APPENDIX J

POTENTIAL MODIFICATIONS TO THE PROPOSED PROJECT

J-1

Modified Action Zoning Text Amendment

Proposed

Astoria Cove Inclusionary Housing

Text Amendment

Matter in underline is new, to be added;
Matter in ~~strikeout~~ is to be deleted;
Matter with # # is defined in Section 12-10;
* * * indicates where unchanged text appears in the Zoning Resolution

23-90
INCLUSIONARY HOUSING

* * *

23-953
Special floor area compensation provisions in specified areas

(a) Optional provisions for #large-scale general developments# in C4-6 or C5 Districts

* * *

(b) Special provisions for #large-scale general developments# in Community District 1 in the Borough of Queens

Special provisions shall apply to #zoning lots# within a #large-scale general development# that contains R6B, R7A and R7-3 Districts within an #Inclusionary Housing designated area#, as follows:

(1) For #zoning lots#, or portions thereof, that are located within R6B, R7A or R7-3 Districts, the base #floor area ratio# set forth in Section 23-952 shall not apply. No #residential development# or #enlargement# shall be permitted unless #affordable floor area# is provided pursuant to the provisions of this paragraph. The sum of the amount of #low-income floor area#, plus two-thirds of the amount of #moderate-income floor area#, plus half of the amount of #middle-income floor area #shall equal no less than 20 percent of the #floor area# on such #zoning lot#, excluding any ground floor #non-residential floor area#, #floor area# within a #school#, or any #floor area# increase provided for the provision of a #FRESH food store# within the #large-scale general development#; and

(2) The amount of #affordable floor area# utilizing #public funding# that may count toward satisfying the #affordable floor area# required in paragraph (b)(1) of this Section, and the amount of #moderate-income floor area# or #middle-income floor area# that may be considered #low-income floor area# for the purposes of satisfying the #affordable floor area# required in paragraph (b)(1) of this Section, shall be in accordance with any modifications prescribed by the City Planning Commission pursuant to the provisions of Section 74-743(Special provisions for bulk modification).

* * *

~~(b)~~(c) Special provisions for #compensated zoning lots#

* * *

74-74
Large-Scale General Development

* * *

74-743
Special provisions for bulk modification

(a) For a #large-scale general development#, the City Planning Commission may permit:

* * *

(b) In order to grant a special permit pursuant to this Section for any #large-scale general development#, the Commission shall find that:

* * *

~~In addition, w~~Within the former Washington Square Southeast Urban Renewal Area, within Manhattan Community District 2, where the Commission has approved a #large-scale general development#, and a #lot line# of such #large-scale general development# coincides with the boundary of a mapped #public park#, such #lot line# shall be considered to be a #street line# of a #wide street# for the purposes of applying all #use# and #bulk# regulations of this Resolution.

Within Community District 1 in the Borough of Queens, the Commission may prescribe additional conditions to ensure that the purpose of the Inclusionary Housing program as set forth in Section 23-92 (General Provisions) is achieved in a #large-scale general development#. The Commission may establish procedures resulting in limiting the amount of #affordable floor area# utilizing #public funding# that may count toward satisfying the #affordable floor area# required

in paragraph (b)(1) of Section 23-953, and in conjunction therewith, the Commission may establish procedures resulting in allowing an amount of #moderate-income floor area# or #middle-income floor area# to be considered #low-income floor area# for the purposes of satisfying the #affordable floor area# required in paragraph (b)(1) of Section 23-953. Any such modification shall be set forth in the restrictive declaration required in connection with the grant of a special permit for such #large-scale general development#.

For a phased construction program of a multi-#building# complex, the Commission may, at the time of granting a special permit, require additional information, including but not limited to a proposed time schedule for carrying out the proposed #large-scale general development#, a phasing plan showing the distribution of #bulk# and #open space# and, in the case of a site plan providing for common #open space#, common open areas or common parking areas, a maintenance plan for such space or areas and surety for continued availability of such space or areas to the people they are intended to serve.

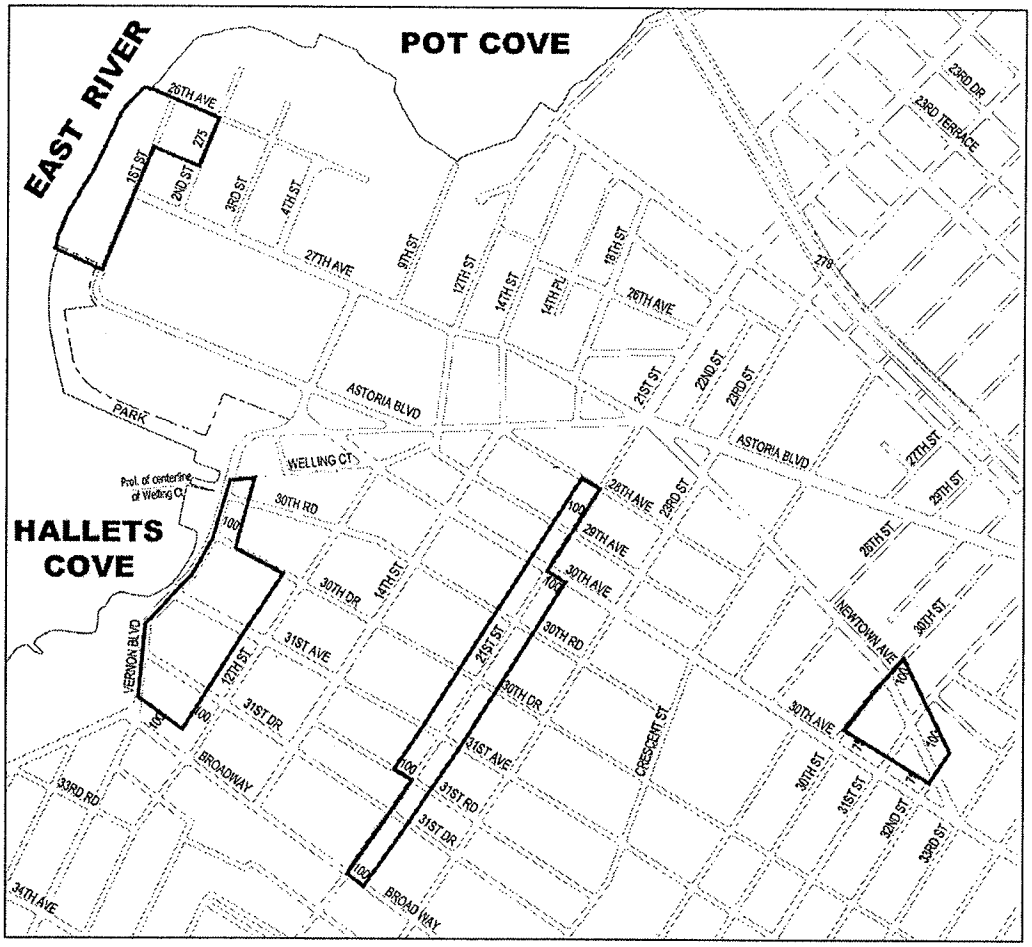
The Commission may prescribe additional conditions and safeguards to improve the quality of the #large-scale general development# and to minimize adverse effects on the character of the surrounding area.

(MAP TO BE DELETED)

Queens
Queens Community District 1

In the R7A and R7-3 Districts within the areas shown on the following Map 1:

Map 1 - (10/9/13)



Community District 1, Queens

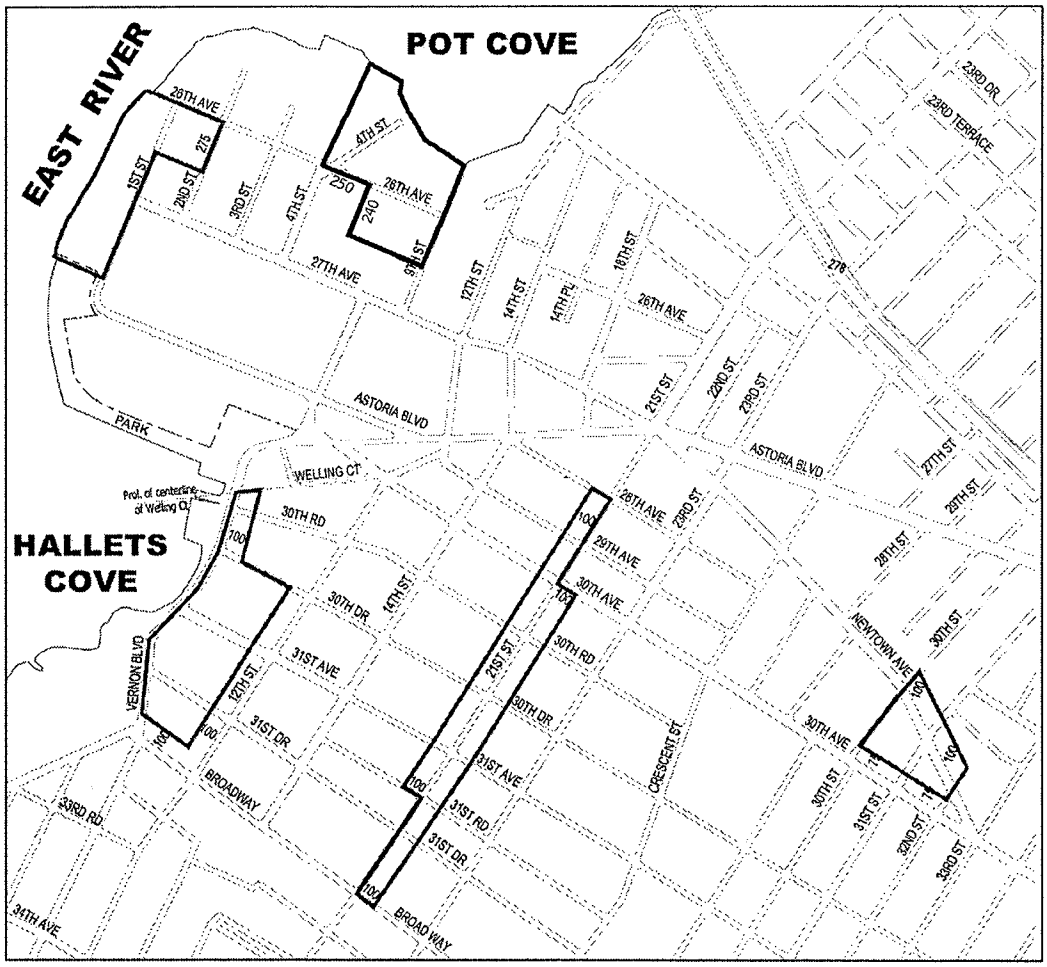
Portion of Community District 1, Queens

(MAP TO BE INSERTED)

Queens
Queens Community District 1

In the R7A and R7-3 and R6B Districts within the areas shown on the following Map 1:

Map 1



Community District 1, Queens

Portion of Community District 1, Queens

J-2

Modified Action Transportation Analyses

TRANSPORTATION PLANNING ASSUMPTIONS: MODIFIED PROJECT

Land Use:	**Local Retail**	**Residential**	**Supermarket**	**PS School**	**PS Staff**	**Existing Industrial**
Size/Units:	84,470 gsf	1,536 DU*	25,000 gsf	456 seats	35 staff	-194,700 gsf
Trip Generation:	(1)	(1)	(1)	(9)	(9)	(7)
Weekday	205	8.075	175	2	2	NA
Saturday	240	9.6	231	0	0	NA
	per 1,000 sf	per DU	per 1,000 sf	per student	per staff	
Temporal Distribution:	(1)	(1)	(5)	(9)	(9)	(7)
AM	3.0%	10.0%	5.0%	50%	50%	NA
MD	19.0%	5.0%	6.0%	0%	0%	NA
PM	10.0%	11.0%	10.0%	5%	50%	NA
Sat MD	10.0%	8.0%	9.0%	0%	0%	NA

	(2)	(3)	(5)				(10)		(8)	(7)
Modal Splits:	All Periods	All Periods	AM	MD	PM	Sat MD	Outsider	Internal	All Periods	All Periods
Auto/Auto-dropoff	2.0%	32.4%	61.0%	68.0%	67.0%	76.0%	5.0%	0	57.0%	NA
Taxi	3.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0	1.0%	NA
Subway/Shuttle	6.0%	55.4%	1.0%	0.0%	0.0%	0.0%	0.0%	0	18.0%	NA
Bus	6.0%	3.2%	5.0%	5.0%	3.0%	6.0%	0.0%	0	11.0%	NA
Schoolbus							5.0%	0		NA
Walk/Ferry/Other	83.0%	8.5%	33.0%	27.0%	30.0%	18.0%	5.0%	85%	13.0%	NA
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	15.0%	85.0%	100.0%	NA

	(2)		(4)		(5)		(9)		(9)		(7)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	50%	50%	20.0%	80.0%	57%	43%	100%	0%	100%	0%	NA	NA
MD	50%	50%	50.0%	50.0%	50%	50%	0%	0%	0%	0%	NA	NA
PM	50%	50%	65.0%	35.0%	52%	48%	0%	100%	0%	100%	NA	NA
Sat MD	50%	50%	50.0%	50.0%	52%	48%	0%	0%	0%	0%	NA	NA

Vehicle Occupancy:	(2)	(3)	(5)				(9)	(8)	(7)
	All Periods	All Periods	AM	MD	PM	Sat MD	Weekday	Weekday	All Periods
Auto	2.00	1.11	1.12	1.32	1.34	1.48	1.3	1.20	NA
Taxi	2.00	1.4					1.3	1.20	NA

Truck Trip Generation:	(1)	(1)	(11)	(6)		(7)
Weekday	0.35	0.06	0.35	6.25		NA
Saturday	0.04	0.02	0.04			NA
	per 1,000 sf	per DU	per 1,000 sf	students/bus		
	(1)	(1)	(1)			(7)
AM	8.0%	12.0%	8.0%			NA
MD	11.0%	9.0%	11.0%			NA
PM	2.0%	2.0%	2.0%			NA
Sat MD	11.0%	9.0%	4.0%			1.0%

	In	Out	In	Out	In	Out	In	Out
AM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	NA	NA
MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	NA	NA
PM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	NA	NA
Sat MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		

Notes :

(1) *2012 City Environmental Quality Review (CEQR) Technical Manual.*

(2) *Dutch Kills Rezoning and Related Actions FEIS* , CEQR #08DCP021Q (2008).

(3) Model split and vehicle occupancy data are based on 2007 -2011 ACS Journey to Work data(Tract 81,83,91,97,101,103,105) in Queens.

(4) Based on *ITE Trip Generation Handbook, 8th Edition* , Land Use Code (220) Apartment.

(5) Based on 1525 Albany Avenue Pathmark Supermarket Survey, 2009.

(6) Based on data from survey conducted by PHA (October 2012) on PS 35,Hollis,Queen.

(7) Vehicular travel demand was based on counts in 2013. Credit for transit and pedestrian trips are not being taken for conservative purposes.

(8) Model split and vehicle occupancy data are based on 2000 census reverse-journey-to-work data(Tract 87,91) in Queens.

(9) *Brownsville Ascend Charter School Assessment,* 2011.

(10) *Halletts Point FEIS.*

(11) Instructed by DCP to use *CEQR* local retail delivery truck trip generation rate.

* 166 residential units in the upland area in no build condition (1668 DU in build condition). With the net increment of 1536 units (1702 -166)

TRIP GENERATION: MODIFIED PROJECT

Land Use:		**Local Retail**		**Residential**		**Supermarket**		**PS School**				**PS Staff**		**Existing Industrial**		
Size/Units:		84,470 gsf		1,536 DU		25,000 gsf		456 seats				35 staff		-194,700 gsf		Total
Peak Hour Trips:																
	AM	390		1,240		165		412				35		NA		2,242
	MD	2,468		620		198		0				0		NA		3,286
	PM	1,300		1,364		329		42				35		NA		3,070
	Sat MD	1,520		1,180		390		0				0		NA		3,090
Person Trips:								Off-site		On-site						
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	**Auto**	4	4	80	321	57	43	21	0	0	0	20	0	NA	NA	182	368
	Taxi	6	6	1	5	0	0	0	0	0	0	0	0	NA	NA	7	11
	Subway	12	12	137	550	1	1	0	0	0	0	6	0	NA	NA	156	563
	Bus	12	12	8	32	5	5	0	0	0	0	4	0	NA	NA	29	49
	Schoolbus							20	0	0	0			NA	NA	20	0
	Walk/Other	161	161	22	84	30	23	21	0	350	0	5	0	NA	NA	589	268
	Total	195	195	248	992	93	72	62	0	350	0	35	0	NA	NA	983	1,259
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	**Auto**	25	25	100	100	67	67	0	0	0	0	0	0	NA	NA	192	192
	Taxi	37	37	2	2	0	0	0	0	0	0	0	0	NA	NA	39	39
	Subway	74	74	172	172	0	0	0	0	0	0	0	0	NA	NA	246	246
	Bus	74	74	10	10	6	6	0	0	0	0	0	0	NA	NA	90	90
	Schoolbus							0	0	0	0			NA	NA	0	0
	Walk/Other	1,024	1,024	26	26	26	26	0	0	0	0	0	0	NA	NA	1,076	1,076
	Total	1,234	1,234	310	310	99	99	0	0	0	0	0	0	NA	NA	1,643	1,643
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	**Auto**	13	13	287	155	115	106	0	3	0	0	0	20	NA	NA	415	297
	Taxi	20	20	4	2	0	0	0	0	0	0	0	0	NA	NA	24	22
	Subway	39	39	491	264	0	0	0	0	0	0	0	6	NA	NA	530	309
	Bus	39	39	28	15	5	5	0	0	0	0	0	4	NA	NA	72	63
	Schoolbus							0	0	0	0			NA	NA	0	0
	Walk/Other	539	539	76	42	50	48	0	3	0	36	0	5	NA	NA	665	673
	Total	650	650	886	478	170	159	0	6	0	36	0	35	NA	NA	1,706	1,364
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Sat MD	**Auto**	15	15	191	191	154	142	0	0	0	0	0	0	NA	NA	360	348
	Taxi	23	23	3	3	0	0	0	0	0	0	0	0	NA	NA	26	26
	Subway	46	46	327	327	0	0	0	0	0	0	0	0	NA	NA	373	373
	Bus	46	46	19	19	12	11	0	0	0	0	0	0	NA	NA	77	76
	Schoolbus							0	0	0	0			NA	NA	0	0
	Walk/Other	630	630	50	50	37	34	0	0	0	0	0	0	NA	NA	717	714
	Total	760	760	590	590	203	187	0	0	0	0	0	0	NA	NA	1,553	1,537
Vehicle Trips :																
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	**Auto (Total)**	2	2	72	289	51	39	16	16	0	0	17	0	-18	-8	140	338
	Taxi	3	3	1	4	0	0	0	0	0	0	0	0	0	0	4	7
	Taxi Balanced	6	6	5	5	0	0	0	0	0	0	0	0	0	0	11	11
	Shuttle/Schoolbus			11	11			3	3	0	0			0	0	14	14
	Truck	1	1	6	6	1	1	0	0	0	0	0	0	-2	0	6	8
	Total	9	9	94	311	52	40	19	19	0	0	17	0	-20	-8	171	371
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	**Auto (Total)**	13	13	90	90	51	51	0	0	0	0	0	0	-11	-15	143	139
	Taxi	19	19	1	1	0	0	0	0	0	0	0	0	0	0	20	20
	Taxi Balanced	38	38	2	2	0	0	0	0	0	0	0	0	0	0	40	40
	Shuttle/Schoolbus			0	0			0	0					0	-1	0	-1
	Truck	1	1	4	4	1	1	0	0	0	0	0	0	-2	-2	4	4
	Total	52	52	96	96	52	52	0	0	0	0	0	0	-13	-18	187	182
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	**Auto (Total)**	7	7	259	140	85	79	2	2	0	0	0	17	-5	-16	348	229
	Taxi	10	10	3	1	0	0	0	0	0	0	0	0	0	0	13	11
	Taxi Balanced	20	20	4	4	0	0	0	0	0	0	0	0	0	0	24	24
	Shuttle/Schoolbus			10	10			0	0					-3	0	7	10
	Truck	0	0	1	1	0	0	0	0	0	0	0	0	-1	0	0	1
	Total	27	27	274	155	85	79	2	2	0	0	0	17	-9	-16	379	264
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Sat MD	**Auto (Total)**	8	8	172	172	104	96	0	0					-8	-14	276	262
	Taxi	12	12	2	2	0	0	0	0					0	0	14	14
	Taxi Balanced	24	24	4	4	0	0	0	0					0	0	28	28
	Shuttle/Schoolbus			0	0			0	0					0	0	0	0
	Truck	0	0	1	1	0	0							0	0	1	1
	Total	32	32	177	177	104	96							-8	-14	305	291

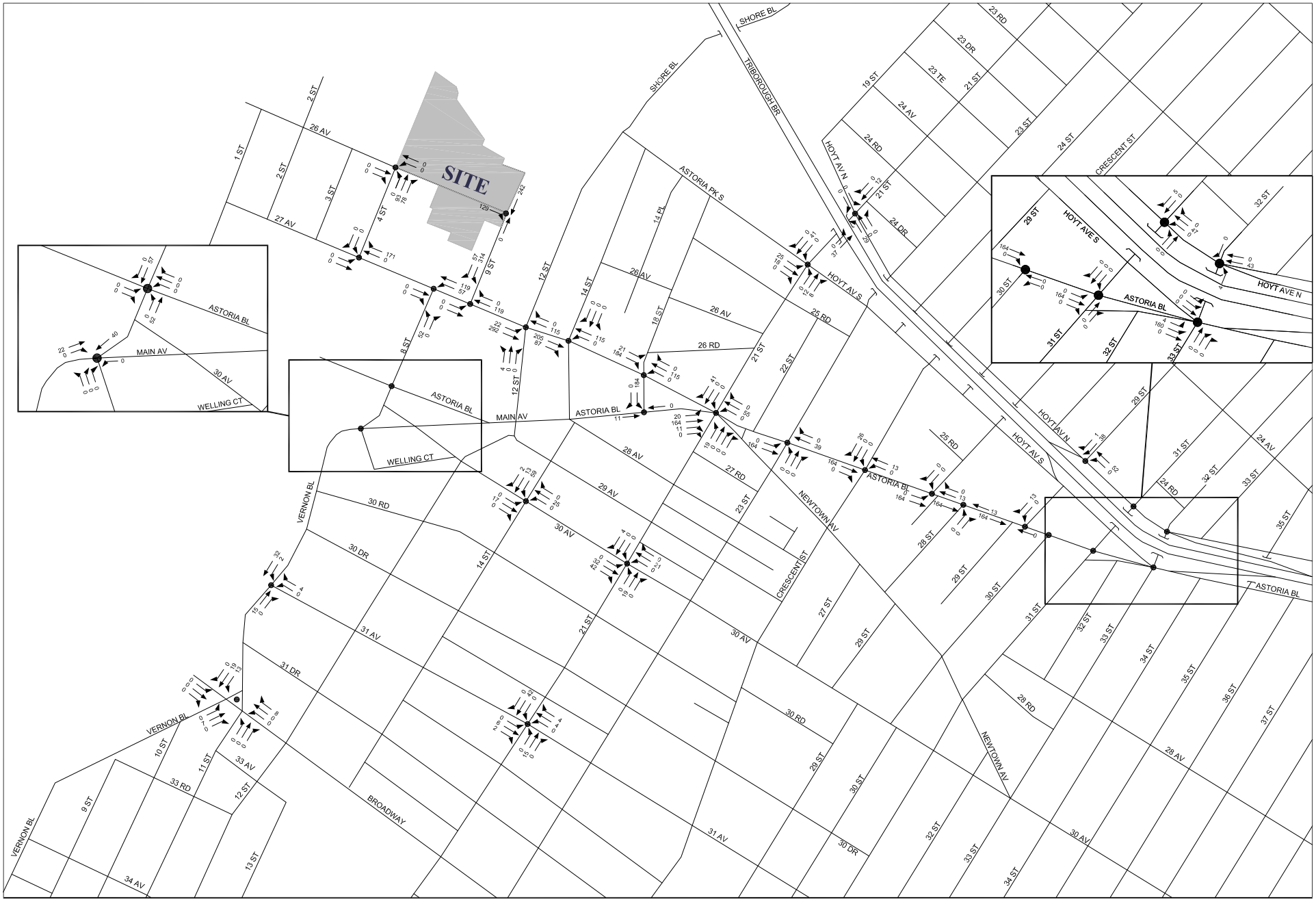
	Total			Q103 Bus Demand*		
Total Vehicle	In	Out	Total	In	Out	Total
AM	171	371	542	40	130	170
MD	187	182	369	79	79	158
PM	379	264	643	129	82	211
Sat MD	305	291	596	101	100	201

Notes : 25% link trips applied to Retail and Supermarket Uses

80% of resident subway users will be shuttled to subway station at 30th Ave and 31st Street during the weekday AM and PM peak hours.

10% Absentee rate is applied for students of the public school.

* 20% of subway demand added to 1/3 of bus users that would utilize Q103.



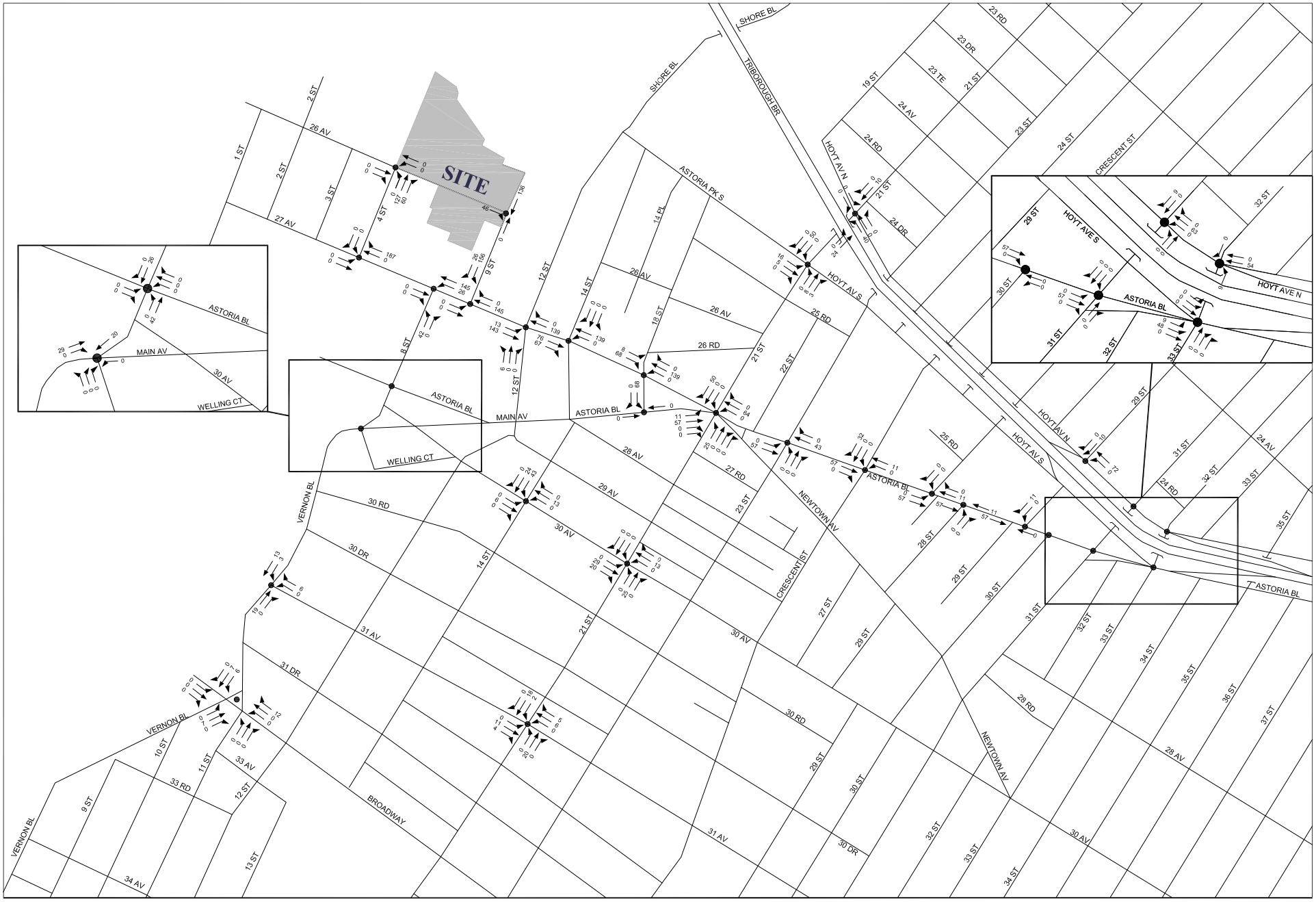
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Modified Project Increment Volumes - AM Peak Hour



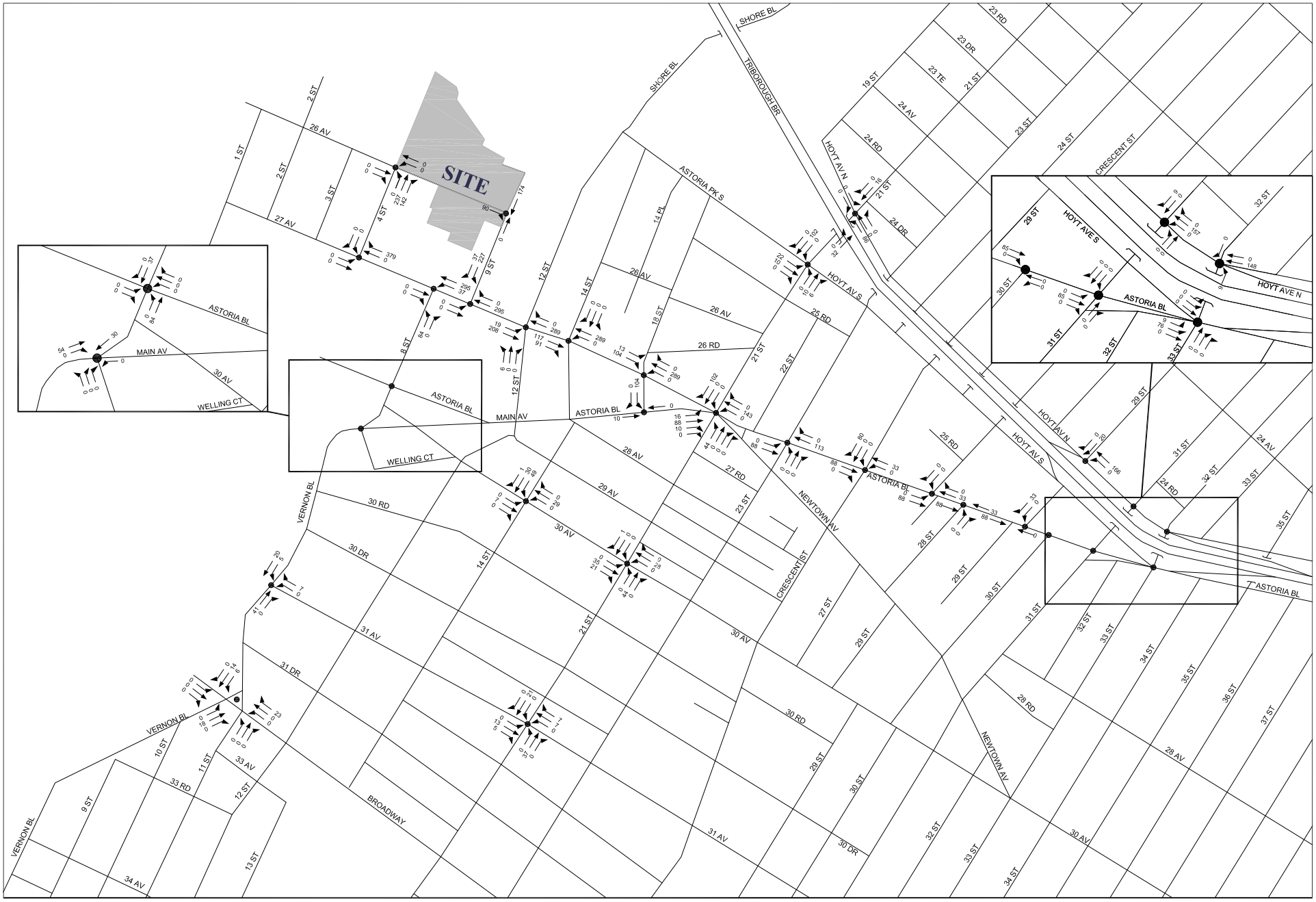
● Analyzed Locations

Astoria Cove

Figure XX

This figure is new to the FEIS

Modified Project Increment Volumes - Midday Peak Hour



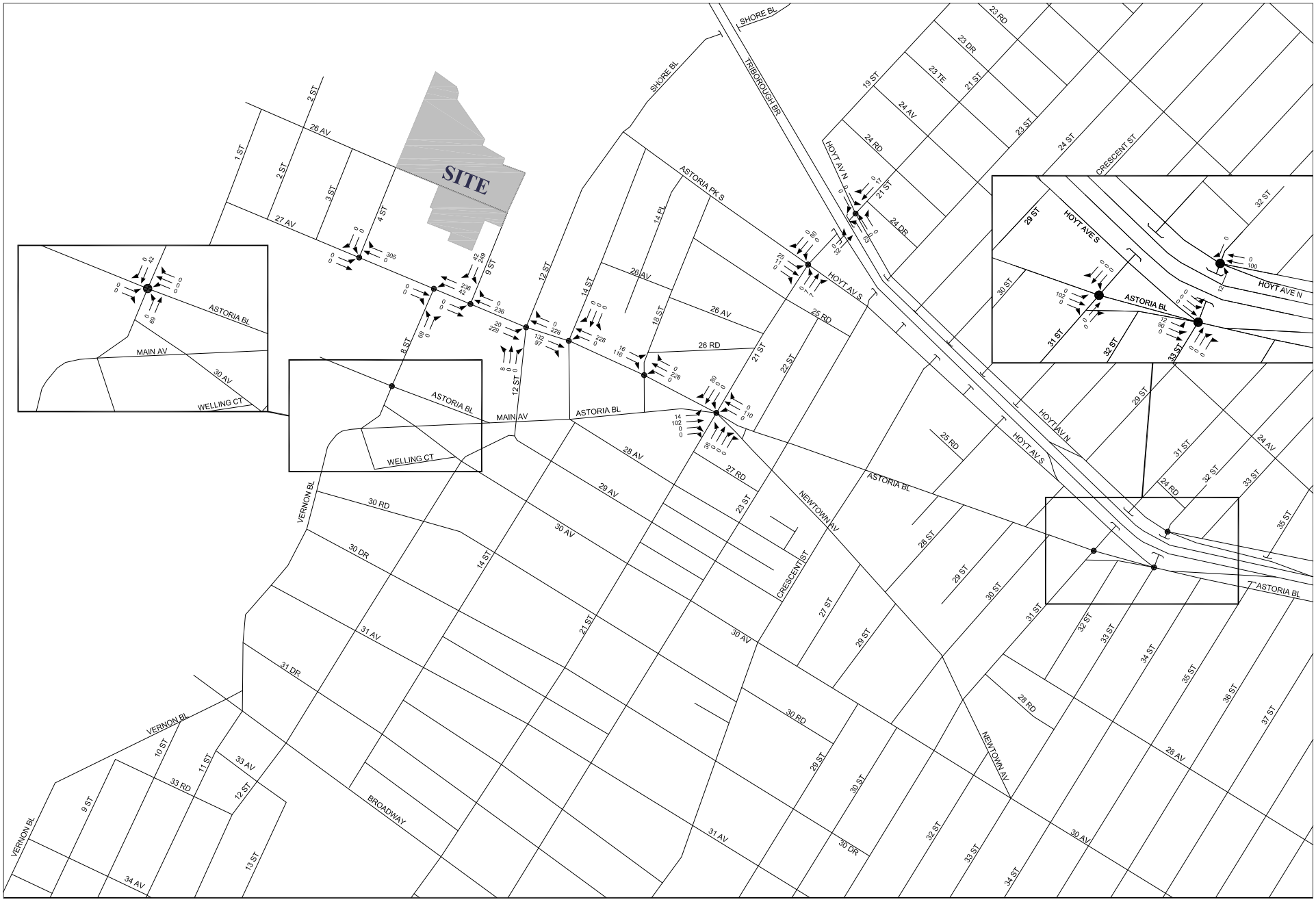
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Modified Project Increment Volumes - PM Peak Hour



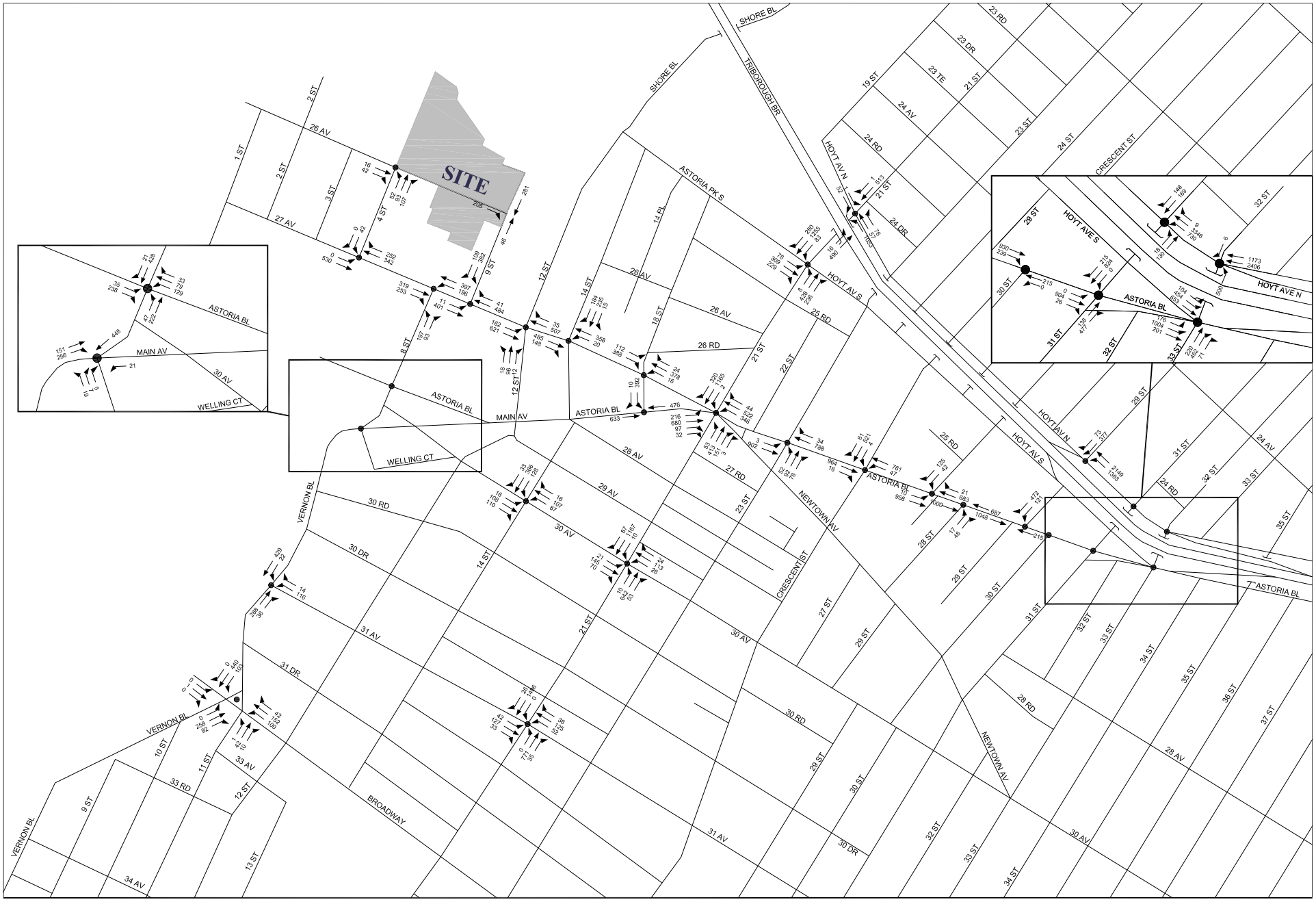
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Modified Project Increment Volumes - Saturday Midday Peak Hour



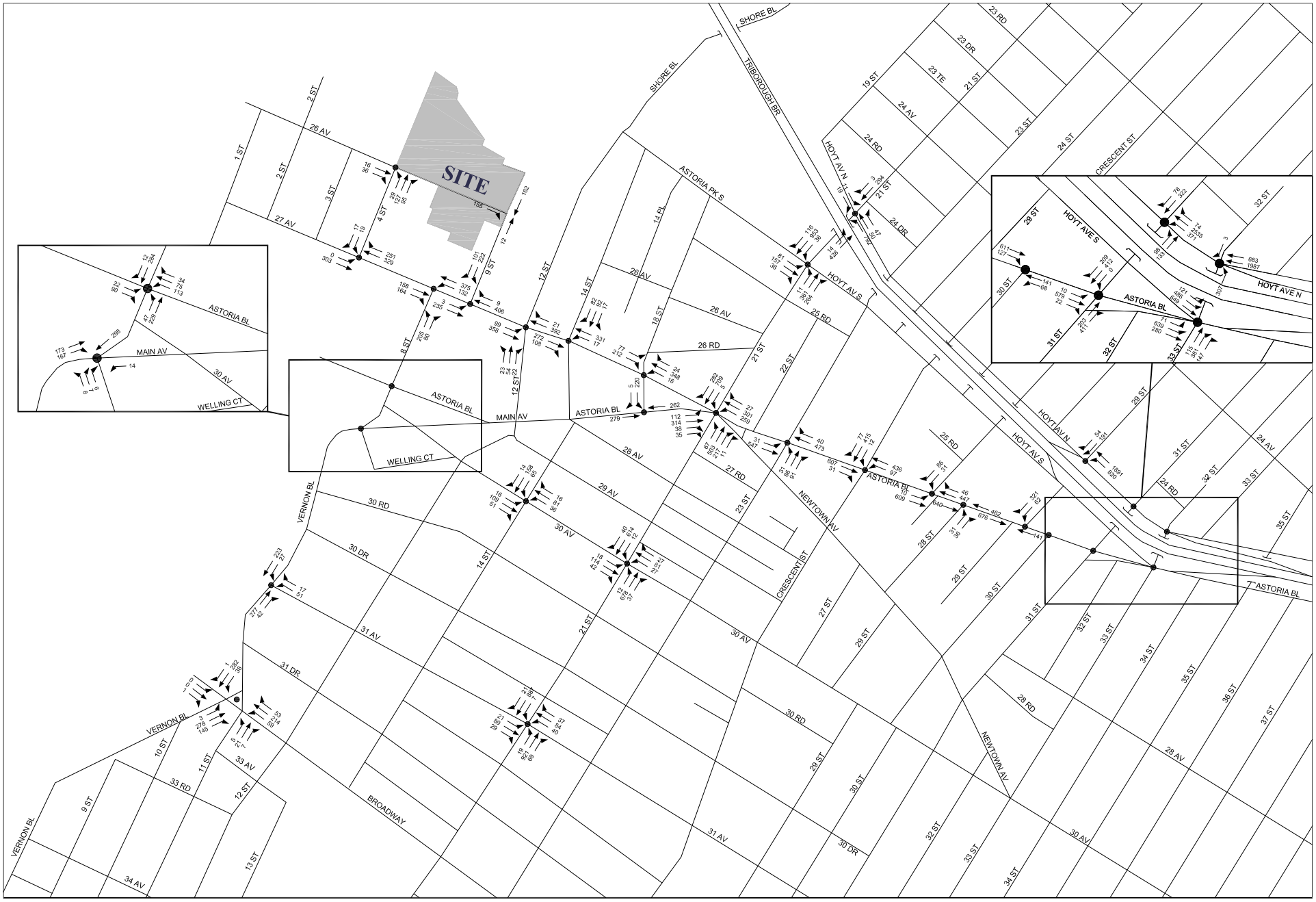
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Modified Project Volumes - AM Peak Hour



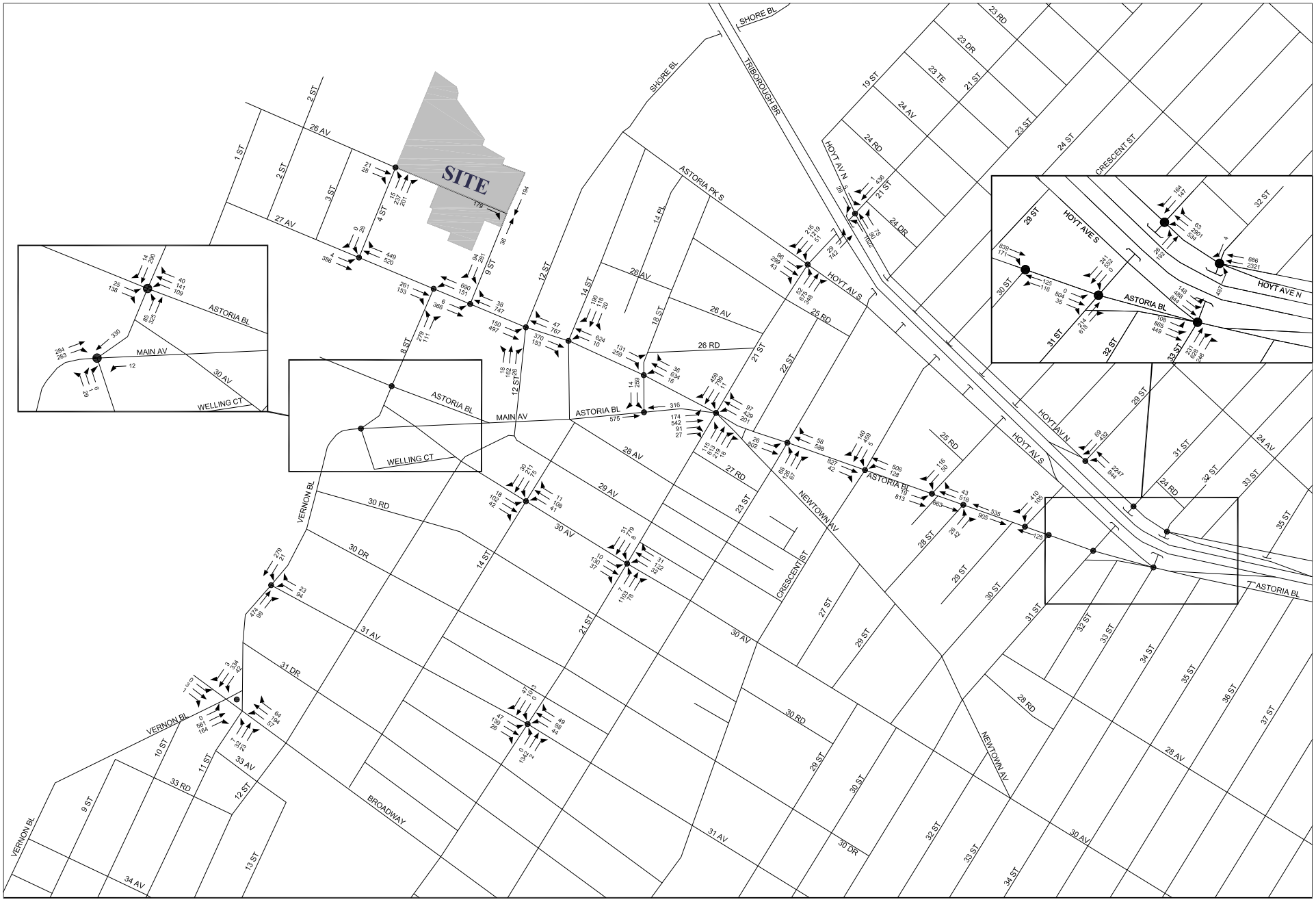
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Modified Project Volumes - Midday Peak Hour



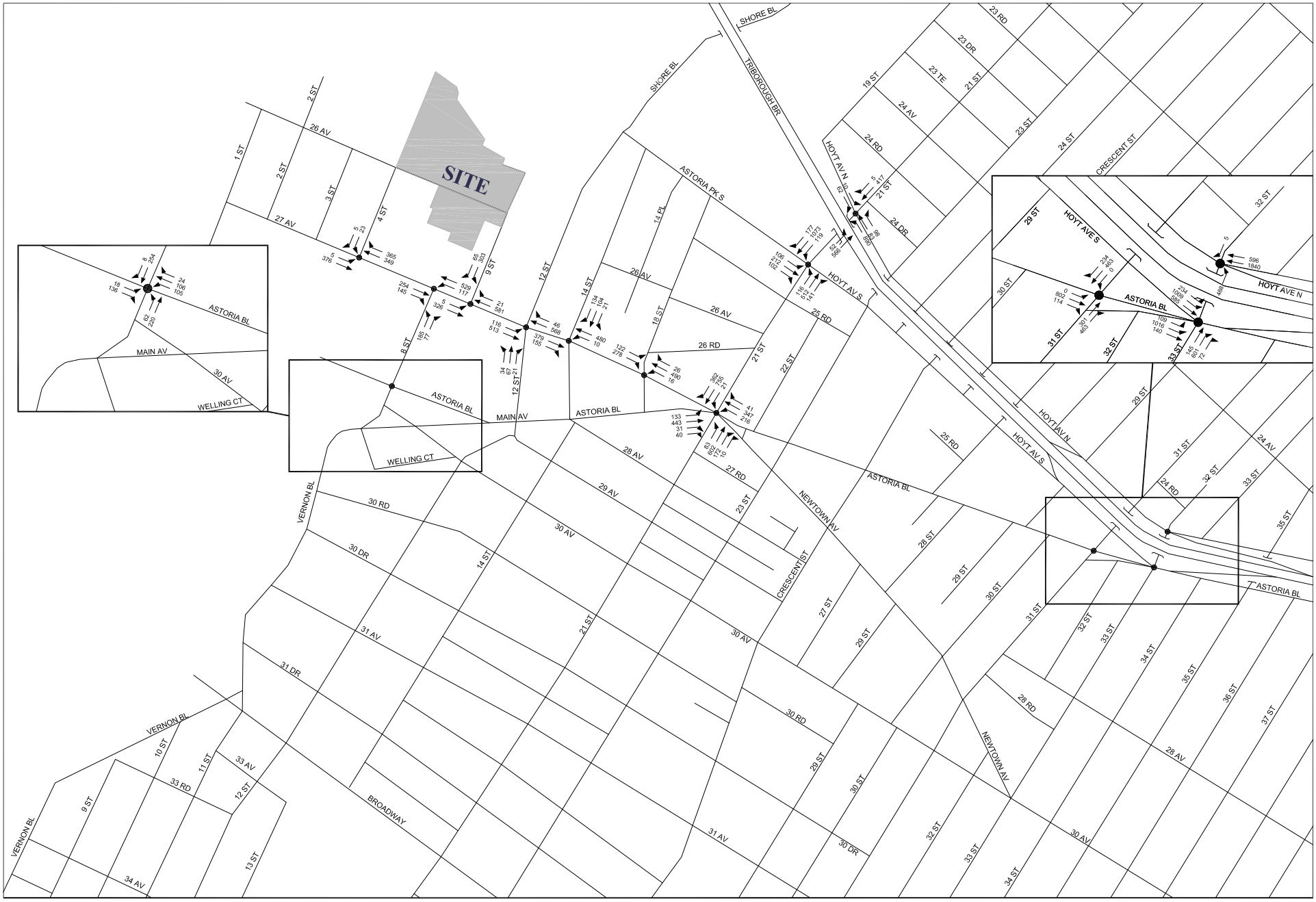
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Modified Project Volumes - PM Peak Hour



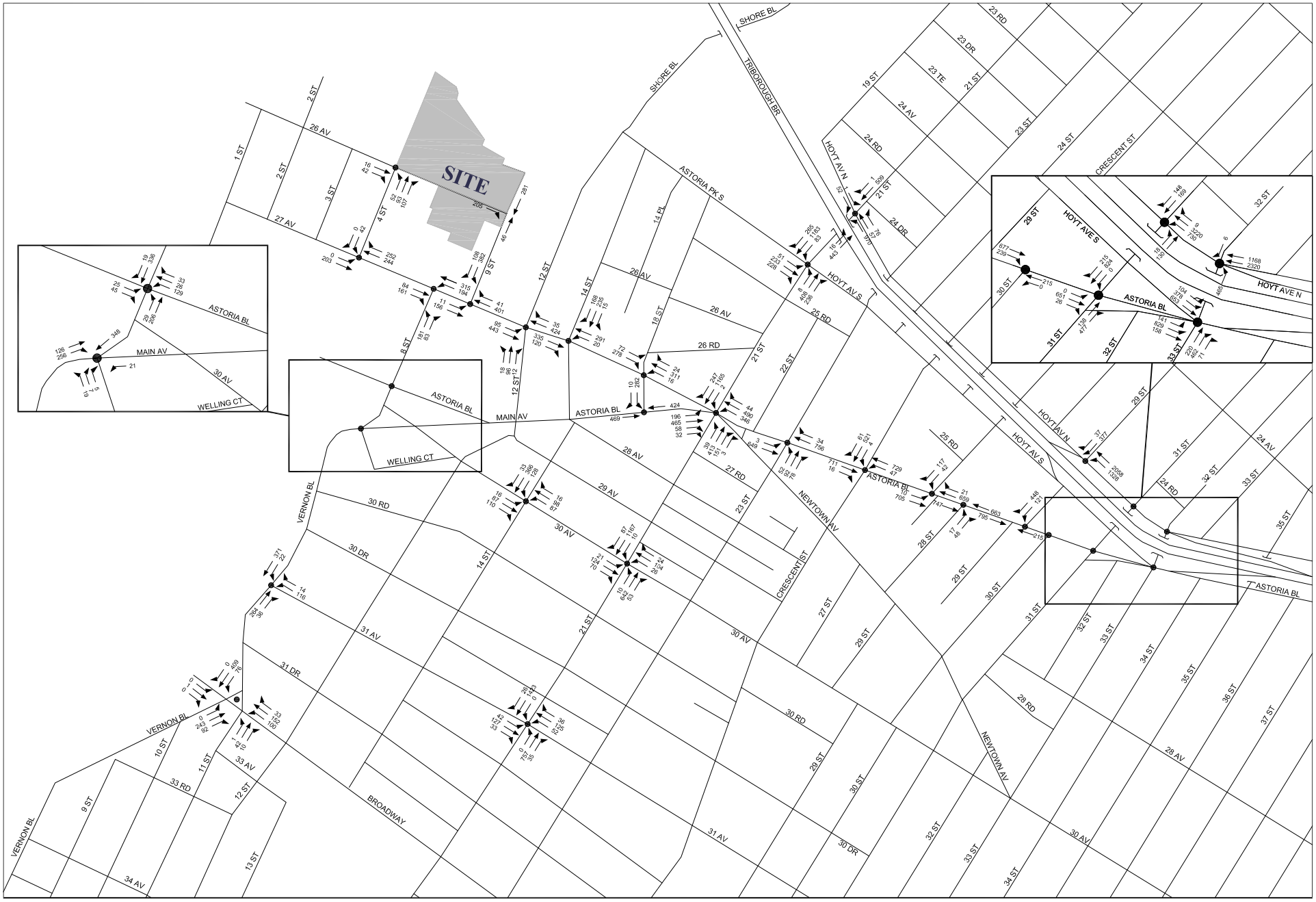
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Modified Project Volumes - Saturday Midday Peak Hour



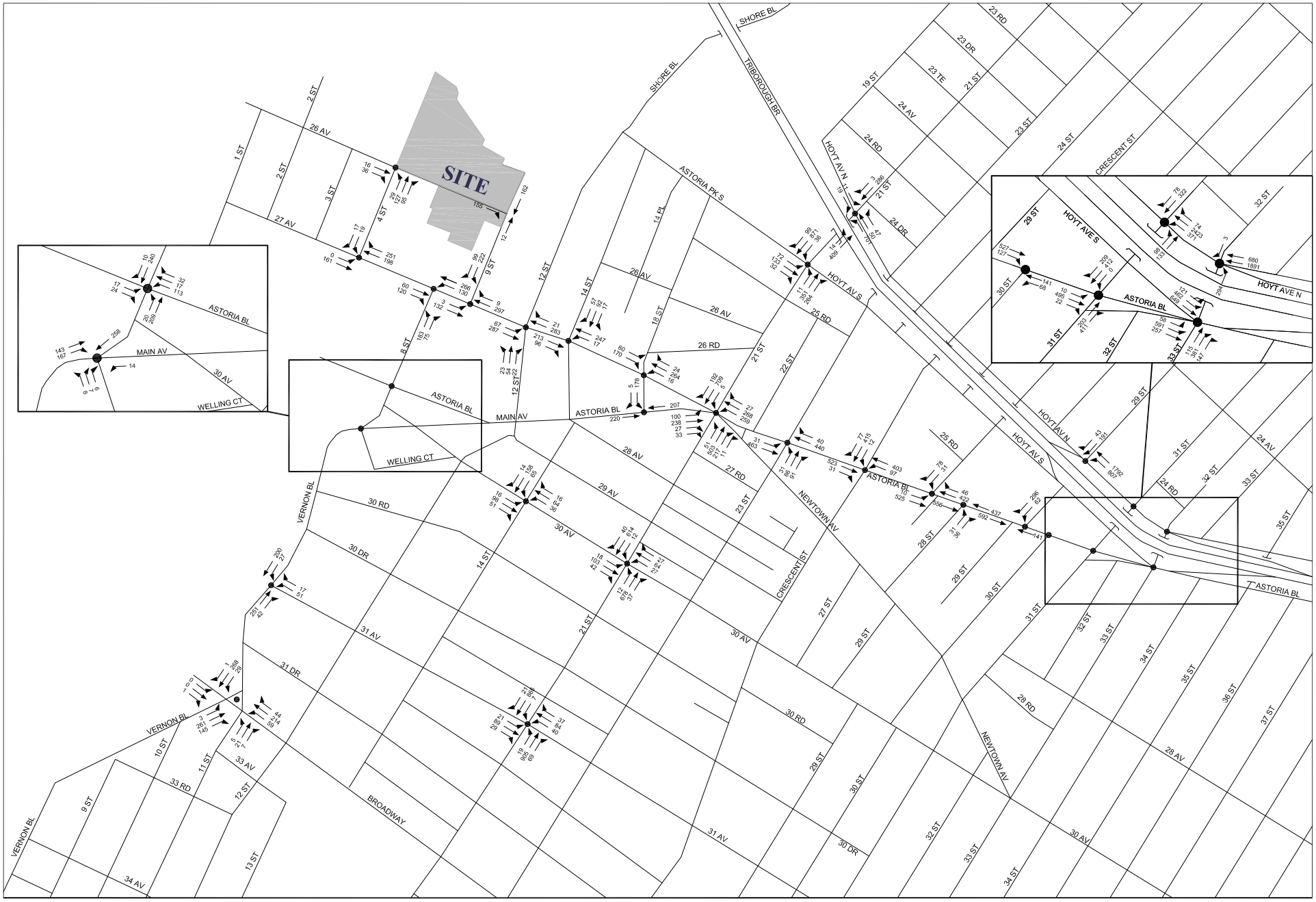
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Alternate Modified Project Volumes - AM Peak Hour



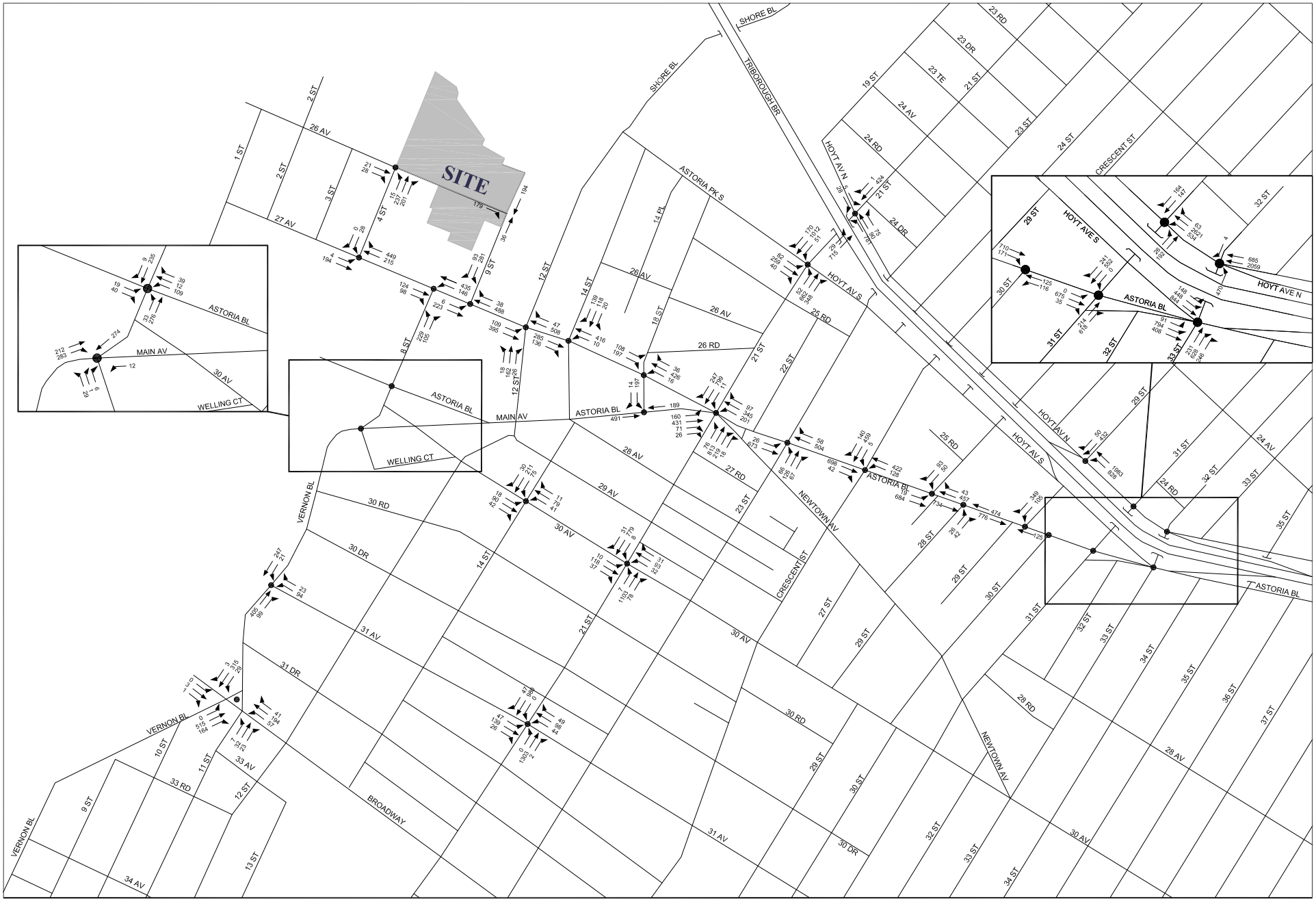
● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Alternate Modified Project Volumes - Midday Peak Hour

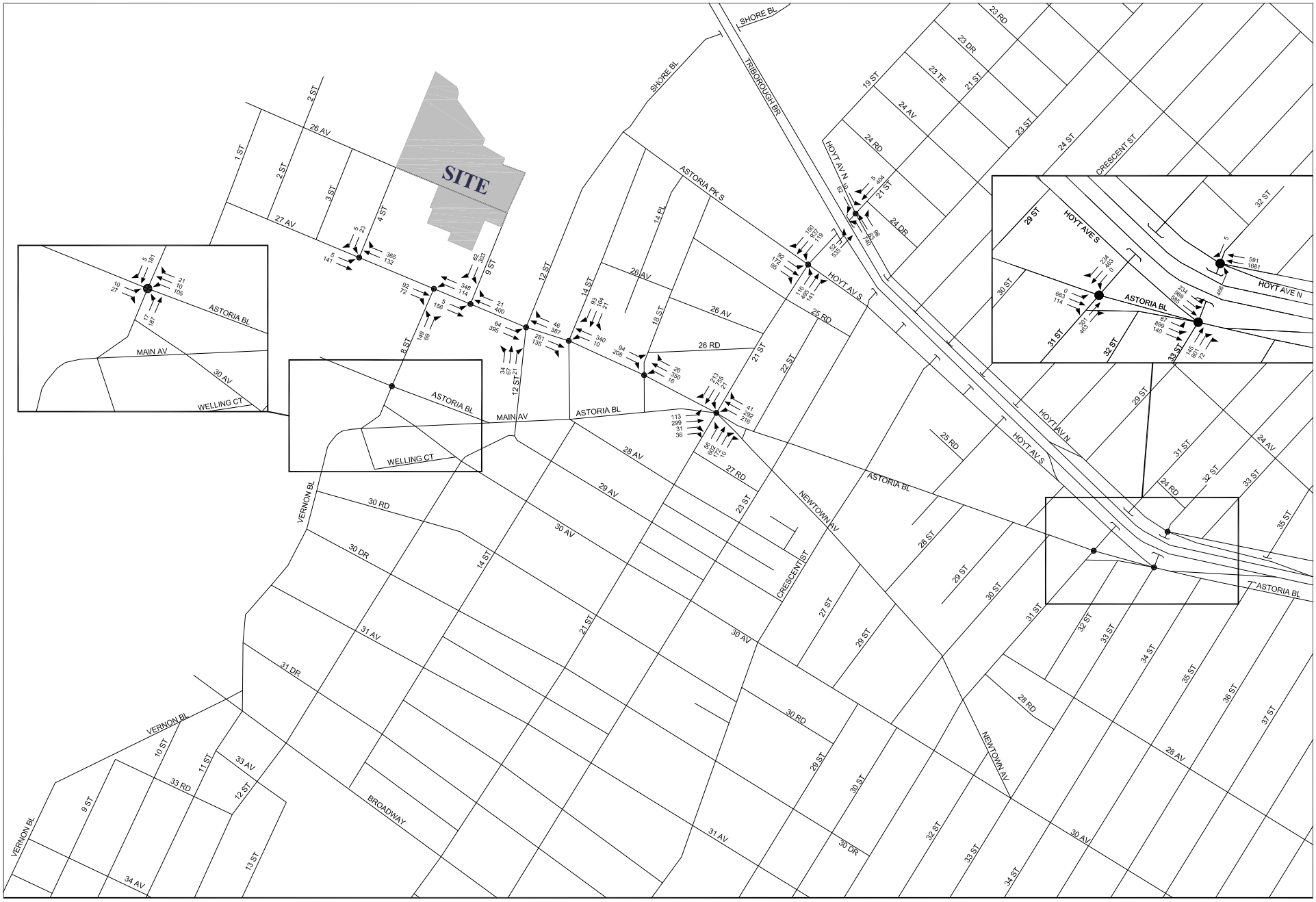


Astoria Cove

Figure XX

This figure is new to the FEIS

Alternate Modified Project Volumes - PM Peak Hour



● Analyzed Locations

Astoria Cove

This figure is new to the FEIS

Figure XX

Alternate Modified Project Volumes - Saturday Midday Peak Hour

2023 Modified Project With Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR						MIDDAY PEAK HOUR						PM PEAK HOUR					
		NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT		
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
1. 26th Avenue & 4th Street	EB-LTR	-	-	-	NA	7.9	A	-	-	-	NA	7.7	A	-	-	-	NA	8.2	A
(Unsignalized-Two Way Stop)	NB-LR	0.11	9.7	A	NA	9.4	A	0.08	9.4	A	NA	9.1	A	0.09	9.3	A	NA	12.1	B
A. 26th Avenue & 9th Street	EB-R	0.09	8.9	A	0.38	13.5	B	0.13	8.9	A	0.23	10.6	B	0.10	8.8	A	0.28	11.4	B
(Unsignalized-Two Way Stop)																			
2. 27th Avenue & 4th Street	EB-LT	0.78	22.4	C	0.78	22.4	C	0.45	14.1	B	0.45	14.1	B	0.56	15.0	B	0.56	15.0	B
(Existing Unsignalized-All Way Stop)	WB-T	0.44	13.7	B	0.44	13.7	B	0.43	13.1	B	0.43	13.1	B	0.65	15.6	B	0.65	15.6	B
(No-Action Signalized)	WB-R	0.25	12.2	B	0.69	22.5	C	0.27	12.5	B	0.89	39.5	D	0.29	11.8	B	1.43	225.1	F *
	SB-LR	0.10	20.4	C	0.10	20.4	C	0.09	20.3	C	0.09	20.3	C	0.08	21.6	C	0.08	21.6	C
3. 27th Avenue & 8th Street	EB-T	0.53	14.9	B	0.53	14.9	B	0.24	11.9	B	0.24	11.9	B	0.36	13.2	B	0.36	13.2	B
	EB-R	0.66	21.2	C	0.66	21.2	C	0.61	22.5	C	0.61	22.5	C	0.42	15.9	B	0.42	15.9	B
	WB-LT	1.32	179.6	F	1.87	421.6	F *	1.25	151.3	F	1.72	355.3	F *	1.22	138.6	F	1.92	442.4	F *
	NB-L	0.52	28.4	C	0.71	35.2	D	0.36	23.3	C	0.45	25.1	C	0.48	25.8	C	0.68	32.1	C
	NB-R	0.57	34.6	C	0.57	34.6	C	0.73	47.7	D	0.73	47.7	D	0.75	47.4	D	0.75	47.4	D
4. 27th Avenue & 12th Street	EB-LT	0.64	9.9	A	1.10	74.2	E *	0.47	11.2	B	0.77	19.5	B	0.54	8.2	A	0.99	42.3	D
(Existing Unsignalized-Two Way Stop)	WB-TR	0.47	6.2	A	0.60	7.4	A	0.41	10.4	B	0.62	13.9	B	0.66	8.8	A	1.01	36.6	D
(No-Action Signalized)	NB-LTR	0.57	43.1	D	0.59	44.1	D	0.28	27.3	C	0.30	27.7	C	0.86	65.8	E	0.90	70.6	E *
5. 27th Avenue & 14th Street	EB-TR	0.61	19.4	B	1.16	99.7	F *	0.33	11.5	B	0.54	14.2	B	0.45	15.7	B	0.78	21.3	C
(Existing Unsignalized-All Way Stop)	WB-LT	0.66	22.9	C	1.28	163.0	F *	0.29	11.0	B	0.47	13.1	B	0.57	16.6	B	1.03	43.9	D
(No-Action Signalized)	SB-LTR	0.89	41.0	D	0.89	41.0	D	0.52	28.5	C	0.52	28.5	C	0.79	36.0	D	0.79	36.0	D
6. 27th Avenue & 18th Street	EB-L	0.14	9.7	A	0.17	9.9	A	0.10	8.4	A	0.14	9.2	A	0.15	9.3	A	0.24	11.7	B
(Unsignalized-Two Way Stop)	WB-L	0.02	7.8	A	0.02	8.4	A	0.01	7.7	A	0.01	8.0	A	0.01	7.9	A	0.02	8.2	A
7. Astoria Boulevard & 21st Street	EB-L	1.20	156.4	F	1.22	165.5	F *	0.33	36.9	D	0.36	37.7	D	0.61	46.8	D	0.67	48.9	D
	EB-TR	1.70	365.9	F	2.08	539.3	F *	0.61	41.5	D	0.69	44.1	D	1.13	118.0	F	1.30	188.9	F *
	WB-L	1.01	69.0	E	1.01	69.0	E	0.86	53.2	D	0.86	53.2	D	0.92	68.3	E	0.91	66.7	E
	WB-TR	0.82	45.2	D	0.90	48.3	D	0.46	36.4	D	0.56	38.1	D	0.99	73.3	E	1.27	175.9	F *
	NB-LT	0.72	31.8	C	0.80	35.6	D	0.80	38.4	D	0.97	46.1	D *	1.11	85.3	F	1.29	165.3	F *
	NB-R	0.37	24.7	C	0.37	24.7	C	0.65	36.1	D	0.65	36.1	D	0.44	22.9	C	0.44	22.9	C
	SB-LT	0.87	31.3	C	0.87	31.2	C	0.78	38.5	D	0.78	38.5	D	0.78	30.0	C	0.78	30.0	C
	SB-R	0.59	26.9	C	0.67	28.4	C	0.75	39.7	D	0.91	48.2	D *	0.80	33.1	C	1.02	63.4	E *
8. Astoria Boulevard & 23rd Street	EB-LT	1.21	127.5	F	1.48	245.3	F *	0.81	23.1	C	0.90	29.2	C	0.95	35.5	D	1.06	64.9	E *
	WB-TR	0.91	29.7	C	0.95	34.3	C	0.77	17.4	B	0.84	19.1	B	0.84	22.7	C	1.01	39.3	D
	NB-LTR	0.50	33.5	C	0.50	33.5	C	0.56	28.5	C	0.56	28.5	C	0.61	37.4	D	0.61	37.4	D

2023 Modified Project With Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR							MIDDAY PEAK HOUR							PM PEAK HOUR						
		NO-ACTION			MODIFIED PROJECT				NO-ACTION			MODIFIED PROJECT				NO-ACTION			MODIFIED PROJECT			
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	
9. Astoria Boulevard & Crescent Street	EB-TR	1.28	159.6	F	1.54	272.6	F	*	0.83	25.1	C	0.91	32.3	C		1.11	88.2	F	1.23	138.5	F	*
	WB-LT	1.24	139.4	F	1.41	215.4	F	*	1.27	143.1	F	1.36	182.6	F	*	1.53	267.6	F	1.75	364.7	F	*
	SB-LTR	1.20	130.1	F	1.28	167.6	F	*	1.17	110.1	F	1.28	155.9	F	*	1.13	99.3	F	1.40	217.8	F	*
10. Astoria Boulevard & 27th Street	EB-LT	0.96	38.2	D	1.15	101.2	F	*	0.59	16.2	B	0.65	17.5	B		0.79	22.1	C	0.88	27.7	C	
	WB-TR	0.84	23.0	C	0.86	23.8	C		0.71	18.3	B	0.72	18.8	B		0.65	16.8	B	0.69	17.7	B	
	SB-LR	0.83	41.1	D	0.83	41.1	D		0.53	34.9	C	0.53	34.9	C		0.88	42.7	D	0.88	42.7	D	
11. Astoria Boulevard & 28th Street (Unsignalized-Two Way Stop)	NB-LR	0.70	68.0	F	0.97	145.3	F		0.42	28.3	D	0.48	34.0	D		0.41	30.1	D	0.50	40.1	E	
12. Astoria Boulevard & 29th Street	EB-T	1.63	328.2	F	1.94	463.9	F	*	0.97	48.8	D	1.06	73.3	E	*	1.30	179.5	F	1.44	240.6	F	*
	WB-T	0.44	27.5	C	0.44	27.5	C		0.23	13.5	B	0.23	13.5	B		0.22	20.3	C	0.22	20.3	C	
	SB-L	0.18	17.0	B	0.18	17.0	B		0.12	18.1	B	0.12	18.1	B		0.16	19.5	B	0.16	19.5	B	
	SB-R	0.75	31.3	C	0.77	32.4	C		0.70	30.5	C	0.72	31.7	C		0.66	30.4	C	0.71	32.9	C	
13. Astoria Boulevard & 30th Street (Unsignalized-Two Way Stop)	WB-LT	0.00	12.9	B	0.00	15.0	B		0.10	10.1	B	0.11	10.6	B		0.23	12.6	B	0.26	13.7	B	
14. Astoria Boulevard & 31st Street	EB-LTR	0.83	37.5	D	1.00	53.9	D	*	0.57	22.4	C	0.63	23.2	C		0.75	34.8	C	0.84	37.0	D	
	NB-T	0.52	41.8	D	0.52	41.8	D		0.54	33.7	C	0.54	33.7	C		0.52	41.6	D	0.52	41.6	D	
	NB-R	0.67	16.5	B	0.67	16.5	B		0.53	8.9	A	0.53	8.9	A		0.84	24.2	C	0.84	24.2	C	
	SB-T	0.99	51.0	D	0.99	51.0	D		0.55	17.7	B	0.55	17.7	B		0.63	20.8	C	0.63	20.8	C	
	SB-R	0.30	14.9	B	0.30	14.9	B		0.31	14.3	B	0.31	14.3	B		0.31	15.1	B	0.31	15.1	B	
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.32	192.2	F	1.50	270.4	F	*	1.02	62.4	E	1.09	84.2	F	*	1.17	121.1	F	1.25	155.3	F	*
	NB-TR	1.09	91.5	F	1.09	91.5	F		0.76	36.6	D	0.76	36.6	D		1.07	77.7	E	1.07	77.7	E	
	NB-R	1.09	97.7	F	1.09	97.7	F		0.87	49.3	D	0.87	49.3	D		1.13	108.5	F	1.13	108.5	F	
	Hoyt Ave (EB-LT)	0.63	27.1	C	0.63	27.1	C		0.78	30.4	C	0.78	30.4	C		0.87	41.3	D	0.87	41.3	D	
16. Hoyt Ave N. & 29th Street	WB-L	0.80	14.6	B	0.80	14.6	B		0.57	12.0	B	0.57	12.0	B		0.45	12.7	B	0.45	12.7	B	
	WB-LT	0.94	19.4	B	0.96	21.1	C		0.68	13.2	B	0.71	13.6	B		0.86	21.6	C	0.93	26.1	C	
	SB-R	1.03	98.5	F	1.13	130.5	F	*	0.53	35.5	D	0.56	36.0	D		0.85	54.2	D	0.88	57.3	E	
17. Hoyt Ave N. & 31st Street	WB-L	0.81	37.5	D	0.81	37.5	D		0.71	36.5	D	0.71	36.5	D		0.34	15.0	B	0.34	15.0	B	
	WB-T	1.15	91.2	F	1.16	98.2	F	*	0.93	26.6	C	0.96	29.5	C		0.99	40.1	D	1.05	56.8	E	*
	WB-R	0.02	7.5	A	0.02	7.5	A		0.18	11.6	B	0.18	11.6	B		0.15	13.3	B	0.15	13.3	B	
	NB-DefL	-	-	-	-	-	-		0.66	40.3	D	0.66	40.3	D		-	-	-	-	-	-	
	NB-T	-	-	-	-	-	-		0.23	21.2	C	0.23	21.2	C		-	-	-	-	-	-	
	NB-LT	0.32	36.4	D	0.32	36.4	D		-	-	-	-	-	-		0.29	28.3	C	0.29	28.3	C	
	SB-T	0.62	44.5	D	0.62	44.5	D		0.59	27.2	C	0.59	27.2	C		0.25	28.1	C	0.25	28.1	C	
	SB-R	0.74	57.8	E	0.77	60.1	E		0.26	22.2	C	0.29	22.7	C		0.49	34.6	C	0.52	35.5	D	

2023 Modified Project With Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR						MIDDAY PEAK HOUR						PM PEAK HOUR					
		NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT		
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.74	13.3	B	0.74	13.3	B	0.51	9.7	A	0.51	9.7	A	0.46	10.9	B	0.46	10.9	B
	WB(Ramp)-T	1.17	127.2	F	1.19	136.4	F *	1.03	45.5	D	1.06	55.3	E *	1.13	84.7	F	1.20	117.1	F *
	NB-L	0.65	45.2	D	0.66	45.3	D	0.32	28.4	C	0.33	28.5	C	0.52	38.6	D	0.53	38.7	D
	SB-R	0.03	38.0	D	0.03	38.0	D	0.02	25.9	C	0.02	25.9	C	0.02	33.3	C	0.02	33.3	C
19. Astoria Boulevard & 8th Street	EB-L	0.16	24.6	C	0.16	24.6	C	0.09	26.1	C	0.09	26.1	C	0.17	29.0	C	0.17	29.0	C
	EB-R	0.77	44.4	D	0.77	44.4	D	0.27	29.0	C	0.27	29.0	C	0.66	40.6	D	0.66	40.6	D
	WB-L	0.32	26.9	C	0.32	26.9	C	0.36	30.6	C	0.36	30.6	C	0.31	31.0	C	0.31	31.0	C
	WB-TR	0.34	27.3	C	0.34	27.3	C	0.34	30.3	C	0.34	30.3	C	0.50	35.3	D	0.50	35.3	D
	NB-LT	0.52	20.2	C	0.66	23.7	C	0.46	17.2	B	0.53	18.5	B	0.87	27.7	C	1.05	60.3	E *
	SB-TR	0.74	27.0	C	0.85	33.0	C	0.40	16.3	B	0.43	16.9	B	0.39	15.1	B	0.44	15.9	B
20. 30th Avenue & 14th Street	EB-LTR	NA	13.0	B	NA	15.5	C	NA	9.1	A	NA	9.7	A	NA	9.6	A	NA	10.5	B
(Unsignalized-All Way Stop)	WB-LTR	NA	13.4	B	NA	16.3	C	NA	9.1	A	NA	9.8	A	NA	9.5	A	NA	10.7	B
	SB-LTR	NA	28.5	D	NA	61.3	F *	NA	9.5	A	NA	10.9	B	NA	11.4	B	NA	15.4	C
21. 30th Avenue & 21st Street	EB-LTR	0.52	39.0	D	0.78	52.0	D *	0.35	34.5	C	0.48	37.8	D	0.37	35.1	D	0.55	39.9	D
	WB-LTR	0.48	38.0	D	0.55	40.3	D	0.39	35.6	D	0.42	36.5	D	0.50	38.8	D	0.58	41.5	D
	NB-LTR	0.53	15.0	B	0.55	15.3	B	0.53	14.9	B	0.54	15.2	B	0.78	21.7	C	0.81	23.1	C
	SB-LTR	0.76	20.3	B	0.77	20.4	C	0.43	13.1	B	0.43	13.1	B	0.49	14.0	B	0.49	14.0	B
22. Vernon Boulevard & Welling Court/	EB-LT	1.18	116.5	F	1.26	152.3	F *	0.91	45.7	D	0.99	58.7	E *	1.43	229.6	F	1.59	301.4	F *
8th Street	WB-TR	0.04	21.1	C	0.04	21.1	C	0.04	21.1	C	0.04	21.1	C	0.06	21.3	C	0.06	21.3	C
	NB-LTR	0.33	36.1	D	0.33	36.1	D	0.17	31.0	C	0.17	31.0	C	0.18	29.5	C	0.18	29.5	C
	SB-R	1.01	68.7	E	1.11	100.7	F *	0.71	35.1	D	0.76	37.8	D	0.72	37.9	D	0.80	42.3	D
23. Astoria Boulevard & 18th Street	EB-T	0.91	39.6	D	0.93	41.5	D	0.41	23.1	C	0.41	23.1	C	0.76	31.5	C	0.77	32.0	C
(Existing Unsignalized-Two Way Stop)	WB-T	0.66	27.1	C	0.66	27.1	C	0.41	22.9	C	0.41	22.9	C	0.44	22.2	C	0.44	22.2	C
(No-Action Signalized)	SB-LR	0.46	25.0	C	0.84	42.4	D	0.32	22.1	C	0.45	24.7	C	0.32	22.0	C	0.51	25.9	C
24. Hoyt Avenue N. & 21st Street	EB-L	0.02	40.4	D	0.02	40.4	D	0.12	44.0	D	0.12	44.0	D	0.11	43.9	D	0.11	43.9	D
	EB-R	0.37	47.5	D	0.37	47.5	D	0.15	44.5	D	0.15	44.5	D	0.19	45.3	D	0.19	45.3	D
	WB-L	1.09	88.0	F	1.12	100.7	F *	0.83	42.3	D	0.87	44.9	D	0.98	62.2	E	1.07	88.5	F *
	WB-TR	0.25	14.8	B	0.25	14.8	B	0.17	14.2	B	0.17	14.2	B	0.30	16.9	B	0.30	16.9	B
	NB-L	0.31	32.3	C	0.32	33.1	C	0.12	25.4	C	0.12	25.5	C	0.17	24.7	C	0.17	24.8	C
	NB-T	1.20	143.8	F	1.30	184.4	F *	0.81	46.3	D	0.86	51.1	D	1.12	99.0	F	1.17	119.4	F *
	SB-TR	1.04	65.0	E	1.06	73.8	E *	0.60	34.1	C	0.62	34.7	C	0.77	37.9	D	0.80	39.4	D

2023 Modified Project With Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR						MIDDAY PEAK HOUR						PM PEAK HOUR					
		NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT		
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
25. Hoyt Avenue S./Astoria Park S. & 21st Street	EB-LTR	0.84	41.9	D	0.93	44.9	D	0.36	32.0	C	0.40	32.6	C	0.58	37.9	D	0.63	39.0	D
	NB-LT	-	-	-	-	-	-	-	-	-	-	-	-	0.72	16.9	B	0.75	17.8	B
	NB-R	-	-	-	-	-	-	-	-	-	-	-	-	0.51	13.3	B	0.52	13.4	B
	NB-LTR	0.61	14.3	B	0.63	14.9	B	0.48	15.0	B	0.49	15.1	B		15.7	B		16.4	B
	SB-LTR	1.12	81.1	F	1.16	96.5	F *	0.74	20.2	C	0.77	21.2	C	1.00	40.4	D	1.06	59.8	E *
26. 27th Avenue & 9th Street	EB-LT	0.02	8.5	A	0.01	9.0	A	0.01	8.1	A	0.00	8.7	A	0.01	8.8	A	0.01	10.0	A
(Unsignalized-Two Way Stop)	SB-LR	0.56	29.6	D	2.39	669.9	F *	0.43	15.9	C	1.02	82.7	F *	0.60	31.2	D	2.59	769.5	F *
27. Vernon Boulevard & 31st Avenue	WB-LR	0.66	38.2	E	0.72	46.1	E *	0.25	17.7	C	0.28	18.6	C	0.51	29.2	D	0.59	36.0	E *
(Unsignalized-Two Way Stop)	SB-LT	0.02	8.3	A	0.02	8.3	A	0.03	8.1	A	0.03	8.2	A	0.02	8.9	A	0.03	9.0	A
28. Vernon Boulevard & Broadway/11th Street	EB-LTR	0.01	28.2	C	0.01	28.2	C	0.02	25.4	C	0.02	25.4	C	0.03	33.2	C	0.03	33.2	C
	WB-LT	0.87	38.9	D	0.87	38.9	D	-	-	-	-	-	-	0.77	47.0	D	0.77	47.0	D
	WB-R	0.21	29.9	C	0.26	30.3	C	-	-	-	-	-	-	0.24	35.8	D	0.37	37.9	D
	WB-LTR	0.00	37.7	D		37.6	D	0.96	55.5	E	1.01	67.6	E *	0.00	45.1	D		44.9	D
	NB (Vernon Blvd)-LT	0.28	8.2	A	0.29	8.3	A	0.29	9.0	A	0.30	9.1	A	0.52	10.1	B	0.54	10.4	B
	NB (Vernon Blvd)-R	0.11	6.8	A	0.11	6.8	A	0.21	8.3	A	0.21	8.3	A	0.18	6.7	A	0.18	6.7	A
	NB (11th Street)-LTR	0.38	41.1	D	0.38	41.1	D	0.22	32.8	C	0.22	32.8	C	0.33	38.2	D	0.33	38.2	D
	SB-LTR	1.36	195.9	F	1.47	243.5	F *	0.67	31.5	C	0.72	33.5	C	0.88	45.4	D	1.01	72.2	E *
29. 31st Avenue & 21st Street	EB-LTR	0.67	45.6	D	0.70	47.3	D	0.34	34.5	C	0.38	35.4	D	0.50	35.0	D	0.54	36.3	D
	WB-LTR	0.58	41.1	D	0.61	42.0	D	0.42	35.9	D	0.45	36.7	D	0.42	32.4	C	0.45	33.2	C
	NB-TR	0.50	14.2	B	0.51	14.3	B	0.64	17.0	B	0.66	17.3	B	0.79	24.2	C	0.81	25.2	C
	SB-TR	0.90	27.9	C	0.93	30.7	C	0.58	15.7	B	0.60	16.1	B	0.67	20.3	C	0.68	20.6	C

Note:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, Dfl-Analysis considers a Defacto Left Lane on this approach

V/C Ratio - Volume to Capacity Ratio, sec. - Seconds

LOS - Level of Service

* - Denotes an impacted movement

Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

2023 Modified Project Without Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR							MIDDAY PEAK HOUR							PM PEAK HOUR						
		NO-ACTION			MODIFIED PROJECT				NO-ACTION			MODIFIED PROJECT				NO-ACTION			MODIFIED PROJECT			
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	
1. 26th Avenue & 4th Street	EB-LTR	-	-	-	NA	7.9	A		-	-	-	NA	7.7	A		-	-	-	NA	8.2	A	
(Unsignalized-Two Way Stop)	NB-LR	0.11	9.7	A	NA	9.4	A		0.08	9.4	A	NA	9.1	A		0.09	9.3	A	NA	12.1	B	
A. 26th Avenue & 9th Street	EB-R	0.09	8.9	A	0.38	13.5	B		0.13	8.9	A	0.23	10.6	B		0.10	8.8	A	0.28	11.4	B	
(Unsignalized-Two Way Stop)																						
2. 27th Avenue & 4th Street	EB-LT	NA	9.9	A	NA	10.1	B		NA	9.1	A	NA	9.3	A		NA	9.6	A	NA	10.1	B	
(Unsignalized-All Way Stop)	WB-T	NA	11.0	B	NA	11.0	B		NA	9.9	A	NA	9.9	A		NA	10.2	B	NA	10.3	B	
	WB-R	NA	7.9	A	NA	9.4	A		NA	7.8	A	NA	9.2	A		NA	8.0	A	NA	13.5	B	
	SB-LR	NA	9.3	A	NA	9.6	A		NA	8.4	A	NA	8.7	A		NA	8.8	A	NA	9.4	A	
3. 27th Avenue & 8th Street	EB-TR	0.54	17.2	B	0.54	17.2	B		0.38	14.1	B	0.38	14.1	B		0.39	14.0	B	0.39	14.0	B	
	WB-LT	0.98	57.1	E	1.47	241.4	F	*	0.89	41.5	D	1.34	188.8	F	*	0.59	19.3	B	1.28	159.3	F	*
	NB-L	0.43	24.9	C	0.61	29.5	C		0.31	22.6	C	0.40	24.1	C		0.36	23.4	C	0.56	27.8	C	
	NB-R	0.28	22.3	C	0.28	22.3	C		0.30	22.7	C	0.30	22.7	C		0.33	23.1	C	0.33	23.1	C	
4. 27th Avenue & 12th Street	EB-LT	0.08	8.7	A	0.12	9.4	A		0.06	8.1	A	0.08	8.7	A		0.09	8.5	A	0.14	10.0	B	
(Unsignalized-Two Way Stop)	NB-LTR	0.51	31.3	D	1.16	199.9	F	*	0.26	16.9	C	0.47	32.5	D	*	0.79	52.9	F	2.06	571.1	F	*
5. 27th Avenue & 14th Street	EB-TR	NA	11.9	B	NA	97.2	F	*	NA	9.5	A	NA	14.3	B		NA	10.6	B	NA	31.4	D	*
(Unsignalized-All Way Stop)	WB-LT	NA	13.3	B	NA	36.5	E	*	NA	9.2	A	NA	12.8	B		NA	10.3	B	NA	37.8	E	*
	SB-LTR	NA	20.0	C	NA	52.6	F	*	NA	9.5	A	NA	11.4	B		NA	11.2	B	NA	17.6	C	
6. 27th Avenue & 18th Street	EB-L	0.08	9.3	A	0.11	9.5	A		0.07	8.2	A	0.10	8.6	A		0.10	8.1	A	0.15	9.7	A	
(Unsignalized-Two Way Stop)	WB-L	0.01	7.5	A	0.02	8.0	A		0.01	7.6	A	0.01	7.8	A		0.01	7.7	A	0.01	8.0	A	
7. Astoria Boulevard & 21st Street	EB-L	1.08	111.5	F	1.11	122.3	F	*	0.29	36.1	D	0.32	36.8	D		0.56	45.3	D	0.62	47.1	D	
	EB-TR	1.03	85.1	F	1.44	251.5	F	*	0.45	37.9	D	0.53	39.7	D		0.87	55.1	E	1.04	86.0	F	*
	WB-L	1.01	69.0	E	1.01	69.0	E		0.86	53.2	D	0.86	53.2	D		0.92	68.3	E	0.91	66.7	E	
	WB-TR	0.77	43.9	D	0.85	46.1	D		0.40	35.6	D	0.50	37.1	D		0.79	51.2	D	1.07	96.9	F	*
	NB-LTR	1.00	59.2	E	1.19	129.4	F	*	1.22	142.8	F	1.57	296.9	F	*	1.25	144.2	F	1.78	382.4	F	*
	SB-LTR	1.15	102.4	F	1.19	120.5	F	*	1.08	80.7	F	1.16	117.5	F	*	1.03	58.8	E	1.19	120.2	F	*
8. Astoria Boulevard & 23rd Street	EB-LT	0.80	25.3	C	1.07	69.1	E	*	0.69	18.5	B	0.78	21.4	C		0.80	24.6	C	0.91	32.1	C	
	WB-TR	0.87	27.2	C	0.91	30.4	C		0.72	16.3	B	0.79	17.7	B		0.72	20.2	C	0.89	25.5	C	
	NB-LTR	0.50	33.5	C	0.50	33.5	C		0.56	28.4	C	0.56	28.4	C		0.60	36.2	D	0.60	36.2	D	

2023 Modified Project Without Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR						MIDDAY PEAK HOUR						PM PEAK HOUR					
		NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT		
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
9. Astoria Boulevard & Crescent Street	EB-TR	0.88	33.9	C	1.14	101.3	F *	0.72	19.6	B	0.80	22.9	C	0.93	38.6	D	1.06	68.2	E *
	WB-LT	1.01	48.0	D	1.05	61.7	E *	1.11	75.0	E	1.19	110.7	F *	1.20	119.5	F	1.38	198.6	F *
	SB-LTR	1.20	129.1	F	1.28	167.6	F *	1.07	109.1	F	1.28	155.9	F *	1.13	98.3	F	1.39	216.6	F *
10. Astoria Boulevard & 27th Street	EB-LT	0.66	17.9	B	0.85	26.0	C	0.50	14.5	B	0.56	15.6	B	0.65	17.5	B	0.74	20.3	C
	WB-TR	0.81	21.7	C	0.83	22.4	C	0.67	17.4	B	0.69	17.8	B	0.57	15.3	B	0.61	16.0	B
	SB-LR	0.79	39.7	D	0.79	39.7	D	0.49	34.3	C	0.49	34.3	C	0.76	39.1	D	0.76	39.1	D
11. Astoria Boulevard & 28th Street (Unsignalized-Two Way Stop)	NB-LR	0.43	28.6	D	0.58	47.6	E	0.35	22.4	C	0.40	25.9	D	0.31	21.2	C	0.37	26.5	D
12. Astoria Boulevard & 29th Street	EB-T	1.17	127.2	F	1.47	256.2	F *	0.84	30.6	C	0.93	40.8	D	1.10	96.4	F	1.24	151.8	F *
	WB-T	0.44	27.5	C	0.44	27.5	C	0.23	13.5	B	0.23	13.5	B	0.22	20.3	C	0.22	20.3	C
	SB-L	0.18	17.0	B	0.18	17.0	B	0.12	18.1	B	0.12	18.1	B	0.16	19.5	B	0.16	19.5	B
	SB-R	0.71	29.1	C	0.73	30.1	C	0.64	28.1	C	0.66	29.0	C	0.55	26.8	C	0.60	28.6	C
13. Astoria Boulevard & 30th Street (Unsignalized-Two Way Stop)	WB-LT	0.00	10.5	B	0.00	11.9	B	0.09	9.6	A	0.10	9.9	A	0.19	11.2	B	0.22	12.1	B
14. Astoria Boulevard & 31st Street	EB-LTR	0.97	52.9	D	1.46	248.7	F *	0.97	43.8	D	1.08	75.5	E *	1.09	86.5	F	1.24	150.9	F *
	NB-T	0.52	41.8	D	0.52	41.8	D	0.54	33.7	C	0.54	33.7	C	0.52	41.6	D	0.52	41.6	D
	NB-R	0.67	16.5	B	0.67	16.5	B	0.53	8.9	A	0.53	8.9	A	0.84	24.2	C	0.84	24.2	C
	SB-T	0.99	51.0	D	0.99	51.0	D	0.55	17.7	B	0.55	17.7	B	0.63	20.8	C	0.63	20.8	C
	SB-R	0.30	14.9	B	0.30	14.9	B	0.31	14.3	B	0.31	14.3	B	0.31	15.1	B	0.31	15.1	B
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.05	77.8	E	1.22	148.7	F *	1.02	62.1	E	1.09	84.8	F *	1.16	117.8	F	1.24	155.2	F *
	NB-TR	1.09	91.5	F	1.09	91.5	F	0.76	36.6	D	0.76	36.6	D	1.07	77.7	E	1.07	77.7	E
	NB-R	1.09	97.7	F	1.09	97.7	F	0.87	49.3	D	0.87	49.3	D	1.13	108.5	F	1.13	108.5	F
	Hoyt Ave (EB-LT)	0.59	26.4	C	0.59	26.4	C	0.71	27.5	C	0.71	27.5	C	0.78	36.4	D	0.78	36.4	D
16. Hoyt Ave N. & 29th Street	WB-L	0.76	12.6	B	0.76	12.6	B	0.56	11.9	B	0.56	11.9	B	0.44	12.6	B	0.44	12.6	B
	WB-LT	0.70	15.3	B	0.90	16.1	B	0.65	12.6	B	0.67	13.0	B	0.76	17.9	B	0.82	20.0	B
	SB-R	1.04	104.0	F	1.15	140.3	F *	0.51	34.9	C	0.53	35.4	D	0.82	51.8	D	0.85	54.3	D

2023 Modified Project Without Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR							MIDDAY PEAK HOUR							PM PEAK HOUR						
		NO-ACTION			MODIFIED PROJECT				NO-ACTION			MODIFIED PROJECT				NO-ACTION			MODIFIED PROJECT			
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	
17. Hoyt Ave N. & 31st Street	WB-L	0.81	37.5	D	0.81	37.5	D		0.71	36.5	D	0.71	36.5	D		0.34	15.0	B	0.34	15.0	B	
	WB-T	1.10	72.5	E	1.12	79.3	E	*	0.89	23.4	C	0.92	25.0	C		0.89	27.4	C	0.95	32.3	C	
	WB-R	0.02	7.5	A	0.02	7.5	A		0.18	11.6	B	0.18	11.6	B		0.15	13.3	B	0.15	13.3	B	
	NB-DefL	-	-	-	-	-	-		0.66	40.0	D	0.66	40.0	D		-	-	-	-	-	-	
	NB-T	-	-	-	-	-	-		0.23	21.2	C	0.23	21.2	C		-	-	-	-	-	-	
	NB-LT	0.32	36.4	D	0.32	36.4	D		-	-	-	-	-	-		0.29	28.3	C	0.29	28.3	C	
	SB-T	0.62	44.5	D	0.62	44.5	D		0.59	27.2	C	0.59	27.2	C		0.25	28.1	C	0.25	28.1	C	
	SB-R	0.73	56.5	E	0.75	58.7	E		0.26	22.1	C	0.29	22.7	C		0.48	34.4	C	0.51	35.3	D	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.74	13.2	B	0.74	13.2	B		0.51	9.7	A	0.51	9.7	A		0.45	10.9	B	0.45	10.9	B	
	WB(Ramp)-T	1.13	109.3	F	1.15	118.2	F	*	0.98	31.9	C	1.01	39.1	D		0.99	38.1	D	1.07	61.3	E	*
	NB-L	0.61	44.4	D	0.61	44.5	D		0.31	28.3	C	0.32	28.4	C		0.50	38.3	D	0.51	38.5	D	
	SB-R	0.03	38.0	D	0.03	38.0	D		0.02	25.9	C	0.02	25.9	C		0.02	33.3	C	0.02	33.3	C	
19. Astoria Boulevard & 8th Street	EB-LR	0.26	28.8	C	0.26	28.8	C		0.13	26.5	C	0.13	26.5	C		0.28	29.0	C	0.28	29.0	C	
	WB-L	0.35	30.2	C	0.35	30.2	C		0.35	30.6	C	0.35	30.6	C		0.29	29.3	C	0.29	29.3	C	
	WB-TR	0.20	27.8	C	0.20	27.8	C		0.16	27.0	C	0.16	27.0	C		0.15	27.0	C	0.15	27.0	C	
	NB-LT	0.37	15.5	B	0.47	17.1	B		0.33	15.1	B	0.40	16.1	B		0.43	16.0	B	0.56	18.1	B	
	SB-TR	0.53	18.5	B	0.63	20.8	C		0.33	15.3	B	0.36	15.8	B		0.31	15.0	B	0.36	15.7	B	
20. 30th Avenue & 14th Street	EB-LTR	NA	12.1	B	NA	14.1	B		NA	8.9	A	NA	9.4	A		NA	9.3	A	NA	10.1	B	
(Unsignalized-All Way Stop)	WB-LTR	NA	12.9	B	NA	15.4	C		NA	8.8	A	NA	9.4	A		NA	9.1	A	NA	10.1	B	
	SB-LTR	NA	26.5	D	NA	54.8	F	*	NA	9.4	A	NA	10.7	B		NA	11.0	B	NA	14.6	B	
21. 30th Avenue & 21st Street	EB-LTR	0.45	37.2	D	0.71	47.6	D	*	0.32	33.9	C	0.45	37.0	D		0.34	34.3	C	0.51	38.7	D	
	WB-LTR	0.45	37.2	D	0.52	39.1	D		0.34	34.5	C	0.38	35.4	D		0.42	36.6	D	0.51	38.9	D	
	NB-LTR	0.53	15.0	B	0.55	15.3	B		0.53	14.9	B	0.54	15.2	B		0.78	21.7	C	0.81	23.0	C	
	SB-LTR	0.76	20.3	C	0.77	20.4	C		0.43	13.1	B	0.43	13.1	B		0.49	14.0	B	0.49	14.0	B	
22. Vernon Boulevard & Welling Court	EB-LT	1.21	132.9	F	1.30	171.8	F	*	0.90	45.7	D	0.98	59.5	E	*	1.22	136.0	F	1.38	206.8	F	*
/8th Street	WB-TR	0.04	21.1	C	0.04	21.1	C		0.04	21.1	C	0.04	21.1	C		0.06	21.3	C	0.06	21.3	C	
	NB-LTR	0.28	32.0	C	0.28	32.0	C		0.15	29.1	C	0.15	29.1	C		0.18	29.5	C	0.18	29.5	C	
	SB-R	0.85	44.3	D	0.96	60.2	E	*	0.65	34.6	C	0.71	36.9	D		0.59	32.6	C	0.66	35.0	C	
23. Astoria Boulevard & 18th Street	SB-LR	0.51	32.5	D	1.44	258.4	F	*	0.24	13.9	B	0.39	15.9	C		0.29	17.2	C	0.60	27.5	D	
(Unsignalized-Two Way Stop)																						

2023 Modified Project Without Halletts - Traffic Levels of Service

Intersection	Lane Group	AM PEAK HOUR						MIDDAY PEAK HOUR						PM PEAK HOUR					
		NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT			NO-ACTION			MODIFIED PROJECT		
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
24. Hoyt Avenue N. & 21st Street	EB-L	0.02	40.4	D	0.02	40.4	D	0.11	42.0	D	0.11	42.0	D	0.09	41.8	D	0.09	41.8	D
	EB-R	0.37	47.5	D	0.37	47.5	D	0.13	42.4	D	0.13	42.4	D	0.17	43.1	D	0.17	43.1	D
	WB-L	1.00	58.1	E	1.03	66.9	E *	0.77	41.0	D	0.82	42.9	D	0.73	40.1	D	0.82	43.8	D
	WB-TR	0.25	14.8	B	0.25	14.8	B	0.17	14.2	B	0.17	14.2	B	0.29	15.7	B	0.29	15.7	B
	NB-L	0.31	32.2	C	0.32	32.8	C	0.11	25.3	C	0.12	25.4	C	0.18	26.1	C	0.18	26.3	C
	NB-T	1.08	98.0	F	1.17	133.9	F *	0.78	43.5	D	0.83	47.3	D	1.12	101.6	F	1.17	123.0	F *
	SB-TR	1.03	61.9	E	1.06	71.0	E *	0.58	33.6	C	0.60	34.2	C	0.78	39.9	D	0.81	41.6	D
25. Hoyt Avenue S./Astoria Park S. & 21st Street	EB-LTR	0.61	36.3	D	0.69	37.6	D	0.33	32.8	C	0.37	33.4	C	0.47	34.6	C	0.52	35.5	D
	NB-LTR	0.61	15.9	B	0.64	16.5	B	0.45	13.6	B	0.46	13.8	B	1.02	44.2	D	1.08	65.6	E *
	SB-LTR	1.12	79.0	E	1.15	95.0	F *	0.65	16.9	B	0.69	17.6	B	1.00	45.2	D	1.08	70.6	E *
26. 27th Avenue & 9th Street (Unsignalized-Two Way Stop)	EB-LT	0.01	8.2	A	0.01	8.6	A	0.00	7.8	A	0.00	8.2	A	0.01	7.9	A	0.01	8.9	A
	SB-LR	0.34	15.3	C	1.45	242.7	F *	0.33	12.1	B	0.74	28.1	D	0.33	14.2	B	1.39	221.6	F *
27. Vernon Boulevard & 31st Avenue (Unsignalized-Two Way Stop)	WB-LR	0.58	29.7	D	0.64	34.6	D	0.23	16.4	C	0.26	17.2	C	0.44	23.4	C	0.51	27.9	D
	SB-LT	0.02	8.2	A	0.02	8.2	A	0.03	8.0	A	0.03	8.1	A	0.02	8.6	A	0.02	8.8	A
28. Vernon Boulevard & Broadway/ 11th Street	EB-LTR	0.01	28.2	C	0.01	28.2	C	0.02	26.1	C	0.02	26.1	C	0.03	33.2	C	0.03	33.2	C
	WB-LTR	1.13	99.5	F	1.17	115.9	F *	0.96	55.7	E	1.01	68.8	E *	0.97	69.3	E	1.08	99.5	F *
	NB (Vernon Blvd)-LT	0.26	8.0	A	0.27	8.1	A	0.27	8.4	A	0.28	8.5	A	0.48	9.5	A	0.49	9.7	A
	NB (Vernon Blvd)-R	0.11	6.8	A	0.11	6.8	A	0.20	7.8	A	0.20	7.8	A	0.18	6.7	A	0.18	6.7	A
	NB (11th Street)-LTR	0.38	41.1	D	0.38	41.1	D	0.22	32.8	C	0.22	32.8	C	0.33	38.2	D	0.33	38.2	D
	SB-LTR	1.08	80.8	F	1.22	136.4	F *	0.58	27.9	C	0.62	29.2	C	0.66	30.7	C	0.75	34.7	C
29. 31st Avenue & 21st Street	EB-LTR	0.67	45.6	D	0.70	47.3	D	0.34	34.5	C	0.38	35.4	D	0.50	35.0	D	0.54	36.3	D
	WB-LTR	0.58	41.1	D	0.61	42.0	D	0.42	35.9	D	0.45	36.7	D	0.42	32.4	C	0.45	33.2	C
	NB-TR	0.49	14.0	B	0.50	14.2	B	0.63	16.8	B	0.65	17.1	B	0.77	23.2	C	0.79	24.1	C
	SB-TR	0.86	25.0	C	0.89	26.8	C	0.57	15.5	B	0.58	15.8	B	0.65	19.7	B	0.66	20.1	C

Note:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, Dfl-Analysis considers a Defacto Left Lane on this approach

V/C Ratio - Volume to Capacity Ratio, sec. - Seconds

LOS - Level of Service

* - Denotes an impacted movement

Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

2023 Modified Project With Halletts - Traffic Levels of Service

Intersection	Lane Group	Saturday Midday Peak Hour						
		NO-ACTION			MODIFIED PROJECT			
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	
2. 27th Avenue & 4th Street	EB-LT	0.56	16.4	B	0.56	16.4	B	
(Existing Unsignalized-All Way Stop)	WB-T	0.44	13.2	B	0.44	13.2	B	
(No-Action Signalized)	WB-R	0.20	11.4	B	1.24	144.5	F	*
	SB-LR	0.06	20.0	C	0.06	20.0	C	
3. 27th Avenue & 8th Street	EB-T	0.34	13.1	B	0.34	13.1	B	
	EB-R	0.26	12.3	B	0.26	12.3	B	
	WB-LT	0.63	19.0	B	1.22	132.9	F	*
	NB-L	0.22	21.1	C	0.36	23.0	C	
	NB-R	0.19	20.9	C	0.19	20.9	C	
4. 27th Avenue & 12th Street	EB-LT	0.50	11.8	B	0.97	44.0	D	
(Existing Unsignalized-Two Way Stop)	WB-TR	0.48	11.2	B	0.76	17.7	B	
(No-Action Signalized)	NB-LTR	0.37	28.8	C	0.39	29.3	C	
5. 27th Avenue & 14th Street	EB-TR	0.36	11.8	B	0.64	16.1	B	
(Existing Unsignalized-All Way Stop)	WB-LT	0.31	11.2	B	0.57	14.4	B	
(No-Action Signalized)	SB-LTR	0.72	36.6	D	0.72	36.6	D	
6. 27th Avenue & 18th Street	EB-L	0.13	9.6	A	0.15	9.8	A	
(Unsignalized-Two Way Stop)	WB-L	0.01	7.7	A	0.01	8.1	A	
7. Astoria Boulevard & 21st Street	EB-L	0.35	35.3	D	0.39	35.9	D	
	EB-TR	0.66	39.9	D	0.81	44.5	D	
	WB-L	0.67	40.2	D	0.67	40.2	D	
	WB-TR	0.45	35.8	D	0.63	38.4	D	
	NB-LT	1.08	90.5	F	1.39	223.6	F	*
	NB-R	0.52	36.6	D	0.52	36.6	D	
	SB-LT	0.91	40.4	D	0.93	41.4	D	
	SB-R	0.74	38.2	D	0.94	46.0	D	*
14. Astoria Boulevard & 31st Street	EB-LTR	0.70	24.1	C	0.78	25.8	C	
	NB-T	0.76	42.1	D	0.76	42.1	D	
	NB-R	0.60	10.1	B	0.60	10.1	B	
	SB-T	0.64	19.6	B	0.64	19.6	B	
	SB-R	0.37	15.2	B	0.37	15.2	B	
15. Hoyt Avenue S./Astoria Boulevard &	Astoria Blvd (EB-LT)	1.27	160.5	F	1.38	210.2	F	*
33rd Street	NB-TR	0.92	36.1	D	0.92	36.1	D	
	NB-R	1.10	83.3	F	1.10	83.3	F	
	Hoyt Ave (EB-LT)	1.00	43.4	D	1.00	43.4	D	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.38	8.1	A	0.38	8.1	A	
	WB(Ramp)-T	1.05	50.8	D	1.11	73.3	E	*
	NB-L	0.49	29.8	C	0.50	29.9	C	
	SB-R	0.02	25.9	C	0.02	25.9	C	
19. Astoria Boulevard & 8th Street	EB-L	0.06	25.7	C	0.06	25.7	C	
	EB-R	0.39	31.6	C	0.39	31.6	C	
	WB-L	0.26	28.4	C	0.26	28.4	C	
	WB-TR	0.30	29.0	C	0.30	29.0	C	
	NB-LT	0.34	15.0	B	0.43	16.3	B	
	SB-TR	0.31	14.8	B	0.37	15.6	B	
24. Hoyt Avenue N. & 21st Street	EB-L	0.05	40.9	D	0.05	40.9	D	
	EB-R	0.27	44.6	D	0.27	44.6	D	
	WB-L	0.89	43.9	D	0.96	50.2	D	*
	WB-TR	0.27	15.1	B	0.27	15.1	B	
	NB-L	0.28	29.1	C	0.29	29.5	C	
	NB-T	0.99	70.7	E	1.05	87.2	F	*
	SB-TR	0.74	33.9	C	0.77	34.7	C	
25. Hoyt Avenue S./Astoria Park S. &	EB-L	0.18	30.5	C	0.24	31.1	C	
21st Street	EB-TR	0.80	39.5	D	0.83	40.2	D	
	NB-DfIL				1.04	108.7	F	
	NB-TR				0.80	24.1	C	
	NB-LTR	0.87	28.2	C		36.8	D	
	SB-LTR	0.98	32.9	C	0.96	29.2	C	
26. 27th Avenue & 9th Street	EB-LT	0.01	8.4	A	0.01	9.3	A	
(Unsignalized-Two Way Stop)	SB-LR	0.27	19.1	C	1.98	490.2	F	*

Note:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, Dfl-Analysis considers a Defacto Left Lane on this approach

V/C Ratio - Volume to Capacity Ratio, sec. - Seconds

LOS - Level of Service

* - Denotes an impacted movement

Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

2023 Modified Project Without Halletts - Traffic Levels of Service

Intersection	Lane Group	Saturday Midday Peak Hour						
		NO-ACTION			MODIFIED PROJECT			
		V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	
2. 27th Avenue & 4th Street	EB-LT	NA	8.7	A	NA	9.2	A	
(Unsignalized-All Way Stop)	WB-T	NA	8.7	A	NA	8.7	A	
	WB-R	NA	7.1	A	NA	10.8	B	
	SB-LR	NA	8.3	A	NA	8.9	A	
3. 27th Avenue & 8th Street	EB-TR	0.28	12.5	B	0.28	12.5	B	
	WB-LT	0.33	13.2	B	0.79	25.2	C	
	NB-L	0.15	20.3	C	0.29	22.0	C	
	NB-R	0.17	20.6	C	0.17	20.6	C	
4. 27th Avenue & 12th Street	EB-LT	0.04	8.0	A	0.07	9.0	A	
(Unsignalized-Two Way Stop)	NB-LTR	0.29	15.3	C	0.65	45.5	E	*
5. 27th Avenue & 14th Street	EB-TR	NA	9.6	A	NA	18.7	C	
(Unsignalized-All Way Stop)	WB-LT	NA	9.0	A	NA	17.3	C	
	SB-LTR	NA	9.9	A	NA	13.4	B	
6. 27th Avenue & 18th Street	EB-L	0.09	9.4	A	0.11	9.5	A	
(Unsignalized-Two Way Stop)	WB-L	0.01	7.5	A	0.01	7.8	A	
7. Astoria Boulevard & 21st Street	EB-L	0.29	34.4	C	0.33	35.0	C	
	EB-TR	0.42	35.9	D	0.58	38.4	D	
	WB-L	0.67	40.2	D	0.67	40.2	D	
	WB-TR	0.37	34.7	C	0.54	37.0	D	
	NB-LTR	1.34	198.1	F	1.97	481.9	F	*
	SB-LTR	1.29	171.8	F	1.46	249.6	F	*
14. Astoria Boulevard & 31st Street	EB-LTR	1.16	105.4	F	1.33	179.1	F	*
	NB-T	0.76	42.1	D	0.76	42.1	D	
	NB-R	0.60	10.1	B	0.60	10.1	B	
	SB-T	0.64	19.6	B	0.64	19.6	B	
	SB-R	0.37	15.2	B	0.37	15.2	B	
15. Hoyt Avenue S./Astoria Boulevard &	Astoria Blvd (EB-LT)	1.12	95.1	F	1.23	142.5	F	*
33rd Street	NB-TR	0.92	36.1	D	0.92	36.1	D	
	NB-R	1.10	83.3	F	1.10	83.3	F	
	Hoyt Ave (EB-LT)	0.98	39.0	D	0.98	39.0	D	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.37	8.0	A	0.37	8.0	A	
	WB(Ramp)-T	0.95	26.8	C	1.01	40.0	D	
	NB-L	0.47	29.6	C	0.48	29.7	C	
	SB-R	0.02	25.9	C	0.02	25.9	C	
19. Astoria Boulevard & 8th Street	EB-LR	0.10	26.1	C	0.10	26.1	C	
	WB-L	0.26	28.4	C	0.26	28.4	C	
	WB-TR	0.08	25.8	C	0.08	25.8	C	
	NB-LT	0.18	13.3	B	0.28	14.2	B	
	SB-TR	0.20	13.6	B	0.26	14.2	B	
24. Hoyt Avenue N. & 21st Street	EB-L	0.05	40.9	D	0.05	40.9	D	
	EB-R	0.27	44.6	D	0.27	44.6	D	
	WB-L	0.73	38.2	D	0.80	40.0	D	
	WB-TR	0.27	15.1	B	0.27	15.1	B	
	NB-L	0.27	28.8	C	0.28	29.2	C	
	NB-T	0.93	58.4	E	0.99	71.2	E	*
	SB-TR	0.72	33.4	C	0.75	34.1	C	
25. Hoyt Avenue S./Astoria Park S.	EB-L	0.15	30.2	C	0.21	30.8	C	
& 21st Street	EB-TR	0.68	37.1	D	0.71	37.6	D	
	NB-LTR	0.80	23.7	C	0.84	26.1	C	
	SB-LTR	0.87	22.2	C	0.92	25.6	C	
26. 27th Avenue & 9th Street	EB-LT	0.00	7.8	A	0.01	8.6	A	
(Unsignalized-Two Way Stop)	SB-LR	0.15	12.2	B	1.18	136.8	F	*

Note:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, Dfl-Analysis considers a Defacto Left Lane on this approach

V/C Ratio - Volume to Capacity Ratio, sec. - Seconds

LOS - Level of Service

* - Denotes an impacted movement

Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

2023 Modifed Project With Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
AM PEAK HOUR											
3. 27th Avenue & 8th Street	EB-T	0.53	14.9	B	0.53	14.9	B	0.53	14.9	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing Anytime regulations" along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach centerline 1-foot to the south and restripe the WB approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane to one 10-foot wide through-only lane, one 10-foot wide left-turn only lane, and one 10-foot wide receiving lane.
	EB-R	0.66	21.2	C	0.66	21.2	C	0.66	21.2	C	
	WB-LT	1.32	179.6	F	1.87	421.6	F	-	-	-	
	WB-L	-	-	-	-	-	-	0.90	48.2	D	
	WB-T	-	-	-	-	-	-	0.70	19.0	B	
	NB-L	0.52	28.4	C	0.71	35.2	D	0.75	37.3	D	
	NB-R	0.57	34.6	C	0.57	34.6	C	0.51	31.7	C	
4. 27th Avenue & 12th Street	EB-LT	0.64	9.9	A	1.10	70.9	E	1.07	60.4	E	Partially Mitigated.
(Existing Unsignalized-Two Way Stop)	WB-TR	0.47	6.2	A	0.60	7.4	A	0.59	6.9	A	Modify signal timing: Shift 1s of green from the NB phase to the EB/WB phase [NB phase green shifts from 16s to 15s; EB/WB phase green shifts from 64s to 65s].
(No-Action Signalized)	NB-LTR	0.57	43.1	D	0.59	44.1	D	0.63	47.5	D	
5. 27th Avenue & 14th Street	EB-TR	0.61	19.4	B	1.16	99.7	F	1.13	86.5	F	Partially Mitigated.
(Existing Unsignalized-All Way Stop)	WB-LT	0.66	22.9	C	1.28	163.0	F	1.20	126.6	F	Modify signal timing: Shift 1s of green from the SB phase to the EB/WB phase [SB phase green shifts from 40s to 39s; EB/WB phase green shifts from 40s to 41s].
(No-Action Signalized)	SB-LTR	0.89	41.0	D	0.89	41.0	D	0.91	45.1	D	
7. Astoria Boulevard & 21st Street	EB-L	1.20	156.4	F	1.22	165.5	F	1.08	110.2	F	Partially Mitigated.
	EB-TR	1.70	365.9	F	2.08	539.3	F	1.85	431.5	F	Modify signal timing: Shift 3s of green from the NB/SB phase to the EB phase [NB/SB phase green shifts from 51s to 48s; EB phase green shifts from 24s to 27s; WB phase green time remains the same].
	WB-L	1.01	69.0	E	1.01	69.0	E	1.01	69.0	E	
	WB-TR	0.82	45.2	D	0.90	48.3	D	0.90	48.3	D	
	NB-LT	0.72	31.8	C	0.80	35.6	D	0.88	42.8	D	
	NB-R	0.37	24.7	C	0.37	24.7	C	0.40	27.1	C	
	SB-LT	0.87	31.3	C	0.87	31.2	C	0.92	34.7	C	
	SB-R	0.59	26.9	C	0.67	28.4	C	0.72	31.2	C	
8. Astoria Boulevard & 23rd Street	EB-LT	1.21	127.5	F	1.48	245.3	F	1.22	128.9	F	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for approximately 100 feet to bus stop to daylight the approach. Modify signal timing: Shift 2s of green from the NB phase to the EB/WB phase [NB phase green shifts from 43s to 41s; EB/WB phase green shifts from 67s to 69s].
	WB-TR	0.91	29.7	C	0.95	34.3	C	0.92	29.9	C	
	NB-LTR	0.50	33.5	C	0.50	33.5	C	0.52	35.6	D	
9. Astoria Boulevard & Crescent Street	EB-TR	1.28	159.6	F	1.54	272.6	F	1.25	143.2	F	Partially Mitigated.
	WB-LT	1.24	139.4	F	1.41	215.4	F	1.36	191.6	F	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing 4PM - 7PM Mon-Fri" regulations along the WB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the SB approach for 250 feet on the west side to allow for two moving lanes at the approach. Restripe the SB approach from one 30-foot wide travel lane with parking on both sides to one 11-foot wide right-turn lane, and one 19-foot wide left-through lane with parking for 250 feet. Modify signal timing: Shift 1s of green from the SB phase to the EB/WB phase [SB phase green shifts from 43s to 42s; EB/WB phase green shifts from 67s to 68s].
	SB-LTR	1.20	130.1	F	1.28	167.6	F	-	-	-	
	SB-LT	-	-	-	-	-	-	1.19	125.7	F	
	SB-R	-	-	-	-	-	-	0.21	27.4	C	
10. Astoria Boulevard & 27th Street	EB-LT	0.96	38.2	D	1.15	101.2	F	1.12	87.4	F	Partially Mitigated.
	WB-TR	0.84	23.0	C	0.86	23.8	C	0.83	21.5	C	Modify signal timing: Shift 2s of green from the SB phase to the EB/WB phase [SB phase green shifts from 37s to 35s; EB/WB phase green shifts from 73s to 75s].
	SB-LR	0.83	41.1	D	0.83	41.1	D	0.89	44.5	D	
12. Astoria Boulevard & 29th Street	EB-T	1.63	328.2	F	1.94	463.9	F	1.54	281.9	F	Install "No Standing 7AM-10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the EB approach downstream receiving segment to provide two receiving lanes. Restripe EB approach downstream receiving segment from one 17-foot wide receiving lane with a 10-foot wide channel zone to one 14-foot wide receiving lane and one 13-foot wide receiving lane. Modify signal timing: Shift 2s of green from the SB phase to the EB/WB phase [SB phase green shifts from 60s to 58s; EB/WB phase green shifts from 50s to 52s].
	WB-T	0.44	27.5	C	0.44	27.5	C	0.43	25.8	C	
	SB-L	0.18	17.0	B	0.18	17.0	B	0.19	18.2	B	
	SB-R	0.75	31.3	C	0.77	32.4	C	0.80	35.8	D	
14. Astoria Boulevard & 31st Street	EB-LTR	0.83	37.5	D	1.00	53.9	D	0.98	48.2	D	Partially Mitigated.
	NB-T	0.52	41.8	D	0.52	41.8	D	0.52	41.8	D	Modify signal timing: Shift 1s of green from the SB phase to the EB phase [SB phase green shifts from 36s to 35s; EB phase green shifts from 43s to 44s; SB/NB phase green time remains the same].
	NB-R	0.67	16.5	B	0.67	16.5	B	0.67	15.7	B	
	SB-T	0.99	51.0	D	0.99	51.0	D	1.01	55.5	E	
	SB-R	0.30	14.9	B	0.30	14.9	B	0.31	15.5	B	
15. Hoyt Avenue S./Astoria Boulevard &	Astoria Blvd (EB-LT)	1.32	192.2	F	1.50	270.4	F	1.36	209.5	F	Partially Mitigated.
33rd Street	NB-TR	1.09	91.5	F	1.09	91.5	F	1.09	91.5	F	Modify signal timing: Shift 3s of green time from the EB Hoyt Avenue S. phase to the EB Astoria Boulevard phase [EB Hoyt Avenue phase green time shifts from 52s to 49s; EB Astoria Boulevard phase green time shifts from 31s to 34s; NB phase green time remains the same].
	NB-R	1.09	97.7	F	1.09	97.7	F	1.09	97.7	F	
	Hoyt Ave (EB-LT)	0.63	27.1	C	0.63	27.1	C	0.67	29.6	C	
16. Hoyt Ave N. & 29th Street	WB-L	0.80	14.6	B	0.80	14.6	B	0.82	16.2	B	Modify signal timing: Shift 2s of green time from the WB phase to the SB phase [WB phase green time shifts from 82s to 80s; SB phase green time shifts from 21s to 23s; the bus queue jump phase green time remains the same].
	WB-LT	0.94	19.4	B	0.96	21.1	C	0.98	25.4	C	
	SB-R	1.03	98.5	F	1.13	130.5	F	1.03	95.5	F	
17. Hoyt Ave N. & 31st Street	WB-L	0.81	37.5	D	0.81	37.5	D	0.79	35.9	D	Install "No Standing 7AM-10AM Mon-Fri" regulations along the SB approach for 250 feet to daylight the approach. Modify signal timing: Shift 1s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 32s to 31s; WB phase green time shifts from 78s to 79s].
	WB-T	1.15	91.2	F	1.16	98.2	F	1.15	91.2	F	
	WB-R	0.02	7.5	A	0.02	7.5	A	0.02	7.1	A	
	NB-DefL	-	-	-	-	-	-			A	
	NB-T	-	-	-	-	-	-			A	
	NB-LT	0.32	36.4	D	0.32	36.4	D	0.33	37.4	D	
	SB-T	0.62	44.5	D	0.62	44.5	D	0.64	46.1	D	
	SB-R	0.74	57.8	E	0.77	60.1	E	0.70	54.1	D	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.74	13.3	B	0.74	13.3	B	0.73	12.5	B	Modify signal timing: Shift 1s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 25s to 24s; WB phase green time shifts from 85s to 86s].
	WB(Ramp)-T	1.17	127.2	F	1.19	136.4	F	1.18	129.6	F	
	NB-L	0.65	45.2	D	0.66	45.3	D	0.69	46.5	D	
	SB-R	0.03	38.0	D	0.03	38.0	D	0.03	38.8	D	

2023 Modifed Project With Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
20. 30th Avenue & 14th Street	EB-LTR	NA	13.0	B	NA	15.5	C				Unmitigatable.
(Unsignalized-All Way Stop)	WB-LTR	NA	13.4	B	NA	16.3	C				
	SB-LTR	NA	28.5	D	NA	61.3	F				
21. 30th Avenue & 21st Street	EB-LTR	0.52	39.0	D	0.78	52.0	D	0.72	45.1	D	Partially Mitigated.
	WB-LTR	0.48	38.0	D	0.55	40.3	D	0.50	36.4	D	Modify signal timing: Shift 3s of green time from the NB/SB phase to the EB/WB phase [NB/SB phase green time shifts from 73s to 70s; EB/WB phase green time
	NB-LTR	0.53	15.0	B	0.55	15.3	B	0.57	17.3	B	shifts from 37s to 40s].
	SB-LTR	0.76	20.3	B	0.77	20.4	C	0.80	23.5	C	
22. Vernon Boulevard & Welling Court/	EB-LT	1.18	116.5	F	1.26	152.3	F	1.22	133.1	F	Partially Mitigated.
8th Street	WB-TR	0.04	21.1	C	0.04	21.1	C	0.04	21.8	C	Modify signal timing: Shift 1s of green time from the WB phase to the EB/SB phase [WB phase green time shifts from 29s to 28s; EB/SB phase green time shifts
	NB-LTR	0.33	36.1	D	0.33	36.1	D	0.33	36.1	D	from 29s to 30s; NB phase green time remains the same].
	SB-R	1.01	68.7	E	1.11	100.7	F	1.08	86.8	F	
24. Hoyt Avenue N. & 21st Street	EB-L	0.02	40.4	D	0.02	40.4	D	0.02	40.4	D	Partially Mitigated.
	EB-R	0.37	47.5	D	0.37	47.5	D	0.37	47.5	D	Install "No Standing 7AM-10AM Mon-Fri" regulations along the SB approach for 250 feet to daylight the approach. Restripe WB approach from one 5-foot wide
	WB-L	1.09	88.0	F	1.12	100.7	F	1.08	85.5	F	bike lane, one 11-foot wide through-right lane and two 11-foot wide left-turn lanes to one 5-foot wide bike lane, one 11-foot wide through-right lane and two 12-foot
	WB-TR	0.25	14.8	B	0.25	14.8	B	0.25	14.8	B	wide left-turn lanes.
	NB-L	0.31	32.3	C	0.32	33.1	C	0.32	33.1	C	
	NB-T	1.20	143.8	F	1.30	184.4	F	1.30	184.4	F	
	SB-TR	1.04	65.0	E	1.06	73.8	E	0.93	41.5	D	
25. Hoyt Avenue S./Astoria Park S. &	EB-LTR	0.84	41.9	D	0.93	44.9	D				Unmitigatable.
21st Street	NB-LT	-	-	-	-	-	-				
	NB-R	-	-	-	-	-	-				
	NB-LTR	0.61	14.3	B	0.63	14.9	B				
	SB-LTR	1.12	81.1	F	1.16	96.5	F				
26. 27th Avenue & 9th Street	EB-LT	0.02	8.5	A	0.01	9.0	A	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 43s; SB phase green time is 37s; all phases have 3s of amber and 2s
(Unsignalized-Two Way Stop)	EB-T	-	-	-	-	-	-	0.66	22.3	C	of all red time. Install "No Standing 4PM - 7PM Mon - Fri" regulation along the WB approach for 250 feet. Install "No Standing Anytime" regulations along the east
	WB-TR	-	-	-	-	-	-	-	-	-	curb of 9th Street for 150 feet to allow for a left-turn lane. Install "No Standing 4PM-7PM Mon-Fri" regulation along the east curb of 9th Street to daylight the
	WB-T	-	-	-	-	-	-	0.87	35.4	D	approach for 250 feet. Restripe the SB approach from one 16.5-foot wide travel lane with parking and one 15.5-foot wide NB receiving lane with parking to one 20-
	SB-LR	0.56	29.6	D	2.39	669.9	F	-	-	-	foot wide right-turn lane with parking and one 12-foot wide left-turn lane for 100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB
	SB-L	-	-	-	-	-	-	0.88	42.4	D	approach from one 11-foot wide travel lane and one 19-foot wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving
	SB-R	-	-	-	-	-	-	0.28	19.1	B	lanes. [Two-way (NB/SB) 9th Street would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]
27. Vernon Boulevard & 31st Avenue	WB-LR	0.66	38.2	E	0.72	46.1	E				Unmitigatable.
(Unsignalized-Two Way Stop)	SB-LT	0.02	8.3	A	0.02	8.3	A				
28. Vernon Boulevard & Broadway/11th Street	EB-LTR	0.01	28.2	C	0.01	28.2	C	0.01	29.0	C	Partially Mitigated.
	WB-LT	0.87	38.9	D	0.87	38.9	D	0.91	41.3	D	Modify signal timing: Shift 1s of green time from the EB/WB phase to the NB/SB Vernon Boulevard phase [EB/WB phase green time shifts from 25s to 24s; NB/SB
	WB-R	0.21	29.9	C	0.26	30.3	C	0.27	31.2	C	Vernon Boulevard phase green time shifts from 43s to 44s; NB 11th Street phase green time remains the same].
	WB-LTR		37.7	D		37.6	D		39.7	D	
	NB (Vernon Blvd)-LT	0.28	8.2	A	0.29	8.3	A	0.28	7.8	A	
	NB (Vernon Blvd)-R	0.11	6.8	A	0.11	6.8	A	0.11	6.4	A	
	NB (11th Street)-LTR	0.38	41.1	D	0.38	41.1	D	0.38	41.1	D	
	SB-LTR	1.36	195.9	F	1.47	243.5	F	1.42	223.8	F	
MIDDAY PEAK HOUR											
3. 27th Avenue & 8th Street	EB-T	0.24	11.9	B	0.24	11.9	B	0.24	11.9	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing Anytime regulations"
	EB-R	0.61	22.5	C	0.61	22.5	C	0.61	22.5	C	along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach centerline 1-foot to the south and restripe the WB
	WB-LT	1.25	151.3	F	1.72	355.3	F	-	-	-	approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane to one 10-foot wide through-only lane, one 10-foot wide left-turn only
	WB-L	-	-	-	-	-	-	0.94	57.8	E	lane, and one 10-foot wide receiving lane.
	WB-T	-	-	-	-	-	-	0.68	20.1	C	
	NB-L	0.36	23.3	C	0.45	25.1	C	0.46	25.2	C	
	NB-R	0.73	47.7	D	0.73	47.7	D	0.70	45.0	D	
7. Astoria Boulevard & 21st Street	EB-L	0.33	36.9	D	0.36	37.7	D				Unmitigatable.
	EB-TR	0.61	41.5	D	0.69	44.1	D				
	WB-L	0.86	53.2	D	0.86	53.2	D				
	WB-TR	0.46	36.4	D	0.56	38.1	D				
	NB-LT	0.80	38.4	D	0.97	46.1	D				
	NB-R	0.65	36.1	D	0.65	36.1	D				
	SB-LT	0.78	38.5	D	0.78	38.5	D				
	SB-R	0.75	39.7	D	0.91	48.2	D				
9. Astoria Boulevard & Crescent Street	EB-TR	0.83	25.1	C	0.91	32.3	C	0.88	27.1	C	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing 4PM - 7PM
	WB-LT	1.27	143.1	F	1.36	182.6	F	1.25	133.3	F	Mon-Fri" regulations along the WB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the SB approach for 250 feet on
	SB-LTR	1.17	110.1	F	1.28	155.9	F	-	-	-	the west side to allow for two moving lanes at the approach. Restripe the SB approach from one 30-foot wide travel lane with parking on both sides to one 11-foot
	SB-LT	-	-	-	-	-	-	1.17	112.4	F	wide right-turn lane, and one 19-foot wide left-through lane with parking for 250 feet. Modify signal timing: Shift 2s of green time from the SB phase to the EB/WB
	SB-R	-	-	-	-	-	-	0.27	22.9	C	phase [SB phase green time shifts from 31s to 29s; EB/WB phase green time shifts from 49s to 51s].

2023 Modifed Project With Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
12. Astoria Boulevard & 29th Street	EB-T	0.97	48.8	D	1.06	73.3	E	0.99	51.9	D	Install "No Standing 7AM-10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the EB approach downstream receiving segment to provide two receiving lanes. Restripe EB approach downstream receiving segment from one 17-foot wide receiving lane with a 10-foot wide channel zone to one 14-foot wide receiving lane and one 13-foot wide receiving lane. Modify signal timing: Shift 3s of green from the SB phase to the EB/WB phase [SB phase green shifts from 35s to 32s; EB/WB phase green shifts from 45s to 48s].
	WB-T	0.23	13.5	B	0.23	13.5	B	0.22	11.7	B	
	SB-L	0.12	18.1	B	0.12	18.1	B	0.13	20.1	C	
	SB-R	0.70	30.5	C	0.72	31.7	C	0.80	39.5	D	
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.02	62.4	E	1.09	84.2	F	1.01	55.2	E	Modify signal timing: Shift 2s of green time from the EB Hoyt Avenue S. phase to the EB Astoria Boulevard phase [EB Hoyt Avenue phase green time shifts from 29s to 27s; EB Astoria Boulevard phase green time shifts from 24s to 26s; NB phase green time remains the same].
	NB-TR	0.76	36.6	D	0.76	36.6	D	0.76	36.6	D	
	NB-R	0.87	49.3	D	0.87	49.3	D	0.87	49.3	D	
	Hoyt Ave (EB-LT)	0.78	30.4	C	0.78	30.4	C	0.84	33.6	C	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.51	9.7	A	0.51	9.7	A	0.50	8.6	A	Modify signal timing: Shift 2s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 22s to 20s; WB phase green time shifts from 58s to 60s].
	WB(Ramp)-T	1.03	45.5	D	1.06	55.3	E	1.03	42.3	D	
	NB-L	0.32	28.4	C	0.33	28.5	C	0.37	30.3	C	
	SB-R	0.02	25.9	C	0.02	25.9	C	0.02	27.5	C	
22. Vernon Boulevard & Welling Court/ 8th Street	EB-LT	0.91	45.7	D	0.99	58.7	E	0.95	50.9	D	Partially Mitigated. Modify signal timing: Shift 1s of green time from the WB phase to the EB/SB phase [WB phase green time shifts from 29s to 28s; EB/SB phase green time shifts from 28s to 29s; NB phase green time remains the same].
	WB-TR	0.04	21.1	C	0.04	21.1	C	0.05	21.8	C	
	NB-LTR	0.17	31.0	C	0.17	31.0	C	0.17	31.0	C	
	SB-R	0.71	35.1	D	0.76	37.8	D	0.74	35.5	D	
26. 27th Avenue & 9th Street (Unsignalized-Two Way Stop)	EB-LT	0.01	8.1	A	0.00	8.7	C	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 45s; SB phase green time is 35s; all phases have 3s of amber and 2s of all red time. Install "No Standing 4PM - 7PM Mon - Fri" regulation along the WB approach for 250 feet. Install "No Standing Anytime" regulations along the east curb of 9th Street for 150 feet to allow for a left-turn lane. Install "No Standing 4PM-7PM Mon-Fri" regulation along the east curb of 9th Street to daylight the approach for 250 feet. Restripe the SB approach from one 16.5-foot wide travel lane with parking and one 15.5-foot wide NB receiving lane with parking to one 20-foot wide right-turn lane with parking and one 12-foot wide left-turn lane for 100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB approach from one 11-foot wide travel lane and one 19-foot wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving lanes. [Two-way (NB/SB) 9th Street would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]
	EB-T	-	-	-	-	-	-	0.37	15.1	B	
	WB-TR	-	-	-	-	-	-	-	-	-	
	WB-T	-	-	-	-	-	-	0.71	23.2	C	
	SB-LR	0.43	15.9	C	1.02	82.7	F	-	-	-	
	SB-L	-	-	-	-	-	-	0.52	24.7	C	
	SB-R	-	-	-	-	-	-	0.28	20.3	C	
28. Vernon Boulevard & Broadway/11th Street	EB-LTR	0.02	25.4	C	0.02	25.4	C	0.02	24.7	C	Modify signal timing: Shift 1s of green time from the NB 11th Street phase to the EB/WB phase [NB 11th Street phase green time shifts from 20s to 19s; EB/WB phase green time shifts from 26s to 27s; NB/SB Vernon Boulevard phase green time remains the same].
	WB-LT	-	-	-	-	-	-	-	-	-	
	WB-R	-	-	-	-	-	-	-	-	-	
	WB-LTR	0.96	55.5	E	1.01	67.6	E	0.97	57.3	E	
	NB (Vernon Blvd)-LT	0.29	9.0	A	0.30	9.1	A	0.31	9.6	A	
	NB (Vernon Blvd)-R	0.21	8.3	A	0.21	8.3	A	0.21	8.7	A	
	NB (11th Street)-LTR	0.22	32.8	C	0.22	32.8	C	0.23	33.9	C	
	SB-LTR	0.67	31.5	C	0.72	33.5	C	0.72	33.5	C	
PM PEAK HOUR											
2. 27th Avenue & 4th Street (Existing Unsignalized-All Way Stop) ~~(No-Action Signalized)~~	EB-LT	0.56	15.0	B	0.56	15.0	B	0.53	12.7	B	Partially Mitigated; Modify signal timing: Shift 3s of green time from the SB phase to the EB/WB phase [SB phase green time shifts from 29s to 26s; EB/WB phase green time shifts **from 51s to 54s**].
	WB-T	0.65	15.6	B	0.65	15.6	B	0.61	13.2	B	
	WB-R	0.29	11.8	B	1.43	225.1	F	1.44	224.8	F	
	SB-LR	0.08	21.6	C	0.08	21.6	C	0.09	23.8	C	
3. 27th Avenue & 8th Street	EB-T	0.36	13.2	B	0.36	13.2	B	0.36	13.2	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing Anytime regulations" along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach centerline 1-foot to the south and restripe the WB approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane to one 10-foot wide through-only lane, one 10-foot wide left-turn only lane, and one 10-foot wide receiving lane.
	EB-R	0.42	15.9	B	0.42	15.9	B	0.42	15.9	B	
	WB-LT	1.22	138.6	F	1.92	442.4	F	-	-	-	
	WB-L	-	-	-	-	-	-	0.56	19.9	B	
	WB-T	-	-	-	-	-	-	1.05	67.0	E	
	NB-L	0.48	25.8	C	0.68	32.1	C	0.70	32.8	C	
	NB-R	0.75	47.4	D	0.75	47.4	D	0.71	43.6	D	
4. 27th Avenue & 12th Street (Existing Unsignalized-Two Way Stop) (No-Action Signalized)	EB-LT	0.54	8.2	A	0.99	42.3	D				Unmitigatable.
	WB-TR	0.66	8.8	A	1.01	36.6	D				
	NB-LTR	0.86	65.8	E	0.90	70.6	E				
7. Astoria Boulevard & 21st Street	EB-L	0.61	46.8	D	0.67	48.9	D				Unmitigatable.
	EB-TR	1.13	118.0	F	1.30	188.9	F				
	WB-L	0.92	68.3	E	0.91	66.7	E				
	WB-TR	0.99	73.3	E	1.27	175.9	F				
	NB-LT	1.11	85.3	F	1.29	165.3	F				
	NB-R	0.44	22.9	C	0.44	22.9	C				
	SB-LT	0.78	30.0	C	0.78	30.0	C				
	SB-R	0.80	33.1	C	1.02	63.4	E				
8. Astoria Boulevard & 23rd Street	EB-LT	0.95	35.5	D	1.06	64.9	E	0.90	29.3	C	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for approximately 100 feet to bus stop to daylight the approach.
	WB-TR	0.84	22.7	C	1.01	39.3	D	1.01	39.3	D	
	NB-LTR	0.61	37.4	D	0.61	37.4	D	0.61	37.4	D	

2023 Modifed Project With Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
9. Astoria Boulevard & Crescent Street	EB-TR	1.11	88.2	F	1.23	138.5	F	1.01	53.6	D	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing 4PM - 7PM Mon-Fri" regulations along the WB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the SB approach for 250 feet on the west side to allow for two moving lanes at the approach. Restripe the SB approach from one 30-foot wide travel lane with parking on both sides to one 11-foot wide right-turn lane, and one 19-foot wide left-through lane with parking for 250 feet.
	WB-LT	1.53	267.6	F	1.75	364.7	F	1.49	247.4	F	
	SB-LTR	1.13	99.3	F	1.40	217.8	F	-	-	-	
	SB-LT	-	-	-	-	-	-	1.00	50.4	D	
	SB-R	-	-	-	-	-	-	0.46	30.0	C	
12. Astoria Boulevard & 29th Street	EB-T	1.30	179.5	F	1.44	240.6	F	1.19	130.0	F	Install "No Standing 7AM-10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the EB approach downstream receiving segment to provide two receiving lanes. Restripe EB approach downstream receiving segment from one 17-foot wide receiving lane with a 10-foot wide channel zone to one 14-foot wide receiving lane and one 13-foot wide receiving lane.
	WB-T	0.22	20.3	C	0.22	20.3	C	0.22	20.3	C	
	SB-L	0.16	19.5	B	0.16	19.5	B	0.16	19.5	B	
	SB-R	0.66	30.4	C	0.71	32.9	C	0.71	32.9	C	
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.17	121.1	F	1.25	155.3	F	1.17	123.7	F	Modify signal timing: Shift 2s of green time from the EB Hoyt Avenue S. phase to the EB Astoria Boulevard phase [EB Hoyt Avenue phase green time shifts from 40s to 38s; EB Astoria Boulevard phase green time shifts from 34s to 36s; NB phase green time remains the same].
	NB-TR	1.07	77.7	E	1.07	77.7	E	1.07	77.7	E	
	NB-R	1.13	108.5	F	1.13	108.5	F	1.13	108.5	F	
	Hoyt Ave (EB-LT)	0.87	41.3	D	0.87	41.3	D	0.91	45.2	D	
17. Hoyt Ave N. & 31st Street	WB-L	0.34	15.0	B	0.34	15.0	B	0.33	13.4	B	Install "No Standing 7AM-10AM Mon-Fri" regulations along the SB approach for 250 feet to daylight the approach. Modify signal timing: Shift 3s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 43s to 40s; WB phase green time shifts from 67s to 70s].
	WB-T	0.99	40.1	D	1.05	56.8	E	1.00	41.2	D	
	WB-R	0.15	13.3	B	0.15	13.3	B	0.14	11.9	B	
	NB-DefL	-	-	-	-	-	-	-	-	-	
	NB-T	-	-	-	-	-	-	-	-	-	
	NB-LT	0.29	28.3	C	0.29	28.3	C	0.32	30.7	C	
	SB-T	0.25	28.1	C	0.25	28.1	C	0.27	30.4	C	
	SB-R	0.49	34.6	C	0.52	35.5	D	0.57	39.8	D	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.46	10.9	B	0.46	10.9	B	0.29	7.8	A	Partially Mitigated. Modify signal timing: Shift 3s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 31s to 28s; WB phase green time shifts from 79s to 82s].
	WB(Ramp)-T	1.13	84.7	F	1.20	117.1	F	1.16	96.6	F	
	NB-L	0.52	38.6	D	0.53	38.7	D	0.59	41.5	D	
	SB-R	0.02	33.3	C	0.02	33.3	C	0.02	35.6	D	
19. Astoria Boulevard & 8th Street	EB-L	0.17	29.0	C	0.17	29.0	C	0.18	30.7	C	Partially Mitigated. Modify signal timing: Shift 2s of green time from the EB/WB phase to the NB/SB phase [EB/WB phase green time shifts from 41s to 39s; NB/SB phase green time shifts from 69s to 71s].
	EB-R	0.66	40.6	D	0.66	40.6	D	0.70	43.9	D	
	WB-L	0.31	31.0	C	0.31	31.0	C	0.32	32.7	C	
	WB-TR	0.50	35.3	D	0.50	35.3	D	0.53	37.5	D	
	NB-LT	0.87	27.7	C	1.05	60.3	E	1.00	46.2	D	
	SB-TR	0.39	15.1	B	0.44	15.9	B	0.42	14.7	B	
22. Vernon Boulevard & Welling Court/ 8th Street	EB-LT	1.43	229.6	F	1.59	301.4	F	1.48	249.0	F	Partially Mitigated. Modify signal timing: Shift 1s of green time from the WB phase to the EB/SB phase; Shit 1s of green time from the NB phase to tbe EB/SB phase [WB phase green time shifts from 29s to 28s; NB phase green time shifts from 20s to 19s; EB/SB phase green time shifts from 26s to 28s].
	WB-TR	0.06	21.3	C	0.06	21.3	C	0.07	22.0	C	
	NB-LTR	0.18	29.5	C	0.18	29.5	C	0.19	30.5	C	
	SB-R	0.72	37.9	D	0.80	42.3	D	0.74	36.9	D	
24. Hoyt Avenue N. & 21st Street	EB-L	0.11	43.9	D	0.11	43.9	D	0.11	43.9	D	Partially Mitigated. Installl "No Standing 7AM-10AM Mon-Fri" regulations along the SB approach for 250 feet to daylight the approach. Restripe WB approach from one 5-foot wide bike lane, one 11-foot wide through-right lane and two 11-foot wide left-turn lanes to one 5-foot wide bike lane, one 11-foot wide through-right lane and two 12-foot wide left-turn lanes.
	EB-R	0.19	45.3	D	0.19	45.3	D	0.19	45.3	D	
	WB-L	0.98	62.2	E	1.07	88.5	F	1.04	76.0	E	
	WB-TR	0.30	16.9	B	0.30	16.9	B	0.30	16.9	B	
	NB-L	0.17	24.7	C	0.17	24.8	C	0.17	24.8	C	
	NB-T	1.12	99.0	F	1.17	119.4	F	1.17	119.4	F	
	SB-TR	0.77	37.9	D	0.80	39.4	D	0.80	39.4	D	
25. Hoyt Avenue S./Astoria Park S. & 21st Street	EB-LTR	0.58	37.9	D	0.63	39.0	D	0.69	42.5	D	Modify signal timing: Shift 3s of green time from the EB phase to the NB/SB phase [EB phase green time shifts from 35s to 32s; NB/SB phase green time shifts from 75s to 78s].
	NB-LT	0.72	16.9	B	0.75	17.8	B	0.71	15.1	B	
	NB-R	0.51	13.3	B	0.52	13.4	B	0.50	11.7	B	
	NB-LTR		15.7	B		16.4	B		14.0	B	
	SB-LTR	1.00	40.4	D	1.06	59.8	E	1.01	41.7	D	
26. 27th Avenue & 9th Street (Unsignalized-Two Way Stop)	EB-LT	0.01	8.8	A	0.01	10.0	A	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 53s; SB phase green time is 27s; all phases have 3s of amber and 2s of all red time. Install "No Standing 4PM - 7PM Mon - Fri" regulation along the WB approach for 250 feet. Install "No Standing Anytime" regulations along the east curb of 9th Street for 150 feet to allow for a left-turn lane. Install "No Standing 4PM-7PM Mon-Fri" regulation along the east curb of 9th Street to daylight the approach for 250 feet. Restripe the SB approach from one 16.5-foot wide travel lane with parking and one 15.5-foot wide NB receiving lane with parking to one 20-foot wide right-turn lane with parking and one 12-foot wide left-turn lane for 100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB approach from one 11-foot wide travel lane and one 19-foot wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving lanes. [Two-way (NB/SB) 9th Street would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]
	EB-T	-	-	-	-	-	-	0.46	12.0	B	
	WB-TR	-	-	-	-	-	-	-	-	-	
	WB-T	-	-	-	-	-	-	0.97	40.2	D	
	SB-LR	0.60	31.2	D	2.59	769.5	F	-	-	-	
	SB-L	-	-	-	-	-	-	0.81	44.1	D	
	SB-R	-	-	-	-	-	-	0.35	27.4	C	
27. Vernon Boulevard & 31st Avenue (Unsignalized-Two Way Stop)	WB-LR	0.51	29.2	D	0.59	36.0	E				Unmitigatable.
	SB-LT	0.02	8.9	A	0.03	9.0	A				
28. Vernon Boulevard & Broadway/11th Street	EB-LTR	0.03	33.2	C	0.03	33.2	C	0.03	33.2	C	Modify signal timing: Shift 3s of green time from the NB 11th Street phase to the NB/SB Vernon Boulevard phase [NB 11th Street phase green time shifts from 25s to 22s; NB/SB Vernon Boulevard phase green time shifts from 45s to 48s; EB/WB phase green time remains the same].
	WB-LT	0.77	47.0	D	0.77	47.0	D	0.77	47.0	D	
	WB-R	0.24	35.8	D	0.37	37.9	D	0.37	37.9	D	
	WB-LTR		45.1	D		44.9	D		44.9	D	
	NB (Vernon Blvd)-LT	0.52	10.1	B	0.54	10.4	B	0.54	10.4	B	
	NB (Vernon Blvd)-R	0.18	6.7	A	0.18	6.7	A	0.18	6.7	A	
	NB (11th Street)-LTR	0.33	38.2	D	0.33	38.2	D	0.38	41.9	D	
	SB-LTR	0.88	45.4	D	1.01	72.2	E	0.93	50.2	D	

2023 Modified Project Without Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
AM PEAK HOUR											
3. 27th Avenue & 8th Street	EB-TR	0.54	17.2	B	0.54	17.2	B	0.54	17.2	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing Anytime regulations" along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach centerline 1-foot to the south and restripe the WB approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane to one 10-foot wide through-only lane, one 10-foot wide left-turn only lane, and one 10-foot wide receiving lane.
	WB-LT	0.98	57.1	E	1.47	241.4	F	-	-	-	
	WB-L	-	-	-	-	-	-	0.68	24.4	C	
	WB-T	-	-	-	-	-	-	0.59	17.3	B	
	NB-L	0.43	24.9	C	0.61	29.5	C	0.65	30.8	C	
	NB-R	0.28	22.3	C	0.28	22.3	C	0.24	21.7	C	
4. 27th Avenue & 12th Street (Unsignalized-Two Way Stop)	EB-LT	0.08	8.7	A	0.12	9.4	A	0.73	15.1	B	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 58s; NB phase green time is 22s; all phases have 3s of amber and 2s of all red time.
	WB-TR	-	-	-	-	-	-	0.67	11.3	B	
	NB-LTR	0.51	31.3	D	1.16	199.9	F	0.46	33.5	C	
5. 27th Avenue & 14th Street (Unsignalized-All Way Stop)	EB-TR	NA	11.9	B	NA	97.2	F	0.85	23.6	C	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 40s; SB phase green time is 40s; all phases have 3s of amber and 2s of all red time.
	WB-LT	NA	13.3	B	NA	36.5	E	0.87	34.1	C	
	SB-LTR	NA	20.0	C	NA	52.6	F	0.86	37.1	D	
7. Astoria Boulevard & 21st Street	EB-L	1.08	111.5	F	1.11	122.3	F	1.06	104.9	F	Partially Mitigated Install "No Standing Anytime" regulations along the NB approach for 165 feet, along the NB receiving side for 135 feet, along the SB approach for 340 feet, and along the SB receiving side for 125 feet to allow for three moving lanes at the NB and SB approaches. Shift the NB approach centerline 3 feet to the west and restripe the NB approach from one 11-foot wide travel lane, one 20-foot wide travel lane with parking, one 12-foot wide receiving lane, and one 18-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right-turn lane, one 12-foot wide receiving lane, and one 15-foot wide receiving lane for 125 feet from the intersection. Shift the SB approach centerline 4 feet to the east and restripe the SB approach from one 11-foot wide travel lane, one 19-foot wide travel lane with parking, one 11-foot wide receiving lane, and one 19-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right turn lane, one 11-foot wide receiving lane, and one 15-foot wide receiving lane for 135 feet from the intersection. Modify signal timing: Shift 1s of green time from the NB/SB phase to the EB phase [NB/SB phase green shifts from 51s to 50s; EB phase green time shifts from 24s to 25s].
	EB-TR	1.03	85.1	F	1.44	251.5	F	1.38	224.2	F	
	WB-L	1.01	69.0	E	1.01	69.0	E	0.99	66.3	E	
	WB-TR	0.77	43.9	D	0.85	46.1	D	0.85	46.1	D	
	NB-LTR	1.00	59.2	E	1.19	129.4	F	-	-	-	
	NB-LT	-	-	-	-	-	-	0.73	32.7	C	
	NB-R	-	-	-	-	-	-	0.38	25.4	C	
	SB-LTR	1.15	102.4	F	1.19	120.5	F	-	-	-	
	SB-LT	-	-	-	-	-	-	0.89	32.3	C	
	SB-R	-	-	-	-	-	-	0.53	26.5	C	
8. Astoria Boulevard & 23rd Street	EB-LT	0.80	25.3	C	1.07	69.1	E	0.91	31.2	C	Install "No Standing 7AM - 10AM Mon-Fri" regulations along the EB approach for approximately 100 feet to bus stop to daylight the approach.
	WB-TR	0.87	27.2	C	0.91	30.4	C	0.91	30.4	C	
	NB-LTR	0.50	33.5	C	0.50	33.5	C	0.50	33.5	C	
9. Astoria Boulevard & Crescent Street	EB-TR	0.88	33.9	C	1.14	101.3	F	0.93	36.2	D	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing 4PM - 7PM Mon-Fri" regulations along the WB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the SB approach for 250 feet on the west side to allow for two moving lanes at the approach. Restripe the SB approach from one 30-foot wide travel lane with parking on both sides to one 11-foot wide right-turn lane, and one 19-foot wide left-through lane with parking for 250 feet. Modify signal timing: Shift 1s of green time from the SB phase to the EB/WB phase [SB phase green time shifts from 43s to 42s; EB/WB phase green time shifts from 67s to 68s].
	WB-LT	1.01	48.0	D	1.05	61.7	E	1.02	50.9	D	
	SB-LTR	1.20	129.1	F	1.28	167.6	F	-	-	-	
	SB-LT	-	-	-	-	-	-	1.19	125.7	F	
	SB-R	-	-	-	-	-	-	0.21	27.4	C	
12. Astoria Boulevard & 29th Street	EB-T	1.17	127.2	F	1.47	256.2	F	1.14	113.5	F	Install "No Standing 7AM-10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the EB approach downstream receiving segment to provide two receiving lanes. Restripe EB approach downstream receiving segment from one 17-foot wide receiving lane with a 10-foot wide channel zone to one 14-foot wide receiving lane and one 13-foot wide receiving lane. Modify signal timing: Shift 3s of green time from the SB phase to the EB/WB phase [SB phase green time shifts from 60s to 57s; EB/WB phase green time shifts from 50s to 53s].
	WB-T	0.44	27.5	C	0.44	27.5	C	0.42	25.0	C	
	SB-L	0.18	17.0	B	0.18	17.0	B	0.19	18.8	B	
	SB-R	0.71	29.1	C	0.73	30.1	C	0.77	34.5	C	
14. Astoria Boulevard & 31st Street	EB-LTR	0.97	52.9	D	1.46	248.7	F	0.73	34.9	C	Install "No Standing Anytime" regulations along the EB approach for 200 feet to allow for two moving lanes at the approach. Restripe the EB approach from one 25-foot wide travel lane with parking to one 12-foot wide through lane, and one 13-foot wide through-right lane for 200 feet.
	NB-T	0.52	41.8	D	0.52	41.8	D	0.52	41.8	D	
	NB-R	0.67	16.5	B	0.67	16.5	B	0.67	16.5	B	
	SB-T	0.99	51.0	D	0.99	51.0	D	0.99	51.0	D	
	SB-R	0.30	14.9	B	0.30	14.9	B	0.30	14.9	B	
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.05	77.8	E	1.22	148.7	F	1.11	101.2	F	Partially Mitigated. Modify signal timing: Shift 3s of green time from the EB Hoyt Avenue S. phase to the EB Astoria Boulevard phase [EB Hoyt Avenue phase green time shifts from 52s to 49s; EB Astoria Boulevard phase green time shifts from 31s to 34s; NB phase green time remains the same].
	NB-TR	1.09	91.5	F	1.09	91.5	F	1.09	91.5	F	
	NB-R	1.09	97.7	F	1.09	97.7	F	1.09	97.7	F	
	Hoyt Ave (EB-LT)	0.59	26.4	C	0.59	26.4	C	0.63	28.9	C	
16. Hoyt Ave N. & 29th Street	WB-L	0.76	12.6	B	0.76	12.6	B	0.78	14.0	B	Modify signal timing: Shift 2s of green time from the WB phase to the SB phase [WB phase green time shifts from 84s to 82s; SB phase green time shifts from 19s to 21s].
	WB-LT	0.70	15.3	B	0.90	16.1	B	0.92	18.3	B	
	SB-R	1.04	104.0	F	1.15	140.3	F	1.04	100.5	F	
17. Hoyt Ave N. & 31st Street	WB-L	0.81	37.5	D	0.81	37.5	D	0.79	35.9	D	Install "No Standing 7AM-10AM Mon-Fri" regulations along the SB approach for 250 feet to daylight the approach. Modify signal timing: Shift 1s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 32s to 31s; WB phase green time shifts from 78s to 79s].
	WB-T	1.10	72.5	E	1.12	79.3	E	1.11	72.8	E	
	WB-R	0.02	7.5	A	0.02	7.5	A	0.02	7.1	A	
	NB-DefL	-	-	-	-	-	-			A	
	NB-T	-	-	-	-	-	-			A	
	NB-LT	0.32	36.4	D	0.32	36.4	D	0.33	37.4	D	
	SB-T	0.62	44.5	D	0.62	44.5	D	0.64	46.1	D	
	SB-R	0.73	56.5	E	0.75	58.7	E	0.69	53.2	D	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.74	13.2	B	0.74	13.2	B	0.73	12.5	B	Modify signal timing: Shift 1s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 25s to 24s; WB phase green time shifts from 85s to 86s].
	WB(Ramp)-T	1.13	109.3	F	1.15	118.2	F	1.14	111.8	F	
	NB-L	0.61	44.4	D	0.61	44.5	D	0.64	45.6	D	
	SB-R	0.03	38.0	D	0.03	38.0	D	0.03	38.8	D	

2023 Modified Project Without Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
20. 30th Avenue & 14th Street	EB-LTR	NA	12.1	B	NA	14.1	B				Unmitigatable.
(Unsignalized-All Way Stop)	WB-LTR	NA	12.9	B	NA	15.4	C				
	SB-LTR	NA	26.5	D	NA	54.8	F				
21. 30th Avenue & 21st Street	EB-LTR	0.45	37.2	D	0.71	47.6	D	0.68	43.8	D	Modify signal timing: Shift 2s of green time from the NB/SB phase to the EB/WB phase [NB/SB phase green time shifts from 73s to 71s; EB/WB phase green time shifts from 37s to 39s].
	WB-LTR	0.45	37.2	D	0.52	39.1	D	0.49	36.7	D	
	NB-LTR	0.53	15.0	B	0.55	15.3	B	0.56	16.6	B	
	SB-LTR	0.76	20.3	C	0.77	20.4	C	0.79	22.4	C	
22. Vernon Boulevard & Welling Court	EB-LT	1.21	132.9	F	1.30	171.8	F	1.21	129.6	F	Modify signal timing: Shift 1s of green time from the NB phase to the EB/SB phase; Shift 1s of green time from WB phase to EB/SB phase [NB phase green time shifts from 20s to 19s; EB/SB phase green time shifts from 26s to 28s; WB phase green time shifts from 29s to 28s].
/8th Street	WB-TR	0.04	21.1	C	0.04	21.1	C	0.04	21.8	C	
	NB-LTR	0.28	32.0	C	0.28	32.0	C	0.29	33.2	C	
	SB-R	0.85	44.3	D	0.96	60.2	E	0.89	46.7	D	
23. Astoria Boulevard & 18th Street	EB-T	-	-	-	-	-	-	0.69	28.1	C	Install a traffic signal with 120-second cycle length and two phases. [EB/WB phase green time is 55s; SB phase green time is 55s; all phases have 3s of amber and 2s of all red time.
(Unsignalized-Two Way Stop)	WB-T	-	-	-	-	-	-	0.59	25.5	C	
	SB-LR	0.51	32.5	D	1.44	258.4	F	0.61	29.4	C	
24. Hoyt Avenue N. & 21st Street	EB-L	0.02	40.4	D	0.02	40.4	D	0.02	40.4	D	Partially Mitigated.
	EB-R	0.37	47.5	D	0.37	47.5	D	0.37	47.5	D	Install "No Standing 7AM-10AM Mon-Fri" regulations along the SB approach for 250 feet to daylight the approach. Restripe WB approach from one 5-foot wide bike lane, one 11-foot wide through-right lane and two 11-foot wide left-turn lanes to one 5-foot wide bike lane, one 11-foot wide through-right lane and two 12-foot wide left-turn lanes.
	WB-L	1.00	58.1	E	1.03	66.9	E	1.00	57.2	E	
	WB-TR	0.25	14.8	B	0.25	14.8	B	0.25	14.8	B	
	NB-L	0.31	32.2	C	0.32	32.8	C	0.32	32.8	C	
	NB-T	1.08	98.0	F	1.17	133.9	F	1.17	133.9	F	
	SB-TR	1.03	61.9	E	1.06	71.0	E	0.93	41.0	D	
25. Hoyt Avenue S./Astoria Park S.	EB-LTR	0.61	36.3	D	0.69	37.6	D	0.74	39.5	D	Modify signal timing: Shift 2s of green time from the EB phase to the NB/SB phase [EB phase green time shifts from 36s to 34s; NB/SB phase green time shifts from 74s to 76s].
& 21st Street	NB-LTR	0.61	15.9	B	0.64	16.5	B	0.61	14.9	B	
	SB-LTR	1.12	79.0	E	1.15	95.0	F	1.11	77.1	E	
26. 27th Avenue & 9th Street	EB-LT	0.01	8.2	A	0.01	8.6	A	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 43s; SB phase green time is 37s; all phases have 3s of amber and 2s of all red time. Install "No Standing Anytime" regulations along the east curb of 9th Street for 150 feet to allow for a left-turn lane. Restripe the SB approach from one 16.5-foot wide travel lane with parking and one 15.5-foot wide NB receiving lane with parking to one 20-foot wide right-turn lane with parking and one 12-foot wide left-turn lane for 100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB approach from one 11-foot wide travel lane and one 19-foot wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving lanes. [Two-way (NB/SB) 9th Street would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]
(Unsignalized-Two Way Stop)	EB-T	-	-	-	-	-	-	0.26	14.8	B	
	WB-TR	-	-	-	-	-	-	-	-	-	
	WB-T	-	-	-	-	-	-	0.74	25.7	C	
	SB-LR	0.34	15.3	C	1.45	242.7	F	-	-	-	
	SB-L	-	-	-	-	-	-	0.88	42.4	D	
	SB-R	-	-	-	-	-	-	0.28	19.0	B	
28. Vernon Boulevard & Broadway/	EB-LTR	0.01	28.2	C	0.01	28.2	C	0.01	30.5	C	Partially Mitigated.
11th Street	WB-LTR	1.13	99.5	F	1.17	115.9	F	-	-	-	Install "No Standing Anytime" regulations along the WB approach for 100 feet to allow for two moving lanes at the approach. Restripe the WB approach from one 21-foot wide travel lane with parking to one 11-foot wide through lane, and one 10-foot wide right-turn lane for 100 feet.
	WB-LT	-	-	-	-	-	-	1.07	76.9	E	
	WB-R	-	-	-	-	-	-	0.22	32.2	C	Modify signal timing: Shift 3s of green time from the EB/WB phase to the NB/SB Vernon Boulevard phase [EB/WB phase green time shifts from 25s to 22s; NB/SB Vernon Boulevard phase green time shifts from 43s to 46s; NB 11th Street phase green time remains the same].
	NB (Vernon Blvd)-LT	0.26	8.0	A	0.27	8.1	A	0.26	6.8	A	
	NB (Vernon Blvd)-R	0.11	6.8	A	0.11	6.8	A	0.10	5.7	A	
	NB (11th Street)-LTR	0.38	41.1	D	0.38	41.1	D	0.38	41.1	D	
	SB-LTR	1.08	80.8	F	1.22	136.4	F	1.11	88.8	F	
MIDDAY PEAK HOUR											
3. 27th Avenue & 8th Street	EB-TR	0.38	14.1	B	0.38	14.1	B	0.38	14.1	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing Anytime regulations" along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach centerline 1-foot to the south and restripe the WB approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane to one 10-foot wide through-only lane, one 10-foot wide left-turn only lane, and one 10-foot wide receiving lane.
	WB-LT	0.89	41.5	D	1.34	188.8	F	-	-	-	
	WB-L	-	-	-	-	-	-	0.68	24.5	C	
	WB-T	-	-	-	-	-	-	0.49	15.4	B	
	NB-L	0.31	22.6	C	0.40	24.1	C	0.41	24.2	C	
	NB-R	0.30	22.7	C	0.30	22.7	C	0.29	22.5	C	
4. 27th Avenue & 12th Street	EB-LT	0.06	8.1	A	0.08	8.7	A	0.48	11.4	B	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 55s; NB phase green time is 25s; all phases have 3s of amber and 2s of all red time.
(Unsignalized-Two Way Stop)	WB-TR	-	-	-	-	-	-	0.41	10.4	B	
	NB-LTR	0.26	16.9	C	0.47	32.5	D	0.37	29.0	C	
5. 27th Avenue & 14th Street	EB-TR	NA	9.5	A	NA	14.3	B	0.55	20.3	C	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 40s; SB phase green time is 40s; all phases have 3s of amber and 2s of all red time. [Measures reflect improvements needed for the AM and PM peak periods.]
(Unsignalized-All Way Stop)	WB-LT	NA	9.2	A	NA	12.8	B	0.45	18.6	B	
	SB-LTR	NA	9.5	A	NA	11.4	B	0.33	17.7	B	
7. Astoria Boulevard & 21st Street	EB-L	0.29	36.1	D	0.32	36.8	D	0.32	36.8	D	Install "No Standing Anytime" regulations along the NB approach for 165 feet, along the NB receiving side for 135 feet, along the SB approach for 340 feet, and along the SB receiving side for 125 feet to allow for three moving lanes at the NB and SB approaches. Shift the NB approach centerline 3 feet to the west and restripe the NB approach from one 11-foot wide travel lane, one 20-foot wide travel lane with parking, one 12-foot wide receiving lane, and one 18-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right-turn lane, one 12-foot wide receiving lane, and one 15-foot wide receiving lane for 125 feet from the intersection. Shift the SB approach centerline 4 feet to the east and restripe the SB approach from one 11-foot wide travel lane, one 19-foot wide travel lane with parking, one 11-foot wide receiving lane, and one 19-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right turn lane, one 11-foot wide receiving lane, and one 15-foot wide receiving lane for 135 feet from the intersection.
	EB-TR	0.45	37.9	D	0.53	39.7	D	0.53	39.7	D	
	WB-L	0.86	53.2	D	0.86	53.2	D	0.86	53.2	D	
	WB-TR	0.40	35.6	D	0.50	37.1	D	0.50	37.1	D	
	NB-LTR	1.22	142.8	F	1.57	296.9	F	-	-	-	
	NB-LT	-	-	-	-	-	-	0.86	39.9	D	
	NB-R	-	-	-	-	-	-	0.64	36.0	D	
	SB-LTR	1.08	80.7	F	1.16	117.5	F	-	-	-	
	SB-LT	-	-	-	-	-	-	0.78	38.5	D	
	SB-R	-	-	-	-	-	-	0.62	36.5	D	

2023 Modified Project Without Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
9. Astoria Boulevard & Crescent Street	EB-TR	0.72	19.6	B	0.80	22.9	C	0.76	20.1	C	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing 4PM - 7PM Mon-Fri" regulations along the WB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the SB approach for 250 feet on the west side to allow for two moving lanes at the approach. Restripe the SB approach from one 30-foot wide travel lane with parking on both sides to one 11-foot wide right-turn lane, and one 19-foot wide left-through lane with parking for 250 feet. Modify signal timing: Shift 2s of green time from the SB phase to the EB/WB phase [SB phase green time shifts from 31s to 29s; EB/WB phase green time shifts from 49s to 51s].
	WB-LT	1.11	75.0	E	1.19	110.7	F	1.10	70.9	E	
	SB-LTR	1.07	109.1	F	1.28	155.9	F	-	-	-	
	SB-LT	-	-	-	-	-	-	1.17	112.4	F	
	SB-R	-	-	-	-	-	-	0.27	22.9	C	
14. Astoria Boulevard & 31st Street	EB-LTR	0.97	43.8	D	1.08	75.5	E	0.54	22.0	C	Install "No Standing Anytime" regulations along the EB approach for 200 feet to allow for two moving lanes at the approach. Restripe the EB approach from one 25-foot wide travel lane with parking to one 12-foot wide through lane, and one 13-foot wide through-right lane for 200 feet.
	NB-T	0.54	33.7	C	0.54	33.7	C	0.54	33.7	C	
	NB-R	0.53	8.9	A	0.53	8.9	A	0.53	8.9	A	
	SB-T	0.55	17.7	B	0.55	17.7	B	0.55	17.7	B	
	SB-R	0.31	14.3	B	0.31	14.3	B	0.31	14.3	B	
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.02	62.1	E	1.09	84.8	F	1.00	54.6	D	Modify signal timing: Shift 2s of green time from the EB Hoyt Avenue S. phase to the EB Astoria Boulevard phase [EB Hoyt Avenue phase green time shifts from 31s to 29s; EB Astoria Boulevard phase green time shifts from 22s to 24s; NB phase green time remains the same].
	NB-TR	0.76	36.6	D	0.76	36.6	D	0.76	36.6	D	
	NB-R	0.87	49.3	D	0.87	49.3	D	0.87	49.3	D	
	Hoyt Ave (EB-LT)	0.71	27.5	C	0.71	27.5	C	0.76	30.0	C	
22. Vernon Boulevard & Welling Court /8th Street	EB-LT	0.90	45.7	D	0.98	59.5	E	0.91	45.4	D	Modify signal timing: Shift 1s of green time from the NB phase to the EB/SB phase; Shift 1s of green time from WB phase to EB/SB phase [NB phase green time shifts from 20s to 19s; EB/SB phase green time shifts from 26s to 28s; WB phase green time shifts from 29s to 28s].
	WB-TR	0.04	21.1	C	0.04	21.1	C	0.05	21.8	C	
	NB-LTR	0.15	29.1	C	0.15	29.1	C	0.16	30.0	C	
	SB-R	0.65	34.6	C	0.71	36.9	D	0.66	33.0	C	
23. Astoria Boulevard & 18th Street (Unsignalized-Two Way Stop)	EB-T	-	-	-	-	-	-	0.32	21.6	C	Install a traffic signal with 120-second cycle length and two phases. [EB/WB phase green time is 55s; SB phase green time is 55s; all phases have 3s of amber and 2s of all red time. [Measures reflect improvements needed for the AM peak period.]
	WB-T	-	-	-	-	-	-	0.33	21.5	C	
	SB-LR	0.24	13.9	B	0.39	15.9	C	0.37	23.0	C	
26. 27th Avenue & 9th Street (Unsignalized-Two Way Stop)	EB-LT	0.00	7.8	A	0.00	8.2	A	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 45s; SB phase green time is 35s; all phases have 3s of amber and 2s of all red time. Install "No Standing Anytime" regulations along the east curb of 9th Street for 150 feet to allow for a left-turn lane. Restripe the SB approach from one 16.5-foot wide travel lane with parking and one 15.5-foot wide NB receiving lane with parking to one 20-foot wide right-turn lane with parking and one 12-foot wide left-turn lane for 100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB approach from one 11-foot wide travel lane and one 19-foot wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving lanes. [Measures reflect improvements needed for the AM and PM peak period.] [Two-way (NB/SB) 9th Street would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]
	EB-T	-	-	-	-	-	-	0.21	13.1	B	
	WB-TR	-	-	-	-	-	-	-	-	-	
	WB-T	-	-	-	-	-	-	0.52	17.9	B	
	SB-LR	0.33	12.1	B	0.74	28.1	D	-	-	-	
	SB-L	-	-	-	-	-	-	0.52	24.7	C	
	SB-R	-	-	-	-	-	-	0.27	20.3	C	
28. Vernon Boulevard & Broadway/ 11th Street	EB-LTR	0.02	26.1	C	0.02	26.1	C	0.02	26.1	C	Install "No Standing Anytime" regulations along the WB approach for 100 feet to allow for two moving lanes at the approach. Restripe the WB approach from one 21-foot wide travel lane with parking to one 11-foot wide through lane, and one 10-foot wide right-turn lane for 100 feet.
	WB-LTR	0.96	55.7	E	1.01	68.8	E	-	-	-	
	WB-LT	-	-	-	-	-	-	0.75	37.5	D	
	WB-R	-	-	-	-	-	-	0.24	28.4	C	
	NB (Vernon Blvd)-LT	0.27	8.4	A	0.28	8.5	A	0.28	8.5	A	
	NB (Vernon Blvd)-R	0.20	7.8	A	0.20	7.8	A	0.20	7.8	A	
	NB (11th Street)-LTR	0.22	32.8	C	0.22	32.8	C	0.22	32.8	C	
	SB-LTR	0.58	27.9	C	0.62	29.2	C	0.62	29.2	C	
PM PEAK HOUR											
3. 27th Avenue & 8th Street	EB-TR	0.39	14.0	B	0.39	14.0	B	0.39	14.0	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing Anytime regulations" along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach centerline 1-foot to the south and restripe the WB approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane to one 10-foot wide through-only lane, one 10-foot wide left-turn only lane, and one 10-foot wide receiving lane.
	WB-LT	0.59	19.3	B	1.28	159.3	F	-	-	-	
	WB-L	-	-	-	-	-	-	0.41	15.2	B	
	WB-T	-	-	-	-	-	-	0.68	20.3	C	
	NB-L	0.36	23.4	C	0.56	27.8	C	0.57	28.3	C	
	NB-R	0.33	23.1	C	0.33	23.1	C	0.31	22.7	C	
4. 27th Avenue & 12th Street	EB-LT	0.09	8.5	A	0.14	10.0	B	0.95	38.1	D	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 56s; NB phase green time is 24s; all phases have 3s of amber and 2s of all red time.
	WB-TR	-	-	-	-	-	-	0.75	17.5	B	
	NB-LTR	0.79	52.9	F	2.06	571.1	F	0.73	42.0	D	
5. 27th Avenue & 14th Street (Unsignalized-All Way Stop)	EB-TR	NA	10.6	B	NA	31.4	D	0.70	21.8	C	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 40s; SB phase green time is 40s; all phases have 3s of amber and 2s of all red time.
	WB-LT	NA	10.3	B	NA	37.8	E	0.77	22.1	C	
	SB-LTR	NA	11.2	B	NA	17.6	C	0.58	23.1	C	
7. Astoria Boulevard & 21st Street	EB-L	0.56	45.3	D	0.62	47.1	D	0.62	47.1	D	Partially Mitigated Install "No Standing Anytime" regulations along the NB approach for 165 feet, along the NB receiving side for 135 feet, along the SB approach for 340 feet, and along the SB receiving side for 125 feet to allow for three moving lanes at the NB and SB approaches. Shift the NB approach centerline 3 feet to the west and restripe the NB approach from one 11-foot wide travel lane, one 20-foot wide travel lane with parking, one 12-foot wide receiving lane, and one 18-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right-turn lane, one 12-foot wide receiving lane, and one 15-foot wide receiving lane for 125 feet from the intersection. Shift the SB approach centerline 4 feet to the east and restripe the SB approach from one 11-foot wide travel lane, one 19-foot wide travel lane with parking, one 11-foot wide receiving lane, and one 19-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right turn lane, one 11-foot wide receiving lane, and one 15-foot wide receiving lane for 135 feet from the intersection.
	EB-TR	0.87	55.1	E	1.04	86.0	F	1.04	86.0	F	
	WB-L	0.92	68.3	E	0.91	66.7	E	0.91	66.7	E	
	WB-TR	0.79	51.2	D	1.07	96.9	F	1.07	96.9	F	
	NB-LTR	1.25	144.2	F	1.78	382.4	F	-	-	-	
	NB-LT	-	-	-	-	-	-	1.11	85.3	F	
	NB-R	-	-	-	-	-	-	0.44	22.9	C	
	SB-LTR	1.03	58.8	E	1.19	120.2	F	-	-	-	
	SB-LT	-	-	-	-	-	-	0.78	30.0	C	
	SB-R	-	-	-	-	-	-	0.55	25.7	C	
9. Astoria Boulevard & Crescent Street	EB-TR	0.93	38.6	D	1.06	68.2	E	0.86	28.3	C	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing 4PM - 7PM Mon-Fri" regulations along the WB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the SB approach for 250 feet on the west side to allow for two moving lanes at the approach. Restripe the SB approach from one 30-foot wide travel lane with parking on both sides to one 11-foot wide right-turn lane, and one 19-foot wide left-through lane with parking for 250 feet. Modify signal timing: Shift 1s of green time from the SB phase to the EB/WB phase [SB phase green time shifts from 43s to 42s; EB/WB phase green time shifts from 67s to 68s].
	WB-LT	1.20	119.5	F	1.38	198.6	F	1.13	88.2	F	
	SB-LTR	1.13	98.3	F	1.39	216.6	F	-	-	-	
	SB-LT	-	-	-	-	-	-	1.02	56.5	E	
	SB-R	-	-	-	-	-	-	0.47	30.8	C	

2023 Modified Project Without Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/Mitigation V/C Ratio	Modified Project w/Mitigation Delay (sec.)	Modified Project w/Mitigation LOS	Proposed Mitigation
12. Astoria Boulevard & 29th Street	EB-T	1.10	96.4	F	1.24	151.8	F	1.02	68.7	E	Install "No Standing 7AM - 10AM, 4PM - 7PM Mon-Fri" regulations along the EB approach for 250 feet to daylight the approach. Install "No Standing Anytime" regulations along the EB approach downstream receiving segment to provide two receiving lanes. Restripe EB approach downstream receiving segment from one 17-foot wide receiving lane with a 10-foot wide channel zone to one 14-foot wide receiving lane and one 13-foot wide receiving lane.
	WB-T	0.22	20.3	C	0.22	20.3	C	0.22	20.3	C	
	SB-L	0.16	19.5	B	0.16	19.5	B	0.16	19.5	B	
	SB-R	0.55	26.8	C	0.60	28.6	C	0.60	28.6	C	
14. Astoria Boulevard & 31st Street	EB-LTR	1.09	86.5	F	1.24	150.9	F	0.71	34.0	C	Install "No Standing Anytime" regulations along the EB approach for 200 feet to allow for two moving lanes at the approach. Restripe the EB approach from one 25-foot wide travel lane with parking to one 12-foot wide through lane, and one 13-foot wide through-right lane for 200 feet.
	NB-T	0.52	41.6	D	0.52	41.6	D	0.52	41.6	D	
	NB-R	0.84	24.2	C	0.84	24.2	C	0.84	24.2	C	
	SB-T	0.63	20.8	C	0.63	20.8	C	0.63	20.8	C	
	SB-R	0.31	15.1	B	0.31	15.1	B	0.31	15.1	B	
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.16	117.8	F	1.24	155.2	F	1.13	105.2	F	Modify signal timing: Shift 3s of green time from the EB Hoyt Avenue S. phase to the EB Astoria Boulevard phase [EB Hoyt Avenue phase green time shifts from 43s to 40s; EB Astoria Boulevard phase green time shifts from 31s to 34s; NB phase green time remains the same].
	NB-TR	1.07	77.7	E	1.07	77.7	E	1.07	77.7	E	
	NB-R	1.13	108.5	F	1.13	108.5	F	1.13	108.5	F	
	Hoyt Ave (EB-LT)	0.78	36.4	D	0.78	36.4	D	0.84	40.3	D	
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.45	10.9	B	0.45	10.9	B	0.43	8.9	A	Modify signal timing: Shift 4s of green time from the NB/SB phase to the WB phase [NB/SB phase green time shifts from 31s to 27s; WB phase green time shifts from 79s to 83s].
	WB(Ramp)-T	0.99	38.1	D	1.07	61.3	E	1.02	42.0	D	
	NB-L	0.50	38.3	D	0.51	38.5	D	0.59	42.2	D	
	SB-R	0.02	33.3	C	0.02	33.3	C	0.02	36.4	D	
22. Vernon Boulevard & Welling Court /8th Street	EB-LT	1.22	136.0	F	1.38	206.8	F	1.28	162.0	F	Partially Mitigated. Modify signal timing: Shift 1s of green time from the NB phase to the EB/SB phase; Shift 1s of green time from WB phase to EB/SB phase [NB phase green time shifts from 20s to 19s; EB/SB phase green time shifts from 26s to 28s; WB phase green time shifts from 29s to 28s].
	WB-TR	0.06	21.3	C	0.06	21.3	C	0.07	22.0	C	
	NB-LTR	0.18	29.5	C	0.18	29.5	C	0.19	30.5	C	
	SB-R	0.59	32.6	C	0.66	35.0	C	0.61	31.7	C	
23. Astoria Boulevard & 18th Street (Unsignalized-Two Way Stop)	EB-T	-	-	-	-	-	-	0.66	28.1	C	Install a traffic signal with 120-second cycle length and two phases. [EB/WB phase green time is 55s; SB phase green time is 55s; all phases have 3s of amber and 2s of all red time. [Measures reflect improvements needed for the AM peak period.]
	WB-T	-	-	-	-	-	-	0.25	20.0	B	
	SB-LR	0.29	17.2	C	0.60	27.5	D	0.39	23.2	C	
24. Hoyt Avenue N. & 21st Street	EB-L	0.09	41.8	D	0.09	41.8	D	0.09	41.8	D	Partially Mitigated. Install "No Standing 7AM-10AM Mon-Fri" regulations along the SB approach for 250 feet to daylight the approach. Restripe WB approach from one 5-foot wide bike lane, one 11-foot wide through-right lane and two 11-foot wide left-turn lanes to one 5-foot wide bike lane, one 11-foot wide through-right lane and two 12-foot wide left-turn lanes. Modify signal timing: Shift 1s of green time from the WB lag phase to the NB/SB phase [WB lag phase green time shifts from 38s to 37s; NB/SB phase green time shifts from 45s to 46s; EB/WB phase green time remains the same].
	EB-R	0.17	43.1	D	0.17	43.1	D	0.17	43.1	D	
	WB-L	0.73	40.1	D	0.82	43.8	D	0.81	44.0	D	
	WB-TR	0.29	15.7	B	0.29	15.7	B	0.29	16.3	B	
	NB-L	0.18	26.1	C	0.18	26.3	C	0.17	25.5	C	
	NB-T	1.12	101.6	F	1.17	123.0	F	1.15	112.5	F	
	SB-TR	0.78	39.9	D	0.81	41.6	D	0.80	39.9	D	
25. Hoyt Avenue S./Astoria Park S. & 21st Street	EB-LTR	0.47	34.6	C	0.52	35.5	D	0.57	38.4	D	Modify signal timing: Shift 3s of green time from the EB phase to the NB/SB phase [EB phase green time shifts from 37s to 34s; NB/SB phase green time shifts from 73s to 76s].
	NB-LTR	1.02	44.2	D	1.08	65.6	E	1.01	42.0	D	
	SB-LTR	1.00	45.2	D	1.08	70.6	E	1.02	48.2	D	
26. 27th Avenue & 9th Street (Unsignalized-Two Way Stop)	EB-LT	0.01	7.9	A	0.01	8.9	A	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 43s; SB phase green time is 37s; all phases have 3s of amber and 2s of all red time. Install "No Standing Anytime" regulations along the east curb of 9th Street for 150 feet to allow for a left-turn lane. Restripe the SB approach from one 16.5-foot wide travel lane with parking and one 15.5-foot wide NB receiving lane with parking to one 20-foot wide right-turn lane with parking and one 12-foot wide left-turn lane for 100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB approach from one 11-foot wide travel lane and one 19-foot wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving lanes. [Two-way (NB/SB) 9th Street would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]
	EB-T	-	-	-	-	-	-	0.33	14.6	B	
	WB-TR	-	-	-	-	-	-	-	-	-	
	WB-T	-	-	-	-	-	-	0.88	34.0	C	
	SB-LR	0.33	14.2	B	1.39	221.6	F	-	-	-	
	SB-L	-	-	-	-	-	-	0.68	30.0	C	
	SB-R	-	-	-	-	-	-	0.25	19.9	B	
28. Vernon Boulevard & Broadway/ 11th Street	EB-LTR	0.03	33.2	C	0.03	33.2	C	0.03	33.2	C	Install "No Standing Anytime" regulations along the WB approach for 100 feet to allow for two moving lanes at the approach. Restripe the WB approach from one 21-foot wide travel lane with parking to one 11-foot wide through lane, and one 10-foot wide right-turn lane for 100 feet.
	WB-LTR	0.97	69.3	E	1.08	99.5	F	-	-	-	
	WB-LT	-	-	-	-	-	-	0.83	50.7	D	
	WB-R	-	-	-	-	-	-	0.22	35.5	D	
	NB (Vernon Blvd)-LT	0.48	9.5	A	0.49	9.7	A	0.49	9.7	A	
	NB (Vernon Blvd)-R	0.18	6.7	A	0.18	6.7	A	0.18	6.7	A	
	NB (11th Street)-LTR	0.33	38.2	D	0.33	38.2	D	0.33	38.2	D	
	SB-LTR	0.66	30.7	C	0.75	34.7	C	0.75	34.7	C	

2023 Modified Project With Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/ Mitigation V/C Ratio	Modified Project w/ Mitigation Delay (sec.)	Modified Project w/ Mitigation LOS	Proposed Mitigation
SATURDAY MIDDAY PEAK HOUR											
2. 27th Avenue & 4th Street	EB-LT	0.56	16.4	B	0.56	16.4	B	0.53	14.0	B	Partially Mitigated.
(Existing Unsignalized-All Way Stop)	WB-T	0.44	13.2	B	0.44	13.2	B	0.41	11.3	B	Modify signal timing: Shift 3 of green from the SB phase to the EB/WB phase [SB phase green shifts from 31s to 28s; EB/WB phase green
(No-Action Signalized)	WB-R	0.20	11.4	B	1.24	144.5	F	1.20	123.6	F	shifts from 49s to 52s].
	SB-LR	0.06	20.0	C	0.06	20.0	C	0.07	22.1	C	
3. 27th Avenue & 8th Street	EB-T	0.34	13.1	B	0.34	13.1	B	0.34	13.1	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing
	EB-R	0.26	12.3	B	0.26	12.3	B	0.26	12.3	B	Anytime regulations" along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach
	WB-LT	0.63	19.0	B	1.22	132.9	F	-	-	-	centerline 1-foot to the south and restripe the WB approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane
	WB-L	-	-	-	-	-	-	0.29	13.1	B	to one 10-foot wide through-only lane, one 10-foot wide left-turn only lane, and one 10-foot wide receiving lane.
	WB-T	-	-	-	-	-	-	0.73	20.9	C	
	NB-L	0.22	21.1	C	0.36	23.0	C	0.37	23.2	C	
	NB-R	0.19	20.9	C	0.19	20.9	C	0.18	20.8	C	
7. Astoria Boulevard & 21st Street	EB-L	0.35	35.3	D	0.39	35.9	D	0.39	35.9	D	Partially Mitigated.
	EB-TR	0.66	39.9	D	0.81	44.5	D	0.81	44.5	D	Modify signal timing: Shift 3s of green from the WB phase to the NB/SB phase [WB phase green shifts from 34s to 31s; NB/SB phase green
	WB-L	0.67	40.2	D	0.67	40.2	D	0.73	43.9	D	shifts from 37s to 40s; EB phase green time remains the same].
	WB-TR	0.45	35.8	D	0.63	38.4	D	0.69	41.5	D	
	NB-LT	1.08	90.5	F	1.39	223.6	F	1.24	153.6	F	
	NB-R	0.52	36.6	D	0.52	36.6	D	0.47	33.6	C	
	SB-LT	0.91	40.4	D	0.93	41.4	D	0.83	36.6	D	
	SB-R	0.74	38.2	D	0.94	46.0	D	0.87	39.9	D	
15. Hoyt Avenue S./Astoria Boulevard &	Astoria Blvd (EB-LT)	1.27	160.5	F	1.38	210.2	F				Unmitigatable.
33rd Street	NB-TR	0.92	36.1	D	0.92	36.1	D				
	NB-R	1.10	83.3	F	1.10	83.3	F				
	Hoyt Ave (EB-LT)	1.00	43.4	D	1.00	43.4	D				
18. Astoria Boulevard N. & 32nd Street	WB(Main)-T	0.38	8.1	A	0.38	8.1	A	0.36	6.7	A	Modify signal timing: Shift 3 of green from the NB phase to the WB phase [NB phase green shifts from 22s to 19s; WB phase green shifts
	WB(Ramp)-T	1.05	50.8	D	1.11	73.3	E	1.05	50.3	D	from 58s to 61s].
	NB-L	0.49	29.8	C	0.50	29.9	C	0.58	33.0	C	
	SB-R	0.02	25.9	C	0.02	25.9	C	0.02	28.2	C	
24. Hoyt Avenue N. & 21st Street	EB-L	0.05	40.9	D	0.05	40.9	D	0.05	40.9	D	Partially Mitigated.
	EB-R	0.27	44.6	D	0.27	44.6	D	0.27	44.6	D	Restripe WB approach from one 5-foot wide bike lane, one 11-foot wide through-right lane and two 11-foot wide left-turn lanes to one 5-foot
	WB-L	0.89	43.9	D	0.96	50.2	D	0.92	46.1	D	wide bike lane, one 11-foot wide through-right lane and two 12-foot wide left-turn lanes.
	WB-TR	0.27	15.1	B	0.27	15.1	B	0.27	15.1	B	
	NB-L	0.28	29.1	C	0.29	29.5	C	0.29	29.5	C	
	NB-T	0.99	70.7	E	1.05	87.2	F	1.05	87.2	F	
	SB-TR	0.74	33.9	C	0.77	34.7	C	0.77	34.7	C	
26. 27th Avenue & 9th Street	EB-LT	0.01	8.4	A	0.01	9.3	A	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 50s; SB phase green time is 30s; all phases
(Unsignalized-Two Way Stop)	EB-T	-	-	-	-	-	-	0.46	13.6	B	have 3s of amber and 2s of all red time. Install "No Standing 4PM - 7PM Mon - Fri" regulation along the WB approach for 250 feet. Install
	WB-TR	-	-	-	-	-	-	-	-	-	"No Standing Anytime" regulations along the east curb of 9th Street for 150 feet. Install "No Standing 4PM-7PM Mon-Fri" regulation along
	WB-T	-	-	-	-	-	-	0.87	29.7	C	the east curb of 9th Street to daylight the approach for 250 feet. Restripe the SB approach from one 16.5-foot wide travel lane with parking
	SB-LR	0.27	19.1	C	1.98	490.2	F	-	-	-	and one 15.5-foot wide NB receiving lane with parking to one 20-foot wide right-turn lane with parking and one 12-foot wide left-turn lane for
	SB-L	-	-	-	-	-	-	0.80	40.3	D	100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB approach from one 11-foot wide travel lane and one 19-foot
	SB-R	-	-	-	-	-	-	0.20	22.6	C	wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving lanes. [Two-way (NB/SB) 9th Street
											would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]

2023 Modified Project Without Halletts - Mitigation

Intersection	Lane Group	No-Action V/C Ratio	No-Action Delay (sec.)	No-Action LOS	Modified Project V/C Ratio	Modified Project Delay (sec.)	Modified Project LOS	Modified Project w/ Mitigation V/C Ratio	Modified Project w/ Mitigation Delay (sec.)	Modified Project w/ Mitigation LOS	Proposed Mitigation
SATURDAY MIDDAY PEAK HOUR											
3. 27th Avenue & 8th Street	EB-TR	0.28	12.5	B	0.28	12.5	B	0.28	12.5	B	Install "No Standing Anytime" regulations to daylight the WB approach along 27th Avenue between 8th and 9th Streets. Install "No Standing Anytime regulations" along the WB receiving lane for 100 feet to allow vehicles to realign with the receiving end. Shift the WB approach centerline 1-foot to the south and restripe the WB approach from one 11-foot wide travel lane with parking and one 11-foot wide receiving lane to one 10-foot wide through-only lane, one 10-foot wide left-turn only lane, and one 10-foot wide receiving lane. **[Measures reflect improvements needed for the weekday peak periods.]**
	WB-LT	0.33	13.2	B	0.79	25.2	C	-	-	-	
	WB-L	-	-	-	-	-	-	0.25	12.4	B	
	WB-T	-	-	-	-	-	-	0.49	15.0	B	
	NB-L	0.15	20.3	C	0.79	25.2	C	0.30	22.1	C	
	NB-R	0.17	20.6	C	0.29	22.0	C	0.16	20.5	C	
4. 27th Avenue & 12th Street (Unsignalized-Two Way Stop)	EB-LT	0.04	8.0	A	0.07	9.0	A	0.52	11.8	B	Install a traffic signal with 90-second cycle length and two phase. (EB/WB phase green time is 55s; NB phase green time is 25s; all phases have 3s of amber and 2s of all red time.
	WB-TR	-	-	-	-	-	-	0.61	13.8	B	
	NB-LTR	0.29	15.3	C	0.65	45.5	E	0.41	29.7	C	
5. 27th Avenue & 14th Street (Unsignalized-All Way Stop)	EB-TR	NA	9.6	A	NA	18.7	C	0.65	22.5	C	Install a traffic signal with 90-second cycle length and two phase. (EB/WB phase green time is 40s; NB phase green time is 40s; all phases have 3s of amber and 2s of all red time. **[Measures reflect improvements needed for the weekday AM and PM peak periods.]**
	WB-LT	NA	9.0	A	NA	17.3	C	0.51	19.3	B	
	SB-LTR	NA	9.9	A	NA	13.4	B	0.46	20.2	C	
7. Astoria Boulevard & 21st Street	EB-L	0.29	34.4	C	0.33	35.0	C	0.33	35.0	C	Install "No Standing Anytime" regulations along the NB approach for 165 feet, along the NB receiving side for 135 feet, along the SB approach for 340 feet, and along the SB receiving side for 125 feet to allow for three moving lanes at the NB and SB approaches. Shift the NB approach centerline 3 feet to the west and restripe the NB approach from one 11-foot wide travel lane, one 20-foot wide travel lane with parking, one 12-foot wide receiving lane, and one 18-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right-turn lane, one 12-foot wide receiving lane, and one 15-foot wide receiving lane for 125 feet from the intersection. Shift the SB approach centerline 4 feet to the east and restripe the SB approach from one 11-foot wide travel lane, one 19-foot wide travel lane with parking, one 11-foot wide receiving lane, and one 19-foot wide receiving lane with parking to two 11-foot wide travel lanes, one 12-foot wide right turn lane, one 11-foot wide receiving lane, and one 15-foot wide receiving lane for 135 feet from the intersection.
	EB-TR	0.42	35.9	D	0.58	38.4	D	0.58	38.4	D	
	WB-L	0.67	40.2	D	0.67	40.2	D	0.67	40.2	D	
	WB-TR	0.37	34.7	C	0.54	37.0	D	0.54	37.0	D	
	NB-LTR	1.34	198.1	F	1.97	481.9	F	-	-	-	
	NB-LT	-	-	-	-	-	-	1.15	119.0	F	
	NB-R	-	-	-	-	-	-	0.52	36.6	D	
	SB-LTR	1.29	171.8	F	1.46	249.6	F	-	-	-	
	SB-LTR	-	-	-	-	-	-	0.90	40.3	D	
	SB-R	-	-	-	-	-	-	0.56	35.1	D	
14. Astoria Boulevard & 31st Street	EB-LTR	1.16	105.4	F	1.33	179.1	F	0.67	23.6	C	Install "No Standing Anytime" regulations along the EB approach for 200 feet to allow for two moving lanes at the approach. Restripe the EB approach from one 25-foot wide travel lane with parking to one 12-foot wide through lane, and one 13-foot wide through-right lane for 200 feet.
	NB-T	0.76	42.1	D	0.76	42.1	D	0.76	42.1	D	
	NB-R	0.60	10.1	B	0.60	10.1	B	0.60	10.1	B	
	SB-T	0.64	19.6	B	0.64	19.6	B	0.64	19.6	B	
	SB-R	0.37	15.2	B	0.37	15.2	B	0.37	15.2	B	
15. Hoyt Avenue S./Astoria Boulevard & 33rd Street	Astoria Blvd (EB-LT)	1.12	95.1	F	1.23	142.5	F				Unmitigatable.
	NB-TR	0.92	36.1	D	0.92	36.1	D				
	NB-R	1.10	83.3	F	1.10	83.3	F				
	Hoyt Ave (EB-LT)	0.98	39.0	D	0.98	39.0	D				
24. Hoyt Avenue N. & 21st Street	EB-L	0.05	40.9	D	0.05	40.9	D	0.05	40.9	D	Restripe WB approach from one 5-foot wide bike lane, one 11-foot wide through-right lane and two 11-foot wide left-turn lanes to one 5-foot wide bike lane, one 11-foot wide through-right lane and two 12-foot wide left-turn lanes. Modify signal timing: Shift 2 of green from the WB lag phase to the NB/SB phase [WB lag phase green shifts from 38s to 36s; NB/SB phase green shifts from 45s to 47s; EB/WB phase green time remains the same].
	EB-R	0.27	44.6	D	0.27	44.6	D	0.27	44.6	D	
	WB-L	0.73	38.2	D	0.80	40.0	D	0.81	41.7	D	
	WB-TR	0.27	15.1	B	0.27	15.1	B	0.28	16.2	B	
	NB-L	0.27	28.8	C	0.28	29.2	C	0.25	27.1	C	
	NB-T	0.93	58.4	E	0.99	71.2	E	0.95	59.7	E	
	SB-TR	0.72	33.4	C	0.75	34.1	C	0.72	32.1	C	
26. 27th Avenue & 9th Street (Unsignalized-Two Way Stop)	EB-LT	0.00	7.8	A	0.01	8.6	A	-	-	-	Install a traffic signal with 90-second cycle length and two phases. [EB/WB phase green time is 48s; SB phase green time is 32s; all phases have 3s of amber and 2s of all red time. Install "No Standing 4PM - 7PM Mon - Fri" regulation along the WB approach for 250 feet. Install "No Standing Anytime" regulations along the east curb of 9th Street for 150 feet. Restripe the SB approach from one 16.5-foot wide travel lane with parking and one 15.5-foot wide NB receiving lane with parking to one 20-foot wide right-turn lane with parking and one 12-foot wide left-turn lane for 100 feet. Shift the EB approach centerline 1-foot to the south and restripe the EB approach from one 11-foot wide travel lane and one 1 foot wide receiving lane with parking to one 10-foot wide through-only lane and two 10-foot wide receiving lanes. [Two-way (NB/SB) 9th Street would be converted to a one-way SB roadway between 26th and 27th Avenues as a result of the proposed mitigation measures.]
	EB-T	-	-	-	-	-	-	0.24	13.5	B	
	WB-TR	-	-	-	-	-	-	-	-	-	
	WB-T	-	-	-	-	-	-	0.72	23.6	C	
	SB-LR	0.15	12.2	B	1.18	136.8	F	-	-	-	
	SB-L	-	-	-	-	-	-	0.68	29.6	C	
	SB-R	-	-	-	-	-	-	0.16	18.7	B	

TABLE XX-XX

2012 Existing Subway Stair Level Of Service

Station	Stairway	Total Width (feet)	Effective Width (feet)	Peak 15-Minute Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
				Up	Down	Up	Down			
Weekday AM Peak Hour										
30th Avenue (N,Q lines)	S3 (NW)	5.0	4.0	196	60	1.00	0.8	0.9	0.50	B
	P5 (NW)	5.0	4.0	344	3	1.00	0.75	1.0	0.58	B
	P1 (SW)	5.0	4.0	482	10	1.00	0.75	1.0	0.83	C
Weekday PM Peak Hour										
30th Avenue (N,Q lines)	S3 (NW)	5.0	4.0	53	143	1.00	0.8	0.9	0.43	A
	P7 (NE)	5.0	4.0	6	237	1.00	0.75	1.0	0.54	B
	P3 (SE)	5.0	4.0	6	300	1.00	0.75	1.0	0.68	B

Peak Hour Volumes	
Up	Down
Weekday AM Peak	
627	193
1101	8
1542	34
Weekday PM Peak	
168	457
18	758
20	960

Notes:

Methodology based on *2014 CEQR Technical Manual* guidelines.

Volumes based on data collected in October 2012, June 2013 and March 2014.

TABLE XX-XX

2023 No-Action Subway Stair Level Of Service

Station	Stairway	Total Width (feet)	Effective Width (feet)	Peak 15-Minute Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
				Up	Down	Up	Down			
Weekday AM Peak Hour										
30th Avenue (N,Q lines)	S3 (NW)	5.0	4.0	233	122	1.00	0.8	0.9	0.71	C
	P5 (NW)	5.0	4.0	466	6	1.00	0.75	1.0	0.79	C
	P1 (SW)	5.0	4.0	610	15	1.00	0.75	1.0	1.05	D
Weekday PM Peak Hour										
30th Avenue (N,Q lines)	S3 (NW)	5.0	4.0	70	363	1.00	0.8	0.9	0.97	C
	P7 (NE)	5.0	4.0	11	345	1.00	0.75	1.0	0.79	C
	P3(SE)	5.0	4.0	12	410	1.00	0.75	1.0	0.93	C

		Halletts Increment				Upland Site				No-Action Increment	
Peak 15-Minute Volumes		Peak Hour Volumes		Peak 15-Minute Volumes		Peak Hour Volumes		Peak 15-Minute Volumes		Peak 15-Minute Volumes	
Up	Down	Up	Down	Up	Down	Up	Down	Up	Down	Up	Down
Weekday AM Peak Hour											
8	2	93	180	29	56	0	12	0	4	**37**	**62**
14	0			101	3	22	0	7	0	**122**	**3**
20	1			101	3	22	1	7	1	**128**	**5**
Weekday PM Peak Hour											
2	6	48	642	15	201	0	42	0	13	**17**	**220**
0	10			5	92	1	19	0	6	**5**	**108**
0	12			5	92	1	20	1	6	**6**	**110**

Notes:

Methodology based on *2014 CEQR Technical Manual* guidelines.

Volumes based on data collected in October 2012, June 2013 and March 2014, annual background growth rates, the Halletts Point FEIS, and projected No-Action increments.

Note: Halletts and Upland Site peak 15-minute increment volumes were determined by applying a 31.25% peaking factor to Halletts hourly increment shown in the FEIS and projected No-Action Upland Site hourly increment (which was derived using the same TPA factors as the Astoria Cove's analysis).

TABLE XX-XX

2023 Modified Project Subway Stair Level Of Service

Station	Stairway	Total Width (feet)	Effective Width (feet)	Peak 15-Minute Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Result
				Up	Down	Up	Down					
Weekday AM Peak Hour												
30th Avenue (N,Q lines)	S3 (NW)	5.0	4.0	370	161	0.90	0.8	0.9	1.13	D	6.43	No Impact
	P5 (NW)	5.0	4.0	531	7	0.95	0.75	1.0	0.95	C	N/A	N/A
	P1 (SW)	5.0	4.0	675	17	0.95	0.75	1.0	1.22	D	5.15	No Impact
Weekday PM Peak Hour												
30th Avenue (N,Q lines)	S3 (NW)	5.0	4.0	136	496	0.90	0.8	0.9	1.43	E	20.54	Impacted
	P7 (NE)	5.0	4.0	14	406	0.95	0.75	1.0	0.93	C	N/A	N/A
	P3(SE)	5.0	4.0	15	471	0.95	0.75	1.0	1.07	D	3.50	No Impact

Notes:

Methodology based on *2014 CEQR Technical Manual* guidelines.

Volumes based on data collected in October 2012, June 2013 and March 2014, annual background growth rates, the Halletts Point FEIS, and projected No-Action and Modified Project increments.

Astoria Cove Modified Project Increment			
Peak Hour Volumes		Peak 15-Minute Volumes	
Up	Down	Up	Down
Weekday AM Peak Hour			
440	124	137	39
207	5	65	1
207	5	65	2
Weekday PM Peak Hour			
210	424	66	133
10	195	3	61
10	195	3	61

Note: Total Modified Project minus non-residential Subway to Bus transfer trips not using S3 (see below).

WIT Calculator			
NA V/C < 1.0		NA V/C > 1.0	
WIT	Result	WIT	Result
Weekday AM Peak Hour			
6.43	No Impact	23.80	No Impact
N/A	N/A	6.71	No Impact
10.66	Impacted	5.15	No Impact
Weekday PM Peak Hour			
20.54	Impacted	22.06	No Impact
N/A	N/A	8.63	No Impact
3.50	No Impact	7.28	No Impact

Modified Project Increment:

Non-residential Subway to Bus Transfer Stairway Assignment

	Q102		Q18		Total Hourly		Peak 15	
Stairway	UP	Down	Up	Down	Up	Down	Up	Down
Weekday AM Peak Hour								
SW	5	0	0	0	5	0	3	0
SE	0	0	5	0	5	0		
Weekday PM Peak Hour								
SW	19	0	0	0	19	0	12	0
SE	0	0	19	0	19	0		

TABLE XX-XX
2012 Existing Fare-Array Level Of Service

Station	Direction	Control Element	Quantity	Peak 15-Minute Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
				In	Out	In	Out			
Weekday AM Peak Hour										
30th Avenue Station (N,Q lines)	Northbound	Two-way Turnstile	3	32	113	1.00	0.80	0.9	0.11	A
	Southbound	Two-way Turnstile	3	826	13	1.00	0.80	1.0	0.66	B
Weekday PM Peak Hour										
30th Avenue Station (N,Q lines)	Northbound	Two-way Turnstile	3	12	537	1.00	0.80	1.0	0.36	A
	Southbound	Two-way Turnstile	3	218	13	1.00	0.80	0.9	0.20	A

Peak Hour Volumes	
Up	Down
Weekday AM Peak Hour	
102	361
2643	42
Weekday PM Peak Hour	
38	1718
697	41

Notes:
Methodology based on *2014 CEQR Technical Manual* guidelines.
Volumes based on data collected in October 2012 and June 2013.
"In" refers to system entries.
"Out" refers to system exits.

TABLE XX-XX
2023 No-Action Fare-Array Analysis

Station	Direction	Control Element	Quantity	Peak 15-Minute Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
				In	Out	In	Out			
Weekday AM Peak Hour										
30th Avenue Station (N,Q lines)	Northbound	Two-way Turnstile	3	52	173	1.00	0.80	0.9	0.17	A
	Southbound	Two-way Turnstile	3	1076	21	1.00	0.80	1.0	0.87	C
Weekday PM Peak Hour										
30th Avenue Station (N,Q lines)	Northbound	Two-way Turnstile	3	23	755	1.00	0.80	1.0	0.51	B
	Southbound	Two-way Turnstile	3	336	31	1.00	0.80	0.9	0.32	A

Notes:
Methodology based on *2014 CEQR Technical Manual* guidelines.
Volumes based on data collected in October 2012 and June 2013, the Halletts Point FEIS, annual background growth rates, and projected No-Action increments.
"In" refers to system entries.
"Out" refers to system exits.

NO-ACTION ASSIGNMENTS

Backgroud Growth		Halletts Increment		Upland Site Increment				No-Action Increment	
Peak 15-Minute Volumes		Peak 15-Minute Volumes		*Peak Hour Volumes*		Peak 15-Minute Volumes		Peak 15-Minute Volumes	
In	Out	In	Out	*In*	*Out*	In	Out	In	Out
Weekday AM Peak Hour									
1	**5**	**18**	**52**	*4*	*11*	**1**	**3**	**20**	**60**
34	**1**	**202**	**6**	*44*	*1*	**14**	**1**	**250**	**8**
Weekday PM Peak Hour									
0	**22**	**10**	**184**	*2*	*39*	**1**	**12**	**11**	**218**
9	**1**	**102**	**16**	*22*	*3*	**7**	**1**	**118**	**18**

Note: Halletts and Upland Site peak 15-minute increment volumes were determined by applying a 31.25% peaking factor to Halletts hourly increment shown in the FEIS and projected No-Action Upland Site hourly increment (which was derived using the same TPA factors as the Astoria Cove's analysis).

TABLE XX-XX
2023 Modified Project Fare-Array Analysis

Station	Direction	Control Element	Quantity	Peak 15-Minute Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	Result
				In	Out	In	Out				
Weekday AM Peak Hour											
30th Avenue Station (N,Q lines)	Northbound	Two-way Turnstile	3	63	209	0.95	0.80	0.9	0.21	A	No Impact
	Southbound	Two-way Turnstile	3	1206	24	0.95	0.80	1.0	1.02	D	Impacted
Weekday AM Peak Hour											
30th Avenue Station (N,Q lines)	Northbound	Two-way Turnstile	3	29	877	0.95	0.80	1.0	0.59	B	No Impact
	Southbound	Two-way Turnstile	3	408	42	0.95	0.80	0.9	0.41	A	No Impact

Modified Project Increment

Peak Hour Volumes		Peak 15-Minute Volumes	
In	Out	In	Out
Weekday AM Peak Hour			
36	114	**11**	**36**
414	10	**130**	**3**
Weekday PM Peak Hour			
20	390	**6**	**122**
228	34	**72**	**11**

Notes:
Methodology based on *2014 CEQR Technical Manual* guidelines.
Volumes based on data collected in October 2012 and June 2013, the Halletts Point FEIS, annual background growth rates, and projected No-Action and Modified Project increments.
"In" refers to system entries.
"Out" refers to system exits.

2012 Existing Subway Line-Haul

Route	Peak Direction	Maximum Load Point (leaving station)	Average Trains per hour	Cars per hour	Peak Hour Capacity	Passengers per hour	V/C Ratio
Weekday AM Peak Hour							
F	Manhattan-bound	Roosevelt Island	15.1	151	21,895	18,001	0.82
N	Manhattan-bound	Queensboro Plaza	7.8	78	11,310	10,260	0.91
Q	Manhattan-bound	Queensboro Plaza	7.6	76	11,020	10,168	0.92
Weekday PM Peak Hour							
F	Queens-bound	Lexington Av/63 St	15	150	21,750	16,964	0.78
N	Queens-bound	Lexington Av/59 St	7.4	74	10,730	6,496	0.61
Q	Queens-bound	Lexington Av/59 St	6.6	66	9,570	5,499	0.57

Notes: Methodology based on *2014 CEQR Technical Manual* guidelines.
Based on data provided by MTA Transit.

2023 No-Action Subway Line-Haul

Route	Peak Direction	Maximum Load Point (leaving station)	Average Trains per hour	Cars per hour	Peak Hour Capacity	No-Action Passengers per Hour	V/C Ratio	Background Growth	Halletts Increment	Upland Site Increment
Weekday AM Peak Hour										
F	Manhattan-bound	Roosevelt Island	15.1	151	21,895	18,959	0.87	733	214	11
N	Manhattan-bound	Queensboro Plaza	7.8	78	11,310	11,022	0.97	418	322	22
Q	Manhattan-bound	Queensboro Plaza	7.6	76	11,020	10,926	0.99	414	322	22
Weekday PM Peak Hour										
F	Queens-bound	Lexington Av/63 St	15	150	21,750	17,862	0.82	691	197	10
N	Queens-bound	Lexington Av/59 St	7.4	74	10,730	7,076	0.66	265	295	20
Q	Queens-bound	Lexington Av/59 St	6.6	66	9,570	6,037	0.63	224	295	19

Notes: Methodology based on *2014 CEQR Technical Manual* guidelines.
Based on data provided by MTA Transit, annual background growth rates, the Halletts Point FEIS, and projected No-Action increments.

2023 Modified Project Subway Line-Haul

Route	Peak Direction	Maximum Load Point (leaving station)	Average Trains per hour	Cars per hour	Peak Hour Capacity	No-Action Passengers per hour	No-Action V/C Ratio	Modified Project Passengers per hour	Modified Project V/C Ratio	Modified Project Riders per car	Modified Project Increment
Weekday AM Peak Hour											
F	Manhattan-bound	Roosevelt Island	15.1	151	21,895	18,959	0.87	19,063	0.87	0.69	104
N	Manhattan-bound	Queensboro Plaza	7.8	78	11,310	11,022	0.97	11,229	0.99	2.65	207
Q	Manhattan-bound	Queensboro Plaza	7.6	76	11,020	10,926	0.99	11,133	1.01	2.72	207
Weekday PM Peak Hour											
F	Queens-bound	Lexington Av/63 St	15	150	21,750	17,862	0.82	17,960	0.83	0.65	98
N	Queens-bound	Lexington Av/59 St	7.4	74	10,730	7,076	0.66	7,271	0.68	2.64	195
Q	Queens-bound	Lexington Av/59 St	6.6	66	9,570	6,037	0.63	6,232	0.65	2.95	195

Notes: Methodology based on *2014 CEQR Technical Manual* guidelines.
Based on data provided by MTA Transit, annual background growth rates, the Halletts Point FEIS, and projected No-Action and Modified Project increments.

2012 Existing Conditions: Bus Line-Haul Analysis

Route	Direction	Peak Load Point	Hourly Volumes	Buses per Hour	Average passengers per bus
AM Peak Hour					
Q103	Northbound	40th Avenue & 12th Street	36	2	**18**
	Southbound	Vernon Boulevard & 31st Avenue	78	2	**39**
PM Peak Hour					
Q103	Northbound	40th Avenue & 12th Street	42	3	**14**
	Southbound	40th Avenue & 12th Street	33	3	**11**

Note: Data provided by MTA Bus Company
Guideline Capacity = 54 passengers per bus.

2023 No-Action Conditions: Bus Line-Haul Analysis

Route	Direction	Peak Load Point	Hourly Volumes	Buses per Hour	Average passengers per bus	Bus Demand at Guideline Capacity	New Bus Capacity	Available Capacity
AM Peak Hour								
Q103	Northbound	40th Avenue & 12th Street	113	2	**57**	3	162	49
	Southbound	Vernon Boulevard & 31st Avenue	369	2	**185**	7	378	9
PM Peak Hour								
Q103	Northbound	40th Avenue & 12th Street	314	3	**105**	6	324	10
	Southbound	40th Avenue & 12th Street	190	3	**64**	4	216	26

Note: Data provided by MTA Bus Company.
Guideline Capacity = 54 passengers per bus.

Background Growth
AM
2
4
PM
2
2

ASSUMPTIONS

Halletts Existing	Halletts Background growth	Halletts No-Action Total	Halletts No-Build Increment	Halletts Volumes	Halletts Increment	166 Dus Upland Site
AM Peak Hour						
35	2	**72**	35	**144**	72	3
38	2	**162**	122	**436**	274	13
PM Peak Hour						
41	2	**168**	125	**426**	258	12
11	1	**89**	77	**237**	148	7

Note: **Bolded numbers are as shown in the FEIS**

2023 Modified Project: Bus Line-Haul Analysis

Route	Direction	Peak Load Point	Hourly Volumes	Buses per Hour	Average passengers per bus	Bus Demand at Guideline Capacity	New Bus Capacity	Available Capacity
AM Peak Hour								
Q103	Northbound	40th Avenue & 12th Street	153	3	**51**	3	162	9
	Southbound	Vernon Boulevard & 31st Avenue	499	7	**72**	10	540	41
PM Peak Hour								
Q103	Northbound	40th Avenue & 12th Street	443	6	**74**	9	486	43
	Southbound	40th Avenue & 12th Street	272	4	**68**	6	324	52

Note: Data provided by MTA Bus Company.
Guideline Capacity = 54 passengers per bus.

Astoria Cove

Modified Project Increment
AM
40
130
PM
129
82