

Appendix C – Traffic and Parking Technical Back-up Data

NEW STAPLETON WATERFRONT DEVELOPMENT PROJECT

Draft Environmental Impact Statement

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NEW STAPLETON WATERFRONT DEVELOPMENT PROJECT
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TABLE I
STAPLETON / HOMEPORT REDEVELOPMENT PROJECT
EXISTING TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH	Weekday AM (8:00 AM - 9:00 AM)				Weekday Midday (12:30 PM - 1:30 PM)				Weekday PM (4:30 PM - 5:30 PM)				Saturday MD (11:45 PM - 12:45 PM)			
	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS
SIGNALIZED INTERSECTIONS																
Bay Street and Victory Boulevard																
Victory Boulevard	EB	DefL	0.90	67.0	E	DefL	0.68	38.5	D	DefL	0.75	56.3	E	DefL	0.59	31.8
	WB	TR	0.11	30.3	C	TR	0.06	20.1	C	TR	0.13	30.9	C	TR	0.10	20.7
	NB	LTR	0.17	31.6	C	LTR	0.06	20.1	C	LTR	0.14	30.8	C	LTR	0.04	19.9
Bay Street																
	SB	LTR	0.87	30.7	C	LTR	0.88	31.0	C	TR	0.79	26.8	C	LTR	0.66	18.6
		LT	0.44	13.4	B	LT	0.47	13.6	B	LT	0.53	14.7	B	LT	0.38	12.5
		R	0.37	14.3	B	R	0.39	14.3	B	R	0.79	33.7	C	R	0.31	12.5
	Overall Intersection	-	0.88	29.0	C	-	0.80	22.9	C	-	0.85	27.9	C	-	0.63	17.3
Bay Street and Hannah Street																
Hannah Street	EB	LTR	0.49	39.1	D	LTR	0.16	21.2	C	LTR	0.32	43.5	D	LTR	0.17	25.7
	WB	LTR	0.66	42.7	D	LTR	0.53	27.1	C	LTR	0.66	52.5	D	LTR	0.47	25.7
	NB	LTR	0.41	13.0	B	LTR	0.37	12.3	B	LTR	0.35	12.3	B	LTR	0.26	11.7
	SB	L	0.72	28.5	C	L	0.69	26.6	C	L	0.93	50.7	D	L	0.41	16.5
		T	0.21	10.8	B	T	0.29	11.4	B	T	0.28	11.3	B	T	0.23	11.4
		R	0.10	10.1	B	R	0.18	10.9	B	R	0.24	11.4	B	R	0.12	10.8
	Overall Intersection	-	0.70	20.8	C	-	0.63	16.0	B	-	0.84	25.4	C	-	0.43	15.0
Bay Street and Van Duzer Street/Swan Street																
Van Duzer Street	EB	L	0.23	32.0	C	L	0.17	21.1	C	L	0.16	30.8	C	L	0.09	20.3
	NB	LR	0.24	32.4	C	LR	0.16	21.2	C	LR	0.14	30.5	C	LR	0.04	19.8
	SB	TR	0.39	12.8	B	TR	0.32	11.8	B	TR	0.30	11.7	B	TR	0.25	11.2
		LT	0.36	12.3	B	LT	0.40	12.7	B	TR	0.36	12.3	B	TR	0.37	12.2
	Overall Intersection	-	0.34	15.3	B	-	0.31	13.4	B	-	0.29	14.1	B	-	0.26	12.4
Bay Street and Canal Street																
Canal Street	EB	LTR	0.30	33.3	C	LTR	0.58	29.1	C	LTR	0.40	35.4	D	LTR	0.44	26.6
	WB	LR	0.07	29.8	C	LR	0.08	20.2	C	LR	0.15	31.0	C	LR	0.08	20.3
	NB	TR	0.49	14.8	B	TR	0.53	15.2	B	TR	0.52	15.3	B	TR	0.42	13.4
	SB	LT	0.35	12.3	B	LT	0.35	12.1	B	LT	0.36	12.3	B	LT	0.32	11.8
	Overall Intersection	-	0.43	15.7	B	-	0.55	16.8	B	-	0.48	16.9	B	-	0.43	15.1
Bay Street and Broad Street																
Broad Street	EB	LR	0.32	33.5	C	LR	0.26	22.3	C	LR	0.23	31.9	C	LR	0.18	21.2
	NB	LT	0.47	14.3	B	LT	0.52	15.0	B	LT	0.53	15.6	B	LT	0.42	13.4
	SB	T	0.54	15.8	B	T	0.59	16.6	B	T	0.55	15.9	B	T	0.56	15.8
		R	0.12	10.3	B	R	0.17	10.7	B	R	0.14	10.4	B	R	0.13	10.4
	Overall Intersection	-	0.46	16.9	B	-	0.46	16.0	B	-	0.44	16.7	B	-	0.41	14.9
Bay Street and Vanderbilt Avenue																
Vanderbilt Avenue	EB	LR	0.45	38.4	D	LR	0.40	26.4	C	LR	0.40	36.8	D	LR	0.29	22.9
	NB	DefL	0.47	16.4	B	-	-	-	-	-	-	-	-	-	-	-
	SB	T	0.40	13.5	B	LT	0.49	14.2	B	LT	0.70	20.7	C	LT	0.30	11.8
		T	0.41	13.6	B	T	0.48	14.5	B	T	0.41	13.4	B	T	0.42	13.4
		R	0.27	11.7	B	R	0.20	11.0	B	R	0.23	11.3	B	R	0.16	10.6
	Overall Intersection	-	0.46	16.8	B	-	0.46	15.5	B	-	0.60	19.0	B	-	0.37	13.8

Bay Street and Edgewater St / Front St		WB		D		LT		0.62		37.1		D		LT		0.83		57.5		E		LT		0.42		31.6		C	
Front Street		LT	R	0.07	34.1	C	R	0.08	26.7	C	R	0.04	33.5	C	R	0.00	25.7	C											
Edgewater Street		LT	R	0.25	41.7	D	LT	0.22	31.7	C	LT	0.41	44.7	D	LT	0.18	29.4	C											
Bay Street		R	TR	0.62	52.5	D	R	0.45	36.9	D	TR	0.67	55.0	D	R	0.31	31.4	C											
		TR	LT	0.55	28.9	C	TR	0.90	45.0	D	TR	0.88	46.3	D	TR	0.64	27.1	C											
		LT		0.69	34.8	C	LT	0.79	33.0	C	LT	0.69	34.0	C	LT	0.56	24.4	C											
Overall Intersection		-	-	0.68	37.8	D	-	0.71	38.1	D	-	0.81	45.5	D	-	0.49	27.3	C											

Bay Street and Hylan Boulevard		EB		D		LTR		0.89		46.2		D		LTR		0.83		45.7		D		LTR		0.68		30.3		C	
Hylan Boulevard		LTR	R	0.81	41.4	D	LTR	0.70	43.6	D	LTR	0.57	44.0	D	LTR	0.47	33.3	C											
Bay Street		LTR	R	0.77	30.1	C	LTR	0.60	19.6	B	LTR	0.84	34.6	C	LTR	0.54	18.4	B											
		T	R	0.58	23.6	C	T	0.51	17.9	B	T	0.61	24.1	C	T	0.55	18.6	B											
		R		0.16	8.2	A	R	0.17	6.8	A	R	0.19	8.4	A	R	0.17	6.8	A											
Overall Intersection		-	-	0.83	34.8	C	-	0.72	26.6	C	-	0.82	32.4	C	-	0.60	20.8	C											

UNSIGNALIZED INTERSECTIONS

Front Street and Hannah Street		WB		A		LT		0.02		7.7		A		LT		0.02		8.1		A		LT		0.06		8.0		A	
Hannah Street		LT	LR	0.03	8.0	A	LT	0.39	12.4	B	LR	0.49	14.6	B	LR	0.40	13.7	B											
Front Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Overall Intersection		-	-	13.6	B	B	-	12.0	B	B	-	14.1	B	B	-	12.4	B	B											

Bay Street and Wave Street		WB		C		LTR		0.37		20.1		C		LTR		0.24		18.0		C		LTR		0.19		16.1		C	
Wave Street		LTR	R	0.16	17.2	C	LTR	0.03	9.6	A	LTR	0.02	9.2	A	LTR	0.00	9.1	A											
Bay Street		LTR	R	0.01	8.9	A	LTR	0.06	8.6	A	LTR	0.05	8.5	A	LTR	0.03	9.0	A											
		R		0.04	8.3	A	R	0.06	8.6	A	R	0.05	8.5	A	R	0.03	9.0	A											
Overall Intersection		-	-	12.9	B	B	-	15.6	C	C	-	13.8	B	B	-	13.4	B	B											

Bay Street and Prospect Street		EB		C		LTR		0.23		23.3		C		LTR		0.19		18.6		C		LTR		0.14		16.5		C	
Prospect Street		LT	LR	0.14	17.7	C	LT	0.05	9.0	A	LR	0.03	8.9	A	LR	0.02	9.1	A											
Bay Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Overall Intersection		-	-	14.2	B	B	-	16.7	C	C	-	15.4	B	B	-	14.8	B	B											

Bay Street and Water Street		WB		C		LTR		0.24		21.2		C		LTR		0.27		26.1		D		LTR		0.17		14.7		B	
Water Street		LT	LR	0.12	22.4	C	LT	0.26	11.3	B	LR	0.17	10.2	B	LR	0.09	9.8	A											
Bay Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Overall Intersection		-	-	14.2	B	B	-	13.9	B	B	-	15.1	C	C	-	12.3	B	B											

Bay Street and Thompson Street		WB		B		LTR		0.10		14.6		B		LTR		0.18		16.0		C		LTR		0.11		13.6		B	
Thompson Street		LT	LR	0.13	14.8	B	LT	0.02	9.2	A	LR	0.01	9.3	A	LR	0.01	9.3	A											
Bay Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Overall Intersection		-	-	14.1	B	B	-	13.2	B	B	-	15.1	C	C	-	13.1	B	B											

Notes
(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.

TABLE 2
STAPLETON / HOMEPORT REDEVELOPMENT PROJECT
NO BUILD 2015 TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH	Weekday AM (8:00 AM - 9:00 AM)				Weekday Midday (11:30 PM - 1:30 PM)				Weekday PM (4:30 PM - 5:30 PM)				Saturday MD (11:45 PM - 12:45 PM)			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
SIGNALIZED INTERSECTIONS																
Bay Street and Victory Boulevard																
Victory Boulevard	EB	De/L	1.01	90.9	F	De/L	0.81	50.7	D	De/L	0.92	79.9	E	De/L	0.74	39.8
	WB	TR	0.12	30.5	C	TR	0.06	20.1	C	TR	0.14	31.1	C	TR	0.11	20.8
	NB	LTR	0.18	31.8	C	LTR	0.07	20.3	C	LTR	0.15	31.1	C	LTR	0.04	19.9
Bay Street																
	SB	LTR	1.16	109.1	F	De/L	1.17	120.0+	F*	De/L	1.12	120.0+	F*	LTR	0.88	31.2
		LT	0.55	15.1	B	LT	0.37	15.1	B	LT	0.62	16.4	B	LT	0.47	13.5
		R	0.45	16.1	B	R	0.49	16.3	B	R	0.98	67.9	E	R	0.38	13.7
			1.11	62.5	E		1.03	40.7	D		1.05	54.1	D		0.82	23.4
Bay Street and Hannah Street																
Hannah Street	EB	LTR	0.65	47.8	D	LTR	0.18	21.5	C	LTR	0.46	48.4	D	LTR	0.19	26.1
	WB	LTR	0.86	56.0	E	LTR	0.67	30.9	C	LTR	0.91	73.7	E	LTR	0.62	29.7
	NB	LTR	0.48	14.0	B	LTR	0.44	13.1	B	LTR	0.45	13.5	B	LTR	0.31	12.2
Bay Street																
	SB	L	1.10	104.2	F	L	1.09	104.0	F	L	1.12	105.6	F	L	0.64	25.3
		T	0.26	11.2	B	T	0.35	12.0	B	T	0.33	11.8	B	T	0.27	11.7
		R	0.12	10.2	B	R	0.21	11.1	B	R	0.26	11.7	B	R	0.14	10.9
			1.02	34.4	C		0.93	26.1	C		1.05	38.7	D		0.63	17.1
Bay Street and Van Duzer Street/Swan Street																
Van Duzer Street	EB	L	0.25	32.4	C	L	0.19	21.4	C	L	0.18	31.1	C	L	0.10	20.4
	NB	LR	0.30	33.5	C	LR	0.24	22.5	C	LR	0.19	31.4	C	LR	0.06	19.9
Bay Street																
	SB	TR	0.49	14.4	B	TR	0.43	13.1	B	TR	0.47	13.9	B	TR	0.31	11.8
			0.43	13.3	B		0.49	13.7	B		0.42	13.0	B		0.44	13.0
Bay Street and Canal Street																
Canal Street	EB	LTR	0.36	34.5	C	LTR	0.66	32.0	C	LTR	0.45	36.5	D	LTR	0.50	28.1
	WB	LR	0.11	30.5	C	LR	0.09	20.4	C	LR	0.18	31.5	C	LR	0.10	20.6
Bay Street																
	SB	TR	0.58	16.6	B	TR	0.66	18.3	B	TR	0.71	20.1	C	TR	0.54	15.4
		LT	0.44	13.3	B	LT	0.42	12.9	B	LT	0.42	13.0	B	LT	0.39	12.5
			0.50	17.1	B		0.66	18.7	B		0.62	19.2	B		0.53	16.2
Bay Street and Broad Street																
Broad Street	EB	LR	0.41	35.6	D	LR	0.33	23.4	C	LR	0.29	32.9	C	LR	0.24	22.0
Bay Street																
	SB	TR	0.57	16.3	B	TR	0.77	22.6	C	TR	0.90	34.5	C	TR	0.58	16.0
		R	0.68	19.5	C	R	0.73	20.5	C	R	0.65	18.3	B	R	0.68	18.8
			0.14	10.5	B		0.19	11.0	B		0.16	10.6	B		0.15	10.5
			0.59	19.6	B		0.60	20.8	C		0.69	25.9	C		0.51	17.3
Bay Street and Vanderbilt Avenue																
Vanderbilt Avenue	EB	LR	0.58	42.7	D	LR	0.51	29.1	C	LR	0.50	39.3	D	LR	0.37	24.1
Bay Street																
	SB	De/L	0.65	23.4	C	De/L	0.70	18.8	B	De/L	0.97	47.8	D	De/L	0.42	13.2
		T	0.48	14.7	B	T	0.62	17.2	B	T	0.49	14.7	B	T	0.52	15.0
		R	0.31	12.2	B	R	0.23	11.3	B	R	0.26	11.7	B	R	0.19	10.9
			0.63	19.7	B		0.63	18.8	B		0.82	32.2	C		0.46	15.1

Bay Street and Edgewater St / Front St																	
Front Street	WB	LT	0.99	84.0	F	LT	0.81	47.5	D	LT	1.01	89.5	F	LT	0.54	34.5	C
		R	0.08	34.3	C	R	0.09	26.9	C	R	0.04	33.6	C	R	0.00	25.7	C
Edgewater Street	NB	LT	0.44	46.3	D	LT	0.59	40.1	D	LT	0.98	90.2	F	LT	0.37	32.4	C
		R	0.76	61.3	E	R	0.67	45.3	D	R	1.11	120.0+	F*	R	0.43	33.6	C
Bay Street	NB	TR	0.62	30.5	C	TR	1.03	71.8	E	TR	1.03	76.2	E	TR	0.76	31.8	C
	SB	LT	0.98	66.0	E	LT	0.97	54.4	D	LT	0.83	41.5	D	LT	0.69	27.9	C
			0.93	55.4	E		0.88	56.1	E		1.04	78.4	E		0.61	31.1	C
Overall Intersection																	
Bay Street and Hylan Boulevard																	
Hyland Boulevard	EB	LTR	0.95	59.7	E	LTR	1.04	82.6	F	LTR	0.99	73.5	E	LTR	0.84	42.1	D
	WB	LTR	1.18	120.0+	F*	LTR	0.99	83.1	F	LTR	0.81	56.4	E	LTR	0.65	39.4	D
Bay Street	NB	LTR	0.97	53.0	D	LTR	0.72	23.0	C	LTR	1.07	80.3	F	LTR	0.67	21.6	C
	SB	T	0.67	26.3	C	T	0.58	19.3	B	T	0.69	26.6	C	T	0.63	20.4	C
		R	0.20	8.5	A	R	0.20	7.0	A	R	0.22	8.7	A	R	0.20	7.1	A
			1.04	59.7	E		0.87	41.6	D		1.03	56.3	E		0.74	25.2	C
Overall Intersection																	
UNSIGNALIZED INTERSECTIONS																	
Front Street and Hannah Street																	
Hannah Street	WB	LT	0.04	8.3	A	LT	0.03	7.9	A	LT	0.03	8.4	A	LT	0.08	8.3	A
Front Street	NB	LR	0.63	19.5	C	LR	0.54	15.3	C	LR	0.74	24.0	C	LR	0.58	18.7	C
			-	18.3	C		-	14.7	B		-	23.0	C		-	16.6	C
Overall Intersection																	
Bay Street and Wave Street																	
Wave Street	WB	LTR	0.23	21.8	C	LTR	0.61	38.5	E	LTR	0.41	30.5	D	LTR	0.28	21.4	C
Bay Street	NB	LTR	0.01	9.4	A	LTR	0.04	10.9	B	LTR	0.03	10.2	B	LTR	0.01	10.0	B
	SB	LTR	0.05	8.5	A	LTR	0.08	9.3	A	LTR	0.07	9.3	A	LTR	0.06	9.8	A
			-	15.5	C		-	27.2	D		-	21.2	C		-	17.0	C
Overall Intersection																	
Bay Street and Prospect Street																	
Prospect Street	EB	LTR	0.25	25.5	D	LTR	0.51	53.9	F	LTR	0.53	53.6	F	LTR	0.31	29.1	D
Bay Street	SB	LT	0.04	9.3	A	LT	0.11	11.0	B	LT	0.12	10.9	B	LT	0.06	11.0	B
			-	19.1	C		-	32.5	D		-	32.1	D		-	22.3	C
Overall Intersection																	
Bay Street and Water Street																	
Water Street	WB	LTR	0.35	40.5	E	LTR	0.63	65.5	F	LTR	0.92	120.0+	F*	LTR	0.33	21.6	C
Bay Street	NB	LT	0.10	9.2	A	LT	0.35	13.5	B	LT	0.23	11.4	B	LT	0.11	10.6	B
			-	20.2	C		-	28.0	D		-	59.2	F		-	16.8	C
Overall Intersection																	
Bay Street and Thompson Street																	
Thompson Street	WB	LTR	0.20	18.5	C	LTR	0.17	18.9	C	LTR	0.31	23.2	C	LTR	0.18	17.5	C
Bay Street	NB	LT	0.01	9.4	A	LT	0.03	10.1	B	LT	0.02	10.1	B	LT	0.01	9.9	A
			-	17.4	C		-	16.7	C		-	21.6	C		-	16.8	C
Overall Intersection																	

Notes

- (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 lane movements.

TABLE 3
STAPLETON / HOMEPORT REDEVELOPMENT PROJECT
BUILD 2015 TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH	Weekday AM (8:00 AM - 9:00 AM)				Weekday Midday (12:30 PM - 1:30 PM)				Weekday PM (4:30 PM - 5:30 PM)				Saturday, MD (11:45 PM - 12:45 PM)				
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
SIGNALIZED INTERSECTIONS																	
Bay Street and Victory Boulevard Victory Boulevard	EB	DefL	1.01	90.9	F	DefL	0.81	50.7	D	DefL	0.92	79.9	E	DefL	0.74	39.8	D
	WB	TR	0.12	30.5	C	TR	0.06	20.1	C	TR	0.14	31.1	C	TR	0.11	20.8	C
	NB	LTR	0.18	31.8	C	LTR	0.07	20.3	C	LTR	0.15	31.1	C	LTR	0.04	19.9	B
	SB	LTR	1.20+	120.0+	F*	DefL	1.20+	120.0+	F*	DefL	1.20+	120.0+	F*	DefL	0.97	74.0	E
Overall Intersection		LTR	0.58	15.7	B	LT	0.64	16.5	B	LT	0.70	18.3	B	LT	0.55	14.8	B
		R	0.45	16.1	B	R	0.49	16.3	B	R	0.98	67.9	E	R	0.38	13.7	B
		-	1.20+	88.2	F	-	1.20+	73.4	E	-	1.13	72.7	E	-	0.90	35.0	C
		-	1.20+	88.2	F	-	1.20+	73.4	E	-	1.13	72.7	E	-	0.90	35.0	C
Bay Street and Hannah Street	EB	LTR	0.56	41.9	D	LTR	0.18	21.5	C	LTR	0.39	45.7	D	LTR	0.19	26.1	C
	WB	LTR	0.73	45.9	D	LTR	0.70	32.2	C	LTR	0.78	59.1	E	LTR	0.45	25.4	C
	NB	LTR	0.58	15.6	B	LTR	0.52	14.2	B	LTR	0.56	15.3	B	LTR	0.43	13.5	B
	SB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*
Overall Intersection		T	0.26	11.2	B	T	0.36	12.0	B	T	0.34	11.9	B	T	0.28	11.8	B
		R	0.12	10.2	B	R	0.21	11.1	B	R	0.26	11.7	B	R	0.14	10.9	B
		-	1.20+	70.2	E	-	1.20+	103.9	F	-	1.20+	91.7	F	-	1.20+	94.6	F
		-	1.20+	70.2	E	-	1.20+	103.9	F	-	1.20+	91.7	F	-	1.20+	94.6	F
Bay Street and Van Duzer Street/Swan Street	EB	L	0.26	32.5	C	L	0.20	21.5	C	L	0.19	31.2	C	L	0.11	20.5	C
	WB	LR	0.31	33.8	C	LR	0.33	24.1	C	LR	0.27	32.7	C	LR	0.08	20.1	C
	NB	LT	0.67	18.2	B	LT	0.57	15.3	B	LT	0.69	18.8	B	LT	0.46	13.4	B
	SB	TR	0.44	13.3	B	TR	0.50	13.8	B	TR	0.43	13.2	B	TR	0.45	13.2	B
Overall Intersection		-	0.55	18.0	B	-	0.48	15.5	B	-	0.55	17.9	B	-	0.32	13.8	B
		-	0.55	18.0	B	-	0.48	15.5	B	-	0.55	17.9	B	-	0.32	13.8	B
		-	0.55	18.0	B	-	0.48	15.5	B	-	0.55	17.9	B	-	0.32	13.8	B
		-	0.55	18.0	B	-	0.48	15.5	B	-	0.55	17.9	B	-	0.32	13.8	B
Bay Street and Canal Street	EB	LTR	0.37	34.9	C	LTR	0.80	41.7	D	LTR	0.55	39.8	D	LTR	0.62	32.4	C
	WB	LR	0.20	32.3	C	LR	0.16	21.4	C	LR	0.24	32.8	C	LR	0.19	22.0	C
	NB	TR	0.77	22.9	C	TR	0.89	30.1	C	TR	1.10	34.0	F	TR	0.89	30.0	C
	SB	LT	0.46	13.6	B	LT	0.45	13.3	B	LT	0.45	13.4	B	LT	0.44	13.1	B
Overall Intersection		-	0.64	20.1	C	-	0.85	25.4	C	-	0.92	53.0	D	-	0.79	23.6	C
		-	0.64	20.1	C	-	0.85	25.4	C	-	0.92	53.0	D	-	0.79	23.6	C
		-	0.64	20.1	C	-	0.85	25.4	C	-	0.92	53.0	D	-	0.79	23.6	C
		-	0.64	20.1	C	-	0.85	25.4	C	-	0.92	53.0	D	-	0.79	23.6	C
Bay Street and Broad Street	EB	LR	0.47	36.8	D	LR	0.39	24.5	C	LR	0.37	34.4	C	LR	0.32	23.2	C
	NB	LT	0.73	21.1	C	LT	1.02	56.1	E	LT	1.20+	120.0+	F*	LT	0.87	27.9	C
	SB	T	0.72	20.9	C	T	0.77	22.3	C	T	0.68	19.4	B	T	0.74	20.8	C
		R	0.17	10.7	B	R	0.24	11.4	B	R	0.20	11.0	B	R	0.19	11.0	B
Overall Intersection		-	0.64	22.1	C	-	0.77	36.2	D	-	0.95	78.6	E	-	0.66	23.5	C
		-	0.64	22.1	C	-	0.77	36.2	D	-	0.95	78.6	E	-	0.66	23.5	C
		-	0.64	22.1	C	-	0.77	36.2	D	-	0.95	78.6	E	-	0.66	23.5	C
		-	0.64	22.1	C	-	0.77	36.2	D	-	0.95	78.6	E	-	0.66	23.5	C
Bay Street and Vanderbilt Avenue	EB	LR	0.62	44.2	D	LR	0.59	31.3	C	LR	0.61	42.8	D	LR	0.46	25.9	C
	NB	DefL	0.72	28.5	C	LT	0.86	26.9	C	LT	1.20+	120.0+	F*	LT	0.61	16.2	B
	SB	T	0.64	18.5	B	T	0.62	17.3	B	T	0.50	14.9	B	T	0.53	15.2	B
		R	0.53	12.5	B	R	0.37	11.8	B	R	0.30	12.1	B	R	0.23	11.4	B
Overall Intersection		-	0.69	21.1	C	-	0.76	23.0	C	-	1.04	80.2	F	-	0.55	16.7	B
		-	0.69	21.1	C	-	0.76	23.0	C	-	1.04	80.2	F	-	0.55	16.7	B
		-	0.69	21.1	C	-	0.76	23.0	C	-	1.04	80.2	F	-	0.55	16.7	B
		-	0.69	21.1	C	-	0.76	23.0	C	-	1.04	80.2	F	-	0.55	16.7	B
Bay Street and Edgewater St / Front St	WB	L	0.53	38.0	D	L	0.40	24.5	C	L	0.50	37.2	D	L	0.25	22.2	C
	TR	0.58	40.5	D	TR	0.46	25.8	C	TR	0.65	42.5	D	TR	0.33	23.5	C	
	NB	R	0.38	32.1	C	R	0.38	24.1	C	R	0.69	40.8	D	R	0.28	23.3	C
	SB	TR	0.46	13.6	B	TR	0.50	13.9	B	TR	0.61	16.1	B	TR	0.40	12.6	B
Overall Intersection		-	0.61	22.6	C	-	0.56	18.4	B	-	0.64	24.4	C	-	0.44	16.2	B
		-	0.61	22.6	C	-	0.56	18.4	B	-	0.64	24.4	C	-	0.44	16.2	B
		-	0.61	22.6	C	-	0.56	18.4	B	-	0.64	24.4	C	-	0.44	16.2	B
		-	0.61	22.6	C	-	0.56	18.4	B	-	0.64	24.4	C	-	0.44	16.2	B

Bay Street and Eylan Boulevard														
EB	LTR	1.02	81.8	1.15	120.0+	F*	LTR	1.13	120.0+	F*	LTR	1.03	83.3	F
WB	LTR	1.20+	120.0+	1.18	120.0+	F*	LTR	0.90	66.3	E	LTR	0.84	53.5	D
NB	LTR	1.06	78.9	0.83	28.3	C	LTR	1.20+	120.0+	F*	LTR	0.84	29.9	C
SB	T	0.72	28.2	0.64	20.7	C	T	0.74	28.7	C	T	0.69	22.1	C
	R	0.22	8.7	0.22	7.2	A	R	0.24	8.9	A	R	0.23	7.2	A
Overall Intersection														
		1.14	84.9	0.99	60.6	E		1.20+	94.7	F		0.93	37.5	D
Front Street and Wave Street														
EB	LR	0.13	20.8	0.24	22.2	C	LR	0.22	21.9	C	LR	0.20	21.8	C
NB	LT	0.33	12.4	0.68	20.1	C	LT	0.62	17.7	B	LT	0.28	11.7	B
SB	TR	0.50	14.6	0.44	13.7	B	TR	0.50	14.6	B	TR	0.39	13.1	B
Overall Intersection														
		0.36	14.4	0.51	17.6	B		0.47	16.8	B		0.32	13.7	B
Front Street and Prospect Street														
EB	LTR	0.20	21.5	0.22	21.9	C	LTR	0.26	22.3	C	LTR	0.23	22.0	C
WB	LR	0.12	20.7	0.15	21.2	C	LR	0.13	20.9	C	LR	0.20	21.8	C
NB	TR	0.27	11.8	0.50	14.9	B	TR	0.55	15.8	B	TR	0.26	11.7	B
SB	LT	0.60	16.9	0.57	16.3	B	LT	0.64	18.3	B	LT	0.46	14.3	B
Overall Intersection														
		0.44	16.5	0.43	16.6	B		0.49	17.9	B		0.37	15.5	B
Front Street and Canal Street														
EB	LR	0.26	22.5	0.30	23.1	C	LR	0.23	22.0	C	LR	0.27	22.6	C
NB	LT	0.19	10.8	0.43	13.6	B	LT	0.53	15.2	B	LT	0.19	10.9	B
SB	TR	0.61	16.8	0.52	15.1	B	TR	0.54	15.4	B	TR	0.41	13.4	B
Overall Intersection														
		0.47	16.4	0.44	15.6	B		0.42	16.0	B		0.36	14.5	B
UNSIGNALIZED INTERSECTIONS														
Front Street and Hannah Street														
WB	LT	0.04	8.5	0.03	8.3	A	LT	0.03	9.1	A	LT	0.10	9.6	A
NB	LR	0.52	16.8	0.62	18.4	C	LR	0.67	23.9	C	LR	0.49	19.1	C
Overall Intersection														
		-	15.8	-	17.7	C		-	22.7	C		-	16.5	C
Bay Street and Wave Street														
WB	LTR	0.59	49.5	1.20+	120.0+	E	LTR	1.20+	120.0+	F*	LTR	1.13	120.0+	F*
NB	LTR	0.01	9.7	0.07	14.6	A	LTR	0.04	12.4	B	LTR	0.01	12.6	B
SB	LTR	0.06	9.2	0.14	12.2	A	LTR	0.12	12.0	B	LTR	0.12	13.7	B
Overall Intersection														
		-	34.9	-	120.0+	D		-	120.0+	F*		-	120.0+	F*
Bay Street and Prospect Street														
EB	LTR	0.40	42.1	1.20+	120.0+	E	LTR	1.20+	120.0+	F*	LTR	0.87	120.0+	F
SB	LT	0.06	10.4	0.19	15.7	B	LT	0.21	15.7	C	LT	0.12	15.9	C
Overall Intersection														
		-	29.5	-	120.0+	D		-	120.0+	F*		-	93.4	F
Bay Street and Water Street														
WB	LTR	1.03	120.0+	1.20+	120.0+	F*	LTR	1.20+	120.0+	F*	LTR	1.00	109.0	F
NB	LT	0.11	9.3	0.40	15.4	A	LT	0.26	12.4	B	LT	0.13	11.6	B
Overall Intersection														
		-	91.6	-	120.0+	F		-	120.0+	F*		-	81.2	F
Bay Street and Thompson Street														
WB	LTR	0.39	27.9	0.56	49.0	D	LTR	0.82	110.9	F	LTR	0.51	43.0	E
NB	LT	0.01	9.7	0.03	10.9	A	LT	0.02	10.8	B	LT	0.01	11.1	B
Overall Intersection														
		-	26.4	-	43.0	D		-	103.1	F		-	40.8	E

Notes
(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.

TABLE 4
STAPLETON / HOMEPORT WATERFRONT REDEVELOPMENT STUDY
COMPARISON OF AM 2015 NO BUILD AND AM 2015 BUILD LEVELS OF SERVICE AND MITIGATION

INTERSECTION & APPROACH	2015 No Build Condition				2015 Build Conditions				Mitigated Condition				Mitigation Measures				
	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	
SIGNALIZED INTERSECTIONS																	
Bay Street and Victory Boulevard	<ul style="list-style-type: none"> - Prohibit parking along the east side of the NB approach up to 120 ft. from intersection. Install "No Standing Anytime" sign. - Shift NB approach centerline 1 ft. to the west and restripe to provide one 10 ft. wide left-turn lane, one 13 ft. wide through lane, one 10 ft. and one 11 ft. wide SB receiving lanes in addition to curb parking on east curb. - Shift SB approach centerline 2.5 ft. to the east and restripe SB approach to provide one 16 ft. wide right-turn lane, one 11 ft. wide through lane, one 11 ft. wide left-through lane and two 10.5 ft. wide NB receiving lanes in addition to curb parking on east curb. - Shift EB approach centerline 4 ft. to the north to provide one 14 ft. wide left-turn lane, one 10 ft. wide through-right lane, one 10 ft. wide bus lane, and one 10 ft. and one 16 ft. wide WB receiving lanes. 																
Bay Street	EB	DefL	1.01	90.9	F	DefL	1.01	90.9	F	L	0.91	67.1	E	TR	0.12	30.5	C
	WB	LTR	0.18	31.8	C	LTR	0.18	31.8	C	LTR	0.18	31.9	C	LTR	0.18	31.9	C
	NB	LTR	1.16	109.1	F	LTR	1.20+	120.0+	F*	L	0.80	45.5	D	L	0.80	45.5	D
	SB	LT	0.55	15.1	B	LT	0.58	15.7	B	TR	1.09	82.4	F	TR	1.09	82.4	F
		R	0.45	16.1	B	R	0.45	16.1	B	LT	0.61	16.3	B	LT	0.61	16.3	B
	Overall Intersection		1.11	62.5	E		1.20+	88.2	F		1.03	47.6	D				
Bay Street and Hannah Street	<ul style="list-style-type: none"> - Shift SB approach centerline 3 ft. to the east to provide two 14 ft. wide left-turn lanes, two 10 ft. wide through lanes, one 10.5 ft. wide right-turn lane, and reduce the NB receiving lanes from 11 ft. and 25 ft. wide to 10 ft. and 23 ft. wide. - Shift WB centerline 4 ft. to the north to provide one 11 ft. wide approach lane and two 10 ft. wide EB receiving lanes. - Modify signal timing (Add a SB lead phase of 16s green, 3s yellow, 2s red by reducing NB/SB phase by 21 s and prohibiting the SB left movement during the NB/SB phase.) 																
Bay Street	EB	LTR	0.65	47.8	D	LTR	0.56	41.9	D	LTR	0.56	41.9	D	LTR	0.83	54.6	D
	WB	LTR	0.86	56.0	E	LTR	0.73	45.9	D	LTR	0.81	35.6	D	LTR	0.81	35.6	D
	NB	LTR	0.48	14.0	B	LTR	0.58	15.6	B	L	0.84	66.6	E	L	0.84	66.6	E
	SB	L	1.10	104.2	F	L	1.20+	120.0+	F*	T	0.39	12.7	B	T	0.39	12.7	B
		T	0.26	11.2	B	T	0.26	11.2	B	R	0.13	10.3	B	R	0.13	10.3	B
		R	0.12	10.2	B	R	0.12	10.2	B								
	Overall Intersection		1.02	34.4	C		1.20+	70.2	E		0.82	36.2	D				
Bay Street and Van Duzer Street/Swann Street	- Mitigation not required.																
Bay Street	EB	L	0.25	32.4	C	L	0.26	32.5	C	L	0.26	32.5	C	L	0.26	32.5	C
	NB	LT	0.49	14.4	B	LT	0.67	18.2	B	LT	0.67	18.2	B	LT	0.67	18.2	B
	SB	TR	0.44	13.3	B	TR	0.44	13.3	B	TR	0.44	13.3	B	TR	0.44	13.3	B
	Overall Intersection		0.43	16.4	B		0.55	18.0	B								
Bay Street and Canal Street	<ul style="list-style-type: none"> - Shift NB approach centerline 3 ft. to the west to provide one 16 ft. wide NB through-right lane and two 10 ft. wide SB receiving lanes. <p>[Measures reflect operational improvements needed for PM peak period, otherwise mitigation not needed.]</p>																
Bay Street	EB	LTR	0.36	34.5	C	LTR	0.37	34.9	C	LTR	0.37	34.9	C	LTR	0.37	34.9	C
	WB	LR	0.11	30.5	C	LR	0.20	32.3	C	LR	0.2	32.3	C	LR	0.2	32.3	C
	NB	TR	0.58	16.6	B	TR	0.77	22.9	C	TR	0.7	19.7	B	TR	0.7	19.7	B
	SB	LT	0.44	13.3	B	LT	0.46	13.6	B	LT	0.46	13.6	B	LT	0.46	13.6	B
	Overall Intersection		0.50	17.1	B		0.64	20.1	C		0.59	18.7	B				

Bay Street and Broad Street													
Broad Street	EB	LR	0.41	35.6	D	LR	0.47	36.8	D	LR	0.47	36.8	D
Bay Street	NB	LT	0.57	16.3	B	LT	0.73	21.1	C	LT	0.71	20.2	C
	SB	T	0.68	19.5	B	T	0.72	20.9	C	T	0.72	20.9	C
		R	0.14	10.5	B	R	0.17	10.7	B	R	0.17	10.7	B
	Overall Intersection	-	0.59	19.6	B	-	0.64	22.1	C	-	0.64	21.7	C
Bay Street and Vanderbilt Avenue													
Vanderbilt Avenue	EB	LR	0.58	42.7	D	LR	0.62	44.2	D	L	0.28	32.8	C
Bay Street	NB	DeFL	0.65	23.4	C	DeFL	0.72	28.5	C	R	0.29	33.6	C
	SB	T	0.48	14.7	B	T	0.64	18.5	B	DeFL	0.63	22.7	C
		R	0.56	16.4	B	R	0.58	16.9	B	T	0.59	16.8	B
		R	0.31	12.2	B	R	0.33	12.5	B	T	0.61	17.5	B
	Overall Intersection	-	0.63	19.7	B	-	0.69	21.1	C	R	0.36	13.0	B
Bay Street and Edgewater St / Front St													
Front Street	WB	LT	0.99	84.0	F	L	0.53	38.0	D				
Edgewater Street	NB	LT	0.44	46.3	D	TR	0.58	40.5	D				
Bay Street	NB	TR	0.62	30.5	C	R	0.38	32.1	C				
	SB	LT	0.98	66.0	E	TR	0.46	13.6	B				
	Overall Intersection	-	0.93	55.4	E	-	0.61	22.6	C				
Bay Street and Hylan Boulevard													
Hylan Boulevard	EB	LTR	0.95	59.7	E	LTR	1.02	81.8	F	L	0.70	41.8	D
Bay Street	WB	LTR	1.18	120.0+	F*	LTR	1.20+	120.0+	F*	TR	0.39	26.3	C
	NB	LTR	0.97	53.0	D	LTR	1.06	78.9	E	LTR	0.87	51.1	D
	SB	T	0.67	26.3	C	T	0.72	28.2	C	LTR	0.97	50.8	D
		R	0.20	8.5	A	R	0.22	8.7	A	T	0.69	25.0	C
	Overall Intersection	-	1.04	59.7	E	-	1.14	84.9	F	R	0.27	16.2	B
Front Street and Wave Street													
Wave Street	EB	-	-	-	-	LR	0.13	20.8	C				
Front Street	NB	-	-	-	-	LT	0.33	12.4	B				
	SB	-	-	-	-	TR	0.50	14.6	B				
	Overall Intersection	-	-	-	-	-	0.36	14.4	B				
Front Street and Prospect Street													
Prospect Street	EB	-	-	-	-	LTR	0.20	21.5	C				
Front Street	WB	-	-	-	-	LR	0.12	20.7	C				
	NB	-	-	-	-	TR	0.27	11.8	B				
	SB	-	-	-	-	LT	0.60	16.9	B				
	Overall Intersection	-	-	-	-	-	0.44	16.5	B				

Front Street and Canal Street										
Canal Street	EB	-	-	-	LR	0.26	22.5	C	-	Mitigation not required.
Front Street	NB	-	-	-	LT	0.19	10.8	B	-	
	SB	-	-	-	TR	0.61	16.8	B	-	
Overall Intersection	-	-	-	-	-	0.47	16.4	B	-	

UN SIGNALIZED INTERSECTIONS

Front Street and Hannah Street										
Hannah Street	WB	LT	0.04	8.3	A	0.04	8.5	A	-	Mitigation not required.
Front Street	NB	LR	0.63	19.5	C	0.52	16.8	C	-	
Overall Intersection	-	-	-	18.3	C	-	-	15.8	C	

Bay Street and Wave Street												
Wave Street	WB	LTR	0.23	21.8	C	LTR 0.59	49.5	E	LTR 0.25	33.2	C	
Bay Street	NB	LTR	0.01	9.4	A	LTR 0.01	9.7	A	LTR 0.58	15.8	B	
	SB	LTR	0.05	8.5	A	LTR 0.06	9.2	A	LTR 0.96	44.1	D	
Overall Intersection	-	-	-	15.5	C	-	34.9	D	-	0.73	31.7	C

Bay Street and Prospect Street												
Prospect Street	EB	LTR	0.25	25.5	D	LTR 0.40	42.1	E	LTR 0.18	31.5	C	
Bay Street	NB	-	-	-	-	-	-	-	TR 0.69	19.2	B	
	SB	LT	0.04	9.3	A	LT 0.06	10.4	B	LT 0.45	13.5	B	
Overall Intersection	-	-	-	19.1	C	-	29.5	D	-	0.52	16.8	B

Bay Street and Water Street												
Water Street	WB	LTR	0.35	40.5	E	LTR 1.03	120.0+	F*	LTR 0.38	35.4	D	
Bay Street	NB	LT	0.10	9.2	A	LT 0.11	9.3	A	LT 0.56	15.4	B	
	SB	-	-	-	-	-	-	-	TR 0.79	22.8	C	
Overall Intersection	-	-	-	20.2	C	-	91.6	F	-	0.65	20.5	C

Bay Street and Thompson Street											
Thompson Street	WB	LTR	0.20	18.5	C	LTR 0.39	27.9	D	-	-	-
Bay Street	NB	LT	0.01	9.4	A	LT 0.01	9.7	A	-	-	-
	SB	-	-	-	-	-	-	-	-	-	-
Overall Intersection	-	-	-	17.4	C	-	26.4	D	-	-	-

Notes

- (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/vch) 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/vch) 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) Significantly impacted turning movements and overall intersections are highlighted

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**TABLE 5
STAPLETON/HOMEPORT WATERFRONT REDEVELOPMENT STUDY
COMPARISON OF MD 2015 NO BUILD AND MD 2015 BUILD LEVELS OF SERVICE AND MITIGATION**

INTERSECTION & APPROACH	2015 No Build Condition Control				2015 Build Conditions Control				Mitigated Condition Control				Mitigation Measures	
	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS		
SIGNALIZED INTERSECTIONS														
Bay Street and Victory Boulevard	EB	DefL	0.81	50.7	D	DefL	0.81	50.7	D	L	0.76	44.9	D	- Prohibit parking along the east side of the NB approach up to 120 ft. from intersection. Install "No Standing Anytime" sign.
	TR	0.06	20.1	C	TR	0.06	20.1	C	TR	0.07	20.8	C	- Shift NB approach centerline 1 ft. to the west and restripe to provide one 10 ft. wide left-turn lane, one 13 ft. wide through lane, one 10 ft. and one 11 ft. wide SB receiving lanes in addition to curb parking on east curb.	
	WB	LTR	0.07	20.3	C	LTR	0.07	20.3	C	LTR	0.08	21.0	C	- Shift SB approach centerline 2.5 ft. to the east and restripe SB approach to provide one 16 ft. wide right-turn lane, one 11 ft. wide through lane, one 11 ft. wide left-through lane and two 10.5 ft. wide NB receiving lanes in addition to curb parking on east curb.
	NB	DefL	1.17	120.0+	F*	DefL	1.20+	120.0+	F*	L	0.97	78.5	E	- Shift EB approach centerline 4 ft. to the north to provide one 14 ft. wide left-turn lane, one 10 ft. wide through-right lane, one 10 ft. wide bus lane, and one 10 ft. and one 16 ft. wide WB receiving lanes.
	TR	0.96	46.3	D	TR	1.11	88.9	F	TR	0.89	30.9	C	- Modify signal timing (Add a NB lag phase of 8s green, 3s yellow, 2s red by reducing NB/SB phase by 12s and EB/WB phase by 1s.)	
	SB	LT	0.57	15.1	B	LT	0.64	16.5	B	LT	0.90	36.0	D	- Shift SB approach centerline 3 ft. to the east to provide two 10 ft. wide left-turn lanes, two 10 ft. wide through lanes, one 10.5 ft. wide left-turn lane, two 10 ft. wide through lanes, one 10.5 ft. wide right-turn lane, and reduce the NB receiving lanes from 11 ft. and 25 ft. wide to 10 ft. and 23 ft. wide.
	R	0.49	16.3	B	R	0.49	16.3	B	R	0.47	15.3	B	- Shift WB centerline 4 ft. to the north to provide one 11 ft. wide approach lane and two 10 ft. wide EB receiving lanes.	
Overall Intersection	-	1.03	40.7	D	-	1.20+	73.4	E	-	0.84	37.7	D	- Modify signal timing (Add a SB lead phase of 15s green, 3s yellow, 2s red by reducing NB/SB phase by 20 s and prohibiting the SB left movement during the NB/SB phase.)	
Bay Street and Hannah Street	EB	LTR	0.18	21.5	C	LTR	0.18	21.5	C	LTR	0.18	21.5	C	- Mitigation not required.
	WB	LTR	0.67	30.9	C	LTR	0.70	32.2	C	LTR	0.80	38.5	D	- Shift SB approach centerline 3 ft. to the east to provide two 14 ft. wide left-turn lanes, two 10 ft. wide through lanes, one 10.5 ft. wide right-turn lane, and reduce the NB receiving lanes from 11 ft. and 25 ft. wide to 10 ft. and 23 ft. wide.
	NB	LTR	0.44	13.1	B	LTR	0.52	14.2	B	LTR	0.76	32.8	C	- Shift WB centerline 4 ft. to the north to provide one 11 ft. wide approach lane and two 10 ft. wide EB receiving lanes.
	SB	L	1.09	104.0	F	L	1.20+	120.0+	F*	L	0.83	49.8	D	- Modify signal timing (Add a SB lead phase of 15s green, 3s yellow, 2s red by reducing NB/SB phase by 20 s and prohibiting the SB left movement during the NB/SB phase.)
	T	0.35	12.0	B	T	0.36	12.0	B	T	0.50	14.0	B	- Mitigation not required.	
	R	0.21	11.1	B	R	0.21	11.1	B	R	0.23	11.4	B	- Mitigation not required.	
Overall Intersection	-	0.93	26.1	C	-	1.20+	103.9	F	-	0.79	29.3	C	- Mitigation not required.	
Bay Street and Van Duzer Street/Swan Street	EB	L	0.19	21.4	C	L	0.20	21.5	C	L	0.20	21.5	C	- Mitigation not required.
	LR	0.24	22.5	C	LR	0.33	24.1	C	LR	0.33	24.1	C	- Mitigation not required.	
	NB	LT	0.43	13.1	B	LT	0.57	15.3	B	LT	0.57	15.3	B	- Mitigation not required.
	SB	TR	0.49	13.7	B	TR	0.50	13.8	B	TR	0.50	13.8	B	- Mitigation not required.
Overall Intersection	-	0.39	14.4	B	-	0.48	15.5	B	-	0.48	15.5	B	- Mitigation not required.	
Bay Street and Canal Street	EB	LTR	0.66	32.0	C	LTR	0.80	41.7	D	LTR	0.80	41.7	D	- Shift NB approach centerline 3 ft. to the west to provide one 16 ft. wide NB through-right lane and two 10 ft. wide SB receiving lanes.
	WB	LR	0.09	20.4	C	LR	0.16	21.4	C	LR	0.16	21.4	C	[Measures reflect operational improvements needed for PM peak period, otherwise mitigation not needed.]
	NB	TR	0.66	18.3	B	TR	0.89	30.1	C	TR	0.81	23.4	C	
	SB	LT	0.42	12.9	B	LT	0.45	13.3	B	LT	0.45	13.3	B	
Overall Intersection	-	0.66	18.7	B	-	0.85	25.4	C	-	0.80	22.6	C		

Bay Street and Broad Street													
Bay Street	EB	LR	0.33	23.4	C	LR	0.39	24.5	C	LR	0.41	25.4	C
Bay Street	NB	LT	0.77	22.6	C	LT	1.02	56.1	E	LT	0.95	38.6	D
	SB	T	0.73	20.5	C	T	0.77	22.3	C	T	0.76	21.0	C
		R	0.19	11.0	B	R	0.24	11.4	B	R	0.23	10.9	B
	Overall Intersection	-	0.60	20.8	C	-	0.77	36.2	D	-	0.74	28.1	C
Bay Street and Vanderbilt Avenue													
Vanderbilt Avenue	EB	LR	0.51	29.1	C	LR	0.59	31.3	C	L	0.26	22.4	C
	NB	LT	0.70	18.8	B	LT	0.86	26.9	C	R	0.27	22.9	C
Bay Street	SB	T	0.62	17.2	B	T	0.62	17.3	B	LT	0.78	21.3	C
		R	0.23	11.3	B	R	0.27	11.8	B	T	0.65	18.0	B
	Overall Intersection	-	0.63	18.8	B	-	0.76	23.0	C	-	0.58	19.5	B
Bay Street and Edgewater St / Front St													
Front Street	WB	LT	0.81	47.5	D	L	0.40	24.5	C				
	NB	LT	0.59	40.1	D	TR	0.46	25.8	C				
Edgewater Street		R	0.67	45.3	D	R	0.38	24.1	C				
Bay Street	NB	TR	1.03	71.8	E	TR	0.50	13.9	B				
	SB	LT	0.97	54.4	D	LT	0.65	17.5	B				
	Overall Intersection	-	0.88	56.1	E	-	0.56	18.4	B				
Bay Street and Hylan Boulevard													
Hylan Boulevard	EB	LTR	1.04	82.6	F	LTR	1.15	120.0+	F*	L	0.74	39.3	D
	WB	LTR	0.99	83.1	F	LTR	1.18	120.0+	F*	TR	0.42	23.7	C
Bay Street	NB	LTR	0.72	23.0	C	LTR	0.83	28.3	C	LTR	0.81	41.5	D
	SB	T	0.58	19.3	B	T	0.64	20.7	C	T	0.57	16.1	B
		R	0.20	7.0	A	R	0.22	7.2	A	R	0.26	11.6	B
	Overall Intersection	-	0.87	41.6	D	-	0.99	60.6	E	-	0.76	23.9	C
Front Street and Wave Street													
Wave Street	EB	-	-	-	-	LR	0.24	22.2	C				
Front Street	NB	-	-	-	-	LT	0.68	20.1	C				
	SB	-	-	-	-	TR	0.44	13.7	B				
	Overall Inter	-	-	-	-	-	0.51	17.6	B				
Front Street and Prospect Street													
Prospect Street	EB	-	-	-	-	LTR	0.22	21.9	C				
	WB	-	-	-	-	LR	0.15	21.2	C				
	NB	-	-	-	-	TR	0.50	14.9	B				
Front Street	SB	-	-	-	-	LT	0.57	16.3	B				
	Overall Intersection	-	-	-	-	-	0.43	16.6	B				

Front Street and Canal Street										
Canal Street	EB	-	-	-	LR	0.30	23.1	C		
Front Street	NB	-	-	-	LT	0.43	13.6	B		
	SB	-	-	-	TR	0.52	15.1	B		
Overall Intersection		-	-	-	-	0.44	15.6	B		

- Mitigation not required.

UN SIGNALIZED INTERSECTIONS

Front Street and Hannah Street										
Hannah Street	WB	LT	0.03	7.9	A	LT	0.03	8.3	A	
Front Street	NB	LR	0.54	15.3	C	LR	0.62	18.4	C	
Overall Intersection		-	-	14.7	B	-	-	17.7	C	

- Mitigation not required.

Bay Street and Wave Street										
Wave Street	WB	LTR	0.61	38.5	E	LTR	1.20+	120.0+	F*	
Bay Street	NB	LTR	0.04	10.9	B	LTR	0.07	14.6	B	
	SB	LTR	0.08	9.3	A	LTR	0.14	12.2	B	
Overall Intersection		-	-	27.2	D	-	-	120.0+	F*	

- Install traffic signal

[Signal warrant conditions met.]
EB/WB 20 s green, 3 s yellow, 2 s red
NB/SB 60 s green, 3 s yellow, 2 s red.

Bay Street and Prospect Street										
Prospect Street	EB	LTR	0.51	53.9	F	LTR	1.20+	120.0+	F*	
Bay Street	NB	-	-	-	-	-	-	-	-	
	SB	LT	0.11	11.0	B	LT	0.19	15.7	C	
Overall Intersection		-	-	32.5	D	-	-	120.0+	F*	

- Install traffic signal

[Signal warrant conditions met.]
EB/WB 31 s green, 3 s yellow, 2 s red.
NB/SB 49 s green, 3 s yellow, 2 s red.
[Measures reflect improvements required to mitigate significant pedestrian impacts]
[Not impacted since there are less than 90 PCE's]

Bay Street and Water Street										
Water Street	WB	LTR	0.63	65.5	F	LTR	1.20+	120.0+	F*	
Bay Street	NB	LT	0.35	13.5	B	LT	0.40	15.4	C	
	SB	-	-	-	-	-	-	-	-	
Overall Intersection		-	-	28.0	D	-	-	120.0+	F*	

- Install traffic signal

[Signal warrant conditions met.]
WB 19 s green, 3 s yellow, 2 s red.
NB/SB 61 s green, 3 s yellow, 2 s red.
- Shift NB centerline 9 ft to the west to provide one 10 ft. wide left-through lane, one 10 ft. wide through lane, and one 14 ft. wide SB receiving lane.
- Shift SB centerline 8 ft. to the west to provide one 15 ft. wide through-right lane and two 10 ft. wide NB receiving lanes.
- Prohibit parking along west side of SB approach 120 ft. from the intersection at all times.

Bay Street and Thompson Street										
Thompson Street	WB	LTR	0.17	18.9	C	LTR	0.56	49.0	E	
Bay Street	NB	LT	0.03	10.1	B	LT	0.03	10.9	B	
	SB	-	-	-	-	-	-	-	-	
Overall Intersection		-	-	16.7	C	-	-	43.0	E	

- Mitigation not required.

[Not impacted since there are less than 90 PCE's]

Notes

- (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) Significantly impacted turning movements and overall intersections are highlighted

TABLE 6
STAPLETON / HOMEPORT WATERFRONT REDEVELOPMENT STUDY
COMPARISON OF PM 2015 NO BUILD AND PM 2015 BUILD LEVELS OF SERVICE AND MITIGATION

INTERSECTION & APPROACH	2015 No Build Condition					2015 Build Conditions					Mitigated Condition					
	Mvt.	V/C	Delay	LOS	Control	Mvt.	V/C	Delay	LOS	Control	Mvt.	V/C	Delay	LOS	Control	Mitigation Measures
SIGNALIZED INTERSECTIONS																
Bay Street and Victory Boulevard																
Victory Boulevard	EB	DefL	0.92	79.9	E	DefL	0.92	79.9	E	E	L	0.83	63.6	E		- Prohibit parking along the east side of the NB approach up to 120 ft. from intersection. Install "No Standing Anytime" sign.
	TR	LTR	0.14	31.1	C	TR	0.14	31.1	C	C	TR	0.14	31.1	C		- Shift NB approach centerline 1 ft. to the west and restripe to provide one 10 ft. wide left-turn lane, one 13 ft. wide through lane, one 10 ft. and one 11 ft. wide SB receiving lanes in addition to curb parking on east curb.
	WB	LTR	0.15	31.1	C	LTR	0.15	31.1	C	C	LTR	0.15	31.1	C		- Shift SB approach centerline 2.5 ft. to the east and restripe SB approach to provide one 16 ft. wide right-turn lane, one 11 ft. wide through lane, one 11 ft. wide left-through lane and two 10.5 ft. wide NB receiving lanes in addition to curb parking on east curb.
	NB	DefL	1.12	120.0+	F*	DefL	1.20+	120.0+	F*	F*	L	0.33	12.5	B		- Shift EB approach centerline 4 ft. to the north to provide one 14 ft. wide left-turn lane, one 10 ft. wide through-right lane, one 10 ft. wide bus lane, and one 10 ft. and one 16 ft. wide WB receiving lanes.
	TR	LTR	1.06	76.3	E	LTR	1.20	120.0+	F*	F*	L	0.33	12.5	B		
	SB	LT	0.62	16.4	B	LT	0.70	18.3	B	B	LT	0.74	19.6	B		
	R	R	0.98	67.9	E	R	0.98	67.9	E	E	R	0.91	49.2	D		
Overall Intersection	-	-	1.05	54.1	D	-	1.13	72.7	E	E	-	0.93	34.1	C		
Bay Street and Hannah Street																
Hannah Street	EB	LTR	0.46	48.4	D	LTR	0.39	45.7	D	D	LTR	0.39	45.7	D		- Shift SB approach centerline 3 ft. to the east to provide two 14 ft. wide left-turn lanes, two 10 ft. wide through lanes, one 10.5 ft. wide right-turn lane, and reduce the NB receiving lanes from 11 ft. and 25 ft. wide to 10 ft. and 23 ft. wide.
	WB	LTR	0.91	73.7	E	LTR	0.78	59.1	E	E	LTR	0.88	71.3	E		- Shift WB centerline 4 ft. to the north to provide one 11 ft. wide approach lane and two 10 ft. wide EB receiving lanes.
	NB	LTR	0.45	13.5	B	LTR	0.56	15.3	B	B	LTR	0.88	43.3	D		- Modify signal timing (Add a SB lead phase of 23s green, 3s yellow, 2s red by reducing NB/SB phase by 28 s and prohibiting the SB left movement during the NB/SB phase.)
	SB	L	1.12	105.6	F	L	1.20+	120.0+	F*	F*	L	1.01	87.7	F		
	TR	L	0.33	11.8	B	T	0.34	11.9	B	B	T	0.50	14.1	B		
	R	R	0.26	11.7	B	R	0.26	11.7	B	B	R	0.29	12.0	B		
Overall Intersection	-	-	1.05	38.7	D	-	1.20+	91.7	F	F	-	0.90	44.9	D		
Bay Street and Van Duzer Street/Swan Street																
Van Duzer Street	EB	L	0.18	31.1	C	L	0.19	31.2	C	C	L	0.19	31.2	C		- Mitigation not required.
	LR	LR	0.19	31.4	C	LR	0.27	32.7	C	C	LR	0.27	32.7	C		
	NB	LT	0.47	13.9	B	LT	0.69	18.8	B	B	LT	0.69	18.8	B		
	SB	TR	0.42	13.0	B	TR	0.43	13.2	B	B	TR	0.43	13.2	B		
Overall Intersection	-	-	0.37	15.4	B	-	0.55	17.9	B	B	-	0.55	17.9	B		
Bay Street and Canal Street																
Canal Street	EB	LTR	0.45	36.5	D	LTR	0.55	39.8	D	D	LTR	0.61	44.4	D		- Modify signal timing (shift 3 s from EB/WB phase to NB/SB phase.)
	WB	LR	0.18	31.5	C	LR	0.24	32.8	C	C	LR	0.27	35.6	D		- Shift NB approach centerline 3 ft. to the west to provide one 16 ft. wide NB through-right lane and two 10 ft. wide SB receiving lanes.
	NB	TR	0.71	20.1	C	TR	1.10	84.0	F	F	TR	0.97	39.2	D		
	SB	LT	0.42	13.0	B	LT	0.45	13.4	B	B	LT	0.43	11.8	B		
Overall Intersection	-	-	0.62	19.2	B	-	0.92	53.0	D	D	-	0.85	29.8	C		

Bay Street and Broad Street																				
Broad Street	EB	LR	0.29	32.9	C	LR	0.37	34.4	C	LR	0.49	44.1	D	-	-	-	-	-	-	-
Bay Street	NB	LT	0.90	34.5	C	LT	1.20+	120.0+	F*	LT	0.97	39.2	D	-	-	-	-	-	-	-
	SB	T	0.65	18.3	B	T	0.68	19.4	B	T	0.61	12.6	B	-	-	-	-	-	-	-
		R	0.16	10.6	B	R	0.20	11.0	B	R	0.17	7.2	A	-	-	-	-	-	-	-
	Overall Intersection	-	0.69	25.9	C	-	0.95	78.6	E	-	0.85	27.8	C	-	-	-	-	-	-	-
Bay Street and Vanderbilt Avenue																				
Vanderbilt Avenue	EB	LR	0.50	39.3	D	LR	0.61	42.8	D	L	0.48	43.8	D	-	-	-	-	-	-	-
Bay Street	NB	LT	0.97	47.8	D	LT	1.20+	120.0+	F*	LT	1.00	45.4	D	-	-	-	-	-	-	-
	SB	T	0.49	14.7	B	T	0.50	14.9	B	T	0.46	10.1	B	-	-	-	-	-	-	-
		R	0.26	11.7	B	R	0.30	12.1	B	R	0.29	8.2	A	-	-	-	-	-	-	-
	Overall Intersection	-	0.82	32.2	C	-	1.04	80.2	F	-	0.86	31.1	C	-	-	-	-	-	-	-
Bay Street and Edgewater St / Front St																				
Front Street	WB	LT	1.01	89.5	F	L	0.5	37.2	D	L	0.82	61.0	E	-	-	-	-	-	-	-
Edgewater Street	NB	LT	0.98	90.2	F	TR	0.65	42.5	D	TR	0.55	38.9	D	-	-	-	-	-	-	-
Bay Street	NB	TR	1.03	76.2	E	R	0.69	40.8	D	LTR	0.75	46.1	D	-	-	-	-	-	-	-
	SB	LT	0.83	41.5	D	TR	0.61	16.1	B	LTR	0.90	32.1	C	-	-	-	-	-	-	-
		R	0.22	8.7	A	LT	0.57	16.0	B	T	0.62	17.4	B	-	-	-	-	-	-	-
	Overall Intersection	-	1.04	78.4	E	-	0.64	24.4	C	-	0.87	31.8	C	-	-	-	-	-	-	-
Bay Street and Hylan Boulevard																				
Hylan Boulevard	EB	LTR	0.99	73.5	E	LTR	1.13	120.0+	F*	L	0.82	61.0	E	-	-	-	-	-	-	-
Bay Street	WB	LTR	0.81	56.4	E	LTR	0.90	66.3	E	TR	0.55	38.9	D	-	-	-	-	-	-	-
	SB	T	0.69	26.6	C	LTR	1.20+	120.0+	F*	LTR	0.75	46.1	D	-	-	-	-	-	-	-
		R	0.22	8.7	A	T	0.74	28.7	C	LTR	0.90	32.1	C	-	-	-	-	-	-	-
	Overall Intersection	-	1.03	56.3	E	-	1.20+	94.7	F	-	0.87	31.8	C	-	-	-	-	-	-	-
Front Street and Wave Street																				
Wave Street	EB	-	-	-	-	LR	0.22	21.9	C	-	-	-	-	-	-	-	-	-	-	-
Front Street	NB	-	-	-	-	LT	0.62	17.7	B	-	-	-	-	-	-	-	-	-	-	-
	SB	-	-	-	-	TR	0.50	14.6	B	-	-	-	-	-	-	-	-	-	-	-
	Overall Intersection	-	-	-	-	-	0.47	16.8	B	-	-	-	-	-	-	-	-	-	-	-
Front Street and Prospect Street																				
Prospect Street	EB	-	-	-	-	LTR	0.26	22.3	C	-	-	-	-	-	-	-	-	-	-	-
Front Street	WB	-	-	-	-	LR	0.13	20.9	C	-	-	-	-	-	-	-	-	-	-	-
	SB	-	-	-	-	TR	0.55	15.8	B	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	LT	0.64	18.3	B	-	-	-	-	-	-	-	-	-	-	-
	Overall Intersection	-	-	-	-	-	0.49	17.9	B	-	-	-	-	-	-	-	-	-	-	-

Front Street and Canal Street										
Canal Street	EB	-	-	-	-	LR	0.23	22.0	C	- Mitigation not required.
Front Street	NB	-	-	-	-	LT	0.53	15.2	B	
	SB	-	-	-	-	TR	0.54	15.4	B	
Overall Intersection	-	-	-	-	-	-	0.42	16.0	B	

UNIGNALIZED INTERSECTIONS

Front Street and Hannah Street										
Hannah Street	WB	LT	0.03	8.4	A	LT	0.03	9.1	A	- Mitigation not required.
Front Street	NB	LR	0.74	24.0	C	LR	0.67	23.9	C	
Overall Intersection	-	-	-	23.0	C	-	-	22.7	C	
Bay Street and Wave Street										
Wave Street	WB	LTR	0.41	30.5	D	LTR	1.20+	120.0+	F*	- Install traffic signal
Bay Street	NB	LTR	0.03	10.2	B	LTR	0.04	12.4	B	[Signal warrant conditions met.]
	SB	LTR	0.07	9.3	A	LTR	0.12	12.0	B	EB/WB 37 s green, 3 s yellow, 2 s red.
Overall Intersection	-	-	-	21.2	C	-	-	120.0+	F*	NB/SB 73 s green, 3 s yellow, 2 s red.

Bay Street and Prospect Street										
Prospect Street	EB	LTR	0.53	53.6	F	LTR	1.20+	120.0+	F*	- Install traffic signal
Bay Street	NB	-	-	-	-	-	-	-	-	[Signal warrant conditions met.]
	SB	LT	0.12	10.9	B	LT	0.21	15.7	C	EB/WB 37 s green, 3 s yellow, 2 s red.
Overall Intersection	-	-	-	32.1	D	-	-	120.0+	F*	NB/SB 73 s green, 3 s yellow, 2 s red.

Bay Street and Water Street										
Water Street	WB	LTR	0.92	120.0+	F*	LTR	1.20+	120.0+	F*	- Install traffic signal
Bay Street	NB	LT	0.23	11.4	B	LT	0.26	12.4	B	[Signal warrant conditions met.]
	SB	-	-	-	-	-	-	-	-	WB 37 s green, 3 s yellow, 2 s red.
Overall Intersection	-	-	-	59.2	F	-	-	120.0+	F*	NB/SB 73 s green, 3 s yellow, 2 s red.

Bay Street and Thompson Street										
Thompson Street	WB	LTR	0.31	23.2	C	LTR	0.92	110.9	F	- Mitigation not required.
Bay Street	NB	LT	0.02	10.1	B	LT	0.02	10.8	B	[Not impacted since there are less than 90 PCE's]
	SB	-	-	-	-	-	-	-	-	
Overall Intersection	-	-	-	21.6	C	-	-	103.1	F	

Notes

- (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) Significantly impacted turning movements and overall intersections are highlighted

TABLE 7

STAPLETON/HOMEPORT WATERFRONT REDEVELOPMENT STUDY
COMPARISON OF SATURDAY MD 2015 NO BUILD AND SATURDAY MD 2015 BUILD LEVELS OF SERVICE AND MITIGATION

INTERSECTION & APPROACH	2015 No Build Condition					2015 Build Condition					Mitigated Condition					Mitigation Measures						
	Mvt.	V/C	Delay	LOS	Control	Mvt.	V/C	Delay	LOS	Control	Mvt.	V/C	Delay	LOS	Control	Mvt.	V/C	Delay	LOS	Control		
SIGNALIZED INTERSECTIONS																						
Bay Street and Victory Boulevard	<ul style="list-style-type: none"> - Prohibit parking along the east side of the NB approach up to 120 ft. from intersection. Install "No Standing Anytime" sign. - Shift NB approach centerline 1 ft. to the west and restripe to provide one 10 ft. wide left-turn lane, one 13 ft. wide through lane, one 10 ft. and one 11 ft. wide SB receiving lanes in addition to curb parking on east curb. - Shift SB approach centerline 2.5 ft. to the east and restripe SB approach to provide one 16 ft. wide right-turn lane, one 11 ft. wide through lane, one 11 ft. wide left-through lane and two 10.5 ft. wide NB receiving lanes in addition to curb parking on east curb. - Shift EB approach centerline 4 ft. to the north to provide one 14 ft. wide left-turn lane, one 10 ft. wide through-right lane, one 10 ft. wide bus lane, and one 10 ft. and one 16 ft. wide WB receiving lanes. - Modify signal timing (add a NB lag phase of 8s green, 3s yellow, 2s red by reducing NB/SB phase by 12s and EB/WB phase by 1s.) 																					
Victory Boulevard	EB	DefL	0.74	39.8	D	DefL	0.74	39.8	D	DefL	0.69	36.7	D									
		TR	0.11	20.8	C	TR	0.11	20.8	C	TR	0.12	21.6	C									
	WB	LTR	0.04	19.9	B	LTR	0.04	19.9	B	LTR	0.05	20.6	C									
	NB	-	-	-	-	DefL	0.97	74.0	E	L	0.66	36.5	D									
		LTR	0.88	31.2	C	TR	1.00	57.4	E	TR	0.92	37.6	D									
	SB	LT	0.47	13.5	B	LT	0.55	14.8	B	LT	0.79	29.0	C									
		R	0.38	13.7	B	R	0.38	13.7	B	R	0.37	12.9	B									
	Overall Intersection	-	0.82	23.4	C	-	0.90	35.0	C	-	0.84	31.1	C									
Bay Street and Hannah Street	<ul style="list-style-type: none"> - Shift SB approach centerline 3 ft. to the east to provide two 14 ft. wide left-turn lanes, two 10 ft. wide through lanes, one 10.5 ft. wide right-turn lane, and reduce the NB receiving lanes from 11 ft. and 25 ft. wide to 10 ft. and 23 ft. wide. - Shift WB centerline 4 ft. to the north to provide one 11 ft. wide approach lane and two 10 ft. wide EB receiving lanes. - Modify signal timing (Add a SB lead phase of 21s green, 3s yellow, 2s red by reducing NB/SB phase by 22 s and EB/WB phase by 4s, and prohibiting the SB left movement during the NB/SB phase.) 																					
Hannah Street	EB	LTR	0.19	26.1	C	LTR	0.19	26.1	C	LTR	0.22	30.6	C									
	WB	LTR	0.62	29.7	C	LTR	0.45	25.4	C	LTR	0.59	32.5	C									
	NB	LTR	0.31	12.2	B	LTR	0.43	13.5	B	LTR	0.80	37.0	D									
	SB	L	0.64	25.3	C	L	1.20+	120.0+	F*	L	0.67	37.8	D									
		T	0.27	11.7	B	T	0.28	11.8	B	T	0.38	10.9	B									
		R	0.14	10.9	B	R	0.14	10.9	B	R	0.14	9.1	A									
	Overall Intersection	-	0.63	17.1	B	-	1.20+	94.6	F	-	0.69	27.2	C									
Bay Street and Van Duzer Street/Swan Street	<ul style="list-style-type: none"> - Mitigation not required. 																					
Van Duzer Street	EB	L	0.10	20.4	C	L	0.11	20.5	C	L	0.11	20.5	C									
		LR	0.06	19.9	B	LR	0.08	20.1	C	LR	0.19	22.0	C									
	NB	LT	0.31	11.8	B	LT	0.46	13.4	B	LT	0.81	23.4	C									
	SB	TR	0.44	13.0	B	TR	0.45	13.2	B	TR	0.44	13.1	B									
	Overall Intersection	-	0.31	13.1	B	-	0.32	13.8	B	-	0.79	23.6	C									
Bay Street and Canal Street	<ul style="list-style-type: none"> - Shift NB approach centerline 3 ft. to the west to provide one 16 ft. wide NB through-right lane and two 10 ft. wide SB receiving lanes. [Measures reflect operational improvements needed for PM peak period, otherwise mitigation not needed.] 																					
Canal Street	EB	LTR	0.50	28.1	C	LTR	0.62	32.4	C	LTR	0.62	32.4	C									
	WB	LR	0.10	20.6	C	LR	0.19	22.0	C	LR	0.19	22.0	C									
	NB	TR	0.54	15.4	B	TR	0.89	30.0	C	TR	0.81	23.4	C									
	SB	LT	0.39	12.5	B	LT	0.44	13.1	B	LT	0.44	13.1	B									
	Overall Intersection	-	0.53	16.2	B	-	0.79	23.6	C	-	0.74	20.6	C									

Bay Street and Broad Street													
Broad Street	EB	LR	0.24	22.0	C	LR	0.32	23.2	C	LR	0.32	23.2	C
Bay Street	NB	LT	0.58	16.0	B	LT	0.87	27.9	C	LT	0.85	25.7	C
	SB	T	0.68	18.8	B	T	0.74	20.8	C	T	0.74	20.8	C
		R	0.15	10.5	B	R	0.19	11.0	B	R	0.19	11.0	B
	Overall Intersection	-	0.51	17.3	B	-	0.66	23.5	C	-	0.64	22.5	C
Bay Street and Vanderbilt Avenue													
Vanderbilt Avenue	EB	LR	0.37	24.1	C	LR	0.46	25.9	C	L	0.26	22.4	C
Bay Street	NB	LT	0.42	13.2	B	LT	0.61	16.2	B	LT	0.55	14.9	B
	SB	T	0.52	15.0	B	T	0.53	15.2	B	T	0.55	15.6	B
		R	0.19	10.9	B	R	0.23	11.4	B	R	0.25	11.6	B
	Overall Intersection	-	0.46	15.1	B	-	0.55	16.7	B	-	0.44	15.7	B
Bay Street and Edgewater St / Front St													
Front Street	WB	LT	0.54	34.5	C	L	0.25	22.2	C				
Edgewater Street	NB	LT	0.37	32.4	C	TR	0.33	23.5	C				
Bay Street	NB	R	0.43	33.6	C	R	0.28	23.3	C				
	SB	TR	0.76	31.8	C	TR	0.40	12.6	B				
		LT	0.69	27.9	C	LT	0.51	14.5	B				
	Overall Intersection	-	0.61	31.1	C	-	0.44	16.2	B				
Bay Street and Hylan Boulevard													
Hylan Boulevard	EB	LTR	0.84	42.1	D	LTR	1.03	89.3	F	L	0.61	32.8	C
Bay Street	WB	LTR	0.65	39.4	D	LTR	0.84	53.5	D	TR	0.40	24.2	C
	NB	LTR	0.67	21.6	C	LTR	0.84	29.9	C	LTR	0.57	27.5	C
	SB	T	0.63	20.4	C	T	0.69	22.1	C	T	0.62	17.0	B
		R	0.20	7.1	A	R	0.23	7.2	A	R	0.27	11.8	B
	Overall Intersection	-	0.74	25.2	C	-	0.93	37.5	D	-	0.67	20.6	C
Front Street and Wave Street													
Wave Street	EB	-	-	-	-	LR	0.20	21.8	C				
Front Street	NB	-	-	-	-	LT	0.28	11.7	B				
	SB	-	-	-	-	TR	0.39	13.1	B				
	Overall Intersection	-	-	-	-	-	0.32	13.7	B				
Front Street and Prospect Street													
Prospect Street	EB	-	-	-	-	LTR	0.23	22.0	C				
Front Street	WB	-	-	-	-	LR	0.20	21.8	C				
	NB	-	-	-	-	TR	0.26	11.7	B				
	SB	-	-	-	-	LT	0.46	14.3	B				
	Overall Intersection	-	-	-	-	-	0.37	15.5	B				

- Shift NB approach centerline 1 ft. to the west to provide one 16 ft. wide NB left-through lane and one 20 ft. wide SB receiving lane.
[Measures reflect operational improvements needed for other peak periods, otherwise mitigation not needed.]

- Prohibit parking on the south side of the EB approach up to 120 ft. from the intersection to provide one 11 ft wide left-turn lane and one 10 ft. wide right-turn lane.
- Shift NB centerline 6 ft. to the west and restripe NB approach to one 13 ft. wide left-through lane and one 12 ft. wide through lane.
- Shift SB centerline 3 ft. to the west to restripe SB approach to one 10 ft. wide right-turn lane, one 10 ft. wide through lane, and two 11 ft. wide NB receiving lanes.
[Measures reflect operational improvements needed for PM peak period, otherwise mitigation not needed.]

- Mitigation not required.

- Prohibit parking along the south side of the EB approach up to 120 ft. from the intersection.
- Shift EB centerline 1.5 ft. to the north to provide one 10.5 ft. wide left-turn lane, one 10.5 ft. wide through-right lane, and one 18 ft. wide WB receiving lane.
- Modify signal timing (eliminate EB lead phase, add 9s to EB/WB phase and 5s to NB/SB phase.)

- Mitigation not required.

- Mitigation not required.

Front Street and Canal Street										
Canal Street	EB	-	-	-	-	LR	0.27	22.6	C	-
Front Street	NB	-	-	-	-	LT	0.19	10.9	B	-
	SB	-	-	-	-	TR	0.41	13.4	B	-
Overall Intersection							0.36	14.5	B	-
- Mitigation not required.										
UN SIGNALIZED INTERSECTIONS										
Front Street and Hannah Street										
Hannah Street	WB	LT	0.08	8.3	A	LT	0.10	9.6	A	-
Front Street	NB	LR	0.58	18.7	C	LR	0.49	19.1	C	-
Overall Intersection				16.6	C				C	-
- Mitigation not required.										
Bay Street and Wave Street										
Wave Street	WB	LTR	0.28	21.4	C	LTR	1.13	120.0+	F*	LTR
Bay Street	NB	LTR	0.01	10.0	B	LTR	0.01	12.6	B	LTR
	SB	LTR	0.06	9.8	A	LTR	0.12	13.7	B	LTR
Overall Intersection				17.0	C			120.0+	F*	
- Install traffic signal [Signal warrant conditions met.] EB/WB 30 s green, 3 s yellow, 2 s red. NB/SB 50 s green, 3 s yellow, 2 s red.										
Bay Street and Prospect Street										
Prospect Street	EB	LTR	0.31	29.1	D	LTR	0.87	120.0+	F	LTR
Bay Street	NB	-	-	-	-	-	-	-	-	TR
	SB	LT	0.06	11.0	B	LT	0.12	15.9	C	LT
Overall Intersection				22.3	C			93.4	F	
- Install traffic signal [Signal warrant conditions met.] EB/WB 31 s green, 3 s yellow, 2 s red. NB/SB 49 s green, 3 s yellow, 2 s red. [Measures reflect improvements required to mitigate significant pedestrian impacts.]										
Bay Street and Water Street										
Water Street	WB	LTR	0.33	21.6	C	LTR	1.00	109.0	F	LTR
Bay Street	NB	LT	0.11	10.6	B	LT	0.13	11.6	B	L
	SB	-	-	-	-	-	-	-	-	T
Overall Intersection				16.8	C			81.2	F	
- Install traffic signal [Signal warrant conditions met.] WB 31 s green, 3 s yellow, 2 s red. NB/SB 49 s green, 3 s yellow, 2 s red. - Shift NB centerline 9 ft to the west to provide one 10 ft. wide left-through lane, one 10 ft. wide through lane, and one 14 ft. wide SB receiving lane. - Shift SB centerline 8 ft. to the west to provide one 15 ft. wide through-right lane and two 10 ft. wide NB receiving lanes. - Prohibit parking along west side of SB approach 120 ft. from the intersection at all times.										
Bay Street and Thompson Street										
Thompson Street	WB	LTR	0.18	17.5	C	LTR	0.51	43.0	E	
Bay Street	NB	LT	0.01	9.9	A	LT	0.01	11.1	B	
	SB	-	-	-	-	-	-	-	-	
Overall Intersection				16.8	C			40.8	E	
- Mitigation not required.										

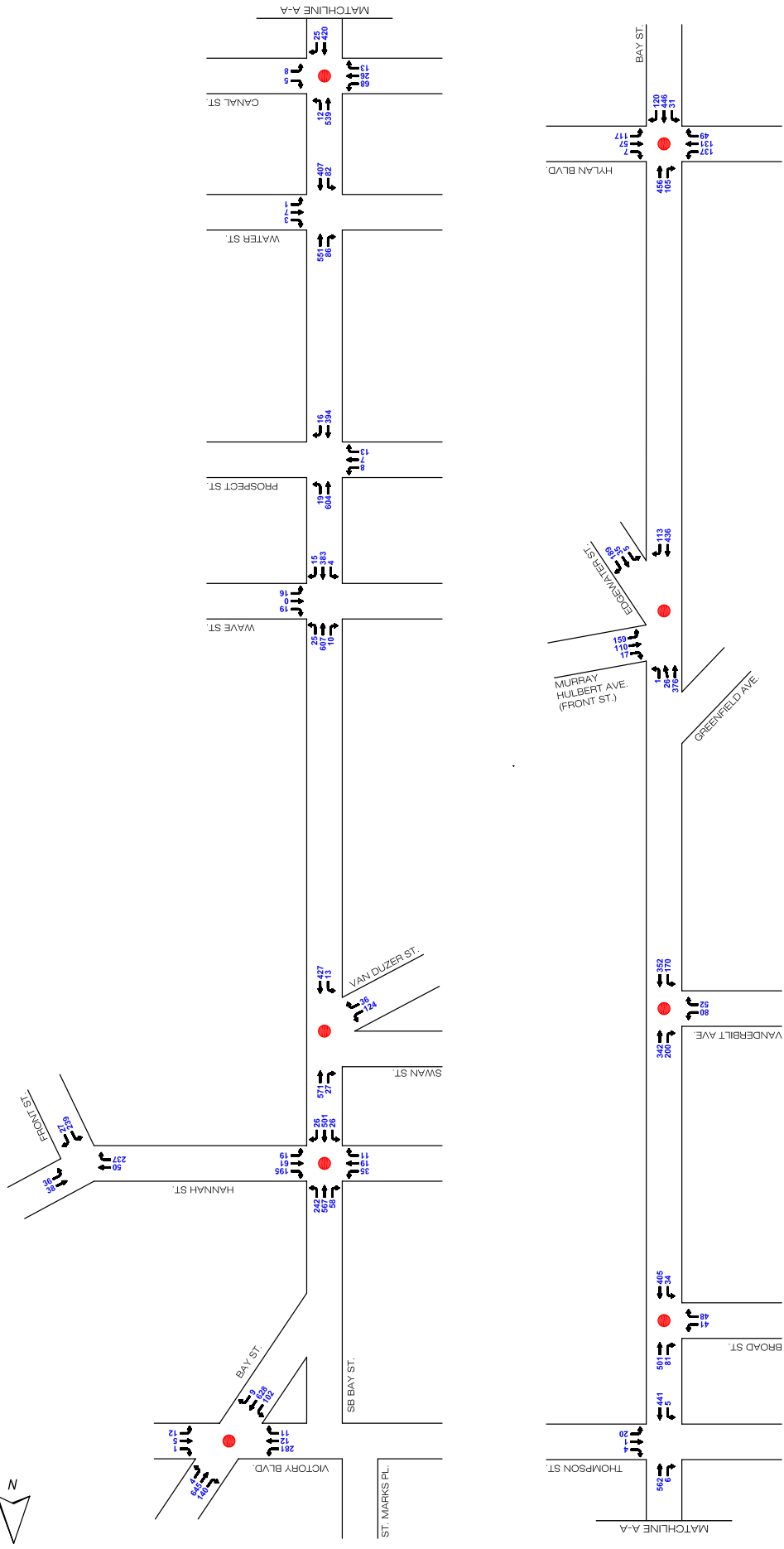
Notes

- (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) Significantly impacted turning movements and overall intersections are highlighted

NEW STAPLETON WATERFRONT DEVELOPMENT PROJECT
APPENDIX C – FIGURES

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13 to 16	BUILD TRAFFIC ASSIGNMENTS
17 to 20	BUILD TRAFFIC VOLUMES
21	EXISTING ON-STREET PARKING REGULATIONS

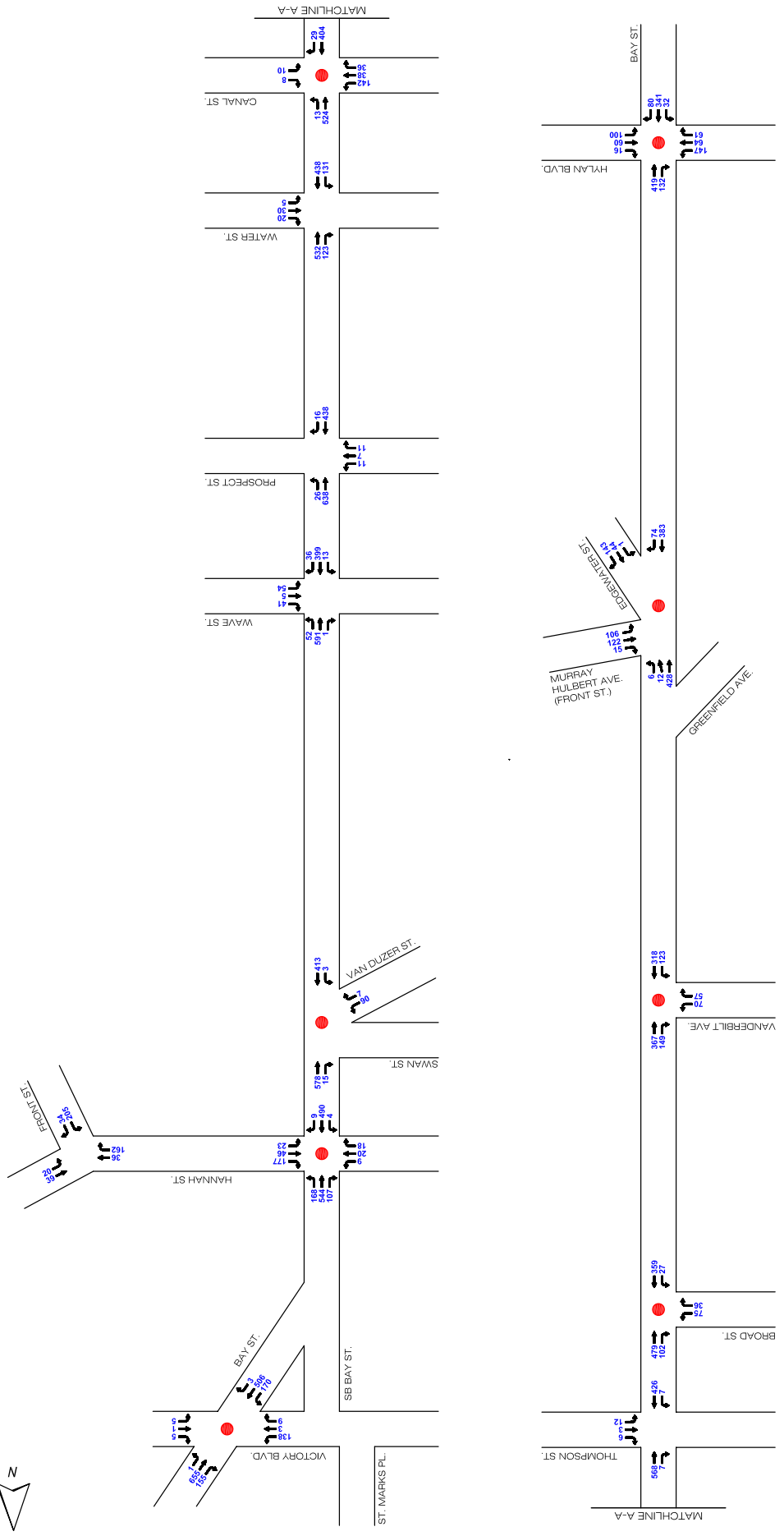


LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN ROUNDING THE VOLUME NETWORKS.

NOT TO SCALE

Figure 1
 Weekday AM Existing Traffic Volumes
 Stapleton Waterfront Development EIS

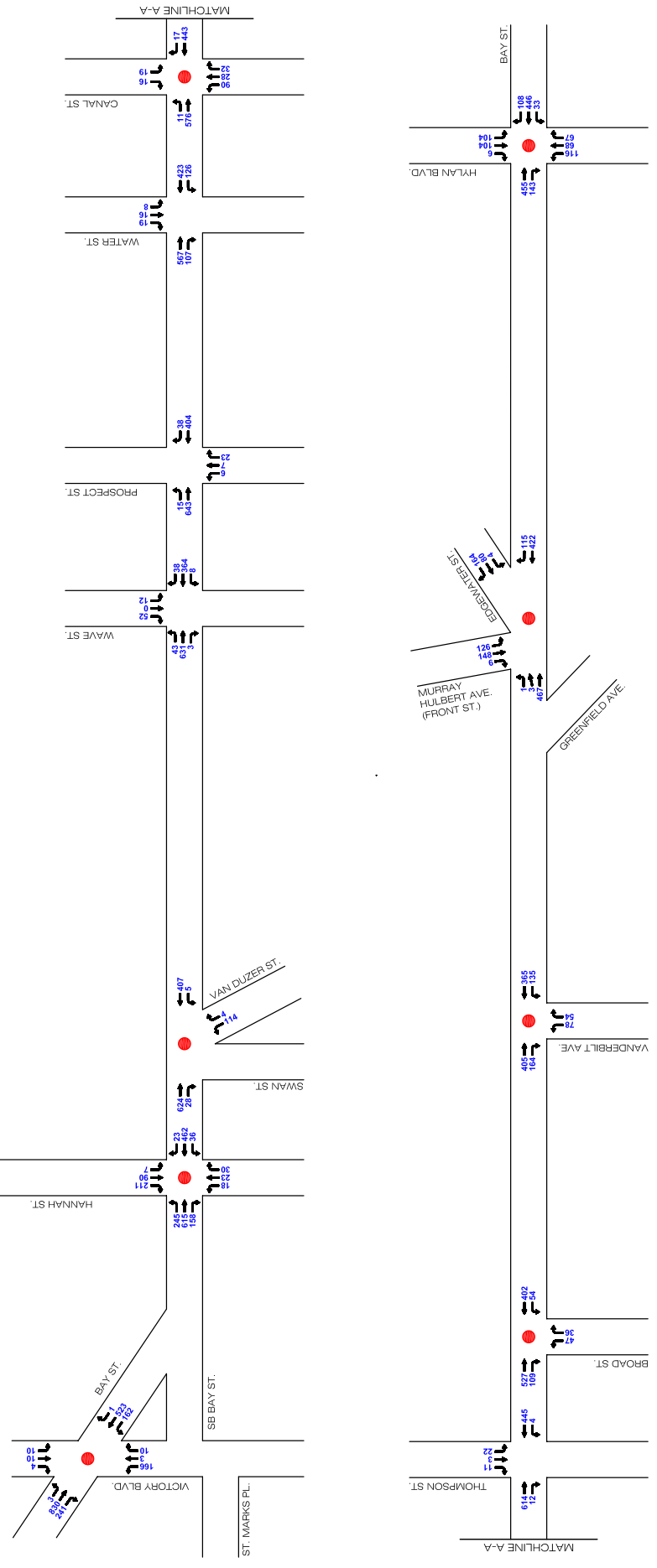


LEGEND
• SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN AROUND THE VOLUME NETWORKS.

NOT TO SCALE

Figure 2
Weekday Midday Existing Traffic Volumes
Stapleton Waterfront Development EIS

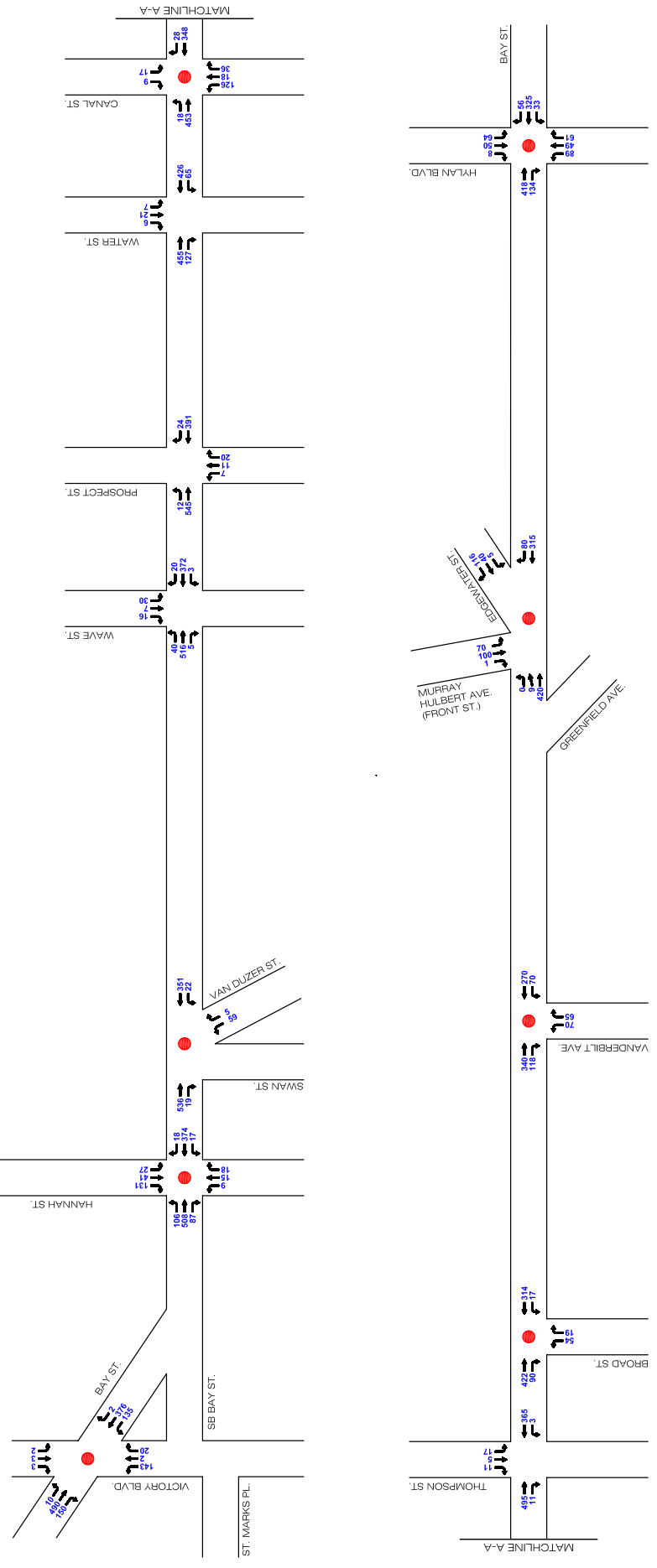


LEGEND
• SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFFS REGARDING THE VOLUME NETWORKS.

NOT TO SCALE

Figure 3
Weekday PM Existing Traffic Volumes
Stapleton Waterfront Development EIS



LEGEND
• SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFFS IN AROUNDING THE VOLUME NETWORKS.

NOT TO SCALE

Figure 4
Saturday Midday Existing Traffic Volumes
Stapleton Waterfront Development EIS

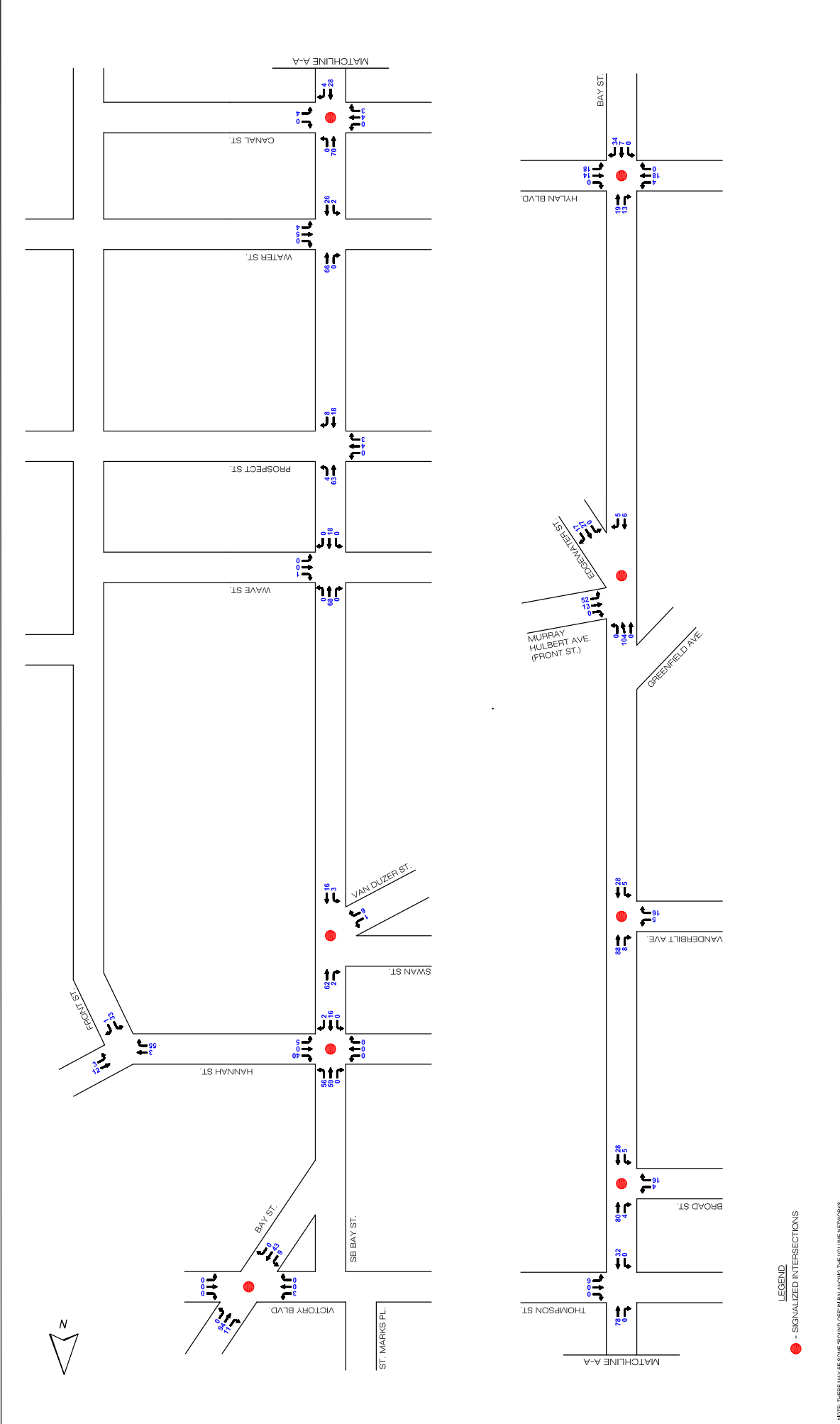


Figure 5
 Weekday AM No Build Traffic Assignments
 Stapleton Waterfront Development EIS

NOT TO SCALE

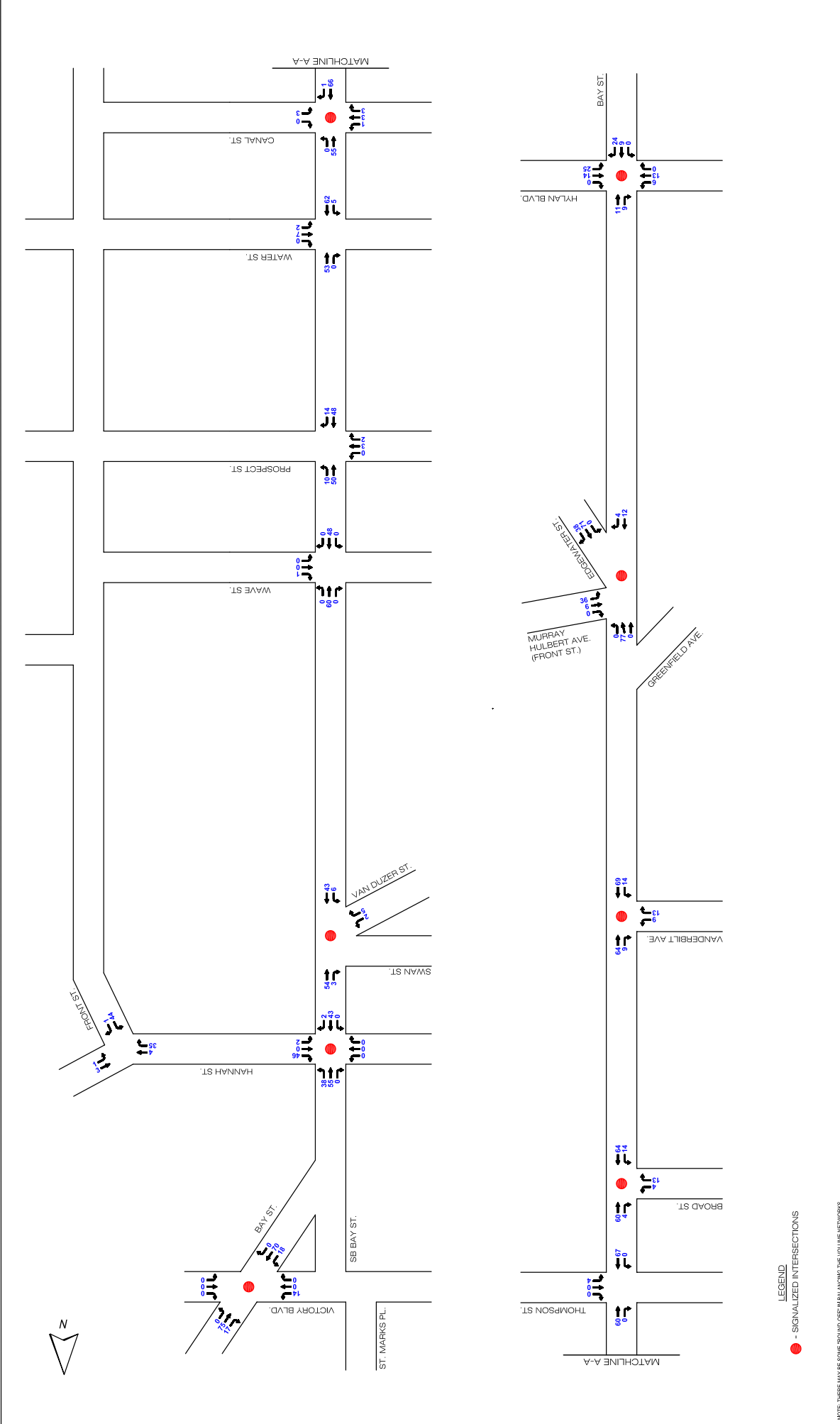


Figure 6
 Weekday Midday No Build Traffic Assignments
 Stapleton Waterfront Development EIS

NOT TO SCALE

NOTE: THERE MAY BE SOME ROUND-OFF REASONING THE VOLUME NETWORKS.

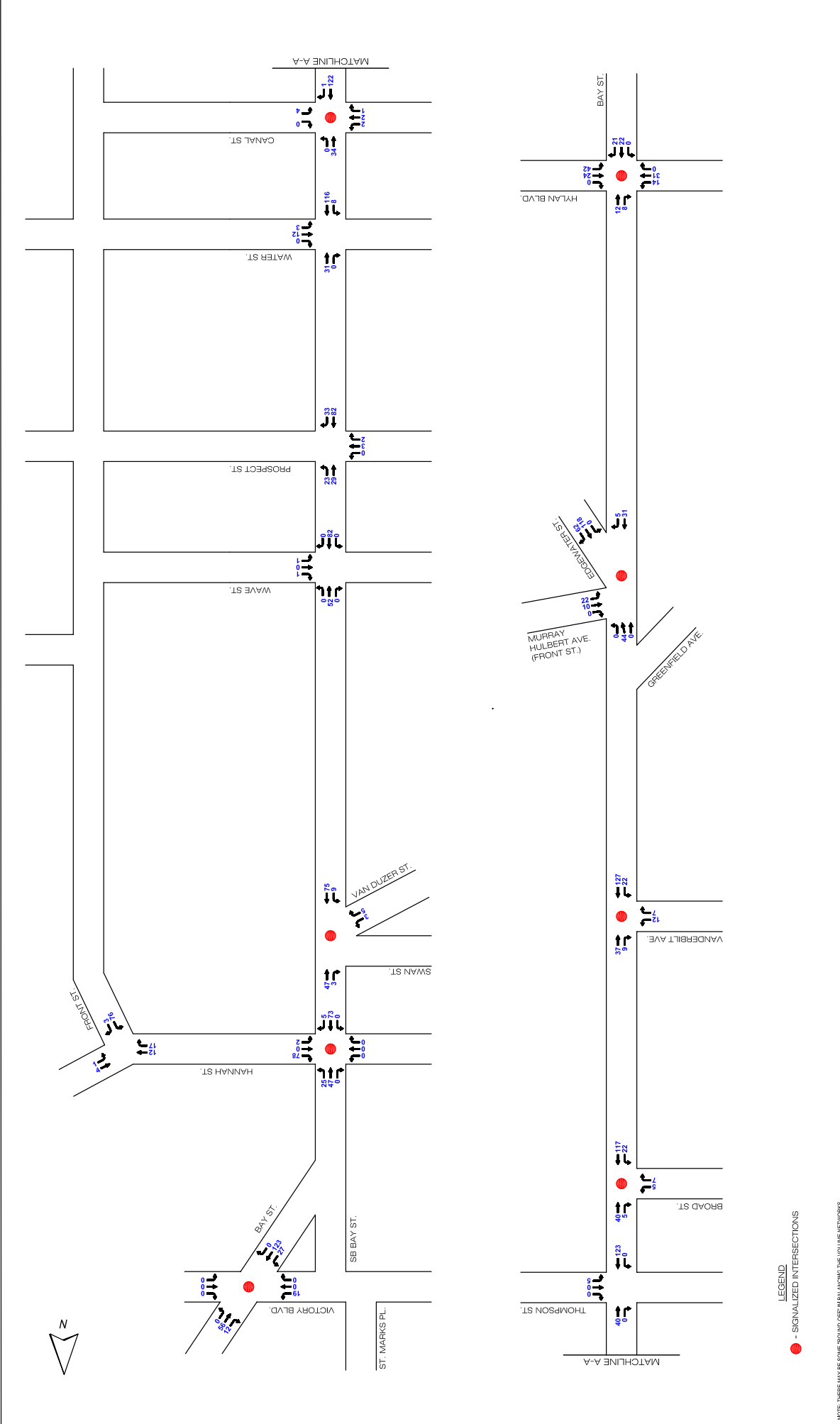
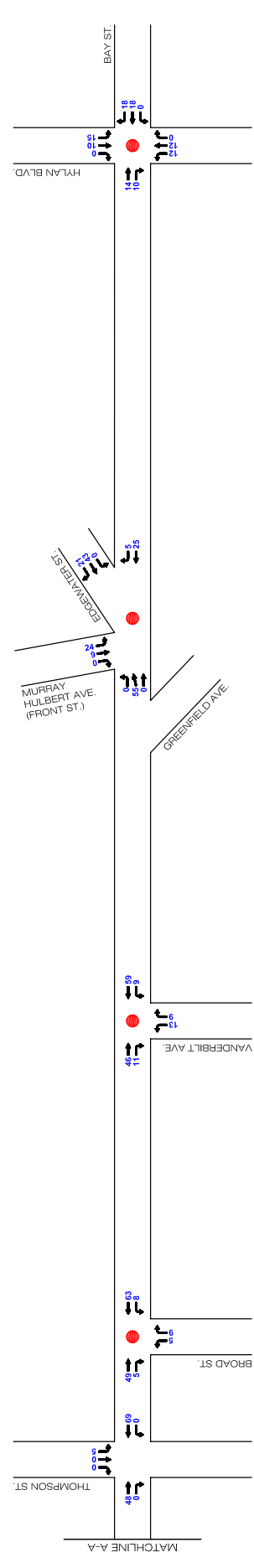
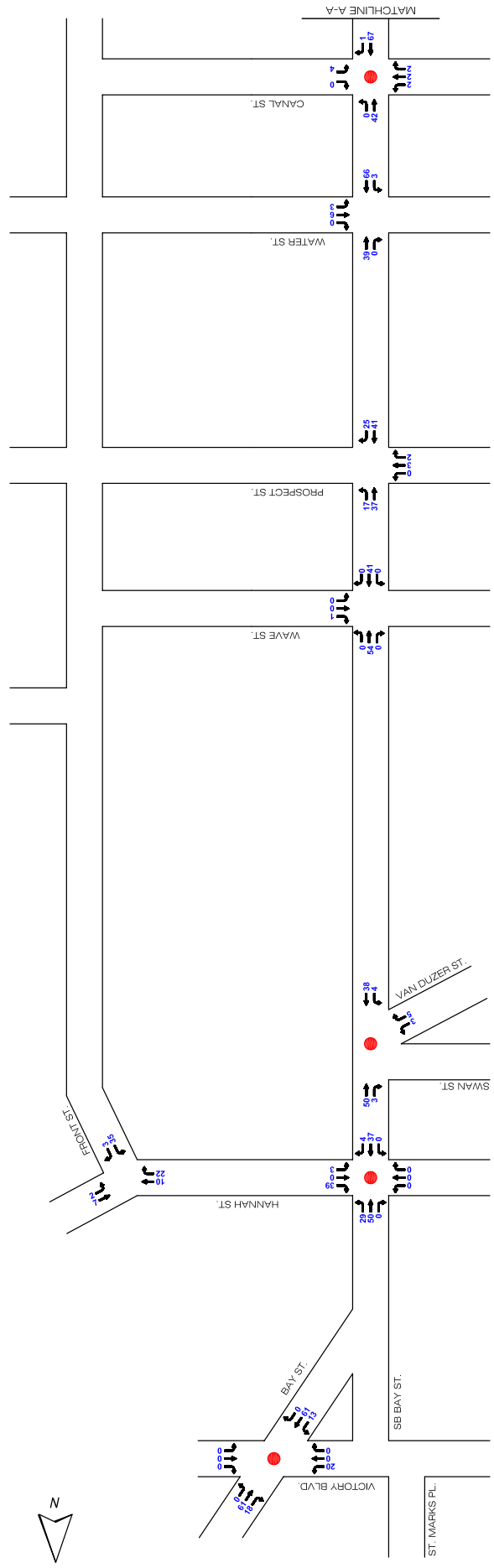


Figure 7
 Weekday PM No Build Traffic Assignments
 Stapleton Waterfront Development EIS

NOT TO SCALE

LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF ROUNDOFF REAOUND THE VOLUME NETWORKS



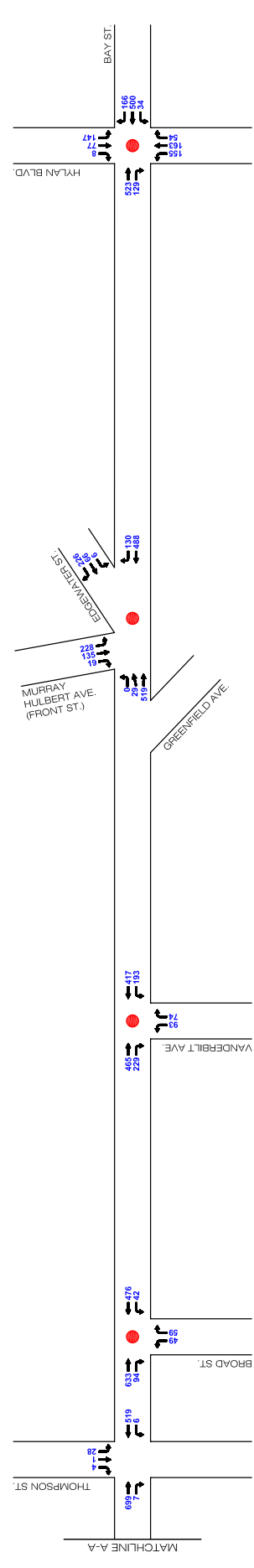
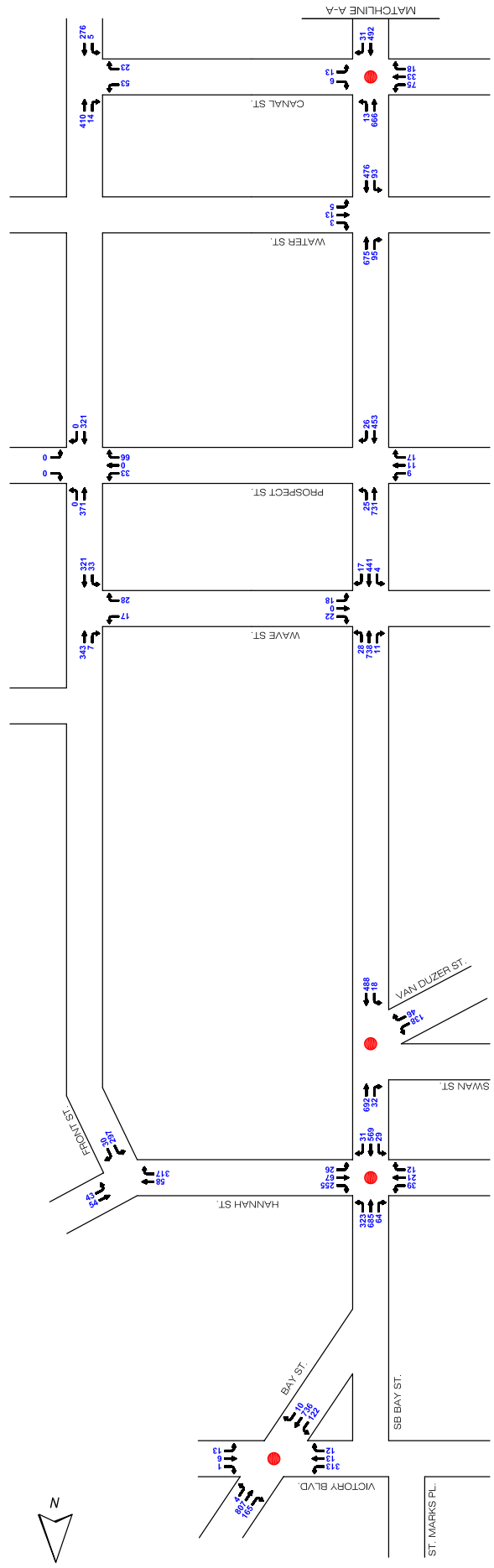
LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFFS AROUND THE VOLUME NETWORKS.

Eng-Wong, Taub & Associates
 Traffic and Transportation Consultants

NOT TO SCALE

Figure 8
 Saturday MIDDAY No Build Traffic Assignments
 Stapleton Waterfront Development EIS



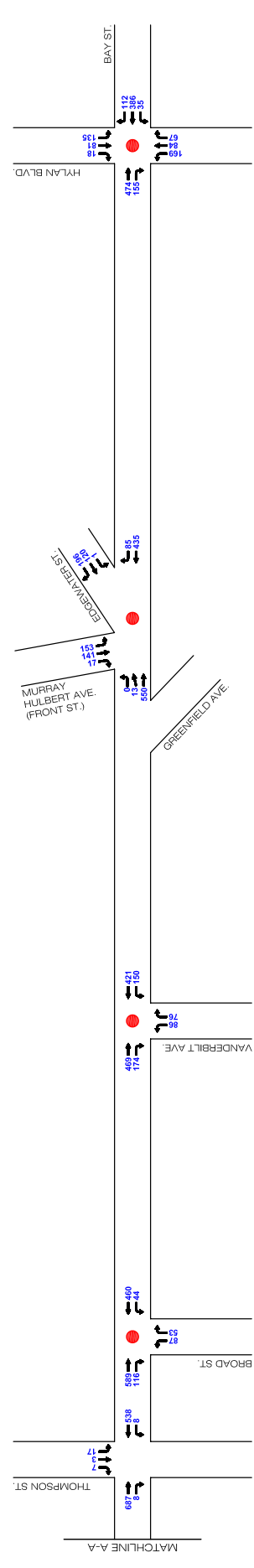
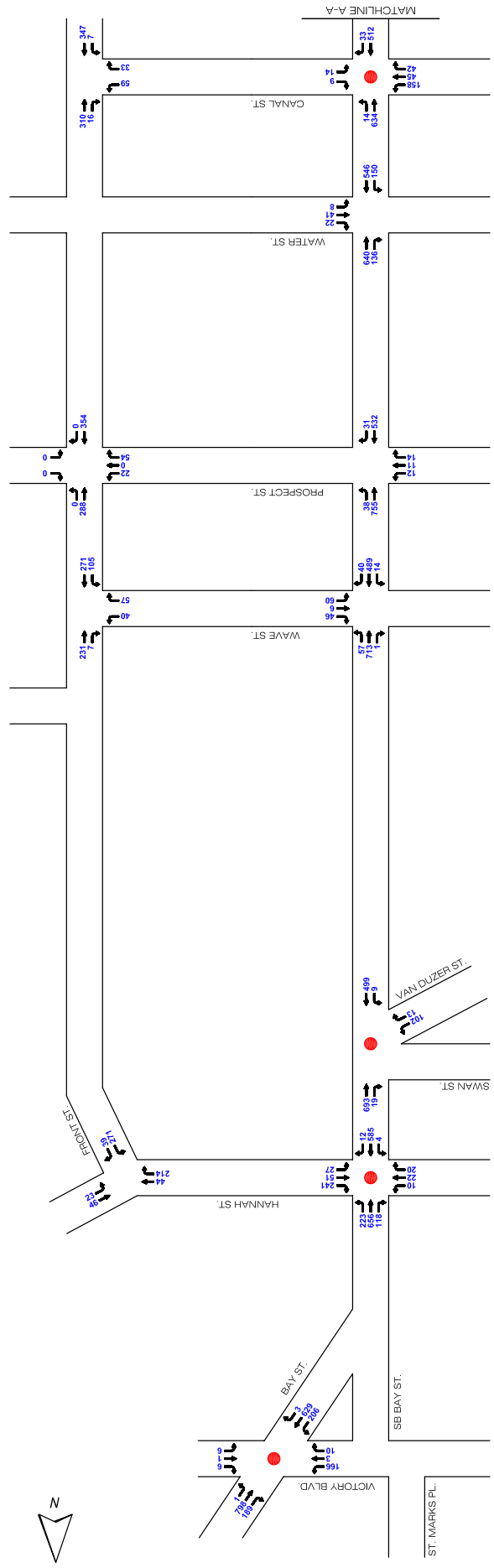
LEGEND
 - SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN ROUNDING THE VOLUME NETWORKS.

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

NOT TO SCALE

Figure 9
 Weekday AM No Build Traffic Volumes
 Stapleton Waterfront Development EIS

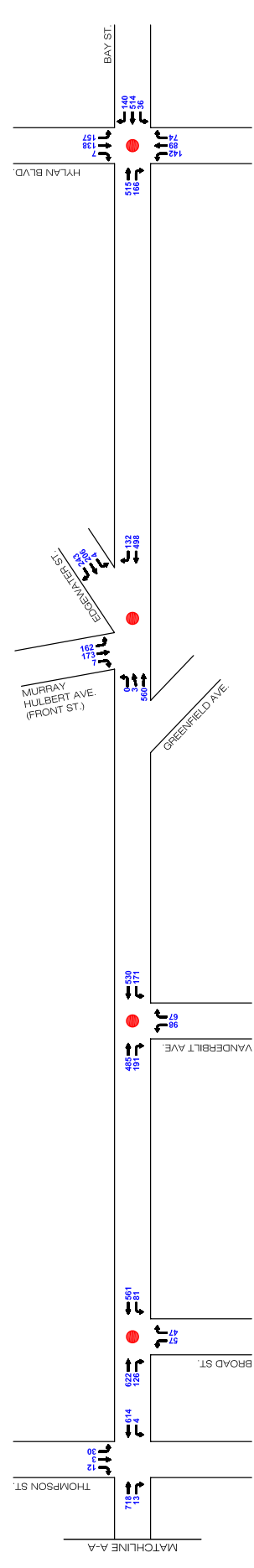
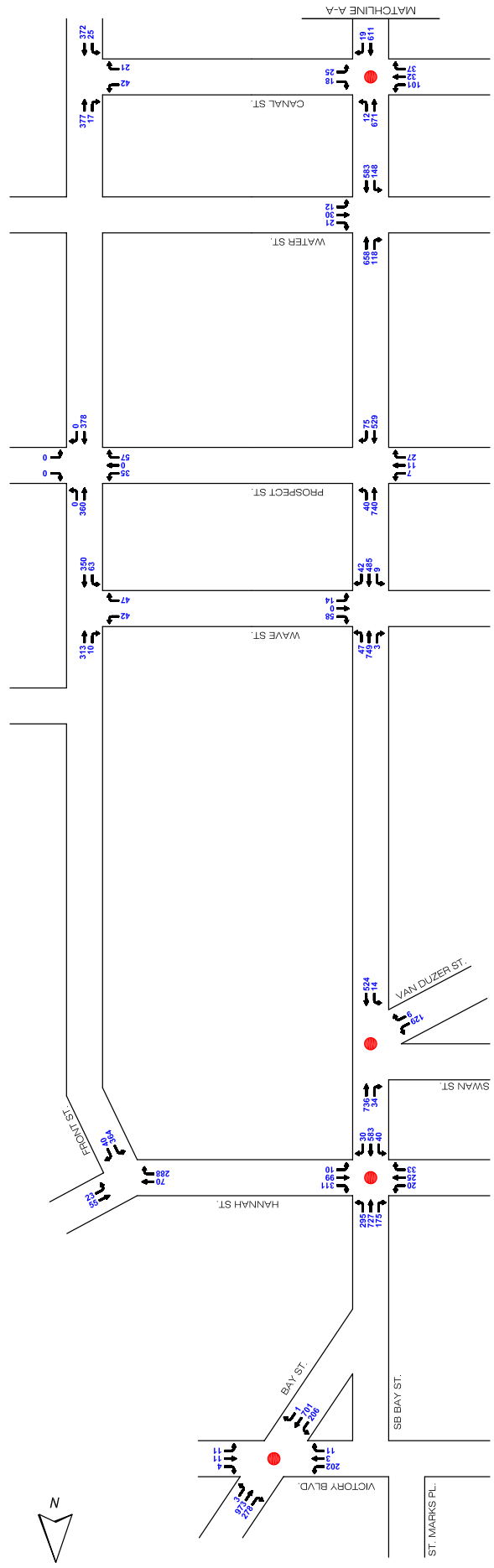


LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN BALANCING THE VOLUME NETWORKS.

NOT TO SCALE

Figure 10
 Weekday Midday No Build Traffic Volumes
 Stapleton Waterfront Development EIS



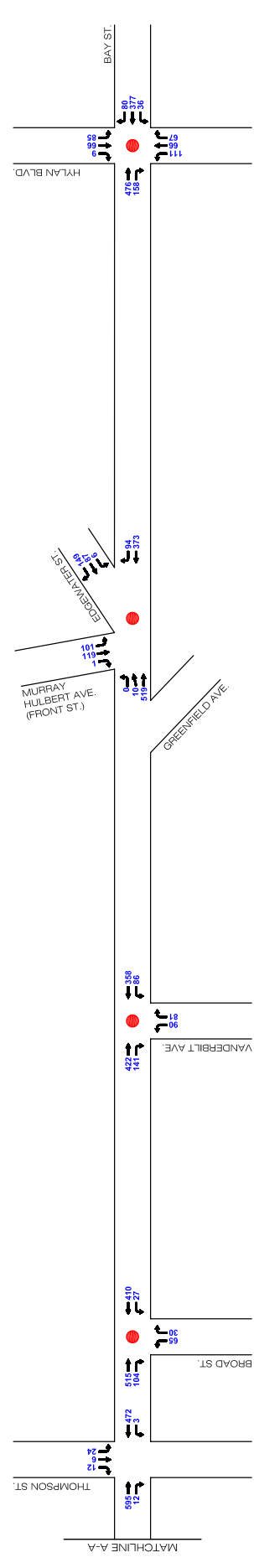
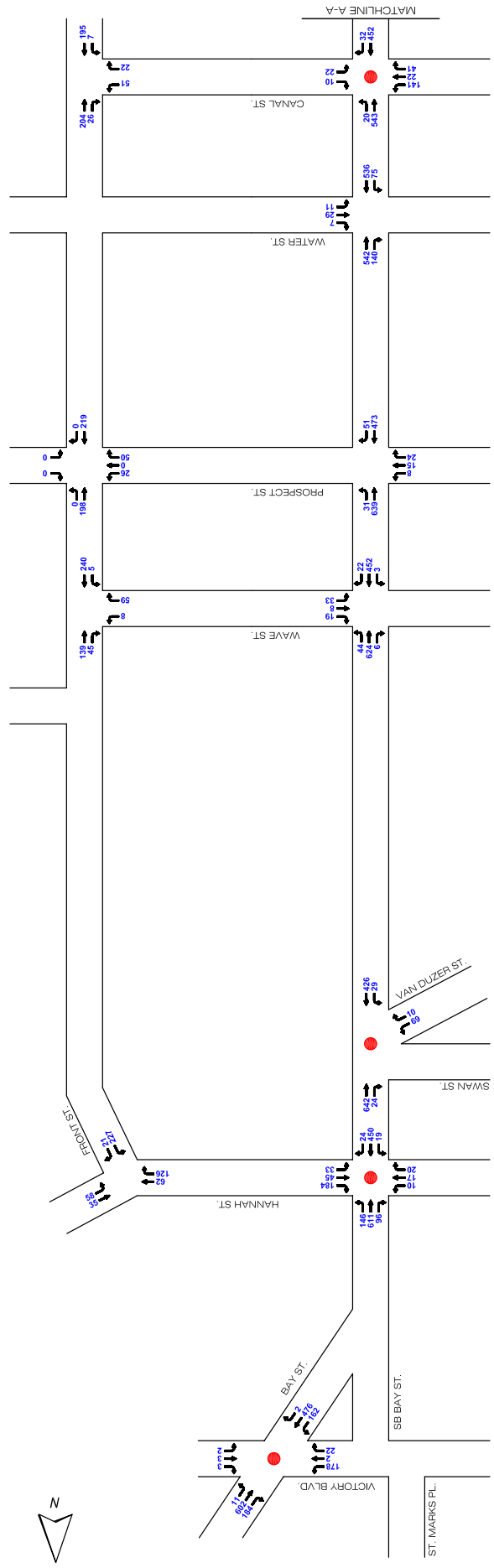
LEGEND
 - SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN BALANCING THE VOLUME NETWORKS.

Eng-Wong, Taub & Associates
 Traffic and Transportation Consultants

NOT TO SCALE

Figure 11
 Weekday PM No Build Traffic Volumes
 Stapleton Waterfront Development EIS



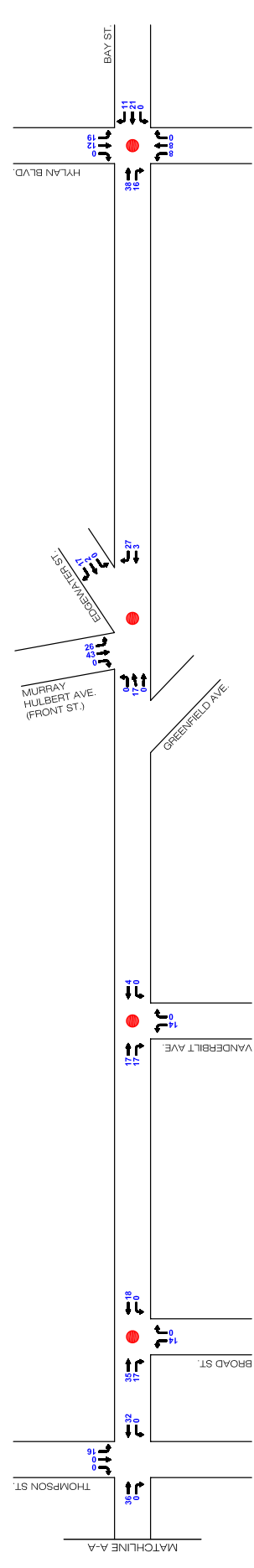
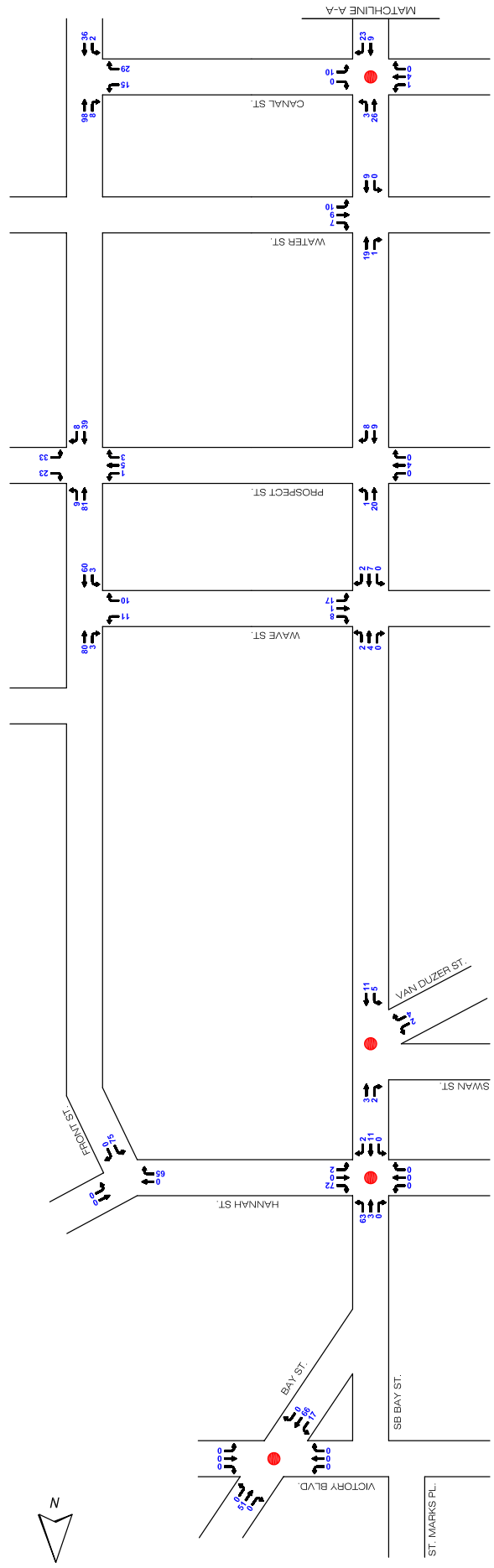
LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN AROUNDING THE VOLUME NETWORKS.

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 Traffic and Transportation Consultants

NOT TO SCALE

Figure 12
 Saturday Midday No Build Traffic Volumes
 Stapleton Waterfront Development EIS



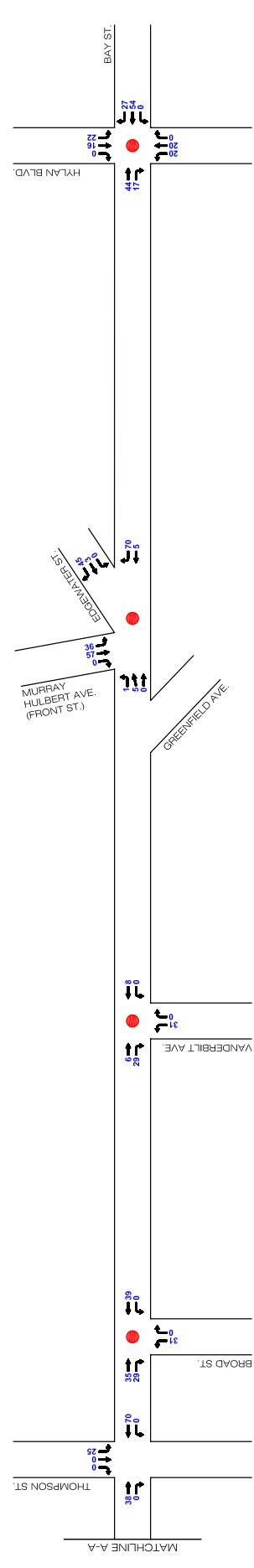
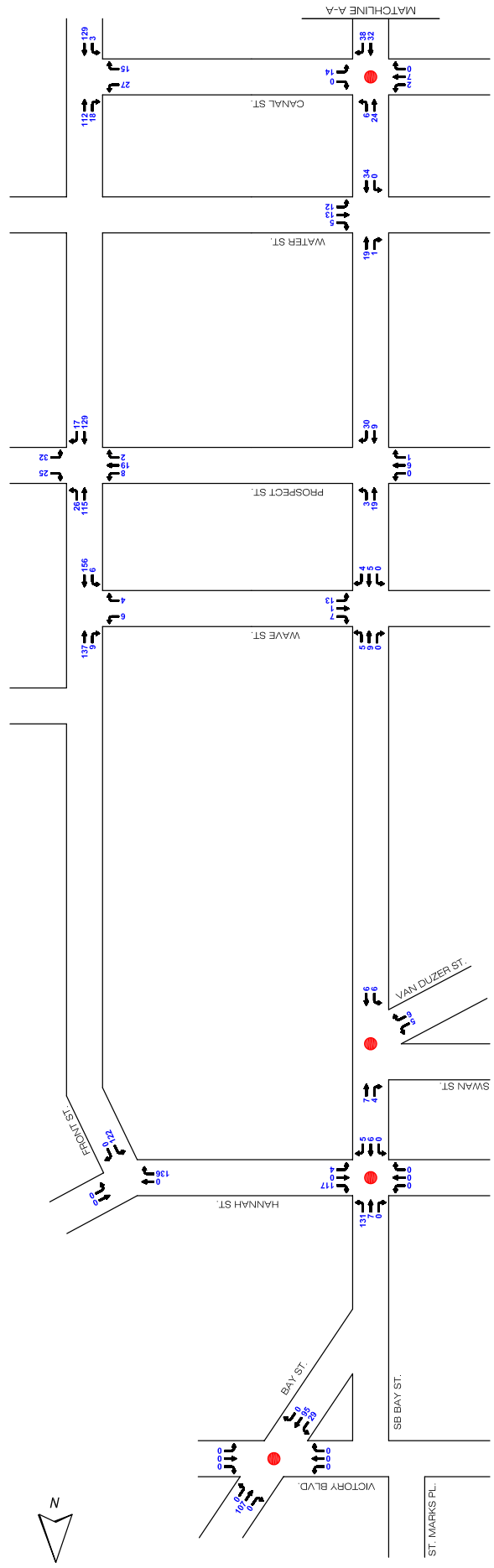
LEGEND
 - SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN AROUNDING THE VOLUME NETWORKS.

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NOT TO SCALE

Figure 13
 Weekday AM Build Traffic Assignments
 Stapleton Waterfront Development EIS



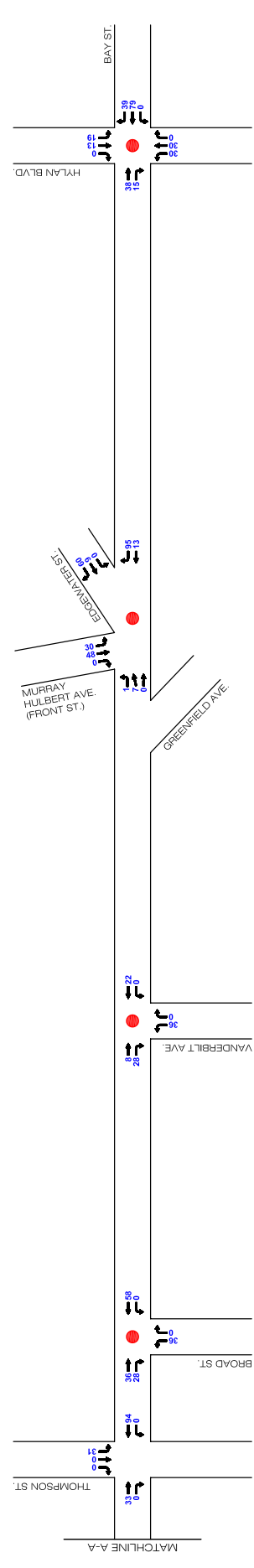
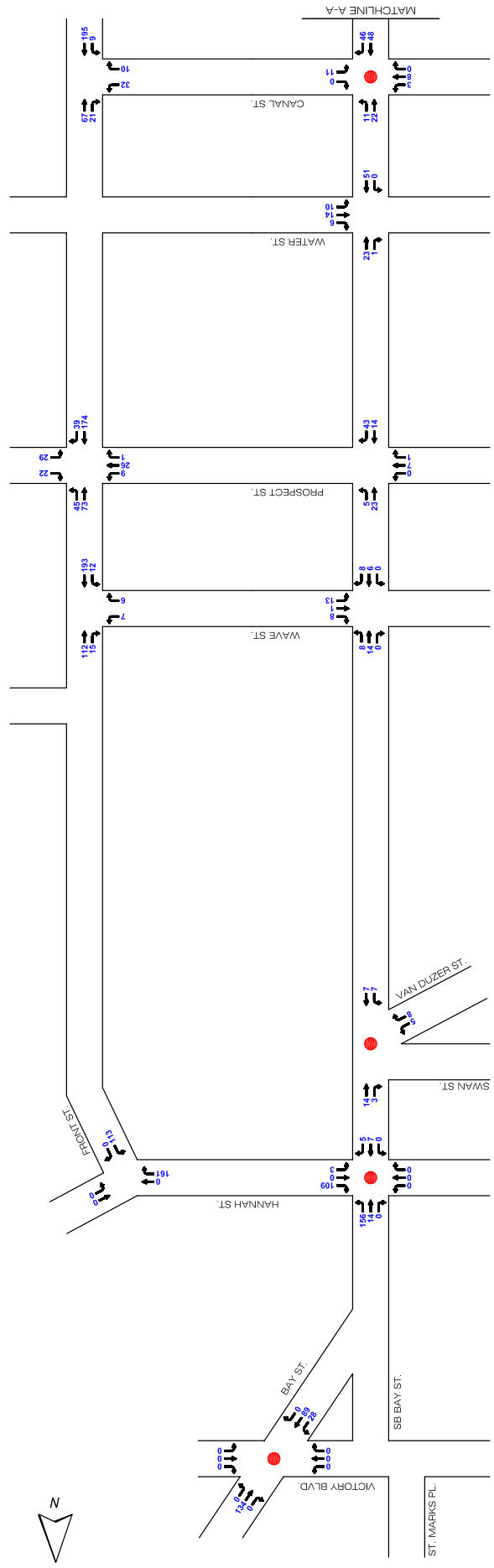
LEGEND
 - SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN AROUNDING THE VOLUME NETWORKS.

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NOT TO SCALE

Figure 14
 Weekday Midday Build Traffic Assignments
 Stapleton Waterfront Development EIS



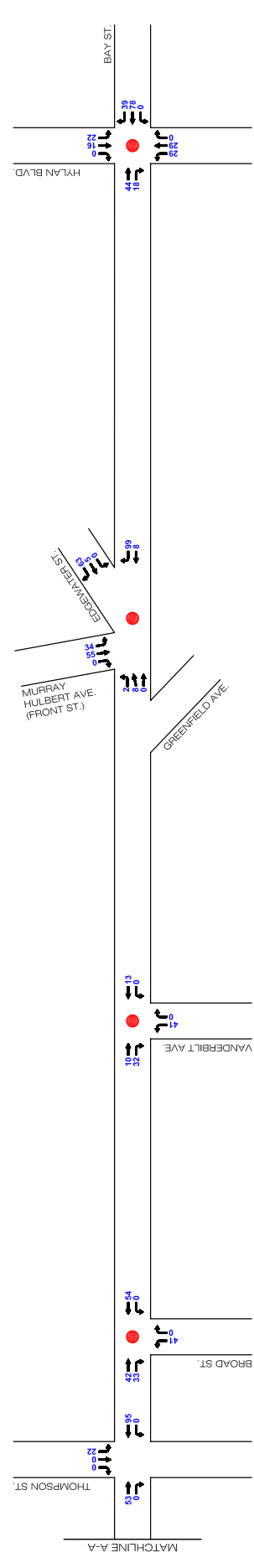
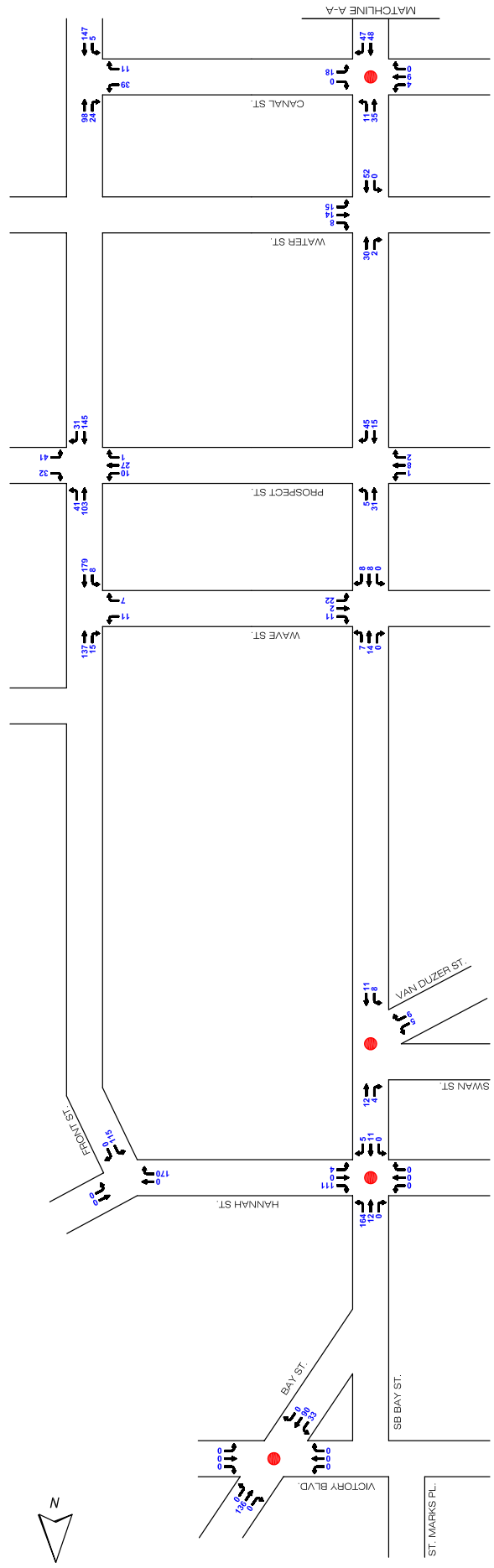
LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN BALANCING THE VOLUME NETWORKS.

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

NOT TO SCALE

Figure 15
 Weekday PM Build Traffic Assignments
 Stapleton Waterfront Development EIS



LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFFS IN AROUNDING THE VOLUME NETWORKS.

NOT TO SCALE

Figure 16
 Saturday Middy Build Traffic Assignments
 Stapleton Waterfront Development EIS

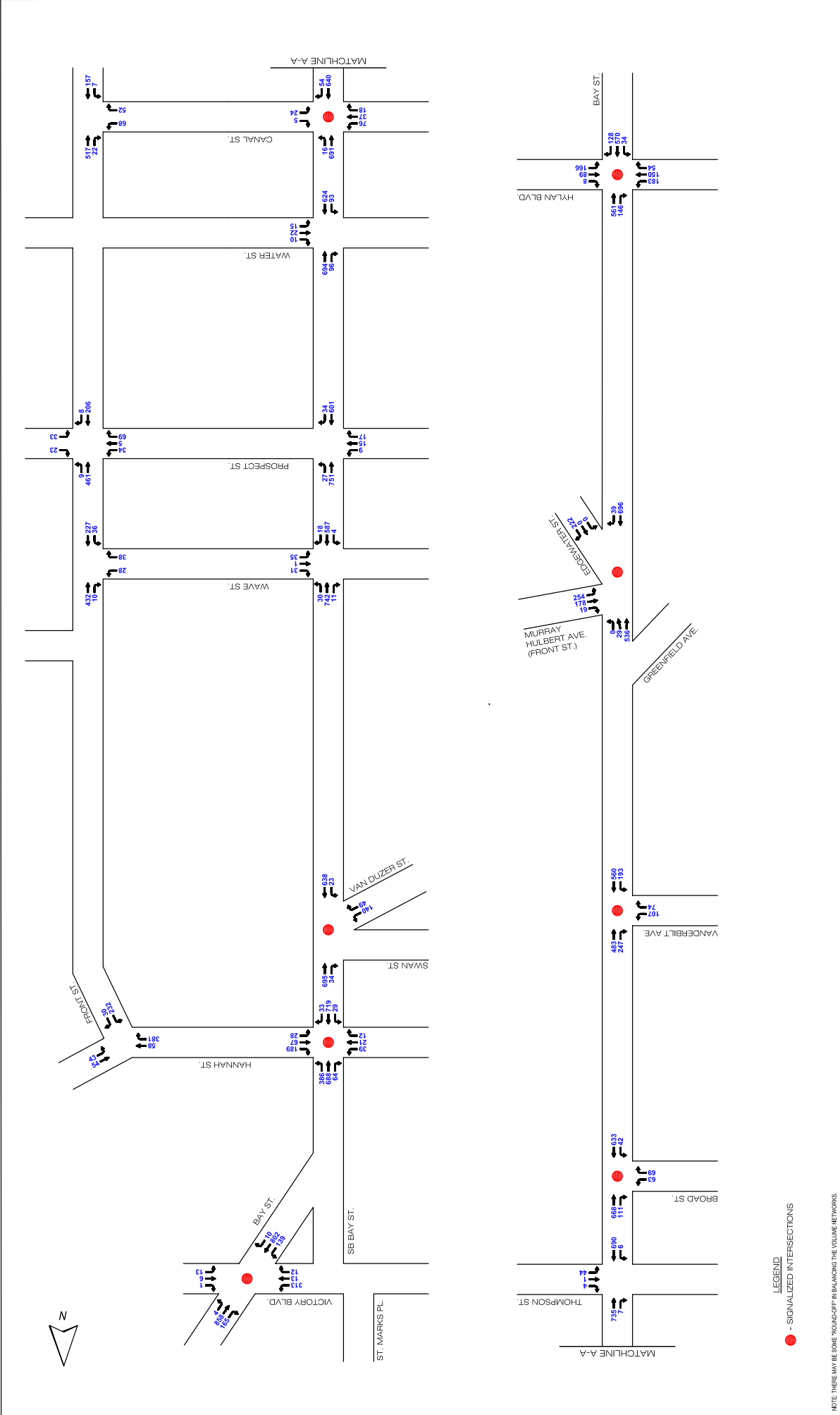


Figure 17
 Weekday AM Build Traffic Volumes
 Stapleton Waterfront Development EIS

NOT TO SCALE

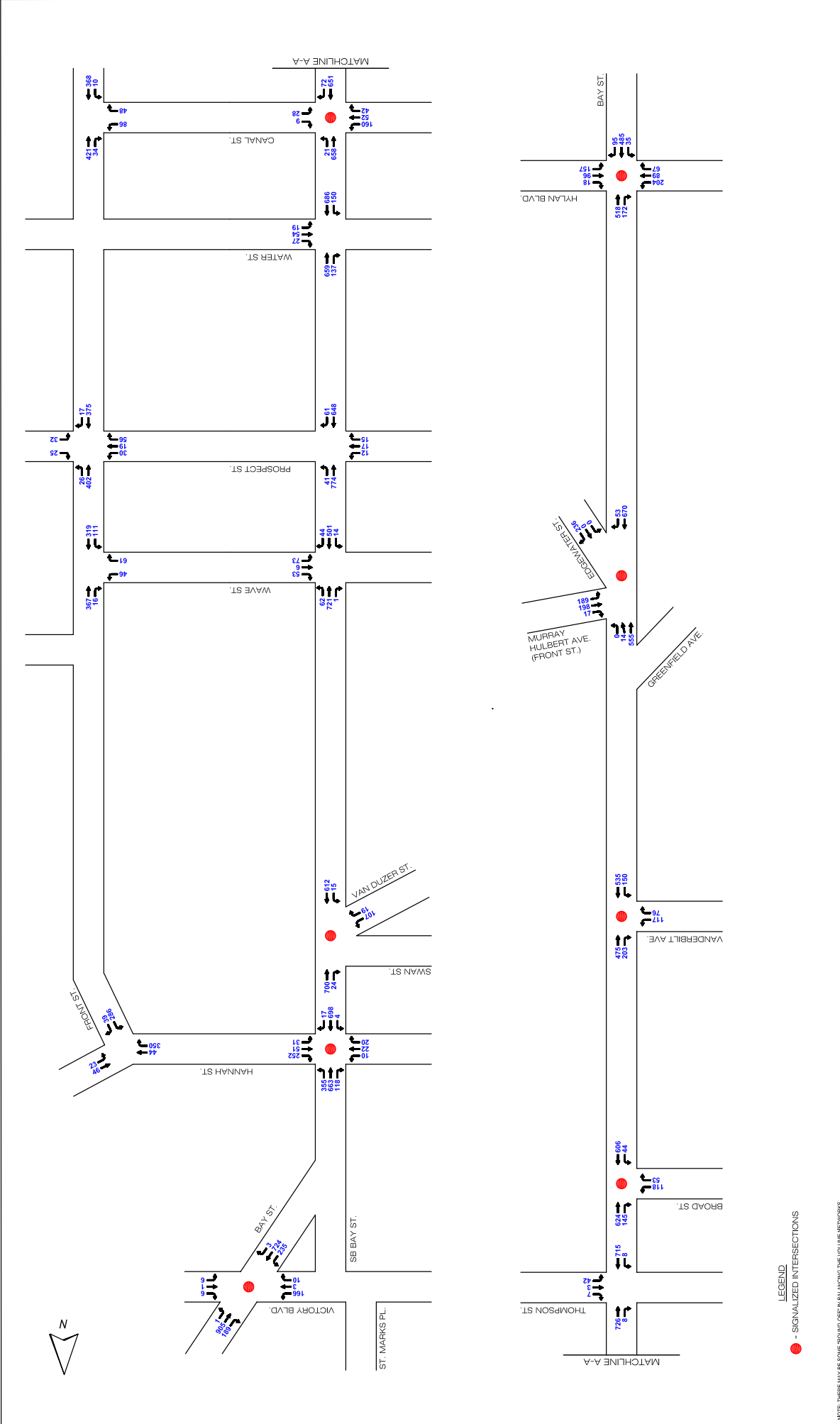


Figure 18

Weekday Midday Build Traffic Volumes
 Stapleton Waterfront Development EIS

NOT TO SCALE

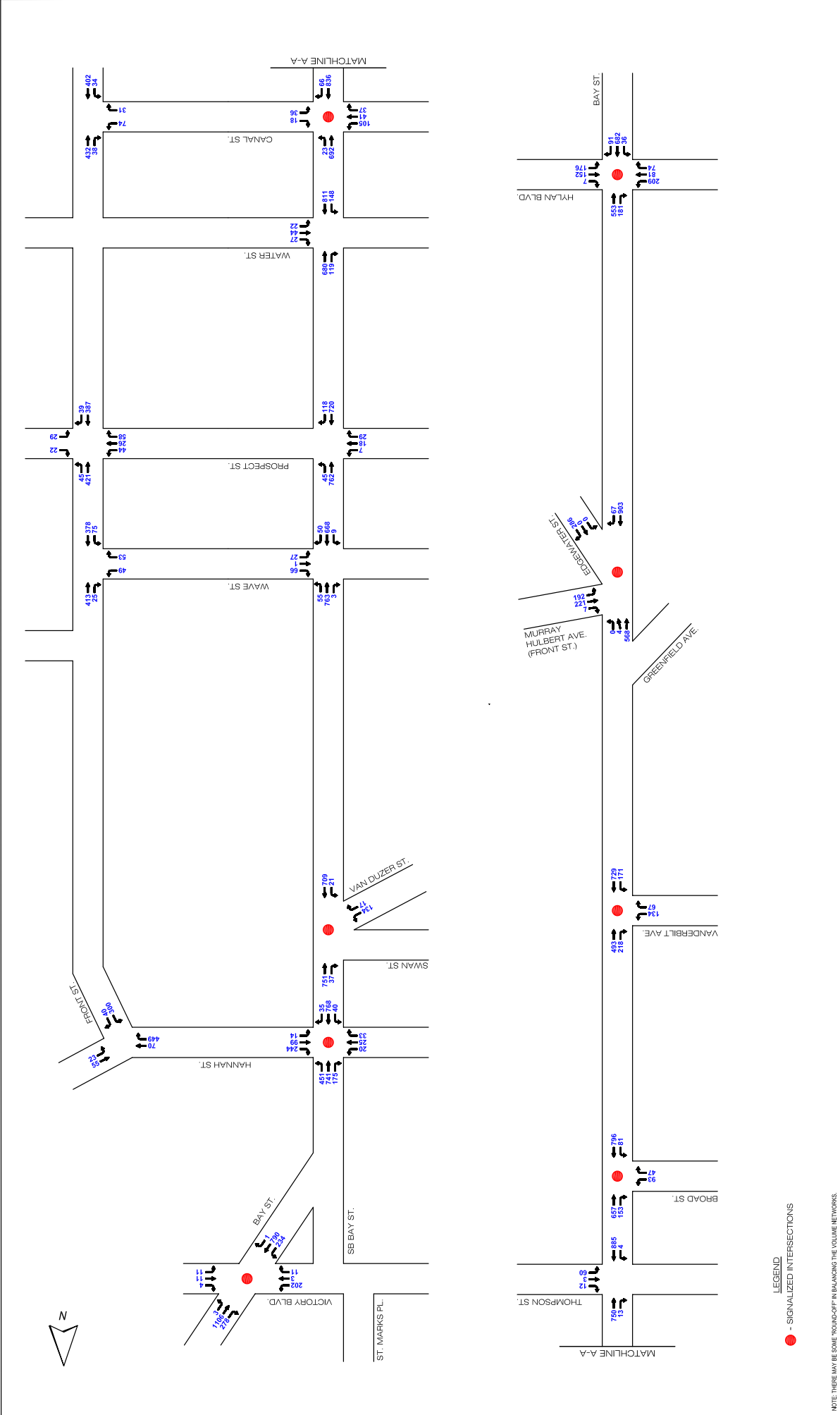
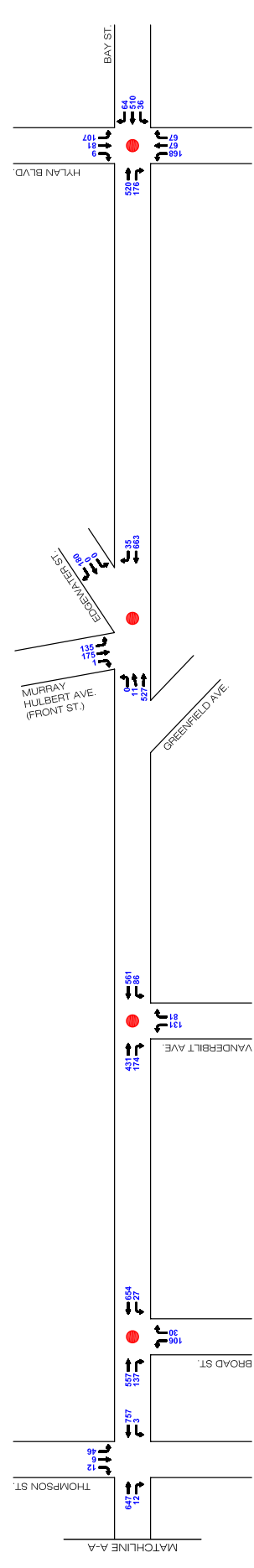
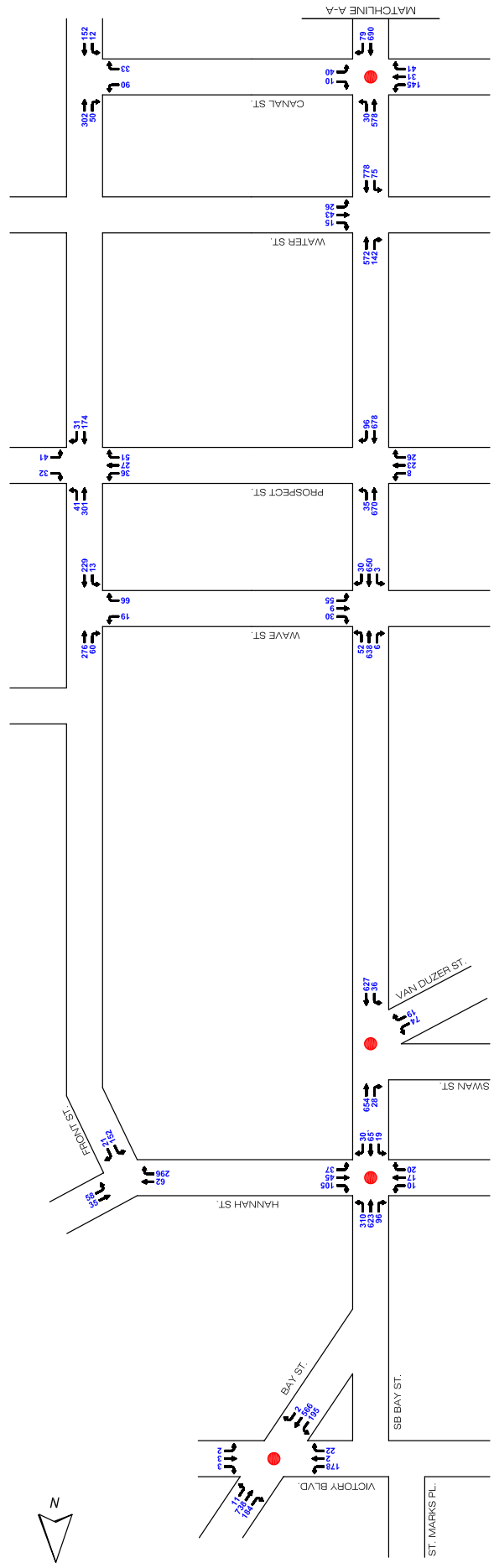


Figure 19
 Weekday PM Build Traffic Volumes
 Stapleton Waterfront Development EIS

NOT TO SCALE

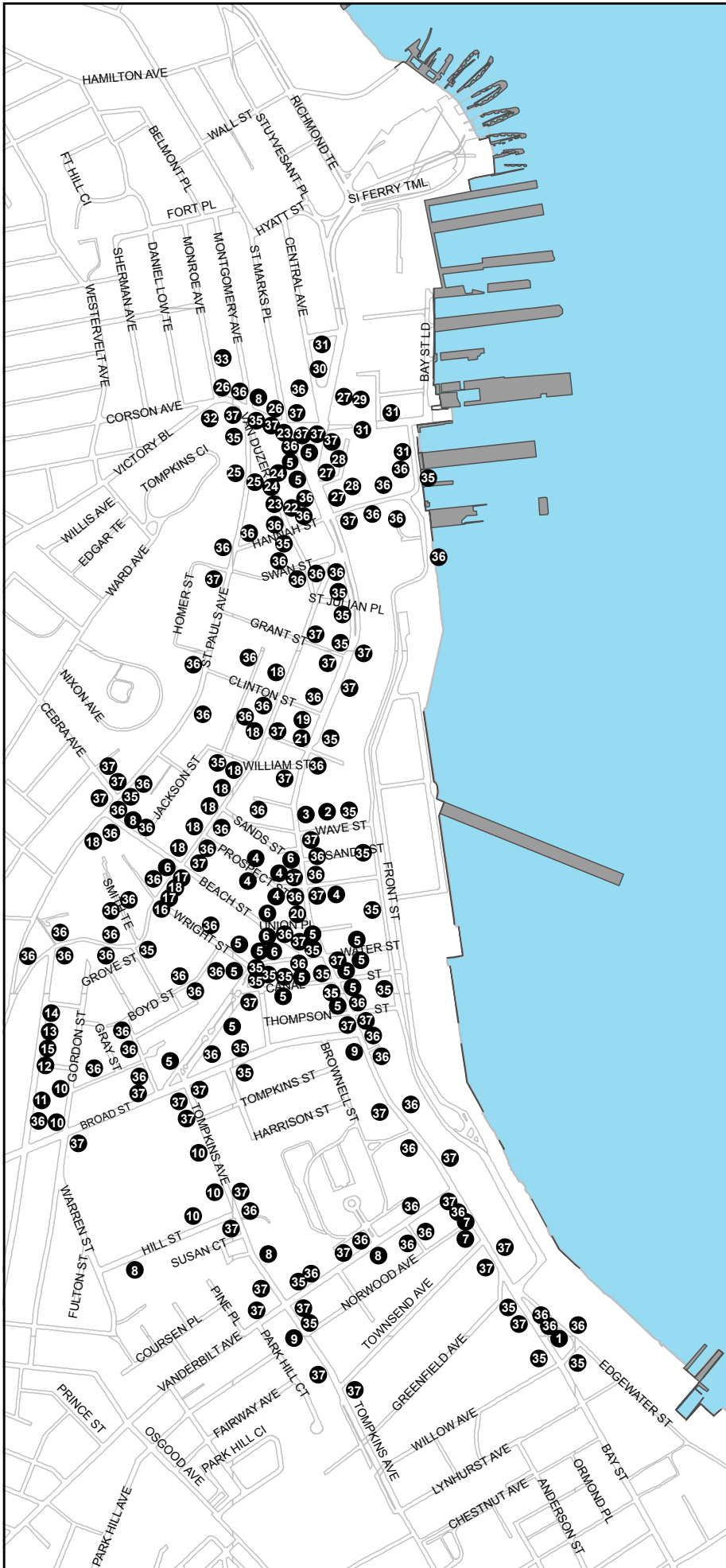


LEGEND
 • SIGNALIZED INTERSECTIONS

NOTE: THERE MAY BE SOME ROUND-OFF IN BALANCING THE VOLUME NETWORKS.

NOT TO SCALE

Figure 20
 Saturday Midday Build Traffic Volumes
 Stapleton Waterfront Development EIS



LEGEND

- 1. No Parking 8A - 6P Except Sunday
- 2. 2 Hr Parking 8A - 4P Except Sunday
- 3. Reserved Parking - Handicap
- 4. No Parking 8A - 6P Mon - Fri
- 5. 2 Hr Parking 8A - 7P Including Sunday
- 6. 1 Hr Parking 8A - 7P Including Sunday
- 7. 2 Hr Parking 8A - 7P Except Sunday
- 8. No Standing 7A - 4P School Days Except School Buses
- 9. No Standing 6A - 10A, 4P - 8P Mon - Fri
- 10. No Parking 7A - 4P School Days
- 11. No Standing Anytime Except Authorized Vehicles SIRC
- 12. No Standing 6A - 6P Except Authorized Vehicles NYSJ
- 13. No Standing 6A - 6P Except Authorized Vehicles DISTRICT ATTORNEY VEHICLES
- 14. No Standing 6A - 6P Except Authorized Vehicles COURT OFFICIALS
- 15. No Standing 6A - 6P
- 16. No Standing 6A - 9A Mon - Fri
- 17. 1 Hr Parking 9A - 7P Mon - Fri
- 18. No Parking 7A - 7P
- 19. ½ Hr Parking 9A - 7P Mon - Fri
- 20. 1 Hr Parking 8A - 7P Including Sunday
- 21. 1 Hr Parking 8A - 4P Including Sunday
- 22. No Standing 7A - 7P Except Sunday
- 23. No Standing 7A - 9A Mon - Fri
- 24. 4 Hr Parking 9A - 7P Including Sunday
- 25. 4 Hr Parking 8A - 7P Including Sunday
- 26. No Stopping 4P - 7P Mon - Fri
- 27. No Standing 7A - 9A Except Sunday
- 28. 2 Hr Parking 9A - 7P Including Sunday
- 29. No Standing 7A - 9A Except Sunday
- 30. 2 Hr Parking 8A - 6P Mon - Fri
- 31. Back in 90° Parking Only
- 32. No Stopping Anytime
- 33. 2 Hr Parking 8A - 4P Mon - Fri / 8A - 7P Sat & Sun
- 34. No Standing 7A - 7P Mon - Fri Except Authorized Vehicles
- 35. No Standing Anytime
- 36. No Parking Anytime
- 37. Bus Stop



New Stapleton Waterfront Development Plan DEIS

Existing On-Street Parking Regulations

The Louis Berger Group, Inc.

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants