

APPENDIX M

**IMPACTS OF THE PROPOSED ACTIONS
WITHOUT TRANSPORTATION IMPROVEMENTS**

Appendix M: Proposed Actions Without Transportation Improvements

TRAFFIC AND PARKING

INTRODUCTION

The analysis described in Chapter 17, “Traffic and Parking,” included several project-related improvements for the future with the Proposed Actions (“Build” condition) in 2015 and 2030. This appendix examines the same Build conditions for 2015 and 2030 but assumes that none of the project-related improvements would be implemented. Since the publication of the DEIS, the traffic studies contained in this appendix have been revised to provide detailed midday peak hour analyses and to reflect recently developed traffic information from the 125th Street Corridor Rezoning and Related Actions and East 125th Street Development background projects.

For the purpose of the future Build analysis without the project-related improvements, operating conditions of intersections within and bordering the Project Area (19 locations within the primary traffic study area) were analyzed. In this analysis, West 133rd Street between Broadway and Twelfth Avenue, West 132nd Street between Broadway and Marginal Street, West 131st Street between Broadway and Twelfth Avenue, and West 125th Street between Twelfth Avenue and Marginal Street would continue to operate as two-way, east–west streets. Several new traffic signals, incorporated into the Proposed Actions along Twelfth Avenue, Marginal Street, West 125th Street, West 130th Street, West 131st Street, and West 132nd Street, would not be installed, and signal timing/phasing adjustments for enhancing area traffic circulation would not be conducted. All project-generated traffic was routed to conform to the existing street network. In addition, traffic generated by the Harlem Piers project was also routed to conform to the existing two-way street network. Since traffic volumes and operating characteristics at the analysis locations outside of the Project Area (assessed in Chapter 17) would be the same absent the project-related improvements, they are not further discussed in this section.

PRINCIPAL CONCLUSIONS

As demonstrated in the analysis results, traffic conditions in the Build condition are generally worse without project-related improvements than with these improvements. The recommended improvements, which include typical mitigation measures such as signal timing changes, lane restriping, and intersection daylighting, and those listed below, would substantially improve overall network operations and circulation:

- Conversion of West 133rd Street between Broadway and Twelfth Avenue from two-way to one-way westbound;
- Conversion of West 132nd Street between Broadway and Marginal Street from two-way to one-way eastbound;
- Conversion of West 131st Street between Broadway and Twelfth Avenue from two-way to one-way westbound;

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- Conversion of West 125th Street between Twelfth Avenue and Marginal Street from two-way to one-way westbound;
- Installation of traffic signals (and associated pavement markings) at several stop-controlled intersections, including Twelfth Avenue and West 131st Street, Twelfth Avenue and St. Clair Place/Riverside Drive, West 125th Street and St. Clair Place/West 129th Street, Marginal Street and West 133rd Street, Marginal Street and West 132nd Street, Marginal Street and St. Clair Place, and midblock locations along West 130th, West 131st, and West 132nd Streets between Broadway and Twelfth Avenue (2030); and,
- Reconfiguration of the intersection of Broadway and West 125th Street by aligning northbound and southbound left-turn movements and making other operational adjustments.

Analysis results show that, absent the traffic improvements, significant traffic impacts would occur at a number of intersections within and bordering the Project Area in both the 2015 and 2030 future analysis years, as listed below.

2015 AM Peak Hour (9 intersections)

- Marginal Street at West 133rd and West 132nd Streets
- Riverside Drive at St. Clair Place
- Twelfth Avenue at West 133rd, West 132nd, West 131st, and West 125th Streets
- Broadway at West 125th Street
- West 125th Street at West 129th Street/St. Clair Place

2015 Midday Peak Hour (7 intersections)

- Marginal Street at West 133rd Street and St. Clair Place
- Riverside Drive at St. Clair Place
- Twelfth Avenue at West 131st Street and West 125th Streets
- Broadway at West 125th Street
- West 125th Street at West 129th Street/St. Clair Place

2015 PM Peak Hour (10 intersections)

- Marginal Street at West 133rd and West 132nd Streets, and St. Clair Place
- Riverside Drive at St. Clair Place
- Twelfth Avenue at West 133rd, West 131st, and West 125th Streets
- Broadway at West 133rd (east intersection) and West 125th Streets
- West 125th Street at West 129th Street/St. Clair Place

2030 AM Peak Hour (11 intersections)

- Marginal Street at West 133rd and West 132nd Streets, and St. Clair Place
- Riverside Drive at St. Clair Place
- Twelfth Avenue at West 133rd, West 132nd, West 131st, and West 125th Streets, and St. Clair Place
- Broadway at West 125th Street
- West 125th Street at West 129th Street/St. Clair Place

2030 Midday Peak Hour (9 intersections)

- Marginal Street at West 133rd and West 132nd Streets, and St. Clair Place

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- Riverside Drive at St. Clair Place
- Twelfth Avenue at West 133rd, West 131st, and West 125th Streets
- Broadway at West 125th Street
- West 125th Street at West 129th Street/St. Clair Place

2030 PM Peak Hour (11 intersections)

- Marginal Street at West 133rd and West 132nd Streets, and St. Clair Place
- Riverside Drive at St. Clair Place
- Twelfth Avenue at West 133rd, West 131st, and West 125th Streets
- Broadway at West 130th and West 125th Streets
- Broadway northbound and West 133rd Street
- West 125th Street at West 129th Street/St. Clair Place

These significant adverse traffic impacts would not occur with the Proposed Actions with project-related improvements. Potential measures to mitigate the significant adverse impacts identified above are presented at the end of this section.

2015 FUTURE WITH THE PROPOSED ACTIONS

The future 2015 Build condition, analyzed in this Appendix, reflects increases in traffic volumes that are part of the Proposed Actions and was developed by adding the 2015 reasonable worst-case transportation scenario project-generated trips to the 2015 future without the Proposed Actions (“No Build”) traffic network, and adjusting for No Build trips that would be redistributed or not occur at all with the Proposed Actions. However, it does not incorporate the project-related improvements described in Chapter 17.

Figures M-1, M-2, and M-3 depict the 2015 project-generated traffic volumes within the primary study area for the weekday AM, midday, and PM peak hours, respectively. These volumes were superimposed onto the 2015 No Build network, after adjusting for No Build trips, to generate the future 2015 Build AM, midday, and PM peak hour traffic networks, as presented in Figures M-4, M-5, and M-6, respectively. Tables M-1 and M-2 compare the 2015 No Build and Build peak hour conditions for the analysis intersections. Based on the thresholds established in the *City Environmental Quality Review (CEQR) Technical Manual*, as described in Section B of Chapter 17, significantly impacted movements are denoted with a + sign in the tables and detailed below.

Twelfth Avenue and West 133rd Street

During the AM peak hour, the northbound left-turn movement would deteriorate from LOS E to LOS F, with delay increasing from 65.9 to 82.6 seconds and v/c ratio increasing from 1.02 to 1.08. The westbound approach would continue to operate at LOS D, with delay increasing from 37.1 to 47.7 seconds and v/c ratio increasing from 0.76 to 0.87.

During the PM peak hour, the northbound left-turn movement would deteriorate from LOS D to LOS E, with delay increasing from 44.2 to 79.9 seconds and v/c ratio increasing from 0.94 to 1.07. The westbound approach would continue to operate at LOS F, with delay increasing from 177.1 to 278.3 seconds and v/c ratio increasing from 1.30 to 1.53.

Twelfth Avenue and West 132nd Street

During the AM peak hour, the eastbound approach would continue to operate at LOS D, with delay increasing from 37.2 to 51.1 seconds and v/c ratio increasing from 0.79 to 0.92.

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Table M-1
Comparison of 2015 No Build and Build Conditions
Signalized Intersection Level-of-Service Analysis

Int.	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build				2015 No Build				2015 Build			
	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)
Marginal Street @ West 125th Street																								
WB	L	0.51	26.0	C	L	0.51	25.9	C	L	0.45	25.0	C	L	0.47	25.2	C	L	0.63	28.2	C	L	0.62	27.9	C
SB	LT	0.47	14.3	B	LT	0.48	14.4	B	LT	0.50	14.7	B	LT	0.51	14.9	B	LT	0.64	17.1	B	LT	0.69	18.2	B
	Int.		19.6	B	Int.		19.6	B	Int.		18.9	B	Int.		19.1	B	Int.		21.9	C	Int.		22.1	C
Twelfth Avenue @ West 133rd Street																								
WB	LTR	0.76	37.1	D	LTR	0.87	47.7	D+	LTR	0.62	30.5	C	LTR	0.82	41.6	D	LTR	1.30	177.1	F	LTR	1.53	278.3	F+
NB	L	1.02	65.9	E	L	1.08	82.6	F+	L	0.79	27.2	C	L	0.87	35.0	C	L	0.94	44.2	D	L	1.07	79.9	E+
	LTR	0.19	11.0	B	LTR	0.30	12.2	B	LTR	0.18	10.8	B	LTR	0.20	11.1	B	LTR	0.71	21.6	C	LTR	0.82	28.4	C
SB	LTR	0.15	10.4	B	LTR	0.15	10.4	B	LTR	0.12	10.1	B	LTR	0.12	10.2	B	LTR	0.10	10.0	B	LTR	0.11	10.1	B
	Int.		42.1	D	Int.		50.1	D	Int.		23.2	C	Int.		30.4	C	Int.		81.7	F	Int.		134.9	F
Twelfth Avenue @ West 132nd Street																								
EB	LTR	0.79	37.2	D	LTR	0.92	51.1	D+	LTR	0.40	24.7	C	LTR	0.49	26.4	C	LTR	0.60	28.9	C	LTR	0.69	31.9	C
WB	LTR	0.12	20.7	C	LTR	0.15	21.0	C	LTR	0.08	20.3	C	LTR	0.11	20.5	C	LTR	0.12	20.6	C	LTR	0.32	23.4	C
NB	LTR	0.49	13.8	B	LTR	0.56	15.0	B	LTR	0.42	13.0	B	LTR	0.47	13.6	B	LTR	0.69	17.6	B	LTR	0.74	19.0	B
SB	LTR	0.13	10.3	B	LTR	0.18	10.7	B	LTR	0.07	9.8	A	LTR	0.13	10.3	B	LTR	0.06	9.7	A	LTR	0.13	10.3	B
	Int.		21.1	C	Int.		25.9	C	Int.		15.6	B	Int.		16.5	B	Int.		19.9	B	Int.		21.5	C
Twelfth Avenue @ West 125th Street																								
EB	LTR	0.26	13.4	B	LTR	0.26	13.4	B	LTR	0.33	14.1	B	LTR	0.34	14.2	B	LTR	0.40	15.1	B	LTR	0.42	15.2	B
WB	L	0.15	13.0	B	L	0.16	13.2	B	L	0.16	13.3	B	L	0.14	13.1	B	L	0.27	15.3	B	L	0.20	14.1	B
	T	0.73	23.8	C	T	0.72	23.3	C	T	0.62	19.9	B	T	0.61	19.6	B	T	0.85	30.6	C	T	0.80	27.5	C
	R	0.96	48.8	D	R	1.11	95.0	F+	R	0.95	46.1	D	R	1.14	103.8	F+	R	1.14	100.5	F	R	1.36	195.3	F+
NB	LTR	0.32	20.6	C	LTR	0.42	22.2	C	LTR	0.29	20.1	C	LTR	0.35	20.9	C	LTR	0.42	22.2	C	LTR	0.49	23.4	C
SB	LT	0.38	22.1	C	LT	0.49	24.8	C	LT	0.23	19.5	B	LT	0.32	21.1	C	LT	0.34	21.8	C	LT	0.63	32.2	C
	Int.		28.7	C	Int.		43.1	D	Int.		26.6	C	Int.		45.8	D	Int.		49.8	D	Int.		83.3	F
Broadway Northbound @ West 133rd Street																								
EB	LT	0.21	17.4	B	LT	0.35	19.2	B	LT	0.25	17.9	B	LT	0.27	18.2	B	LT	0.23	17.8	B	LT	0.32	19.5	B
WB	TR	0.51	24.3	C	TR	0.40	22.1	C	TR	0.47	23.4	C	TR	0.47	23.5	C	TR	0.86	40.9	D	TR	0.94	52.5	D+
NB	LT	0.56	13.9	B	LT	0.59	14.4	B	LT	0.44	12.2	B	LT	0.55	13.7	B	LT	0.78	18.9	B	LT	0.87	24.0	C
	R	0.11	9.6	A	R	0.23	11.9	B	R	0.08	9.4	A	R	0.27	12.6	B	R	0.07	9.2	A	R	0.33	14.0	B
	Int.		16.8	B	Int.		16.5	B	Int.		15.9	B	Int.		16.3	B	Int.		25.3	C	Int.		31.3	C
Broadway Southbound @ West 133rd Street																								
EB	TR	0.12	18.0	B	TR	0.25	19.5	B	TR	0.13	18.1	B	TR	0.14	18.3	B	TR	0.10	17.7	B	TR	0.13	18.1	B
WB	LT	0.43	20.6	C	LT	0.40	20.0	B	LT	0.41	20.1	C	LT	0.49	21.4	C	LT	0.74	28.5	C	LT	0.86	36.0	D
SB	LTR	0.52	12.7	B	LTR	0.58	13.6	B	LTR	0.38	11.2	B	LTR	0.43	11.7	B	LTR	0.48	12.2	B	LTR	0.53	12.9	B
	Int.		14.6	B	Int.		15.5	B	Int.		14.0	B	Int.		14.9	B	Int.		18.2	B	Int.		21.9	C
Broadway Northbound @ West 132nd Street																								
EB	L	0.40	20.5	C	LT	0.66	30.3	C	L	0.23	17.7	B	LT	0.52	23.7	C	L	0.31	18.7	B	LT	0.68	32.4	C
WB					TR	0.01	16.9	B					TR	0.04	17.2	B					TR	0.19	18.8	B
NB	LT	0.41	11.7	B	LTR	0.48	12.5	B	LT	0.35	11.1	B	LT	0.42	11.9	B	LT	0.57	13.6	B	LT	0.64	14.8	B
	Int.		14.0	B	Int.		18.1	B	Int.		12.6	B	Int.		15.1	B	Int.		14.6	B	Int.		18.6	B
Broadway Southbound @ West 132nd Street																								
EB	TR	0.61	27.9	C	TR	0.78	35.6	D	TR	0.32	20.7	C	TR	0.54	25.2	C	TR	0.46	22.9	C	TR	0.62	27.1	C
WB	LT	0.06	15.8	B	LT	0.07	15.9	B	LT	0.04	15.6	B	LT	0.08	16.0	B	LT	0.04	15.6	B	LT	0.24	17.8	B
SB	LTR	0.51	12.9	B	LTR	0.53	13.2	B	LTR	0.41	11.7	B	LTR	0.43	11.9	B	LTR	0.43	11.9	B	LTR	0.46	12.2	B
	Int.		17.0	B	Int.		20.5	C	Int.		13.8	B	Int.		15.9	B	Int.		15.2	B	Int.		17.4	B
Broadway @ West 131st Street																								
EB	LTR	0.20	21.7	C	LTR	0.17	21.3	C	LTR	0.24	22.1	C	LTR	0.21	21.8	C	LTR	0.21	21.8	C	LTR	0.28	22.9	C
WB	LT	0.11	20.6	C	LT	0.15	21.1	C	LT	0.10	20.5	C	LT	0.11	20.7	C	LT	0.16	21.3	C	LT	0.17	21.5	C
	R	0.04	19.8	B	R	0.04	19.8	B	R	0.02	19.6	B	R	0.02	19.6	B	R	0.04	19.8	B	R	0.04	19.8	B
NB	LTR	0.37	8.8	A	LTR	0.48	9.8	A	LTR	0.30	8.1	A	LTR	0.38	8.8	A	LTR	0.47	9.6	A	LTR	0.56	10.6	B
SB	LTR	0.50	9.9	A	LTR	0.49	9.8	A	LTR	0.37	8.7	A	LTR	0.39	8.9	A	LTR	0.42	9.1	A	LTR	0.45	9.4	A
	Int.		10.6	B	Int.		10.8	B	Int.		10.1	B	Int.		10.1	B	Int.		10.7	B	Int.		11.4	B
Broadway @ West 130th Street																								
EB	LR	0.25	25.6	C	LR	0.47	30.6	C	LR	0.19	24.5	C	LR	0.50	31.6	C	LR	0.31	26.5	C	LR	0.55	32.5	C
NB	LT	0.26	5.7	A	LT	0.29	5.8	A	LT	0.21	5.4	A	LT	0.24	5.6	A	LT	0.32	6.0	A	LT	0.34	6.1	A
SB	LT	0.37	6.3	A	LT	0.37	6.3	A	LT	0.29	5.9	A	LT	0.31	6.0	A	LT	0.32	6.0	A	LT	0.35	6.2	A
	Int.		7.2	A	Int.		8.4	A	Int.		6.8	A	Int.		8.7	A	Int.		7.5	A	Int.		9.0	A
Broadway @ West 129th Street																								
WB	LT	0.42	19.0	B	LT	0.43	19.3	B	LT	0.41	18.7	B	LT	0.42	18.9	B	LT	0.54	21.1	C	LT	0.57	21.8	C
	R	0.20	16.1	B	R	0.23	16.7	B	R	0.18	15.9	B	R	0.19	16.2	B	R	0.27	17.1	B	R	0.32	18.1	B
NB	Defl.	0.61	34.9	C	LT	0.48	18.9	B	LT	0.38	17.6	B	LT	0.40	17.8	B	LT	0.69	23.5	C	LT	0.70	23.8	C
	T	0.48	19.2	B																				
SB	TR	0.60	17.7	B	TR	0.61	17.9	B	TR	0.44	18.1	B	TR	0.48	18.7	B	TR	0.49	18.8	B	TR	0.54	19.7	B
	Int.		19.1	B	Int.		18.4	B	Int.		18.0	B	Int.		18.3	B	Int.		20.9	C	Int.		21.5	C

Notes: L: Left Turn; T: Through; R: Right Turn; Defl.: Defacto Left Turn; Int.: Intersection
V/C: Volume to Capacity; spv: Seconds per Vehicle; LOS: Level of Service; + Significant Adverse Traffic Impact

Appendix M: Proposed Actions Without Transportation Improvements

**Table M-1 (Continued)
Comparison of 2015 No Build and Build Conditions
Signalized Intersection Level-of-Service Analysis**

Int.	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build				2015 No Build				2015 Build			
	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)
Broadway @ West 125th Street																								
EB	L	1.44	275.6	F	L	1.33	239.6	F	L	0.56	37.1	D	L	0.65	47.1	D+	L	0.55	45.1	D	L	0.57	50.8	D±
	TR	0.79	34.3	C	TR	0.85	38.1	D	TR	0.87	39.7	D	TR	0.90	42.9	D	TR	1.08	84.9	E	TR	1.13	101.4	F+
WB	L	1.15	159.2	F	L	1.27	206.0	F+	L	0.81	77.6	E	L	0.85	86.0	F+	L	1.04	140.8	F	L	1.04	140.8	F
	TR	0.99	57.7	E	TR	1.12	99.6	F+	TR	0.73	31.6	C	TR	0.87	40.7	D	TR	0.92	44.9	D	TR	1.05	75.6	E+
NB	L	0.46	32.7	C	L	0.49	33.4	C	L	0.40	31.6	C	L	0.43	32.3	C	L	0.60	36.7	D	L	0.63	38.1	D
	LT	0.48	31.6	C	LT	0.49	31.8	C	LT	0.47	31.5	C	LT	0.49	31.9	C	LT	0.91	50.5	D	LT	0.92	52.4	D
	R	0.62	43.8	D	R	0.70	52.0	D+	R	0.68	49.5	D	R	0.78	62.4	E+	R	0.61	43.4	D	R	0.74	56.3	E+
SB	L	0.38	30.6	C	L	0.40	31.1	C	L	0.35	30.4	C	L	0.42	31.7	C	L	0.36	30.1	C	L	0.43	31.3	C
	LTR	1.04	76.6	E	LTR	1.10	100.1	F+	LTR	0.79	40.9	D	LTR	0.87	47.7	D+	LTR	0.86	45.9	D	LTR	0.98	64.0	E+
	Int.		64.6	E	Int.		80.4	E	Int.		37.7	D	Int.		42.9	D	Int.		56.9	E	Int.		71.5	E

Notes: L: Left Turn; T: Through; R: Right Turn; DefL: Defacto Left Turn; Int.: Intersection
V/C: Volume to Capacity; spv: Seconds per Vehicle; LOS: Level of Service
+ Significant Adverse Traffic Impact

**Table M-2
Comparison of 2015 No Build and Build Conditions
Unsignalized Intersection Level-of-Service Analysis**

Int.	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build				2015 No Build				2015 Build			
	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)
Marginal Street @ West 133rd Street																								
WB	L	0.20	10.6	B	L	0.19	10.6	B	L	0.16	10.3	B	L	0.15	10.2	B	L	0.20	10.5	B	L	0.21	10.6	B
SB	T	1.15	101.8	F	T	1.23	131.8	F+	T	0.96	45.2	E	T	1.02	60.6	F+	T	1.15	95.9	F	T	1.20	115.3	F+
Marginal Street @ West 132nd Street																								
WB	L	-	9.7	A	L	-	9.9	A	L	=	9.6	A	L	=	9.7	A	L	-	9.9	A	L	-	10.6	B
SB	LT	-	82.1	F	LT	-	116.2	F+	LT	=	20.1	C	LT	=	24.7	C	LT	-	70.4	F	LT	-	111.1	F+
	T	-	8.2	A	T	-	8.3	A	T	=	8.3	A	T	=	8.4	A	T	-	10.0	B	T	-	10.7	B
	Int.		68.3	F	Int.		95.7	F	Int.		17.0	C	Int.		20.5	C	Int.		52.1	F	Int.		78.9	F
Marginal Street @ St. Clair Place																								
SB	L	0.18	9.9	A	L	0.19	9.9	A	L	0.22	10.1	B	L	0.23	10.2	B	L	0.29	10.6	B	L	0.29	10.6	B
	T	0.94	42.4	E	T	0.95	44.1	E	T	0.86	30.4	D	T	0.90	35.1	E+	T	1.15	103.2	F	T	1.22	129.0	F+
Twelfth Avenue @ West 131st Street																								
NB	LT	0.01	7.8	A	LT	0.01	7.9	A	LT	0.02	7.5	A	LT	0.03	7.6	A	LT	0.02	7.8	A	LT	0.02	7.9	A
SB	LT	0.15	10.8	B	LR	0.12	10.8	B	LT	0.05	10.0	A	LR	0.04	10.0	A	LT	0.07	11.9	B	LR	0.04	12.0	B
WB	LTR	0.33	30.3	D	LTR	0.74	78.8	F+	LTR	0.26	24.6	C	LTR	0.70	67.0	F+	LTR	0.86	85.7	F	LTR	1.49	313.7	F+
EB	LTR	0.02	16.4	C	LTR	0.02	16.6	C	LTR	0.19	14.5	B	LTR	0.21	15.3	C	LTR	0.05	19.2	C	LTR	0.05	20.2	C
Twelfth Avenue @ St. Clair Place																								
EB	T	-	10.0	A	T	-	10.2	B	T	=	10.4	B	T	=	10.7	B	T	-	11.2	B	T	-	11.5	B
NB	R	-	14.7	B	R	-	16.2	C	R	=	14.5	B	R	=	15.8	C	R	-	13.0	B	R	-	14.1	B
SB	L	-	9.1	A	L	-	9.2	A	L	=	8.8	A	L	=	8.9	A	L	-	8.9	A	L	-	8.9	A
	Int.		13.6	B	Int.		14.8	B	Int.		13.4	B	Int.		14.5	B	Int.		12.3	B	Int.		13.2	B
Riverside Drive @ St. Clair Place																								
EB	LTR	0.13	7.8	A	LTR	0.18	7.9	A	LTR	0.13	7.7	A	LTR	0.15	7.8	A	LTR	0.18	7.9	A	LTR	0.21	8.0	A
SB	LT	0.42	34.2	D	LT	0.55	49.2	E±	LT	0.37	31.9	D	LT	0.41	37.7	E±	LT	0.40	33.6	D	LT	0.36	40.5	E+
	T	0.39	32.5	D	T	0.50	45.2	E+	T	0.29	28.5	D	T	0.33	34.2	D+	T	0.25	32.6	D	T	0.31	40.6	E+
West 125th Street @ West 129th Street/St. Clair Place*																								
WB	L	0.17	128.0	F	L	2.00	249.3	F±	L	0.08	67.0	E	L	5.00	749.0	F±	L	1.75	124.2	F	L	=	=	F±
	R	0.83	47.4	E	R	5.77	230.1	F±	R	0.76	32.2	D	R	20.6	924.9	F±	R	1.94	466.9	F	R	159.3	7364.3	F±
EB	L	0.02	92.8	F	L	=	=	F±	L	0.02	61.2	E	L	=	=	F±	L	=	=	F	L	=	=	F
	R	0.68	22.1	C	R	0.68	23.5	C	R	0.61	19.7	C	R	0.68	24.7	C	R	0.83	47.2	E	R	0.87	60.4	F+

Notes: L: Left Turn; T: Through; R: Right Turn; Int.: Intersection
V/C: Volume to Capacity; spv: Seconds per Vehicle; LOS: Level of Service
+ Significant Adverse Traffic Impact
* The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.

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Twelfth Avenue and West 125th Street

During the AM peak hour, the westbound right-turn movement would deteriorate from LOS D to LOS F, with delay increasing from 48.8 to 95.0 seconds and v/c ratio increasing from 0.96 to 1.11.

During the midday peak hour, the westbound right-turn movement would deteriorate from LOS D to LOS F, with delay increasing from 46.1 to 103.8 seconds and v/c ratio increasing from 0.95 to 1.14.

During the PM peak hour, the westbound right-turn movement would continue to operate at LOS F, with delay increasing from 100.5 to 195.3 seconds and v/c ratio increasing from 1.14 to 1.36.

Broadway Northbound and West 133rd Street

During the PM peak hour, the westbound approach would continue to operate at LOS D, with delay increasing from 40.9 to 52.5 seconds and v/c ratio increasing from 0.86 to 0.94.

Broadway and West 125th Street

During the AM peak hour, the northbound right movement would continue to operate at LOS D, with delay increasing from 43.8 to 52.0 seconds and v/c ratio increasing from 0.62 to 0.70. The southbound left-through-right movement would deteriorate from LOS E to LOS F, with delay increasing from 76.6 seconds to 100.1 seconds and v/c ratio increasing from 1.04 to 1.10. The westbound left-turn movement would continue to operate at LOS F, with delay increasing from 159.2 to 206.0 seconds and v/c ratio increasing from 1.15 to 1.27, and the westbound through-right movement would deteriorate from LOS E to LOS F, with delay increasing from 57.7 to 99.6 and v/c ratio increasing from 0.99 to 1.12.

During the midday peak hour, the northbound right-turn movement would deteriorate from LOS D to LOS E, with delay increasing from 49.5 to 62.4 seconds and v/c ratio increasing from 0.68 to 0.78. The southbound left-through-right movement would continue to operate at LOS D, with delay increasing from 40.9 to 47.7 seconds and v/c ratio increasing from 0.79 to 0.87. The eastbound left-turn movement would continue to operate at LOS D, with delay increasing from 37.1 to 47.1 seconds and v/c ratio increasing from 0.56 to 0.65. The westbound left-turn movement would deteriorate from LOS E to LOS F, with delay increasing from 77.6 to 86.0 seconds and v/c ratio increasing from 0.81 to 0.85.

During the PM peak hour, the northbound right-turn movement would deteriorate from LOS D to LOS E, with delay increasing from 43.4 to 56.3 seconds and v/c ratio increasing from 0.61 to 0.74. The southbound left-through-right movement would deteriorate from LOS D to LOS E, with delay increasing from 45.9 to 64.0 seconds and v/c ratio increasing from 0.86 to 0.98. The eastbound left-turn movement would continue to operate at LOS D, with delay increasing from 45.1 to 50.8 seconds and v/c ratio increasing from 0.55 to 0.57, and the eastbound through-right movement would continue to operate at LOS F, with delay increasing from 84.9 to 101.4 seconds and v/c ratio increasing from 1.08 to 1.13. The westbound through-right movement would deteriorate from LOS D to LOS E, with delay increasing from 44.9 to 75.6 seconds and v/c ratio increasing from 0.92 to 1.05.

Marginal Street and West 133rd Street

During the AM peak hour, the southbound approach would continue to operate at LOS F, with delay increasing from 101.8 to 131.8 seconds and v/c ratio increasing from 1.15 to 1.23.

Appendix M: Proposed Actions Without Transportation Improvements

During the midday peak hour, the southbound through movement would deteriorate from LOS E to LOS F, with delay increasing 45.2 to 60.6 and v/c ratio increasing from 0.96 to 1.02.

During the PM peak hour, the southbound through movement would continue to operate at LOS F, with delay increasing 95.9 to 115.3 and v/c ratio increasing from 1.15 to 1.20.

Marginal Street and West 132nd Street

During the AM peak hour, the southbound left-through movement would continue to operate at LOS F, with delay increasing from 82.1 to 116.2 seconds.

During the PM peak hour, the southbound left-through movement would continue to operate at LOS F, with delay increasing from 70.4 to 111.1 seconds.

Marginal Street and St. Clair Place

During the midday peak hour, the southbound through movement would deteriorate from LOS D to LOS E, with delay increasing from 30.4 to 35.1 seconds and v/c ratio increasing from 0.86 to 0.90.

During the PM peak hour, the southbound through movement would continue to operate at LOS F, with delay increasing from 103.2 to 129.0 seconds and v/c ratio increasing from 1.15 to 1.22.

Twelfth Avenue and 131st Street

During the AM peak hour, the westbound approach would deteriorate from LOS D to LOS F, with delay increasing from 30.3 to 78.8 seconds and v/c ratio increasing from 0.33 to 0.74.

During the midday peak hour, the westbound approach would deteriorate from LOS C to LOS F, with delay increasing from 24.6 to 67.0 seconds and v/c ratio increasing from 0.26 to 0.70.

During the PM peak hour, the westbound approach would continue to operate at LOS F, with delay increasing from 85.7 to 313.7 seconds and v/c ratio increasing from 0.86 to 1.49.

Riverside Drive and St. Clair Place

During the AM peak hour, the southbound left-through movement would deteriorate from LOS D to LOS E, with delay increasing from 34.2 to 49.2 seconds and v/c ratio decreasing from 0.42 to 0.55. The southbound through movement would deteriorate from LOS D to LOS E, with delay increasing from 32.5 to 45.2 seconds and v/c ratio increasing from 0.39 to 0.50.

During the midday peak hour, the southbound left-through movement would deteriorate from LOS D to LOS E, with delay increasing from 31.9 to 37.7 seconds and v/c ratio decreasing from 0.37 to 0.41. The southbound through movement would deteriorate from LOS D to LOS E, with delay increasing from 28.5 to 34.2 seconds and v/c ratio increasing from 0.29 to 0.33.

During the PM peak hour, the southbound left-through movement would deteriorate from LOS D to LOS E, with delay increasing from 33.6 to 40.5 seconds and v/c ratio decreasing from 0.40 to 0.36. The southbound through movement would deteriorate from LOS D to LOS E, with delay increasing from 32.6 to 40.6 seconds and v/c ratio increasing from 0.25 to 0.31.

West 125th Street and West 129th Street/St. Clair Place

During the AM peak hour, the eastbound left-turn movement would continue to operate at LOS F. The westbound left-turn movement would continue to operate at LOS F, with delay increasing from 128.0 to 2,493.0 seconds and v/c ratio increasing from 0.17 to 2.00. The westbound right-

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turn movement would continue to operate at LOS F, with delay increasing from 47.4 to 2,301.0 seconds and v/c ratio increasing from 0.83 to 5.77.

During the midday peak hour, the eastbound left-turn movement would continue to operate at LOS F. The westbound left-turn movement would continue to operate at LOS F, with delay increasing from 67.0 to 7,490.0 seconds and v/c ratio increasing from 0.08 to 5.00. The westbound right movement would deteriorate from LOS D to LOS F, with delay increasing from 32.2 to 9,249.0 seconds and v/c ratio increasing from 0.76 to 20.6.

During the PM peak hour, the eastbound left-turn movement would continue to operate at LOS F, and the eastbound right movement would deteriorate from LOS E to LOS F, with delay increasing from 47.2 to 60.4 seconds and v/c ratio increasing from 0.83 to 0.87. The westbound left-turn movement would continue to operate at LOS F, and the westbound right movement would continue to operate at LOS F, with delay increasing from 466.9 to 73,643.0 seconds and v/c ratio increasing from 1.94 to 159.3.

SIGNIFICANT IMPACTS

Without the proposed project improvements, the Proposed Actions would result in significant adverse impacts at the following intersections:

AM Peak Hour

- Twelfth Avenue and West 133rd Street
- Twelfth Avenue and West 132nd Street
- Twelfth Avenue and West 125th Street
- Broadway and West 125th Street
- Marginal Street and West 133rd Street (*unsignalized*)
- Marginal Street and West 132nd Street (*unsignalized*)
- Twelfth Avenue and West 131st Street (*unsignalized*)
- West 125th and West 129th Street/St. Clair Place (*unsignalized*)
- Riverside Drive and St. Clair Place (*unsignalized*)

Midday Peak Hour

- Twelfth Avenue and West 125th Street
- Broadway and West 125th Street
- Marginal Street and West 133rd Street (*unsignalized*)
- Marginal Street and St. Clair Place (*unsignalized*)
- Twelfth Avenue and West 131st Street (*unsignalized*)
- West 125th and West 129th Street/St. Clair Place (*unsignalized*)
- Riverside Drive and St. Clair Place (*unsignalized*)

PM Peak Hour

- Twelfth Avenue and West 133rd Street
- Twelfth Avenue and West 125th Street
- Broadway Northbound and West 133rd Street
- Broadway and West 125th Street
- Marginal Street and West 133rd Street (*unsignalized*)
- Marginal Street and West 132nd Street (*unsignalized*)

Appendix M: Proposed Actions Without Transportation Improvements

- Marginal Street and St. Clair Place (*unsignalized*)
- Twelfth Avenue and West 131st Street (*unsignalized*)
- West 125th and West 129th Street/St. Clair Place (*unsignalized*)
- Riverside Drive and St. Clair Place (*unsignalized*)

With the proposed project improvements, no significant adverse impacts would result at any of the above intersections.

PARKING SUPPLY AND UTILIZATION

ON-STREET PARKING

As shown in Table 17-26, 57 on-street spaces would be displaced due to geometric modifications associated with the proposed transportation improvements. The expected on-street parking utilization in the 2015 Build condition without the proposed transportation improvements is summarized in Table M-3.

Within ¼ mile of the Project Area, on-street parking would be 87, 93, and 88 percent utilized during the morning, midday, and evening periods, respectively, in the 2015 Build condition (compared to 80, 83, and 80 percent utilization for the same time periods under the 2015 No Build condition). Spaces available in the 2015 No Build condition would be 36, 62, and 39 percent utilized in the 2015 Build condition during the morning, midday, and evening periods, respectively. Since these utilization levels exceed 50 percent, a larger ½-mile on-street area was evaluated. Overall, within a ½-mile, on-street parking would be 78, 86, and 86 percent utilized during the morning, midday, and evening periods, respectively, in the 2015 Build condition. Spaces available in the 2015 No Build condition would be 12, 23, and 18 percent utilized in the 2015 Build condition during the morning, midday, and evening periods, respectively. Since less than half of the on-street parking capacity available in the 2015 No Build condition would be utilized in the Build condition, no significant adverse impacts to on-street parking conditions would occur.

OFF-STREET PARKING

Since off-street parking conditions would be the same in the Proposed Actions with or without transportation improvements, the analysis results are the same as those presented in Chapter 17.

2030 FUTURE WITH THE PROPOSED ACTIONS

The future 2030 Build condition reflects increases in traffic volumes that are part of the Proposed Actions and was developed by adding the 2030 reasonable worst-case transportation scenario project-generated trips to the 2030 No Build traffic network, and adjusting for No Build trips that would be redistributed or not occur at all with the Proposed Actions. However, it does not incorporate the project-related improvements described in Chapter 17.

Figures M-7, M8, and M-9 depict the 2030 project-generated traffic volumes within the primary study area for the weekday AM, midday, and PM peak hours, respectively. These volumes were superimposed onto the 2030 No Build network, after adjusting for No Build trips, to generate the future 2030 Build AM, midday, and PM peak hour traffic networks, as presented in Figures M-10, M-11, and M-12, respectively.

Table M-3

2015 Build On-Street Parking Utilization Summary

2015 Build	AM	MD	PM
¼-Mile Radius			
Capacity	1847	1847	1847
Spaces Removed due to Geometric Modifications	0	0	0
Effective 2015 Build Capacity	1847	1847	1847
2015 No Build Demand	1471	1524	1480
Subdistrict B and "Other Area" Demand	136	201	142
2015 Build Demand	1607	1725	1622
Remaining Spaces	240	122	225
Utilization	87%	93%	88%
% No Build Availability Utilized in Build Condition	36%	62%	39%
½-Mile Radius			
Capacity	4783	4783	4783
Spaces Removed due to Geometric Modifications	0	0	0
Effective 2015 Build Capacity	4783	4783	4783
2015 No Build Demand	3613	3903	3982
Subdistrict B and "Other Area" Demand	136	201	142
2015 Build Demand	3749	4104	4124
Remaining Spaces	1034	679	659
Utilization	78%	86%	86%
% No Build Availability Utilized in Build Condition	12%	23%	18%
Note: See Appendix H for detailed parking accumulation analysis.			

Tables M-4 and M-5 compare the 2030 No Build and Build peak hour conditions for the analysis intersections. Based on the thresholds established in the *CEQR Technical Manual*, as described in Section B of Chapter 17, significantly impacted movements are denoted with a + sign in the tables and detailed below.

Twelfth Avenue and West 133rd Street

During the AM peak hour, the northbound left-turn movement would continue to operate at LOS F, with delay increasing from 94.3 to 149.5 seconds and v/c ratio increasing from 1.11 to 1.25. The westbound left-through-right movement would deteriorate from LOS D to LOS F, with delay increasing from 40.5 to 81.1 seconds of delay and v/c ratio increasing from 0.80 to 1.04.

During the midday peak hour, the westbound approach would deteriorate from LOS C to LOS D, with delay increasing from 31.6 to 51.9 and v/c ratio increasing from 0.65 to 0.91.

During the PM peak hour, the northbound left-turn movement would deteriorate from LOS E to LOS F, with delay increasing from 60.1 to 173.6 seconds of delay and v/c ratio increasing from 1.01 to 1.31, and the northbound left-through-right movement would deteriorate from LOS C to LOS E, with delay increasing from 24.1 to 57.4 seconds and v/c ratio increasing from 0.76 to 1.00. The westbound approach would continue to operate at LOS F, with delay increasing from 206.1 to 390.9 and v/c ratio increasing from 1.36 to 1.78.

Appendix M: Proposed Actions Without Transportation Improvements

**Table M-4
Comparison of 2030 No Build and Build Conditions
Signalized Intersection Level-of-Service Analysis**

Int.	AM Peak Hour								Midday Peak Hour								PM Peak Hour							
	2030 No Build				2030 Build				2030 No Build				2030 Build				2030 No Build				2030 Build			
	Ln	V/C	Delay (spv)	LOS	Ln	V/C	Delay (spv)	LOS	Ln	V/C	Delay (spv)	LOS	Ln	V/C	Delay (spv)	LOS	Ln	V/C	Delay (spv)	LOS	Ln	V/C	Delay (spv)	LOS
Marginal Street @ West 125th Street																								
WB	L	0.55	26.5	C	L	0.55	26.5	C	L	0.48	25.5	C	L	0.50	25.8	C	L	0.67	29.0	C	L	0.69	29.6	C
SB	LT	0.50	14.7	B	LT	0.53	15.2	B	LT	0.53	15.2	B	LT	0.57	15.7	B	LT	0.68	18.1	B	LT	0.76	20.3	C
	Int.		20.1	C	Int.		20.2	C	Int.		19.4	B	Int.		19.8	B	Int.		22.7	C	Int.		24.1	C
Twelfth Avenue @ West 133rd Street																								
WB	LTR	0.80	40.5	D	LTR	1.04	81.1	F+	LTR	0.65	31.6	C	LTR	0.91	51.9	D+	LTR	1.36	206.1	F	LTR	1.78	390.9	F+
NB	L	1.11	94.3	F	L	1.25	149.5	F+	L	0.85	32.8	C	L	0.96	49.7	D	L	1.01	60.1	E	L	1.31	173.6	F+
	LTR	0.21	11.2	B	LTR	0.41	13.7	B	LTR	0.20	11.0	B	LTR	0.24	11.4	B	LTR	0.76	24.1	C	LTR	1.00	57.4	E+
SB	LTR	0.16	10.5	B	LTR	0.16	10.5	B	LTR	0.12	10.2	B	LTR	0.13	10.2	B	LTR	0.11	10.1	B	LTR	0.11	10.1	B
	Int.		55.4	E	Int.		85.1	F	Int.		25.9	C	Int.		39.6	D	Int.		96.8	F	Int.		211.3	F
Twelfth Avenue @ West 132nd Street																								
EB	LTR	0.81	39.0	D	LTR	1.41	225.1	F+	LTR	0.43	25.2	C	LTR	0.53	27.4	C	LTR	0.63	29.9	C	LTR	0.74	34.7	C
WB	LTR	0.12	20.8	C	LTR	0.19	21.5	C	LTR	0.09	20.4	C	LTR	0.15	21.0	C	LTR	0.12	20.7	C	LTR	0.45	25.8	C
NB	LTR	0.52	14.4	B	LTR	0.64	16.5	B	LTR	0.45	13.3	B	LTR	0.51	14.2	B	LTR	0.74	19.1	B	LTR	0.85	23.5	C
SB	LTR	0.14	10.4	B	LTR	0.27	11.7	B	Defl.	0.08	9.9	A	Defl.	0.29	14.7	B	LTR	0.06	9.8	A	LTR	0.13	10.3	B
	Int.		21.7	C	Int.		91.8	F	Int.		15.9	B	Int.		17.3	B	Int.		21.1	C	Int.		25.2	C
Twelfth Avenue @ West 125th Street																								
EB	LTR	0.27	13.5	B	LTR	0.28	13.6	B	LTR	0.37	14.5	B	LTR	0.37	14.6	B	LTR	0.45	15.8	B	LTR	0.51	16.7	B
WB	L	0.16	13.3	B	L	0.17	13.5	B	L	0.18	13.6	B	L	0.16	13.4	B	L	0.30	16.0	B	L	0.24	14.9	B
	T	0.78	26.1	C	T	0.78	25.9	C	T	0.66	21.2	C	T	0.66	21.2	C	T	0.89	35.1	D	T	0.93	40.3	D
	R	1.03	68.0	E	R	1.44	229.0	F+	R	1.01	61.4	E	R	1.28	161.6	F+	R	1.23	135.7	F	R	1.49	250.0	F+
NB	LTR	0.34	20.8	C	LTR	0.57	25.3	C	LTR	0.31	20.4	C	LTR	0.38	21.5	C	LTR	0.45	22.7	C	LTR	0.52	24.0	C
SB	LT	0.42	22.9	C	LT	0.47	24.5	C	LT	0.25	19.9	B	LT	0.28	20.4	C	LT	0.39	22.8	C	LT	0.56	29.3	C
	Int.		35.4	D	Int.		92.2	F	Int.		31.9	C	Int.		66.8	E	Int.		63.7	E	Int.		105.4	F
Broadway Northbound @ West 133rd Street																								
EB	LT	0.23	17.6	B	LT	0.37	19.8	B	LT	0.27	18.2	B	LT	0.31	18.9	B	LT	0.26	18.3	B	LT	0.61	28.3	C
WB	TR	0.53	24.9	C	TR	0.64	28.1	C	TR	0.49	23.9	C	TR	0.52	24.7	C	TR	0.93	50.9	D	TR	0.97	60.0	E+
NB	LT	0.59	14.5	B	LT	0.65	15.5	B	LT	0.47	12.5	B	LT	0.62	14.8	B	LT	0.83	21.1	C	LT	0.99	40.4	D
	R	0.12	9.8	A	R	0.37	15.7	B	R	0.09	9.5	A	R	0.37	15.1	B	R	0.06	9.1	A	R	0.37	15.9	B
	Int.		17.3	B	Int.		19.2	B	Int.		16.3	B	Int.		17.5	B	Int.		29.6	C	Int.		43.3	D
Broadway Southbound @ West 133rd Street																								
EB	TR	0.13	18.1	B	TR	0.23	19.2	B	TR	0.14	18.2	B	TR	0.17	18.5	B	TR	0.10	17.8	B	TR	0.23	19.3	B
WB	LT	0.44	20.9	C	LT	0.59	23.8	C	LT	0.43	20.5	C	LT	0.57	23.7	C	LT	0.78	30.4	C	LT	0.92	44.0	D
SB	LTR	0.56	13.2	B	LTR	0.71	16.0	B	LTR	0.41	11.6	B	LTR	0.50	12.6	B	LTR	0.50	12.6	B	LTR	0.58	13.7	B
	Int.		15.0	B	Int.		18.0	B	Int.		14.2	B	Int.		16.0	B	Int.		19.0	B	Int.		25.0	C
Broadway Northbound @ West 132nd Street																								
EB	L	0.41	20.7	C	L	0.38	20.0	C	L	0.24	17.8	B	L	0.37	19.6	B	L	0.33	19.0	B	L	0.44	20.8	C
NB	LT	0.43	12.0	B	LT	0.55	13.5	B	LT	0.37	11.3	B	LT	0.50	12.8	B	LT	0.61	14.3	B	LT	0.77	18.1	B
	Int.		14.2	B	Int.		14.9	B	Int.		12.7	B	Int.		14.4	B	Int.		15.1	B	Int.		18.6	B
Broadway Southbound @ West 132nd Street																								
EB	TR	0.63	28.7	C	TR	0.71	32.0	C	TR	0.34	21.0	C	TR	0.55	25.3	C	TR	0.49	23.5	C	TR	0.74	31.5	C
WB	LT	0.06	15.8	B	LT	0.18	17.0	B	LT	0.04	15.6	B	LT	0.08	16.0	B	LT	0.04	15.6	B	LT	0.08	15.9	B
SB	LTR	0.55	13.3	B	LTR	0.64	14.8	B	LTR	0.44	12.0	B	LTR	0.49	12.7	B	LTR	0.46	12.2	B	LTR	0.50	12.7	B
	Int.		17.4	B	Int.		19.2	B	Int.		14.1	B	Int.		16.4	B	Int.		15.5	B	Int.		19.5	B
Broadway @ West 131st Street																								
EB	LTR	0.21	21.8	C	LTR	0.43	25.6	C	LTR	0.25	22.3	C	LTR	0.35	24.0	C	LTR	0.22	21.9	C	LTR	0.34	24.1	C
WB	LT	0.13	20.8	C	LT	0.19	21.8	C	LT	0.11	20.7	C	LT	0.18	21.8	C	LT	0.17	21.6	C	LT	0.41	25.7	C
	R	0.04	19.8	B	R	0.04	19.8	B	R	0.02	19.6	B	R	0.02	19.6	B	R	0.04	19.8	B	R	0.04	19.8	B
NB	LTR	0.40	9.0	A	LTR	0.54	10.5	B	LTR	0.32	8.3	A	LTR	0.46	9.6	A	LTR	0.51	10.0	B	LTR	0.81	16.6	B
SB	LTR	0.54	10.3	B	LTR	0.61	11.4	B	LTR	0.40	9.0	A	LTR	0.46	9.5	A	LTR	0.45	9.4	A	LTR	0.52	10.2	B
	Int.		10.9	B	Int.		12.9	B	Int.		10.3	B	Int.		11.5	B	Int.		11.0	B	Int.		15.4	B
Broadway @ West 130th Street																								
EB	LR	0.27	26.0	C	LR	0.53	32.0	C	LR	0.20	24.6	C	LR	0.59	33.6	C	LR	0.34	27.0	C	LR	1.50	268.3	F+
NB	LT	0.28	5.8	A	LT	0.32	6.0	A	LT	0.23	5.5	A	LT	0.27	5.7	A	LT	0.35	6.2	A	LT	0.39	6.4	A
SB	LT	0.40	6.5	A	LT	0.42	6.6	A	LT	0.31	6.0	A	LT	0.35	6.2	A	LT	0.35	6.2	A	LT	0.38	6.4	A
	Int.		7.4	A	Int.		9.0	A	Int.		6.9	A	Int.		9.7	A	Int.		7.7	A	Int.		69.2	E
Broadway @ West 129th Street																								
WB	LT	0.45	19.5	B	LT	0.49	20.6	C	LT	0.44	19.2	B	LT	0.45	19.6	B	LT	0.59	22.2	C	LT	0.61	23.2	C
	R	0.22	16.4	B	R	0.27	17.4	B	R	0.19	16.1	B	R	0.24	17.0	B	R	0.27	17.1	B	R	0.36	19.1	B
NB	Defl.	0.70	43.5	D	LT	0.55	20.1	C	LT	0.41	18.0	B	LT	0.46	18.7	B	LT	0.74	25.3	C	LT	0.81	28.4	C
	T	0.50	19.7	B																				
SB	TR	0.64	18.5	B	TR	0.71	19.9	B	TR	0.47	18.6	B	TR	0.57	20.2	C	TR	0.52	19.3	B	TR	0.74	23.9	C
	Int.		20.1	C	Int.		19.9	B	Int.		18.4	B	Int.		19.5	B	Int.		22.0	C	Int.		25.0	C

Notes: L: Left Turn; T: Through; R: Right Turn; DefL: Defacto Left Turn; Int.: Intersection
V/C: Volume to Capacity; spv: Seconds per Vehicle; LOS: Level of Service; + Significant Adverse Traffic Impact

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Table M-4 (Continued)
Comparison of 2030 No Build and Build Conditions
Signalized Intersection Level-of-Service Analysis

Int.	AM Peak Hour								Midday Peak Hour								PM Peak Hour								
	2030 No Build				2030 Build				2030 No Build				2030 Build				2030 No Build				2030 Build				
	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS
Broadway @ West 125th Street																									
EB	L	1.76	415.5	F	L	1.42	278.7	F	L	0.64	43.8	D	L	0.85	80.7	F+	L	0.41	31.2	C	L	0.44	34.4	C	
	TR	0.89	42.5	D	TR	1.04	74.2	E+	TR	1.04	73.3	E	TR	1.14	108.8	F+	TR	1.16	112.9	F	TR	1.26	154.9	F+	
	Int.	1.35	235.1	F	Int.	1.60	343.3	F+	Int.	1.02	136.4	E	Int.	1.04	140.8	F+	Int.	1.13	167.5	F	Int.	1.13	167.5	F	
WB	L	1.35	235.1	F	L	1.60	343.3	F+	L	1.02	136.4	E	L	1.04	140.8	F+	L	0.65	27.4	C	L	0.70	28.7	C	
	TR	1.05	74.0	E	TR	1.38	208.3	F+	TR	0.78	33.5	C	TR	1.01	63.6	E+	TR	0.60	32.7	C	TR	0.98	83.3	F+	
	Int.	1.05	74.0	E	Int.	1.38	208.3	F+	Int.	0.78	33.5	C	Int.	1.01	63.6	E+	Int.	0.60	32.7	C	Int.	0.98	83.3	F+	
NB	L	0.50	33.5	C	L	0.58	36.0	D	L	0.43	32.3	C	L	0.48	33.5	C	L	0.64	38.4	D	L	0.74	43.4	D	
	LT	0.52	32.2	C	LT	0.56	33.2	C	LT	0.51	32.2	C	LT	0.55	33.1	C	LT	0.97	62.1	E	LT	1.01	70.7	E+	
	Int.	0.67	47.7	D	Int.	1.02	116.5	F+	Int.	0.73	54.4	D	Int.	0.90	81.9	F+	Int.	0.67	47.2	D	Int.	1.02	115.8	F+	
SB	L	0.40	31.1	C	L	0.47	32.5	C	L	0.37	30.7	C	L	0.48	32.9	C	L	0.39	31.5	C	L	0.66	38.2	D	
	LTR	1.11	101.4	F	LTR	1.23	151.2	F+	LTR	0.85	44.9	D	LTR	1.02	73.1	E+	LTR	0.97	62.6	E	LTR	1.19	135.8	F+	
	Int.	1.11	101.4	F	Int.	1.23	151.2	F+	Int.	0.85	44.9	D	Int.	1.02	73.1	E+	Int.	0.97	62.6	E	Int.	1.19	135.8	F+	

Notes: L: Left Turn; T: Through; R: Right Turn; DefL: Defacto Left Turn; Int.: Intersection
V/C: Volume to Capacity; spv: Seconds per Vehicle; LOS: Level of Service; + Significant Adverse Traffic Impact

Table M-5
Comparison of 2030 No Build and Build Conditions
Unsignalized Intersection Level-of-Service Analysis

Int.	AM Peak Hour								Midday Peak Hour								PM Peak Hour								
	2030 No Build				2030 Build				2030 No Build				2030 Build				2030 No Build				2030 Build				
	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS	Ln	Grp	V/C	Delay (spv)	LOS
Marginal Street @ West 133rd Street																									
WB	L	0.22	10.8	B	L	0.24	10.9	B	L	0.17	10.3	B	L	0.19	10.5	B	L	0.21	10.6	B	L	0.26	11.0	B	
	SB	T	1.20	122.4	F	T	1.54	265.6	F+	T	1.02	60.0	E	T	1.09	80.4	F+	T	1.22	125.9	F	T	1.27	145.7	F+
Marginal Street @ West 132nd Street																									
WB	LT	-	9.2	A	LT	-	10.1	B	LT	=	9.7	A	LT	=	9.8	A	LT	-	10.0	A	LT	-	10.8	B	
	SB	LT	-	96.1	F	LT	-	265.8	F+	LT	=	23.8	C	LT	=	34.7	D+	LT	-	96.5	F	LT	-	161.8	F+
Int.	TR	-	8.3	A	TR	-	8.5	A	TR	=	8.4	A	TR	=	8.7	A	TR	-	10.5	B	TR	-	11.8	B	
	Int.	79.5	F	Int.	221.5	F	Int.	221.5	F	Int.	19.8	C	Int.	27.7	D	Int.	70.2	F	Int.	70.2	F	Int.	111.4	F	
Marginal Street @ St. Clair Place																									
SB	L	0.20	9.9	A	L	0.23	10.2	B	L	0.24	10.2	B	L	0.28	10.5	B	L	0.31	10.8	B	L	0.34	11.0	B	
	T	1.01	55.8	E	T	1.03	62.2	F+	T	0.92	37.7	E	T	0.97	47.4	E+	T	1.22	128.5	F	T	1.39	199.0	F+	
Twelfth Avenue @ West 131st Street																									
NB	LT	0.01	7.8	A	LT	0.01	8.3	A	LT	0.03	7.5	A	LT	0.03	7.7	A	LT	0.02	7.8	A	LT	0.03	7.9	A	
	SB	LT	0.18	11.8	B	LR	0.15	12.1	B	LR	0.06	10.2	B	LR	0.08	15.0	B	LT	0.07	12.1	B	LR	0.05	12.4	B
WB	LTR	0.44	40.8	E	LTR	1.33	268.9	F+	LTR	0.30	28.2	D	LTR	2.63	917.1	F+	LTR	0.94	105.9	F	LTR	1.62	354.8	F+	
	EB	LTR	0.03	20.3	C	LTR	0.03	22.8	C	LTR	0.22	15.5	C	LTR	0.42	31.0	D+	LTR	0.05	19.9	C	LTR	0.08	26.4	D
Twelfth Avenue @ West 125th Street Southbound Right Turn																									
SB	R	0.07	11.9	B	R	0.08	11.9	B	R	0.06	10.9	B	R	0.14	13.7	B	R	0.08	11.7	B	R	0.08	11.8	B	
Twelfth Avenue @ St. Clair Place																									
EB	T	-	10.4	B	T	-	11.7	B	T	=	10.9	B	T	=	11.9	B	T	-	11.9	B	T	-	12.8	B	
	NB	R	-	16.8	C	R	-	30.7	D+	R	=	16.9	C	R	=	21.3	C	R	-	14.4	B	R	-	16.8	C
SB	L	-	9.2	A	L	-	9.6	A	L	=	9.0	A	L	=	9.2	A	L	-	9.0	A	L	-	9.2	A	
	Int.	15.3	C	Int.	26.2	D	Int.	15.3	C	Int.	18.6	C	Int.	13.5	B	Int.	15.3	C							
Riverside Drive @ St. Clair Place																									
EB	LTR	0.14	7.8	A	LTR	0.24	8.1	A	LTR	0.14	7.8	A	LTR	0.17	7.9	A	LTR	0.19	8.0	A	LTR	0.22	8.1	A	
	SB	LT	0.49	41.6	E	LT	1.04	186.0	F+	LT	0.45	39.4	E	LT	0.55	56.8	F+	LT	0.47	41.4	E	LT	0.46	53.8	F+
Int.	T	0.46	39.0	E	T	0.96	161.6	F+	T	0.36	34.6	D	T	0.47	50.1	F+	T	0.30	39.0	E	T	0.40	53.1	F+	
	Int.	0.46	39.0	E	Int.	0.96	161.6	F+	Int.	0.36	34.6	D	Int.	0.47	50.1	F+	Int.	0.30	39.0	E	Int.	0.40	53.1	F+	
Riverside Drive @ Tiemann Place																									
WB	L	-	8.4	A	L	-	8.6	A	L	=	8.2	A	L	=	8.2	A	L	-	8.4	A	L	-	8.5	A	
	NB	R	-	7.4	A	R	-	7.6	A	R	=	7.2	A	R	=	7.2	A	R	-	7.3	A	R	-	7.4	A
SB	L	-	10.4	B	L	-	10.5	B	L	=	9.8	A	L	=	9.8	A	L	-	10.4	B	L	-	10.5	B	
	T	-	9.0	A	T	-	9.2	A	T	=	9.0	A	T	=	9.0	A	T	-	8.4	A	T	-	8.5	A	
Int.	9.3	A	Int.	9.3	A	Int.	9.0	A	Int.	9.0	A	Int.	9.1	A	Int.	9.2	A	Int.	9.1	A	Int.	9.2	A		
	Int.	9.3	A	Int.	9.3	A	Int.	9.0	A	Int.	9.0	A	Int.	9.1	A	Int.	9.2	A							
West 125th Street @ West 129th Street/St. Clair Place*																									
EB	L	0.10	401.7	F	L	---	---	F+	L	0.03	117.5	E	L	---	---	F+	L	---	---	F	L	---	---	F+	
	R	0.75	26.7	D	R	74.5	34,277	F+	R	0.69	23.5	C	R	1.77	396.4	F+	R	0.96	74.8	F	R	---	---	F+	
WB	L	0.29	208.0	F	L	---	---	F+	L	0.13	96.9	E	L	---	---	F+	L	14.0	12119	F	L	---	---	F+	
	R	0.96	73.3	F	R	---	---	D	R	0.86	46.1	E	R	---	---	F+	R	2.29	621.2	F	R	---	---	F+	

Notes: L: Left Turn; T: Through; R: Right Turn; Int.: Intersection
V/C: Volume to Capacity; spv: Seconds per Vehicle; LOS: Level of Service; + Significant Adverse Traffic Impact
*The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions, where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.

Appendix M: Proposed Actions Without Transportation Improvements

Twelfth Avenue and West 132nd Street

During the AM peak hour, the eastbound approach would deteriorate from LOS D to LOS F, with delay increasing from 39.0 to 225.1 seconds and v/c ratio increasing from 0.81 to 1.41.

Twelfth Avenue and West 125th Street

During the AM peak hour, the westbound right-turn movement would deteriorate from LOS E to LOS F, with delay increasing from 68.0 to 229.0 seconds and v/c ratio increasing from 1.03 to 1.44.

During the midday peak hour, the westbound right-turn movement would deteriorate from LOS E to LOS F, with delay increasing from 61.4 to 161.6 seconds and v/c ratio increasing from 1.01 to 1.28.

During the PM peak hour, the westbound right-turn movement would continue to operate at LOS F, with delay increasing from 135.7 to 250.0 seconds and v/c ratio increasing from 1.23 to 1.49.

Broadway Northbound and West 133rd Street

During the PM peak hour, the westbound approach would deteriorate from LOS D to LOS E, with delay increasing from 50.9 to 60.0 seconds and v/c ratio increasing from 0.93 to 0.97.

Broadway and West 130th Street

During the PM peak hour, the eastbound approach would deteriorate from LOS C to LOS F, with delay increasing from 27.0 to 268.3 seconds and v/c ratio increasing from 0.34 to 1.50.

Broadway and West 125th Street

During the AM peak hour, the northbound right-turn movement would deteriorate from LOS D to LOS F, with delay increasing from 47.7 to 116.5 seconds and v/c ratio increasing from 0.67 to 1.02. The southbound left-through-right movement would continue to operate at LOS F, with delay increasing from 101.4 to 141.5 seconds and v/c ratio increasing from 1.11 to 1.21. The eastbound through-right movement would continue to operate at LOS D, with delay increasing from 42.5 to 48.8 seconds and v/c ratio increasing from 0.89 to 0.94. The westbound left-turn movement would continue to operate at LOS F, with delay increasing from 235.1 to 357.0 seconds and v/c ratio increasing from 1.35 to 1.63, and the westbound through-right movement would deteriorate from LOS E to LOS F, with delay increasing from 74.0 to 195.6 seconds and v/c ratio increasing from 1.05 to 1.35.

During the midday peak hour, the northbound right-turn movement would deteriorate from LOS D to LOS F, with delay increasing from 54.4 to 81.9 seconds and v/c ratio increasing from 0.73 to 0.90. The southbound left-through-right movement would deteriorate from LOS D to LOS E, with delay increasing from 44.9 to 73.1 seconds and v/c ratio increasing from 0.85 to 1.02. The eastbound left-turn movement would deteriorate from LOS D to LOS F, with delay increasing from 43.8 to 80.7 seconds and v/c ratio increasing from 0.64 to 0.85, and the eastbound through-right movement would deteriorate from LOS E to LOS F, with delay increasing from 73.3 to 108.8 seconds and v/c ratio increasing from 1.04 to 1.14. The westbound left-turn movement would continue to operate at LOS F with delay increasing from 136.4 to 140.8 seconds and v/c ratio increasing from 1.02 to 1.04, and the westbound through-right movement would deteriorate from LOS C to LOS E, with delay increasing from 33.5 to 63.6 seconds and v/c ratio increasing from 0.78 to 1.01.

During the PM peak hour, the northbound left-through movement would continue to operate at LOS E, with delay increasing from 62.1 to 70.7 seconds and v/c ratio increasing from 0.97 to

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1.01, and the northbound right-turn movement would deteriorate from LOS D to LOS F, with delay increasing from 47.2 to 115.8 seconds and v/c ratio increasing from 0.67 to 1.02. The southbound left-through-right movement would deteriorate from LOS E to LOS F, with delay increasing from 62.6 to 135.8 seconds and v/c ratio increasing from 0.97 to 1.19. The eastbound through-right movement would continue to operate at LOS F, with delay increasing from 112.9 to 154.9 seconds and v/c ratio increasing from 1.16 to 1.26. The westbound right-turn movement would deteriorate from LOS C to LOS E, with delay increasing from 32.7 to 83.3 seconds and v/c ratio increasing from 0.60 to 0.98.

Marginal Street and West 133rd Street

During the AM peak hour, the southbound approach would continue to operate at LOS F, with delay increasing from 122.4 to 265.6 seconds and v/c ratio increasing from 1.20 to 1.54.

During the midday peak hour, the southbound approach would continue to operate at LOS F, with delay increasing from 60.0 to 80.4 seconds and v/c ratio increasing from 1.02 to 1.09.

During the PM peak hour, the southbound approach would continue to operate at LOS F, with delay increasing from 125.9 to 145.7 seconds and v/c ratio increasing from 1.22 to 1.27.

Marginal Street and West 132nd Street

During the AM peak hour, the southbound left-through movement would continue to operate at LOS F, with delay increasing from 96.1 to 265.8 seconds.

During the midday peak hour, the southbound approach would deteriorate from LOS C to LOS D, with delay increasing from 23.8 to 34.7 seconds.

During the PM peak hour, the southbound left-through movement would continue to operate at LOS F, with delay increasing from 96.5 to 161.8 seconds.

Marginal Street and St. Clair Place

During the AM peak hour, the southbound through movement would continue to operate at LOS F, with delay increasing from 55.8 to 62.2 seconds and v/c ratio increasing from 1.01 to 1.03.

During the midday peak hour, the southbound through movement would continue to operate at LOS E, with delay increasing from 37.7 to 47.4 seconds and v/c ratio increasing from 0.92 to 0.97.

During the PM peak hour, the southbound through movement would continue to operate at LOS F, with delay increasing from 128.5 to 199.0 seconds and v/c ratio increasing from 1.22 to 1.39.

Twelfth Avenue and West 131st Street

During the AM peak hour, the westbound approach would deteriorate from LOS E to LOS F, with delay increasing from 40.8 to 268.9 seconds and v/c ratio increasing from 0.44 to 1.33.

During the midday peak hour, the westbound approach would deteriorate from LOS D to LOS F, with delay increasing from 28.2 to 917.1 seconds and v/c ratio increasing from 0.30 to 2.63. At the same time, the eastbound approach would deteriorate from LOS C to LOS D with delay increasing from 15.5 to 31.0 seconds and v/c ratio increasing from 0.22 to 0.42.

During the PM peak hour, the westbound approach would continue to operate at LOS F, with delay increasing from 105.9 to 354.8 seconds and v/c ratio increasing from 0.94 to 1.62.

Appendix M: Proposed Actions Without Transportation Improvements

Twelfth Avenue and St. Clair Place

During the AM peak hour, the northbound approach would deteriorate from LOS C to LOS D, with delay increasing from 16.8 to 30.7 seconds.

Riverside Drive and St. Clair Place

During the AM peak hour, the southbound left-through movement would deteriorate from LOS E to LOS F, with delay increasing from 41.6 to 186.0 seconds and v/c ratio increasing from 0.49 to 1.04, and the southbound through movement would deteriorate from LOS E to LOS F, with delay increasing from 39.0 to 161.6 seconds and v/c ratio increasing from 0.46 to 0.96.

During the midday peak hour, the southbound left-through movement would deteriorate from LOS E to LOS F, with delay increasing from 39.4 to 56.8 seconds and v/c ratio increasing from 0.45 to 0.55, and the southbound through movement would deteriorate from LOS D to LOS F, with delay increasing from 34.6 to 50.1 seconds and v/c ratio increasing from 0.36 to 0.47.

During the PM peak hour, the southbound left-through movement would deteriorate from LOS E to LOS F, with delay increasing from 41.4 to 53.8 seconds and v/c ratio decreasing from 0.47 to 0.46, and the southbound through movement would deteriorate from LOS E to LOS F, with delay increasing from 39.0 to 53.1 seconds and v/c ratio increasing from 0.30 to 0.40.

West 125th Street and West 129th Street/St. Clair Place

During the AM peak hour, the eastbound right-turn movement would deteriorate from LOS D to LOS F, with delay increasing from 26.7 to 34,277.0 seconds and v/c ratio increasing from 0.75 to 74.5. In addition, the eastbound and westbound left-turn movements would further deteriorate within LOS F.

During the midday peak hour, the eastbound right-turn movement would deteriorate from LOS C to LOS F, with delay increasing from 23.5 to 396.4 seconds and v/c ratio increasing from 0.69 to 1.77. In addition, the eastbound left-turn and westbound left- and right-turn movements would further deteriorate within LOS F.

During the PM peak hour, both the eastbound and westbound approaches would deteriorate further within LOS F.

SIGNIFICANT IMPACTS

Without the proposed project improvements, the Proposed Actions would result in significant adverse impacts on the follow intersections:

AM Peak Hour

- Twelfth Avenue and West 133rd Street
- Twelfth Avenue and West 132nd Street
- Twelfth Avenue and West 125th Street
- Broadway and West 125th Street
- Marginal Street and West 133rd Street (*unsignalized*)
- Marginal Street and West 132nd Street (*unsignalized*)
- Marginal Street and St. Clair Place (*unsignalized*)
- Twelfth Avenue and West 131st Street (*unsignalized*)
- Twelfth Avenue and St. Clair Place (*unsignalized*)

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- Riverside Drive and St. Clair Place (*unsignalized*)
- West 125th Street and West 129th Street/St. Clair Place (*unsignalized*)

Midday Peak Hour

- Twelfth Avenue and West 133rd Street
- Twelfth Avenue and West 125th Street
- Broadway and West 125th Street
- Marginal Street and West 133rd Street (*unsignalized*)
- Marginal Street and West 132nd Street (*unsignalized*)
- Marginal Street and St. Clair Place (*unsignalized*)
- Twelfth Avenue and West 131st Street (*unsignalized*)
- Riverside Drive and St. Clair Place (*unsignalized*)
- West 125th Street and West 129th Street/St. Clair Place (*unsignalized*)

PM Peak Hour

- Twelfth Avenue and West 133rd Street
- Twelfth Avenue and West 125th Street
- Broadway NB and West 133rd Street
- Broadway and West 130th Street
- Broadway and West 125th Street
- Marginal Street and West 133rd Street (*unsignalized*)
- Marginal Street and West 132nd Street (*unsignalized*)
- Marginal Street and St. Clair Place (*unsignalized*)
- Twelfth Avenue and West 131st Street (*unsignalized*)
- Riverside Drive and St. Clair Place (*unsignalized*)
- West 125th Street and West 129th Street/St. Clair Place (*unsignalized*)

With the proposed project improvements, no significant adverse impacts would result at any of the above intersections.

PARKING SUPPLY AND UTILIZATION

ON-STREET PARKING

As shown in Table 17-39, 67 on-street spaces would be displaced due to geometric modifications associated with the proposed transportation improvements. The expected on-street parking utilization in the 2030 Build conditions without the proposed transportation improvements is summarized in Table M-6.

Within ¼ mile of the Project Area, on-street parking would be 93, 100, and 94 percent utilized during the morning, midday, and evening periods, respectively, in the 2030 Build condition (compared to 86, 89, and 86 percent utilization for the same time periods under the 2030 No Build condition). Spaces available in the 2030 No Build condition would be 52, 99, and 56 percent utilized in the 2030 Build condition during the morning, midday, and evening periods, respectively. Since these utilization levels exceed 50 percent, a larger ½-mile on-street area was evaluated. Overall, on-street parking would be 84, 92, and 93 percent utilized during the morning, midday, and evening periods, respectively, in the 2030 Build condition.

Table M-6

2030 Build On-Street Parking Utilization Summary

2030 Build	AM	MD	PM
¼-Mile Radius			
Capacity	1847	1847	1847
Spaces Removed due to Geometric Modifications	0	0	0
Effective 2030 Build Capacity	1847	1847	1847
2030 No Build Demand	1586	1643	1595
Subdistrict B and "Other Area" Demand	136	201	142
2030 Build Demand	1722	1844	1737
Remaining Spaces	125	3	110
Utilization	93%	100%	94%
% No Build Availability Utilized in Build Condition	52%	99%	56%
½-Mile Radius			
Capacity	4783	4783	4783
Spaces Removed due to Geometric Modifications	0	0	0
Effective 2030 Build Capacity	4783	4783	4783
2030 No Build Demand	3893	4207	4291
Subdistrict B and "Other Area" Demand	136	201	142
2030 Build Demand	4029	4408	4433
Remaining Spaces	754	375	350
Utilization	84%	92%	93%
% No Build Availability Utilized in Build Condition	15%	35%	29%
Note: See Appendix H for detailed parking accumulation analysis.			

Spaces available in the 2030 No Build condition would be 15, 35, and 29 percent utilized in the 2030 Build condition during the morning, midday, and evening periods, respectively. Since less than half of the on-street parking capacity available in the 2030 No Build condition would be utilized in the Build condition, no significant adverse impacts to on-street parking conditions would occur.

OFF-STREET PARKING

Since off-street parking conditions would be the same under the Proposed Actions with or without transportation improvements, the analysis results are the same as those presented in Chapter 17.

2015 MITIGATION

All of the 9 intersections during the AM peak hour, 7 intersections during the midday peak hour, and 10 intersections during the PM peak hour identified to result in significant adverse traffic impacts with the Proposed Actions without proposed project improvements could be fully mitigated with standard traffic engineering measures. In the DEIS, the significant adverse impacts identified for the Broadway and West 125th Street intersection were disclosed as unmitigatable absent the full range of transportation improvements assumed for the Proposed Actions. These improvements include the redirection of existing and future traffic in combination with a physical reconfiguration of the Broadway and West 125th Street intersection, which would be possible with the conversion of West 131st, West 132nd, and West 133rd Streets between Broadway and Twelfth Avenue from two-way to one-way operation, as described in Chapter 17 for the future Build condition with proposed project improvements. However, since the publication of the DEIS, a further examination of alternative operational options revealed that there would be measures that could be applied to fully mitigate the projected significant adverse impacts at this intersection. These and other

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recommended measures to mitigate impacts at all Project Area intersections are described below and summarized in Tables M-7 to M-12.

**Table M-7
Comparison of 2015 No Build, Build, and Mitigated Build AM Peak Hour Conditions
Signalized Intersection Level-of-Service Analysis**

Intersection	2015 No Build AM Peak Hour				2015 Build AM Peak Hour				2015 Mitigation AM Peak Hour				Changes	
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS		
Twelfth Avenue @ West 133rd Street													Restripe NB as one 16' left turn lane and one 14.1' left-through-right shared lane. Shift 1 second from NS to WB and shift 20 seconds from NS to new NB exclusive signal phase.	
Westbound	LTR	0.76	37.1	D	LTR	0.87	47.7	D+	LTR	0.85	43.5	D		
Northbound	L	1.02	65.9	E	L	1.08	82.6	F+	L	0.88	36.5	D		
	LTR	0.19	11.0	B	LTR	0.30	12.2	B	LTR	0.37	13.8	B		
Southbound	LTR	0.15	10.4	B	LTR	0.15	10.4	B	LTR	0.27	24.2	C		
	Int.		42.1	D	Int.		50.1	D	Int.		32.9	C		
Twelfth Avenue @ West 132nd Street													Shift 2 seconds from NS to EW	
Eastbound	LTR	0.79	37.2	D	LTR	0.92	51.1	D+	LTR	0.86	41.9	D		
Westbound	LTR	0.12	20.7	C	LTR	0.15	21.0	C	LTR	0.14	19.6	B		
Northbound	LTR	0.49	13.8	B	LTR	0.56	15.0	B	LTR	0.59	16.6	B		
Southbound	LTR	0.13	10.3	B	LTR	0.18	10.7	B	LTR	0.19	11.8	B		
	Int.		21.1	C	Int.		25.9	C	Int.		24.0	C		
Twelfth Avenue @ West 125th Street													Restripe WB approach to provide 2 LTR & 1 R	
Eastbound	LTR	0.26	13.4	B	LTR	0.26	13.4	B	LTR	0.27	13.5	B		
Westbound	L	0.15	13.0	B	L	0.16	13.2	B	LTR	0.60	18.2	B		
	T	0.73	23.8	C	T	0.72	23.3	C						
	R	0.96	48.8	D	R	1.11	95.0	F+	R	0.89	38.8	D		
Northbound	LTR	0.32	20.6	C	LTR	0.42	22.2	C	LTR	0.42	22.2	C		
Southbound	LT	0.38	22.1	C	LT	0.49	24.8	C	LT	0.49	24.8	C		
	Int.		28.7	C	Int.		43.1	D	Int.		23.5	C		
Broadway @ West 125th Street													Daylight SB, EB and WB approaches. Restripe EB from 1 L & 2 TR to 1 L, 2 T & 1 R. Restripe WB from 1 L & 2 TR to 1 L, 2 T & 1 R. Restripe SB from 1 L & 2 LTR to 1 L & 3 LTR. Transfer 2 seconds from SB only phase to NB only phase.	
Eastbound	L	1.44	275.6	F	L	1.33	239.6	F	L	0.75	55.7	E		
	TR	0.79	34.3	C	TR	0.85	38.1	D	I	0.58	26.8	C		
Westbound	L	1.15	159.2	E	L	1.27	206.0	F+	R	0.51	29.8	C		
	TR	0.99	57.7	E	TR	1.12	99.6	F+	L	0.96	95.8	F		
Northbound	L	0.46	32.7	C	L	0.49	33.4	C	I	0.69	29.5	C		
	LT	0.48	31.6	C	LT	0.49	31.8	C	R	0.85	52.6	D		
Southbound	R	0.62	43.8	D	R	0.70	52.0	D+	L	0.45	30.8	C		
	L	0.38	30.6	C	L	0.40	31.1	C	R	0.45	29.5	C		
	LTR	1.04	76.6	F	LTR	1.10	100.1	F+	L	0.44	33.6	C		
	Int.		64.6	E	Int.		80.4	E	LTR	0.82	41.1	D		
									Int.		37.5	D		

Notes:

L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection
V/C = Volume to Capacity; LOS = Level of Service; + indicates movements with significant impacts in Build condition

Appendix M: Proposed Actions Without Transportation Improvements

Table M-8

Comparison of 2015 No Build, Build, and Mitigated Build Midday Peak Hour Conditions
Signalized Intersection Level-of-Service Analysis

Intersection	2015 No Build Midday Peak Hour				2015 Build Midday Peak Hour				2015 Mitigation Midday Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Twelfth Avenue @ West 133rd Street													
Westbound	LTR	0.6 2	30.5	C	LTR	0.8 2	41.6	D	LTR	0.7 9	38.6	D	Restripe NB as one 16' left turn lane and one 14.1' left-through-right shared lane. Shift 1 second from NS to WB and shift 20 seconds from NS to new NB exclusive signal phase.
Northbound	L	0.7 9	27.2	C	L	0.8 7	35.0	C	L	0.7 4	24.3	C	
Southbound	LTR	0.1 8	10.8	B	LTR	0.2 0	11.1	B	LTR	0.2 5	12.2	B	
	LTR	0.1 2	10.1	B	LTR	0.1 2	10.2	B	LTR	0.2 1	23.5	C	
	Int.		23.2	C	Int.		30.4	C	Int.		27.2	C	
Twelfth Avenue @ West 125th Street													
Eastbound	LTR	0.33	14.1	B	LTR	0.34	14.2	B	LTR	0.29	10.1	B	Restripe WB approach to provide 2 LTR & 1 R. Shift 7 seconds from NS to EW phase.
Westbound	L	0.16	13.3	B	L	0.14	13.1	B	LTR	0.35	10.7	B	
Northbound	T	0.62	19.9	B	T	0.61	19.6	B	R	0.97	45.8	D	
	R	0.95	46.1	D	R	1.14	103.8	F+	LTR	0.43	27.4	C	
	LTR	0.29	20.1	C	LTR	0.35	20.9	C	LT	0.41	28.1	C	
Southbound	LT	0.23	19.5	B	LT	0.32	21.1	C	Int.		25.0	C	
Int.			26.6	C	Int.		45.8	D					
Broadway @ West 125th Street													
Eastbound	L	0.56	37.1	D	L	0.65	47.1	D+	L	0.50	34.7	C	Daylight SB, EB and WB approaches. Restripe EB from 1 L & 2 TR to 1 L, 2 T & 1 R. Restripe WB from 1 L & 2 TR to 1 L, 2 T & 1 R. Restripe SB from 1 L & 2 LTR to 1 L & 3 LTR. Transfer 1 second from EW phase to SB only phase and transfer 1 second from EW phase to NB only phase.
	TR	0.87	39.7	D	TR	0.90	42.9	D	T	0.59	28.3	C	
Westbound	L	0.81	77.6	E	L	0.85	86.0	F+	R	0.74	44.3	D	
	TR	0.73	31.6	C	TR	0.87	40.7	D	L	0.65	50.3	D	
Northbound	L	0.40	31.6	C	L	0.43	32.3	C	T	0.56	27.8	C	
	LT	0.47	31.5	C	LT	0.49	31.9	C	R	0.73	43.8	D	
Southbound	R	0.68	49.5	D	R	0.78	62.4	E+	L	0.41	31.0	C	
	L	0.35	30.4	C	L	0.42	31.7	C	R	0.68	49.3	D	
	LTR	0.79	40.9	D	LTR	0.87	47.7	D+	L	0.40	30.5	C	
Int.		37.7	D	Int.		42.9	D	LTR	0.57	31.5	C		
Int.								Int.		33.1	C		
Notes: L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection V/C = Volume to Capacity; LOS = Level of Service; + indicates movements with significant impacts in Build condition													

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Table M-9
Comparison of 2015 No Build, Build, and Mitigated Build PM Peak Hour Conditions
Signalized Intersection Level-of-Service Analysis

Intersection	2015 No Build PM Peak Hour				2015 Build PM Peak Hour				2015 Mitigation PM Peak Hour				Changes
	Lane Group	Delay V/C	Delay (spv)	LOS	Lane Group	Delay V/C	Delay (spv)	LOS	Lane Group	Delay V/C	Delay (spv)	LOS	
Twelfth Avenue @ West 133rd Street													Restripe NB as one 16' left turn lane and one 14.1' left-through-right shared lane. Shift 23 seconds from NS to new NB exclusive signal phase. Daylight WB approach.
Westbound	LTR	1.30	177.1	F	LTR	1.53	278.3	F+	LTR	1.14	108.3	F	
Northbound	L	0.94	44.2	D	L	1.07	79.9	E+	L	0.92	41.7	D	
Southbound	LTR	0.71	21.6	C	LTR	0.82	28.4	C	LTR	0.90	37.8	D	
	Int.	0.10	10.0	B	Int.	0.11	10.1	B	Int.	0.21	24.9	C	
			81.7	F			134.9	F			64.1	E	
Twelfth Avenue @ West 125th Street													Restripe WB approach to provide 2 LTR & 1 R
Eastbound	LTR	0.40	15.1	B	LTR	0.42	15.2	B	LTR	0.40	15.0	B	
Westbound	L	0.27	15.3	B	L	0.20	14.1	B	LTR	0.72	21.5	C	
	T	0.85	30.6	C	T	0.80	27.5	C					
Northbound	R	1.14	100.5	F	R	1.36	195.3	F+	R	1.09	84.3	F	
	LTR	0.42	22.2	C	LTR	0.49	23.4	C	LTR	0.49	23.4	C	
Southbound	LT	0.34	21.8	C	LT	0.63	32.2	C	LT	0.63	32.2	C	
	Int.		49.8	D	Int.		83.3	F	Int.		38.8	D	
Broadway NB @ West 133rd Street													Transfer 1 second from NB phase to EW phase.
Eastbound	LT	0.23	17.8	B	LT	0.32	19.5	B	LT	0.30	18.3	B	
Westbound	TR	0.86	40.9	D	TR	0.94	52.5	D+	TR	0.80	33.7	C	
Northbound	LT	0.78	18.9	B	LT	0.87	24.0	C	LT	0.89	26.6	C	
	R	0.07	9.2	A	R	0.33	14.0	B	R	0.35	15.1	B	
	Int.		25.3	C	Int.		31.3	C	Int.		27.5	C	
Broadway @ West 125th Street													<u>Daylight SB, EB and WB approaches.</u> <u>Restripe EB from 1 L & 2 TR to 1 L, 2 T & 1 R.</u> <u>Restripe WB from 1 L & 2 TR to 1 L, 2 T & 1 R.</u> <u>Restripe SB from 1 L & 2 LTR to 1 L & 3 LTR.</u> <u>Transfer 2 seconds from SB only phase to NB only phase.</u>
Eastbound	L	0.55	45.1	D	L	0.57	50.8	D±	L	0.38	31.1	C	
	TR	1.08	84.9	E	TR	1.13	101.4	E+	T	0.68	29.2	C	
Westbound	L	1.04	140.8	E	L	1.04	140.8	E	R	0.87	55.6	E	
	TR	0.92	44.9	D	TR	1.05	75.6	E+	L	0.74	61.3	E	
Northbound	L	0.60	36.7	D	L	0.63	38.1	D	T	0.68	29.0	C	
	LT	0.91	50.5	D	LT	0.92	52.4	D	R	0.71	39.9	D	
Southbound	R	0.61	43.4	D	R	0.74	56.3	E+	L	0.58	34.4	C	
	L	0.36	30.1	C	L	0.43	31.3	C	R	0.62	42.2	D	
	LTR	0.86	45.9	D	LTR	0.98	64.0	E+	L	0.47	33.8	C	
	Int.		56.9	E	Int.		71.5	E	LTR	0.73	37.9	D	
								Int.		37.3	D		

Notes:

L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection
V/C = Volume to Capacity; LOS = Level of Service; + indicates movements with significant impacts in Build condition

Appendix M: Proposed Actions Without Transportation Improvements

Table M-10
Comparison of 2015 No Build, Build, and Mitigated Build AM Peak Hour Conditions
Unsignalized Intersection Level-of-Service Analysis

Intersection	2015 No Build AM Peak Hour				2015 Build AM Peak Hour				2015 Mitigation AM Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Marginal Street @ West 133rd Street													
Westbound	L	0.20	10.6	B	L	0.19	10.6	B	L	0.41	31.1	C	Change Intersection Control from Unsignalized to Signalized
	T	1.15	101.8	F	T	1.23	131.8	F+	T	0.93	30.1	C	
Southbound	Int.				Int.				Int.		30.2	C	
Marginal Street @ West 132nd Street													
Westbound	L	-	9.7	A	L	-	9.9	A	L	0.10	21.1	C	
	LT	-	82.1	F	LT	-	116.2	F+	LT	0.78	19.5	B	
Southbound	T	-	8.2	A	T	-	8.3	A					
	Int.		68.3	F	Int.		95.7	F	Int.		19.6	B	
Marginal Street @ St. Clair Place													
Southbound	L	0.18	9.9	A	L	0.19	9.9	A	L	0.10	9.6	A	Change Intersection Control from Unsignalized to Signalized
	T	0.94	42.4	E	T	0.95	44.1	E	LT	0.47	12.9	B	
	Int.				Int.				Int.		12.6	B	
Twelfth Avenue @ West 131st Street													
Northbound	LT	0.01	7.8	A	LT	0.01	7.9	A	LTR	0.58	15.4	B	Change Intersection Control from Unsignalized to Signalized
	Southbound	LT	0.15	10.8	B	LR	0.12	10.8	B	LTR	0.34	12.4	
Westbound	LTR	0.33	30.3	D	LTR	0.74	78.8	F+	LTR	0.24	22.4	C	
	Eastbound	LTR	0.02	16.4	C	LTR	0.02	16.6	C	LTR	0.01	19.5	
	Int.				Int.				Int.		15.2	B	
Twelfth Avenue @ St. Clair Place													
Eastbound	T	-	10.0	A	T	-	10.2	B	T	0.27	23.1	C	Change Intersection Control from Unsignalized to Signalized
	Northbound	R	-	14.7	B	R	-	16.2	C	R	0.87	40.9	
Southbound	L	-	9.1	A	L	-	9.2	A	L	0.08	32.4	C	
	Int.		13.6	B	Int.		14.8	B	Int.		37.0	D	
Riverside Drive @ St. Clair Place													
Eastbound	LTR	0.13	7.8	A	LTR	0.18	7.9	A	LTR	0.68	9.7	A	
	Southbound	LT	0.42	34.2	D	LT	0.55	49.2	E+	LT	0.37	35.5	D
	T	0.39	32.5	D	T	0.50	45.2	E+					
	Int.				Int.				Int.		14.0	B	
West 125th Street @ West 129th Street/St. Clair Place*													
Westbound	L	0.17	128.0	F	L	2.00	2493	F±	L	0.01	14.0	B	Change Intersection Control from Unsignalized to Signalized
	R	0.83	47.4	E	R	5.77	2301	F±	R	0.45	19.5	B	
Eastbound	L	0.02	92.8	F	L	---	---	F±	L	0.00	13.9	B	
	R	0.68	22.1	C	R	0.68	23.5	C	R	0.71	27.8	C	
Northbound	T	---	---	---	T	---	---	---	T	0.76	25.3	C	
	Southbound	T	---	---	T	---	---	---	T	0.31	16.8	B	
	Int.				Int.				Int.		23.2	C	
Notes:													
L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection													
V/C = Volume to Capacity; LOS = Level of Service; --- = No results given in HCS; + indicates movements with significant impacts in Build condition;													
* = The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions, where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.													

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Table M-11

**Comparison of 2015 No Build, Build, and Mitigated Build Midday Peak Hour Conditions
Unsignalized Intersection Level-of-Service Analysis**

Intersection	2015 No Build Midday Peak Hour				2015 Build Midday Peak Hour				2015 Mitigation Midday Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Marginal Street @ West 133rd Street													
Westbound	L	0.16	10.3	B	L	0.15	10.2	B	L	0.31	29.2	C	Change Intersection Control from Unsignalized to Signalized
Southbound	T	0.96	45.2	E	T	1.02	60.6	F+	T	0.68	13.6	B	
	Int.								Int.		15.6	B	
Marginal Street @ West 132nd Street													
Westbound	L	-	9.6	A	L	-	9.7	A	L	0.10	21.2	C	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	-	20.1	C	LT	-	24.7	C	LT	0.62	15.3	B	
	T	-	8.3	A	T	-	8.4	A					
	Int.		17.0	C	Int.		20.5	C	Int.		15.6	B	
Marginal Street @ St. Clair Place													
Southbound	L	0.22	10.1	B	L	0.23	10.2	B	L	0.24	10.9	B	Change Intersection Control from Unsignalized to Signalized
	T	0.86	30.4	D	T	0.90	35.1	E+	LT	0.40	12.1	B	
	Int.								Int.		11.8	B	
Twelfth Avenue @ West 131st Street													
Northbound	LT	0.02	7.5	A	LT	0.03	7.6	A	LTR	0.56	15.0	B	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	0.05	10.0	A	LR	0.04	10.0	A	LTR	0.13	10.2	B	
Westbound	LTR	0.26	24.6	C	LTR	0.70	67.0	F+	LTR	0.28	23.1	C	
Eastbound	LTR	0.19	14.5	B	LTR	0.21	15.3	C	LTR	0.18	21.3	C	
	Int.								Int.		15.6	B	
Twelfth Avenue @ St. Clair Place													
Eastbound	T	-	10.4	B	T	-	10.7	B	T	0.33	23.9	C	Change Intersection Control from Unsignalized to Signalized
Northbound	R	-	14.5	B	R	-	15.8	C	R	0.81	36.5	D	
Southbound	L	-	8.8	A	L	-	8.9	A	L	0.07	32.1	C	
	Int.		13.4	B	Int.		14.5	B	Int.		33.3	C	
Riverside Drive @ St. Clair Place													
Eastbound	LTR	0.13	7.7	A	LTR	0.15	7.8	A	LTR	0.70	10.3	B	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	0.37	31.9	D	LT	0.41	37.7	E+	LT	0.28	34.3	C	
	T	0.29	28.5	D	T	0.33	34.2	D+					
	Int.								Int.		13.5	B	
West 125th Street @ West 129th Street/St. Clair Place*													
Westbound	L	0.08	67.0	F	L	5.00	7490	F+	L	0.01	10.8	B	Change Intersection Control from Unsignalized to Signalized
	R	0.76	32.2	D	R	20.6	9249	F+	R	0.48	16.4	B	
Eastbound	L	0.02	61.2	F	L	---	---	F+	L	0.00	10.8	B	
	R	0.61	19.7	C	R	0.68	24.7	C	R	0.88	42.6	D	
Northbound	T	---	---	---	T	---	---	---	T	0.69	27.3	C	
Southbound	T	---	---	---	T	---	---	---	T	0.42	21.8	C	
	Int.								Int.		26.9	C	
Notes:													
L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection													
V/C = Volume to Capacity; LOS = Level of Service; --- = No results given in HCS; + indicates movements with significant impacts in Build condition;													
* = The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions, where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.													

Appendix M: Proposed Actions Without Transportation Improvements

**Table M-12
Comparison of 2015 No Build, Build, and Mitigated Build PM Peak Hour Conditions
Unsignalized Intersection Level-of-Service Analysis**

Intersection	2015 No Build PM Peak Hour				2015 Build PM Peak Hour				2015 Mitigation PM Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Marginal Street @ West 133rd Street													
Westbound	L	0.20	10.5	B	L	0.21	10.6	B	L	0.43	31.3	C	Change Intersection Control from Unsignalized to Signalized
Southbound	T	1.15	95.9	F	T	1.20	115.3	F+	T	0.96	33.5	C	
	Int.								Int.		33.2	C	
Marginal Street @ West 132nd Street													
Westbound	L	-	9.9	A	L	-	10.6	B	L	0.19	22.4	C	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	-	70.4	F	LT	-	111.1	F+	LT	0.86	23.5	C	
	T	-	10.0	B	T	-	10.7	B		-	-	-	
	Int.		52.1	F	Int.		78.9	F	Int.		23.5	C	
Marginal Street @ St. Clair Place													
Southbound	L	0.29	10.6	B	L	0.29	10.6	B	L	0.15	10.1	B	Change Intersection Control from Unsignalized to Signalized
	T	1.15	103.2	F	T	1.22	129.0	F+	LT	0.63	15.4	B	
	Int.								Int.		14.8	B	
Twelfth Avenue @ West 131st Street													
Northbound	LT	0.02	7.8	A	LT	0.02	7.9	A	LTR	0.81	21.8	C	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	0.07	11.9	B	LR	0.04	12.0	B	LTR	0.19	10.7	B	
Westbound	LTR	0.86	85.7	F	LTR	1.49	313.7	F+	LTR	0.43	25.6	C	
Eastbound	LTR	0.05	19.2	C	LTR	0.05	20.2	C	LTR	0.03	19.6	B	
									Int.		20.5	C	
Twelfth Avenue @ St. Clair Place													
Eastbound	T	-	11.2	B	T	-	11.5	B	T	0.43	25.5	C	Change Intersection Control from Unsignalized to Signalized
Northbound	R	-	13.0	B	R	-	14.1	B	R	0.72	32.1	C	
Southbound	L	-	8.9	A	L	-	8.9	A	L	0.05	31.9	C	
	Int.		12.3	B	Int.		13.2	B	Int.		29.9	C	
Riverside Drive @ St. Clair Place													
Eastbound	LTR	0.18	7.9	A	LTR	0.21	8.0	A	LTR	0.66	9.4	A	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	0.40	33.6	D	LT	0.36	40.5	E+	LT	0.21	33.4	C	
	T	0.25	32.6	D	T	0.31	40.6	E+		---	---	---	
									Int.		12.1	B	
West 125th Street @ West 129th Street/St. Clair Place*													
Westbound	L	1.75	1242	F	L	---	---	F+	L	0.03	14.2	B	Change Intersection Control from Unsignalized to Signalized
	R	1.94	466.9	F	R	1.59	736.4	F+	R	0.72	26.9	C	
Eastbound	L	---	---	F	L	---	---	F	L	0.01	14.0	B	
	R	0.83	47.2	E	R	0.87	60.4	F+	R	0.59	24.2	C	
Northbound	T	---	---	---	T	---	---	---	T	0.92	35.6	D	
Southbound	T	---	---	---	T	---	---	---	T	0.51	19.3	B	
									Int.		28.5	C	
Notes:													
L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection V/C = Volume to Capacity; LOS = Level of Service; --- = No results given in HCS; + indicates movements with significant impacts in Build condition; * = The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions, where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.													

Twelfth Avenue and West 133rd Street

During the AM peak hour, restriping northbound Twelfth Avenue as one 16-foot left-turn lane and one 14-foot left-through-right shared lane and shifting 1 second of green time from Twelfth Avenue to West 133rd Street would be necessary. In addition, shifting 20 seconds of green time from Twelfth Avenue to create a new signal phase for its northbound approach would be necessary. With these changes, the northbound left-turn lane would improve from LOS F (82.6 seconds of delay, 1.08 v/c ratio) to LOS D (36.5 seconds of delay, 0.88 v/c ratio). The southbound approach would improve within LOS D (47.7 seconds of delay, 0.87 v/c ratio to 43.5 seconds of delay, 0.85 v/c ratio).

During the PM peak hour, restriping northbound Twelfth Avenue as one 16-foot left-turn lane and one 14-foot left-through-right shared lane and daylighting the westbound approach would be

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necessary. In addition, shifting 23 seconds of green time from Twelfth Avenue to create a new signal phase for its northbound approach would be necessary. With these changes, the northbound left-turn lane would improve from LOS E (79.9 seconds of delay, 1.07 v/c ratio) to LOS D (41.7 seconds of delay, 0.92 v/c ratio). The westbound approach would improve within LOS F (from 278.3 seconds of delay, 1.53 v/c ratio to 108.3 seconds of delay, 1.14 v/c ratio).

Twelfth Avenue and West 132nd Street

During the AM peak hour, shifting 2 seconds of green time from Twelfth Avenue to West 132nd Street would improve the eastbound approach within LOS D (from 51.1 seconds of delay, 0.92 v/c ratio to 41.9 seconds of delay, 0.86 v/c ratio).

Twelfth Avenue and West 125th Street

During the AM peak hour, restriping the westbound approach to provide two left-through-right and one right turn lanes would improve the westbound right-turn lane from LOS F (95.0 seconds of delay, 1.11 v/c ratio) to LOS D (38.8 seconds of delay, 0.89 v/c ratio).

During the midday peak hour, restriping the westbound approach to provide two left-through-right and one right turn lanes, and shifting 7 seconds of green time from Twelfth Avenue to West 125th Street would be necessary. With these changes the westbound right-turn lane would improve from LOS F (103.8 seconds of delay, 1.14 v/c ratio) to LOS D (45.8 seconds of delay, 0.97 v/c ratio).

During the PM peak hour, restriping the westbound approach to provide two left-through-right and one right turn lanes would improve the westbound right-turn lane within LOS F (from 195.3 seconds of delay, 1.36 v/c ratio to 84.3 seconds of delay, 1.09 v/c ratio).

Broadway Northbound and West 133rd Street

During the PM peak hour, a transfer of 1 second of green time from Broadway to West 133rd Street would improve the westbound approach from LOS D (52.5 seconds of delay, 0.94 v/c ratio) to LOS C (33.7 seconds of delay, 0.80 v/c ratio).

Broadway and West 125th Street

The recommended mitigation measures at this intersection involve daylighting the southbound, eastbound, and westbound approaches, restriping the southbound approach to provide a third through lane, and restriping the eastbound and westbound approaches to provide exclusive right-turn lanes. In addition, shifting 2 seconds of green time from the southbound only to the northbound only phase during the AM and PM peak hours, and shifting 1 second of green time from the east-west to the northbound only phase during the midday peak hour would be required.

During the AM peak hour, the above would improve the westbound left-turn lane within LOS F (from 206.0 seconds of delay, 1.27 v/c ratio to 95.8 seconds of delay, 0.96 v/c ratio). The westbound through-right lane group would improve from LOS F (99.6 seconds of delay, 1.12 v/c ratio) to LOS C for the through lanes (29.5 seconds of delay, 0.69 v/c ratio) and LOS D for the right-turn lane (52.6 seconds of delay, 0.85 v/c ratio). The northbound right-turn lane would improve within LOS D (from 52.0 seconds of delay, 0.70 v/c ratio to 43.5 seconds of delay, 0.63 v/c ratio) and the southbound left-through-right lane group would improve from LOS F (100.1 seconds of delay, 1.10 v/c ratio) to LOS D (41.1 seconds of delay and 0.82 v/c ratio).

During the midday peak hour, the above would improve the eastbound left-turn lane from LOS D (47.1 seconds of delay, 0.65 v/c ratio) to LOS C (34.7 seconds of delay, 0.50 v/c ratio). The

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westbound left-turn lane would improve from LOS F (86.0 seconds of delay, 0.85 v/c ratio) to LOS D (50.3 seconds of delay, 0.65 v/c ratio). The northbound right-turn lane would improve from LOS E (62.4 seconds of delay, 0.78 v/c ratio) to LOS D (49.3 seconds of delay, 0.68 v/c ratio) and the southbound left-through-right lane group would improve from LOS D (47.7 seconds of delay, 0.87 v/c ratio) to LOS C (31.5 seconds of delay and 0.57 v/c ratio).

During the PM peak hour, the above would improve the eastbound left-turn lane from LOS D (50.8 seconds of delay, 0.57 v/c ratio) to LOS C (31.1 seconds of delay, 0.38 v/c ratio). The eastbound through-right lane group would improve from LOS F (101.4 seconds of delay, 1.13 v/c ratio) to LOS C for the through lanes (29.2 seconds of delay, 0.68 v/c ratio) and LOS E for the right-turn lane (55.6 seconds of delay, 0.87 v/c ratio). The westbound through-right lane group would improve from LOS E (75.6 seconds of delay, 1.05 v/c ratio) to LOS C for the through lanes (29.0 seconds of delay, 0.68 v/c ratio) and LOS D for the right-turn lane (39.9 seconds of delay, 0.71 v/c ratio). The northbound right-turn lane would improve from LOS E (56.3 seconds of delay, 0.74 v/c ratio) to LOS D (42.2 seconds of delay, 0.62 v/c ratio) and the southbound left-through-right lane group would improve from LOS E (64.0 seconds of delay, 0.98 v/c ratio) to LOS D (37.9 seconds of delay and 0.73 v/c ratio).

By signaling the intersections listed below, the projected significant adverse impacts at these unsignalized intersections would be fully mitigated, with all movements operating at acceptable levels of service.

- Marginal Street and West 133rd Street
- Marginal Street and West 132nd Street
- Marginal Street and St. Clair Place
- Twelfth Avenue and West 131st Street
- Twelfth Avenue and St. Clair Place
- Riverside Drive and St. Clair Place
- West 125th and West 129th Street/St. Clair Place

2030 MITIGATION

All of the 11 intersections during the AM peak hour, 9 intersections during the midday peak hour, and 11 intersections during the PM peak hour identified in significant adverse traffic impacts with the Proposed Actions without proposed project improvements could be fully mitigated with standard traffic engineering measures. In the DEIS, the significant adverse impacts identified for the Broadway and West 125th Street intersection were disclosed as unmitigatable absent the full range of transportation improvements assumed for the Proposed Actions. These improvements include the redirection of existing and future traffic in combination with a physical reconfiguration of the Broadway and West 125th Street intersection, which would be possible with the conversion of West 131st, West 132nd, and West 133rd Streets between Broadway and Twelfth Avenue from two-way to one-way operation, as described in Chapter 17 for the future Build condition with proposed project improvements. However, since the publication of the DEIS, a further examination of alternative operational options revealed that there would be measures that could be applied to fully mitigate the projected significant adverse impacts at this intersection. These and other recommended measures to mitigate impacts at all Project Area intersections are described below and summarized in Tables M-13 to M-18.

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Table M-13

**Comparison of 2030 No Build, Build, and Mitigated Build AM Peak Hour Conditions
Signalized Intersection Level-of-Service Analysis**

Intersection	2030 No Build AM Peak Hour				2030 Build AM Peak Hour				2030 Mitigation AM Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Twelfth Avenue @ West 133rd Street													
Westbound	LTR	0.80	40.5	D	LTR	1.04	81.1	F+	LTR	0.49	25.0	C	Daylighting WB approach. Shift centerline to create 2 10-foot WB LTR lanes. Restripe NB as one 16' left turn lane and one 14.1' left-through-right shared lane.
	L	1.11	94.3	F	L	1.25	149.5	F+	L	1.04	66.2	E	
Southbound	LTR	0.21	11.2	B	LTR	0.41	13.7	B	LTR	0.44	14.2	B	
	LTR	0.16	10.5	B	LTR	0.16	10.5	B	LTR	0.16	10.5	B	
	Int.		55.4	E	Int.		85.1	F	Int.		36.9	D	
Twelfth Avenue @ West 132nd Street													
Eastbound	LTR	0.81	39.0	D	LTR	1.41	225.1	F+	LTR	0.86	38.5	D	Shift centerline 6' to north side and restripe EB to provide 2 LTR with 10' each
Westbound	LTR	0.12	20.8	C	LTR	0.19	21.5	C	LTR	0.19	21.5	C	
Northbound	LTR	0.52	14.4	B	LTR	0.64	16.5	B	LTR	0.63	16.4	B	
Southbound	LTR	0.14	10.4	B	LTR	0.27	11.7	B	LTR	0.27	11.6	B	
	Int.		21.7	C	Int.		91.8	F	Int.		24.0	C	
Twelfth Avenue @ West 125th Street													
Eastbound	LTR	<u>0.27</u>	<u>13.5</u>	B	LTR	<u>0.28</u>	<u>13.6</u>	B	LTR	<u>0.27</u>	<u>11.9</u>	B	Restripe WB to provide 1L, 2TR, 1R. Transfer 3 seconds from NS phase to EW phase.
Westbound	L	<u>0.16</u>	<u>13.3</u>	B	L	<u>0.17</u>	<u>13.5</u>	B	L	<u>0.16</u>	<u>11.7</u>	B	
	T	<u>0.78</u>	<u>26.1</u>	C	T	<u>0.78</u>	<u>25.9</u>	C	TR	<u>0.60</u>	<u>16.2</u>	B	
	R	1.03	68.0	E	R	1.44	229.0	F+	R	1.02	64.4	E	
Northbound	LTR	0.34	20.8	C	LTR	0.57	25.3	C	LTR	0.63	29.1	C	
Southbound	LT	0.42	22.9	C	LT	<u>0.47</u>	<u>24.5</u>	C	LT	<u>0.53</u>	<u>28.4</u>	C	
	Int.		35.4	D	Int.		92.2	F	Int.		29.7	C	
Broadway @ West 125th Street													
Eastbound	L	<u>1.76</u>	<u>415.5</u>	E	L	<u>1.42</u>	<u>278.7</u>	E	L	<u>1.42</u>	<u>280.7</u>	E	Daylight SB, EB and WB approaches. Restripe SB from 1L & 2 LTR to 1L & 3 LTR. Shift centerline 2'-9" to north side and restripe EB approach from 1L & 2 TR to 1L, 2 T & 1 R. Restripe WB from 1L & 2 TR to 1L, 2 T & 1 R. Restrict parking on WB receiving leg. Transfer 4 seconds from EW phase to NB only phase. Transfer 2 seconds from SB only phase to NB only phase. Modify signal phasing to allow for EB right-turn movement during NB only phase and allow for WB right-turn movement during SB only phase.
	TR	<u>0.89</u>	<u>42.5</u>	D	TR	<u>1.04</u>	<u>74.2</u>	E+	TR	<u>0.57</u>	<u>29.3</u>	C	
Westbound	L	<u>1.35</u>	<u>235.1</u>	E	L	<u>1.60</u>	<u>343.3</u>	F+	L	<u>1.23</u>	<u>186.2</u>	F	
	TR	<u>1.05</u>	<u>74.0</u>	E	TR	<u>1.38</u>	<u>208.3</u>	F+	TR	<u>0.64</u>	<u>16.1</u>	B	
Northbound	L	<u>0.50</u>	<u>33.5</u>	C	L	<u>0.58</u>	<u>36.0</u>	D	L	<u>0.46</u>	<u>27.8</u>	C	
	LT	<u>0.52</u>	<u>32.2</u>	C	LT	<u>0.56</u>	<u>33.2</u>	C	LT	<u>0.46</u>	<u>26.7</u>	C	
Southbound	R	<u>0.67</u>	<u>47.7</u>	D	R	<u>1.02</u>	<u>116.5</u>	F+	R	<u>0.68</u>	<u>43.4</u>	D	
	L	<u>0.40</u>	<u>31.1</u>	C	L	<u>0.47</u>	<u>32.5</u>	C	L	<u>0.52</u>	<u>35.4</u>	D	
	LTR	<u>1.11</u>	<u>101.4</u>	E	LTR	<u>1.23</u>	<u>151.2</u>	E+	LTR	<u>0.92</u>	<u>49.1</u>	D	
	Int.		85.1	E	Int.		138.3	E	Int.		51.1	D	

Notes:

L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection
V/C = Volume to Capacity; LOS = Level of Service; + indicates movements with significant impacts in Build condition

Appendix M: Proposed Actions Without Transportation Improvements

Table M-14

Comparison of 2030 No Build, Build, and Mitigated Build Midday Peak Hour Conditions
Signalized Intersection Level-of-Service Analysis

Intersection	2030 No Build Midday Peak Hour				2030 Build Midday Peak Hour				2030 Mitigation Midday Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Twelfth Avenue @ West 133rd Street													
Westbound	LTR	0.65	31.6	C	LTR	0.91	51.9	D+	LTR	0.43	24.0	C	Daylighting WB approach. Shift centerline to create 2 10-foot WB LTR lanes. Restripe NB as one 16' left turn lane and one 14.1' left-through-right shared lane.
Northbound	L	0.85	32.8	C	L	0.96	49.7	D	L	0.79	26.1	C	
	LTR	0.20	11.0	B	LTR	0.24	11.4	B	LTR	0.25	11.6	B	
Southbound	LTR	0.12	10.2	B	LTR	0.13	10.2	B	LTR	0.13	10.2	B	
	Int.		25.9	C	Int.		39.6	D	Int.		21.2	C	
Twelfth Avenue @ West 132nd Street													
Eastbound	LTR	0.43	25.2	C	LTR	0.53	27.4	C	LTR	0.32	22.7	C	Shift centerline 6' to north side and restripe EB to provide 2 LTR with 10' each
Westbound	LTR	0.09	20.4	C	LTR	0.15	21.0	C	LTR	0.15	21.0	C	
Northbound	LTR	0.45	13.3	B	DefL	0.51	14.2	B	LTR	0.51	14.2	B	
					TR	0.29	14.7	B					
Southbound	LTR	0.08	9.9	A	LTR	0.15	10.6	B	DefL	0.29	14.5	B	
	Int.		15.9	B	Int.		17.3	B	TR	0.15	10.6	B	
									Int.		16.2	B	
Twelfth Avenue @ West 125th Street													
Eastbound	LTR	0.37	14.5	B	LTR	0.37	14.6	B	LTR	0.28	6.9	A	Restripe WB to provide 1L, 2TR, 1R. Transfer 14 seconds from NS phase to EW phase.
Westbound	L	0.18	13.6	B	L	0.16	13.4	B	L	0.12	6.3	A	
	T	0.66	21.2	C	T	0.66	21.2	C	TR	0.27	6.8	A	
	R	1.01	61.4	E	R	1.28	161.6	F+	R	1.04	59.3	E	
Northbound	LTR	0.31	20.4	C	LTR	0.38	21.5	C	LTR	0.64	39.1	D	
Southbound	LT	0.25	19.9	B	LT	0.28	20.4	C	LT	0.54	38.9	D	
	Int.		31.9	C	Int.		66.8	F	Int.		30.0	C	
Broadway @ West 125th Street													
Eastbound	L	0.64	43.8	D	L	0.85	80.7	F+	L	0.56	38.3	D	Daylight SB, EB and WB approaches. Restripe SB from 1 L & 2 LTR to 1 L & 3 LTR. Shift centerline 2'-9" to north side and restripe EB approach from 1 L & 2 TR to 1 L, 2 T & 1 R. Restripe WB from 1 L & 2 TR to 1 L, 2 T & 1 R. Restrict parking on WB receiving leg. Transfer 2 seconds from EW phase to NB only phase. Modify signal phasing to allow for EB right-turn movement during NB only phase and allow for WB right-turn movement during SB only phase.
	TR	1.04	73.3	E	TR	1.14	108.8	F+	T	0.53	27.1	C	
									R	0.77	23.5	C	
Westbound	L	1.02	136.4	F	L	1.04	140.8	F+	L	0.65	48.8	D	
	TR	0.78	33.5	C	TR	1.01	63.6	E+	T	0.64	29.6	C	
									R	0.48	12.8	B	
Northbound	L	0.43	32.3	C	L	0.48	33.5	C	L	0.44	30.9	C	
	LT	0.51	32.2	C	LT	0.55	33.1	C	LT	0.52	31.0	C	
	R	0.73	54.4	D	R	0.90	81.9	F+	R	0.74	53.4	D	
Southbound	L	0.37	30.7	C	L	0.48	32.9	C	L	0.48	32.9	C	
	LTR	0.85	44.9	D	LTR	1.02	73.1	E+	LTR	0.69	35.0	C	
	Int.		50.3	D	Int.		73.3	E	Int.		30.7	C	

Notes:

L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection

V/C = Volume to Capacity; LOS = Level of Service; + indicates movements with significant impacts in Build condition

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Table M-15

**Comparison of 2030 No Build, Build, and Mitigated Build PM Peak Hour Conditions
Signalized Intersection Level-of-Service Analysis**

Intersection	2030 No Build PM Peak Hour				2030 Build PM Peak Hour				2030 Mitigation PM Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Twelfth Avenue @ West 133rd Street													
Westbound Northbound	LTR	1.36	206.1	F	LTR	1.78	390.9	F+	LTR	1.01	64.2	E	Daylighting WB approach. Shift centerline to create 2 10-foot WB LTR lanes. Restripe NB as one 16' left turn lane and one 14.1' left-through-right shared lane. Shift 5 seconds EW to NS
	L	1.01	60.1	E	L	1.31	173.6	F+	L	0.97	45.0	D	
Southbound	LTR	0.76	24.1	C	LTR	1.00	57.4	E+	LTR	0.96	42.7	D	
	LTR	0.11	10.1	B	LTR	0.11	10.1	B	LTR	0.10	7.8	A	
Int.		96.8	F	Int.		211.3	F	Int.		48.9	D		
Twelfth Avenue @ West 132nd Street													
Eastbound	LTR	0.63	29.9	C	LTR	0.74	34.7	C	LTR	0.46	24.7	C	Shift centerline 6' to north side and restripe EB to provide 2 LTR with 10' each
Westbound	LTR	0.12	20.7	C	LTR	0.45	25.8	C	LTR	0.45	25.8	C	
Northbound	LTR	0.74	19.1	B	LTR	<u>0.85</u>	<u>23.5</u>	C	LTR	<u>0.84</u>	<u>22.9</u>	C	
Southbound	LTR	0.06	9.8	A	LTR	0.13	10.3	B	LTR	0.13	10.3	B	
Int.		21.1	C	Int.		25.2	C	Int.		22.7	C		
Twelfth Avenue @ West 125th Street													
Eastbound	LTR	<u>0.45</u>	<u>15.8</u>	B	LTR	<u>0.51</u>	<u>16.7</u>	B	LTR	<u>0.48</u>	<u>16.1</u>	B	Restripe WB to provide 1L, 2TR, 1R
Westbound	L	<u>0.30</u>	<u>16.0</u>	B	L	<u>0.24</u>	<u>14.9</u>	B	L	<u>0.24</u>	<u>14.9</u>	B	
	T	<u>0.89</u>	<u>35.1</u>	D	T	<u>0.93</u>	<u>40.3</u>	D	TR	<u>0.77</u>	<u>22.7</u>	C	
Northbound	R	1.23	135.7	F	R	1.49	250.0	F+	R	1.14	103.3	F	
	LTR	0.45	22.7	C	LTR	0.52	24.0	C	LTR	0.52	24.0	C	
Southbound	LT	0.39	22.8	C	LT	0.56	29.3	C	LT	0.56	29.3	C	
Int.		63.7	E	Int.		105.4	F	Int.		41.3	D		
Broadway NB @ West 133rd Street													
Eastbound	LT	0.26	18.3	B	LT	0.61	28.3	C	LT	0.54	23.1	C	Shift 2 second from NB to EW. Restrict NB parking access
Westbound	TR	0.93	50.9	D	TR	0.97	60.0	E+	TR	0.92	47.4	D	
Northbound	LT	0.83	21.1	C	LT	0.99	40.4	D	LT	0.97	37.7	D	
	R	0.06	9.1	A	R	0.37	15.9	B	R	0.40	18.7	B	
Int.		29.6	C	Int.		43.3	D	Int.		38.0	D		
Broadway @ West 130th Street													
Eastbound	LR	0.34	27.0	C	LR	1.50	268.3	F+	L	0.44	29.2	C	Daylight and restripe EB approach to provide 1L, 1LR shared and 1R.
Northbound	LT	0.35	6.2	A	LT	0.39	6.4	A	LT	0.39	6.4	A	
	LT	0.35	6.2	A	LT	0.38	6.4	A	LT	0.38	6.4	A	
Southbound	Int.		7.7	A	Int.		69.2	E	Int.		12.6	B	
Broadway @ West 125th Street													
Eastbound	L	<u>0.41</u>	<u>31.2</u>	<u>C</u>	L	<u>0.44</u>	<u>34.4</u>	<u>C</u>	L	<u>0.52</u>	<u>44.6</u>	<u>D</u>	Daylight SB, EB and WB approaches. Restripe SB from 1 L & 2 LTR to 1 L & 3 LTR. Shift centerline 2'-9" to north side and restripe EB approach from 1 L & 2 TR to 1 L, 2 T & 1 R. Restripe WB from 1 L & 2 TR to 1 L, 2 T & 1 R. Restrict parking on WB receiving leg. Transfer 4 seconds from FW phase to NB only phase. Transfer 2 seconds from SB only phase to NB only phase. Modify signal phasing to allow for EB right-turn movement during NB only phase and allow for WB right-turn movement during SB only phase.
	TR	<u>1.16</u>	<u>112.9</u>	<u>E</u>	TR	<u>1.26</u>	<u>154.9</u>	<u>F+</u>	TR	<u>0.68</u>	<u>31.4</u>	<u>C</u>	
Westbound	L	<u>1.13</u>	<u>167.5</u>	<u>E</u>	L	<u>1.13</u>	<u>167.5</u>	<u>E</u>	L	<u>0.88</u>	<u>30.8</u>	<u>C</u>	
	T	<u>0.65</u>	<u>27.4</u>	<u>C</u>	T	<u>0.70</u>	<u>28.7</u>	<u>C</u>	T	<u>0.83</u>	<u>37.6</u>	<u>D</u>	
Northbound	R	<u>0.60</u>	<u>32.7</u>	<u>C</u>	R	<u>0.98</u>	<u>83.3</u>	<u>F+</u>	R	<u>0.51</u>	<u>15.7</u>	<u>B</u>	
	L	<u>0.64</u>	<u>38.4</u>	<u>D</u>	L	<u>0.74</u>	<u>43.4</u>	<u>D</u>	L	<u>0.54</u>	<u>30.0</u>	<u>C</u>	
Southbound	LT	<u>0.97</u>	<u>62.1</u>	<u>E</u>	LT	<u>1.01</u>	<u>70.7</u>	<u>E+</u>	LT	<u>0.81</u>	<u>37.0</u>	<u>D</u>	
	R	<u>0.67</u>	<u>47.2</u>	<u>D</u>	R	<u>1.02</u>	<u>115.8</u>	<u>F+</u>	R	<u>0.69</u>	<u>44.7</u>	<u>D</u>	
Int.	L	<u>0.39</u>	<u>31.5</u>	<u>C</u>	L	<u>0.66</u>	<u>38.2</u>	<u>D</u>	L	<u>0.71</u>	<u>42.5</u>	<u>D</u>	
	LTR	<u>0.97</u>	<u>62.6</u>	<u>E</u>	LTR	<u>1.19</u>	<u>135.8</u>	<u>F+</u>	LTR	<u>0.92</u>	<u>51.3</u>	<u>D</u>	
Int.		65.5	E	Int.		92.7	E	Int.		38.7	D		
Notes:													
L = Left Turn; T = Through; R = Right Turn; Defl. = Defacto Left Turn; Int. = Intersection V/C = Volume to Capacity; LOS = Level of Service; + indicates movements with significant impacts in Build condition													

Appendix M: Proposed Actions Without Transportation Improvements

**Table M-16
Comparison of 2030 No Build, Build, and Mitigated Build AM Peak Hour Conditions
Unsignalized Intersection Level-of-Service Analysis**

Intersection	2030 No Build AM Peak Hour				2030 Build AM Peak Hour				2030 Mitigation AM Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Marginal Street @ West 133rd Street													
Westbound	L	0.22	10.8	B	L	0.24	10.9	B	L	0.64	42.5	D	Change Intersection Control from Unsignalized to Signalized
Southbound	T	<u>1.20</u>	<u>122.4</u>	F	T	<u>1.54</u>	<u>265.6</u>	F+	T	<u>1.09</u>	<u>70.4</u>	E	
									Int.		<u>66.6</u>	E	
Marginal Street @ West 132nd Street													
Westbound	L	---	<u>9.2</u>	A	L	---	10.1	B	L	0.14	21.6	C	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	---	<u>96.1</u>	F	LT	---	<u>265.8</u>	F+	LT	<u>0.99</u>	<u>39.8</u>	D	
	T	---	<u>8.3</u>	A	T	---	<u>8.5</u>	A		---	---	---	
	Int.		<u>79.5</u>	F	Int.		<u>221.5</u>	F	Int.		<u>39.1</u>	D	
Marginal Street @ St. Clair Place													
Southbound	L	0.20	9.9	A	L	0.23	10.2	B	L	0.12	9.8	A	Change Intersection Control from Unsignalized to Signalized
	T	<u>1.01</u>	<u>55.8</u>	E	T	<u>1.03</u>	<u>62.2</u>	F+	LT	<u>0.52</u>	<u>13.6</u>	B	
									Int.		<u>13.2</u>	B	
Twelfth Avenue @ West 131st Street													
Northbound	LT	0.01	7.8	A	LT	0.01	8.3	A	LTR	0.65	<u>16.8</u>	B	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	0.18	11.8	B	LR	0.15	12.1	B	LTR	<u>0.53</u>	<u>15.0</u>	B	
Westbound	LTR	<u>0.44</u>	<u>40.8</u>	E	LTR	1.33	268.9	F+	LTR	0.34	24.0	C	
Eastbound	LTR	<u>0.03</u>	<u>20.3</u>	C	LTR	0.03	22.8	C	LTR	0.01	19.5	B	
									Int.		<u>16.9</u>	B	
Twelfth Avenue @ St. Clair Place													
Eastbound	T	---	10.4	B	T	---	<u>11.7</u>	B	T	0.36	25.8	C	Change Intersection Control from Unsignalized to Signalized
Northbound	R	---	<u>16.8</u>	C	R	---	<u>30.7</u>	D+	R	0.91	<u>41.7</u>	D	
Southbound	L	---	9.2	A	L	---	9.6	A	L	0.11	34.6	C	
	Int.		<u>15.3</u>	C	Int.		<u>26.2</u>	D	Int.		<u>38.1</u>	D	
Riverside Drive @ St. Clair Place													
Eastbound	LTR	0.14	7.8	A	LTR	0.24	8.1	A	LTR	<u>0.82</u>	<u>13.6</u>	B	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	<u>0.49</u>	<u>41.6</u>	E	LT	<u>1.04</u>	<u>186.0</u>	F+	LT	<u>0.45</u>	<u>38.7</u>	D	
	T	0.46	<u>39.0</u>	E	T	<u>0.96</u>	<u>161.6</u>	F+		---	---	---	
									Int.		<u>17.4</u>	B	
West 125th Street @ West 129th Street/St. Clair Place*													
Westbound	L	<u>0.29</u>	<u>208.0</u>	F	L	---	---	F±	L	0.02	<u>13.5</u>	B	Change Intersection Control from Unsignalized to Signalized
	R	<u>0.96</u>	<u>73.3</u>	F	R	---	---	F±	R	<u>0.48</u>	<u>19.4</u>	B	
Eastbound	L	<u>0.10</u>	<u>401.7</u>	F	L	---	---	-±	L	0.00	<u>13.4</u>	B	
	R	<u>0.75</u>	<u>26.7</u>	D	R	<u>74.5</u>	<u>34,277</u>	F+	R	<u>1.14</u>	<u>113.8</u>	F	
Northbound	T	---	---	---	T	---	---	---	T	<u>0.96</u>	<u>41.8</u>	D	
Southbound	T	---	---	---	T	---	---	---	T	<u>0.32</u>	<u>17.5</u>	B	
									Int.		<u>48.1</u>	D	
Notes:													
L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection													
V/C = Volume to Capacity; LOS = Level of Service; --- = No results given in HCS; + indicates movements with significant impacts in Build condition;													
* = The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions, where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.													

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Table M-17

**Comparison of 2030 No Build, Build, and Mitigated Build Midday Peak Hour Conditions
Unsignalized Intersection Level-of-Service Analysis**

Intersection	2030 No Build Midday Peak Hour				2030 Build Midday Peak Hour				2030 Mitigation Midday Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Marginal Street @ West 133rd Street													
Westbound	L	0.17	10.3	B	L	0.19	10.5	B	L	0.39	30.7	C	Change Intersection Control from Unsignalized to Signalized
Southbound	T	1.02	60.0	F	T	1.09	80.4	F+	T	0.72	14.8	B	
	Int.								Int.		17.1	B	
Marginal Street @ West 132nd Street													
Westbound	L	---	9.7	A	L	---	9.8	A	L	0.13	21.4	C	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	---	23.8	C	LT	---	34.7	D+	LT	0.67	16.4	B	
	T	---	8.4	A	T	---	8.7	A					
	Int.		19.8	C	Int.		27.7	D	Int.		16.7	B	
Marginal Street @ St. Clair Place													
Southbound	L	0.24	10.2	B	L	0.28	10.5	B	L	0.29	11.4	B	Change Intersection Control from Unsignalized to Signalized
	T	0.92	37.7	E	T	0.97	47.4	E+	LT	0.43	12.4	B	
									Int.		12.2	B	
Twelfth Avenue @ West 131st Street													
Northbound	LT	0.03	7.5	A	LT	0.03	7.7	A	LTR	0.65	16.9	B	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	0.06	10.2	B	LR	0.08	15.0	B	LTR	0.14	10.4	B	
Westbound	LTR	0.30	28.2	D	LTR	2.63	917.1	F+	LTR	0.29	23.1	C	
Eastbound	LTR	0.22	15.5	C	LTR	0.42	31.0	D+	LTR	0.20	21.6	C	
									Int.		17.0	B	
Twelfth Avenue @ St. Clair Place													
Eastbound	T	---	10.9	B	T	---	11.9	B	T	0.40	24.9	C	Change Intersection Control from Unsignalized to Signalized
Northbound	R	---	16.9	C	R	---	21.3	C	R	0.89	42.5	D	
Southbound	L	---	9.0	A	L	---	9.2	A	L	0.07	32.2	C	
	Int.		15.3	C	Int.		18.6	C	Int.		37.7	D	
Riverside Drive @ St. Clair Place													
Eastbound	LTR	0.14	7.8	A	LTR	0.17	7.9	A	LTR	0.78	12.6	B	Change Intersection Control from Unsignalized to Signalized
Southbound	LT	0.45	39.4	E	LT	0.55	56.8	F+	LT	0.31	34.6	C	
	T	0.36	34.6	D	T	0.47	50.1	F+	Int.		15.5	B	
West 125th Street @ West 129th Street/St. Clair Place*													
Westbound	L	0.13	96.9	F	L	---	---	F+	L	0.01	10.9	B	Change Intersection Control from Unsignalized to Signalized
	R	0.86	46.1	E	R	---	---	F+	R	0.53	17.6	D	
Eastbound	L	0.03	117.5	F	L	---	---	- +	L	0.00	10.8	B	
	R	0.69	23.5	C	R	1.77	396.4	F+	R	0.86	37.2	B	
Northbound	T	---	---	---	T	---	---	---	T	0.89	38.0	D	
Southbound	T	---	---	---	T	---	---	---	T	0.43	22.1	C	
									Int.		30.6	C	
Notes:													
L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection													
V/C = Volume to Capacity; LOS = Level of Service; --- = No results given in HCS; + indicates movements with significant impacts in Build condition;													
* = The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions, where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.													

Appendix M: Proposed Actions Without Transportation Improvements

**Table M-18
Comparison of 2030 No Build, Build, and Mitigated Build PM Peak Hour Conditions
Unsignalized Intersection Level-of-Service Analysis**

Intersection	2030 No Build PM Peak Hour				2030 Build PM Peak Hour				2030 Mitigation PM Peak Hour				Changes
	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	Lane Group	V/C	Delay (spv)	LOS	
Marginal Street @ West 133rd Street													
Westbound	L	0.21	10.6	B	L	0.26	11.0	B	L	0.53	33.6	C	Change Intersection Control from Unsignalized to Signalized
	T	1.22	125.9	F	T	1.27	145.7	F+	T	1.02	47.8	D	
Southbound	T	1.22	125.9	F	T	1.27	145.7	F+	Int.	1.02	47.8	D	
	Int.	---	---	---	Int.	---	---	---	Int.	---	---	---	
Marginal Street @ West 132nd Street													
Westbound	L	---	10.0	A	L	---	10.8	B	L	0.27	23.7	C	
	LT	---	96.5	F	LT	---	161.8	F+	LT	0.93	30.2	C	
Southbound	T	---	10.5	B	T	---	11.8	B	---	---	---	---	
	Int.	---	70.2	F	Int.	---	111.4	F	Int.	---	29.7	C	
Marginal Street @ St. Clair Place													
Southbound	L	0.31	10.8	B	L	0.34	11.0	B	L	0.18	10.3	B	Change Intersection Control from Unsignalized to Signalized
	T	1.22	128.5	F	T	1.39	199.0	F+	LT	0.72	17.3	B	
Int.	---	---	---	Int.	---	---	---	Int.	---	16.5	B		
Twelfth Avenue @ West 131st Street													
Northbound	LT	0.02	7.8	A	LT	0.03	7.9	A	LTR	0.89	27.4	C	Change Intersection Control from Unsignalized to Signalized
	Southbound	LT	0.07	12.1	B	LR	0.05	12.4	B	LTR	0.19	10.8	
Westbound	LTR	0.94	105.9	F	LTR	1.62	354.8	F+	LTR	0.56	28.5	C	
	Eastbound	LTR	0.05	19.9	C	LTR	0.08	26.4	D	LTR	0.03	19.7	
Int.	---	---	---	Int.	---	---	---	Int.	---	25.2	C		
Twelfth Avenue @ St. Clair Place													
Eastbound	T	---	11.9	B	T	---	12.8	B	T	0.49	26.6	C	Change Intersection Control from Unsignalized to Signalized
	R	---	14.4	B	R	---	16.8	C	R	0.77	34.2	C	
Northbound	L	---	9.0	A	L	---	9.2	A	L	0.06	32.0	C	
	Int.	---	13.5	B	Int.	---	15.3	C	Int.	---	31.6	C	
Riverside Drive @ St. Clair Place													
Eastbound	LTR	0.19	8.0	A	LTR	0.22	8.1	A	LTR	0.72	10.8	B	Change Intersection Control from Unsignalized to Signalized
	Southbound	LT	0.47	41.4	E	LT	0.46	53.8	F+	LT	0.23	33.6	
Int.	---	---	---	Int.	---	---	---	Int.	---	---	---		
Int.	---	---	---	Int.	---	---	---	Int.	---	13.3	B		
West 125th Street @ West 129th Street/St. Clair Place*													
Westbound	L	14.0	12,119	F	L	---	---	-±	L	0.04	15.5	B	Change Intersection Control from Unsignalized to Signalized
	R	2.29	621.2	F	R	---	---	F±	R	0.88	40.2	D	
Eastbound	L	---	---	F	L	---	---	-±	L	0.01	15.1	B	
	R	0.96	74.8	F	R	---	---	-±	R	0.93	58.4	E	
Northbound	T	---	---	---	---	---	---	---	T	0.95	38.9	D	
	Southbound	T	---	---	---	---	---	---	T	0.49	17.8	B	
Int.	---	---	---	Int.	---	---	---	Int.	---	36.3	D		
Notes:													
L = Left Turn; T = Through; R = Right Turn; DefL = Defacto Left Turn; Int. = Intersection V/C = Volume to Capacity; LOS = Level of Service; --- = No results given in HCS; + indicates movements with significant impacts in Build condition; * = The unsignalized intersection analysis procedure, which assumes random arrival, breaks down with high major or minor street volumes and reports exaggerated levels of stop delays. As such, its results are not necessarily indicative of actual conditions, where gaps created by adjacent signalized intersections often provide additional throughput capacity and result in lower stop delays.													

Twelfth Avenue and West 133rd Street

During the AM peak hour, restriping northbound Twelfth Avenue as one 16-foot left-turn lane and one 14-foot left-through-right shared lane would be necessary. In addition, daylighting the West 133rd Street approach and shifting the centerline to provide two 10-foot westbound left-through-right shared lanes would be necessary. With these changes, the northbound left-turn movement would improve from LOS F (149.5 seconds of delay, 1.25 v/c ratio) to LOS E (66.2 seconds of delay, 1.04 v/c ratio). The westbound approach would improve from LOS F (81.1 seconds of delay, 1.04 v/c ratio) to LOS C (25.0 seconds of delay, 0.49 v/c ratio).

During the midday peak hour, restriping northbound Twelfth Avenue as one 16-foot left-turn lane and one 14-foot left-through-right shared lane would be necessary. In addition, daylighting the West 133rd Street approach and shifting the centerline to provide two 10-foot westbound

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left-through-right shared lanes would be necessary. With these changes, the westbound approach would improve from LOS D (51.9 seconds of delay, 0.91 v/c ratio) to LOS C (24.0 seconds of delay, 0.43 v/c ratio).

During the PM peak hour, restriping northbound Twelfth Avenue as one 16-foot left-turn lane and one 14-foot left-through-right shared lane would be necessary. In addition, daylighting the West 133rd Street approach, shifting the westbound centerline to provide two 10-foot westbound left-through-right shared lanes, and shifting 5 seconds of green time from the eastbound/westbound phase to the northbound/southbound phase would be necessary. With these changes, the northbound left-turn movement would improve from LOS F (173.6 seconds of delay, 1.31 v/c ratio) to LOS D (45.0 seconds of delay, 0.97 v/c ratio), and the northbound left-through-right movement would improve from LOS E (57.4 seconds of delay, 1.00 v/c ratio) to LOS D (42.7 seconds of delay, 0.96 v/c ratio). The westbound approach would improve from LOS F (390.9 seconds of delay, 1.78 v/c ratio) to LOS E (64.2 seconds of delay, 1.01 v/c ratio).

Twelfth Avenue and West 132nd Street

During the AM peak hour, shifting the centerline 6 feet to the north and restriping eastbound West 132nd Street to provide two 10-foot left-through-right lanes would be necessary to improve the eastbound approach from LOS F (225.1 seconds of delay, 1.41 v/c ratio) to LOS D (38.5 seconds of delay, 0.86 v/c ratio).

During the MD and PM peak hours, the above restriping would not materially alter the intersection's operating levels.

Twelfth Avenue and West 125th Street

During the AM peak hour, restriping westbound West 125th Street to provide one left-turn lane, two through-right lanes, and one right-turn lane, along with shifting 3 seconds of green time from Twelfth Avenue to West 125th Street would be necessary. With these changes, the westbound right-turn lane would improve from LOS F (229.0 seconds of delay, 1.44 v/c ratio) to LOS E (64.4 seconds of delay, 1.02 v/c ratio).

During the midday peak hour, restriping the westbound West 125th Street approach to provide one left-turn lane, two through-right lanes, and one right-turn lane, as well as shifting 14 seconds of green time from Twelfth Avenue to West 125th Street, would improve the westbound right-turn lane from LOS F (161.6 seconds of delay, 1.28 v/c ratio) to LOS E (59.3 seconds of delay, 1.04 v/c ratio).

During the PM peak hour, restriping the westbound West 125th Street approach to provide one left-turn lane, two through-right lanes, and one right-turn lane would improve the westbound right-turn lane within LOS F (from 250.0 seconds of delay, 1.49 v/c ratio to 103.3 seconds of delay, 1.14 v/c ratio).

Broadway Northbound and West 133rd Street

During the PM peak period, a 2-second shift of green time from northbound Broadway to westbound West 133rd Street, along with restricting parking on the west side of northbound Broadway would be necessary. With these changes, the westbound through-right movement would improve from LOS E (60.0 seconds of delay, 0.97 v/c ratio) to LOS D (47.4 seconds of delay, 0.92 v/c ratio).

Appendix M: Proposed Actions Without Transportation Improvements

Broadway and West 130th Street

During the PM peak hour, daylighting and restriping the eastbound approach of West 130th Street to provide one left-turn lane, one left-right shared lane, and one right-turn lane would improve the eastbound left-right movement from LOS F (268.3 seconds of delay, 1.50 v/c ratio) to a left-turn lane operating at LOS C (29.2 seconds of delay, 0.44 v/c ratio), a left-right lane operating at LOS C (34.2 seconds of delay, 0.64 v/c ratio), and a right-turn lane operating at LOS C (32.0 seconds of delay, 0.48 v/c ratio).

Broadway and West 125th Street

The recommended mitigation measures at this intersection involve daylighting the southbound, eastbound, and westbound approaches, restriping the southbound approach to provide a third through lane, restriping the eastbound and westbound approaches to provide exclusive right-turn lanes, shifting centerline by 2 feet 9 inches along the western leg of the intersection, restricting parking on the westbound receiving leg, and modifying the traffic signal to allow for the eastbound right-turn movement during the northbound only phase and the westbound right-turn movement during the southbound only phase. In addition, shifting 2 seconds of green time from the southbound only and 4 seconds of green time from the east-west to the northbound only phase during the AM and PM peak hours, and shifting 2 seconds of green time from the east-west to the northbound only phase during the midday peak hour would be required.

During the AM peak hour, the above would improve the eastbound through-right lane group from LOS E (74.2 seconds of delay, 1.04 v/c ratio) to LOS C for the through lanes (29.3 seconds of delay, 0.57 v/c ratio) and LOS B for the right-turn lane (16.1 seconds of delay, 0.64 v/c ratio). The westbound left-turn lane would improve within LOS F (from 343.3 seconds of delay, 1.60 v/c ratio to 186.2 seconds of delay, 1.23 v/c ratio). The westbound through-right lane group would improve from LOS F (208.3 seconds of delay, 1.38 v/c ratio) to LOS E for the through lanes (55.2 seconds of delay, 0.97 v/c ratio) and LOS C for the right-turn lane (20.2 seconds of delay, 0.65 v/c ratio). The northbound right-turn lane would improve from LOS F (116.5 seconds of delay, 1.02 v/c ratio) to LOS D (43.4 seconds of delay, 0.68 v/c ratio) and the southbound left-through-right lane group would improve from LOS F (151.2 seconds of delay, 1.23 v/c ratio) to LOS D (49.1 seconds of delay and 0.92 v/c ratio).

During the midday peak hour, the above would improve the eastbound left-turn lane from LOS F (80.7 seconds of delay, 0.85 v/c ratio) to LOS D (38.3 seconds of delay, 0.56 v/c ratio). The eastbound through-right lane group would improve from LOS F (108.8 seconds of delay, 1.14 v/c ratio) to LOS C for the through lanes (27.1 seconds of delay, 0.53 v/c ratio) and LOS C for the right-turn lane (23.5 seconds of delay, 0.77 v/c ratio). The westbound left-turn lane would improve from LOS F (140.8 seconds of delay, 1.04 v/c ratio) to LOS D (48.8 seconds of delay, 0.65 v/c ratio). The westbound through-right lane group would improve from LOS E (63.6 seconds of delay, 1.01 v/c ratio) to LOS C for the through lanes (29.6 seconds of delay, 0.64 v/c ratio) and LOS B for the right-turn lane (12.8 seconds of delay, 0.48 v/c ratio). The northbound right-turn lane would improve from LOS F (81.9 seconds of delay, 0.90 v/c ratio) to LOS D (53.4 seconds of delay, 0.74 v/c ratio) and the southbound left-through-right lane group would improve from LOS E (73.1 seconds of delay, 1.02 v/c ratio) to LOS C (35.0 seconds of delay and 0.69 v/c ratio).

During the PM peak hour, the above would improve the eastbound through-right lane group from LOS F (154.9 seconds of delay, 1.26 v/c ratio) to LOS C for the through lanes (31.4 seconds of delay, 0.68 v/c ratio) and LOS C for the right-turn lane (30.8 seconds of delay, 0.86

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v/c ratio). The westbound right-turn lane would improve from LOS F (83.3 seconds of delay, 0.98 v/c ratio) to LOS B (15.7 seconds of delay, 0.51 v/c ratio). The northbound left-through lanes would improve from LOS E (70.7 seconds of delay, 1.01 v/c ratio) to LOS D (37.0 seconds of delay, 0.81 v/c ratio) and the northbound right-turn lane would improve from LOS F (115.8 seconds of delay, 1.02 v/c ratio) to LOS D (44.7 seconds of delay, 0.69 v/c ratio). The southbound left-through-right lane group would improve from LOS F (135.8 seconds of delay, 1.19 v/c ratio) to LOS D (51.3 seconds of delay and 0.92 v/c ratio).

Signalizing the intersections listed below would fully mitigate the projected significant adverse impacts at each of these intersections.

- Marginal Street and West 133rd Street
- Marginal Street and West 132nd Street
- Marginal Street and St. Clair Place
- Twelfth Avenue and West 131st Street
- Twelfth Avenue and St. Clair Place
- Riverside Drive and St. Clair Place
- West 125th and West 129th Street/St. Clair Place

TRANSIT AND PEDESTRIANS

INTRODUCTION

The future 2015 and 2030 scenarios without the project-related transportation improvements were evaluated to identify the potential impacts on transit and pedestrian facilities in the vicinity of the Project Area. Since the project-related improvements would only affect vehicular and pedestrian circulation, operating conditions at study area transit facilities would not be different from those described in Chapter 18, “Transit and Pedestrians,” and, therefore, are not discussed further. Operating conditions of the affected pedestrian elements are presented below.

For the purpose of the future with the Proposed Actions (Build condition) analysis without the project-related improvements, operating conditions of the affected pedestrian elements were assessed. The key improvements affecting pedestrian circulation that were excluded from this analysis are:

- Installation of a traffic signal and crosswalk at the intersection of West 125th Street and West 129th Street/St. Clair Place. The new traffic signal would include a pedestrian-only phase. This crosswalk would improve pedestrian travel between the Project Area, the 125th Street No. 1 subway station, and the Morningside Heights campus to the south. The crosswalk would connect to the “central spine” of the Manhattanville university area.
- Installation of new traffic signals and crosswalks at midblock locations on West 130th, West 131st, and West 132nd Streets between Broadway and Twelfth Avenue to provide connection among different sections of the pedestrian pathway or “spine” spanning between West 125th/West 129th Street and West 132nd Street.
- Crosswalk widenings throughout the study area.

Appendix M: Proposed Actions Without Transportation Improvements

PRINCIPAL CONCLUSIONS

Analysis results show that no significant pedestrian impacts would be expected to occur with the Proposed Actions in the 2015 Build year, absent the above-described improvements. However, the Proposed Actions, when fully completed in 2030 and absent the project-related transportation improvements, would result in significant adverse pedestrian impacts at the following locations and peak periods:

- The west crosswalk of Broadway and West 125th Street in the AM, midday, and PM peak periods;
- The west crosswalk of Broadway and West 129th Street in the midday and PM peak periods; and,
- The west crosswalk of Broadway and West 130th Street in the midday and PM peak periods.

These significant adverse pedestrian impacts would not occur with the Proposed Actions with project-related improvements. Potential measures to mitigate the significant adverse impacts identified above are presented at the end of this section.

2015 FUTURE WITH THE PROPOSED ACTIONS

The future 2015 Build condition would include the completion of five Columbia University buildings between West 125th and West 131st Streets, in addition to the developments projected for Subdistricts B, C, and the Other Areas. Because the central pedestrian spine between Broadway and Twelfth Avenue from West 125th Street to West 133rd Street would not have been completed at this time, pedestrian circulation patterns under the future conditions with and without project-related improvements would be similar. Based on the criteria discussed in Chapter 18, the Proposed Actions without project-related improvements would not result in significant adverse sidewalk, corner, or crosswalk impacts in the 2015 Build condition, with all analysis locations operating at LOS C or better. Tables M-19, M-20, and M-21 illustrate projected operating levels for study area sidewalks. Service levels for corner reservoirs and crosswalks are presented in Tables M-22 and M-23, respectively.

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Table M-19
2015 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
AM Peak Period							
W.131st St between Twelfth Av and Broadway (near Twelfth)	North	11	28	0.2	A	4.2	A
	South	13	16	0.1	A	4.1	A
Broadway between W.132nd St and W.131st St	West	23	34	0.1	A	4.1	A
	East	23	64	0.2	A	4.2	A
Broadway between W.131st St and W.130th St	West	18	231	0.9	A	4.9	A
	East	17	142	0.6	A	4.6	A
W.131st St between Twelfth Av and Broadway (near Broadway)	North	12	140	0.8	A	4.8	A
	South	8	22	0.2	A	4.2	A
W.130th St between Twelfth Av and Broadway (near Broadway)	North	10	69	0.5	A	4.5	A
	South	15	98	0.4	A	4.4	A
Twelfth Av between W.131st/W.130th St and W.125th St	West	19	10	0.0	A	4.0	A
	East	16	58	0.2	A	4.2	A
W.130th St between Twelfth Av and Broadway (near Twelfth)	North	15	35	0.2	A	4.2	A
	South	13	44	0.2	A	4.2	A
W.125th St between Twelfth Av and W.129th St	North	14	259	1.2	A	5.2	B
	South	14	32	0.2	A	4.2	A
Broadway between W.130th St and W.129th St	West	19	125	0.4	A	4.4	A
	East	15	80	0.4	A	4.4	A
Broadway between W.129th St and W.125th St	West	17	213	0.8	A	4.8	A
	East	13	174	0.9	A	4.9	A
W. 129th St between W. 125th Street and Broadway	North	15	15	0.1	A	4.1	A
	South	15	68	0.3	A	4.3	A
W.125th St between Broadway and Amsterdam Av	North	13	164	0.8	A	4.8	A
	South	7	235	2.2	A	6.2	B
Broadway between W.125th St and Tiemann Pl	East	10	393	2.6	A	6.6	B
	West	10	336	2.2	A	6.2	B
W.125th St between W.129th St and Broadway	South	14	262	1.2	A	5.2	B
	North	13	317	1.6	A	5.6	B

Note: PFM = pedestrians per foot per minute

Appendix M: Proposed Actions Without Transportation Improvements

Table M-20
2015 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Midday Peak Period							
W.131st St between Twelfth Av and Broadway (near Twelfth)	North	11	20	0.1	A	4.1	A
	South	13	12	0.1	A	4.1	A
Broadway between W.132nd St and W.131st St	West	23	30	0.1	A	4.1	A
	East	23	43	0.1	A	4.1	A
Broadway between W.131st St and W.130th St	West	18	213	0.8	A	4.8	A
	East	17	185	0.7	A	4.7	A
W.131st St between Twelfth Av and Broadway (near Broadway)	North	12	88	0.5	A	4.5	A
	South	8	20	0.2	A	4.2	A
W.130th St between Twelfth Av and Broadway (near Broadway)	North	10	105	0.7	A	4.7	A
	South	15	76	0.3	A	4.3	A
Twelfth Av between W.131st/W.130th St and W.125th St	West	19	12	0.0	A	4.0	A
	East	16	86	0.4	A	4.4	A
W.130th St between Twelfth Av and Broadway (near Twelfth)	North	15	12	0.1	A	4.1	A
	South	13	56	0.3	A	4.3	A
W.125th St between Twelfth Av and W.129th St	North	14	357	1.7	A	5.7	B
	South	14	46	0.2	A	4.2	A
Broadway between W.130th St and W.129th St	West	19	90	0.3	A	4.3	A
	East	15	80	0.4	A	4.4	A
Broadway between W.129th St and W.125th St	West	17	177	0.7	A	4.7	A
	East	13	164	0.8	A	4.8	A
W.129th St between W.125th Street and Broadway	North	15	33	0.1	A	4.1	A
	South	15	50	0.2	A	4.2	A
W.125th St between Broadway and Amsterdam Av	North	13	150	0.8	A	4.8	A
	South	7	261	2.5	A	6.5	B
Broadway between W.125th St and Tiemann Pl	East	10	314	2.1	A	6.1	B
	West	10	370	2.5	A	6.5	B
W.125th St between W.129th St and Broadway	South	14	333	1.6	A	5.6	B
	North	13	144	0.7	A	4.7	A

Note: PFM = pedestrians per foot per minute

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Table M-21
2015 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
PM Peak Period							
W.131st St between Twelfth Av and Broadway (near Twelfth)	North	11	27	0.2	A	4.2	A
	South	13	8	0.0	A	4.0	A
Broadway between W.132nd St and W.131st St	West	23	44	0.1	A	4.1	A
	East	23	66	0.2	A	4.2	A
Broadway between W.131st St and W.130th St	West	18	250	0.9	A	4.9	A
	East	17	182	0.7	A	4.7	A
W.131st St between Twelfth Av and Broadway (near Broadway)	North	12	112	0.6	A	4.6	A
	South	8	35	0.3	A	4.3	A
W.130th St between Twelfth Av and Broadway (near Broadway)	North	10	105	0.7	A	4.7	A
	South	15	97	0.4	A	4.4	A
Twelfth Av between W.131st/W.130th St and W.125th St	West	19	20	0.1	A	4.1	A
	East	16	107	0.4	A	4.4	A
W.130th St between Twelfth Av and Broadway (near Twelfth)	North	15	35	0.2	A	4.2	A
	South	13	44	0.2	A	4.2	A
W.125th St between Twelfth Av and W.129th St	North	14	341	1.6	A	5.6	B
	South	14	32	0.2	A	4.2	A
Broadway between W.130th St and W.129th St	West	19	137	0.5	A	4.5	A
	East	15	102	0.5	A	4.5	A
Broadway between W.129th St and W.125th St	West	17	257	1.0	A	5.0	B
	East	13	201	1.0	A	5.0	B
W.129th St between W.125th Street and Broadway	North	15	55	0.2	A	4.2	A
	South	15	44	0.2	A	4.2	A
W.125th St between Broadway and Amsterdam Av	North	13	196	1.0	A	5.0	B
	South	7	317	3.0	A	7.0	C
Broadway between W.125th St and Tiemann Pl	East	10	373	2.5	A	6.5	B
	West	10	439	2.9	A	6.9	B
W.125th St between W.129th St and Broadway	South	14	334	1.6	A	5.6	B
	North	13	138	0.7	A	4.7	A

Note: PFM = pedestrians per foot per minute

Appendix M: Proposed Actions Without Transportation Improvements

Table M-22

2015 Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS
Broadway and W.131st St	Northeast	287.6	A	266.7	A	284.9	A
	Southeast	285.6	A	220.4	A	249.7	A
	Southwest	151.7	A	158.3	A	131.3	A
	Northwest	233.0	A	251.5	A	202.1	A
Broadway and W.130th St	Southwest	208.3	A	197.5	A	182.9	A
	Northwest	289.7	A	274.0	A	255.8	A
Twelfth Av and W.125th St	Northeast	465.3	A	357.9	A	301.0	A
	Southeast	1278.2	A	1499.6	A	979.9	A
	Southwest	1240.2	A	1082.7	A	879.9	A
	Northwest	1156.7	A	1073.6	A	723.3	A
Broadway and W.129th St	Northeast	242.6	A	193.0	A	171.7	A
	Southeast	187.4	A	156.3	A	161.9	A
	Southwest	206.2	A	228.6	A	183.0	A
	Northwest	361.7	A	372.6	A	312.4	A
Broadway and W.125th St	Northeast	105.5	A	81.0	A	82.6	A
	Southeast	78.1	A	69.2	A	74.6	A
	Southwest	108.0	A	116.7	A	117.3	A
	Northwest	105.8	A	98.7	A	89.3	A

Note: SFP = square feet per pedestrian

Table M-23

2015 Build Condition: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles					
				AM		Midday		PM	
				SFP	LOS	SFP	LOS	SFP	LOS
Broadway and W.131st St	North	102	11	292.4	A	274.4	A	235.8	A
	East	52	14	144.7	A	114.8	A	129.0	A
	South	109	11	380.1	A	270.7	A	365.7	A
	West	34	19	119.6	A	130.9	A	102.6	A
Broadway and W.130th St	North	110	11	299.4	A	151.9	A	243.2	A
	South	110	11	256.3	A	153.4	A	208.3	A
	West	29	11	71.0	A	75.0	A	63.5	A
Twelfth Av and W.125th St	North	110	12	642.6	A	607.2	A	403.6	A
	East	70	12	548.6	A	854.1	A	345.5	A
	South	134	11	1209.8	A	1082.4	A	979.6	A
	West	70	12	424.5	A	363.8	A	272.6	A
Broadway and W.129th St	North	110	11	283.2	A	197.0	A	196.3	A
	East	50	15	119.1	A	107.6	A	107.1	A
	South	115	15	292.9	A	173.2	A	208.8	A
	West	30	15	104.0	A	137.0	A	90.7	A
Broadway and W.125th St	North	118	17	97.2	A	61.7	A	85.3	A
	East	70	13	34.2	C	29.2	C	31.0	C
	South	118	14	79.5	A	62.7	A	78.2	A
	West	70	19	36.0	C	41.4	B	33.1	C

Note: SFP = square feet per pedestrian

2030 FUTURE WITH THE PROPOSED ACTIONS

The future 2030 Build condition would include the completion of all Columbia University buildings between West 125th and West 134th Streets, in addition to the developments projected for Subdistricts B, C, and the Other Areas. Under the future conditions without project-related

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improvements, access to the completed buildings would not realize the full benefit of the central pedestrian spine absent the controlled crossings at West 125th and West 129th Street/St. Clair Place, and at the midblock locations along West 130th, West 131st, and West 132nd Streets between Broadway and Twelfth Avenue. Instead, pedestrian flow is expected to be more concentrated along Broadway, particularly at and near West 125th Street. Based on the criteria discussed in Chapter 18, the Proposed Actions without project-related improvements would result in significant adverse pedestrian impacts in the 2030 Build condition at the following locations and peak periods:

- The west crosswalk of Broadway and West 125th Street in the AM, midday, and PM peak periods;
- The west crosswalk of Broadway and West 129th Street in the midday and PM peak periods; and,
- The west crosswalk of Broadway and West 130th Street in the midday and PM peak periods.

These significant adverse pedestrian impacts would not occur with the Proposed Actions with project-related improvements. Tables M-24, M-25, and M-26 illustrate projected operating levels for the study area sidewalks. Service levels for corner reservoirs and crosswalks are presented in Tables M-27 and M-28, respectively.

Appendix M: Proposed Actions Without Transportation Improvements

Table M-24
2030 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
AM Peak Period							
Twelfth Av between W.134th St and W.133rd St	West	18	17	0.1	A	4.1	A
	East	16	24	0.1	A	4.1	A
W.133rd St between Twelfth Av and Broadway (near Twelfth)	North	6	19	0.2	A	4.2	A
	South	11	41	0.2	A	4.2	A
Broadway between W.134th St and W.133rd St	West	25	151	0.4	A	4.4	A
	East	21	364	1.2	A	5.2	B
Broadway between W.133rd St and W.132nd St	West	19	337	1.2	A	5.2	B
	East	22	251	0.8	A	4.8	A
W.133rd St between Twelfth Av and Broadway (near Broadway)	North	16	16	0.1	A	4.1	A
	South	6	70	0.8	A	4.8	A
Twelfth Av between W.133rd St and W.132nd St	West	11	17	0.1	A	4.1	A
	East	12	27	0.2	A	4.2	A
W.132nd St between Twelfth Av and Broadway (near Twelfth)	North	14	132	0.6	A	4.6	A
	South	14	23	0.1	A	4.1	A
W.132nd St between Twelfth Av and Broadway (near Broadway)	North	8	155	1.3	A	5.3	B
	South	9	53	0.4	A	4.4	A
Twelfth Av between W.132nd St and W.131st St	West	16	12	0.1	A	4.1	A
	East	16	124	0.5	A	4.5	A
W.131st St between Twelfth Av and Broadway (near Twelfth)	North	11	113	0.7	A	4.7	A
	South	13	44	0.2	A	4.2	A
Broadway between W.132nd St and W.131st St	West	23	379	1.1	A	5.1	B
	East	23	222	0.6	A	4.6	A
Broadway between W.131st St and W.130th St	West	18	652	2.4	A	6.4	B
	East	17	186	0.7	A	4.7	A
W.131st St between Twelfth Av and Broadway (near Broadway)	North	12	136	0.8	A	4.8	A
	South	8	40	0.3	A	4.3	A
W.130th St between Twelfth Av and Broadway (near Broadway)	North	10	35	0.2	A	4.2	A
	South	15	16	0.1	A	4.1	A
Twelfth Av between W.131st/W.130th St and W.125th St	West	19	10	0.0	A	4.0	A
	East	16	88	0.4	A	4.4	A
W.130th St between Twelfth Av and Broadway (near Twelfth)	North	15	35	0.2	A	4.2	A
	South	13	44	0.2	A	4.2	A
W.125th St between Twelfth Av and W.129th St	North	14	297	1.4	A	5.4	B
	South	14	45	0.2	A	4.2	A
Broadway between W.130th St and W.129th St	West	19	680	2.4	A	6.4	B
	East	15	186	0.8	A	4.8	A
Broadway between W.129th St and W.125th St	West	17	685	2.7	A	6.7	B
	East	13	263	1.3	A	5.3	B
W.129th St between W.125th Street and Broadway	North	15	82	0.4	A	4.4	A
	South	15	11	0.0	A	4.0	A
W.125th St between Broadway and Amsterdam Av	North	13	251	1.3	A	5.3	B
	South	7	265	2.5	A	6.5	B
Broadway between W.125th St and Tiemann Pl	East	10	732	4.9	A	8.9	C
	West	10	415	2.8	A	6.8	B
W.125th St between W.129th St and Broadway	South	14	285	1.4	A	5.4	B
	North	13	302	1.5	A	5.5	B

Note: PFM = pedestrians per foot per minute

Table M-25
2030 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Midday Peak Period							
Twelfth Av between W.134th St and W.133rd St	West	18	34	0.1	A	4.1	A
	East	16	30	0.1	A	4.1	A
W.133rd St between Twelfth Av and Broadway (near Twelfth)	North	6	37	0.4	A	4.4	A
	South	11	29	0.2	A	4.2	A
Broadway between W.134th St and W.133rd St	West	25	115	0.3	A	4.3	A
	East	21	405	1.3	A	5.3	B
Broadway between W.133rd St and W.132nd St	West	19	248	0.9	A	4.9	A
	East	22	283	0.9	A	4.9	A
W. 133rd St between Twelfth Av and Broadway (near Broadway)	North	16	26	0.1	A	4.1	A
	South	6	99	1.1	A	5.1	B
Twelfth Av between W.133rd St and W.132nd St	West	11	25	0.2	A	4.2	A
	East	12	29	0.2	A	4.2	A
W.132nd St between Twelfth Av and Broadway (near Twelfth)	North	14	101	0.5	A	4.5	A
	South	14	15	0.1	A	4.1	A
W.132nd St between Twelfth Av and Broadway (near Broadway)	North	8	99	0.8	A	4.8	A
	South	9	41	0.3	A	4.3	A
Twelfth Av between W.132nd St and W.131st St	West	16	10	0.0	A	4.0	A
	East	16	104	0.4	A	4.4	A
W.131st St between Twelfth Av and Broadway (near Twelfth)	North	11	136	0.8	A	4.8	A
	South	13	66	0.3	A	4.3	A
Broadway between W.132nd St and W.131st St	West	23	438	1.3	A	5.3	B
	East	23	271	0.8	A	4.8	A
Broadway between W.131st St and W.130th St	West	18	705	2.6	A	6.6	B
	East	17	232	0.9	A	4.9	A
W.131st St between Twelfth Av and Broadway (near Broadway)	North	12	155	0.9	A	4.9	A
	South	8	61	0.5	A	4.5	A
W.130th St between Twelfth Av and Broadway (near Broadway)	North	10	32	0.2	A	4.2	A
	South	15	12	0.1	A	4.1	A
Twelfth Av between W.131st/W.130th St and W.125th St	West	19	12	0.0	A	4.0	A
	East	16	168	0.7	A	4.7	A
W.130th St between Twelfth Av and Broadway (near Twelfth)	North	15	12	0.1	A	4.1	A
	South	13	56	0.3	A	4.3	A
W.125th St between Twelfth Av and W.129th St	North	14	333	1.6	A	5.6	B
	South	14	71	0.3	A	4.3	A
Broadway between W.130th St and W.129th St	West	19	754	2.6	A	6.6	B
	East	15	247	1.1	A	5.1	B
Broadway between W.129th St and W.125th St	West	17	675	2.6	A	6.6	B
	East	13	278	1.4	A	5.4	B
W. 129th St between W. 125th Street and Broadway	North	15	71	0.3	A	4.3	A
	South	15	20	0.1	A	4.1	A
W.125th St between Broadway and Amsterdam Av	North	13	294	1.5	A	5.5	B
	South	7	326	3.1	A	7.1	C
Broadway between W.125th St and Tiemann Pl	East	10	564	3.8	A	7.8	C
	West	10	469	3.1	A	7.1	C
W.125th St between W.129th St and Broadway	South	14	281	1.3	A	5.3	B
	North	13	184	0.9	A	4.9	A

Note: PFM = pedestrians per foot per minute

Appendix M: Proposed Actions Without Transportation Improvements

Table M-26
2030 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
PM Peak Period							
Twelfth Av between W.134th St and W.133rd St	West	18	47	0.2	A	4.2	A
	East	16	53	0.2	A	4.2	A
W. 133rd St between Twelfth Av and Broadway (near Twelfth)	North	6	34	0.4	A	4.4	A
	South	11	56	0.3	A	4.3	A
Broadway between W.134th St and W.133rd St	West	25	172	0.5	A	4.5	A
	East	21	444	1.4	A	5.4	B
Broadway between W.133rd St and W.132nd St	West	19	368	1.3	A	5.3	B
	East	22	356	1.1	A	5.1	B
W. 133rd St between Twelfth Av and Broadway (near Broadway)	North	16	29	0.1	A	4.1	A
	South	6	83	0.9	A	4.9	A
Twelfth Av between W.133rd St and W.132nd St	West	11	33	0.2	A	4.2	A
	East	12	39	0.2	A	4.2	A
W.132nd St between Twelfth Av and Broadway (near Twelfth)	North	14	135	0.6	A	4.6	A
	South	14	17	0.1	A	4.1	A
W.132nd St between Twelfth Av and Broadway (near Broadway)	North	8	156	1.3	A	5.3	B
	South	9	51	0.4	A	4.4	A
Twelfth Av between W.132nd St and W.131st St	West	16	16	0.1	A	4.1	A
	East	16	130	0.5	A	4.5	A
W. 131st St between Twelfth Av and Broadway (near Twelfth)	North	11	113	0.7	A	4.7	A
	South	13	36	0.2	A	4.2	A
Broadway between W.132nd St and W.131st St	West	23	417	1.2	A	5.2	B
	East	23	261	0.8	A	4.8	A
Broadway between W.131st St and W.130th St	West	18	683	2.5	A	6.5	B
	East	17	226	0.9	A	4.9	A
W.131st St between Twelfth Av and Broadway (near Broadway)	North	12	137	0.8	A	4.8	A
	South	8	31	0.3	A	4.3	A
W.130th St between Twelfth Av and Broadway (near Broadway)	North	10	37	0.2	A	4.2	A
	South	15	19	0.1	A	4.1	A
Twelfth Av between W.131st/W.130th St and W.125th St	West	19	20	0.1	A	4.1	A
	East	16	144	0.6	A	4.6	A
W.130th St between Twelfth Av and Broadway (near Twelfth)	North	15	35	0.2	A	4.2	A
	South	13	44	0.2	A	4.2	A
W.125th St between Twelfth Av and W.129th St	North	14	383	1.8	A	5.8	B
	South	14	45	0.2	A	4.2	A
Broadway between W.130th St and W.129th St	West	19	736	2.6	A	6.6	B
	East	15	238	1.1	A	5.1	B
Broadway between W.129th St and W.125th St	West	17	755	3.0	A	7.0	B
	East	13	300	1.5	A	5.5	B
W. 129th St between W. 125th Street and Broadway	North	15	87	0.4	A	4.4	A
	South	15	13	0.1	A	4.1	A
W.125th St between Broadway and Amsterdam Av	North	13	295	1.5	A	5.5	B
	South	7	371	3.5	A	7.5	C
Broadway between W.125th St and Tiemann Pl	East	10	744	5.0	A	9.0	C
	West	10	529	3.5	A	7.5	C
W.125th St between W.129th St and Broadway	South	14	304	1.4	A	5.4	B
	North	13	157	0.8	A	4.8	A

Note: PFM = pedestrians per foot per minute

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Table M-27

2030 Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS
Twelfth Av and W.133rd St	Northeast	1460.0	A	1088.8	A	756.9	A
	Southeast	1012.3	A	810.5	A	521.2	A
	Southwest	1470.8	A	1034.7	A	643.0	A
	Northwest	3280.1	A	2055.6	A	1383.3	A
Broadway and W.133rd St	Northeast	177.2	A	200.9	A	165.3	A
	Southeast	235.7	A	212.3	A	195.0	A
	Southwest	167.3	A	203.8	A	151.4	A
	Northwest	188.8	A	290.6	A	178.3	A
Twelfth Av and W.132nd St	Northeast	609.7	A	775.0	A	467.7	A
	Southeast	630.1	A	527.4	A	479.0	A
	Southwest	1186.3	A	619.1	A	1091.8	A
	Northwest	1234.2	A	976.9	A	937.2	A
Broadway and W.132nd St	Southwest	184.7	A	172.2	A	181.4	A
	Northwest	168.8	A	157.7	A	155.0	A
Broadway and W. 131st St	Northeast	277.0	A	206.5	A	233.3	A
	Southeast	245.7	A	197.0	A	224.8	A
	Southwest	63.8	A	58.7	B	65.6	A
	Northwest	113.3	A	99.2	A	97.1	A
Broadway and W.130th St	Southwest	76.6	A	71.7	A	76.9	A
	Northwest	111.2	A	101.2	A	98.6	A
Twelfth Av and W.125th St	Northeast	299.2	A	286.8	A	222.0	A
	Southeast	835.8	A	1317.9	A	937.2	A
	Southwest	1240.2	A	1082.7	A	879.9	A
	Northwest	1156.7	A	1073.6	A	723.3	A
Broadway and W.129th St	Northeast	146.2	A	109.5	A	121.0	A
	Southeast	121.5	A	93.3	A	108.8	A
	Southwest	55.0	B	53.7	B	58.2	B
	Northwest	101.4	A	86.7	A	83.4	A
Broadway and W.125th St	Northeast	81.7	A	63.8	A	68.1	A
	Southeast	62.6	A	53.7	B	60.5	A
	Southwest	40.9	B	42.4	B	47.8	B
	Northwest	50.0	B	41.9	B	30.4	C

Note: SFP = square feet per pedestrian

Appendix M: Proposed Actions Without Transportation Improvements

Table M-28

2030 Build Condition: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles					
				AM		Midday		PM	
				SFP	LOS	SFP	LOS	SFP	LOS
Twelfth Av and W.133rd St	North	60	10	1611.9	A	998.6	A	1337.3	A
	East	38	18	1934.0	A	2058.0	A	901.2	A
	South	60	10	345.9	A	257.5	A	180.2	A
	West	30	13	1319.7	A	839.4	A	460.7	A
Broadway and W.133rd St	North	103	10	61.6	A	92.0	A	64.1	A
	East	30	24	146.7	A	120.8	A	105.5	A
	South	103	11	131.4	A	141.2	A	151.4	A
	West	38	17	104.6	A	153.3	A	101.1	A
Twelfth Av and W.132nd St	North	60	13	502.4	A	583.8	A	424.6	A
	East	30	16	451.5	A	585.7	A	329.2	A
	South	60	13	697.1	A	235.8	A	523.3	A
	West	30	14	1192.9	A	707.8	A	868.7	A
Broadway and W.132nd St	North	102	13	797.1	A	957.3	A	730.0	A
	South	102	14	416.8	A	246.3	A	339.4	A
	West	30	14	51.7	B	47.2	B	43.9	B
	North	102	11	430.2	A	312.9	A	312.2	A
Broadway and W.131st St	East	52	14	115.9	A	94.1	A	105.0	A
	South	109	11	453.5	A	396.3	A	869.6	A
	West	34	19	53.3	B	43.6	B	40.5	B
	North	110	11	1246.3	A	665.5	A	950.2	A
Broadway and W.130th St	South	110	11	296.5	A	167.0	A	286.3	A
	West	29	11	25.1	C	19.1	D*	16.3	D*
	North	110	12	618.1	A	596.6	A	396.6	A
	East	70	12	240.0	A	591.3	A	316.7	A
Twelfth Av and W.125th St	South	134	11	1209.8	A	1082.4	A	979.6	A
	West	70	12	424.5	A	363.8	A	272.6	A
	North	110	11	173.2	A	111.0	A	124.6	A
	East	50	15	72.9	A	63.1	A	69.4	A
Broadway and W.129th St	South	115	15	197.0	A	104.5	A	142.1	A
	West	30	15	24.4	C	19.0	D*	15.8	D*
	North	118	17	74.9	A	49.8	B	68.1	A
	East	70	13	28.4	C	27.6	C	26.9	C
Broadway and W.125th St	South	118	14	51.1	B	33.0	C	44.2	B
	West	70	19	14.98	E*	14.6	E*	11.2	E*

Note: SFP = square feet per pedestrian. * denotes significant adverse impact.

2030 MITIGATION

Each of the projected significant adverse crosswalk impacts identified above could be mitigated with crosswalk widening, as follows.

Broadway and West 130th Street—West Crosswalk

The significant adverse impacts projected for the midday and PM peak hours could be mitigated by widening this crosswalk 2 feet, from 11 feet to 13 feet.

Broadway and West 129th Street—West Crosswalk

The significant adverse impacts projected for the midday and PM peak hours could be mitigated by widening this crosswalk 3 feet, from 15 feet to 18 feet.

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Broadway and West 125th Street—West Crosswalk

The significant adverse impacts projected for the AM, midday, and PM peak hours could be mitigated by widening this crosswalk 12 feet, from 19 feet to 31 feet.

AIR QUALITY

As presented in Chapter 19, “Air Quality,” the analysis of air quality effects of the Proposed Actions with project-related transportation improvements showed that the maximum predicted carbon monoxide (CO) and particulate matter (PM₁₀ and PM_{2.5}) concentrations would not result in any significant adverse air quality impacts. This section considers the effects on air quality of the Proposed Actions without the proposed transportation improvements.

This section consists of an analysis of potential mobile source air quality impacts at receptor sites 1 and 3 for CO, and the two sites analyzed for PM₁₀ and PM_{2.5} for the Proposed Actions with improvements (receptor sites 2 and 3). The CO receptor sites were selected for analysis because they were the locations in the primary traffic study area that had the highest No Build and Build concentrations based upon the analyses of the Proposed Actions with proposed traffic improvements. At other locations, the No Build and Build concentrations were lower and/or the receptor sites were situated in the secondary study area, outside of where build traffic improvements were proposed.

The tables presented below illustrate the maximum predicted pollutant concentrations with the Proposed Actions without the proposed traffic improvements. Tables M-29 and M-30 summarize the maximum CO build concentrations with and without improvements for the 2015 and 2030 analysis years, respectively. Tables M-31 and M-32 show the results of the PM₁₀ 24-hour analyses for the 2015 and 2030 analysis years, with and without the proposed traffic improvements, respectively. Tables M-33 and M-34 summarize the maximum 24-hour PM_{2.5} increments for the 2015 and 2030 analysis years, with and without the proposed traffic improvements, respectively, while Tables M-35 and M-36 show the future maximum predicted 2015 and 2030 annual average PM_{2.5} concentrations, respectively.

The values shown are the highest predicted concentrations for the analyzed receptor locations. The results show that without the proposed traffic improvements, future concentrations of pollutants with the Proposed Actions would be below the National Ambient Air Quality Standards (NAAQS) and would not result in any significant adverse air quality impacts using the *de minimis* criteria for CO impacts or PM_{2.5} interim guidance criteria.

Table M-29
Future (2015) Maximum Predicted 8-Hour Average Carbon Monoxide
Build with and without Improvements (parts per million)

Receptor Site	Location	Time Period	8-Hour Concentration (ppm) ⁽¹⁾	
			Build with Improvements	Build without Improvements
1	Twelfth Avenue and West 133rd Street	PM	<u>3.8</u>	<u>3.7</u>
3	Broadway and West 125th Street	PM	<u>3.9</u>	<u>3.9</u>
Note: ¹ 8-hour standard is 9 ppm.				

Appendix M: Proposed Actions Without Transportation Improvements

**Table M-30
Future (2030) Maximum Predicted 8-Hour Average Carbon Monoxide
Build with and without Improvements (parts per million)**

Receptor Site	Location	Time Period	8-Hour Concentration (ppm) ⁽¹⁾	
			Build with Improvements	Build without Improvements
1	Twelfth Avenue and West 133rd Street	PM	<u>3.8</u>	<u>3.7</u>
3	Broadway and West 125th Street	PM	<u>4.0</u>	<u>4.1</u>

Note: ¹ 8-hour standard is 9 ppm.

**Table M-31
Future (2015) Maximum Predicted 24-Hour PM₁₀
Build with and without Improvements (µg/m³)**

Receptor Site	Location	Build with Improvements	Build without Improvements
2	Broadway and West 133rd Street	<u>67.61</u>	<u>67.22</u>
3	Broadway and West 125th Street	<u>71.31</u>	<u>72.23</u>

Note: National Ambient Air Quality Standards—24-hour, 150 µg/m³.

**Table M-32
Future (2030) Maximum Predicted 24-Hour PM₁₀
Build with and without Improvements (µg/m³)**

Receptor Site	Location	Build with Improvements	Build without Improvements
2	Broadway and West 133rd Street	<u>68.24</u>	<u>68.27</u>
3	Broadway and West 125th Street	<u>72.18</u>	<u>73.20</u>

Note:
National Ambient Air Quality Standards—24-hour, 150 µg/m³.

**Table M-33
Future (2015) Maximum Predicted 24-Hour PM_{2.5} Increment
Build with and without Improvements (µg/m³)**

Receptor Site	Location	Build with Improvements	Build without Improvements
2	Broadway and West 133rd Street	0.09	-0.03
3	Broadway and West 125th Street	0.01	<u>0.003</u>

Note: PM_{2.5} interim guidance criteria—24-hour average, 5 µg/m³.

**Table M-34
Future (2030) Maximum Predicted 24-Hour PM_{2.5} Increment
Build with and without Improvements (µg/m³)**

Receptor Site	Location	Build with Improvements	Build without Improvements
2	Broadway and West 133rd Street	0.09	-0.03
3	Broadway and West 125th Street	0.03	0.03
Note: PM _{2.5} interim guidance criteria—24-hour average, 5 µg/m ³ .			

**Table M-35
Future (2015) Maximum Predicted Annual Average PM_{2.5} Increment
Build with and without Improvements (µg/m³)**

Receptor Site	Location	Build with Improvements	Build without Improvements
2	Broadway and West 133rd Street	-0.001	-0.002
3	Broadway and West 125th Street	-0.001	0.003
Note: PM _{2.5} interim guidance criteria—annual (neighborhood scale), 0.1 µg/m ³ .			

**Table M-36
Future (2030) Maximum Predicted Annual Average PM_{2.5} Increment
Build with and without Improvements (µg/m³)**

Receptor Site	Location	Build with Improvements	Build without Improvements
2	Broadway and West 133rd Street	-0.001	0.005
3	Broadway and West 125th Street	0.00	0.01
Note: PM _{2.5} interim guidance criteria—annual (neighborhood scale), 0.1 µg/m ³ .			

NOISE

In Chapter 20, “Noise,” potential impacts are presented for the Proposed Actions with the transportation improvements proposed as part of the Proposed Actions. This section considers the effects on noise receptors of the Proposed Actions without the proposed transportation improvements. For this analysis, potential noise impacts are examined at receptor sites 6, 10, and 13. These three noise receptor sites were selected for analysis because they are the locations which, based upon the analyses of the Proposed Actions with the transportation improvements, have the largest incremental change in noise levels (i.e., comparing Build with No Build values).

Tables M-37 and M-38 show the results of the analyses for the 2015 and 2030 analysis years, both with and without the proposed transportation improvements.

Appendix M: Proposed Actions Without Transportation Improvements

**Table M-37
2015 Build $L_{eq(1)}$ Noise Levels**

Site	Location	Time Period	No Build	With Improvements		Without Improvements	
				Build	Increase	Build	Increase
6	Twelfth Av. between W. 131st & W. 132nd Sts	AM	75.4	<u>76.4</u>	<u>1.0</u>	75.8	0.4
		PM	68.6	<u>69.4</u>	<u>0.8</u>	68.7	<u>0.1</u>
10	W. 125th St. between Twelfth Av. & St. Clair Pl.	AM	<u>70.6</u>	73.6	3.0	69.4	<u>-1.2</u>
		PM	<u>70.1</u>	<u>74.9</u>	4.8	69.4	<u>-0.7</u>
13	Bway between Tiemann Pl. & W. 125th St.	AM	77.1	76.5	<u>-0.6</u>	77.2	<u>0.1</u>
		PM	76.1	<u>75.8</u>	<u>-0.3</u>	76.4	<u>0.3</u>

Note: Noise levels in bold denotes values that exceed CEQR significant impact criteria.

**Table M-38
2030 Build $L_{eq(1)}$ Noise Levels**

Site	Location	Time Period	No Build	With Improvements		Without Improvements	
				Build	Increase	Build	Increase
6	Twelfth Av. between W. 131st & W. 132nd Sts	AM	75.7	<u>77.3</u>	<u>1.6</u>	76.6	<u>0.9</u>
		PM	68.1	<u>69.6</u>	<u>1.5</u>	<u>69.4</u>	<u>1.3</u>
10	W. 125th St. between Twelfth Av. & St. Clair Pl.	AM	<u>69.9</u>	<u>73.7</u>	3.8	<u>70.1</u>	<u>0.2</u>
		PM	69.8	<u>75.5</u>	5.7	69.4	-0.4
13	Bway between Tiemann Pl. & W. 125th St.	AM	<u>77.5</u>	<u>77.1</u>	<u>-0.4</u>	<u>78.0</u>	0.5
		PM	76.2	<u>76.4</u>	<u>0.2</u>	76.9	0.7

Note: Noise levels in bold denotes values that exceed CEQR significant impact criteria.

At Site 6, the differences in noise levels, comparing the Build without improvements and the Build with improvements, would be relatively small (i.e., less than 1 dBA), and due to the differences in the traffic assignments for the two cases.

At Site 10, the differences in noise levels, comparing the Build with improvements and the Build without improvements, would be significant (i.e., more than 3 dBA). The differences are principally due to two factors: the Build without improvements does not contain the midblock traffic light on West 125th Street between Broadway and Twelfth Avenue, and differences in speed between the two cases. Build without traffic improvements noise levels are less than No Build values because of the decrease in speed that is due to project-generated traffic for the Build without traffic improvements case. This analysis shows that eliminating the midblock traffic light, which facilitates pedestrian crossings at this location, would eliminate the significant adverse noise impact at this location; however, it would result in a potentially unsafe and dangerous pedestrian condition.

At Site 13, the differences in noise levels, comparing the Build without improvements and the Build with improvements, would be relatively small (i.e., less than 1 dBA). These changes are principally due to changes in roadway geometry. (This location is the only location where there would be a significant geometry change due to proposed traffic improvements.)

In conclusion, with one exception, Build noise levels, both with and without the proposed transportation improvements, would be comparable. The exception would be Site 10, where the midblock crossing traffic light that is part of the transportation improvements proposed as part of the Proposed Actions would result in a significant adverse noise impact. For Build conditions without the traffic improvements (i.e., without the midblock traffic signal), no significant adverse noise impacts would occur at this location. *