

**APPENDIX 20:**  
**CONSTRUCTION**

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# **APPENDIX 20: CONSTRUCTION**

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**HUNTER’S POINT SOUTH  
REZONING AND RELATED ACTIONS  
Final Environmental Impact Statement**

Appendix 20: Construction – Tables and Figures

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HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
APPENDIX 20: CONSTRUCTION – TABLES

TABLE OF CONTENTS

20-1	2012 NO BUILD TRAFFIC LEVELS OF SERVICE
20-2	2012 BUILD TRAFFIC LEVELS OF SERVICE
20-3	2012 NO BUILD VS. BUILD AND MITIGATION CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON – AM PEAK HOUR
20-4	2012 NO BUILD VS. BUILD AND MITIGATION CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON– PM PEAK HOUR

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HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
APPENDIX 20: CONSTRUCTION – FIGURES

TABLE OF CONTENTS

20-1	2012 NO BUILD TRAFFIC VOLUME INCREMENTS – AM PEAK HOUR
20-2	2012 NO BUILD TRAFFIC VOLUME INCREMENTS – PM PEAK HOUR
20-3	2012 NO BUILD TRAFFIC VOLUMES – AM PEAK HOUR
20-4	2012 NO BUILD TRAFFIC VOLUMES – PM PEAK HOUR
20-5	2012 CONSTRUCTION TRAFFIC VOLUME INCREMENTS – AM PEAK HOUR
20-6	2012 CONSTRUCTION TRAFFIC VOLUME INCREMENTS – PM PEAK HOUR
20-7	2012 CONSTRUCTION TRAFFIC VOLUMES – AM PEAK HOUR
20-8	2012 CONSTRUCTION TRAFFIC VOLUMES – PM PEAK HOUR

**APPENDIX TABLE 20-1  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD TRAFFIC LEVELS OF SERVICE**

INTERSECTION & APPROACH	<u>AM (6:00 - 7:00 AM)</u>				<u>PM (3:00 - 4:00 PM)</u>				
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
<b>SIGNALIZED INTERSECTIONS</b>									
<b><u>VERNON BOULEVARD</u></b>									
<b>VERNON BOULEVARD &amp; BORDEN AVENUE</b>									
Vernon Boulevard	SB	L	0.97	45.4	D	L	0.96	40.9	D
		LR	0.60	17.7	B	LR	0.52	15.7	B
Borden Avenue	EB	LT	0.55	15.7	B	LT	0.58	16.7	B
	WB	T	0.22	11.7	B	T	0.35	12.9	B
<b>Overall Intersection</b>	<b>-</b>	<b>0.76</b>	<b>26.8</b>	<b>C</b>	<b>-</b>	<b>0.77</b>	<b>24.9</b>	<b>C</b>	
<b><u>JACKSON AVENUE/NORTHERN BOULEVARD</u></b>									
<b>JACKSON AVENUE &amp; 11TH STREET (PULASKI BRIDGE)</b>									
11th Street (Pulaski Bridge)	NB	LT	1.17	120+	F*	LT	0.99	61.8	E
		R	1.03	79.4	E	R	0.79	42.3	D
	SB	LTR	0.64	30.7	C	LTR	0.66	30.9	C
Jackson Avenue	EB	LT	0.43	31.2	C	LT	0.40	30.7	C
	WB	DefL	1.04	76.8	E	DefL	1.10	84.6	F
		T	0.38	18.0	B	T	0.44	19.0	B
11th Street Service Road	NB	R	1.20+	120+	F*	R	0.57	45.7	D
<b>Overall Intersection</b>	<b>-</b>	<b>1.10</b>	<b>84.1</b>	<b>F</b>	<b>-</b>	<b>1.06</b>	<b>52.8</b>	<b>D</b>	
<b>JACKSON AVENUE &amp; 21ST STREET</b>									
21st Street	NB	LTR	0.76	34.7	C	LTR	1.03	79.1	E
	SB	LTR	0.54	28.2	C	LTR	1.04	78.2	E
Jackson Avenue	EB	L	0.84	40.0	D	L	0.72	26.8	C
		TR	0.68	36.1	D	TR	0.46	25.5	C
	WB	L	0.41	21.0	C	L	0.40	14.7	B
		TR	0.76	38.6	D	TR	0.83	35.4	D
<b>Overall Intersection</b>	<b>-</b>	<b>0.79</b>	<b>34.8</b>	<b>C</b>	<b>-</b>	<b>0.93</b>	<b>50.1</b>	<b>D</b>	
<b>JACKSON AVENUE/QUEENS PLAZA EAST &amp; QUEENS BOULEVARD</b>									
Jackson Ave - Northern Blvd	NB	-	-	-	-	TR	0.87	48.5	D
	SB	-	-	-	-	LTR	0.67	33.4	C
Queens Boulevard	EB	-	-	-	-	T	0.78	28.9	C
	WB	-	-	-	-	LTR	1.10	120+	F*
<b>Overall Intersection</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.00</b>	<b>77.2</b>	<b>E</b>	

**APPENDIX TABLE 20-1  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD TRAFFIC LEVELS OF SERVICE**

INTERSECTION & APPROACH	<u>AM (6:00 - 7:00 AM)</u>				<u>PM (3:00 - 4:00 PM)</u>				
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
<b>NORTHERN BOULEVARD/QUEENS PLAZA EAST &amp; BRIDGE PLAZA</b>									
Northern Boulevard / Queens Plaza East	NB	LT	0.76	19.8	B	-	-	-	-
	SB	T	0.98	69.5	E	-	-	-	-
Bridge Plaza	EB	R	0.97	48.1	D	-	-	-	-
		L	0.89	50.9	D	-	-	-	-
<b>Overall Intersection</b>		-	<b>0.95</b>	<b>46.4</b>	<b>D</b>	-	-	-	-
<b>NORTHERN BOULEVARD &amp; QUEENS PLAZA NORTH/41ST AVENUE</b>									
Northern Boulevard	NB	L	0.08	16.6	B	-	-	-	-
		TR	0.31	5.2	A	-	-	-	-
Queens Plaza North/41st Avenue	SB	LTR	0.93	31.5	C	-	-	-	-
	WB	LTR	0.14	43.6	D	-	-	-	-
<b>Overall Intersection</b>		-	<b>0.65</b>	<b>25.0</b>	<b>C</b>	-	-	-	-
<b>NORTHERN BOULEVARD/31ST STREET &amp; 40TH AVENUE</b>									
31st Street	SB	LTR	0.93	71.1	E	LTR	0.71	48.4	D
Northern Boulevard	EB	L	1.20+	120+	F*	L	1.20+	120+	F*
		T	0.35	7.0	A	T	0.60	9.5	A
	WB	TR	0.85	25.3	C	TR	0.48	8.1	A
<b>Overall Intersection</b>		-	<b>1.10</b>	<b>51.4</b>	<b>D</b>	-	<b>0.90</b>	<b>43.6</b>	<b>D</b>
<b><u>VAN DAM STREET</u></b>									
<b>VAN DAM STREET &amp; THOMSON AVENUE/QUEENS BOULEVARD</b>									
Van Dam Street	NB	L	1.20+	120+	F*	L	1.20+	120+	F*
		TR	1.03	100.3	F	TR	1.06	107.3	F
Queens Boulevard (to Queens Boulevard.)	EB	T	1.04	98.2	F	T	1.12	109.5	F
Queens Boulevard (to Van Dam Street)		T	0.97	80.7	F	T	0.89	69.7	E
Queens Boulevard (to Thomson Avenue WB)		R	0.09	47.8	D	R	0.07	46.7	D
Thomson Avenue	EB	T	0.20	14.7	B	T	1.09	79.3	E
		R	0.89	42.5	D	R	0.88	40.0	D
Queens Boulevard (to Thomson Avenue WB)	WB	L	1.12	104.3	F	L	0.49	59.7	E
Queens Boulevard (to Viaduct)		TR	0.49	12.1	B	TR	0.33	9.0	A
<b>Overall Intersection</b>		-	<b>1.01</b>	<b>81.1</b>	<b>F</b>	-	<b>1.15</b>	<b>80.3</b>	<b>F</b>

**APPENDIX TABLE 20-1  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD TRAFFIC LEVELS OF SERVICE**

INTERSECTION & APPROACH	<u>AM (6:00 - 7:00 AM)</u>					<u>PM (3:00 - 4:00 PM)</u>				
	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	
<b>VAN DAM STREET &amp; LIE EXIT RAMP</b>										
Van Dam Street	NB	LT	0.40	22.4	C	LT	0.32	21.2	C	
	SB	TR	0.87	35.0	C	TR	1.18	119.6	F	
LIE Exit Ramp	WB	TR	1.07	120+	F*	TR	0.89	34.5	C	
<b>Overall Intersection</b>		-	<b>0.97</b>	<b>83.5</b>	<b>F</b>	-	<b>1.04</b>	<b>70.9</b>	<b>E</b>	
<b>VAN DAM STREET &amp; BORDEN AVENUE</b>										
Van Dam Street	NB	TR	0.61	42.2	D	TR	0.48	39.2	D	
	SB	DefL	0.88	41.4	D	DefL	1.20+	120+	F*	
		T	0.29	14.6	B	T	0.64	21.1	C	
Borden Avenue	EB	LTR	0.46	30.6	C	LTR	1.03	67.4	E	
<b>Overall Intersection</b>		-	<b>0.74</b>	<b>35.9</b>	<b>D</b>	-	<b>1.13</b>	<b>94.8</b>	<b>F</b>	
<b>UNSIGNALIZED INTERSECTIONS</b>										
<b>11TH STREET</b>										
<b>11TH STREET &amp; BORDEN AVENUE AT QMT TOLL PLAZA EXIT RAMP</b>										
11th Street	NB	LTR	-	120+	F*	LTR	-	120+	F*	
	SB	LTR	-	120+	F*	LTR	-	120+	F*	
Borden Avenue	EB	LTR	-	30.4	D	LTR	-	25.3	D	
	WB	LTR	-	7.7	A	LTR	-	7.9	A	
<b>Overall Intersection</b>		-	-	<b>Note (5)</b>	<b>F*</b>	-	-	<b>Note (5)</b>	<b>F*</b>	

(1) Control delay is measured in seconds per vehicle.

(2) Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.

(3) Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.

(4) Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

(5) Overall delay cannot be calculated since the delay for some of the movements is beyond the threshold delay of HCS methodology.

**APPENDIX TABLE 20-2  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 BUILD TRAFFIC LEVELS OF SERVICE**

INTERSECTION & APPROACH	AM (6:00 - 7:00 AM)				PM (3:00 - 4:00 PM)					
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		
<b>SIGNALIZED INTERSECTIONS</b>										
<b>VERNON BOULEVARD</b>										
<b>VERNON BOULEVARD &amp; BORDEN AVENUE</b>										
Vernon Boulevard	SB	L	0.97	45.4	D	L	0.96	40.9	D	
		LR	1.00	51.1	D	LR	0.55	16.3	B	
Borden Avenue	EB	LT	0.68	19.4	B	LT	1.20+	120+	F*	
		WB	T	0.68	17.8	B	T	0.33	12.6	B
<b>Overall Intersection</b>	-		<b>0.84</b>	<b>34.2</b>	<b>C</b>	-	<b>1.20+</b>	<b>120+</b>	<b>F*</b>	
<b>JACKSON AVENUE/NORTHERN BOULEVARD</b>										
<b>JACKSON AVENUE &amp; 11TH STREET (PULASKI BRIDGE)</b>										
11th Street (Pulaski Bridge)	NB	LT	1.20+	120+	F*	LT	1.00	63.1	E	
		R	1.08	96.4	F	R	0.83	45.8	D	
Jackson Avenue	SB	LTR	0.64	30.7	C	LTR	0.66	30.9	C	
		EB	LT	0.54	33.5	C	LT	0.98	60.1	E
		WB	DefL	1.06	83.6	F	DefL	1.10	82.7	F
		T	0.92	40.9	D	T	0.45	19.0	B	
11th Street Service Road	NB	R	1.20+	120+	F*	R	0.57	45.7	D	
<b>Overall Intersection</b>	-		<b>1.20+</b>	<b>109.7</b>	<b>F</b>	-	<b>1.06</b>	<b>55.3</b>	<b>E</b>	
<b>JACKSON AVENUE &amp; 21ST STREET</b>										
21st Street	NB	LTR	0.79	36.4	D	LTR	1.03	79.1	E	
		SB	LTR	0.63	30.3	C	LTR	1.04	78.2	E
Jackson Avenue	EB	L	1.09	109.4	F	L	0.86	37.4	D	
		TR	0.70	36.6	D	TR	0.68	30.2	C	
		WB	L	0.41	21.1	C	L	0.50	18.1	B
		TR	1.09	92.0	F	TR	0.83	35.5	D	
<b>Overall Intersection</b>	-		<b>1.08</b>	<b>58.5</b>	<b>E</b>	-	<b>0.93</b>	<b>49.9</b>	<b>D</b>	
<b>JACKSON AVENUE/QUEENS PLAZA EAST &amp; QUEENS BOULEVARD</b>										
Jackson Ave - Northern Blvd	NB	-	-	-	-	TR	0.93	53.2	D	
		SB	-	-	-	LTR	0.69	33.9	C	
Queens Boulevard	EB	-	-	-	-	T	0.78	28.9	C	
		WB	-	-	-	LTR	1.10	120+	F*	
<b>Overall Intersection</b>	-		-	-	-	-	<b>1.00</b>	<b>77.9</b>	<b>E</b>	

**APPENDIX TABLE 20-2  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 BUILD TRAFFIC LEVELS OF SERVICE**

INTERSECTION & APPROACH	AM (6:00 - 7:00 AM)				PM (3:00 - 4:00 PM)				
	Mvt.	V/C	Control		Mvt.	V/C	Control		
			Delay	LOS			Delay	LOS	
<b>NORTHERN BOULEVARD/QUEENS PLAZA EAST &amp; BRIDGE PLAZA</b>									
Northern Boulevard / Queens Plaza East	NB	LT	0.81	21.9	C	-	-	-	-
	SB	T	1.09	110.2	F	-	-	-	-
Bridge Plaza		R	0.97	48.1	D	-	-	-	-
	EB	L	0.89	50.9	D	-	-	-	-
<b>Overall Intersection</b>	-	<b>1.01</b>	<b>55.9</b>	<b>E</b>	-	-	-	-	
<b>NORTHERN BOULEVARD &amp; QUEENS PLAZA NORTH/41ST AVENUE</b>									
Northern Boulevard	NB	L	0.08	17.8	B	-	-	-	-
		TR	0.31	5.2	A	-	-	-	-
Queens Plaza North/41st Avenue	SB	LTR	0.96	36.3	D	-	-	-	-
	WB	LTR	0.14	43.6	D	-	-	-	-
<b>Overall Intersection</b>	-	<b>0.67</b>	<b>28.7</b>	<b>C</b>	-	-	-	-	
<b>NORTHERN BOULEVARD/31ST STREET &amp; 40TH AVENUE</b>									
31st Street	SB	LTR	1.00	83.4	F	LTR	0.71	48.4	D
Northern Boulevard	EB	L	1.20+	120+	F*	L	1.20+	120+	F*
		T	0.35	7.0	A	T	0.62	9.7	A
	WB	TR	0.87	26.4	C	TR	0.48	8.1	A
<b>Overall Intersection</b>	-	<b>1.16</b>	<b>57.6</b>	<b>E</b>	-	<b>0.94</b>	<b>49.6</b>	<b>D</b>	
<b>VAN DAM STREET</b>									
<b>VAN DAM STREET &amp; THOMSON AVENUE/QUEENS BOULEVARD</b>									
Van Dam Street	NB	L	1.20+	120+	F*	L	1.20+	120+	F*
		TR	1.03	100.3	F	TR	1.06	107.3	F
Queens Boulevard (to Queens Boulevard.)	EB	T	1.04	98.2	F	T	1.12	109.5	F
Queens Boulevard (to Van Dam Street)		T	0.97	80.7	F	T	0.89	69.7	E
Queens Boulevard (to Thomson Avenue WB)		R	0.09	47.8	D	R	0.07	46.7	D
Thomson Avenue	EB	T	0.20	14.7	B	T	1.18	117.7	F
		R	0.89	42.5	D	R	0.88	40.0	D
Queens Boulevard (to Thomson Avenue WB)	WB	L	1.20+	120+	F*	L	0.49	59.7	E
Queens Boulevard (to Viaduct)		TR	0.49	12.1	B	TR	0.33	9.0	A
<b>Overall Intersection</b>	-	<b>1.01</b>	<b>99.0</b>	<b>F</b>	-	<b>1.20+</b>	<b>92.3</b>	<b>F</b>	

**APPENDIX TABLE 20-2  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 BUILD TRAFFIC LEVELS OF SERVICE**

INTERSECTION & APPROACH	AM (6:00 - 7:00 AM)					PM (3:00 - 4:00 PM)			
	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS
<b>VAN DAM STREET &amp; LIE EXIT RAMP</b>									
Van Dam Street	NB	LT	0.40	22.4	C	LT	0.32	21.2	C
	SB	TR	0.87	35.0	C	TR	1.18	119.6	F
LIE Exit Ramp	WB	TR	1.20+	120+	F*	TR	0.89	34.5	C
<b>Overall Intersection</b>	-	<b>1.05</b>	<b>120+</b>	<b>F*</b>		-	<b>1.04</b>	<b>70.9</b>	<b>E</b>
<b>VAN DAM STREET &amp; BORDEN AVENUE</b>									
Van Dam Street	NB	TR	0.61	42.2	D	TR	0.48	39.2	D
	SB	DefL	0.88	41.4	D	DefL	1.20+	120+	F*
		T	0.29	14.6	B	T	0.64	21.1	C
Borden Avenue	EB	LTR	0.46	30.7	C	LTR	1.08	84.1	F
<b>Overall Intersection</b>	-	<b>0.74</b>	<b>35.9</b>	<b>D</b>		-	<b>1.15</b>	<b>100.2</b>	<b>F</b>
<b>UNSIGNALIZED INTERSECTIONS</b>									
<b>11TH STREET</b>									
<b>11TH STREET &amp; BORDEN AVENUE AT QMT TOLL PLAZA EXIT RAMP</b>									
11th Street	NB	LTR	-	120+	F*	LTR	-	120+	F*
	SB	LTR	-	120+	F*	LTR	-	120+	F*
Borden Avenue	EB	LTR	-	86.8	F	LTR	-	70.3	F
	WB	LTR	-	7.6	A	LTR	-	7.8	A
<b>Overall Intersection</b>	-	-	<b>Note (5)</b>	<b>F*</b>		-	-	<b>Note (5)</b>	<b>F*</b>

(1) Control delay is measured in seconds per vehicle.

(2) Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.

(3) Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.

(4) Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

(5) Overall delay cannot be calculated since the delay for some of the movements is beyond the threshold delay of HCS methodology.

**APPENDIX TABLE 20-3  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD VS. BUILD AND MITIGATION - CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON (AM PEAK HOUR)**

INTERSECTION & APPROACH	Mvt.	2012 No Build				2012 Build				2012 Build with Mitigation				Mitigation Measures	
		V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS			
<b>SIGNALIZED INTERSECTIONS</b>															
<b>VERNON BOULEVARD</b>															
<b>VERNON BOULEVARD &amp; BORDEN AVENUE</b>															
Vernon Boulevard	SB	L	0.97	45.4	D	L	0.97	45.4	D	L	0.71	27.0	C	<ul style="list-style-type: none"> <li>- Install "No Standing Anytime" regulation on the west curb of SB Vernon Boulevard for 120 ft. and restripe the approach from one 9 ft. left turn lane and one 15 ft. left-right lane to two 11 ft. left turn lanes and one 11 ft. right turn lane by switching the parking on the east side from angle to parallel to gain an additional 9 ft.</li> <li>- Restripe EB Borden Avenue from one 24 ft. lane with parking to one 12 ft. shared left-through lane and one 12 ft. through lane with parking allowed in the through lane in the AM peak hour.</li> <li>- Shift centerline of WB Borden Avenue 6 ft. to the north tapered 150 ft. from the intersection. Restripe the receiving side of EB Borden Avenue as two 11 ft. lanes.</li> <li>- Restripe WB Borden Avenue from one 13 ft. through lane and one 15 ft. channelized right turn lane to one 11 ft. through lane and one 11 ft. through-right lane.</li> <li>- Restripe the receiving side of WB Borden Avenue from one 30 ft. lane with parking to two 11 ft. lanes with parking.</li> <li>- Modify cycle length from 60 s to 90 s. [EB/WB green time shifts from 25 s to 46 s; SB green time shifts from 25 s to 34 s; all phases have 3 s of amber and 2 s of all red time].</li> </ul>	
		LR	0.60	17.7	B	LR	1.00	51.1	D	R	0.57	25.7	C		
Borden Avenue	EB	LT	0.55	15.7	B	LT	0.68	19.4	B	LT	0.91	38.9	D		
		WB	T	0.22	11.7	B	T	0.68	17.8	B	TR	0.68	18.3		B
<b>Overall Intersection</b>	-		<b>0.76</b>	<b>26.8</b>	<b>C</b>	-	<b>0.84</b>	<b>34.2</b>	<b>C</b>	-	<b>0.82</b>	<b>25.1</b>	<b>C</b>		
<b>VAN DAM STREET</b>															
<b>VAN DAM STREET &amp; THOMSON AVENUE/QUEENS BOULEVARD</b>															
Van Dam Street	NB	L	1.20+	120+	F*	L	1.20+	120+	F*						<ul style="list-style-type: none"> <li>- Unmitigatable Impact.</li> </ul>
		TR	1.03	100.3	F	TR	1.03	100.3	F						
Queens Boulevard (to Queens Boulevard.)	EB	T	1.04	98.2	F	T	1.04	98.2	F						
Queens Boulevard (to Van Dam Street)		T	0.97	80.7	F	T	0.97	80.7	F						
Queens Boulevard (to Thomson Avenue WB)		R	0.09	47.8	D	R	0.09	47.8	D						
Thomson Avenue	EB	T	0.20	14.7	B	T	0.20	14.7	B						
		R	0.89	42.5	D	R	0.89	42.5	D						
Queens Boulevard (to Thomson Avenue WB)	WB	L	1.12	104.3	F	L	1.20+	120+	F*						
Queens Boulevard (to Viaduct)		TR	0.49	12.1	B	TR	0.49	12.1	B						
<b>Overall Intersection</b>	-		<b>1.01</b>	<b>81.1</b>	<b>F</b>	-	<b>1.01</b>	<b>99.0</b>	<b>F</b>						
<b>VAN DAM STREET &amp; LIE EXIT RAMP</b>															
Van Dam Street	NB	LT	0.40	22.4	C	LT	0.40	22.4	C					<ul style="list-style-type: none"> <li>- Unmitigatable Impact.</li> </ul>	
		SB	TR	0.87	35.0	C	TR	0.87	35.0	C					
LIE Exit Ramp	WB	TR	1.07	120+	F*	TR	1.20+	120+	F*						
		-	-	-	-	-	-	-	-						
<b>Overall Intersection</b>	-		<b>0.97</b>	<b>83.5</b>	<b>F</b>	-	<b>1.05</b>	<b>120+</b>	<b>F*</b>						
<b>VAN DAM STREET &amp; BORDEN AVENUE</b>															
Van Dam Street	NB	TR	0.61	42.2	D	TR	0.61	42.2	D					<ul style="list-style-type: none"> <li>- Mitigation not required.</li> </ul>	
		SB	DefL	0.88	41.4	D	DefL	0.88	41.4	D					
		T	0.29	14.6	B	T	0.29	14.6	B						
Borden Avenue	EB	LTR	0.46	30.6	C	LTR	0.46	30.7	C						
<b>Overall Intersection</b>	-		<b>0.74</b>	<b>35.9</b>	<b>D</b>	-	<b>0.74</b>	<b>35.9</b>	<b>D</b>						

**APPENDIX TABLE 20-3  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD VS. BUILD AND MITIGATION - CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON (AM PEAK HOUR)**

INTERSECTION & APPROACH	Mvt.	2012 No Build			LOS	2012 Build			Mvt.	2012 Build with Mitigation			LOS	Mitigation Measures					
		V/C	Delay			V/C	Delay			V/C	Delay								
<b>JACKSON AVENUE/NORTHERN BOULEVARD</b>																			
<b>JACKSON AVENUE &amp; 11TH STREET (PULASKI BRIDGE)</b>																			
11th Street (Pulaski Bridge)	NB	-	-	-	-	-	-	-	-	L	0.69	44.7	D	<ul style="list-style-type: none"> <li>- Post signs on the Pulaski Bridge to direct right turning traffic to the 11th Street service road with signs for Queens Boulevard/Queensboro Bridge traffic.</li> <li>- Restripe NB 11th Street service road approach traffic island to allow for two 12 ft. right turn lanes by removing parking along the west curb.</li> <li>- Restripe NB Pulaski Bridge shared left-through lane to an exclusive left turn lane.</li> <li>- Modify signal timing: shift 1 s of green time from NB/SB phase to WB-lead phase [WB-lead green time shifts from 28 s to 29 s; NB/SB green time shifts from 45 s to 44 s].</li> </ul>					
	LT	1.17	120+	F*	LT	1.20+	120+	F*	T	0.86	40.9	D							
	R	1.03	79.4	E	R	1.08	96.4	F	-	-	-	-							
Jackson Avenue	SB	LTR	0.64	30.7	C	LTR	0.64	30.7	C	LTR	0.65	31.9	C						
	EB	LT	0.43	31.2	C	LT	0.54	33.5	C	LT	0.54	33.5	C						
	WB	DefL	1.04	76.8	E	DefL	1.06	83.6	F	L	1.04	76.7	E						
	T	0.38	18.0	B	T	0.92	40.9	D	T	0.91	38.2	D							
11th Street Service Road	NB	R	1.20+	120+	F*	R	1.20+	120+	F*	R	1.15	116.7	F						
<b>Overall Intersection</b>	-	<b>1.10</b>	<b>84.1</b>	<b>F</b>	-	<b>1.20+</b>	<b>109.7</b>	<b>F</b>	-	<b>1.20+</b>	<b>59.8</b>	<b>E</b>							
<b>JACKSON AVENUE &amp; 21ST STREET</b>																			
21st Street	NB	LTR	0.76	34.7	C	LTR	0.79	36.4	D	<b>- Unmitigatable Impact</b>									
	SB	LTR	0.54	28.2	C	LTR	0.63	30.3	C										
Jackson Avenue	EB	L	0.84	40.0	D	L	1.09	109.4	F										
	TR	0.68	36.1	D	TR	0.70	36.6	D											
	WB	L	0.41	21.0	C	L	0.41	21.1	C										
	TR	0.76	38.6	D	TR	1.09	92.0	F											
<b>Overall Intersection</b>	-	<b>0.79</b>	<b>34.8</b>	<b>C</b>	-	<b>1.08</b>	<b>58.5</b>	<b>E</b>											
<b>JACKSON AVENUE/QUEENS PLAZA EAST &amp; QUEENS BOULEVARD</b>																			
Jackson Ave - Northern Blvd	NB	-	-	-	-	-	-	-	-						<b>- Unmitigatable Impact</b>				
	SB	-	-	-	-	-	-	-	-										
Queens Boulevard	EB	-	-	-	-	-	-	-	-										
	WB	-	-	-	-	-	-	-	-										
<b>Overall Intersection</b>	-	-	-	-	-	-	-	-											
<b>NORTHERN BOULEVARD/QUEENS PLAZA EAST &amp; BRIDGE PLAZA</b>																			
Northern Boulevard / Queens Plaza East	NB	LT	0.76	19.8	B	LT	0.81	21.9	C	<b>- Unmitigatable Impact</b>									
	SB	T	0.98	69.5	E	T	1.09	110.2	F										
	R	0.97	48.1	D	R	0.97	48.1	D											
Bridge Plaza	EB	L	0.89	50.9	D	L	0.89	50.9	D										
<b>Overall Intersection</b>	-	<b>0.95</b>	<b>46.4</b>	<b>D</b>	-	<b>1.01</b>	<b>55.9</b>	<b>E</b>											
<b>NORTHERN BOULEVARD &amp; QUEENS PLAZA NORTH/41ST AVENUE</b>																			
Northern Boulevard	NB	L	0.08	16.6	B	L	0.08	17.8	B						<b>- Mitigation not required.</b>				
	TR	0.31	5.2	A	TR	0.31	5.2	A											
	SB	LTR	0.93	31.5	C	LTR	0.96	36.3	D										
Queens Plaza North/41st Avenue	WB	LTR	0.14	43.6	D	LTR	0.14	43.6	D										
<b>Overall Intersection</b>	-	<b>0.65</b>	<b>25.0</b>	<b>C</b>	-	<b>0.67</b>	<b>28.7</b>	<b>C</b>											
<b>NORTHERN BOULEVARD/31ST STREET &amp; 40TH AVENUE</b>																			
31st Street	SB	LTR	0.93	71.1	E	LTR	1.00	83.4	F	LTR	0.90	63.6	E	<b>- Modify signal timing: shift 2 s of green time from EB-through/WB phase to EB-left/SB phase [EB-through/WB green time shifts from 85 s to 83 s; EB-left/SB green time shifts from 25 s to 27 s].</b>					
Northern Boulevard	EB	L	1.20+	120+	F*	L	1.20+	120+	F*	L	1.20+	120+	F*						
	T	0.35	7.0	A	T	0.35	7.0	A	T	0.36	7.9	A							
	WB	TR	0.85	25.3	C	TR	0.87	26.4	C	TR	0.90	29.3	C						
<b>Overall Intersection</b>	-	<b>1.10</b>	<b>51.4</b>	<b>D</b>	-	<b>1.16</b>	<b>57.6</b>	<b>E</b>	-	<b>1.09</b>	<b>45.9</b>	<b>D</b>							

**APPENDIX TABLE 20-3  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD VS. BUILD AND MITIGATION - CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON (AM PEAK HOUR)**

INTERSECTION & APPROACH	2012 No Build				2012 Build				2012 Build with Mitigation				Mitigation Measures	
	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS		
<b>UNSIGNALIZED INTERSECTIONS</b>														
<b>11TH STREET</b>														
<b>11TH STREET &amp; BORDEN AVENUE AT QMT TOLL PLAZA EXIT RAMP</b>														
	<b>(UNSIGNALIZED INTERSECTION)</b>				<b>(UNSIGNALIZED INTERSECTION)</b>				<b>(SIGNALIZED INTERSECTION)</b>					
11th Street	NB	LTR	-	120+	F*	LTR	-	120+	F*	R	0.05	16.0	B	- Prohibit NB 11th Street left turns (on to Borden Avenue) and through movement (on to QMT/LIE) and restripe this approach as one 20 ft. right turn only lane.
	SB	LTR	-	120+	F*	LTR	-	120+	F*	R	0.16	13.6	B	- Prohibit SB QMT Exit left turns (on to Borden Avenue) and through movement (on to 11th Street) and restripe this approach as one 26 ft. right turn only lane.
Borden Avenue	EB	LTR	-	30.4	D	LTR	-	86.8	F	L	0.75	17.4	B	- Restripe EB Borden Avenue from one 20 ft. lane to one 10 ft. left turn lane and one 10 ft. through right lane.
										TR	0.25	14.5	B	- Restripe WB Borden Avenue from one 22 ft. lane to one 11 ft. shared left-through lane and one 11 ft. shared through right lane.
	WB	LTR	-	7.7	A	LTR	-	7.6	A	LTR	0.98	42.3	D	- Install a new traffic signal with a 90-second cycle length. [EB+SB right turn green time is 43 s; WB+EB-left+NB right turn green time is 37 s; both phases have 3 s of amber and 2 s of all red time].
	<b>Overall Intersection</b>	-	-	<b>Note (5)</b>	<b>F*</b>	-	-	<b>Note (5)</b>	<b>F*</b>	-	<b>0.89</b>	<b>30.7</b>	<b>C</b>	- Allow Right Turn on Red from SB QMT Exit. - Provide signage along the QMT to direct traffic headed to 11th Street and EB Borden Avenue to use the 21st Street ramp.

(1) Control delay is measured in seconds per vehicle.

(2) Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.

(3) Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.

(4) Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

(5) Overall delay cannot be calculated since the delay for some of the movements is beyond the threshold delay of HCS methodology.

  Denotes a significant impact

**APPENDIX TABLE 20-4  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD VS. BUILD AND MITIGATION - CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON (PM PEAK HOUR)**

INTERSECTION & APPROACH	Mvt.	2012 No Build				2012 Build				2012 Build with Mitigation				Mitigation Measures
		V/C	Delay	LOS		Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	
<b>SIGNALIZED INTERSECTIONS</b>														
<b>VERNON BOULEVARD</b>														
<b>VERNON BOULEVARD &amp; BORDEN AVENUE</b>														
Vernon Boulevard	SB	L	0.96	40.9	D	L	0.96	40.9	D	L	0.83	33.5	C	<ul style="list-style-type: none"> <li>- <b>Unmitigatable Impact.</b></li> <li>- Install "No Standing Anytime" regulation on the west curb of SB Vernon Boulevard for 120 ft. and restripe the approach from one 9 ft. left-turn lane and one 15 ft. left-right lane to two 11 ft. left-turn lanes and one 11 ft. right-turn lane by switching the parking on the east side from angle to parallel gain additional 9 ft.</li> <li>- Install "No Standing 3:00 PM - 7:00 PM" regulation on the south curb of EB Borden Avenue 120 ft. from the intersection and restripe the approach from one 24 ft. lane with parking to one 12 ft. shared left-through lane and one 12 ft. through lane.</li> <li>- Shift centerline of WB Borden Avenue 6 ft. to the north tapered 150 ft. from the intersection. Restripe the receiving side of EB Borden Avenue as two 11 ft. lanes.</li> <li>- Restripe WB Borden Avenue from one 13 ft. through lane and one 15 ft. channelized right turn lane to one 11 ft. through lane and one 11 ft. through-right lane.</li> <li>- Restripe the receiving side of WB Borden Avenue from one 30 ft. lane with parking to two 11 ft. lanes with parking.</li> <li>- Modify cycle length from 60 s to 90 s. [EB/WB green time shifts from 25 s to 50 s; SB green time shifts from 25 s to 30 s; all phases have 3 s of amber and 2 s of all red time].</li> </ul>
		LR	0.52	15.7	B	LR	0.55	16.3	B	R	0.16	22.0	C	
Borden Avenue	EB	LT	0.58	16.7	B	LT	1.20+	120+	F*	DefL	1.20+	120+	F*	
		-	-	-	-	-	-	-	-	T	0.63	16.2	B	
	WB	T	0.35	12.9	B	T	0.33	12.6	B	TR	0.46	12.6	B	
<b>Overall Intersection</b>	-		<b>0.77</b>	<b>24.9</b>	<b>C</b>	-	<b>1.20+</b>	<b>120+</b>	<b>F*</b>	-	<b>1.20+</b>	<b>63.9</b>	<b>E</b>	
<b>VAN DAM STREET</b>														
<b>VAN DAM STREET &amp; THOMSON AVENUE/QUEENS BOULEVARD</b>														
Van Dam Street	NB	L	1.20+	120+	F*	L	1.20+	120+	F*					<ul style="list-style-type: none"> <li>- <b>Unmitigatable Impact.</b></li> </ul>
		TR	1.06	107.3	F	TR	1.06	107.3	F					
Queens Boulevard (to Queens Boulevard.)	EB	T	1.12	109.5	F	T	1.12	109.5	F					
Queens Boulevard (to Van Dam Street)		T	0.89	69.7	E	T	0.89	69.7	E					
Queens Boulevard (to Thomson Avenue WB)		R	0.07	46.7	D	R	0.07	46.7	D					
Thomson Avenue	EB	T	1.09	79.3	E	T	1.18	117.7	F					
		R	0.88	40.0	D	R	0.88	40.0	D					
Queens Boulevard (to Thomson Avenue WB)	WB	L	0.49	59.7	E	L	0.49	59.7	E					
Queens Boulevard (to Viaduct)		TR	0.33	9.0	A	TR	0.33	9.0	A					
<b>Overall Intersection</b>	-		<b>1.15</b>	<b>80.3</b>	<b>F</b>	-	<b>1.20+</b>	<b>92.3</b>	<b>F</b>					
<b>VAN DAM STREET &amp; LIE EXIT RAMP</b>														
Van Dam Street	NB	LT	0.32	21.2	C	LT	0.32	21.2	C					<ul style="list-style-type: none"> <li>- Mitigation not required.</li> </ul>
	SB	TR	1.18	119.6	F	TR	1.18	119.6	F					
LIE Exit Ramp	WB	TR	0.89	34.5	C	TR	0.89	34.5	C					
	-	-	-	-	-	-	-	-	-					
<b>Overall Intersection</b>	-		<b>1.04</b>	<b>70.9</b>	<b>E</b>	-	<b>1.04</b>	<b>70.9</b>	<b>E</b>					
<b>VAN DAM STREET &amp; BORDEN AVENUE</b>														
Van Dam Street	NB	TR	0.48	39.2	D	TR	0.48	39.2	D					<ul style="list-style-type: none"> <li>- <b>Unmitigatable Impact.</b></li> </ul>
	SB	DefL	1.20+	120+	F*	DefL	1.20+	120+	F*					
		T	0.64	21.1	C	T	0.64	21.1	C					
Borden Avenue	EB	LTR	1.03	67.4	E	LTR	1.08	84.1	F					
<b>Overall Intersection</b>	-		<b>1.13</b>	<b>94.8</b>	<b>F</b>	-	<b>1.15</b>	<b>100.2</b>	<b>F</b>					

**APPENDIX TABLE 20-4  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD VS. BUILD AND MITIGATION - CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON (PM PEAK HOUR)**

INTERSECTION & APPROACH	Mvt.	2012 No Build			2012 Build				2012 Build with Mitigation				Mitigation Measures	
		V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS		
<b>JACKSON AVENUE/NORTHERN BOULEVARD</b>														
<b>JACKSON AVENUE &amp; 11TH STREET (PULASKI BRIDGE)</b>														
11th Street (Pulaski Bridge)	NB	-	-	-	-	-	-	-	L	0.42	32.6	C	<ul style="list-style-type: none"> <li>- Post signs on the Pulaski Bridge to direct right turning traffic to the 11th Street service road with signs for Queens Boulevard/Queensboro Bridge traffic.</li> <li>- Restripe NB 11th Street service road approach traffic island to allow for two 12 ft. right turn lanes by removing parking along the west curb.</li> <li>- Restripe NB Pulaski Bridge shared left-through lane to an exclusive left turn lane.</li> <li>- Modify signal timing: shift 3 s of green time from WB-lead phase to EB/WB phase [EB/WB phase green time shifts from 30 s to 33 s; WB-lead phase green time shifts from 28 s to 25 s].</li> </ul>	
	LT	0.99	61.8	E	LT	1.00	63.1	E	T	0.67	33.5	C		
	R	0.79	42.3	D	R	0.83	45.8	D	-	-	-	-		
Jackson Avenue	SB	LTR	0.66	30.9	C	LTR	0.66	30.9	C	LTR	0.66	30.9		C
	EB	LT	0.40	30.7	C	LT	0.98	60.1	E	LT	0.89	42.9		D
	WB	DefL	1.10	84.6	F	DefL	1.10	82.7	F	L	1.10	84.0		F
	T	0.44	19.0	B	T	0.45	19.0	B	T	0.45	19.0	B		
11th Street Service Road	NB	R	0.57	45.7	D	R	0.57	45.7	D	R	0.75	37.2		D
<b>Overall Intersection</b>	-	<b>1.06</b>	<b>52.8</b>	<b>D</b>	-	<b>1.06</b>	<b>55.3</b>	<b>E</b>	-	<b>0.99</b>	<b>45.5</b>	<b>D</b>		
<b>JACKSON AVENUE &amp; 21ST STREET</b>														
21st Street	NB	LTR	1.03	79.1	E	LTR	1.03	79.1	E				- Mitigation not required.	
	SB	LTR	1.04	78.2	E	LTR	1.04	78.2	E					
Jackson Avenue	EB	L	0.72	26.8	C	L	0.86	37.4	D					
	TR	0.46	25.5	C	TR	0.68	30.2	C						
	WB	L	0.40	14.7	B	L	0.50	18.1	B					
	TR	0.83	35.4	D	TR	0.83	35.5	D						
<b>Overall Intersection</b>	-	<b>0.93</b>	<b>50.1</b>	<b>D</b>	-	<b>0.93</b>	<b>49.9</b>	<b>D</b>						
<b>JACKSON AVENUE/QUEENS PLAZA EAST &amp; QUEENS BOULEVARD</b>														
Jackson Ave - Northern Blvd	NB	TR	0.87	48.5	D	TR	0.93	53.2	D				- Mitigation not required.	
	SB	LTR	0.67	33.4	C	LTR	0.69	33.9	C					
Queens Boulevard	EB	T	0.78	28.9	C	T	0.78	28.9	C					
	WB	LTR	1.10	120+	F*	LTR	1.10	120+	F*					
<b>Overall Intersection</b>	-	<b>1.00</b>	<b>77.2</b>	<b>E</b>	-	<b>1.00</b>	<b>77.9</b>	<b>E</b>						
<b>NORTHERN BOULEVARD/QUEENS PLAZA EAST &amp; BRIDGE PLAZA</b>														
Northern Boulevard / Queens Plaza East	NB	-	-	-	-	-	-	-	-					
	SB	-	-	-	-	-	-	-	-					
Bridge Plaza	EB	-	-	-	-	-	-	-	-					
<b>Overall Intersection</b>	-	-	-	-	-	-	-	-	-					
<b>NORTHERN BOULEVARD &amp; QUEENS PLAZA NORTH/41ST AVENUE</b>														
Northern Boulevard	NB	-	-	-	-	-	-	-	-					
	SB	-	-	-	-	-	-	-	-					
Queens Plaza North/41st Avenue	WB	-	-	-	-	-	-	-	-					
<b>Overall Intersection</b>	-	-	-	-	-	-	-	-	-					
<b>NORTHERN BOULEVARD/31ST STREET &amp; 40TH AVENUE</b>														
31st Street	SB	LTR	0.71	48.4	D	LTR	0.71	48.4	D	LTR	0.68	46.8	D	- Modify signal timing: shift 1 s of green time from EB-through/WB phase to EB-left/SB phase [EB-through/WB green time shifts from 85 s to 84 s; EB-left/SB green time shifts from 25 s to 26 s].
Northern Boulevard	EB	L	1.20+	120+	F*	L	1.20+	120+	F*	L	1.20+	120+	F*	
	T	0.60	9.5	A	T	0.62	9.7	A	T	0.63	10.3	B		
	WB	TR	0.48	8.1	A	TR	0.48	8.1	A	TR	0.49	8.6	A	
<b>Overall Intersection</b>	-	<b>0.90</b>	<b>43.6</b>	<b>D</b>	-	<b>0.94</b>	<b>49.6</b>	<b>D</b>	-	<b>0.91</b>	<b>43.4</b>	<b>D</b>		

**APPENDIX TABLE 20-4  
HUNTER'S POINT SOUTH REZONING AND RELATED ACTIONS EIS  
2012 NO BUILD VS. BUILD AND MITIGATION - CONSTRUCTION TRAFFIC LEVELS OF SERVICE COMPARISON (PM PEAK HOUR)**

INTERSECTION & APPROACH	2012 No Build				2012 Build				2012 Build with Mitigation				Mitigation Measures	
	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS		
<b>UNSIGNALIZED INTERSECTIONS</b>														
<b>11TH STREET</b>														
<b>11TH STREET &amp; BORDEN AVENUE AT QMT TOLL PLAZA EXIT RAMP</b>														
	<b>(UNSIGNALIZED INTERSECTION)</b>					<b>(UNSIGNALIZED INTERSECTION)</b>				<b>(SIGNALIZED INTERSECTION)</b>				
11th Street	NB	LTR	-	120+	F*	LTR	-	120+	F*	R	0.05	12.7	B	- Prohibit NB 11th Street left turns (on to Borden Avenue) and through movement (on to QMT/LIE) and restripe this approach as one 20 ft. right turn only lane.
	SB	LTR	-	120+	F*	LTR	-	120+	F*	R	0.14	16.8	B	
Borden Avenue	EB	LTR	-	25.3	D	LTR	-	70.3	F	L	1.00	38.3	D	- Prohibit SB QMT Exit left turns (on to Borden Avenue) and through movement (on to 11th Street) and restripe this approach as one 26 ft. right turn only lane.
	-	-	-	-	-	-	-	-	-	TR	0.52	21.6	C	
	WB	LTR	-	7.9	A	LTR	-	7.8	A	LTR	0.56	17.7	B	- Restripe EB Borden Avenue from one 20 ft. lane to one 10 ft. left turn lane and one 10 ft. through right lane.
	<b>Overall Intersection</b>	-	-	<b>Note (5)</b>	<b>F*</b>	-	-	<b>Note (5)</b>	<b>F*</b>	-	<b>0.99</b>	<b>26.8</b>	<b>C</b>	- Restripe WB Borden Avenue from one 22 ft. lane to one 11 ft. shared left-through lane and one 11 ft. shared through right lane.

- (1) Control delay is measured in seconds per vehicle.
- (2) Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
- (3) Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
- (4) Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
- (5) Overall delay cannot be calculated since the delay for some of the movements is beyond the threshold delay of HCS methodology.

Denotes a significant impact



Notes: This map shows the intersection analysis locations ( ) and No Build development sites ( \$ ).



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Not to Scale



TOTAL CONSTRUCTION TRIP GENERATION *Not Scale*  
 AM IN: 720  
 AM OUT: 44



TOTAL CONSTRUCTION TRIP GENERATION *Not to Scale*

PM IN: 1  
 PM OUT: 641



Not to Scale



Not to Scale