR	0.61	12.7	B	TR	0.62	12.9	B	TR	0.63	13.0	B
Intersection			14.7	B			15.3	B			12.2	B			12.3	B			15.3	B			16.4	B
West End Ave & W 61st St																								
Eastbound	LTR	0.07	24.4	C	LTR	0.07	24.4	C	LTR	0.05	24.1	C	LTR	0.05	24.1	C	LTR	0.07	24.3	C	LTR	0.07	24.3	C
Northbound	L	0.03	7.3	A	L	0.03	7.3	A	L	0.03	7.2	A	L	0.03	7.2	A	L	0.04	7.3	A	L	0.04	7.3	A
	T	0.42	10.0	A	T	0.44	10.1	B	T	0.38	9.5	A	T	0.38	9.5	A	T	0.57	11.9	B	T	0.58	12.0	B
	R	0.09	7.5	A	R	0.11	7.7	A	R	0.10	7.6	A	R	0.10	7.6	A	R	0.09	7.5	A	R	0.09	7.5	A
Southbound	L	0.29	10.7	B	L	0.30	10.9	B	L	0.20	9.2	A	L	0.20	9.2	A	L	0.31	12.0	B	L	0.31	12.1	B
	TR	0.69	14.1	B	TR	0.71	14.5	B	TR	0.64	13.1	B	TR	0.65	13.2	B	TR	0.58	11.9	B	TR	0.59	12.1	B
Intersection			12.5	B			12.7	B			11.6	B			11.7	B			11.9	B			12.0	B
West End Ave & W 65th St																								
Eastbound	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C	LTR	0.02	25.9	C
Northbound	L	0.01	12.0	B	L	0.01	12.0	B	L	0.00	11.8	B	L	0.00	11.8	B	L	0.01	11.9	B	L	0.01	11.9	B
	TR	0.60	19.1	B	TR	0.62	19.5	B	TR	0.51	17.3	B	TR	0.51	17.3	B	TR	0.73	22.4	C	TR	0.74	22.6	C
Southbound	L	0.75	22.3	C	L	0.77	23.5	C	L	0.47	11.4	B	L	0.47	11.5	B	L	0.94	47.5	D	L	0.94	48.9	D
	TR	0.58	12.3	B	TR	0.70	12.6	B	TR	0.57	10.4	B	TR	0.57	10.5	B	TR	0.63	11.3	B	TR	0.64	11.5	B
Intersection			15.7	B			16.1	B			12.9	B			13.0	B			20.4	C			20.7	C
West End Ave & W 66th St																								
Eastbound	LR	0.07	20.2	C	LR	0.07	20.2	C	LR	0.10	20.6	C	LR	0.10	20.6	C	LR	0.05	20.0	B	LR	0.05	20.0	B
Westbound	L	0.70	38.0	D	L	0.74	40.2	D	L	0.72	39.1	D	L	0.73	39.6	D	L	0.99	78.8	E	L	**1.01**	**82.9**	**+F**
	LT	0.76	38.0	D	LT	0.77	38.9	D	LT	0.77	39.6	D	LT	0.78	40.0	D	LT	1.02	81.0	F	LT	1.03	83.0	F
	R	0.24	22.7	C	R	0.24	22.7	C	R	0.40	25.8	C	R	0.40	25.8	C	R	0.60	31.9	C	R	0.60	31.9	C
Northbound	L	0.50	38.5	D	L	0.50	38.5	D	L	0.18	17.6	B	L	0.18	17.7	B	L	0.31	20.0	B	L	0.31	20.3	C
	T	0.37	17.5	B	T	0.38	17.6	B	T	0.41	17.9	B	T	0.41	18.0	B	T	0.53	18.0	B	T	0.53	18.0	B
Southbound	T	0.93	37.5	D	T	0.94	39.0	D	T	0.65	22.1	C	T	0.65	22.2	C	T	0.72	22.0	C	T	0.73	22.3	C
	R	0.10	15.0	B	R	0.10	15.0	B	R	0.14	15.5	B	R	0.14	15.5	B	R	0.11	13.4	B	R	0.11	13.4	B
Intersection			32.7	C			33.8	C			25.6	C			25.8	C			37.0	D			38.0	D
Route 9A & W 56th St																								
Northbound (main)	T	0.88	35.1	D	T	0.88	35.2	C	T	0.58	2.9	A	T	0.58	2.9	A	T	0.80	7.3	A	T	0.80	7.3	A
Northbound (service)	TR	0.35	22.7	C	TR	0.35	22.7	C	TR	0.20	1.8	A	TR	0.20	1.8	A	TR	0.20	3.1	A	TR	0.20	3.1	A
Southbound	L	0.48	29.2	C	L	0.48	29.2	C	L	0.85	60.9	E	L	0.85	60.9	E	L	0.96	82.5	F	L	0.96	82.5	F
	T	0.62	1.0	A	T	0.62	1.0	A	T	0.46	0.5	A	T	0.46	0.5	A	T	0.43	0.4	A	T	0.43	0.4	A
Intersection			16.6	B			16.7	B			6.3	A			6.3	A			11.6	B			11.6	B
Route 9A & W 57th St																								
Westbound	R	0.42	33.4	C	R	0.42	33.4	C	R	0.57	40.0	D	R	0.57	40.0	D	R	1.01	89.0	F	R	1.01	89.0	F
Northbound	T	0.63	18.3	B	T	0.63	18.3	B	T	0.57	6.2	A	T	0.57	6.2	A	T	0.74	6.2	A	T	0.74	6.2	A
Intersection			21.3	C			21.3	C			11.9	B			11.9	B			22.6	C			22.5	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.
+ = Significant Adverse Traffic Impact

IMPACT CRITERIA

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant (identified by the "+" symbol in the analysis summary table) and require examination of mitigation if they result in an increase of 5 or more seconds of delay in a lane group over No Build levels beyond mid-LOS D. For No Build LOS E, a 4-second increase in delay is considered significant. For No Build LOS F, a 3-second increase in delay is considered significant. Also, if the No Build LOS F condition already corresponds with a delay in excess of 120 seconds, an increase of 1.0 or more seconds of delay is considered significant, unless the proposed project generates fewer than five vehicle trips through that intersection in the peak hour. In addition, impacts are considered significant if levels of service deteriorate from acceptable LOS A, B, or C in the No Build condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of the LOS D range of delay), or unacceptable LOS E or F in the future Build condition.

SIGNIFICANT IMPACTS

Based on the above CEQR criteria, significantly impacted locations were identified and summarized by peak analysis period, as follows. During the AM peak hour, the proposed action would result in four significantly impacted lane groups at three intersections. In the midday, two lane groups at two intersections would experience significant impacts. During the PM peak hour, there would be five significantly impacted lane groups at four intersections.

AM Peak Hour

- *Columbus Avenue and West 57th Street*: The westbound through movement would worsen within LOS F and increase in average delay from 116.8 to 137.4 (20.6) spv, while the southbound through-right movement would worsen within LOS E and increase in average delay from 71.5 to 78.2 (6.7) spv.
- *Amsterdam Avenue and West 57th Street:* The westbound approach would deteriorate from LOS D to LOS E and increase in average delay from 51.0 to 59.0 (8.0) spv.
- *West End Avenue and West 59th Street*: The westbound left-through movement would worsen within LOS F and increase in average delay from 98.2 to 103.2 (5.0) spv.

Midday peak hour

- *Columbus Avenue and West 60th Street*: The eastbound approach would worsen within LOS F and increase in average delay from 132.0 to 140.2 (8.2) spv.
- *Amsterdam Avenue and West 59th Street*: The eastbound approach would worsen within LOS F and increase in average delay from 86.9 to 90.3 (3.4) spv.

PM peak hour

- *Columbus Avenue and West 57th Street*: The westbound through movement would worsen within LOS F and increase in average delay from 110.0 to 120.1 (10.1) spv.
- *Amsterdam Avenue and West 57th Street:* The eastbound approach would worsen within LOS F and increase in average delay from 84.5 to 87.9 (3.4) spv.
- *West End Avenue and West 59th Street*: The eastbound left-through movement would worsen within LOS F and increase in average delay from 145.8 to 156.3 (10.5) spv. In the

westbound direction, the left-through movement would worsen within LOS F and increase in average delay from 157.6 to 165.2 (7.6) spv.

- *West End Avenue and West 66th Street*: The westbound left-turn movement would worsen from LOS E to LOS F and increase in average delay from 78.8 to 82.9 (4.1) spv.

Mitigation measures for these impacts are presented in Chapter 20, "Mitigation."

PARKING SUPPLY AND UTILIZATION

As discussed earlier, parking demand would be accommodated primarily at the proposed on-site parking garage. A parking accumulation analysis was performed to estimate hourly demand and identify the proposed project's peak vehicle accumulation. From this exercise, it was determined that peak midday utilization at off-street parking facilities would remain approximately the same as No Build levels, as shown in Table 14-15, with 1,738 and 1,797 spaces available during the midday peak and overnight periods, respectively. As part of this exercise, the demand from the recently demolished on-site parking lot on Lot 43 (#9), was reallocated to a nearby facility (#5). However, it is likely that this demand would actually be dispersed among several area facilities, including the proposed on-site public parking garage.

Table 14-15
2008 Build Conditions Off-Street Parking Utilization

	Company Name	Address	License No.	Capacity	Utilization Rate (%)		Utilized Spaces		Available Spaces	
					MD	Night	MD	Night	MD	Night
1	Performance Parking Corp.	127-137 Amsterdam	858712	375	97	100	363	375	12	0
2	Lincoln Center Park & Lock	140 W 65th St.	1079021	721	74	100	532	721	189	0
3	Icon Parking	110 West End Ave.	761016	106	56	58	59	61	47	45
4	Icon Parking	101 West End Ave	1061198	166	71	45	118	75	48	91
5	West End Towers Garage	35-101 West End Ave.	0948832	441	76	84	335	370	106	71
6	Central Parking System	641 W 59th St.	0903540	993	91	61	906	608	87	385
7	MTP 59th Street LLC	641 W 59th St.	1097071	537	89	69	479	371	58	166
8	Central Parking System	115 West End Ave.	964023	1,850	97	100	1,793	1850	57	0
9	LHL Parking Corporation	218 W.61st St.	898520	Closed	-	-	-	-	-	-
10	Impark	515 W 59th St.	1089991	190	83	69	157	131	33	59
11	Concerto Garage Corp	200 W 60th St.	884653	265	96	69	255	183	10	82
12	Garage Management Corp.	44 W.62nd St.	1013719	143	82	53	117	76	26	67
13	Prior Parking LLC	40-50 W.61st St.	1033066	205	74	100	151	205	54	0
14	Central Parking System	910-924 Ninth Ave.	1113135	318	62	69	198	221	120	97
15	1 Columbus Place Garage	1 Columbus Place	960635	294	72	73	213	216	81	78
16	John Jay College Parking	425 W.59th St	813398	125	73	62	91	77	34	48
17	MTP	520-550 W 59th St.	954199	Closed	-	-	-	-	-	-
18	Kinney Systems	838-852 Eleventh Ave	1137953	84	67	45	56	38	28	46
19	GMC Parking Corporation	622 W.57th St	429031	1,000	66	57	663	571	337	429
20	Effective Parking LLC	435 W 57th St.	368157	55	82	85	45	47	10	8
21	Apex Parking LLC	440 W 57th St.	368300	378	51	77	193	292	185	86
22	Sydney Parking LLC	408 W 57th St.	1113944	80	81	100	65	80	15	0
Durst West 57th Street				638	77	98	491	623	147	15
2 West End Avenue				150	98	84	147	126	3	24
Project on-site parking garage				200	75	100	149	200	51	0
			Total	9,314	81	81	7,576	7,517	1,738	1,797

TRAFFIC SAFETY

The *CEQR Technical Manual* considers a location to be a high-pedestrian-accident location if it has 5 or more pedestrian accidents in any 12 months within the most recent three-year period. Data on traffic accidents at the study area intersections were compiled from New York City Police Department (NYPD) records for the period of January 2003 through December 2005, and are summarized in Table 14-16. Based on this information recorded in the 3-year period, none of the intersections in the study area are high vehicle/pedestrian accident locations. Therefore, it was concluded that the proposed project is not expected to result in any significant adverse safety impacts to area pedestrians.

Table 14-16
Summary of Pedestrian and Bicycle Related Accident Location

Intersection	Pedestrian	Bicycle	Total
Columbus Ave. & W.59th St.	1	1	2
Columbus Ave. & W.60th St.	7	0	7
Columbus Ave & W.65th St.	3	2	5
Columbus Ave./B'way & W.65th St.	0	0	0
Amsterdam Ave. & W.59th St.	5	0	5
Amsterdam Ave. & W 60th St	1	0	1
Amsterdam Ave. & W 61st St.	3	1	4
Amsterdam Ave. & W.65th St.	4	2	6
West End Ave & W.57th St.	0	0	0
West End Ave. & W.59th St.	3	1	4
West End Ave. & W.60th St.	1	0	1
West End Ave. & W.61st St.	0	0	0
West End Ave. & W.65th St.	0	0	0
West End Ave. & W.66th St.	2	3	5
Route 9A & W 56th St	0	0	0
Route 9A & W 57th St.	0	0	0

Source: NYPD, data from 1/1/2003 to 12/31/2005.

✷