Chapter 20:

Mitigation

A. INTRODUCTION

The technical analyses presented in Chapters 2 through 19 examine the potential for significant adverse impacts resulting from the proposed action. Where significant adverse impacts have been identified, measures are proposed to minimize or avoid them. This chapter discusses these mitigation measures in the areas of open space, historic resources, shadows, and traffic, transit, and pedestrians. In addition, this chapter analyzes the air quality effects of the proposed traffic mitigation measures.

B. OPEN SPACE

Chapter 5, "Open Space," identifies an indirect significant adverse impact on the active open space ratio in the residential study area in 2013. Because the proposed action could result in an indirect significant adverse impact on active open space, it is necessary to identify measures to mitigate these impacts to the greatest extent practicable. The *CEQR Technical Manual* lists potential on- and off-site mitigation measures. These measures include creating new public open spaces on-site or elsewhere in the study area of the type needed to serve the proposed population and offset their impact on existing open spaces in the study area, and improving existing open spaces in the study area. Absent any such measures, an unmitigated impact would result.

The proposed Flushing Commons project would create approximately 1.52 acres of passive public open space on the project site. As described in Chapter 1, "Project Description," one of the goals for redevelopment of the site, as reflected in the "Development Framework for Downtown Flushing," is to create a town square-style public open space that would be a center of community activity, which is currently missing from the urban fabric of Downtown Flushing, The main portion of the proposed open space would be an elliptical green opening onto 138th Street that is intended to respond to the community's desire for a central gathering place. It is expected to contain a terraced lawn, formal plaza, trees, tables and chairs, additional seating, and a water feature. The terraced lawn is also intended to function as an amphitheater for ceremonies and performances. The open space would be open to the public at all times and available for programming for public events. Due to the configuration of the proposed buildings and the below-grade parking, this open space would not be able to accommodate active open space uses and also meet the goal of providing a town square-style community gathering place.

As described in Chapter 5, the quantitative open space analysis does not account for the amenity space within the residential portion of the Flushing Commons project or the new YMCA space that would be provided. The residential portion of Flushing Commons would include several thousand square feet of amenity space, including exercise rooms and equipment, outdoor rooftop and terrace space, as well as a children's play space, that would serve the proposed population. In addition, Flushing Commons would house a proposed new YMCA, an approximately 62,000 square feet state-of-the art recreational facility. The existing YMCA facility in Downtown

Flushing is one of the oldest YMCA facilities in the City and is currently located on a lot that cannot accommodate any further expansion. The proposed new YMCA space in the Flushing Commons project would contain two indoor swimming pools, a full basketball court, classrooms and meeting rooms for youth, as well as standard exercise equipment. The YMCA is also considering developing programs whereby residents of the proposed project would be allowed to buy discounted memberships at the same price as "group" or "corporate" memberships. While these resources are not considered as public open space, the recreational space and the YMCA facility would each include a number of uses that would relieve future open space demands, particularly for active open space, created by the residential and worker populations introduced by the proposed action.

Absent the creation of additional active public open space resources, the proposed action would result in an unmitigated significant adverse impact on the active open space ratio.

C. HISTORIC RESOURCES

PROJECT SITE

ARCHAEOLOGICAL RESOURCES

The Flushing Commons project would require subsurface disturbance across the entire project site, including areas of potential archaeological sensitivity related to the Flushing Female Association School and 19th century home lots. Therefore, before construction of the Flushing Commons project, Stage 1B archaeological field testing would be undertaken for these areas of potential sensitivity to conclusively determine whether there are any resources present in these areas that could be disturbed by the proposed project. The protocol for the Stage 1B testing would be reviewed and approved by LPC. If resources are identified, an archaeological treatment plan would be developed and implemented in coordination with LPC to mitigate the project's effects on these resources. Any required mitigation would be determined based on the characteristics and significance of the resource, and could include archaeological excavation to record information about the find.

To preserve and respect potentially intact burials in the Macedonia African Methodist Episcopal (AME) Church area, the Flushing Commons project would establish a no-impact zone of at least 15 feet around the west and south perimeters of the extant Macedonia AME Church lot before and during construction activities for the proposed development. On the south side of the church lot, the protective buffer would not need to extend beyond the former roadway of 38th Avenue. However, if Flushing Commons' project-related subsurface excavations are necessary in this portion of the former 38th Avenue roadbed that would be deeded to the church, archaeological monitoring may be appropriate. In this scenario, a protocol for monitoring would be developed in coordination with and approved by LPC.

The Macedonia Plaza project by the Macedonia AME Church is anticipated to require excavation to the south, west, and north of the existing church structure. Since the Macedonia Plaza project—as presently designed—would not observe the recommended archaeological no-impact zones on the north, west, and south sides of the extant church lot, the redevelopment of this area could adversely affect areas of sensitivity for possible human remains. Therefore, as a provision of the Land Disposition Agreement (LDA) for this site, the sponsor/developer selected by HPD to develop the Macedonia site would be required to coordinate with LPC and undertake archaeological monitoring and/or testing, as appropriate, before construction of the Macedonia Plaza project commences.

ARCHITECTURAL RESOURCES

As described in Chapter 7, "Historic Resources," the proposed Flushing Commons buildings would cast incremental shadows on the arched windows of the Macedonia AME Church on all four analysis days: March 21 (or September 21, which is approximately equivalent), the equinoxes; June 21, the summer solstice, the longest day of the year when shadows are shortest; May 6/August 6, the midpoints between the equinoxes and the solstice; and December 21. Incremental shadow durations would range from just over 4 hours in June to nearly 7 hours on the March 21/September 21 analysis day. The incremental shadow would significantly reduce the amount of direct sunlight that currently shines through these windows throughout the year and would cause a significant adverse impact for the users of this place of worship.

The Flushing Commons project sponsors would coordinate with the Macedonia AME Church to develop measures to offset the potential effect of the project's shadows on the arched windows. Such measures could include lighting the windows by a new light source that would be mounted on one of the proposed buildings. This light source could approximate sunlight conditions for the arched windows, without indirect light spillover to adjacent areas. Other options could be removing the existing protective coverings from the arched windows, cleaning the interior and exterior of the windows, and installing new transparent protective coverings of similar or greater durability; a stained glass restoration effort; and/or the implementation of some other mutually agreed-to measure.

Construction of the proposed Flushing Commons and Macedonia Plaza projects would occur within 90 feet of the Macedonia AME Church building. Therefore, it is expected that the Flushing Commons project would avoid potential adverse physical impacts on this resource through the implementation of a construction protection plan developed in consultation with LPC. For the Macedonia Plaza project, the <u>LDA between HPD and a sponsor/developer selected to redevelop the Macedonia</u> site would include a <u>provision</u> requiring <u>the development</u> and implementation of a construction plan, reviewed and approved by LPC, to protect the adjacent church building. <u>The CPP would avoid potential significant adverse impacts to architectural resources associated with the proposed Macedonia Plaza project.</u>

D. SHADOWS

The only identified significant shadow impact of the proposed action is the impact on the arched windows of the Macedonia AME Church. Mitigation for this impact is discussed above, in "Historic Resources."

E. TRAFFIC AND PARKING

As described in Chapter 14, "Traffic and Parking," the proposed action is expected to result in significant adverse traffic impacts at 17 intersections during the weekday AM peak hour, <u>16</u> during the weekday midday peak hour, <u>19</u> during the weekday PM peak hour, and 21 during the Saturday midday peak hour. This section presents the potential transportation-related improvement measures that are being proposed to mitigate as many significant adverse traffic impacts resulting from the proposed action as possible. The *CEQR Technical Manual* requires that mitigation measures must show that the level of delay for the build condition can be reduced to or below the no build condition (or to acceptable levels), without creating impacts on other intersection approaches. As detailed below, standard mitigation measures, such as modifying signal timings and adding a new traffic signal, would fully mitigate the projected significant

adverse impacts at some of the study area intersections, while others would be partially mitigated or remain unmitigated.

Of the 17 intersections with significant adverse traffic impacts during the weekday AM peak hour, 4 would be fully mitigated and 13 would be partially mitigated or remain unmitigated. Of the <u>16</u> intersections with significant adverse traffic impacts during the weekday midday peak hour, <u>5</u> would be fully mitigated and 11 would be partially mitigated or remain unmitigated. Of the <u>19</u> intersections with significant adverse traffic impacts during the weekday PM peak hour, <u>6</u> would be fully mitigated and 13 would be partially mitigated or remain unmitigated. Of the <u>19</u> intersections with significant adverse traffic impacts during the weekday PM peak hour, <u>6</u> would be fully mitigated and 13 would be partially mitigated or remain unmitigated. Of the 21 intersections with significant adverse traffic impacts during the Saturday midday peak hour, 7 would be fully mitigated and 14 would be partially mitigated or remain unmitigated.

ROOSEVELT AVENUE CORRIDOR

ROOSEVELT AVENUE/COLLEGE POINT BOULEVARD

• Re-allocate 1 second of green time from the east-west lead phase to the east-west lag phase during the weekday AM peak hour.

ROOSEVELT AVENUE/UNION STREET

• Re-allocate 1 second of green time from the north-south phase to the east-west phase during the weekday AM and PM peak hours.

ROOSEVELT AVENUE/BOWNE STREET

- Re-allocate 1 second of green time from the north-south phase to the east-west phase during the weekday AM peak hour.
- Re-allocate 2 seconds of green time from the north-south phase to the east-west phase during the weekday midday peak hour.
- Re-allocate 4 seconds of green time from the north-south phase to the east-west phase during the weekday PM peak hour.

ROOSEVELT AVENUE/PARSONS BOULEVARD

• Re-allocate 3 seconds of green time from the north-south phase to the east-west phase during the weekday midday peak hour.

NORTHERN BOULEVARD CORRIDOR

NORTHERN BOULEVARD/PRINCE STREET

- Re-allocate 2 seconds of green time from the east-west permissive phase to the east-west dual left-turn phase and 1 second from the east-west permissive phase to the eastbound shared through/left-turn phase during the weekday AM and midday peak hours.
- Re-allocate 3 seconds of green time from the east-west permissive phase to the east-west dual left-turn phase during the weekday PM peak hour.

NORTHERN BOULEVARD/MAIN STREET

• Re-allocate 4 seconds of green time from the east-west phase to the northbound phase during the weekday midday peak hour.

NORTHERN BOULEVARD/BOWNE STREET

• Re-allocate 2 seconds of green time from the east-west permissive phase to the east-west lagging phase during the weekday PM and Saturday midday peak hours.

UNION STREET CORRIDOR

UNION STREET/37TH AVENUE

- Re-allocate 2 seconds of green time from the north-south phase to the westbound phase during the weekday AM and Saturday midday peak hours.
- Re-allocate 4 seconds of green time from the north-south phase to the westbound phase during the weekday midday, PM, and Saturday midday peak hours.

UNION STREET/39TH AVENUE

• Re-allocate 3 seconds of green time from the north-south phase to the eastbound phase during the weekday midday, PM, and Saturday midday peak hours.

MAIN STREET CORRIDOR

MAIN STREET/37TH AVENUE

- Re-allocate 4 seconds of green time from the north-south phase to the westbound phase during the weekday AM, midday, and PM peak hours.
- Re-allocate 1 second of green time from the north-south phase to the westbound phase during the Saturday midday peak hour.

MAIN STREET/38TH AVENUE

- Re-allocate 2 seconds of green time from the north-south phase to the <u>eastbound</u> phase during the weekday AM and PM peak hours.
- Re-allocate 3 seconds of green time from the north-south phase to the <u>eastbound</u> phase during the weekday midday peak hour.
- Re-allocate 4 seconds of green time from the north-south phase to the <u>eastbound</u> phase during the Saturday midday peak hour.

MAIN STREET/41ST AVENUE/KISSENA BLVD

- Re-allocate <u>3</u> seconds of green time from the north-south phase to the westbound phase during the weekday AM peak hour.
- <u>Re-allocate 2 seconds of green time from the westbound phase to the north-south phase</u> <u>during the weekday midday and Saturday midday peak hours.</u>
- <u>Re-allocate 4 seconds of green time from the north-south phase to the westbound phase</u> <u>during the weekday PM peak hour.</u>

MAIN STREET/SANFORD AVENUE

• <u>Re-allocate 1 second of green time from the north-south phase to the westbound phase</u> <u>during the weekday midday peak hour.</u>

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- Re-allocate <u>4</u> seconds of green time from the westbound phase to the north-south phase during the weekday PM peak hour.
- <u>Re-allocate 1 second of green time from the westbound phase to the north-south phase</u> <u>during the Saturday midday peak hour.</u>

37TH AVENUE CORRIDOR

PRINCE STREET/37TH AVENUE

• Re-allocate 3 seconds of green time from the westbound phase to the north-south phase during the Saturday midday peak hour.

39TH AVENUE CORRIDOR

PRINCE STREET/39TH AVENUE

• Re-allocate 4 seconds of green time from the westbound phase to the north-south phase during the weekday PM and Saturday midday peak hours.

138TH STREET/39TH AVENUE

To mitigate the projected adverse traffic impact at this intersection, a traffic signal is proposed, as illustrated in Figure 20-1, at this currently unsignalized location to ensure safe and efficient movement of both vehicles and pedestrians. The proposed project would add a substantial amount of vehicular traffic as well as pedestrian volumes at this location. With the proposed traffic signal, the intersection is projected to operate at LOS D or better during all peak hours.

To justify the traffic signal, a preliminary signal warrant study was conducted, <u>using the 2003</u> Manual on Uniform Traffic Control Devices' (MUTCD) *Pedestrian Volume Warrant 4.* <u>The</u> <u>traffic signal would likely be warranted based on the projected pedestrian volumes crossing the</u> <u>major street with expected fewer gaps under the future 2013 Build condition. The MUTCD</u> <u>requires the following criteria to be met:</u>

- <u>100 or more pedestrians crossing the major street for each of any 4 hours or</u> 190 <u>or more</u> during any <u>1</u> hour<u>: and</u>
- Less than 60 gaps per hour for pedestrians crossing the major street.

The future Build condition pedestrian volumes were <u>projected</u> from existing pedestrian volumes by applying an annual background growth rate of 2.8 percent, and adding project generated volumes. The project generated pedestrian volumes were based on the pedestrian assignments for the Build scenario in each of the four peak hours. The estimated volumes projected for the 2013 Build condition are shown in Table 20-1. The high volume of pedestrian traffic projected to utilize the crosswalks at this intersection would exceed the MUTCD Warrant 4 <u>criterion</u>, with volumes up to 70<u>0</u> pedestrian crossings in the weekday midday peak hour. <u>However, the number of projected gaps available in the traffic stream would be determined and verified when the project is built and occupied.</u>

<u>Therefore, for the proposed mitigation measure, it is recommended that a new three-phase signal</u> at the intersection of 39th Avenue and 138th Street <u>would</u> operate under a 90-second cycle length. Phase A would be for the eastbound 39th Avenue movement; Phase B would be for southbound 138th Street; and Phase C would be an all-pedestrian phase. Pedestrian crosswalks would be maintained on all legs at the intersection. The proposed mitigation would be imposed at this location subject to an updated warrant analysis since, as noted above, a gap study would



Table 20-1

Table 20-2

be undertaken on completion and occupancy of the proposed project to confirm the build traffic and pedestrian volumes and operations.

						erez signe	ii ((aifailt))				
			Vol	umes		Defa	aults				
		Vehicula	ar Traffic	Pedes	strians	All	School/Elderly				
Date/		Major	Minor*								
Scenario	Time	(39th Ave)	(138th St)	All	SC/Elderly	>100	>75				
Build 2013	WD AM Peak Hour	148	207	296							
Build 2013	WD MD Peak Hour	187	368	704							
Build 2013	WD PM Peak Hour	138	272	568							
Build 2013	Sat MD Peak Hour	156	342	1156							
Notes: * Cur	rently, 138th Street is	controlled by	y a stop sign	and is therefo	re the "minor"	street. However, i	n the 2013 Build				
cond	ition, traffic volumes v	vere projected to be higher on 138th Street than on 39th Avenue during all analysis peak									
hours	S.										

2013 Build Volumes for MUTCD Signal	Warrant 4

SANFORD AVENUE CORRIDOR

SANFORD AVENUE/BOWNE STREET

Re-allocate 2 seconds of green time from the north-south phase to the east-west phase during • the Saturday midday peak hour.

SANFORD AVENUE/PARSONS BOULEVARD

Re-allocate 3 seconds of green time from the north-south phase to the east-west phase during the weekday PM peak hour.

SUMMARY OF TRAFFIC MITIGATION ANALYSIS RESULTS

Table 20-2 provides a summary of the numbers of intersections identified to have significant adverse impacts, intersections where impacts would be fully mitigated with the above mitigation measures, and those that would be partially mitigated or remain unmitigated.

		Traf	fic Mitigatio	n Summary
		Analysis I	Peak Hour	
Intersections	WD AM	WD Midday	WD PM	Sat Midday
With Significant Adverse Impacts	17	<u>16</u>	<u>19</u>	21
With All Impacts Fully Mitigated	4	5	<u>6</u>	7
With Impacts Partially Mitigated or Unmitigated	13	11	13	14

- Of the 17 intersections with significant adverse traffic impacts during the weekday AM peak • hour, 4 would be fully mitigated and 13 would be partially mitigated or remain unmitigated.
- Of the <u>16</u> intersections with significant adverse traffic impacts during the weekday midday • peak hour, 5 would be fully mitigated and 11 would be partially mitigated or remain unmitigated.
- Of the <u>19</u> intersections with significant adverse traffic impacts during the weekday PM peak • hour, <u>6</u> would be fully mitigated and 13 would be partially mitigated or remain unmitigated.

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• Of the 21 intersections with significant adverse traffic impacts during the Saturday midday peak hour, 7 would be fully mitigated and 14 would be partially mitigated or remain unmitigated.

Tables 20-3 through 20-6 compare the analysis results for the 2013 No Build, Build, and mitigated Build conditions during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively. Fully mitigated, partially mitigated, and unmitigated conditions are identified for each of the significantly impacted study area intersections. Figure 20-2 shows the locations where there would be partially mitigated or unmitigated impacts remaining in one or more peak hours.

NYCDOT MODIFIED TWO-WAY PROPOSAL

<u>Subsequent to the publication of the DEIS, NYCDOT developed a proposal for an alternative</u> roadway configuration (Modified Two-Way) for further study. Although still a proposal, <u>NYCDOT believes that the Modified Two-Way proposal, which would essentially retain most of</u> the existing roadway configuration for Main and Union Streets but would impose several turn prohibitions and a street direction reversal with the possibility of incorporating pedestrian space improvements, if implemented, may improve traffic flow and safety in downtown Flushing.

As described in Chapter 14, "Traffic and Parking," the Modified Two-Way proposal is expected to result in overall more favorable operations than the One-Way Pair with Contra Flow bus lanes. The proposed action with the Modified Two-Way roadway network would result in five fewer significantly impacted intersections (12 vs. 17) during the weekday AM peak hour, and one fewer significantly impacted intersection during each of the weekday midday (15 vs. 16), weekday PM (18 vs. 19), and Saturday midday (20 vs. 21) peak hours than it would with the One-Way Pair with Contra Flow bus lanes.

A detailed mitigation analysis for the proposed action with the Modified Two-Way roadway network proposal was prepared and is presented in Appendix D. The range of mitigation measures proposed would be similar to those described above to address significant adverse impacts of the proposed action with the One-Way Pair with Contra Flow bus lanes. As summarized in Table 20-7, significant adverse traffic impacts identified for the proposed action with the Modified Two-Way roadway network are expected to be more readily mitigated and there would be fewer intersections with partially mitigated or unmitigatable impacts if the Modified Two-Way proposal is ultimately implemented by NYCDOT.

Of the 12 significantly impacted intersections during the weekday AM peak hour, 7 could be fully mitigated while 5 would remain unmitigated; of the 15 significantly impacted intersections during the weekday midday peak hour, 5 could be fully mitigated while 10 would remain unmitigated; of the 18 significantly impacted intersections during the weekday PM peak hour, 10 could be fully mitigated while 8 would remain unmitigated; of the 20 significantly impacted intersections during the Saturday midday peak hour, 7 could be fully mitigated while 13 would remain unmitigated. Figure 20-3 shows the locations where there would be partially mitigated or unmitigated impacts remaining in one or more peak hours.



Partially / Unmitigated Locations During One or More Peak Hours

Locations with Unmitigated Impacts One-Way Pair with Contra Flow Bus Lanes Traffic Network Figure 20-2



Partially / Unmitigated Locations During One or More Peak Hours

Locations with Unmitigated Impacts Modified Two-Way Traffic Network Figure 20-3

Table 20-3

				No Build			Build		Mit	igated Buil	d	
				AVG.			AVG.			AVG.		Intersection
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?
	-	-	SIG	NALIZED II	NTERS	SECTION	I S	-	-	-	-	
		LTR	0.57	23.8	С	0.57	23.8	С	0.58	24.6	С	
	ED	T after L	0.14	17.8	В	0.14	17.8	В	0.14	17.1	В	
		LTR	0.53	32.1	С	0.55	32.5	С	0.55	32.5	С	
Roosevelt Ave /	WB	T after L	0.20	43.3	D	0.21	43.5	D	0.21	43.5	D	Fully
College Pt Blvd	1	L	1.68	361.6	F	1.69	367.8	F	1.48	272.5	F	Mitigated
Ŭ	NB	TR	0.80	31.1	С	0.80	31.1	С	0.78	29.5	С	0
		Т	0.67	43.8	D	0.67	43.8	D	0.67	43.8	D	
	SB	R	0.40	40.9	D	0.40	40.9	D	0.40	40.9	D	
	Ov	erall		81.0	F		82.0	F		67.6	E	
	FB	1	0.96	94.3	F	1.03	111.2	F	0.88	75.5	F	
	Main Rd	T	0.38	11.2	B	0.41	11.4	B	0.00	12.5	B	
	FB Serv Rd	TR	0.00	9.9	A	0.16	10.0	A	0.12	10.9	B	
Northern Blvd /	WB	1	1.33	255.8	F	1 47	312.4	F	1 16	183.9	F	Partially
Prince Street	Main Rd	Т	0.91	23.1	Ċ	0.94	25.9	<u> </u>	0.98	35.5		Mitigated
	WB Serv Rd	TR	0.22	15.6	B	0.22	15.6	B	0.30	17.3	B	Miligated
	NR	I TR	3.21	1061.0	F	3.21	1061.0	F	3.21	1061.0	F	
	SB	LTR	0.86	62.9	F	0.89	68.0	F	0.21	68.0	F	
		erall	0.00	98.4	F	0.00	99.7	F	0.00	99.7	F	
		Dofl	0.85	55.4	F	0.87	60.7	F	0.87	60.7	F	
Roosevelt Ave /	EB	TD	0.00	17.0		0.07	17.0		0.07	17.0		
Drinco Stroot	\M/D		1.97	104.7	 	1.40	200.2	 	1.40	200.2	<u>Б</u>	Unmitigated
Finice Sueer	SB		0.92	194.7 51.6		0.97	209.2		0.97	209.2		Unimigated
	30		0.02	124.6	5	0.07	124.2		0.07	12/ 2		
			0.00	20.4	- -	0.70	00.0	- -	0.70	00.0	- -	
	ED		0.08	20.1	<u> </u>	0.72	28.9	<u> </u>	0.72	28.9	<u> </u>	
Northorn Divid /		L	0.07	27.0		0.07	27.0		0.07	27.0		
Main Street	VVD		1.00	40.0		1.00	40.0		1.00	40.0		Unmitigated
Wall I Sueel		1	0.09	60F 2		1.09	02.0		1.09	02.0		Unimigated
	NB	L	0.20	090.0		2.00	220.9		2.00	220.9		
	0	oroll	1.40	200.7		1.00	339.0 161 E		1.00	339.0 161 E		
	00		0.00	121.3	<u> </u>	0.00	101.5		0.00	101.5	<u>г</u>	
074 Aug /	WB		0.68	42.9	0	0.99	74.9	E	0.88	52.5	<u>D</u>	Deutleller
3/th Ave /	NB OD		0.47	2.3	<u>A</u>	0.48	2.4	<u>A</u>	0.51	2.7	<u>A</u>	Partially
Main Street	SB		0.04	8.7	<u>A</u>	0.04	8.7	<u>A</u>	0.04	10.4	В	iviitigated
	00	erail	0.04	14.0	В	0.04	28.9	<u>с</u>	0.00	21.0	<u>ر</u>	
00/1 4 . /	EB		0.84	58.0	E	0.91	66.8	E	0.86	58.3	E	
38th Ave /	NB	<u> </u>	0.57	3.4	A	0.57	3.4	A	0.59	3.8	<u>A</u>	Fully
Main Street		R	0.38	5.7	<u>A</u>	0.38	5.7	<u>A</u>	0.40	6.6	<u>A</u>	Mitigated
	SB	Т	0.04	10.7	B	0.04	10.7	B	0.04	11.6	B	
	Ov	erall		16.0	В		18.9	В		17.3	В	
	EB	LTR	1.25	160.2	F	1.26	165.0	F	1.26	165.0	F	
	WB	LTR	1.60	305.2	F	1.64	321.0	F	1.64	321.0	F	
Roosevelt Ave /	NB	LT	1.22	142.0	F	1.28	165.0	F	1.28	165.0	F	Unmitigated
Main Street		R	0.52	32.0	С	0.67	45.7	D	0.67	45.7	D	
	SB	LTR	0.22	20.6	С	0.23	20.7	С	0.23	20.7	С	
	Ov	erall		187.8	F		203.9	F		203.9	F	
	WB	TR	0.80	<u>38.1</u>	D	<u>0.84</u>	<u>40.8</u>	D	0.79	35.7	D	
	NB	L	0.59	26.1	С	0.59	26.1	С	0.63	<u>29.8</u>	С	
41st Ave / Main St /		TR	0.85	<u>33.7</u>	С	<u>0.88</u>	36.4	D	0.93	44.3	D	Fully
Kissena Blvd	SB	L	0.78	<u>78.8</u>	E	<u>0.87</u>	<u>99.8</u>	F	0.76	72.0	E	Mitigated
	00	TR	0.03	14.3	В	0.03	14.3	В	0.03	15.8	В	
	Ov	erall		36.6	D		39.6	D		39.6	D	

No Build, Build, and Mitigated Build LOS Comparison: Weekday AM Peak Hour

Table 20-3 (cont'd)

		No Build Build Mitigated Build										
				AVG.			AVG.			AVG.		Intersection
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?
		· ·	SIGN		ITERS	ECTION	IS (cont'd)			070 /		
			1.40	244.6	F	1.48	278.1	F	1.48	278.1	F	
	EB	T	0.78	29.3	<u>C</u>	0.80	30.2	<u> </u>	0.80	30.2	<u> </u>	
Nextleave Divid (R	1.27	1/1.3	<u>-</u>	1.48	261.9	<u>-</u>	1.48	261.9	<u>-</u>	I have blocked
Northern Bivd /	WB		1.43	238.7	F	1.62	322.7	<u>-</u>	1.62	322.7	<u>-</u>	Unmitigated
Union Street	ND		1.04	24.5	0	1.03	52.1 21.2	0	1.03	52.1 21.2	0	
			0.20	56.0		0.20	61.0	<u> </u>	0.20	61.0	<u> </u>	
	30		0.91	90.9 84.4		0.94	105.0		0.94	105.0		
			1.61	220 4		1 77	205.5		1 57	207.2	- -	
37th Ava /	NR		0.12	12.1	Г В	0.12	12.1	R R	0.12	1/1.2	R R	Partially
Union Street	ND	т Т	0.12	11.0	B	0.12	8.5	^	0.12	14.5	B	Mitigated
Union Street	SB	P	0.00	17./	B	1.44	225.5		1.51	257.6	 E	willigated
	(Verall	0.70	81.7	F	1.44	168.5	F	1.51	161.3	F	
			0.84	27.4	<u> </u>	0.85	28.1	<u> </u>	0.85	28.1	- -	
	EB	R I	0.04	20.6	<u> </u>	0.00	20.1	<u> </u>	0.50	20.1	<u> </u>	
Roosevelt Ave /	WR		0.92	40.2	<u></u>	0.02	43.0	<u>–</u>	0.02	43.0	<u> </u>	Unmitidated
Union Street	110	IT	0.56	19.7	B	0.30	23.6	C	0.30	23.6	<u>C</u>	Orinnigated
	SB	R	1.18	137.6	F	1.50	275.4	F	1.50	275.4	F	
	(Overall	1.10	39.7	D	1.00	56.0	F	1.00	56.0	F	
	FB	TR	0.52	27.9	C	0.52	27.9	<u>C</u>	0.52	27.9	<u>C</u>	
	WB	IT	1 77	384.6	F	1 77	384.6	F	1.77	384.6	F	
Sanford Ave /	NB	IR	0.81	48.3	D	0.86	55.6	F	0.86	55.6	F	Unmitigated
Union Street		LT	0.46	18.0	B	0.51	18.9	B	0.51	18.9	B	erinigatea
	SB	R	0.92	34.1	C	0.97	42.4	D	0.97	42.4	D	
	(Overall		138.5	F		138.9	F		138.9	F	
		L	0.57	28.8	С	0.60	30.7	С	0.58	28.8	С	
	EB	TR	0.45	20.1	C	0.64	25.2	C	0.63	24.3	C	
	WB	LTR	1.08	84.7	F	1.13	105.1	F	1.11	97.2	F	
Roosevelt Ave /	ND	L	0.42	31.2	С	0.42	31.2	С	0.43	32.4	С	Partially
Bowne Street	NB	TR	0.87	48.9	D	0.87	48.9	D	0.89	52.1	D	Mitigated
	CD.	L	0.38	34.8	С	0.38	34.8	С	0.41	37.6	D	-
	30	TR	0.39	28.0	С	0.39	28.0	С	0.40	28.9	С	
	(Overall		52.8	D		59.6	Е		57.6	Е	
	EB	LTR	1.08	88.4	F	1.13	105.0	F	1.13	105.0	F	
	W/B	LT	0.81	25.7	С	0.82	25.9	С	0.82	25.9	С	
Sanford Ave /	VVD	R	0.29	12.4	В	0.29	12.4	В	0.29	12.4	В	
Bowne Street	NB	LTR	1.12	110.8	F	1.12	110.8	F	1.12	110.8	F	Unmitigated
	SB	L	0.40	29.0	С	0.40	29.0	С	0.40	29.0	С	
	05	TR	0.76	38.4	D	0.76	38.4	D	0.76	38.4	D	
	(Dverall		57.2	E		61.5	E		61.5	E	
	EB	L	0.50	48.6	D	0.50	48.6	D	0.50	48.6	D	
		TR	1.10	82.1		1.08	74.9	Ē	1.08	74.9	Ē	
	WB		0.33	35.7	0	0.33	34.6	<u> </u>	0.33	34.6	<u> </u>	Line and the state
Northern Blvd /			1.39	208.6	- F	1.44	231.4	<u>+</u>	1.44	231.4	F	Unmitigated
Parsons Bivo	NB		0.80	68.7	<u> </u>	0.80	68.7	<u> </u>	0.80	68.7	<u> </u>	
	00		0.43	35.4		0.43	35.4		0.43	35.4		
	<u> 38</u>		1.17	140.7		1.17	140.7		1.17	140.7		
			0.65	21.0		0.96	102.4	r D	0.96	102.4	r D	
Roosevelt Ave /			0.00	31.9	С F	0.00	40.0 104.4	D F	0.00	40.9	5	
Parsone Blud	NR		1.09	206 S		1.10	124.4 206.9	F	1.10	206.9	F	Immitigated
	SR		0.84	<u>230.0</u> <u>42</u> 7		0.84	<u>230.0</u> <u>42</u> 7	<u>י</u>	0.84	230.0 <u>1</u> 27	<u>ר</u>	Jinnigated
	- 0D	Verall	0.04	137.6	F	0.04	141 2	F	0.04	141 2	F	
	<u> </u>			NSIGNAL	7ED II	ITERSE				2.171		
39th Ave /	SB		0.23	11 1		0.93	79.5	F	0.54	29.4	C	Fully
138th Street **	EB	LT	0.05	8.9	A	0.08	16.6	Ċ	0.35	28.1	č	Mitigated
Notes: ** F		to be signali	zed und	ler Mitiaat	ed Ru	ild scer	ario	-			-	Junea
	1000000	i to bo digitali.		isi miliyal	54 54							

No Build, Build, and Mitigated Build LOS Comparison: Weekday AM Peak Hour

Table 20-4

				No Build			Build		Mit	igated Buil	d	
				AVG.			AVG.			AVG.		Intersection
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?
			SIGN	IALIZED IN	ITERS	SECTIO	NS					
	EB	L	0.74	60.4	E	0.83	68.5	Е	0.74	23.1	С	
	Main Rd	Т	0.50	15.8	В	0.55	16.5	В	0.57	17.9	В	
	EB Serv											
	Rd	TR	0.13	11.8	В	0.15	12.0	В	0.15	13.0	В	
Northern Blvd /	WB	L	1.40	285.9	F	1.63	382.6	F	1.28	229.2	F	Fully
Prince Street	Main Rd	Т	0.61	22.2	С	0.68	23.5	С	0.72	26.8	С	Mitigated
	WB Serv											
	Rd	TR	0.21	20.4	С	0.22	20.4	С	0.23	22.3	С	
	NB	LTR	1.71	387.5	F	1.71	387.5	F	1.71	387.5	F	
	SB	LTR	0.53	42.4	D	0.53	42.4	D	0.53	42.4	D	
	0	verall		54.6	D		56.9	Е		51.8	D	
	EB	DefL	1.71	356.3	F	1.82	406.7	F	1.82	406.7	F	
Roosevelt Ave /	LD	TR	0.78	20.6	С	0.78	20.6	С	0.78	20.6	С	
Prince Street	WB	LTR	1.40	204.6	F	1.47	235.9	F	1.47	235.9	F	Unmitigated
	SB	LTR	1.63	333.4	F	1.82	414.7	F	1.82	414.7	F	
	0	verall		202.9	F		240.6	F		240.6	F	
	EB	TR	0.76	30.0	С	0.83	32.2	С	0.91	39.9	D	
		L	0.05	30.2	С	0.05	30.2	С	0.05	33.2	С	
Northern Blvd /	WB	T after L	0.06	40.4	D	0.06	40.4	D	0.06	40.4	D	Partially
Main Street		Т	0.68	12.9	В	0.66	12.6	В	0.70	16.1	В	Mitigated
		L	1.78	403.8	F	2.74	833.0	F	2.38	669.5	F	-
	IND	R	1.55	291.4	F	1.92	457.3	F	1.75	378.5	F	
	0	verall		96.4	F		182.5	F		512.3	F	
	WB	TR	0.69	27.6	С	1.22	140.6	F	1.08	81.3	F	
37th Ave /	NB	LT	0.43	5.6	A	0.46	5.7	Α	0.50	8.8	Α	Partially
Main Street	SB	Т	0.02	11.4	В	0.02	11.4	В	0.03	13.6	В	Mitigated
	0	verall		15.1	В		76.5	Е		46.8	D	0
	EB	LTR	0.81	51.9	D	0.92	65.9	Е	0.86	53.6	D	
38th Ave /		Т	0.44	2.6	A	0.44	2.6	A	0.46	3.5	A	Fully
Main Street	NB	R	0.49	8.0	A	0.49	8.0	A	0.53	10.6	B	Mitigated
	SB	Т	0.02	10.6	B	0.02	10.6	B	0.02	11.9	B	magatoa
	0	verall	0.02	17.8	B	0.02	23.7	C	0.02	20.6	C	
	FR	ITR	1 77	370.3	F	1.80	300 /	F	1.80	300 /	F	
	WB	LTR	1.89	429.7	F	1.00	470.8	F	1.00	470.8	F	
Roosevelt Ave /	110		1.00	228.9	F	1.50	279.8	F	1.50	279.8	F	Unmitidated
Main Street	NB	P	1.44	180.5	- F	1.00	180.5		1.00	180.5		Onningated
Main Ou cet	SB		0.00	16.5	B	0.00	16.5	I R	0.00	16.5	R	
	00	Verall	0.03	325.0	F	0.03	350 /	F	0.03	350 /	F	
		TD	0.52	10.6	P	0.54	20.0	P	0.57	21.0	Ċ	
		<u> - 17</u>	0.52	<u>19.0</u>		0.04	20.0	<u><u>a</u> C</u>	0.57	<u>21.0</u> 25.1	<u>×</u>	
At at Ava / Main Otra -1			1 1 1	20.3		1 17	<u>20.4</u>		1 10	20.1		
<u>41St Ave/ Wain Street</u>	00	<u> 1K</u>	0.45	<u>90.2</u>		0.45	10.4		0.47	10.0		<u>FUIIY</u> Mitigatad
I MISSELLA DIVU	<u>30</u>		0.15	10.2	D	0.15	10.4		0.17	10.0		willgated
			0.02	14.1		0.05	14.2		0.05	13.1	D L	
	<u> </u>			57.0	E		69.2	<u><u> </u></u>		56.0	E	
			1.00	46.8	<u>D</u>	1.03	53.8	<u><u>u</u></u>	<u>1.01</u>	46.9	D	_
	NB		0.83	33.9	<u>C</u>	0.88	<u>38.4</u>	<u>0</u>	<u>0.91</u>	<u>42.3</u>	<u>D</u>	Eully
Sanford Ave / Main	<u>SB</u>	<u> 1R</u>	<u>0.10</u>	<u>18.9</u>	B	<u>0.10</u>	<u>18.9</u>	<u>B</u>	<u>0.11</u>	<u>19.6</u>	B	Mitigated
<u>Street</u>	0	verall		<u>42.0</u>	D		<u>47.9</u>	D		<u>44.9</u>	D	
	_	L	1.29	186.1	F	1.35	206.8	F	1.35	206.8	F	
	EB	Т	0.75	29.3	С	0.79	30.5	С	0.79	30.5	С	
		R	1.36	211.4	F	1.74	375.2	F	1.74	375.2	F	
Northern Blvd /	W/R	L	1.25	159.4	F	1.57	297.7	F	1.57	297.7	F	Unmitigated
Union Street	110	TR	0.84	31.5	С	0.80	29.7	С	0.80	29.7	С	
	NB	LTR	0.08	28.7	С	0.08	28.7	С	0.08	28.7	С	
	SB	LTR	0.80	47.9	D	0.86	52.3	D	0.86	52.3	D	
	0	verall		81.8	F		131.2	F		131.2	F	

No Build, Build, and Mitigated Build LOS Comparison: Weekday MD Peak Hour

Table 20-4 (cont'd)

· · · · · ·	<i>,</i>	C	,				Puild		Mit	iastod Ruil	4	
					1		Build	r	IVIIL		a	
			1/10	AVG.			AVG.		1/10	AVG.		Intersection
INTERCOTION				DELAY			DELAY			DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/ven)	LOS	RATIO	(sec/ven)	LOS	RATIO	(sec/ven)	LOS	Mitigated?
	=		SIGN	IALIZED IN	TERS	ECTION	S (cont'd)	_	1		_	
	WB	LT	1.29	192.6	F	1.56	308.5	F	1.23	164.2	F	
37th Ave /	NB	Т	0.04	10.6	В	0.04	10.6	В	0.04	12.7	В	Partially
Union Street	SB	Т	0.70	7.0	A	0.58	5.6	A	0.63	9.1	A	Mitigated
		R	0.55	7.7	Α	1.38	196.4	F	1.51	256.3	F	
	(Overall		42.9	D		136.7	F		133.1	F	
	EB	L	0.07	20.3	С	0.12	21.7	С	0.06	18.2	В	
39th Ave /		R	0.32	23.0	С	1.19	134.0	F	1.08	87.8	F	Partially
Union Street	SB	Т	0.47	3.3	Α	0.43	3.1	Α	0.46	5.0	Α	Mitigated
	(Overall		6.6	Α		55.0	Е		37.9	D	
	ED	Т	0.83	24.8	С	0.84	25.6	С	0.84	25.6	С	
	ED	R	0.64	24.4	С	0.64	24.4	С	0.64	24.4	С	
Roosevelt Ave /	WB	LT	0.86	28.5	С	0.88	29.9	С	0.88	29.9	С	Unmitigated
Union Street	CD	LT	0.68	22.0	С	0.88	29.9	С	0.88	29.9	С	
	30	R	1.70	360.9	F	3.31	1086.0	F	3.31	1086.0	F	
	(Overall		64.2	Е		149.9	F		149.9	F	
		L	0.52	15.8	В	0.56	17.5	В	0.52	15.0	В	
	EB	TR	0.77	20.9	С	1.05	63.5	Е	1.01	51.7	D	
	WB	LTR	0.92	32.4	С	1.00	49.0	D	0.96	39.1	D	
Roosevelt Ave /		L	0.39	33.2	С	0.39	33.2	С	0.44	37.7	D	Partially
Bowne Street	IND	TR	0.65	36.0	D	0.65	36.0	D	0.71	40.5	D	Mitigated
	CD	L	0.15	26.2	С	0.15	26.2	С	0.17	28.5	С	-
	30	TR	0.54	32.6	С	0.54	32.6	С	0.59	36.0	D	
	(Overall		28.4	С		47.6	D		41.2	D	
	50	L	0.55	53.2	D	0.55	54.2	D	0.55	54.2	D	
	EB	TR	1.04	62.6	Е	1.01	55.6	Е	1.01	55.6	Е	
		L	0.32	37.3	D	0.31	35.7	D	0.31	35.7	D	
Northern Blvd /	VVB	TR	1.31	175.3	F	1.44	230.0	F	1.44	230.0	F	Unmitigated
Parsons Blvd		L	0.62	49.0	D	0.62	49.0	D	0.62	49.0	D	-
	NB	TR	0.43	35.5	D	0.43	35.5	D	0.43	35.5	D	
	SB	LTR	1.04	103.2	F	1.04	103.2	F	1.04	103.2	F	
	(Overall		109.7	F		134.4	F		134.4	F	
	EB	LTR	1.47	250.3	F	1.93	453.4	F	1.77	377.1	F	
Roosevelt Ave /	WB	LTR	1.46	244.5	F	1.62	314.8	F	1.50	256.7	F	Partially
Parsons Blvd	NB	LTR	0.75	31.1	С	0.75	31.1	С	0.83	40.7	D	Mitigated
	SB	LTR	0.65	25.2	С	0.65	25.2	С	0.70	29.7	С	-
	(Overall		171.0	F		276.7	F		232.0	F	
	<u>.</u>		U	NSIGNALI	ZED II	ITERSE	CTION	-				
39th Ave /	SB	L	0.69	29.6	D	109.50	50622.0	F	0.83	42.7	D	Fully
138th Street **	EB	LT	0.21	12.1	В	0.96	156.2	F	0.46	30.1	С	Mitigated
Notes: ** [Pronosad	to be signali		or Mitigat	ad Bu	ild scon	ario					¥

No Build, Build, and Mitigated Build LOS Comparison: Weekday MD Peak Hour

Table 20-5

No Build, Build, and Mitigated Build LOS Comparison: Weekday PM Peak Hour

				No Build			Build		Miti	gated Buil	d	
				AVG.			AVG.			AVG.		Intersection
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Ratio	(sec/veh)	LOS	Mitigated?
	-	-	SIG	SNALIZED	INTER	RSECTIO	ONS	_	-		-	
	EB	L	1.03	99.3	F	1.12	125.6	F	1.01	89.9	F	
	Main Rd	Т	0.93	28.8	С	0.97	34.9	С	1.01	47.0	D	
	EB Serv Rd	TR	0.16	12.2	В	0.18	12.3	В	0.19	13.8	В	
Northern Blvd /	WB	L	0.90	114.4	F	1.02	143.6	F	0.75	80.7	F	Partially
Prince Street	Main Rd	Т	0.81	31.1	С	0.87	33.9	С	0.90	41.2	D	Mitigated
	WB Serv Rd	TR	0.28	24.8	С	0.28	24.9	С	0.30	27.0	С	
	NB	LTR	2.22	608.6	F	2.22	608.6	F	2.22	608.6	F	
	SB	LTR	0.67	46.5	D	0.69	48.3	D	0.69	48.3	D	
	Ov	erall		77.5	E		79.0	E		83.2	F	

····)		· · · · · · · · · · · · · · · · · · ·					Puild		N/1:4	ingtod Duil	4	
				No Bulla			Bulla		IVIIT	Igated Bull	a	
				AVG.			AVG.			AVG.		Intersectio
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?
	n	i	SIGN	IALIZED IN	ITERS	ECTION	IS (cont'd)					
	WB	LTR	0.40	15.4	В	0.45	16.3	В	0.56	23.0	С	
39th Ave /	NB	LT	1.24	145.8	F	1.25	152.2	F	0.90	35.7	D	Fully
Prince Street	SB	TR	0.85	29.3	С	0.85	29.3	С	0.72	18.4	В	Mitigated
	(Overall		74.0	Е		75.6	Е		25.9	С	
	ED	DefL	1.81	413.8	F	1.90	458.0	F	1.90	458.0	F	
Roosevelt Ave /	ED	TR	1.13	101.5	F	1.13	101.5	F	1.13	101.5	F	
Prince Street	WB	LTR	1.82	398.3	F	1.89	429.1	F	1.89	429.1	F	Unmitigated
	SB	LTR	1.25	168.6	F	1.35	210.4	F	1.35	210.4	F	_
	(Overall		269.1	F		295.2	F		295.2	F	
	EB	TR	0.99	39.0	D	1.03	50.4	D	1.03	50.4	D	
		L	0.07	38.0	D	0.07	38.0	D	0.07	38.0	D	
Northern Blvd /	WB	T after L	0.13	51.9	D	0.13	51.9	D	0.13	51.9	D	
Main Street		Т	0.76	14.4	В	0.74	14.1	В	0.74	14.1	В	Unmitigate
	NID	L	1.44	256.6	F	1.84	428.7	F	1.84	428.7	F	Ũ
	NB	R	1.69	355.9	F	1.94	468.0	F	1.94	468.0	F	
	(Overall		101.9	F	-	146.6	F	-	146.6	F	
	WB	TR	1 16	129.8	F	1.65	342.2	F	1 45	250.9	F	
37th Ave /	NB		0.49	27	A	0.50	2.5	A	0.53	28	A	Partially
Main Street	SB	Т	0.40	87	Δ	0.00	8.7	Δ	0.00	10.3	B	Mitigated
main ou cou	00	Jverall	0.00	53.5	<u></u>	0.00	160.1	F	0.00	118.0	F	willigated
			0.74	46.0		0.94	54.7		0.80	/0.0		
20th Ava /	ED		0.74	40.0		0.67	04.7		0.60	40.0		Eully
Jour Ave/	NB		0.67	4.4	<u>A</u>	0.67	4.4	<u>A</u>	0.69	0.0	<u>A</u>	Fully
Iviain Street	00	K T	0.50	8.0	<u>A</u>	0.50	8.0	<u>A</u>	0.53	10.1	B Mitigate	ivilligated
	- SB	 	0.04	10.7	<u> </u>	0.04	10.7	<u>В</u>	0.04	11.0	<u>В</u>	
	(13.7	В		16.7	В		15.8	В	
	EB	LTR	2.19	572.8	F	2.23	590.2	<u> </u>	2.23	590.2	<u> </u>	
	WB	LTR	2.21	581.8	F	2.28	616.3	F	2.28	616.3	F	
Roosevelt Ave /	NB	LT	1.31	179.1	F	1.37	204.4	F	1.37	204.4	F	Unmitigated
Main Street		R	0.93	92.6	F	0.93	92.6	F	0.93	92.6	F	
	SB	LTR	0.27	21.7	С	0.27	21.8	С	0.27	21.8	С	
	(Overall		402.3	F		425.7	F		425.7	F	
	WB	LTR	<u>0.74</u>	<u>25.4</u>	С	0.76	<u>26.2</u>	С	<u>0.81</u>	<u>30.9</u>	С	
Sanford Ave /	NB	LTR	0.94	53.5	D	0.98	61.5	E	0.90	45.2	D	Fully
Main Street	SB	TR	0.11	24.0	С	0.11	24.0	С	0.10	21.4	С	Mitigated
	(Overall		37.5	D		41.5	D		37.0	D	
		L	1.33	201.2	F	1.35	208.5	F	1.35	208.5	F	
	EB	Т	0.89	34.0	С	0.92	37.0	D	0.92	37.0	D	
		R	1.59	308.2	F	1.76	384.5	F	1.76	384.5	F	
Northern Blvd /	14/5	L	1.35	214.7	F	1.52	289.0	F	1.52	289.0	F	Unmitigate
Union Street	WB	TR	0.75	27.4	С	0.72	26.6	С	0.72	26.6	С	
	NB	LTR	0.15	30.2	Ċ	0.15	30.2	Ć	0.15	30.2	Ć	
	SB	LTR	0.81	48.3	D	0.84	50.4	D	0.84	50.4	D	
	(Dverall		100.6	F		124.6	F		124.6	F	
	WR	IT	1.17	146.4	F	1.32	205.4	F	1.06	98.7	F	
37th Ave /	NB	<u></u>	0.07	12.5	B	0.07	12.5	B	0.08	14.8	B	Partially
Union Street		T	0.07	18.6	R	0.07	11.0	B	0.00	10./	B	Mitiaated
Union Street	SB	P	0.92	16.0	0 P	1.00	170.0	F	0.00	2/2 2	<u>Б</u>	ivilligated
			0.75	10.0		1.34	07.0	 	1.40	104.4		
	(((((((((((((((((((0.44	J0.∠	0	0.47	91.0	г С	0.40	104.4	Г	
	EB	L	0.11	20.9	0	0.17	22.7	<u> </u>	0.10	18.8	В	
39th Ave /	05	R T	0.34	23.2	<u> </u>	1.05	80.5	F	0.94	48.6	<u></u>	Partially
Union Street	SB		0.52	3.5	A	0.49	3.3	A	0.52	5.3	A	Mitigated
		Dverall	1	7.1	Α	1	32.2	С		21.5	С	

Table 20-5 (cont'd) No Build, Build, and Mitigated Build LOS Comparison: Weekday PM Peak Hour

No Buila, F	suna, a	and Millig	gated	Build I	LUS		ipariso	n: v	veeko	lay PN	l Pe	ak Hour
				No Build			Build		Mit	igated Build	d	
				AVG.			AVG.			AVG.		Intersection
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?
		-	SIGN	IALIZED IN	ITERS	ECTION	IS (cont'd)	_			_	-
	FB	T	1.06	63.2	E	1.07	67.1	E	1.07	67.1	E	
		R	0.73	26.3	С	0.73	26.3	C	0.73	26.3	С	
Roosevelt Ave /	WB	LT	1.12	93.0	<u> </u>	1.14	99.0	F	1.14	99.0	F	Unmitigated
Union Street	SB		0.63	19.4	<u> </u>	0.89	29.3	<u> </u>	0.89	29.3	<u> </u>	
	-	R	2.31	627.1	<u> </u>	4.02	1401.0		4.02	1401.0	F	
	(Jverall		134.2	F		245.3	F		245.3	F	
	EB	TR	0.63	32.9	<u> </u>	0.63	32.9	<u> </u>	0.63	32.9	<u><u> </u></u>	
	WB	LI	1.10	106.6	<u> </u>	1.10	106.6	<u> </u>	1.10	106.6	<u> </u>	
Sanford Ave /	NB		1.09	117.9	<u>+</u>	1.25	1//.6	<u>+</u>	1.25	1/7.6	<u>+</u>	Unmitigated
Union Street	SB		0.82	27.7	<u> </u>	0.94	40.4	<u> </u>	0.94	40.4	<u> </u>	
		K K	1.08	70.8	<u> </u>	1.14	94.0	<u>-</u>	1.14	94.0	F	
	(Jverall		67.6	E		84.3	F		84.3	F	
	EB	TR	0.85	17.4	В	0.88	18.8	В	0.90	22.1	<u>C</u>	
	WB	L	0.75	59.0	E	0.82	68.9	E	0.65	49.8	D	
Northern Blvd /		T	0.47	3.0	A	0.49	3.1	A	0.49	3.1	A	Fully
Bowne Street	NB	L	1.02	100.4		0.83	64.6	<u> </u>	0.83	64.6	<u> </u>	Mitigated
		R	1.01	102.4	F	0.77	62.0	E	0.77	62.0	E	
	(Dverall		27.4	С		21.3	C		22.0	С	
	FB	L	0.57	27.4	С	0.59	28.7	C	0.53	23.1	C	
		TR	1.03	72.0	E	1.34	194.4	F	1.26	157.4	F	
	WB	LTR	1.04	73.6	E	1.14	109.4	F	1.03	68.6	E	
Roosevelt Ave /	NB	L	0.31	28.3	С	0.31	28.3	С	0.36	32.5	С	Partially
Bowne Street		TR	0.58	32.5	С	0.58	32.5	С	0.63	37.1	D	Mitigated
	SB	L	0.16	25.3	C	0.16	25.3	C	0.19	28.8	C	
		TR	0.42	28.7	<u> </u>	0.42	28.7	<u>C</u>	0.46	32.3	<u>C</u>	
	(Dverall		55.1	E		108.5	F		85.1	F	
	FB	L	0.67	52.0	D	0.66	52.6	D	0.66	52.6	D	
		TR	1.03	52.2	D	1.03	53.6	D	1.03	53.6	D	
	WB	L	0.42	46.1	D	0.42	46.1	D	0.42	46.1	D	
Northern Blvd /		TR	1.25	149.4	F	1.31	176.4	F	1.31	176.4	F	Unmitigated
Parsons Blvd	NB	L	0.53	54.6	D	0.53	45.6	D	0.53	45.6	D	
		TR	0.46	36.2	D	0.46	36.2	D	0.46	36.2	D	
	SB	LTR	1.26	180.5	<u> </u>	1.26	180.5	<u> </u>	1.26	180.5	<u> </u>	
				94.4	F		104.8	F		104.8	F	
	EB	LTR	1.33	496.5	<u> </u>	1.74	375.1	F	1.74	375.1	F	
Roosevelt Ave /	WB	LTR	1.28	174.7	<u> </u>	1.43	241.3	F	1.43	241.3	F	
Parsons Blvd	NB	LTR	1.18	135.1	F	1.18	135.1	F	1.18	135.1	F	Unmitigated
	SB		0.91	52.3	<u> </u>	0.91	52.3	<u>D</u>	0.91	52.3	<u>D</u>	
	(0.0-	144.1	F		227.4	F	0.55	227.4	F	
	EB	LTR	0.97	56.6	E	1.06	82.3	F	0.99	57.8	E	
Santord Ave /	WB	LTR	0.82	36.3	D	0.84	38.6	D	0.77	29.6	<u>C</u>	Fully
Parsons Blvd	NB	LTR	0.78	29.0	<u>C</u>	0.78	29.0	<u>C</u>	0.85	38.8	D	Mitigated
	SB		0.73	25.1	<u> </u>	0.73	25.1	<u> </u>	0.80	31.7	<u>C</u>	
	(Jverall		37.6	ט		46.7	ט	L	40.8	ט	
	0.0		U	NSIGNALI		NTERSE	CTION		0.50	047		
39th Ave /	SB		0.52	23.2	<u> </u>	10.64	4610.0	F	0.53	24.7	C	Fully
138th Street **	ĿВ		0.11	13.2	B	0.34	124.4	F	0.40	33.1	С	Mitigated
Notes: ** F	roposed	I to be signali	zed unc	ler Mitigate	ed Bu	uld scer	nario.					

Table 20-5 (cont'd) No Build, Build, and Mitigated Build LOS Comparison: Weekday PM Peak Hour

Table 20-6

				No Build			Build		Mit	igated Buil	d	
				AVG.			AVG.			AVG.		Intersection
WITEPOEDTIC			V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?
		· ·	SIGI	NALIZED IN	NTER	SECTIO	NS				_	
	EB	L	0.99	92.3	F	1.14	139.2		1.14	139.2	Ε	
	Main Rd		1.02	46.8	<u>D</u>	1.08	68.0	<u> </u>	1.08	68.0	E	
Nextleave Dhull	EB Serv Rd		0.32	13.7	В	0.36	14.3	В	0.36	14.3	В	
Northern Bivd /	WB Main Dal		1.89	478.8	F	2.21	623.3	<u>+</u>	2.21	623.3	Γ	l la maiti a ata d
Prince Street	Main Ro		0.96	34.6	<u> </u>	1.02	47.8	0	1.02	47.8	0	Unmitigated
			0.40	24.0 700 F		0.47	24.1 700 F		0.47	24.1 700 F		
			2.01	790.5		2.01	790.5		2.01	/90.5		
	<u> </u>	orall	0.00	98.0	F	0.00	116 /	F	0.00	116 /	F	
	W/B		0.62	10.0	B	0.62	10.4	B	0.72	26.2	-	
37th Avo /	NB		0.02	19.9	B	0.02	19.9	B	0.72	20.2	B	Fully
Prince Street	SB	TP	0.37	12.3		1 10	12.J 91.1		0.04	10.1		Mitigated
T THICE OU CEL		orall	0.33	32.5	<u> </u>	1.10	51.6		0.99	32.6	C	Miligateu
	W/B		0.41	15.5	B	0.50	17.2	B	0.62	24.6	0	
30th Ave /	NB		1.58	200.7	5	1.61	303.6		1 10	24.0	E E	Fully
Prince Street	SB		1.00	53.8		1.01	53.8		0.85	25.2		Mitigated
T THE OUTGEL		erall	1.00	144.0	F	1.00	146.0	F	0.00	49.3	F	willigated
	01		3.00	07/ 7	F	3.24	1044.0	F	3.24	1044.0	F	
Roosevelt Ave /	EB	TR	1 33	175 /	F	1 33	175.4	F	1 33	175 /	ц Г	
Prince Street	WB	I TR	2.03	487.2	F	2.12	524.5	F	2.12	524.5	- F	Inmitiaated
	SB	LTR	1.85	425.8	F	2.12	529.6	F	2.09	529.6	- F	Ommigated
	Ov	erall	1.00	451.5	F	2.00	493.7	F	2.00	493.7	F	
	FB	TR	0.77	28.7	Ċ	0.81	29.6	Ċ	0.81	29.6	Ċ	
			0.02	23.1	C C	0.01	23.0	<u> </u>	0.02	23.1	C	
Northern Blvd /	WB	T after I	0.04	40.1	D	0.04	40.1	D	0.04	40.1	D	
Main Street		T	0.71	13.4	B	0.70	13.2	B	0.70	13.2	B	Unmitigated
		Ĺ	2.08	537.2	F	2.56	754.2	F	2.56	754.2	F	erringatea
	NB	R	1.49	264.6	F	1.74	373.9	F	1.74	373.9	F	
	Ov	erall		121.7	F		203.6	F		203.6	F	
	WB	TR	0.66	26.7	С	0.95	48.6	D	0.92	42.8	D	
37th Ave /	NB	LT	0.61	6.9	Ă	0.64	7.3	A	0.66	8.2	A	Fully
Main Street	SB	Т	0.02	11.4	В	0.02	11.4	В	0.02	11.9	В	Mitigated
	Ov	erall		13.5	В		23.4	С		21.7	С	3
	EB	LTR	1.17	139.2	F	1.39	228.0	F	1.26	171.9	F	
38th Ave /		Т	0.60	3.5	Α	0.60	3.5	Α	0.63	5.4	Α	Partially
Main Street	NB	R	0.61	12.5	В	0.61	12.5	В	0.69	19.1	В	Mitigated
	SB	Т	0.02	10.6	В	0.02	10.6	В	0.02	12.3	В	0
	Ov	erall		45.3	D		80.5	F		63.2	Е	
	EB	LTR	2.80	840.2	F	2.86	864.8	F	2.86	864.8	F	
	WB	LTR	2.53	717.6	F	2.63	762.8	F	2.63	762.8	F	
Roosevelt Ave /		LT	1.58	291.6	F	1.66	328.2	F	1.66	328.2	F	Unmitigated
Main Street	IND	R	0.34	22.6	С	0.65	48.0	D	0.65	48.0	D	-
	SB	LTR	0.14	17.1	В	0.14	17.2	В	0.14	17.2	В	
	Ov	erall		584.3	F		616.7	F		616.7	F	
	WB	TR	0.81	<u>28.7</u>	С	0.84	<u>30.1</u>	С	0.88	35.2	D	
		L	0.65	29.2	С	0.65	29.2	С	0.61	<u>25.6</u>	С	
	NB											Fully
41st Ave / Main St /		TR	<u>1.26</u>	<u>150.5</u>	<u> </u>	<u>1.30</u>	<u>171.2</u>	E	<u>1.23</u>	<u>139.8</u>	E	Mitigated
Kissena Blvd	SB	L	<u>0.15</u>	<u>16.9</u>	В	<u>0.16</u>	<u>17.1</u>	В	<u>0.18</u>	<u>19.0</u>	В	
		TR	0.02	14.1	В	0.02	14.1	В	0.02	<u>13.0</u>	В	
	Ov	erall		<u>86.8</u>	F		<u>98.2</u>	F		<u>84.7</u>	F	
	WB	LTR	<u>0.95</u>	<u>35.8</u>	D	<u>0.96</u>	<u>36.9</u>	D	<u>0.98</u>	<u>41.9</u>	D	_
Sanford Ave /	NB	LTR	0.94	46.4	D	0.99	55.5	E	0.96	<u>48.3</u>	D	Fully
Main Street	SB	TR	0.10	18.9	В	0.10	18.9	В	<u>0.10</u>	<u>18.2</u>	В	Mitigated
	Ov	erall		<u>39.6</u>	D		<u>43.9</u>	D		<u>44.1</u>	D	

No Build, Build, and Mitigated Build LOS Comparison: Saturday MD Peak Hour

Table 20-6 (cont'd) No Build, Build LOS Comparison: Saturday MD Peak Hour No Build Mitigated Build No Build Build Mitigated Build No Build Build Mitigated Build Mitigated Build

				NO Bullu			Dullu		IVIIL	yaleu Dull	u	
				AVG.			AVG.			AVG.		Intersection
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?
	-	-	SIGN	ALIZED IN	ITERS	ECTION	IS (cont'd)	-	-	-	-	
		L	1.43	253.2	F	1.52	290.5	F	1.52	290.5	F	
	EB	Т	0.86	33.9	С	0.89	35.5	D	0.89	35.5	D	
		R	1.60	315.1	F	1.82	413.4	F	1.82	413.4	F	
Northern Blvd /		1	1 78	397.9	F	1.96	477.3	F	1.96	477.3	F	Unmitigated
Union Street	WB	TR	0.85	31.7	C	0.83	30.6		0.83	30.6		Orinnigatou
onion ou cet	NB	I TR	0.00	28.8	<u> </u>	0.00	28.8	<u> </u>	0.00	28.8	<u>с</u>	
			0.00	55.7	<u> </u>	0.00	60.9	<u> </u>	0.00	60.9	С Е	
	30		0.90	106.1		0.94	150.5		0.94	150.5		
			4.04	120.1	<u>г</u>	1.10	159.5			109.0	F	
0 - /1 4 /	VVB		1.24	1/2.9	<u>+</u>	1.40	240.4	<u>+</u>	1.14	130.9	F	
3/th Ave /	NB		0.04	10.7	В	0.04	10.7	В	0.04	12.8	В	Partially
Union Street	SB	Т	0.87	12.2	В	0.69	6.9	A	0.76	11.3	В	Mitigated
		R	0.66	9.6	A	1.46	231.0	F	1.59	293.3	F	
	0	Overall		35.5	D		127.2	F		136.4	F	
	ED	L	0.06	20.2	С	0.06	20.2	С	0.06	18.2	В	
39th Ave /	ED	R	0.59	28.3	С	1.64	325.5	F	1.45	238.5	F	Partially
Union Street	SB	Т	0.60	4.0	Α	0.50	3.4	Α	0.53	5.4	Α	Mitigated
	(Overall		9.3	Α		145.3	F		108.1	F	°,
		Т	0.97	41.5	D	0.98	44.8	D	0.98	44.8	D	
	EB	R	0.76	30.4	C	0.76	30.4	<u> </u>	0.76	30.4	C	
Roosevelt Ave /	W/R	IT	1.25	1// 3	F	1 28	156.7	F	1.28	156.7	н (Immitigated
Union Street	110		0.76	22.5	<u> </u>	0.07	30.7		0.07	30.7	ь П	Onniugated
Onion ou cet	SB		1.70	22.5	<u> </u>	2.26	1061.0		2.26	1061.0	5	
	-		1.70	00.0		3.20	170.0		3.20	170.0		
			0.50	00.9	Г	0.50	170.0	Г	0.50	170.0	Г	
	EB		0.59	31.3	<u> </u>	0.59	31.3	<u> </u>	0.59	31.3	C	
	WB	LI	2.31	631.4	<u> </u>	2.31	631.4	<u> </u>	2.31	631.4	F	
Sanford Ave /	NB	LR	1.02	90.6	F	1.13	125.5	F	1.13	125.5	F	Unmitigated
Union Street	SB	LT	0.63	19.4	В	0.71	22.0	С	0.71	22.0	С	
	00	R	1.15	95.3	F	1.18	108.9	F	1.18	108.9	F	
	0	Overall		208.1	F		212.3	F		212.3	F	
	EB	TR	0.85	25.6	С	0.88	26.8	С	0.91	30.8	С	
		L	0.73	61.1	Е	0.82	71.9	Е	0.65	51.6	D	
Northern Blvd /	VVB	Т	0.62	9.3	Α	0.65	9.7	Α	0.65	9.7	Α	Fully
Bowne Street		L	0.82	53.4	D	0.65	42.8	D	0.65	42.8	D	Mitigated
	NB	R	0.91	66.3	Е	0.70	46.2	D	0.70	46.2	D	Ũ
	(Dverall		27.1	С		24.8	С		25.5	С	
			0.71	24.8	Ċ.	0.74	28.0	C.	0.74	28.0	Ċ.	
	EB	TP	0.71	24.0	<u> </u>	1.08	72.4		1.08	72.4	E	
	\//D		1.06	23.3	<u> </u>	1.00	90.0		1.00	90.0		
Reasonalt Ava /	VVD		0.49	27.7	<u> </u>	0.49	27.7	<u> </u>	0.49	27.7	- 6	I Inmitianted
Rousevell Ave/	NB		0.40	00.4		0.40	37.7		0.40	37.7	<u>р</u>	Unmiligated
Bowne Street			1.08	99.1	<u>-</u>	1.08	99.1	<u> </u>	1.08	99.1	F	
	SB		0.52	50.0	D	0.52	50.0	<u>D</u>	0.52	50.0	D	
	L		0.68	37.2	<u></u>	0.68	31.2		0.68	31.2	D	
	(Jverall		55.1	E		74.1	E		74.1	F	
	EB	LTR	1.28	162.8	F	1.37	201.0	F	1.27	159.2	F	
	WB	LT	0.64	18.0	В	0.64	18.1	В	0.62	16.2	В	
Sanford Ave /		R	0.13	10.5	В	0.13	10.5	В	0.13	9.5	Α	Fully
Bowne Street	NB	LTR	0.69	32.8	С	0.69	32.8	С	0.78	40.8	D	Mitigated
	CD	L	0.22	23.2	С	0.22	23.2	С	0.25	25.2	С	
	20	TR	0.54	27.8	С	0.54	27.8	С	0.58	31.1	С	
	0	Overall		65.1	Е		80.7	F		68.4	Е	

No Build, I	Build, a	and Mitig	gated	Build I	LOS	Con	ipariso	n: S	aturo	lay ME) Pe	ak Hour	
			No Build			Build			Mitigated Build				
				AVG.			AVG.			AVG.		Intersection	
	LANE		V/C	DELAY		V/C	DELAY		V/C	DELAY		Impact	
INTERSECTION	GROUP	MOVEMENT	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	RATIO	(sec/veh)	LOS	Mitigated?	
SIGNALIZED INTERSECTIONS (cont'd)													
	ED	L	0.47	50.1	D	0.47	50.1	D	0.47	45.5	D		
	ED	TR	1.26	151.0	F	1.24	141.1	F	1.24	141.1	F		
		L	0.45	48.7	D	0.45	51.0	D	0.45	51.0	D		
Northern Blvd /	VVD	TR	1.38	203.9	F	1.46	238.2	F	1.46	238.2	F	Unmitigated	
Parsons Blvd	ND	L	0.65	51.0	D	0.65	51.0	D	0.65	51.0	D		
	IND	TR	0.52	37.1	D	0.52	37.1	D	0.52	37.1	D		
	SB	LTR	1.59	326.2	F	1.59	326.2	F	1.59	326.2	F		
	(Overall		171.0	F		182.1	F		182.1	F		
	EB	LTR	1.57	292.9	F	1.89	435.1	F	1.89	435.1	F		
Roosevelt Ave /	WB	LTR	1.33	187.3	F	1.44	236.0	F	1.44	236.0	F		
Parsons Blvd	NB	LTR	1.22	142.7	F	1.22	142.7	F	1.22	142.7	F	Unmitigated	
	SB	LTR	0.81	33.7	С	0.81	33.7	С	0.81	33.7	С		
	(Overall		181.7	F		251.8	F		251.8	F		
UNSIGNALIZED INTERSECTION													
39th Ave /	SB	L	0.51	17.3	С	12.51	5399.0	F	0.67	28.8	С	Fully	
138th Street **	EB	LT	0.06	10.5	В	0.18	104.2	F	0.47	34.6	С	Mitigated	
Notes: ** [Votes: ** Proposed to be signalized under Mitigated Build scenario.												

Table 20-6 (cont'd) No Build, Build, and Mitigated Build LOS Comparison: Saturday MD Peak Hour

Table 20-7

<u>Comparison of Projected Significant Impacts and Mitigated Intersections</u> Between the One-Way Plan and the Modified Two-Way Proposal

		One-W	ay Plan		Modified Two-Way Proposal				
Intersections		Mid	PM	<u>Sat</u>	AM	Mid	PM	<u>Sat</u>	
With Significant Adverse Impacts	17	16	19	21	12	15	<u>18</u>	20	
With All Impacts Fully Mitigated	4	5	6	7	7	5	10	7	
With Impacts Partially Mitigated or Unmitigated		11	13	14	5	10	8	13	

F. TRANSIT AND PEDESTRIANS

This section describes the potential measures that would mitigate the significant adverse transit (bus) and pedestrian impacts resulting from the proposed action. These impacts are detailed in Chapter 15, "Transit and Pedestrians." With the recommended measures in place, all projected significant adverse impacts would be mitigated, except for one sidewalk and three street corners, where the projected impacts would remain unmitigated.

TRANSIT - NYCT BUS LINE HAUL

As described in Chapter 15, significant adverse impacts are projected on local buses, including Q17, Q27, Q44/20, and Q48, as project-generated ridership would compound other growth projected on these and other routes by 2013. These significant impacts could be mitigated by the introduction of additional buses and related schedule adjustments. MTA/NYCT would evaluate these needs and make the necessary adjustments where warranted, subject to financial and operational constraints. There would be no impacts on the local bus system during the Saturday peak hour. <u>This FEIS provides updated ridership and operations data for the newly</u> added Q19 bus route on Main Street and other routes in Flushing.

PEDESTRIANS

As described in Chapter 15, the proposed action would result in significant adverse impacts at five crosswalks, three street corners, and three sidewalks during the weekday midday peak hour; at three crosswalks, three street corners, and two sidewalks during the weekday PM peak hour; and at three crosswalks, three street corners, and two sidewalks during the Saturday midday peak hour. There were no significant adverse pedestrian impacts projected for the weekday AM peak hour. The measures outlined below are proposed to mitigate the significant adverse pedestrian impacts identified for the weekday midday, weekday PM, and Saturday midday peak hours.

CROSSWALKS

39th Avenue and Main Street

• Increase the width of the east crosswalk by 4 feet from 15.7 feet to 19.7 feet. This widening would fully mitigate the significant adverse impacts during the weekday midday, PM, and Saturday midday peak hours.

Roosevelt Avenue and Main Street

- Increase the width of the east crosswalk by 4.5 feet from 20.6 feet to 25.1 feet. This widening would fully mitigate the significant adverse impact during the weekday midday, PM, and Saturday midday peak hours.
- Increase the width of the west crosswalk by 2.5 feet from 16.0 feet to 18.5 feet. This widening would fully mitigate the significant adverse impact during the weekday midday peak hour.

37th Avenue and Union Street

• Increase the west crosswalk width by 2 feet from 13.3 feet to 15.3 feet. This would fully mitigate the significant adverse impacts during the weekday midday peak hour.

Roosevelt Avenue and Union Street

• Increase the west crosswalk width by 6 feet from 13.3 feet to 19.3 feet. This would fully mitigate the significant adverse impacts during the weekday midday, PM, and Saturday midday peak hours.

SIDEWALKS

Union Street and 39th Avenue

• Increase the effective width of the northwest sidewalk along 39th Avenue by adding pavers on the dirt around the tree trunk. This measure would fully mitigate the significant adverse impact during the weekday midday peak hour.

Roosevelt Avenue and Main Street

• Increase the effective width of the southeast sidewalk along Main Street by relocating the waste container and newspaper stands from being directly across from subway stairs to elsewhere on the sidewalk. This measure would fully mitigate the significant adverse impacts during the weekday midday, and PM, and Saturday midday peak hours.

Implementing the above measures would fully mitigate all significant adverse crosswalk and sidewalk impacts, with the exception of those identified for the northeast sidewalk along Main

Street at Roosevelt Avenue. The projected impacts here during the weekday midday, PM, and Saturday PM peak hours would remain unmitigated. At the 39th Avenue/Main Street, Roosevelt Avenue/Main Street, and Roosevelt Avenue/Union Street intersections, all identified street corner impacts would also remain unmitigated. As stated above, the true one-way operation of Main Street northbound and Union Street southbound could yield wider sidewalks and street corners that may potentially eliminate these unmitigated pedestrian impacts. Tables 20-<u>8</u> through 20-<u>10</u> compare the results of the pedestrian analyses for the 2013 No Build, Build, and mitigated Build conditions during the weekday midday, weekday PM, and Saturday midday peak hours, respectively.

Table 20-<u>8</u>

	CROSSW	ALKS-SIGNAL	IZED	INTERSECTION	s		, v		
		Future No Bu	uild	Future Buil	d		Mitigated Condition		
		CIRCULATION		CIRCULATION			CIRCULATION		
		AREA		AREA			AREA		
		PER PED.		PER PED.			PER PED.		
LOCATION	SIDE	(ft²/p)	LOS	(ft²/p)	LOS	IMPACT?	(ft²/p)	LOS	Mitigated?
20th Auro / Main Streat	S	59.9	В	34.1	С				
39th Ave / Iviain Street	E	30.1	С	13.0	E	yes	15.1	D	Mitigated
	N	36.2	С	29.4	С				
Roosevelt Ave/	S	31.3	С	26.0	С				
Main Street	E	21.0	D	9.7	Е	yes	15.3	D	Mitigated
	W	15.1	D	12.9	E	yes	15.5	D	Mitigated
	N	32.1	С	32.1	С				
37th Ave/	S	44.0	В	26.6	С				
Union Street	E	38.4	С	19.3	D				
	W	20.7	D	12.8	Е	yes	15.1	D	Mitigated
	N	49.9	В	29.4	С				Ŭ.
Roosevelt Ave/	S	43.5	В	43.5	В				
Union Street	E	104.6	Α	26.6	С				
	W	27.7	С	9.4	Е	yes	15.0	D	Mitigated
	-	STREET CO	ORNE	RS					×
		Future No Build Future Build					Mitigated Cond	lition	
		CIRCULATION		CIRCULATION			CIRCULATION		
		AREA		AREA			AREA		
		PER PED.		PER PED.			PER PED.		
LOCATION	DIRECTION	(ft²/p)	LOS	(ft²/p)	LOS	IMPACT?	(ft²/p)	LOS	Mitigated?
39th Ave / Main Street	NE	42.1	В	14.3	Е	yes	14.3	Е	Unmitigated
	NW	43.7	В	32.6	С				
Roosevelt Ave /	NE	35.9	С	14.4	E	yes	14.4	Е	Unmitigated
Main Street	SW	38.9	С	30.3	С				
	SE	42.6	В	19.0	D				
	NW	74.8	Α	22.0	D				
Roosevelt Ave/	NE	35.1	С	7.9	F	yes	7.9	E	Unmitigated
Union Street	SW	43.5	В	15.7	D				
	SE	52.0	В	21.9	D				
		SIDEW	ALKS	1		1	1		1
		Future No Bu	uild	Future Build			Mitigated Conditio		
	DIDECTION	FLOW		FLOW			FLOW		Mitimata do
LUCATION	DIRECTION	(p/min/rt)	LUS	(p/min/rt)	LUS	IMPACT?	(p/min/it)	LUS	wiitigated?
	NVV sidewalk along Union St	0.9	В	1./	В		10.0	_	
004 Aug /	NVV sidewalk along 39th Ave	1.0	В	13.5	E	yes	10.8	D	Iviitigated
39th Ave/	SVV sidewalk along Union St	2.1	В	6.0	C				
Union Street	Svv sidewalk along 39th Ave	0.5	A	1.0	В				
	East sidewalk along Union St North of 39th Ave	1.6	В	2.6	В				
	East suewalk along Union St South of 39th Ave	1.4	В	2.3	В		40.0	_	Lines W. A. S.
	NE sidewalk along Main St	11.8		16.2		yes	16.2	E	Unmitigated
Main Ofmat (INE sidewalk along Roosevelt Ave	10.6		12.1	E				
Main Street /	INVV sidewalk along Main St	9.2		9.2					
Rooseveit Avenue	INVV SIDEWAIK Along Roosevelt Ave	8.9		8.9			40.4	_	Million to 1
	SE sidewalk along Main St	26.3		32.1		yes	13.4	E	iviitigated
	SVV sidewalk along Main St	10.4		18.1					
L	SVV Sidewalk along Roosevelt Ave	b./	ט	0./	ט				

No Build, Build, and Mitigated Build Pedestrians Level of Service Comparison Weekday Midday Peak Hour

Table 20-<u>9</u> No Build, Build, and Mitigated Build Pedestrians Level of Service Comparison Weekday PM Peak Hour

CROSSWALKS – SIGNALIZED INTERSECTIONS										
		Future No Build Future Build			Mitigated Condition					
		CIRCULATION CIRCULATION				CIRCULATION				
		AREA		AREA			AREA			
		PER PED.		PER PED.			PER PED.			
LOCATION	SIDE	(ft²/p)	LOS	(ft²/p)	LOS	IMPACT?	(ft²/p)	LOS	Mitigated?	
39th Ave / Main Street	S	32.3	С	32.3	С					
	E	13.9	E	9.4	Е	yes	12.9	E	Mitigated	
	N	29.4	С	26.0	С					
Roosevelt Ave /	S	24.5	С	22.0	D					
Main Street	E	18.0	D	11.4	Е	yes	18.2	D	Mitigated	
	W	21.7	D	19.2	D					
	N	37.9	С	27.7	С					
Roosevelt Ave /	S	35.3	С	35.3	С					
Union Street	E	90.0	Α	37.2	С					
	W	28.1	С	14.0	Е	yes	15.0	D	Mitigated	
STREET CORNERS										
		Future No Bu	uild	d Future Build			Mitigated Condi			
		CIRCULATION		CIRCULATION			CIRCULATION			
		AREA		AREA			AREA			
		PER PED.		PER PED.			PER PED.			
LOCATION	DIRECTION	(ft²/p)	LOS	(ft²/p)	LOS	IMPACT?	(ft²/p)	LOS	Mitigated?	
39th Ave / Main Street	NE	17.9	D	11.6	Е	yes	11.6	Е	Unmitigated	
	NW	37.6	С	31.2	С					
Roosevelt Ave/	NE	26.9	С	14.7	Е	yes	14.7	Е	Unmitigated	
Main Street	SW	38.0	С	31.9	С					
	SE	33.6	С	19.8	D					
	NW	64.4	Α	29.7	С					
Roosevelt Ave /	NE	32.5	С	12.1	Е	yes	12.1	Е	Unmitigated	
Union Street	SW	40.4	В	21.6	D					
	SE	50.5	В	28.5	С					
		SIDEW	ALKS							
		Future No Bu	uild	Future Build			Mitigated Cond	lition		
		FLOW		FLOW			FLOW			
LOCATION	DIRECTION	(p/min/ft)	LOS	(p/min/ft)	LOS	IMPACT?	(p/min/ft)	LOS	Mitigated?	
	NE sidewalk along Main St	12.2	Е	14.8	Е	yes	14.8	Е	Unmitigated	
	NE sidewalk along Roosevelt Ave	12.8	Е	14.1	Е					
	NW sidewalk along Main St	10.4	D	10.4	D					
Main Street /	NW sidewalk along Roosevelt Ave	7.0	D	7.0	D					
Roosevelt Avenue	SE sidewalk along Main St	27.1	F	30.7	F	yes	12.8	Е	Mitigated	
	SE sidewalk along Roosevelt Ave	10.3	D	10.6	D					
	SW sidewalk along Main St	17.1	Е	18.3	F					
	SW sidewalk along Roosevelt Ave	5.4	С	5.4	С					

	i, Dunu, una mingu	lou Duna	1 00	(Coti luiio I	Satı	irday	Midday I)eal	k Hour
	CROSS					IIuay	Miluuay 1	Ca	A HOUL
	CRUSSY	Future No Bi		Euture Buik	4	1	Mitigated Conc	lition	
LOCATION	SIDE	CIRCULATION AREA PER PED. (ft ² /p)	LOS	CIRCULATION AREA PER PED. (ft ² /p)	LOS	IMPACT?	CIRCULATION AREA PER PED. (ft ² /p)	LOS	Mitigated?
20th Ave / Main Street	S	32.2	С	25.1	С				
39th Ave / Ividin Sueer	E	20.9	D	13.1	Е	yes	15.1	D	Mitigated
	N	27.5	С	24.6	С				
Roosevelt Ave/	S	24.9	C	22.4	D				
Main Street	E	13.7	Е	9.1	Е	yes	12.9	Е	Mitigated
l T	W	11.1	Е	10.2	Е	, í			Ŭ
	N	47.7	В	32.7	С				
Roosevelt Ave /	S	44.3	В	44.3	В				
Union Street	E	143.1	Α	43.5	В				
	W	33.6	С	14.5	Е	yes	15.0	D	Mitigated
		STREET C	ORNE	RS					
		Future No B	uild	Future Buil	d		Mitigated Cond		
		CIRCULATION AREA PER PED	1	CIRCULATION AREA PER PED			CIRCULATION AREA PER PED		
LOCATION	DIRECTION	(ft ² /p)	LOS	(ft²/p)	LOS	IMPACT?	(ft ² /p)	LOS	Mitigated?
39th Ave / Main Street	NE	25.0	C	14.0	E	Ves	14.0	E	Unmitigated
	NW	34.8	C	29.4	C	,			0
Roosevelt Ave/	NE	25.2	č	14.7	Ē	ves	14.7	E	Unmitigated
Main Street	SW	31.5	č	27.2	c	,	- · ···		01
	SE	32.5	č	19.9	Ď				
	NW	86.9	A	33.4	С		<u> </u>		
Roosevelt Ave/	NE	37.7	C	13.3	Ē	ves	13.3	Е	Unmitigated
Union Street	SW	57.1	B	25.7	C	,			0
	SE	56.2	B	29.7	Č				
		SIDEW	ALKS						
		Future No Br	uild	Future Build			Mitigated Condition		
		FLOW		FLOW		1	FLOW		1
LOCATION	DIRECTION	(p/min/ft)	LOS	(p/min/ft)	LOS	IMPACT?	(p/min/ft)	LOS	Mitigated?
	NE sidewalk along Main St	12.1	E	15.3	Е	yes	15.3	Е	Unmitigated
	NE sidewalk along Roosevelt Ave	9.7	D	10.8	D				
	NW sidewalk along Main St	11.5	E	11.5	Е				
Main Street /	NW sidewalk along Roosevelt Ave	9.4	D	9.4	D				
Roosevelt Avenue	SE sidewalk along Main St	23.8	F	28.1	F	yes	11.7	E	Mitigated
[SE sidewalk along Roosevelt Ave	10.4	D	10.7	D				
	SW sidewalk along Main St	17.7	E	19.1	F				
F F	SW sidewalk along Roosevelt Ave	81	П	81	П				

Table 20-<u>10</u> No Build, Build, and Mitigated Build Pedestrians Level of Service Comparison Saturday Midday Peak Hour

NYCDOT MODIFIED TWO-WAY PROPOSAL

Subsequent to the publication of the DEIS, NYCDOT, through its on-going efforts to improve vehicular and pedestrian traffic conditions in downtown Flushing, developed a proposal for an alternative roadway configuration (Modified Two-Way) for further study. Although still a proposal, NYCDOT believes that the Modified Two-Way proposal, which would essentially retain most of the existing roadway configuration for Main and Union Streets but would impose several turn prohibitions and a street direction reversal with the possibility of incorporating pedestrian space improvements, if implemented, may improve traffic flow and safety in downtown Flushing.

As described in Chapter 15, "Transit and Pedestrians," the proposed Modified Two-Way roadway network, if implemented by NYCDOT, is not expected to materially affect analysis findings for bus ridership and operations. However, turns proposed to be eliminated at the intersection of Roosevelt Avenue and Main Street and the possible widening of sidewalks along

Flushing Commons

Main Street are expected to improve pedestrian flows at these locations. If this Modified Two-Way proposal is implemented along with these improvements, it is possible that the unmitigated impacts identified above for the One-Way Pair with Contra Flow bus lanes at the northeast corner of Roosevelt Avenue and Main Street and the northeast sidewalk along Main Street at the same intersection could be mitigated.

G. AIR QUALITY

Chapter 16, "Air Quality," predicts the maximum predicted carbon monoxide (CO) concentrations from traffic generated by the proposed action and concludes that the proposed action would not result in any significant adverse air quality impacts. Therefore, no air quality mitigation is required.

EFFECTS OF PROPOSED TRAFFIC MITIGATION MEASURES

The effects on air quality of the proposed action with implementation of the traffic mitigation measures discussed above were also considered. The results (presented in Appendix B) show that with the proposed traffic mitigation measures, future concentrations of pollutants with the proposed action 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* thresholds for CO impacts. Appendix B presents the tables summarizing these results.