Appendix A
Field Observation and Data Collection

Field Observation Pictures: Link

Drone Videos: Link

Intersection TMC & Videos: Link

All Traffic Data Services, Inc.

1111 SW 21st Avenue, Unit B22, Fort Lauderdale, Florida 33312
Phone 561-272-3255

ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & McIntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023

Groups Printed- LIGHT VEHICLES - MEDIUM VEHICLES - HEAVY VEHICLES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
12:00 AM	0	4	0	0	0	3	10	4	0	11	4	2	2	1	13	2	56
12:15 AM	0	2	0	1	0	2	9	6	0	4	1	1	2	0	15	1	44
12:30 AM	0	2	0	2	0	0	16	3	0	5	0	0	3	0	11	0	42
12:45 AM	0	1	0	1	1	1	21	1	0	11	4	0	3	0	18	3	65
Total	0	9	0	4	1	6	56	14	0	31	9	3	10	1	57	6	207
01:00 AM	0	5	0	3	0	0	15	3	0	10	1	0	1	1	11	4	54
01:15 AM	0	1	0	1	0	1	16	2	0	6	0	1	0	1	15	1	45
01:30 AM	0	1	0	1	0	0	12	5	0	3	0	2	0	1	5	4	34
01:45 AM	0	2	0	4	0	1	7	1	0	1	0	0	0	2	4	3	25
Total	0	9	0	9	0	2	50	11	0	20	1	3	1	5	35	12	158
02:00 AM	0	1	0	1	0	0	12	3	0	0	0	1	3	0	15	1	37
02:15 AM	0	1	0	1	0	1	10	1	0	1	0	0	0	1	14	4	34
02:30 AM	0	1	0	1	0	2	8	2	0	4	2	1	1	1	12	4	39
02:45 AM	0	3	0	0	0	0	9	2	0	1	1	2	1	0	29	1	49
Total	0	6	0	3	0	3	39	8	0	6	3	4	5	2	70	10	159
03:00 AM	0	3	0	0	0	1	18	1	0	0	0	0	0	2	21	5	51
03:15 AM	0	7	2	3	0	0	14	1	0	1	0	1	0	1	15	6	51
03:30 AM	0	11	1	2	0	0	15	4	0	0	0	0	0	0	31	3	67
03:45 AM	0	2	0	0	0	0	23	2	0	2	0	1	1	2	31	12	76
Total	0	23	3	5	0	1	70	8	0	3	0	2	1	5	98	26	245
04:00 AM	0	3	0	1	0	0	16	1	0	2	0	0	0	0	34	7	64
04:15 AM	0	2	0	3	0	1	23	5	0	0	0	0	0	0	44	8	86
04:30 AM	0	8	0	1	0	0	25	2	0	0	0	2	2	0	64	30	134
04:45 AM	0	13	2	4	0	2	21	2	0	7	0	1	0	3	81	18	154
Total	0	26	2	9	0	3	85	10	0	9	0	3	2	3	223	63	438
05:00 AM	0	11	0	0	1	0	31	7	0	0	1	8	0	5	63	21	148
05:15 AM	0	18	1	0	1	0	23	4	0	1	1	2	1	8	79	24	163
05:30 AM	0	26	1	2	3	1	28	15	0	1	0	1	0	9	126	75	288
05:45 AM	0	16	0	1	0	1	50	14	0	0	0	2	0	9	154	64	311
Total	0	71	2	3	5	2	132	40	0	2	2	13	1	31	422	184	910
06:00 AM	0	12	9	0	2	3	18	11	0	6	3	4	0	10	96	65	239
06:15 AM	1	11	6	0	3	9	26	5	0	5	0	2	0	19	90	66	243
06:30 AM	0	18	6	0	1	6	30	9	0	6	1	5	0	20	135	115	352
06:45 AM	0	9	0	4	3	2	33	9	0	7	3	10	0	10	113	121	324
Total	1	50	21	4	9	20	107	34	0	24	7	21	0	59	434	367	1158
07:00 AM	0	4	6	2	0	5	24	11	0	18	3	6	2	17	106	102	306
07:15 AM	0	7	2	0	2	3	23	10	0	22	1	1	0	13	99	101	284
07:30 AM	0	9	8	3	2	6	32	14	0	34	4	3	1	3	115	86	320
07:45 AM	0	19	0	0	2	6	52	62	0	34	4	6	0	15	153	113	466
Total	0	39	16	5	6	20	131	97	0	108	12	16	3	48	473	402	1376
08:00 AM	1	16	10	2	0	5	62	77	0	28	2	1	1	20	145	132	502
08:15 AM	0	26	8	1	3	5	75	97	0	33	2	7	1	22	138	122	540
08:30 AM	0	27	7	3	4	5	98	80	0	35	9	7	1	9	133	125	543
08:45 AM	1	18	4	1	2	4	115	71	0	40	5	8	2	5	142	127	545
Total	2	87	29	7	9	19	350	325	0	136	18	23	5	56	558	506	2130

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HOLLYWOOD, FL
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SIGNALIZED

File Name : Eller & McIntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023

Groups Printed- LIGHT VEHICLES - MEDIUM VEHICLES - HEAVY VEHICLES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
09:00 AM	0	27	8	3	0	14	111	72	0	54	4	12	2	18	140	118	583
09:15 AM	0	22	9	1	3	12	92	67	0	54	2	5	9	10	112	114	512
09:30 AM	0	20	8	4	0	8	116	72	0	50	4	12	3	11	110	114	532
09:45 AM	0	20	7	2	5	6	100	70	0	38	6	4	3	6	99	115	481
Total	0	89	32	10	8	40	419	281	0	196	16	33	17	45	461	461	2108
10:00 AM	0	17	3	0	1	1	73	61	0	42	8	5	2	6	116	61	396
10:15 AM	1	13	3	1	1	10	71	36	0	63	10	6	3	7	134	32	391
10:30 AM	0	8	2	1	2	12	44	49	0	52	5	7	3	9	116	54	364
10:45 AM	0	11	1	1	0	7	58	46	0	45	3	4	2	13	105	46	342
Total	1	49	9	3	4	30	246	192	0	202	26	22	10	35	471	193	1493
11:00 AM	0	6	1	10	0	10	54	32	0	57	8	11	3	9	169	76	446
11:15 AM	2	3	1	3	0	10	52	37	0	45	8	7	3	5	175	56	407
11:30 AM	0	22	10	1	0	14	69	60	0	54	7	9	4	10	140	47	447
11:45 AM	1	16	1	2	10	7	67	60	0	73	25	11	3	5	156	26	463
Total	3	47	13	16	10	41	242	189	0	229	48	38	13	29	640	205	1763
12:00 PM	0	14	5	3	7	7	74	55	0	44	21	10	5	14	166	19	444
12:15 PM	0	14	6	1	1	1	68	54	0	34	19	8	1	10	151	12	380
12:30 PM	0	20	13	3	2	15	71	56	0	34	18	3	1	7	120	13	376
12:45 PM	0	19	8	5	3	6	59	46	0	41	14	4	2	3	96	25	331
Total	0	67	32	12	13	29	272	211	0	153	72	25	9	34	533	69	1531
01:00 PM	0	17	6	5	5	15	64	44	0	45	8	5	4	16	118	35	387
01:15 PM	0	4	1	10	8	9	50	46	0	50	8	13	2	6	74	13	294
01:30 PM	1	10	5	1	3	5	82	36	0	52	10	3	0	19	134	11	372
01:45 PM	0	22	13	4	3	10	86	23	0	51	5	8	4	3	44	31	307
Total	1	53	25	20	19	39	282	149	0	198	31	29	10	44	370	90	1360
02:00 PM	0	8	8	4	6	8	83	32	0	48	6	7	3	5	45	52	315
02:15 PM	0	11	2	2	1	3	67	21	0	34	5	5	3	3	40	8	205
02:30 PM	1	25	10	5	4	13	57	16	0	68	5	5	0	10	44	39	302
02:45 PM	0	15	5	6	1	8	87	27	0	62	6	6	5	7	23	30	288
Total	1	59	25	17	12	32	294	96	0	212	22	23	11	25	152	129	1110
03:00 PM	0	9	2	5	3	6	92	19	0	41	9	5	5	6	28	54	284
03:15 PM	2	8	3	4	2	4	62	8	0	76	7	5	5	6	24	37	253
03:30 PM	0	5	0	6	2	3	111	21	0	67	9	9	0	5	17	4	259
03:45 PM	0	5	2	1	0	2	75	15	0	63	9	6	1	1	12	8	200
Total	2	27	7	16	7	15	340	63	0	247	34	25	11	18	81	103	996
04:00 PM	0	8	5	8	0	9	79	12	0	59	9	2	5	10	29	41	276
04:15 PM	0	0	2	5	0	9	70	12	0	48	3	8	2	6	19	28	212
04:30 PM	0	6	7	8	5	7	49	17	0	73	4	2	2	2	18	28	228
04:45 PM	0	8	4	4	0	5	83	11	0	59	15	4	5	2	24	31	255
Total	0	22	18	25	5	30	281	52	0	239	31	16	14	20	90	128	971
05:00 PM	0	2	1	7	0	5	88	13	0	81	12	8	1	1	23	18	260
05:15 PM	0	5	2	14	0	6	74	20	0	54	4	1	0	4	26	13	223
05:30 PM	0	2	1	7	0	7	62	11	0	62	3	7	2	4	25	8	201
05:45 PM	0	5	0	8	0	3	53	10	0	82	2	5	1	5	21	14	209
Total	0	14	4	36	0	21	277	54	0	279	21	21	4	14	95	53	893
06:00 PM	0	11	0	5	1	7	35	21	0	81	15	2	1	4	15	9	207
06:15 PM	0	11	1	3	1	2	43	13	0	65	7	11	1	4	22	12	196

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	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
06:30 PM	0	9	0	2	1	2	50	32	0	59	0	5	2	1	20	12	195
06:45 PM	0	13	1	1	0	2	53	29	0	59	2	1	5	8	24	8	206
Total	0	44	2	11	3	13	181	95	0	264	24	19	9	17	81	41	804
07:00 PM	0	13	0	3	2	1	53	22	0	56	5	3	4	4	24	6	196
07:15 PM	0	8	0	3	0	1	35	10	0	39	5	1	5	1	17	15	140
07:30 PM	0	2	0	3	2	3	26	12	0	28	1	1	3	5	34	4	124
07:45 PM	1	1	1	1	1	0	27	14	1	33	2	0	4	4	22	2	114
Total	1	24	1	10	5	5	141	58	1	156	13	5	16	14	97	27	574
08:00 PM	0	4	0	6	0	4	24	6	0	17	4	2	1	2	17	4	91
08:15 PM	0	1	0	2	0	4	20	2	0	10	0	1	1	2	27	2	72
08:30 PM	0	2	0	3	0	0	20	8	0	10	1	1	2	6	16	5	74
08:45 PM	0	2	0	5	0	0	22	8	0	21	5	1	0	3	21	6	94
Total	0	9	0	16	0	8	86	24	0	58	10	5	4	13	81	17	331
09:00 PM	0	1	0	10	0	4	22	6	0	17	3	1	2	3	14	6	89
09:15 PM	0	3	0	5	0	0	20	5	0	20	4	1	0	3	18	3	82
09:30 PM	0	2	0	7	1	0	22	14	0	10	3	4	2	3	26	5	99
09:45 PM	0	2	0	1	2	1	32	13	0	3	1	0	1	3	26	3	88
Total	0	8	0	23	3	5	96	38	0	50	11	6	5	12	84	17	358
10:00 PM	0	2	0	3	1	3	25	5	0	5	1	0	3	5	17	2	72
10:15 PM	0	0	0	0	0	1	13	1	0	4	1	0	1	1	15	4	41
10:30 PM	0	4	0	2	0	0	11	5	0	5	0	3	0	1	14	1	46
10:45 PM	0	2	1	0	1	0	13	6	0	1	3	4	1	1	9	6	48
Total	0	8	1	5	2	4	62	17	0	15	5	7	5	8	55	13	207
11:00 PM	0	1	0	0	0	0	17	3	0	13	2	1	0	0	11	3	51
11:15 PM	0	3	0	1	0	0	15	3	0	3	0	0	1	0	7	2	35
11:30 PM	0	4	0	1	0	2	6	6	0	4	1	0	0	1	9	2	36
11:45 PM	0	3	0	2	0	2	6	4	0	3	2	2	1	0	15	1	41
Total	0	11	0	4	0	4	44	16	0	23	5	3	2	1	42	8	163
Grand Total	12	851	242	273	121	392	4283	2082	1	2860	421	365	168	539	5703	3130	21443
Apprch %	0.9	61.8	17.6	19.8	1.8	5.7	62.3	30.3	0	78.4	11.5	10	1.8	5.6	59.8	32.8	
Total %	0.1	4	1.1	1.3	0.6	1.8	20	9.7	0	13.3	2	1.7	0.8	2.5	26.6	14.6	
LIGHT VEHICLES	11	654	137	131	112	219	2823	1843	1	1032	343	241	154	411	4055	1489	13656
% LIGHT VEHICLES	91.7	76.9	56.6	48	92.6	55.9	65.9	88.5	100	36.1	81.5	66	91.7	76.3	71.1	47.6	63.7
MEDIUM VEHICLES	1	95	24	25	2	15	261	163	0	151	19	32	5	28	336	124	1281
% MEDIUM VEHICLES	8.3	11.2	9.9	9.2	1.7	3.8	6.1	7.8	0	5.3	4.5	8.8	3	5.2	5.9	4	6
HEAVY VEHICLES	0	102	81	117	7	158	1199	76	0	1677	59	92	9	100	1312	1517	6506
% HEAVY VEHICLES	0	12	33.5	42.9	5.8	40.3	28	3.7	0	58.6	14	25.2	5.4	18.6	23	48.5	30.3

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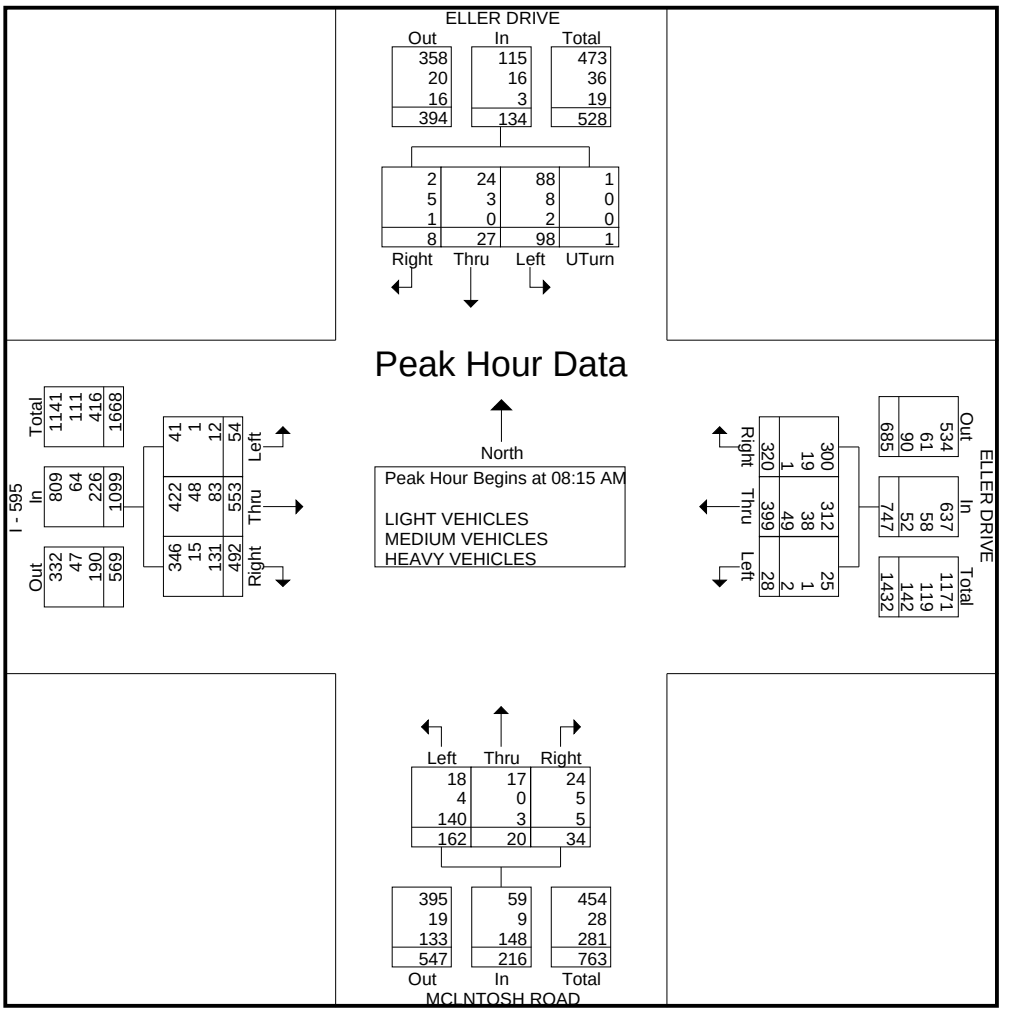
Page No : 4

	ELLER DRIVE From North					ELLER DRIVE From East					MCLNTOSH ROAD From South					I - 595 From West					
Start Time	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	0	26	**8**	1	35	3	5	75	**97**	180	0	33	2	7	42	1	**22**	138	122	**283**	540
08:30 AM	0	**27**	7	**3**	37	**4**	5	98	80	187	0	35	**9**	7	51	1	9	133	125	268	543
08:45 AM	**1**	18	4	1	24	2	4	**115**	71	192	0	40	5	8	53	**2**	5	**142**	**127**	276	545
09:00 AM	0	27	8	3	**38**	0	**14**	111	72	**197**	0	**54**	4	**12**	**70**	2	18	140	118	278	**583**
Total Volume	1	98	27	8	134	9	28	399	320	756	0	162	20	34	216	6	54	553	492	1105	2211
% App. Total	0.7	73.1	20.1	6		1.2	3.7	52.8	42.3		0	75	9.3	15.7		0.5	4.9	50	44.5		
PHF	.250	.907	.844	.667	.882	.563	.500	.867	.825	.959	.000	.750	.556	.708	.771	.750	.614	.974	.969	.976	.948
LIGHT VEHICLES																					
% LIGHT VEHICLES	100	89.8	88.9	25.0	85.8	100	89.3	78.2	93.8	85.4	0	11.1	85.0	70.6	27.3	100	75.9	76.3	70.3	73.8	73.9
MEDIUM VEHICLES																					
% MEDIUM VEHICLES	0	8.2	11.1	62.5	11.9	0	3.6	9.5	5.9	7.7	0	2.5	0	14.7	4.2	0	1.9	8.7	3.0	5.8	6.6
HEAVY VEHICLES																					
% HEAVY VEHICLES	0	2.0	0	12.5	2.2	0	7.1	12.3	0.3	6.9	0	86.4	15.0	14.7	68.5	0	22.2	15.0	26.6	20.5	19.4



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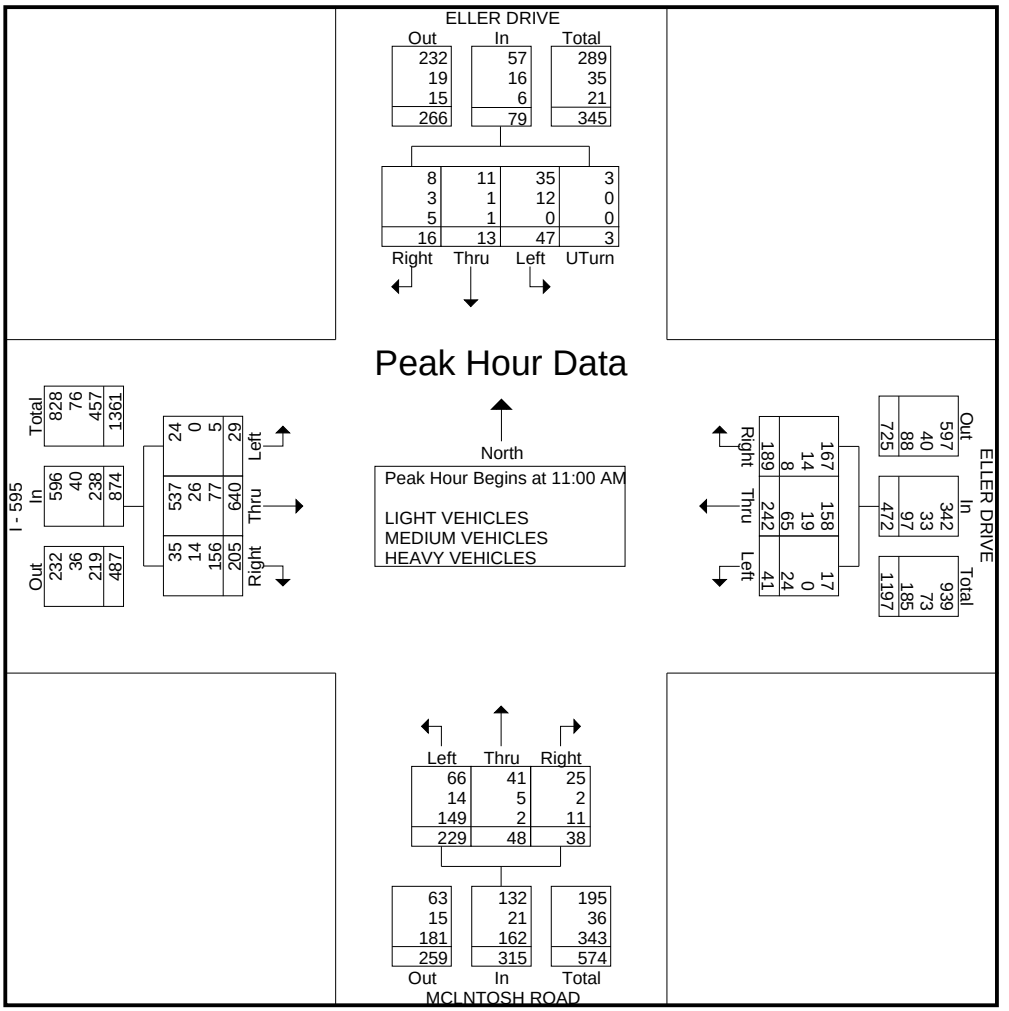
Page No : 5

	ELLER DRIVE From North					ELLER DRIVE From East					MCLNTOSH ROAD From South					I - 595 From West					
Start Time	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	6	1	**10**	17	0	10	54	32	96	0	57	8	**11**	76	3	9	169	**76**	**257**	446
11:15 AM	**2**	3	1	3	9	0	10	52	37	99	0	45	8	7	60	3	5	**175**	56	239	407
11:30 AM	0	**22**	**10**	1	**33**	0	**14**	**69**	**60**	143	0	54	7	9	70	**4**	**10**	140	47	201	447
11:45 AM	1	16	1	2	20	**10**	7	67	60	**144**	0	**73**	**25**	11	**109**	3	5	156	26	190	**463**
Total Volume	3	47	13	16	79	10	41	242	189	482	0	229	48	38	315	13	29	640	205	887	1763
% App. Total	3.8	59.5	16.5	20.3		2.1	8.5	50.2	39.2		0	72.7	15.2	12.1		1.5	3.3	72.2	23.1		
PHF	.375	.534	.325	.400	.598	.250	.732	.877	.788	.837	.000	.784	.480	.864	.722	.813	.725	.914	.674	.863	.952
LIGHT VEHICLES																					
% LIGHT VEHICLES	100	74.5	84.6	50.0	72.2	100	41.5	65.3	88.4	73.0	0	28.8	85.4	65.8	41.9	100	82.8	83.9	17.1	68.7	65.2
MEDIUM VEHICLES																					
% MEDIUM VEHICLES	0	25.5	7.7	18.8	20.3	0	0	7.9	7.4	6.8	0	6.1	10.4	5.3	6.7	0	0	4.1	6.8	4.5	6.2
HEAVY VEHICLES																					
% HEAVY VEHICLES	0	0	7.7	31.3	7.6	0	58.5	26.9	4.2	20.1	0	65.1	4.2	28.9	51.4	0	17.2	12.0	76.1	26.8	28.5



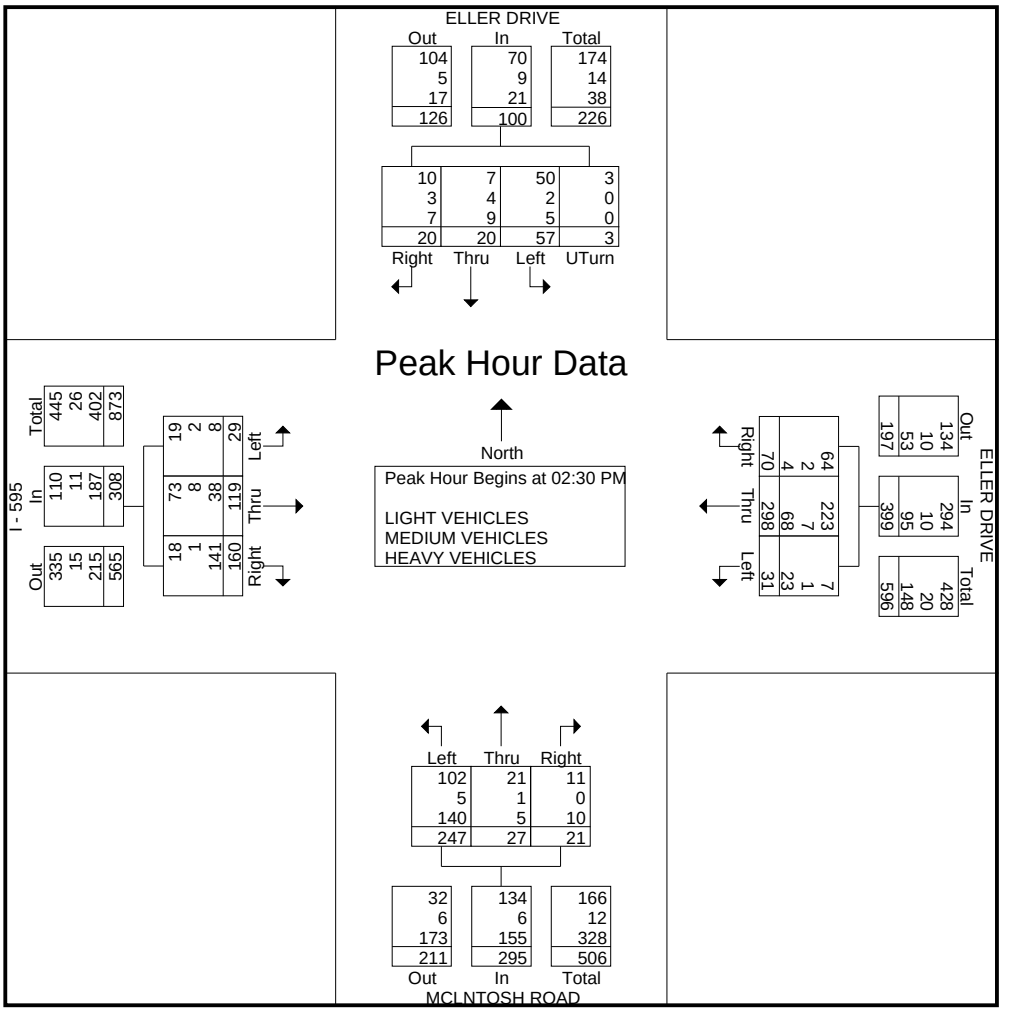
All Traffic Data Services, Inc.

1111 SW 21st Avenue, Unit B22, Fort Lauderdale, Florida 33312
Phone 561-272-3255

ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023
Page No : 6

	ELLER DRIVE From North					ELLER DRIVE From East					MCLNTOSH ROAD From South					I - 595 From West					
Start Time	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:30 PM																					
02:30 PM	1	**25**	**10**	5	**41**	**4**	**13**	57	16	90	0	68	5	5	78	0	**10**	**44**	39	**93**	**302**
02:45 PM	0	15	5	**6**	26	1	8	87	**27**	**123**	0	62	6	**6**	74	**5**	7	23	30	65	288
03:00 PM	0	9	2	5	16	3	6	**92**	19	120	0	41	**9**	5	55	5	6	28	**54**	93	284
03:15 PM	**2**	8	3	4	17	2	4	62	8	76	0	**76**	7	5	**88**	5	6	24	37	72	253
Total Volume	3	57	20	20	100	10	31	298	70	409	0	247	27	21	295	15	29	119	160	323	1127
% App. Total	3	57	20	20		2.4	7.6	72.9	17.1		0	83.7	9.2	7.1		4.6	9	36.8	49.5		
PHF	.375	.570	.500	.833	.610	.625	.596	.810	.648	.831	.000	.813	.750	.875	.838	.750	.725	.676	.741	.868	.933
LIGHT VEHICLES																					
% LIGHT VEHICLES	100	87.7	35.0	50.0	70.0	70.0	22.6	74.8	91.4	73.6	0	41.3	77.8	52.4	45.4	86.7	65.5	61.3	11.3	38.1	55.7
MEDIUM VEHICLES																					
% MEDIUM VEHICLES	0	3.5	20.0	15.0	9.0	0	3.2	2.3	2.9	2.4	0	2.0	3.7	0	2.0	0	6.9	6.7	0.6	3.4	3.2
HEAVY VEHICLES																					
% HEAVY VEHICLES	0	8.8	45.0	35.0	21.0	30.0	74.2	22.8	5.7	24.0	0	56.7	18.5	47.6	52.5	13.3	27.6	31.9	88.1	58.5	41.1



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File Name : Eller & McIntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023
Page No : 1

Groups Printed- BICYCLES ON THE ROAD

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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SIGNALIZED

File Name : Eller & McIntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023

Groups Printed- BICYCLES ON THE ROAD

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & McIntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023
Page No : 3

Groups Printed- BICYCLES ON THE ROAD

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	0	0	2	0	0	1	0	0	0	0	0	4
Apprch %	0	100	0	0	0	0	0	100	0	0	100	0	0	0	0	0	
Total %	0	25	0	0	0	0	0	50	0	0	25	0	0	0	0	0	

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Site Code : 30616
Start Date : 11/30/2023
Page No : 1

Groups Printed- PEDESTRIANS & BIKES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Traffic Data Services, Inc.
1111 SW 21st Avenue, Unit B22, Fort Lauderdale, Florida 33312
Phone 561-272-3255

ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & McIntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023

Groups Printed- PEDESTRIANS & BIKES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Int. Total
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
12:45 PM	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3
Total	1	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	5
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Traffic Data Services, Inc.
1111 SW 21st Avenue, Unit B22, Fort Lauderdale, Florida 33312
Phone 561-272-3255

ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & McIntosh 30th 24 hour REV
Site Code : 30616
Start Date : 11/30/2023

Groups Printed- PEDESTRIANS & BIKES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Int. Total
06:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	1	0	3	0	0	0	7	0	0	0	0	0	0	0	12
Apprch %	50	0	50	0	100	0	0	0	100	0	0	0	0	0	0	0	
Total %	8.3	0	8.3	0	25	0	0	0	58.3	0	0	0	0	0	0	0	

All Traffic Data Services, Inc.

1111 SW 21st Avenue, Unit B22, Fort Lauderdale, Florida 33312
Phone 561-272-3255

ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023
Page No : 1

Groups Printed- LIGHT VEHICLES - MEDIUM VEHICLES - HEAVY VEHICLES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
12:00 AM	0	2	0	0	0	2	10	5	0	9	2	1	1	1	12	2	47
12:15 AM	0	3	0	0	0	1	12	4	0	5	1	1	1	1	10	1	40
12:30 AM	0	2	0	0	0	1	13	2	0	2	0	0	0	0	16	3	39
12:45 AM	0	3	0	3	0	3	7	1	0	2	0	2	1	0	12	1	35
Total	0	10	0	3	0	7	42	12	0	18	3	4	3	2	50	7	161
01:00 AM	0	3	0	1	0	1	13	2	0	3	2	4	2	0	7	1	39
01:15 AM	0	2	0	1	0	1	8	3	0	1	3	1	1	0	12	3	36
01:30 AM	0	1	0	0	1	0	9	2	0	1	1	2	0	0	16	1	34
01:45 AM	0	3	1	2	0	0	9	0	0	0	0	0	2	0	10	0	27
Total	0	9	1	4	1	2	39	7	0	5	6	7	5	0	45	5	136
02:00 AM	0	0	0	1	0	0	10	1	0	1	0	0	0	0	15	0	28
02:15 AM	0	4	0	1	0	1	12	7	0	8	0	1	0	0	12	1	47
02:30 AM	0	0	0	1	0	0	17	1	0	2	0	2	1	1	12	1	38
02:45 AM	0	3	0	0	0	0	11	1	0	2	1	0	0	0	20	3	41
Total	0	7	0	3	0	1	50	10	0	13	1	3	1	1	59	5	154
03:00 AM	0	6	1	5	0	0	7	3	0	1	0	0	0	0	19	2	44
03:15 AM	0	1	1	2	0	1	5	2	0	1	0	0	0	1	18	0	32
03:30 AM	0	1	0	1	1	0	18	0	0	7	2	0	0	0	16	3	49
03:45 AM	0	6	0	2	0	0	9	1	0	2	0	0	1	2	30	2	55
Total	0	14	2	10	1	1	39	6	0	11	2	0	1	3	83	7	180
04:00 AM	0	4	0	2	0	0	13	0	0	2	0	0	0	1	30	5	57
04:15 AM	0	3	0	1	0	1	19	1	0	1	0	0	0	0	36	1	63
04:30 AM	1	9	0	2	0	1	16	3	0	1	1	1	1	1	57	6	100
04:45 AM	0	13	0	1	0	0	17	4	0	3	1	2	1	1	82	3	128
Total	1	29	0	6	0	2	65	8	0	7	2	3	2	3	205	15	348
05:00 AM	0	6	0	1	0	0	26	8	0	4	2	0	2	2	67	8	126
05:15 AM	0	21	1	3	0	2	14	5	0	12	4	0	0	1	61	13	137
05:30 AM	0	36	4	2	1	0	27	15	0	4	8	1	0	8	107	16	229
05:45 AM	0	28	2	2	0	1	25	12	0	9	6	6	3	11	109	38	252
Total	0	91	7	8	1	3	92	40	0	29	20	7	5	22	344	75	744
06:00 AM	0	9	2	0	1	4	22	4	0	6	3	4	1	6	99	26	187
06:15 AM	0	5	5	3	0	7	16	6	0	3	4	2	0	12	94	47	204
06:30 AM	0	16	3	2	0	2	32	7	0	1	1	4	2	5	124	51	250
06:45 AM	0	4	1	6	0	6	32	18	0	6	3	3	0	6	54	64	203
Total	0	34	11	11	1	19	102	35	0	16	11	13	3	29	371	188	844
07:00 AM	0	10	7	5	1	2	44	36	0	21	5	6	1	4	74	51	267
07:15 AM	0	8	2	5	0	4	39	56	0	7	3	7	1	2	81	61	276
07:30 AM	0	12	4	6	1	6	39	59	0	11	2	9	0	5	76	53	283
07:45 AM	0	24	1	2	2	3	78	83	0	10	3	4	3	4	105	90	412
Total	0	54	14	18	4	15	200	234	0	49	13	26	5	15	336	255	1238
08:00 AM	0	19	5	2	2	2	91	119	0	8	5	6	1	2	117	91	470
08:15 AM	0	30	4	1	1	5	111	118	0	6	3	2	2	12	105	99	499
08:30 AM	0	24	8	1	0	2	107	114	0	14	8	6	0	8	138	89	519
08:45 AM	0	24	8	2	0	4	147	130	0	4	4	3	0	6	130	66	528
Total	0	97	25	6	3	13	456	481	0	32	20	17	3	28	490	345	2016

All Traffic Data Services, Inc.
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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023

Groups Printed- LIGHT VEHICLES - MEDIUM VEHICLES - HEAVY VEHICLES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
09:00 AM	0	15	4	3	0	2	119	126	0	11	0	8	2	5	147	118	560
09:15 AM	1	30	3	3	3	5	120	125	0	12	1	3	1	2	133	107	549
09:30 AM	0	14	4	3	2	3	77	102	0	9	1	6	2	6	110	76	415
09:45 AM	0	8	6	7	2	6	66	98	0	19	2	5	0	8	113	47	387
Total	1	67	17	16	7	16	382	451	0	51	4	22	5	21	503	348	1911
10:00 AM	0	14	3	2	1	7	84	70	0	10	5	4	1	11	103	19	334
10:15 AM	0	11	0	2	0	3	63	58	0	18	4	5	1	7	123	13	308
10:30 AM	1	8	0	2	0	5	46	44	0	11	3	3	0	11	116	9	259
10:45 AM	0	7	0	3	1	3	57	50	0	11	7	3	1	3	157	16	319
Total	1	40	3	9	2	18	250	222	0	50	19	15	3	32	499	57	1220
11:00 AM	0	6	0	3	3	6	54	54	0	19	4	7	5	15	174	18	368
11:15 AM	0	12	2	3	0	5	89	51	0	22	5	4	3	6	162	19	383
11:30 AM	0	8	0	4	1	1	78	71	0	9	4	4	1	5	196	10	392
11:45 AM	0	7	0	1	5	6	91	57	0	13	13	11	3	4	128	14	353
Total	0	33	2	11	9	18	312	233	0	63	26	26	12	30	660	61	1496
12:00 PM	0	8	0	5	0	2	91	45	0	26	4	5	1	6	132	13	338
12:15 PM	0	4	0	3	2	6	73	34	0	3	2	1	2	5	113	9	257
12:30 PM	0	8	0	3	1	9	60	45	0	5	5	2	0	5	123	17	283
12:45 PM	0	7	0	4	0	6	44	39	0	4	3	6	4	4	89	15	225
Total	0	27	0	15	3	23	268	163	0	38	14	14	7	20	457	54	1103
01:00 PM	0	14	1	3	2	7	35	31	0	5	2	4	3	3	90	5	205
01:15 PM	0	8	1	5	0	4	39	30	0	8	4	9	1	2	73	6	190
01:30 PM	0	5	3	2	0	3	56	20	0	11	3	6	1	1	75	3	189
01:45 PM	0	4	0	5	2	6	74	14	0	7	3	1	3	4	43	11	177
Total	0	31	5	15	4	20	204	95	0	31	12	20	8	10	281	25	761
02:00 PM	0	5	0	2	1	2	59	16	0	26	15	2	4	3	37	0	172
02:15 PM	0	2	1	4	0	1	30	13	1	24	8	6	4	1	42	3	140
02:30 PM	0	1	0	5	0	6	59	14	0	13	4	1	1	4	30	4	142
02:45 PM	0	2	0	1	0	7	64	15	0	9	2	0	1	2	26	4	133
Total	0	10	1	12	1	16	212	58	1	72	29	9	10	10	135	11	587
03:00 PM	0	1	0	0	0	5	55	12	0	9	0	3	5	1	27	2	120
03:15 PM	0	1	0	3	1	5	64	6	0	6	2	2	3	4	19	6	122
03:30 PM	0	0	0	3	0	3	60	10	0	8	0	2	1	4	25	4	120
03:45 PM	0	1	0	1	1	2	40	8	0	8	0	2	0	2	12	4	81
Total	0	3	0	7	2	15	219	36	0	31	2	9	9	11	83	16	443
04:00 PM	1	1	0	2	2	2	52	9	0	7	2	2	4	3	23	2	112
04:15 PM	0	1	1	1	2	0	40	10	0	13	4	2	0	3	16	2	95
04:30 PM	0	4	1	1	4	0	18	3	0	10	4	0	2	5	22	2	76
04:45 PM	0	0	0	2	2	0	26	6	0	7	2	2	2	1	16	4	70
Total	1	6	2	6	10	2	136	28	0	37	12	6	8	12	77	10	353
05:00 PM	0	2	0	4	0	0	24	7	0	13	6	1	2	2	21	4	86
05:15 PM	0	4	1	7	2	1	36	6	0	15	2	2	0	5	24	1	106
05:30 PM	0	5	0	18	1	3	41	7	0	8	3	3	1	2	19	7	118
05:45 PM	0	2	0	4	0	5	28	1	0	15	5	0	3	2	19	3	87
Total	0	13	1	33	3	9	129	21	0	51	16	6	6	11	83	15	397
06:00 PM	0	5	0	4	1	6	35	16	0	16	10	2	1	1	17	5	119
06:15 PM	0	7	0	0	1	1	15	14	0	10	6	1	2	0	24	8	89

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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023

Groups Printed- LIGHT VEHICLES - MEDIUM VEHICLES - HEAVY VEHICLES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
06:30 PM	0	13	1	2	0	2	22	15	0	8	2	2	1	1	15	8	92
06:45 PM	0	7	1	0	0	1	45	21	0	7	0	1	3	0	16	8	110
Total	0	32	2	6	2	10	117	66	0	41	18	6	7	2	72	29	410
07:00 PM	0	1	0	3	0	3	42	16	0	7	7	1	0	1	17	1	99
07:15 PM	0	6	1	2	0	2	20	7	0	3	2	9	0	2	16	0	70
07:30 PM	0	1	1	0	0	0	18	4	0	7	0	1	1	0	12	3	48
07:45 PM	0	3	1	3	0	3	13	6	0	15	3	2	4	3	14	4	74
Total	0	11	3	8	0	8	93	33	0	32	12	13	5	6	59	8	291
08:00 PM	0	6	0	1	0	2	9	4	0	14	2	0	1	0	13	3	55
08:15 PM	0	3	1	3	0	1	12	1	0	2	3	1	2	0	14	1	44
08:30 PM	0	5	0	3	0	2	10	2	0	4	0	4	2	1	15	1	49
08:45 PM	0	2	0	3	0	0	11	0	0	4	0	1	2	2	17	1	43
Total	0	16	1	10	0	5	42	7	0	24	5	6	7	3	59	6	191
09:00 PM	0	2	0	2	0	0	12	5	0	1	1	1	1	1	15	1	42
09:15 PM	0	7	0	2	0	0	12	1	0	6	1	1	1	1	12	0	44
09:30 PM	0	11	1	3	0	1	8	4	0	8	1	0	0	0	8	1	46
09:45 PM	0	10	0	5	1	1	18	2	0	9	3	0	0	0	20	1	70
Total	0	30	1	12	1	2	50	12	0	24	6	2	2	2	55	3	202
10:00 PM	0	5	0	2	0	1	18	12	0	6	3	1	0	0	9	0	57
10:15 PM	0	3	0	1	1	0	19	8	0	10	1	1	2	1	7	2	56
10:30 PM	0	3	0	3	0	1	16	6	0	7	2	0	1	2	13	0	54
10:45 PM	0	2	0	3	0	0	14	4	0	4	0	1	1	0	8	2	39
Total	0	13	0	9	1	2	67	30	0	27	6	3	4	3	37	4	206
11:00 PM	0	4	0	2	1	4	15	4	0	17	5	1	3	0	7	2	65
11:15 PM	0	1	0	0	0	2	9	2	0	9	2	0	0	0	6	0	31
11:30 PM	0	2	1	2	0	1	2	4	0	4	0	4	0	1	21	0	42
11:45 PM	0	2	0	1	0	5	9	3	0	0	0	0	1	1	6	0	28
Total	0	9	1	5	1	12	35	13	0	30	7	5	4	2	40	2	166
Grand Total	4	686	99	243	57	239	3601	2301	1	782	266	242	125	278	5083	1551	15558
Apprch %	0.4	66.5	9.6	23.5	0.9	3.9	58.1	37.1	0.1	60.6	20.6	18.7	1.8	4	72.2	22	
Total %	0	4.4	0.6	1.6	0.4	1.5	23.1	14.8	0	5	1.7	1.6	0.8	1.8	32.7	10	
LIGHT VEHICLES	3	512	93	71	56	215	2815	2109	1	570	255	203	123	263	4001	1263	12553
% LIGHT VEHICLES	75	74.6	93.9	29.2	98.2	90	78.2	91.7	100	72.9	95.9	83.9	98.4	94.6	78.7	81.4	80.7
MEDIUM VEHICLES	0	76	3	10	1	9	170	165	0	54	8	17	1	5	217	108	844
% MEDIUM VEHICLES	0	11.1	3	4.1	1.8	3.8	4.7	7.2	0	6.9	3	7	0.8	1.8	4.3	7	5.4
HEAVY VEHICLES	1	98	3	162	0	15	616	27	0	158	3	22	1	10	865	180	2161
% HEAVY VEHICLES	25	14.3	3	66.7	0	6.3	17.1	1.2	0	20.2	1.1	9.1	0.8	3.6	17	11.6	13.9

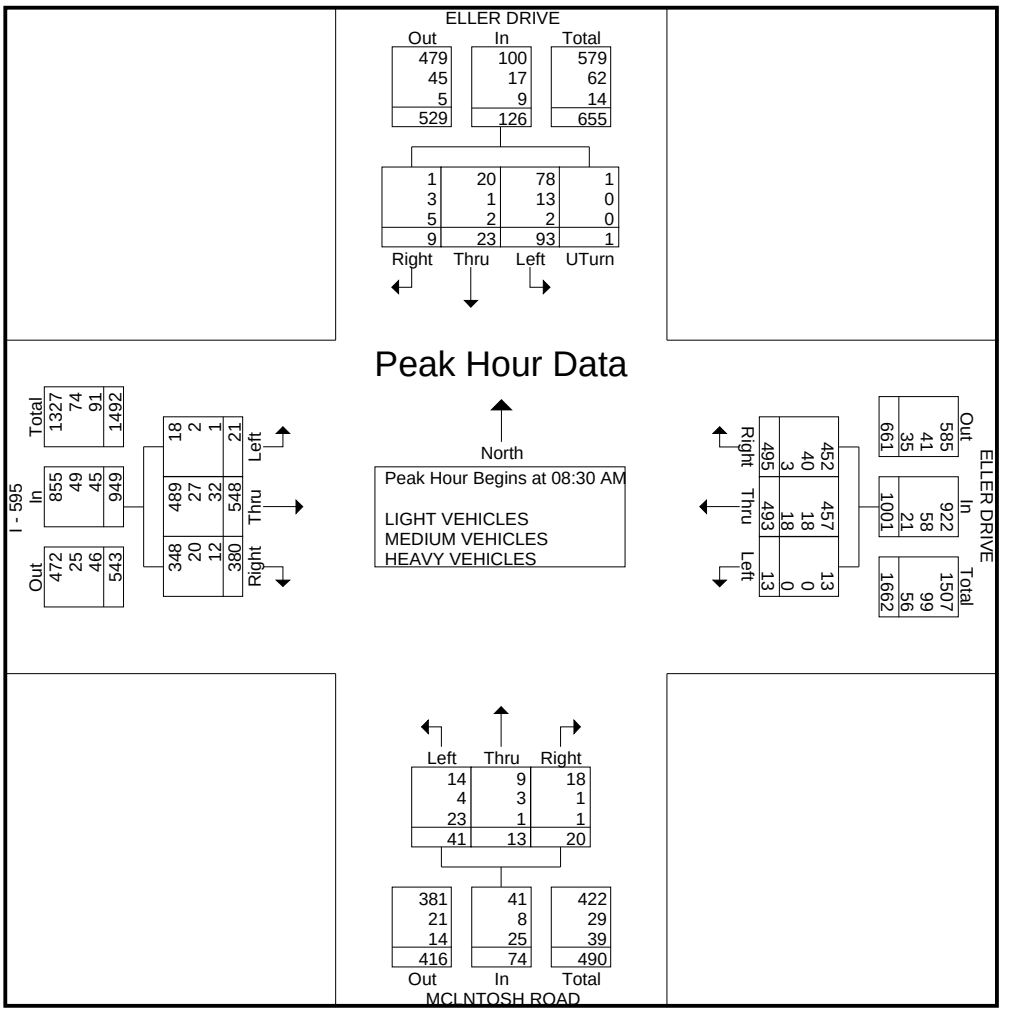
All Traffic Data Services, Inc.

1111 SW 21st Avenue, Unit B22, Fort Lauderdale, Florida 33312
Phone 561-272-3255

ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023
Page No : 4

	ELLER DRIVE From North					ELLER DRIVE From East					MCLNTOSH ROAD From South					I - 595 From West					
Start Time	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:30 AM																					
08:30 AM	0	24	**8**	1	33	0	2	107	114	223	0	**14**	**8**	6	**28**	0	**8**	138	89	235	519
08:45 AM	0	24	8	2	34	0	4	**147**	**130**	**281**	0	4	4	3	11	0	6	130	66	202	528
09:00 AM	0	15	4	**3**	22	0	2	119	126	247	0	11	0	**8**	19	**2**	5	**147**	**118**	**272**	**560**
09:15 AM	**1**	**30**	3	3	**37**	**3**	**5**	120	125	253	0	12	1	3	16	1	2	133	107	243	549
Total Volume	1	93	23	9	126	3	13	493	495	1004	0	41	13	20	74	3	21	548	380	952	2156
% App. Total	0.8	73.8	18.3	7.1		0.3	1.3	49.1	49.3		0	55.4	17.6	27		0.3	2.2	57.6	39.9		
PHF	.250	.775	.719	.750	.851	.250	.650	.838	.952	.893	.000	.732	.406	.625	.661	.375	.656	.932	.805	.875	.963
LIGHT VEHICLES																					
% LIGHT VEHICLES	100	83.9	87.0	11.1	79.4	100	100	92.7	91.3	92.1	0	34.1	69.2	90.0	55.4	100	85.7	89.2	91.6	90.1	89.2
MEDIUM VEHICLES																					
% MEDIUM VEHICLES	0	14.0	4.3	33.3	13.5	0	0	3.7	8.1	5.8	0	9.8	23.1	5.0	10.8	0	9.5	4.9	5.3	5.1	6.1
HEAVY VEHICLES																					
% HEAVY VEHICLES	0	2.2	8.7	55.6	7.1	0	0	3.7	0.6	2.1	0	56.1	7.7	5.0	33.8	0	4.8	5.8	3.2	4.7	4.6



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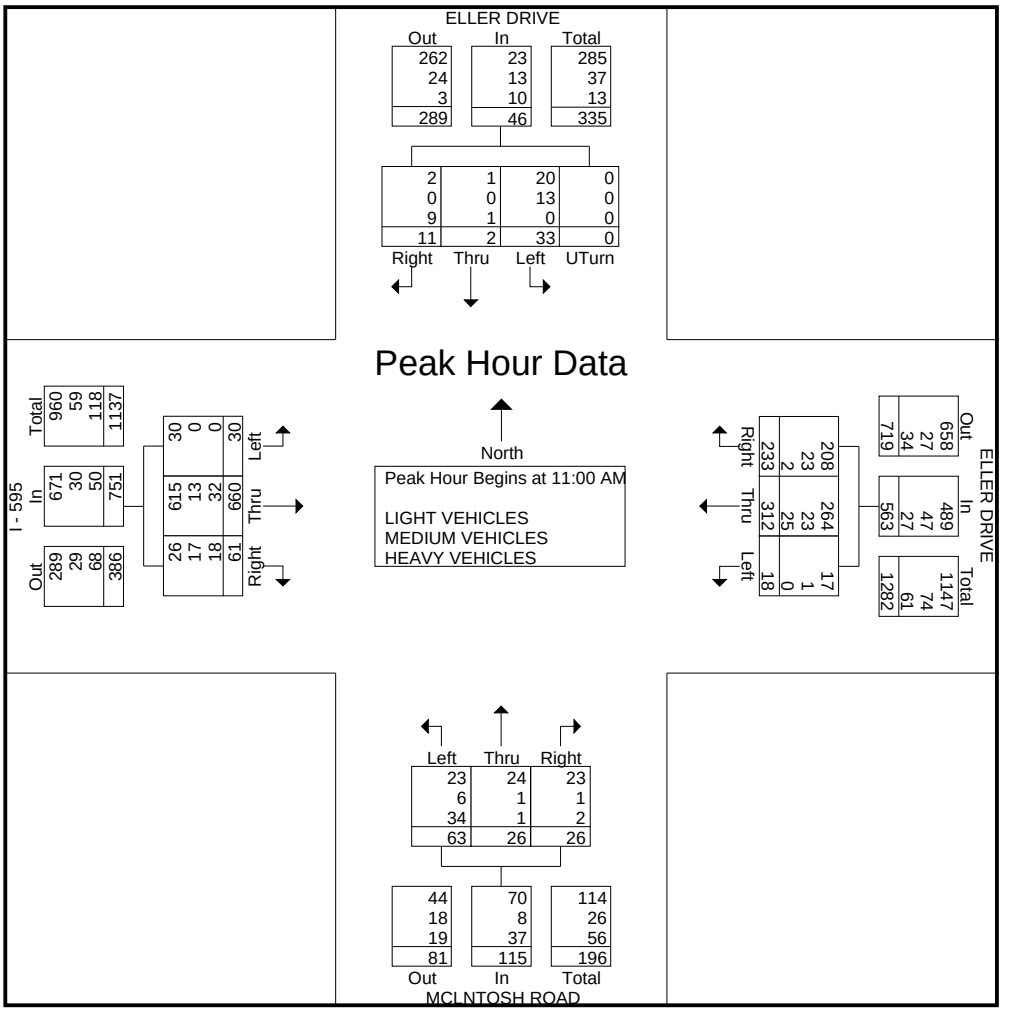
ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023
Page No : 5

	ELLER DRIVE From North					ELLER DRIVE From East					MCLNTOSH ROAD From South					I - 595 From West					
Start Time	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	6	0	3	9	3	**6**	54	54	117	0	19	4	7	30	**5**	**15**	174	18	**212**	368
11:15 AM	0	**12**	**2**	3	**17**	0	5	89	51	145	0	**22**	5	4	31	3	6	162	**19**	190	383
11:30 AM	0	8	0	**4**	12	1	1	78	**71**	151	0	9	4	4	17	1	5	**196**	10	212	**392**
11:45 AM	0	7	0	1	8	**5**	6	**91**	57	**159**	0	13	**13**	**11**	**37**	3	4	128	14	149	353
Total Volume	0	33	2	11	46	9	18	312	233	572	0	63	26	26	115	12	30	660	61	763	1496
% App. Total	0	71.7	4.3	23.9		1.6	3.1	54.5	40.7		0	54.8	22.6	22.6		1.6	3.9	86.5	8		
PHF	.000	.688	.250	.688	.676	.450	.750	.857	.820	.899	.000	.716	.500	.591	.777	.600	.500	.842	.803	.900	.954
LIGHT VEHICLES																					
% LIGHT VEHICLES	0	60.6	50.0	18.2	50.0	100	94.4	84.6	89.3	87.1	0	36.5	92.3	88.5	60.9	91.7	100	93.2	42.6	89.4	85.1
MEDIUM VEHICLES																					
% MEDIUM VEHICLES	0	39.4	0	0	28.3	0	5.6	7.4	9.9	8.2	0	9.5	3.8	3.8	7.0	0	0	2.0	27.9	3.9	6.6
HEAVY VEHICLES																					
% HEAVY VEHICLES	0	0	50.0	81.8	21.7	0	0	8.0	0.9	4.7	0	54.0	3.8	7.7	32.2	8.3	0	4.8	29.5	6.7	8.4



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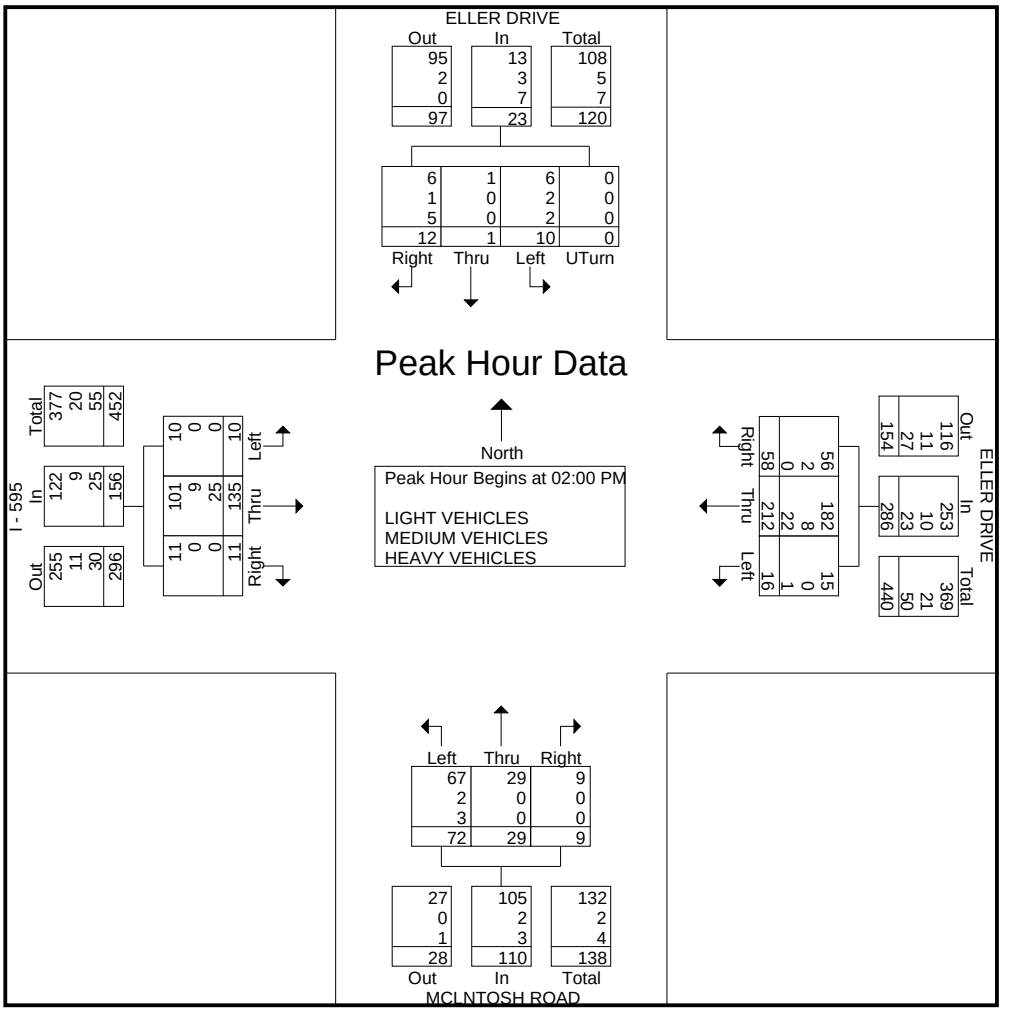
ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023
Page No : 6

	ELLER DRIVE From North					ELLER DRIVE From East					MCLNTOSH ROAD From South					I - 595 From West					
Start Time	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	UTurn	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:00 PM																					
02:00 PM	0	**5**	0	2	**7**	**1**	2	59	**16**	78	0	**26**	**15**	2	**43**	**4**	3	37	0	44	**172**
02:15 PM	0	2	**1**	4	7	0	1	30	13	44	**1**	24	8	**6**	39	4	1	**42**	3	**50**	140
02:30 PM	0	1	0	**5**	6	0	6	59	14	79	0	13	4	1	18	1	**4**	30	**4**	39	142
02:45 PM	0	2	0	1	3	0	**7**	**64**	15	**86**	0	9	2	0	11	1	2	26	4	33	133
Total Volume	0	10	1	12	23	1	16	212	58	287	1	72	29	9	111	10	10	135	11	166	587
% App. Total	0	43.5	4.3	52.2		0.3	5.6	73.9	20.2		0.9	64.9	26.1	8.1		6	6	81.3	6.6		
PHF	.000	.500	.250	.600	.821	.250	.571	.828	.906	.834	.250	.692	.483	.375	.645	.625	.625	.804	.688	.830	.853
LIGHT VEHICLES																					
% LIGHT VEHICLES	0	60.0	100	50.0	56.5	100	93.8	85.8	96.6	88.5	100	93.1	100	100	95.5	100	100	74.8	100	79.5	86.0
MEDIUM VEHICLES																					
% MEDIUM VEHICLES	0	20.0	0	8.3	13.0	0	0	3.8	3.4	3.5	0	2.8	0	0	1.8	0	0	6.7	0	5.4	4.1
HEAVY VEHICLES																					
% HEAVY VEHICLES	0	20.0	0	41.7	30.4	0	6.3	10.4	0	8.0	0	4.2	0	0	2.7	0	0	18.5	0	15.1	9.9



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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023
Page No : 1

Groups Printed- BICYCLES ON THE ROAD

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Traffic Data Services, Inc.
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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023

Groups Printed- BICYCLES ON THE ROAD

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
01:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Traffic Data Services, Inc.
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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023

Groups Printed- BICYCLES ON THE ROAD

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Int. Total
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	0	0	2	0	1	0	0	0	0	0	0	4
Apprch %	0	100	0	0	0	0	0	100	0	100	0	0	0	0	0	0	
Total %	0	25	0	0	0	0	0	50	0	25	0	0	0	0	0	0	

All Traffic Data Services, Inc.
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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023
Page No : 1

Groups Printed- PEDESTRIANS & BIKES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023

Groups Printed- PEDESTRIANS & BIKES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Int. Total
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	10	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	15
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	15
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ELLER DRIVE & MCLNTOSH ROAD
HOLLYWOOD, FL
VIDEO COUNT
SIGNALIZED

File Name : Eller & Mclntosh 2nd 24 hour REV
Site Code : 30616
Start Date : 12/2/2023
Page No : 3

Groups Printed- PEDESTRIANS & BIKES

	ELLER DRIVE From North				ELLER DRIVE From East				MCLNTOSH ROAD From South				I - 595 From West				
Start Time	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Int. Total
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	10	0	1	0	1	0	1	0	1	0	0	0	5	0	0	0	19
Apprch %	90.9	0	9.1	0	50	0	50	0	100	0	0	0	100	0	0	0	
Total %	52.6	0	5.3	0	5.3	0	5.3	0	5.3	0	0	0	26.3	0	0	0	

BROWARD COUNTY TRAFFIC ENGINEERING

ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	3432	**Initial Operation Date**	6/4/97
Controller Type	2070 LN	**System Number**	3432
Modification Number	4	**Modification Date**	10/18/2022
Drawing/Project No	403984-1-52-01	**FPL Grid Number**	87777522001
Intersection	ELLER DRIVE and McINTOSH ROAD		
Municipality	HOLLYWOOD		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3,2R	4	5	6	7,6R	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	5	7	5	6	5	7	5	6
Vehicle Ext.(GAP)	2.5	3.0	2.5	2.5	2.5	3.0	2.5	2.5
Maximum Green I	15	60	20	25	20	60	30*	25
Maximum Green II								
Yellow Clearance	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0
All Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Phase Recall	LOCK	MIN	LOCK	OFF	LOCK	MIN	LOCK	OFF
Detector Delay				30-RT				
Walk				7		7		
Pedestrian Clearance				50		31		
Permissive	NO		NO		NO		DUAL	
Flash Operation	RED	YELLOW	RED	RED	RED	YELLOW	RED	RED

Attachment

NOTES:

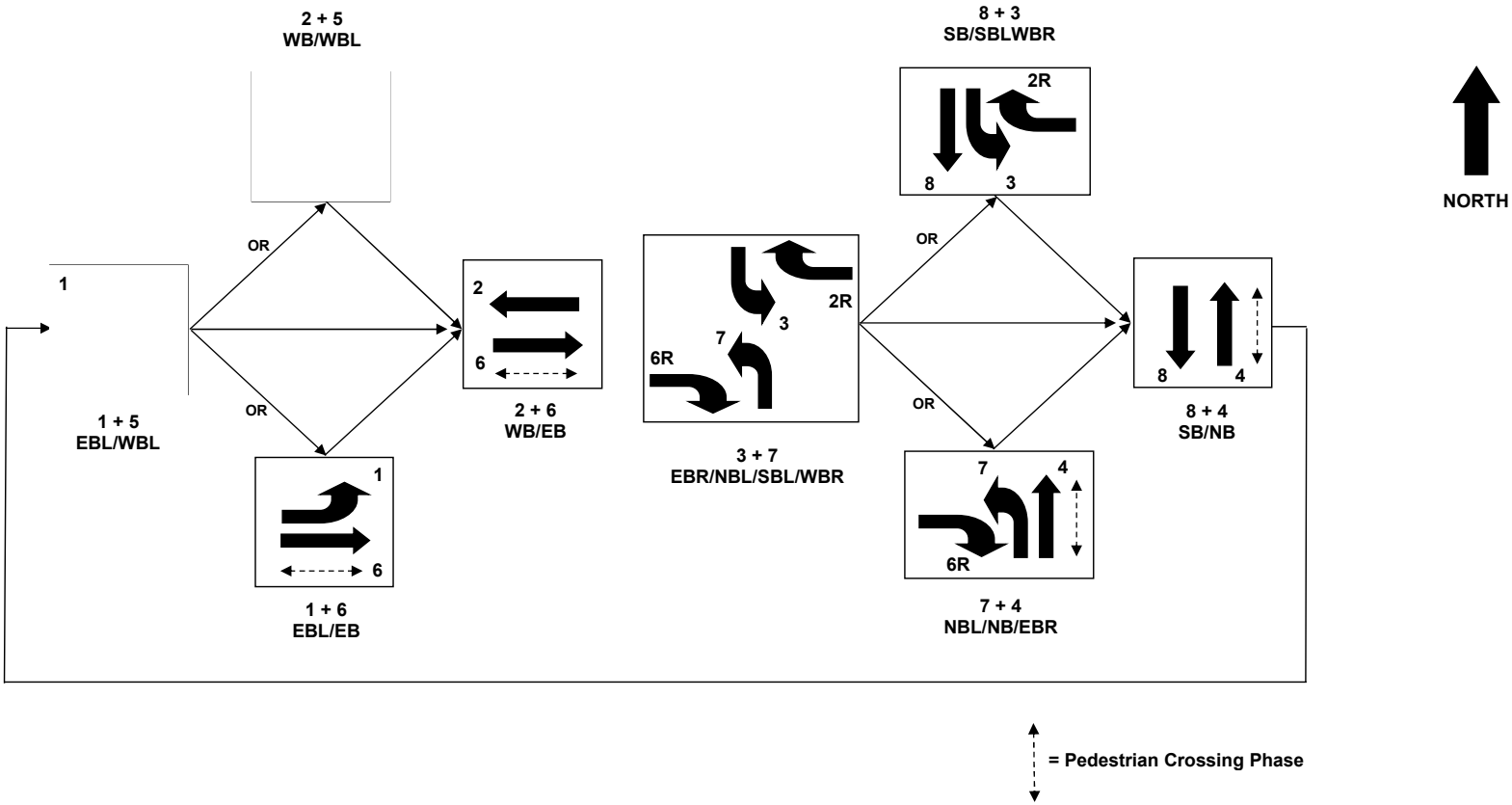
1. DUAL ENTRY NORTH/SOUTH (4+8).
2. *DYNAMIC MAX NBL (PHASE 7): MAX = 60, STEP = 15.
3. MOD. 4 UPDATES GAPS AND ADDS DYNMAMIC MAX TO PHASE 7 (NBL).

Submitted By _____ **Approved By** _____

Sequence of Operation

Eller Drive and McIntosh Road

Intersection Number 3432 (Hollywood) Mod 3 and Higher



Station : 3432 - Eller Dr & McIntosh Rd (Standard File)

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk				7		7										
Ped Clearance				50		31										
Min Green	5	7	5	6	5	7	5	6								
Gap Ext	2.5	3	2.5	2.5	2.5	3	2.5	2.5								
Max1	15	60	20	25	20	60	30	25								
Max2																
Yellow Clr	5	5	4	4	5	5	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2	2	2	2	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit							60									
Dynamic Max Step							15									
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call	ON		ON		ON		ON		ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk																
Cond Service																
Add Init Calc																

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash		ON	ON	ON	ON	ON
Override Higher Preempt		ON	ON	ON	ON	ON
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green						
Min Walk						
Ped Clear						
Track Green						
Min Dwell	10					
Max Presence	360					
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1						
Dwell Cyc Veh 2						
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	2					
Exit 2	6					
Exit 3						
Exit 4						

Prepared By	Date Implemented
Reviewed By	Traffic Engineer

Broward County Timing Sheet 9/25/2023 8:16:24 AM

Station : 3432 - Eller Dr & McIntosh Rd (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
Day Plan 2											**Easy**															

Day Plan 3	Easy

Station : 3432 - Eller Dr & McIntosh Rd (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											**Easy**															

Scheduler

	Month											Day of Weekk							Day of Month									1									2									3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1																																																1
2																																																1
3																																																1
4																																																1
5																																																1
6																																																1
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31																																																			1
32																																																			1

User Comments:

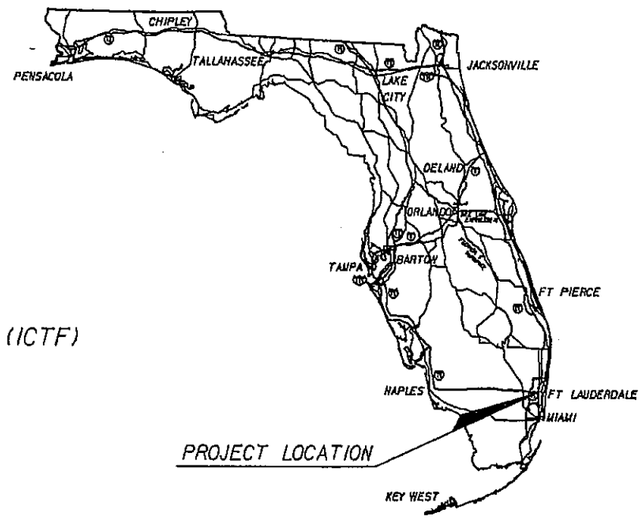
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 403984-1-52-01
(FEDERAL FUNDS)
BROWARD COUNTY (86000120)

SR 862 / ELLER DRIVE OVERPASS INTERMODAL CONTAINER TRANSFER FACILITY (ICTF)
(FROM WEST OF US-1/SR 5 TO EAST OF McINTOSH ROAD)

SIGNALIZATION PLANS



INDEX OF SIGNALIZATION PLANS

Gerelco Traffic Controls, Inc.
As-Builts

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

KEY SHEET REVISIONS	
DATE	DESCRIPTION
07/06/12	⚠ ADDED SHEETS S-20-S-21. GRAVITY WALL MOUNTED SUPPORT POST DETAILS.

3336

FISCAL YEAR	SHEET NO.
13	T-1

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS T-6 PLAN	T-6 FINAL	T-7 PLAN	T-7 FINAL	T-8 PLAN	T-8 FINAL	T-9 PLAN	T-9 FINAL	T-10 PLAN	T-10 FINAL	TOTAL THIS SHEET PLAN	TOTAL THIS SHEET FINAL	GRAND TOTAL PLAN	GRAND TOTAL FINAL	REF. SHEET
555-1-1	DIRECTIONAL BORE (LESS THAN 6")	LF			322				317		500		1139				
555-1-2	DIRECTIONAL BORE (6" TO <12")	LF			212		423						635		635		
630-1-12	CONDUIT (F & I)(UNDERGROUND)	LF	75		104		52		1763		2060		4054		4054		
632-7-1	CABLE (SIGNAL)(FURNISH & INSTALL)	PI	1		1		1						3		3		
632-8-112	INTERCONNECT CABLE (TO BE DETERMINED BY CONTRACTOR)(F & I)(UNDERGROUND)	LF							1446		1560		3006		3006		
635-1-11	PULL & JUNCTION BOXES (F & I)(PULL BOX)	EA	5	6	19	20	12	15					36	41			
635-1-15	PULL & JUNCTION BOXES (F & I)(FIBER OPTIC)	EA							9		7		16				
639-1-23	ELECTRICAL POWER SERVICE (UNDERGROUND)	AS	1		2		1						4		4		
639-2-1	ELECTRICAL SERVICE WIRE (FURNISH & INSTALL)	LF	225	630	885								1110		1110		
641-2-12	PRESTRESSED CONCRETE POLE (F&I) (TYPE P-II SERVICE POLE)	EA	1		2								3		3		
649-31-101	STEEL MAST ARM ASSEMBLY (F & I) (150 WITH SIGNAL BACKPLATES) (36)	EA			1								1		1		
649-31-102	MAST ARM,F&I, WIND SPEED?150, SINGLE ARM,W/O LUMINAIRE?46	EA			1								1		1		
649-31-103	STEEL MAST ARM ASSEMBLY (F & I) (150 WITH SIGNAL BACKPLATES) (60)	EA					1						1		1		
649-31-104	STEEL MAST ARM ASSEMBLY (F & I) (150 WITH SIGNAL BACKPLATES) (70.5)	EA					2						2		2		
649-31-105	STEEL MAST ARM ASSEMBLY (F & I) (150 WITH SIGNAL BACKPLATES) (78)	EA					1						1		1		
649-31-114	MAST ARM,F&I, WIND SPEED?150, DOUBLE ARM,W/O LUMINAIRE, 46?46	EA			1								1		1		
649-31-116	STEEL MAST ARM ASSEMBLY (F & I) (150 WITH SIGNAL BACKPLATES) (46-70.5)	EA	1										1		1		
650-51-111	TRAFFIC SIGNAL (F & I)(1 SECTION)(1-WAY)(STD)	AS	6		10								16		16		
650-51-113	TRAFFIC SIGNAL (F & I)(1 SECTION)(1-WAY)(SPECIAL)	AS			2								2		2		
650-51-311	TRAFFIC SIGNAL (F & I)(3 SECTIONS)(1-WAY)(STD)	AS					15						15		15		
650-51-511	TRAFFIC SIGNAL (F & I)(5 SECTIONS)(1-WAY)(STD)	AS					2						2		2		
653-191	PEDESTRIAN SIGNAL (F & I)(STD)(1-WAY)	AS			2		2						4		4		
653-192	PEDESTRIAN SIGNAL (F & I)(STD)(2-WAY)	AS					1						1		1		
659-101	SIGNAL HEAD AUXILIARIES (FURNISH & INSTALL) (BACK PLATES, 3 SECTIONS)	EA					15						15		15		
659-106	SIGNAL HEAD AUXILIARIES (FURNISH & INSTALL) (TUNNEL VISOR)	EA	6		10		58						74		74		
659-107	SIGNAL HEAD AUXILIARIES (FURNISH & INSTALL) (ALUMINUM PEDESTAL)	EA			4		2						6		6		
659-111	SIGNAL HEAD AUXILIARIES (FURNISH & INSTALL) (BACK PLATES, 1 SECTION)	EA	6		12								18		18		
659-118	SIGNAL HEAD AUXILIARIES (FURNISH & INSTALL) (BACK PLATES, 5 SECTION)	EA					2						2		2		
660-1-101	LOOP DETECTOR INDUCTIVE (F & I) (TYPE 1)	EA	5		6		11						22		22		
660-1-102	LOOP DETECTOR INDUCTIVE (F & I) (TYPE 2)	EA	1		1		2						4		4		
663-74-11	VEHICLE DETECTOR ASSEMBLIES (F & I)(OPTICAL TYPE)	EA	3		4		1						8		8		
665-13	PED DETECTOR (F&I) (WITH SIGN ONLY)	EA			2		4						6		6		
670-5-130	TRAFFIC CONTROLLER ASSEMBLY, F&I, SPECIAL	AS	1				1						2		2		
670-5-131	TRAFFIC CONTROLLER ASSEMBLY (F & I) (SPECIAL) (ONE PREEMPTION PLAN)	AS			1								1		1		
685-106	SYSTEM AUXILIARIES (FURNISH & INSTALL) (UNINTERRUPTIBLE POWER SOURCE)	EA	1	0	1	0	1	0					REVISION FDI&I ONLY 3	0	3	0	
685-120	SYSTEM AUXILIARIES (FURNISH & INSTALL) (TELEMETRY TRANSCEIVER)	EA	1		1		1						3		3		
685-127	SYSTEM AUXILIARIES (FURNISH & INSTALL) (TELEPHONE CONNECTION BOX)	EA					1						1		1		
685-128	SYSTEM AUXILIARIES (FURNISH & INSTALL) (INTERFACE PANEL)	EA	1		1		1						3		3		
690-10	TRAFFIC SIGNAL HEAD ASSEMBLY, REMOVAL	EA			11		9						20		20		
690-33-1	POLE REMOVAL- DEEP (DIRECT BURIAL)	LF			100		20						120		120		
690-50-1	CONTROLLER ASSEMBLY- REMOVE (CABINET ASSEMBLY, LESS FOUNDATION)	EA			1		1						2		2		
690-60	DETECTOR VEHICLE ASSEMBLY REMOVE	EA			4								4		4		
690-80	SPAN WIRE ASSEMBLY, REMOVE	EA			11								11		11		
690-90	REMOVE CONDUIT & CABLING	PI			1		1						2		2		
690-100	SIGNAL EQUIPMENT, MISCELLANEOUS REMOVE	PI			1		1						2		2		
699-1-1	INTERNALLY ILLUMINATED SIGN	AS	1		4		4						9		9		
700-48-18	SIGN PANEL (F & I) (15 OR LESS)	EA	2		3		2						7		7		
635-1-13	PULL & JUNCTION BOXES (F&I) (MOUNTED)	EA			2								2		2		

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REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
7/07/11	FJD 4 REVISED INTERCONNECT QUANTITIES	10/30/12	6 REVISED QUANTITIES
5/03/12	2 REVISED QUANTITIES		
07/06/12	3 REVISED QUANTITIES, ADDED PAY ITEMS		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

TABULATION OF QUANTITIES

SHEET NO. T-2

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS T-11 PLAN	T-11 FINAL	TOTAL THIS SHEET PLAN	TOTAL THIS SHEET FINAL	GRAND TOTAL PLAN	GRAND TOTAL FINAL	REF. SHEET
555-1-1	DIRECTIONAL BORE (LESS THAN 6")	LF	93		93		(232) 16		
635-1-11	PULL & JUNCTION BOXES (F & I)(PULL BOX)	EA	2	4	2	4	(38) 16	45	
635-1-15	PULL & JUNCTION BOXES (F & I)(FIBER OPTIC)	EA	1		1		17		
780-1-11	ITS ELECTRICAL POWER (F&I) (SERVICE)	AS	1		1		1		
780-1-12	ITS ELECTRICAL POWER (F&I) (SERVICE WIRE) (3 - #6 AWG CONDUCTORS)	LF	680	1,083	680		680		
782-1-11	ITS CCTV CAMERA (F&I) (DOME ENCLOSURE) (PRESSURIZED)	EA	1		1		1		
783-4-112	ITS CONDUIT (F&I) (UNDERGROUND) (2 - 1 1/4" CONDUIT)	LF	254	512	254		254		
784-1-1	ITS MANAGED FIELD ETHERNET SWITCH (F&I)	EA	1		1		1		
784-2-1	ITS DEVICE SERVER (F&I)	EA	1		1		1		
784-3-11	ITS DIGITAL VIDEO ENCODER WITH SOFTWARE DECODER (F&I) (HARDENED ENCODER)	EA	1		1		1		
784-6-11	ITS WIRELESS COMMUNICATION DEVICE (F&I) (ETHERNET ACCESS POINT)	EA	2		2		2		
785-1-11	ITS POLE (F&I) (CONCRETE W LOWERING DEVICE)	EA	1		1		1		
785-2-121	ITS FIELD CABINET (F&I) (TYPE 336 W SUNSHIELDS) (POLE MOUNT)	EA	1		1		1		

REVISION #16 ONLY

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
7/07/11	FJD ⚠4 REVISED. INTERCONNECT QUANTITIES	10/30/12	⚠16 REVISED QUANTITIES
5/03/12	⚠8 REVISED QUANTITIES		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 869	BROWARD	407084-1-52-01

TABULATION OF QUANTITIES

SHEET NO. T-3

SIGNALIZATION GENERAL NOTES AND PAY ITEM NOTES

1. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED COMMUNICATIONS EQUIPMENT IS BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED). ALL TRAFFIC SIGNAL AND RELATED COMMUNICATION EQUIPMENT WHEN USING PAY ITEM SERIES: 632, 633, 635, 650, 663, 670, 683, 684, AND 685 FOR THIS CONTRACT SHALL BE COMPATIBLE WITH BCTED'S CENTRAL COMPUTER NETWORK SYSTEM. PRIOR TO ANY PURCHASING OF THE ABOVE PRODUCTS, ENSURE THEY HAVE BEEN APPROVED FOR SYSTEM COMPATIBILITY BY THE MAINTAINING AGENCY. WHEN PRE-EMPTION IS CALLED FOR UNDER PAY ITEM FOOTNOTE 670-5-13X, GPS PRE-EMPTION EQUIPMENT SHALL BE SUPPLIED WITH THE TRAFFIC CONTROLLER ASSEMBLY. VERIFY WITH THE MAINTAINING AGENCY THAT THE EQUIPMENT IS COMPATIBLE WITH THE CURRENT PRE-EMPTION SYSTEM PRIOR TO PURCHASING.

2. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY TWO (2) FULL WORKING DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION.

<u>UTILITIES OWNERS:</u>

COMPANIES	CONTACT	PHONE NUMBERS
BROWARD COUNTY TRAFFIC ENG.	ROBERT BLOUNT	954-847-2745
LEVEL 3 COMMUNICATIONS	ANTHONY KOWALESKI	954-217-6773
ALLIGATOR ALLEY PIPELINE CO.	RICHARD JOHNSON	954-474-1385
AT & T	OTIS KEEVE	954-723-0753
BROWARD COUNTY PORT EVERGLADES DEPT.	JOHN FOGLESONG	954-523-3404
CITGO PETROLEUM	WALT PATTEN	954-525-6742
CITY OF DANIA BEACH	DOMINIC ORLANDO	954-924-3740
CITY OF HOLLYWOOD, PUBLIC WORKS DEPT.	JOSE VAZQUEZ (LIGHTING)	954-967-4526 (JOSE)
	ALEX STEPANEKO (UG UTIL.)	954-921-3001
	GREG BENIGNO (UG UTIL.)	954-921-3046 (GREG)
EVERGLADES PIPELINE (BUCKEYE PIPELINE)	GARY WURSTER	954-522-8464
		954-275-5620 (CELL)
FLORIDA GAS TRANSMISSION COMPANY	JOSEPH SANCHEZ	407-838-7171
FLORIDA POWER & LIGHT (OH & UG FACILITIES)	NELSON GONZALEZ	954-321-2056
FLORIDA POWER & LIGHT (HIGH VOLTAGE UG)	SEYED HAJASSADOLAH	305-228-5290
FLORIDA POWER & LIGHT (HIGH VOLTAGE OH FACILITIES)	NEELESH SHAH	561-694-3507
TECO PEOPLE GAS - FORT LAUDERDALE	JANICE DEANGELIS	305-940-0139
	OR ALEX ROCHE	954-453-0811

3. THE CONTRACTOR SHALL PROVIDE FOUR COPIES OF MARKED-UP (AS-BUILT) CONSTRUCTION PLANS, AND ONE CAD FILE OF SUCH, AT THE TIME OF SIGNAL CONDITIONAL ACCEPTANCE INSPECTION BY THE MAINTAINING AGENCY. THE CONTACTOR SHALL BE REQUIRED TO BECOME FAMILIAR WITH AND COMPLY WITH BCTED'S INSPECTION PROCEDURE.

4. ALL STANDARD PULL BOXES SHALL BE STAMPED "BROWARD COUNTY TRAFFIC SIGNAL" ON THE COVER. FIBER OPTIC PULL BOX DIMENSIONS SHALL BE 24" x 36" x 30" DEEP, AND STAMPED "BROWARD COUNTY TRAFFIC FIBER OPTICS" ON THE COVER. A 6" THICK CONCRETE SLAB SHOULD BE POURED 2' AROUND THE PERIMETER OF THE ALL ISOLATED PULL BOXES SUBJECT TO CAR, TRUCK OR LARGE MOWER WHEEL LOAD OPERATIONS. COST TO BE INCLUDED UNDER PULL BOX PAY ITEMS 635-1-11 & 635-1-15.

5. CONTACT THE FORT LAUDERDALE OPERATIONS SIGNALIZATION/LIGHTING COORDINATOR RON CAPOBIANCO (RON.CAPOBIANCO@DOT.STATE.FL.US) FOR ALL SIGNALIZATION INSPECTIONS AT THE FT. LAUDERDALE OPERATIONS CENTER - (954) 776-4300 OR (754) 868-0023.

6. ALL EXISTING SIGNALIZATION EQUIPMENT TO REMAIN, INCLUDING LOOP ASSEMBLIES, IS ASSUMED TO BE IN GOOD WORKING ORDER UNLESS BCTED IS NOTIFIED IN WRITING PRIOR TO THE START OF CONSTRUCTION. ANY SUBSEQUENT DAMAGE TO THE SIGNAL EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR.

7. WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE DISRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE AN ADVANCE TWO DAY NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL (EMAIL) TO THE COMMUNICATIONS MANAGER AT RBLOUNT @BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PU[illegible] DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. W[illegible] DISRUPTION SHALL BE AT OFF PEAK HOURS BEGINNING AT 9:00AM AND ENDING AT 3:00PM.

8. WHEN THE DEPARTMENT OF TRANSPORTATION DETERMINES THAT THE NEED FOR A TRAFFIC SIGNAL IS CRITICAL TO THE PUBLIC WELFARE, EARLY TURN ON OF THE SIGNAL WILL BE REQUIRED BEFORE THE COMPLETION OF THE CONTRACT. IF THIS NEED ARISES, THE AUTHORIZATION IN WRITING BY BCTED OR FDOT'S SIGNALIZATION & LIGHTING COORDINATOR RON CAPOBIANCO (RON.CAPOBIANCO@DOT.STATE.FL.US), EITHER BCTED OR FDOT WILL NEGOTIATE WITH THE CONTRACTOR FOR MAINTENANCE OF THE SIGNAL. NEW SIGNALS SHALL NOT BE PLACED ON FULL COLOR OPERATION UNTIL THE DATE OF INSPECTION, EXCEPT AS STATED ABOVE. NEW SIGNALS SHALL BE FLASHED NO LESS THAN A WEEK OR MORE THAN TWO WEEKS PRIOR TO THE INSPECTION. SIGNAL HEADS MUST BE BAGGED WITH BURLAP OR TURNED BACK UNTIL THIS TIME.

9. CONTROLLER CABINET SHALL BE ORIENTED SUCH THAT CABINET DOOR OPENS AWAY FROM INTERSECTION.

10. SUBMITTAL DATA (SHOP DRAWINGS) FOR ALL SIGNALIZATION ITEMS MUST BE PROVIDED TO MAINTAINING AGENCY FOR REVIEW AND APPROVAL PRIOR TO THEIR USE.

11. THE CONTRACTOR SHALL MAKE ALL VIDEO DETECTORS INSTALLED AS PART OF THE PROJECT FULLY OPERATIONAL IN ACCORDANCE WITH THEIR ASSOCIATED ISOLATED INTERSECTION SIGNAL TIMING CHART WITHIN 24 HOURS OF THEIR INSTALLATION. INITIAL DETECTION ZONES SHALL BE DIMENSIONED 6'X60' PER LANE, 10' AHEAD OF STOP BARS.

<u>SIGNALIZATION PAY ITEM NOTES:</u>

101-1	THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT INCLUDING A TWO-MAN BUCKET OR PLATFORM LIFT TRUCK FOR THE USE BY THE ENGINEER DURING INSPECTION OF TRAFFIC SIGNALS.
102-1	DURING THE TIME THE CONTRACTOR IS RESTORING ALL MALFUNCTIONING TRAFFIC SIGNAL EQUIPMENT, THE CONTRACTOR SHALL PROVIDE, AT HIS EXPENSE, TEMPORARY TRAFFIC CONTROL DEVICES, FLAGGER PERSONNEL, AND LAW ENFORCEMENT PERSONNEL AS NECESSARY TO MAINTAIN A SAFE AND EFFICIENT FLOW OF TRAFFIC AT THE AFFECTED SIGNALIZED AND UNSIGNALIZED INTERSECTIONS.
639-1-23	INCLUDES THE COST OF PROVIDING 8' CONCRETE STUB POLE TO MOUNT SIGNAL DISCONNECT WHEN NOT PERMITTED TO BE MOUNTED ON POWER COMPANY POLE.
649-3X-XXX	A GIVEN MAST ARM/POLE ASSEMBLY LOCATION SHALL BE FIELD VERIFIED AND IDENTIFIED AS FREE OF CONFLICTS AND/OR OBJECTS BY THE CONTRACTOR PRIOR TO PROCUREMENT OF THE ASSOCIATED MAST ARM/ POLE ASSEMBLY. ASSEMBLIES SHALL BE SUPPLIED WITH A FACTORY APPLIED SOLAR BLACK FINISH (FEDERAL COLOR #27038). CONTACT RON CAPOBIANCO (RON.CAPOBIANCO@DOT.STATE.FL.US) FOR A PRE-SIGNALIZATION FIELD MEETING (954) 776-4300 OR (754) 868-0023.
650-5X-XXX	ALL TRAFFIC SIGNAL HEADS SHALL BE STANDARD, NOT LIGHTWEIGHT. DRAIN HOLES AS REQUIRED UNDER SECTION 650-3.8 OF THE STANDARD SPECIFICATIONS SHALL BE PROVIDED FOR EACH SIGNAL SECTION OF A HORIZONTAL SIGNAL.
650-51-311	TWO OF THE SIGNAL HEADS ON SHEET T-5 ARE REQUIRED TO BE OPTICALLY PROGRAMMED. REFER TO SHEET T-5 FOR FURTHER INFORMATION.
659-107	ALL PEDESTALS SHALL BE PROVIDED WITH TRANSFORMER BASES.
663-74-11	INCLUDES THE COST OF SUNSHIELDS AND POINT DISCHARGE DISSIPATION TERMINALS FOR EACH CAMERA. AN INTEGRATED MENU-DRIVEN INTERFACE, COAX LINE PROTECTORS AND CAMERA POWER PROTECTORS ARE ALSO INCLUDED, AND REQUIRED, UNDER THIS PAY ITEM. AT THE INTERSECTIONS OF NE 7TH AVE / I-595 RAMP AND NE 7TH AVE / ELLER DRIVE ASSEMBLY SHALL BE FURNISHED TO BCTE. INSTALLATION OF THE ASSEMBLY WILL BE DONE AT A LATER DATE BY BCTE AT NO COST TO THE CONTRACTOR.
665-13	INCLUDES FURNISHING AND INSTALLATION OF R10-3E SIGN AT EACH PEDESTRIAN STATION.
670-5-13X	CONTROLLER ASSEMBLY SHALL BE 2070-L WITHIN A TYPE 333 CABINET AND PROVIDE TOTAL UTILITY AND INTEROPERABILITY WITH BROWARD COUNTY'S UTCS COMPUTER SYSTEM. THE TOP OF THE CONTROLLER PAD SHALL BE 0.5 FT. ABOVE HIGHEST ROADWAY ELEVATION. CABINET BASES SHALL BE 46'X30' IN SIZE. A POWER TRANSFER SWITCH SHALL BE INCLUDED ON THE EXTERIOR OF THE CABINET. INCLUDES THE COST PROVIDING GPS PRE-EMPTION EQUIPMENT AND INTEGRATING INTO TRAFFIC CONTROLLER ASSEMBLY.
690-xx	THE CONTRACTOR SHALL DELIVER ALL REMOVED TRAFFIC SIGNAL EQUIPMENT, EXCEPT CONCRETE STRAIN POLES, TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION LOCATED AT: 2300 W COMMERCIAL BLVD., FT. LAUDERDALE, FL. 33309, (954) 847-2626. THE CONTRACTOR SHALL CONTACT BCTED SEVEN (7) FULL WORKING DAYS PRIOR TO DELIVERY. REMOVED CONCRETE STRAIN POLES SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE IN A MANNER AND LOCATION APPROVED BY THE ENGINEER PRIOR TO REMOVAL. ALSO INCLUDES THE COST OF REMOVING, CAREFULLY STOCKPILING, AND RE-INSTALLING GPS PRE-EMPTION EQUIPMENT ONTO NEW SIGNAL SYSTEM. CONTRACTOR SHALL ENSURE GPS PRE-EMPTION IS FULLY FUNCTIONING AS REQUIRED BY BCTED.
699-1-1	ILLUMINATED STREET SIGNS SHALL BE LED TYPE.
555-1-1	INCLUDES WORK AND MATERIAL, INCLUDING PIPE, TO BE INSTALLED IN ACCORDANCE WITH THE SPECIFIED METHOD. ALL CONDUIT UNDER RAILROAD SHALL BE RIGID GALVANIZED STEEL INSTEAD OF PVC SCHEDULE 40.

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REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
7/07/11	FJD 4 ADDED PAY ITEM NOTE FOR 555-1-1		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

GENERAL NOTES

SHEET NO.
T-4

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ITS PAY ITEM NOTES:

785-2-121	INCLUDES FURNISHING AND INSTALLATION OF CABINET AT PROJECT SITE AS INDICATED ON THE PLANS. CABINET SHALL INCLUDE MOUNTING HARDWARE, POWER DISTRIBUTION ASSEMBLIES (AS NECESSARY), AND SHELVES/DIN RAILS. THE CABINET SHALL ALSO INCLUDE FURNISHING AND INSTALLATION OF LIGHTNING PROTECTION SYSTEM WHICH INCLUDES AN AIR TERMINAL MOUNTED ON THE TOP OF THE DEVICE POLE, GROUNDING INDICATORS, GROUND RODS, AND SURGE SUPPRESSORS AS REQUIRED AT THE CCTV AND DETECTOR SITE AS SHOWN IN THE DEVICE INSTALLATION DETAILS.
784-2-1	INCLUDES FURNISHING AND INSTALLING FIELD HARDENED DEVICE SERVER AT DEVICE SITES INDICATED ON THE PLANS. ALL MOUNTING HARDWARE AND CABLES SHALL BE INCLUDED.
784-1-1	INCLUDES FURNISHING AND INSTALLING FIELD HARDENED ETHERNET SWITCHES AT DEVICE SITE INDICATED ON THE PLANS. ALL MOUNTING HARDWARE AND CABLES SHALL BE INCLUDED.
784-3-11	INCLUDES FURNISHING AND INSTALLING VIDEO ENCODERS AT DEVICE SITE AS INDICATED ON THE PLANS. ALL MOUNTING HARDWARE AND CABLES SHALL BE INCLUDED.
782-1-11	INCLUDES FURNISHING AND INSTALLATION OF CCTV ASSEMBLY AT SITE INDICATED ON THE PLANS. ALL MOUNTING HARDWARE, CABLES AND GROUNDING SHALL BE INCLUDED.
785-1-11	INCLUDES FURNISHING AND INSTALLATION OF A CAMERA LOWERING SYSTEM AT CCTV SITE INDICATED ON THE PLANS. THE LOWERING SYSTEM SHALL INCLUDE ALL HARDWARE REQUIRED FOR A COMPLETE INSTALLATION PER MANUFACTURERS RECOMMENDATIONS.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

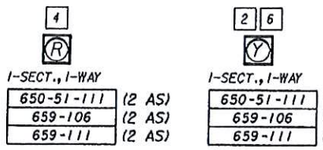
Gerelco Traffic Controls, Inc.
As-Builts

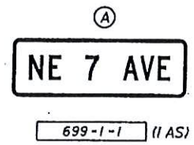
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

GENERAL NOTES

SHEET NO. T-5



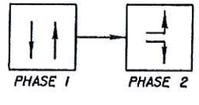


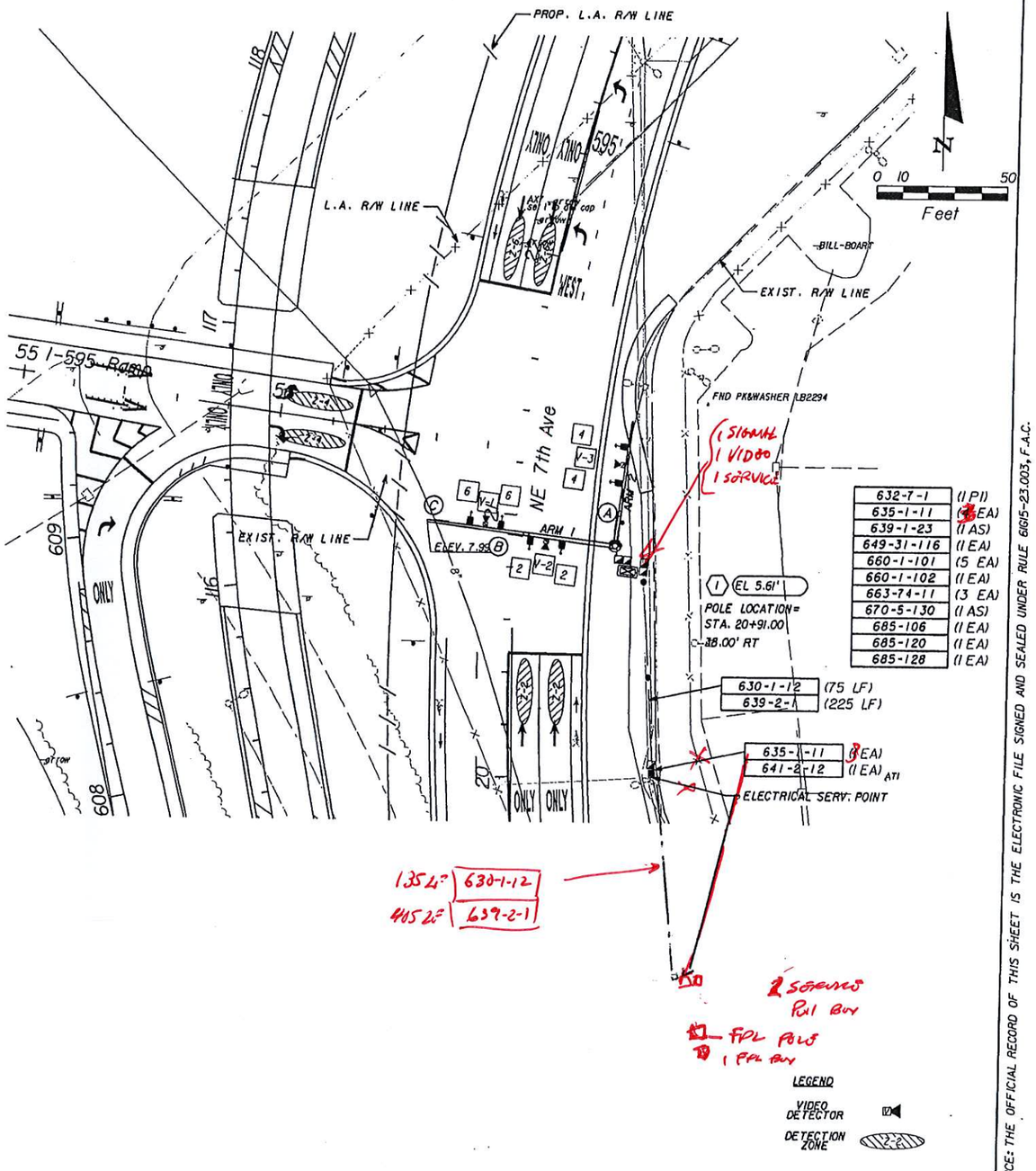
CONTROLLER OPERATIONS:

1. MAJOR STREET IS NE 7th AVENUE (MOVEMENTS 2 AND 6) SHALL FLASH YELLOW.
2. MINOR STREET IS I-595 RAMP (MOVEMENT 4) SHALL FLASH RED.
3. SIGNAL SHALL BE WIRED TO OPERATE AS SOP 1 (MOD.) AND SHALL OPERATE IN FLASH MODE.

CONTROLLER TIMINGS				* SEE NOTE 3
TIMING FUNCTION	2	4	6	
MOVEMENT NUMBER	2	4	6	
MINIMUM GREEN	4.0	4.0	4.0	
EXTENSION	3.0	3.0	3.0	
MAXIMUM GREEN 1				
MAXIMUM GREEN 2				
YELLOW CLEARANCE	4.0	3.5	4.0	
ALL RED	2.7	2.4	2.7	
PEDESTRIAN WALK				
PED. CLEARANCE				
RECALL	MIN	MIN		
GREEN RETURNS	1	5	2	

S.O.P. 1 (MOD.) * SEE NOTE 3





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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

SIGNALIZATION PLAN

3336

SHEET NO. T-6

1 2 5 6 7 8

I-SECT., I-WAY

650-51-111	(10 AS)
659-106	(10 AS)
659-111	(10 AS)

7A * ** GRAVITY WALL MOUNTED SIGNAL

I-SECT., I-WAY

650-51-113	(2 AS)
659-107	(2 EA)
659-111	(2 AS)

OPTICALLY PROGRAMMED

P-4

PED. SIGNAL COUNT-DOWN I-SECT., I-WAY

2 AS 653-19I

659-107	(2 EA)
665-13	(2 EA)

* GRAVITY WALL MOUNTED TRAFFIC SIGNAL SHALL BE CONSTRUCTED TO ACCOMMODATE FUTURE 3 SECTION SIGNAL HEADS.
** REFER TO GRAVITY WALL MOUNTED SIGNAL DETAIL (SHEETS T-20 THRU T-21).

(2 EA)
R10-03E
9"x15"

Ⓔ
NO TURN ON RED
R10-11A
24"X30"
FUTURE SIGN TO BE FURNISHED AND INSTALLED BY BCTE.

CONTROLLER OPERATIONS:

1. MAJOR STREET IS ELLER DR. (MOVEMENTS 2, 5, 6 AND 1) SHALL FLASH RED.
2. MINOR STREET IS NE 7th AVENUE (MOVEMENT 4, 7 AND 8) SHALL FLASH RED.
3. SIGNAL SHALL BE WIRED FOR OPERATION OF SOP 9 (MOD.) AND SHALL OPERATE IN FLASH MODE.
4. PEDESTRIAN SIGNAL SHALL BE DARK OR BAGGED UNTIL TRAFFIC SIGNAL IS OPERATED IN MODE OTHER THAN FLASH.
5. NORMAL CLEARANCE OF PHASE 7 GREEN AND YELLOW INTERVALS SHALL BE PROGRAMMED FOR MOVEMENT 7A WHEN PHASE 5 IS TERMINATED.

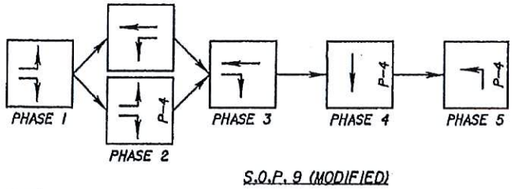
Ⓐ
NE 7 AVE
699-1-1 (2 AS)

Ⓑ
ELLER DR
699-1-1 (2 AS)

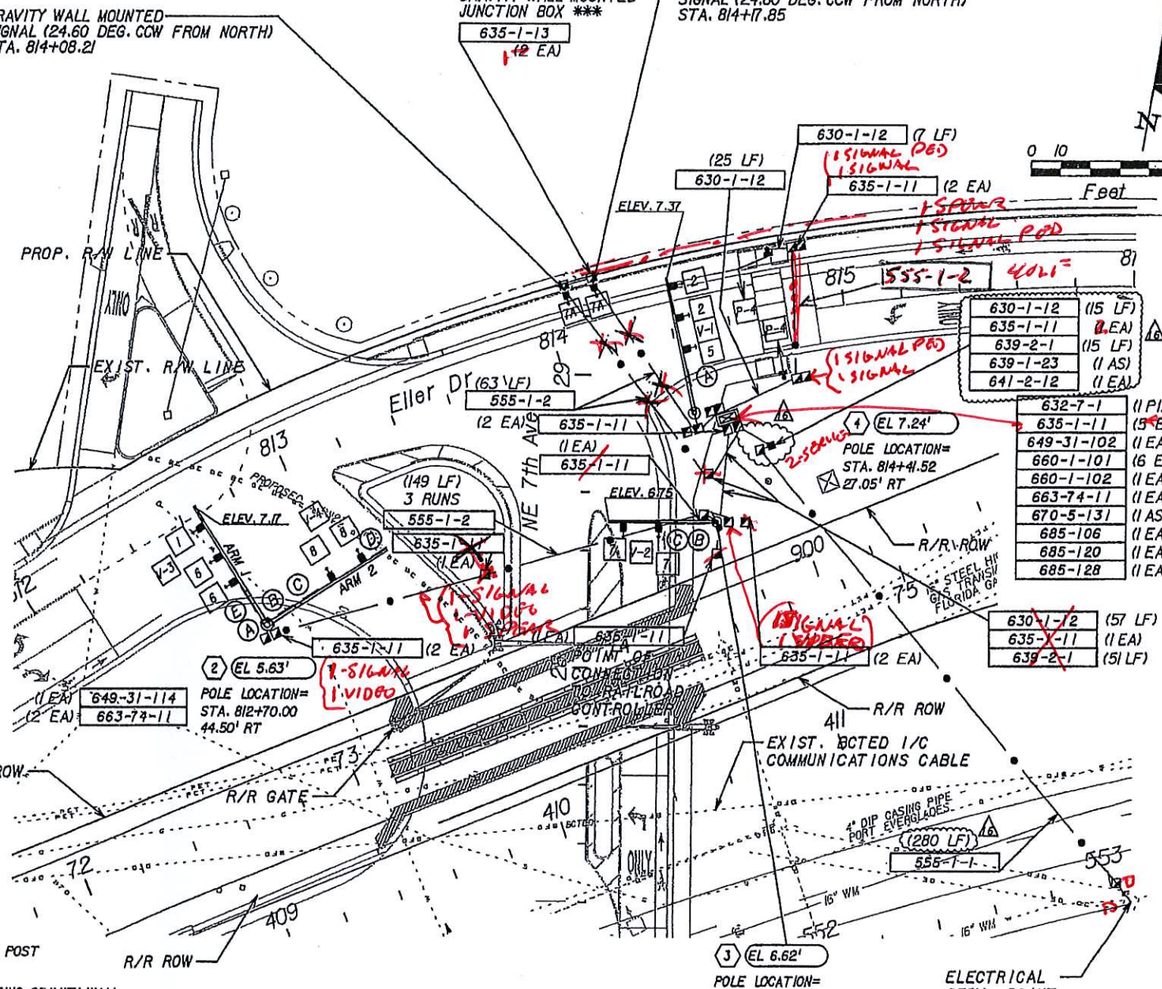
Ⓒ
R3-1
24"X24"
700-48-18 (2 EA)

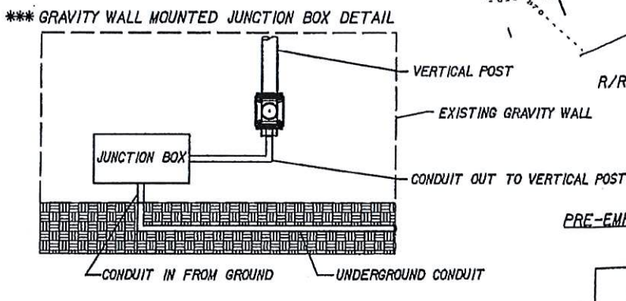
Ⓓ
R3-2
24"x24"
700-48-18 (1 EA)

CONTROLLER TIMINGS							**** SEE NOTE 3
CONTROLLER TIMING FUNCTION ID	TF1	TF2	TF3	TF4	TF5	TF6	
MOVEMENT NUMBER	1	2	8	7,6,4	5	6	
MINIMUM GREEN	4.0	4.0	4.0	4.0	4.0	4.0	
EXTENSION	3.0	3.0	3.0	3.0	3.0	3.0	
MAXIMUM GREEN 1							
MAXIMUM GREEN 2							
YELLOW CLEARANCE	3.5	4.3	3.5	3.5	3.5	3.5	
ALL RED	2.5	4.4	4.1	3.6	3.6	4.1	
PEDESTRIAN WALK				5.0			
PED. CLEARANCE				10			
RECALL		MIN				MIN	
GREEN RETURNS	7	1	3	5	8	2	

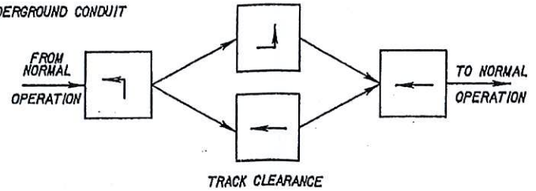


S.O.P. 9 (MODIFIED)





PRE-EMPTION S.O.P. (**** SEE NOTE 3)



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
07/06/12	13 REVISED PEDESTAL MOUNTED SIGNAL HEADS, PEDESTRAIN SIGNAL LOCATION AND ASSOCIATED CONDUIT.		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

SIGNALIZATION PLAN

SHEET NO. T-7

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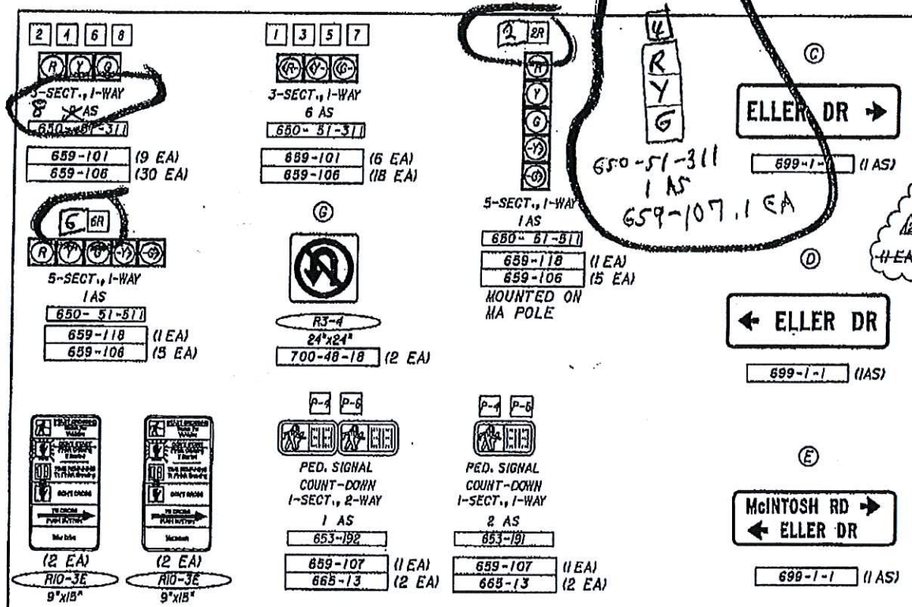


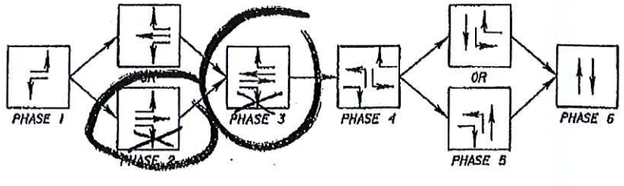
CONTROLLER OPERATIONS:

1. MAJOR STREET IS ELLER DRIVE (MOVEMENTS 2 AND 6) SHALL FLASH YELLOW.
2. MINOR STREET IS MCINTOSH ROAD (MOVEMENTS 4 AND 8) SHALL FLASH RED.
3. ALL LEFT TURN SIGNALS (MOVEMENTS 1, 5 AND 7) SHALL FLASH RED.
4. THE CONTROLLER SHALL BE WIRED FOR AND OPERATE AS SOP 10 (MOD.)
5. HARD-WIRE DUAL ENTRY BETWEEN TIMING FUNCTIONS FOUR AND EIGHT.
6. RELOCATE EXISTING TELEPHONE DROP TO PROPOSED CABINET LOCATION.

CONTROLLER TIMINGS

CONTROLLER TIMING FUNCTION	TF1	TF2	TF3	TF4	TF5	TF6	TF7	TF8
MOVEMENT NUMBER	1	2,2R	3,6R	4		6,2R	1,8 GR	8
MINIMUM GREEN			1R					
EXTENSION								
MAXIMUM GREEN 1								
MAXIMUM GREEN 2								
YELLOW CLEARANCE	3.5	4.3	3.5	4.0	3.5	4.3	5.4	4.0
ALL RED	3.6	2.6	3.3	3.5	3.9	2.4	4.1	3.3
PEDESTRIAN WALK								
PED. CLEARANCE								
RECALL		MIN				MIN		
GREEN RETURNS	7	1	3	5	8	2	4	6

S.O.P. 10 (MODIFIED)



DETECTOR CHART

ZONE	CHANNEL NO.	DELAY
Z-1	A	N
Z-2	A, B	N
Z-3	A	N
Z-4	A	Y
Z-5	A	N
Z-6	A, B, C	N
Z-7	A	N
Z-8	A	Y

REVISION #12 ONLY

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
5/03/12	13 ELIMINATED MAST ARM ASSEMBLY #6, ELIMINATED CONDUIT & PULL BOXES IN NW QUADRANT		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

SIGNALIZATION PLAN

SHEET NO. T-8

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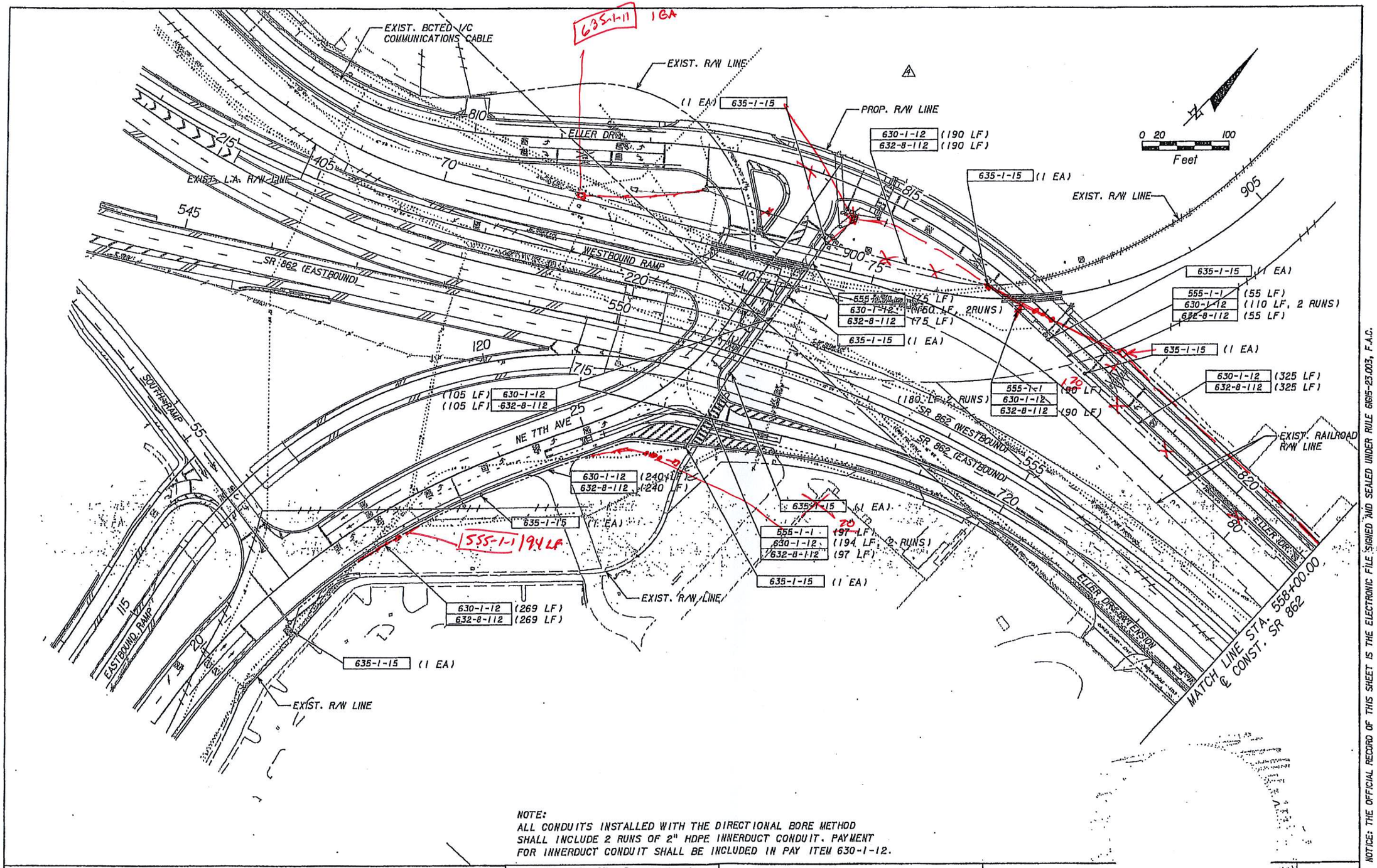

NOTE:
ALL CONDUITS INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL INCLUDE 2 RUNS OF 2" HDPE INNERDUCT CONDUIT. PAYMENT FOR INNERDUCT CONDUIT SHALL BE INCLUDED IN PAY ITEM 630-1-12.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
7/07/11	FJD 4 REVISED INTERCONNECT		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

INTERCONNE...

SHEET NO. T-9

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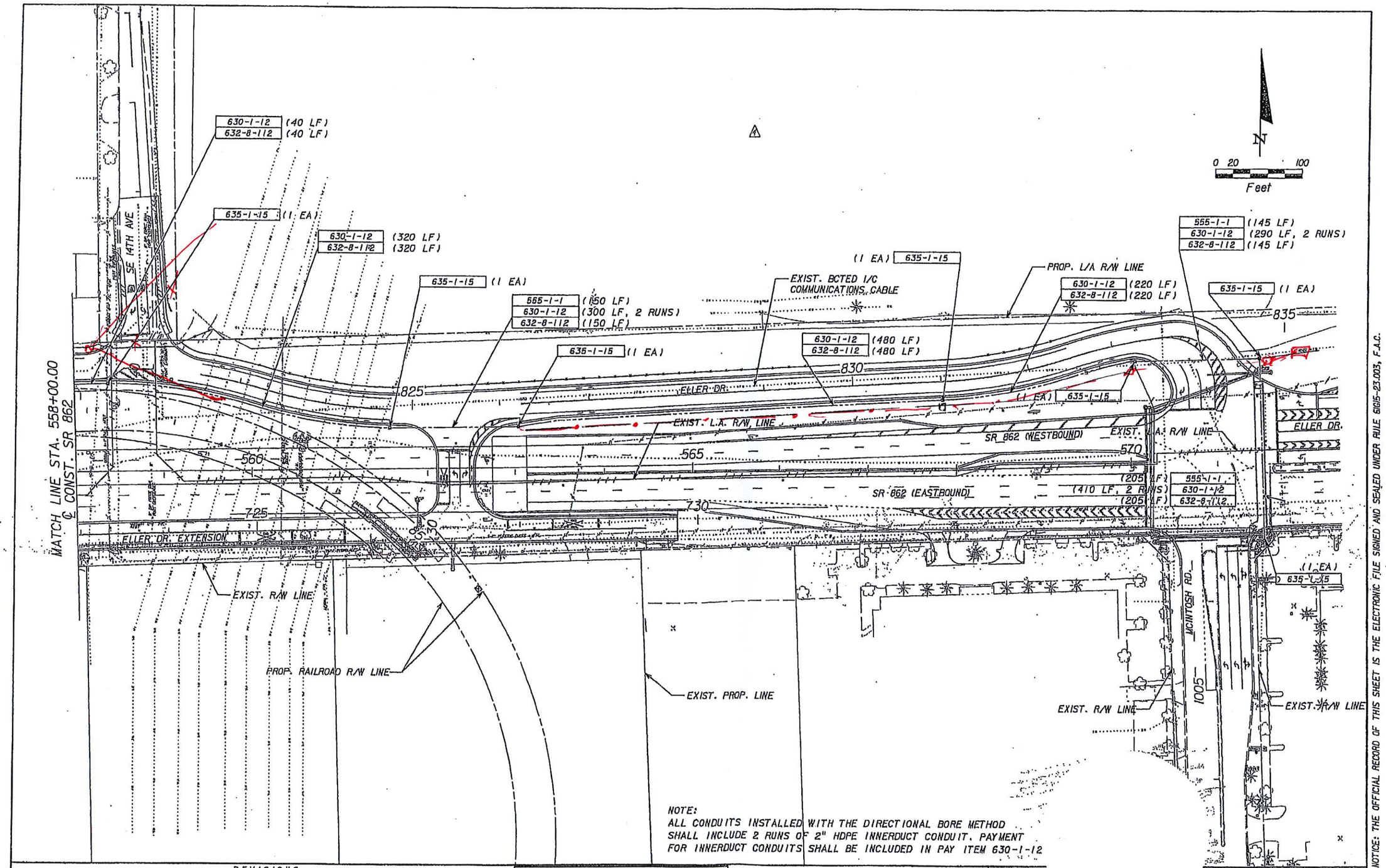

NOTE:
ALL CONDUITS INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL INCLUDE 2 RUNS OF 2" HDPE INNERDUCT CONDUIT. PAYMENT FOR INNERDUCT CONDUITS SHALL BE INCLUDED IN PAY ITEM 630-1-12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
7/07/11	FJD 4 REVISED INTERCONNECT		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

INTERCONNECT PLAN

SHEET NO. T-10

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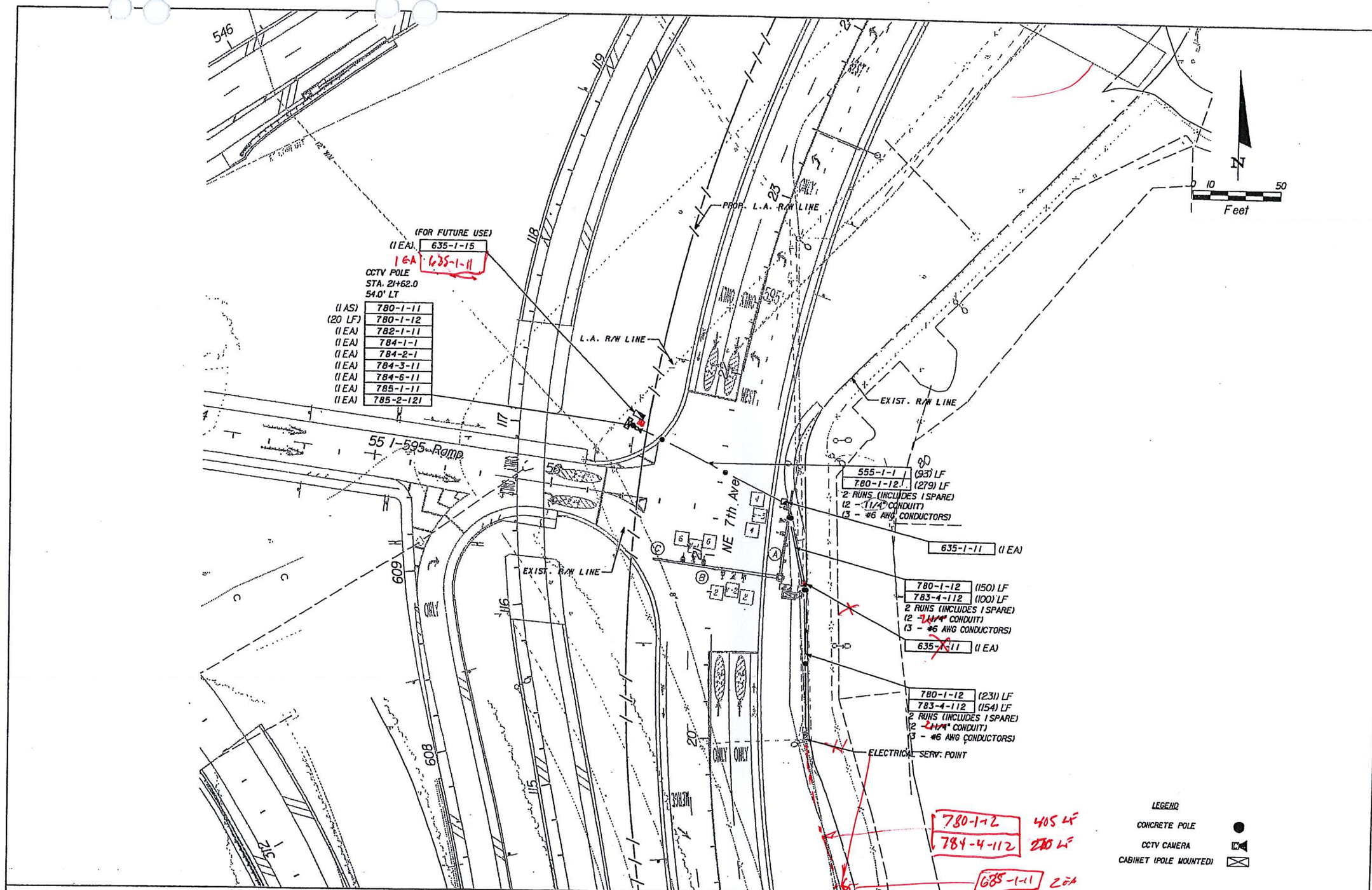

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

ITS PLAN

SHEET NO. T-11

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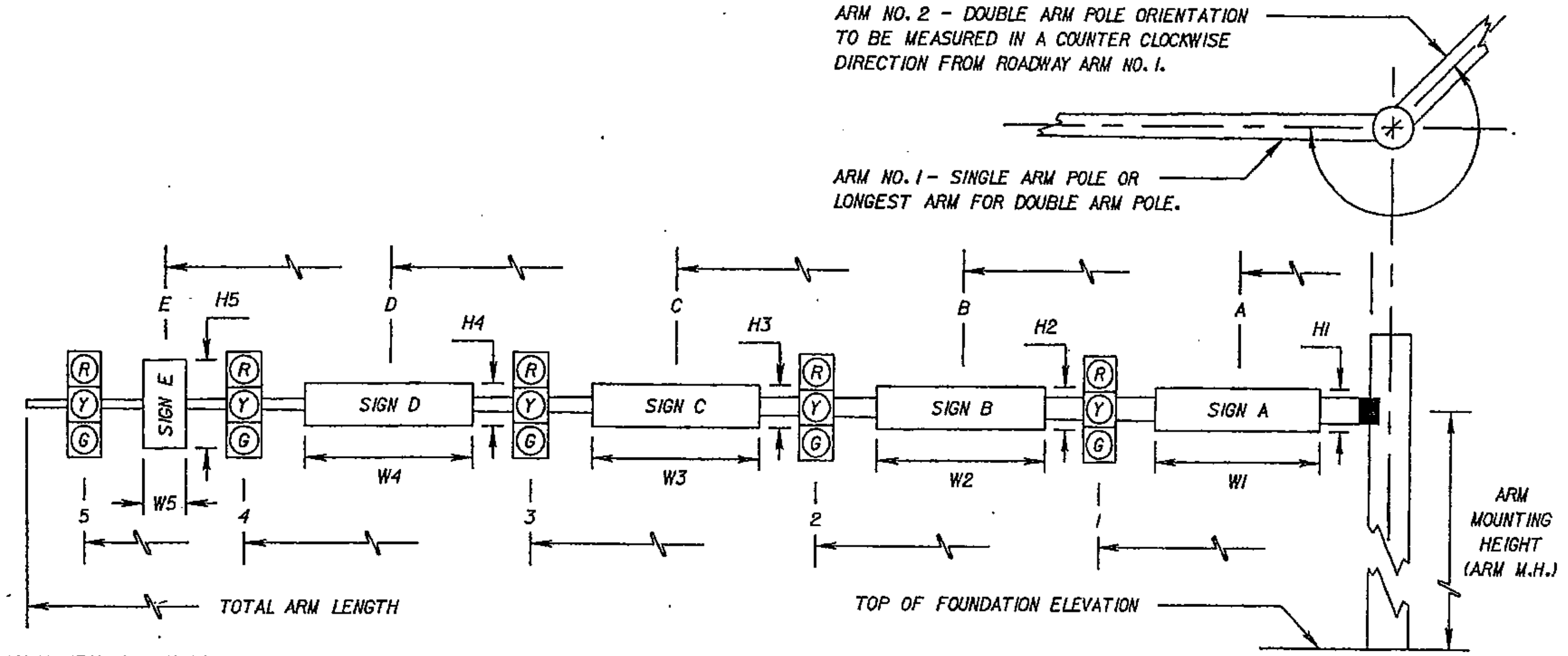


SPECIAL INSTRUCTIONS			
ID NO.	PED. BUTTON	PED. SIGNALS	HANDHOLE LOCATION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

ICEUISTON #12 ONLY

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

MAST ARMS UTILIZING I-SECTION HEADS SHALL BE DESIGNED FOR FUTURE 3-SECTION HORIZONTALLY MOUNTED HEADS

SIGNAL DATA

Rev.	ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUNDATION ELEVATION	RDWY ARM NO.	CROWN ELEV.	SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE 1	*	2	*	3	*	4	*	5	*	TOTAL ARM LENGTH	ARM M.H.	∠ BETWEEN DUAL ARMS 90/270
12	1	T-6	20+91.00	5.61	1	7.06	H	Y	N	18.2	1	30.2	1	42.3	1	54.3	1			70.5	20.0	270°
					2		H	Y	N	22.2	1	36.2	1							46.0		
12	2	T-7	812+70.00	5.63	1	7.17	H	Y	N	16.6	1	26.6	1	38.6	1					46.0	20.0	270°
					2		H	Y	N	25.3	1	37.3	1							46.0		
12	3	T-7	28+50.00	6.62	1	6.75	H	Y	N	18.9	1	30.9	1							36.0	20.0	
					2																	
12	4	T-7	814+41.52	7.24	1	7.37	H	Y	N	21.0	1	32.0	1	43.0	1					46.0	20.0	
					2																	
12	5	T-8	1006+69.00	9.48	1	9.75	H	Y	N	35.5	3	49.5	3	64.5	3					70.5	20.0	
					2																	
12	~~6~~	~~T-8~~	~~1006+56.00~~	~~9.98~~	~~1~~	~~9.95~~	~~H~~	~~Y~~	~~N~~	~~15.7~~	~~3~~	~~32.7~~	~~3~~							~~36.0~~	~~20.0~~	
					2																	
12	7	T-8	571+58.00	10.73	1	12.11	H	Y	N	17.9	5	47.9	3	59.9	3	73.9	3			78.0	20.0	
					2																	
12	8	T-8	1008+55.00	9.83	1	10.65	H	Y	N	27.2	3	37.2	3	49.2	3	61.2	3			70.5	20.0	
					2																	
12	9	T-8	570+17.00	9.50	1	11.02	V, H	Y	N	0.0	5	23.8	3	35.8	3	58.8	3			70.5	20.0	
					2																	
					1																	
					2																	
					1																	
					2																	
					1																	
					2																	
					1																	
					2																	
					1																	
					2																	

** DENOTES FUTURE SIGN *** DENOTES LOCATION OF VIDEO CAMERA

SIGN DATA — DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN

ID NO.	RDWY ARM NO.	A	H1	W1	B	H2	W2	C	H3	W3	D***	H4	W4	E***	H5	W5	PAINT COLOR
1	1	36.2	2.0	2.0	65.2	2.0	2.0				24.2	0.5	0.5	48.3	0.5	0.5	27038
	2	6.2	2.0	6.0							29.2	0.5	0.5				27038
2	1	9.0	2.0	6.0	13.0**	2.5**	2.0**				32.6	0.5	0.5				27038
	2	6.0	2.0	6.0	16.0	2.0	2.0	43.3	2.0	2.0	31.3	0.5	0.5				27038
3	1	6.0	2.0	6.0	13.0	2.0	2.0				24.9	0.5	0.5				27038
	2																
4	1	11.0	2.0	6.0							26.5	0.5	0.5				27038
	2																
5	1	21.0	2.0	6.0	68.5	2.0	2.0				42.5	0.5	0.5				27038
	2																
~~6~~	~~1~~																~~27038~~
	2																
7	1	9.0	2.0	6.0							53.9	0.5	0.5				27038
	2																
8	1	12.0	2.0	6.0	67.9	2.0	2.0				43.2	0.5	0.5				27038
	2																
9	1	15.0	2.0	6.0							29.8	0.5	0.5				27038
	2																

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
5/03/12	12 MAST ARM ASSEMBLY #6 REMOVED FROM PLANS. REVISED SHEET NUMBERS FOR ALL MAST ARM ASSEMBLIES.		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 862	BROWARD	403984-1-52-01

MAST ARM TABULATION

SHEET NO. T-12

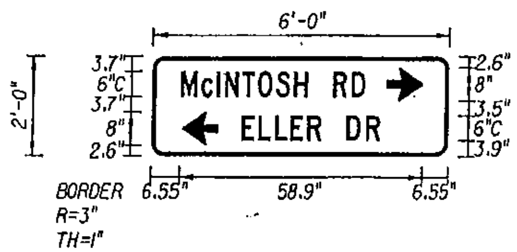
5/10/2012

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

SIGN NAME	E	STATION(S)	
QUANTITY	2	1	none
WIDTH	6'-0"	2	
HEIGHT	2'-0"	3	
BORDER WIDTH	1"	4	
BORDER RADII	3"	5	
PANEL COLOR	Green		
LEGEND	White		
BORDER	White		

SYMBOL(S)	ANGLE	X	Y	WID	HT
ARSHRT	0	56.5	13.4	8	9
ARSHRT	180	7	2.6	8	9

SIGN NUMBER	CLEARANCE EDGE OF LANE	COLUMN SIZE		AVERAGE LENGTH

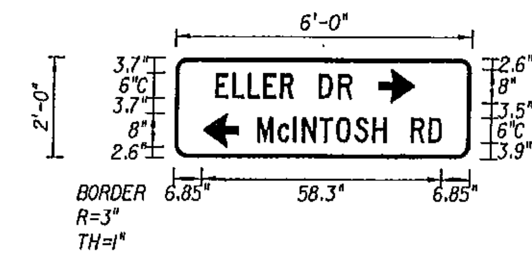


COPY		M	c	I	N	T	O	S	H		R	D		L
SPACE	6.5	5	3.8	2.2	4.2	3.8	4.4	4.4	3.4	6	4.4	3.4	20.8	44.9
COPY		E	L	L	E	R		D	R		L			
SPACE	21.7	4.1	3.9	3.9	4.1	3.4	6	4.6	3.4	17	33.2			
COPY														
SPACE														
COPY														
SPACE														
COPY														
SPACE														
COPY														
SPACE														

SIGN NAME	F	STATION(S)	
QUANTITY	1	1	none
WIDTH	6'-0"	2	
HEIGHT	2'-0"	3	
BORDER WIDTH	1"	4	
BORDER RADII	3"	5	
PANEL COLOR	Green		
LEGEND	White		
BORDER	White		

SYMBOL(S)	ANGLE	X	Y	WID	HT
ARSHRT	0	49.2	13.4	8	9
ARSHRT	180	6.8	2.6	8	9

SIGN NUMBER	CLEARANCE EDGE OF LANE	COLUMN SIZE		AVERAGE LENGTH



COPY		E	L	L	E	R		D	R		L			
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COPY		M	c	I	N	T	O	S	H		R	O		L
SPACE	20.3	5	3.8	2.2	4.2	3.8	4.4	4.4	3.4	6	4.4	3.4	6.8	44.9
COPY														
SPACE														
COPY														
SPACE														
COPY														
SPACE														
COPY														
SPACE														

SIGN NAME		STATION(S)	
QUANTITY		1	
WIDTH		2	
HEIGHT		3	
BORDER WIDTH		4	
BORDER RADII		5	
PANEL COLOR			
LEGEND			
BORDER			

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	CLEARANCE EDGE OF LANE	COLUMN SIZE		AVERAGE LENGTH

COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	

SIGN NAME		STATION(S)	
QUANTITY		1	
WIDTH		2	
HEIGHT		3	
BORDER WIDTH		4	
BORDER RADII		5	
PANEL COLOR			
LEGEND			
BORDER			

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	CLEARANCE EDGE OF LANE	COLUMN SIZE		AVERAGE LENGTH

COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	
COPY	
SPACE	

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

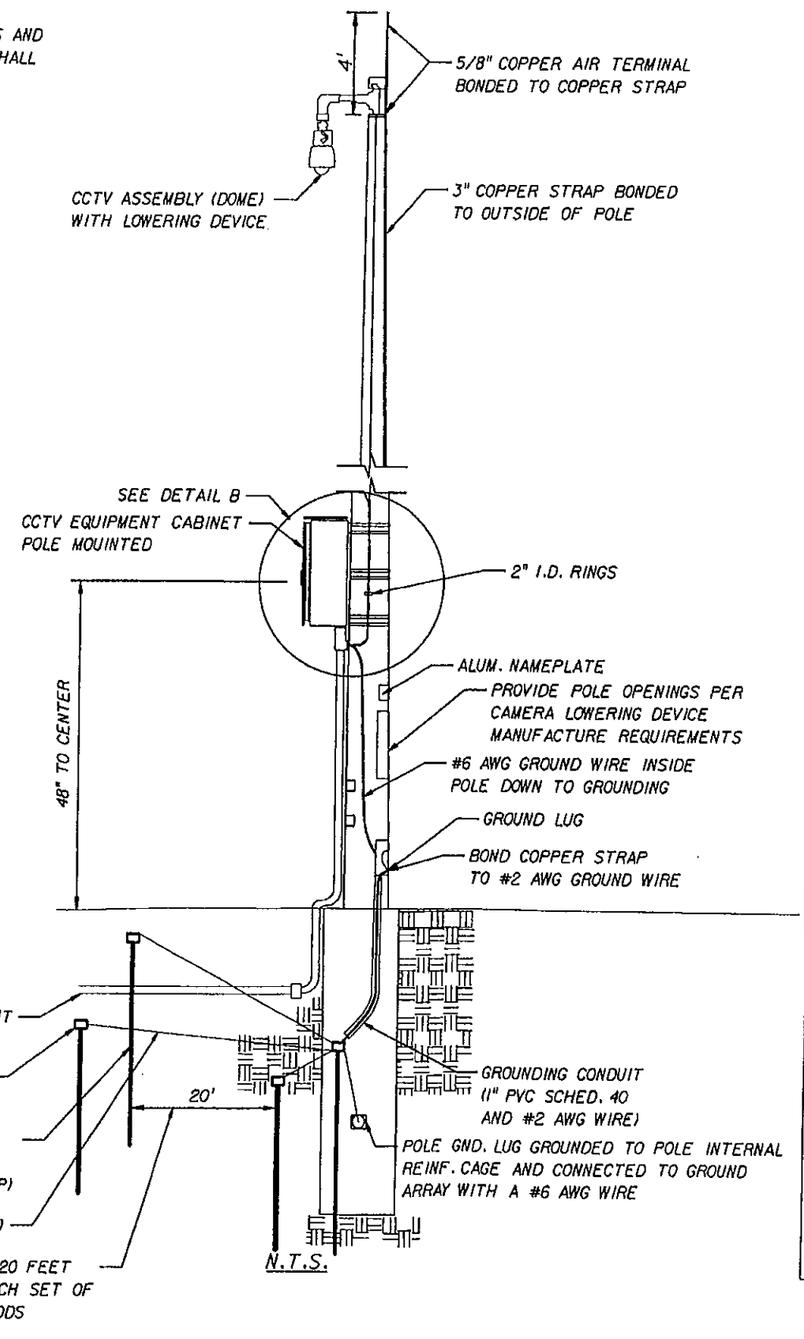
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

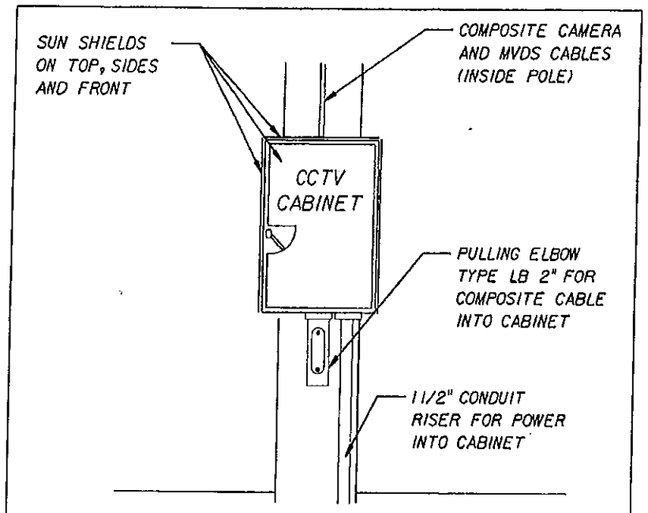
GUIDESIGN WORKSHEET

SHEET NO. T-14

2/7/2010 9:34:35 PM D:\403984I5201\signals\sgwksn01.dgn

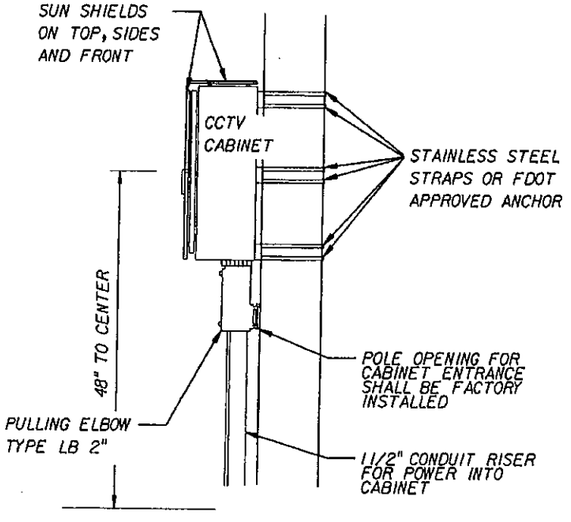
1. GROUNDING CABLE FROM POLE SHALL EXIT THE FOUNDATION PERPENDICULAR TO CABLES RUNNING FROM THE CABINET TO THE POLE.
2. POLE TOP TENON SHALL BE ATTACHED TO THE POLE TOP WITH MOUNTING HOLES AND SLOT AS REQUIRED FOR THE MOUNTING OF THE LOWERING DEVICE. THE TENON SHALL BE OF DIMENSIONS NECESSARY TO FACILITATE LOWERING DEVICE COMPONENT INSTALLATION. EACH SLOT SHALL BE PARALLEL TO THE POLE CENTERLINE FOR MOUNTING THE LOWERING DEVICE.
3. ALL CABLES SHALL BE SECURED IN A MANNER THAT PREVENTS THEM FROM INTERFERING WITH OR BEING DAMAGED BY THE LOWERING CABLE THAT MOVES WITHIN THE POLE.
4. LOWERING ARM SHALL BE MOUNTED PERPENDICULAR TO THE ROADWAY OR AS DIRECTED BY THE ENGINEER. THE CC TV POLE SHALL BE POSITIONED SO THAT THE DOME ENCLOSURE CAN BE SAFELY LOWERED WITHOUT REQUIRING LANE CLOSURES.
5. CAMERA LOWERING SYSTEM SHALL INCLUDE POLE TOP J-BOX, MOUNTING HARDWARE, LOWERING CABLE, MOLDED CONTACT BLOCK, CAMERA AND J-BOX.
6. CAMERA LOWERING DEVICE TO BE SHIPPED READY FOR POLE ATTACHMENT TO INCLUDE COMPOSITE POWER AND SIGNAL CABLE PRE WIRED TO LOWERING DEVICE AT THE FACTORY LENGTH REQUIRED.
7. THE LOWERING DEVICE MANUFACTURER SHALL SUPPLY A PORTABLE LOWERING TOOL WITH BOTH MANUAL HAND CRANK AND A PORTABLE ELECTRIC DRILL MOTOR WITH CUSTOM CLUTCH ADAPTER.
8. ALL POLES SHALL BE INSTALLED TO MEET THE MINIMUM REQUIRED CLEAR ZONE OFFSET, AS DEFINED IN THE LATEST EDITION OF THE FDOT PLANS PREPARATION MANUAL.
9. EMBEDMENT DEPTH OF CONCRETE POLES SHALL BE BASED UPON GEOTECHNICAL REPORT FOR EACH POLE LOCATION.
10. CAMERA LOWERING DEVICE SHALL BE TESTED TO A WIND LOAD OF 100 MPH WITH A 30% GUST FACTOR AND A 1.65 SAFETLY FACTOR.
11. MOUNT CABINET ON THE SIDE OF THE POLE OPPOSITE THE FLOW OF TRAFFIC.





DETAIL B (FRONT VIEW)

CCTV EQUIPMENT CABINET DETAIL



DETAIL B (SIDE VIEW)

CCTV EQUIPMENT CABINET DETAIL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

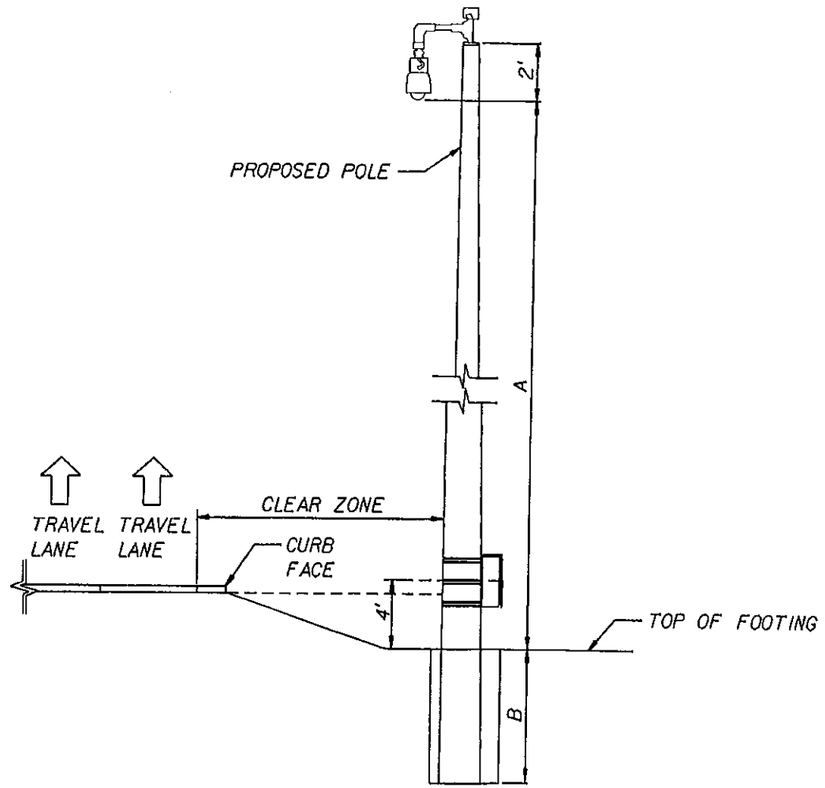
Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

CCTV INSTALLATION DETAILS

SHEET NO. T-15



TYPICAL CCTV POLE INSTALLATION
ALONG ROADWAY

CCTV ID	A	B	LENGTH (A+B+2)	# OF SENSORS	NOTES
CCTV-XXX-XX	60'	13'	75'	1	

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

CCTV INSTALLATION DETAILS

SHEET NO.
T-16

STANDARD MAST ARM ASSEMBLIES DATA TABLE

STRUCTURE ID NUMBERS	ASSEMBLY NUMBERS (1)	FIRST ARM			SECOND ARM			UF (deg)	LL (deg)	POLE				SPECIAL DRILLED SHAFT (4)				GROUT PAD
		ARM TYPE	FAA (2) (ft.)	FBA (2) (in.)	ARM TYPE	FAA (2) (ft.)	FBA (2) (in.)			POLE TYPE	UAA (3) (ft.)	UB (ft.)	UCA (3) (in.)	DA (ft.)	DB (ft.)	RA	RB	Y/N
1	D6-D4-S4	D6			D4			270°		S4	22	20	22.92					Y
2	D4-D4-S3	D4			D4			270°		S3	22	20	22.92					Y
3	D1-S1	D1								S1	22	20	12.92					Y
4	D3-S2	D3								S2	22	20	14.92					Y
5	D6-S4	D6								S4	22	20	22.92					Y
6	D1-S1	D1								S1	22	20	12.92					Y
7*	D7-S6	D7								S6	22	20	21.92					Y
8	D6-S4	D6								S4	22	20	22.92					Y
9	D6-S4	D6								S4	22	20	22.92					Y

* Install damping device on Structure No. 7 - Arm D7 in accordance with Standard Index No. 17745 and 17749.

TABLE NOTES:

1. Assembly Number Legend

   Single Arm:
   Arm Type - Pole Type = D# - S#
   = E# - T#
   = F# - W#

   Double Arm:
   First Arm Type - Second Arm Type - Pole Type = D# - D# - S#
   = E# - E# - T#
   = F# - F# - W#

2. If an entry appears in columns "FAA" and "FBA", a shorter arm is required. This is obtained by removing length from the arm tip. For these cases the mast arm length shall be shortened from "FA" to "FAA" and the tip diameter shall be increased from "FB" to "FBA".

3. If an entry appears in columns "UAA" and "UCA", a shorter pole is required. This is obtained by removing length from the pole tip. For these cases the pole height shall be shortened from "UA" to "UAA" and the pole tip diameter shall be increased from "UC" to "UCA".

4. The foundations for Standard Mast Arm Assemblies are pre-designed and are based upon the following conservative soil criteria which covers the great majority of soil types found in Florida. Only complete the "Special Drilled Shaft" data information if site conditions dictate drilled shafts with additional foundation capacity.

   Classification = Cohesionless (Fine Sand)
   Friction Angle = 30 Degrees (30°)
   Unit Weight = 50.0 lbs. / cu. ft. (assumed saturated)

GENERAL NOTES:

1. Work this sheet with the Signal Designer's "Mast Arm Tabulation". See "Mast Arm Tabulation" for special instructions that include non-standard Handhole location, paint color, terminal compartment requirement, and pedestrian features.

2. Work with Index Nos. 17743 and 17745.

3. When placing Standard Mast Arm Assemblies on existing foundations, remove existing grout pad and cut existing anchor bolts flush with top of foundation. Replace damaged or removed portions of the foundation, using epoxy bonding compound according to Section 400 of the Specifications. Replace grout pad according to Section 934 of the Specifications.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

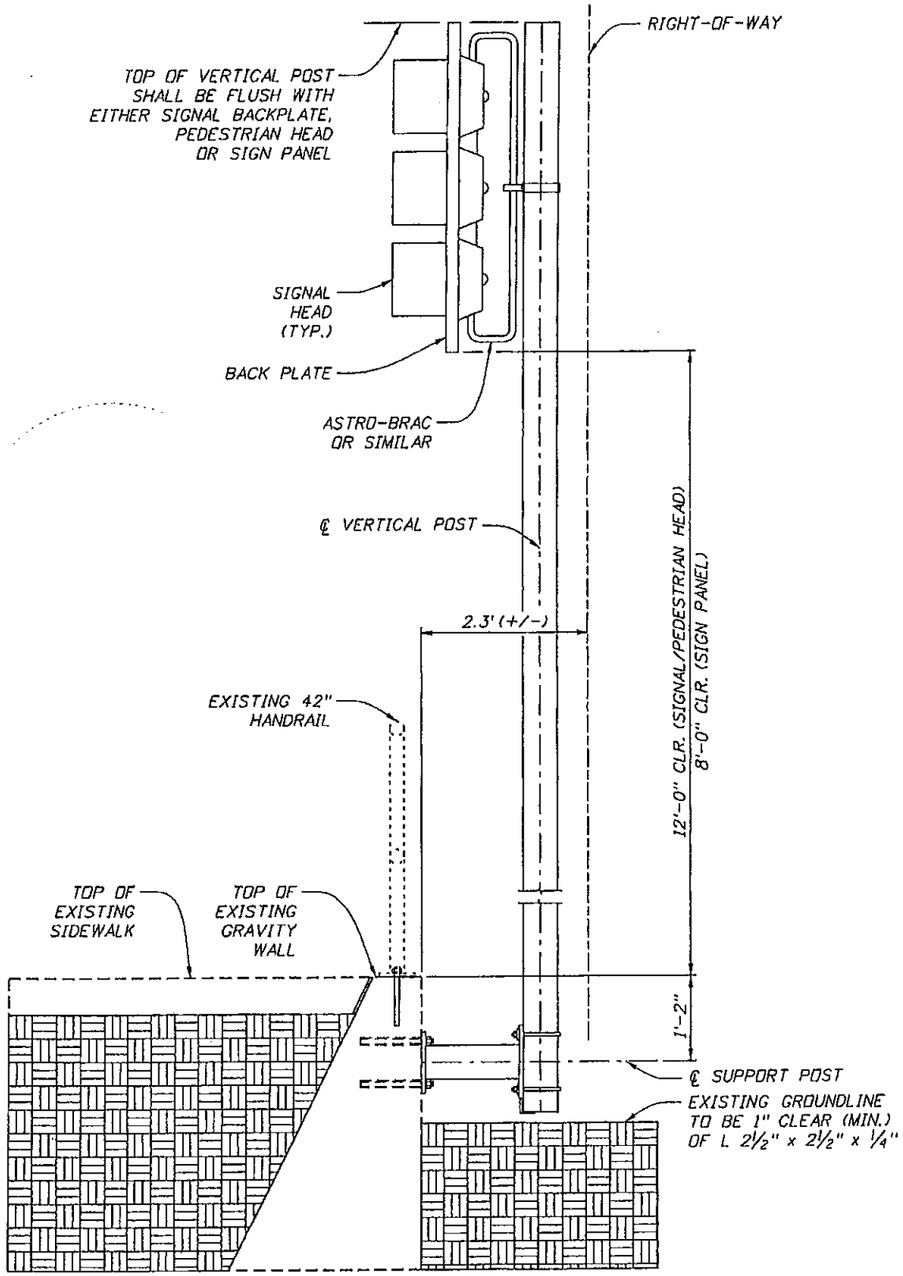
Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

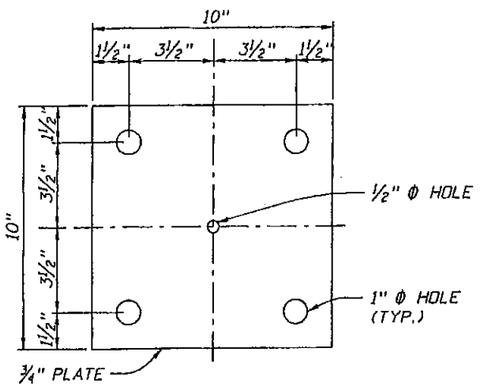
STANDARD MAST ARM ASSEMBLIES DATA TABLE

SHEET NO. T-17

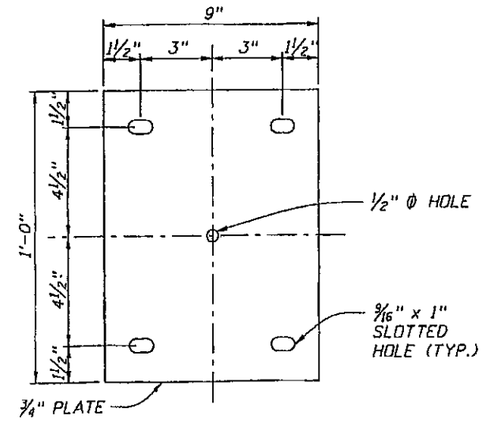


GRAVITY WALL MOUNTED SUPPORT BRACKET

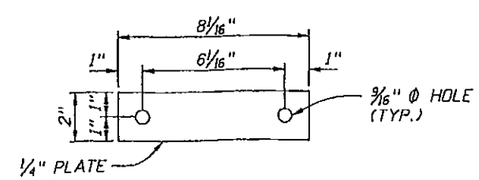
(SIGNAL SHOWN. PEDESTRIAN HEAD AND SIGN PANELS SIMILAR AND AS NOTED.)
(PEDESTRIAN HEAD & SIGN PANEL ORIENTATION SHALL BE THE SAME AS WHAT IS SHOWN FOR THE SIGNAL HEAD.)



BASE PLATE



END PLATE



U-BOLT PLATE WASHER

GENERAL NOTES:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (5TH EDITION) AS MODIFIED BY THE FDOT STRUCTURES MANUAL.

WIND SPEED: 150MPH

GEOMETRY: INSTALL SIGNAL HEAD, PEDESTRIAN HEAD OR SIGN PANELS AT THE CLEAR DISTANCE ABOVE THE TOP OF GRAVITY WALL SHOWN. CHANGES TO THE CLEAR HEIGHTS SHOWN MUST BE APPROVED IN WRITING BY THE ENGINEER. INSTALL THE VERTICAL POST PLUMB. CENTERLINE OF SUPPORT POST SHALL BE A MINIMUM OF 2'-0" AWAY FROM ANY VERTICAL CONSTRUCTION JOINT IN THE EXISTING GRAVITY WALL AND A MINIMUM OF 10'-0" AWAY FROM THE END OF THE EXISTING GRAVITY WALL.

APPLICABILITY: THREE HEADED SIGNALS WITH BACKPLATES HAVING A WIDTH UP TO 2'-6" AND A LENGTH UP TO 4'-6" MAY BE ATTACHED TO THE VERTICAL POST. SINGLE SIGN PANELS HAVING A WIDTH UP TO 3'-0" AND A LENGTH UP TO 3'-0" MAY BE ATTACHED TO THE VERTICAL POST. IF DIMENSIONS EXCEEDING THOSE LISTED ARE TO BE USED, THE ENGINEER SHALL BE NOTIFIED TO EVALUATE THE NEED FOR A POSSIBLE RE-DESIGN. ONLY ONE ELEMENT MAY BE ATTACHED TO THE VERTICAL POST.

SEE SIGNALIZATION AND SIGNING AND PAVEMENT MARKING PLANS FOR ADDITIONAL DETAILS NOT SHOWN AND PAY ITEM NOTES.

SUBMIT SHOP DRAWINGS FOR REVIEW. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS HAVE BEEN APPROVED.

MATERIAL NOTES:

COATINGS: HOT DIP GALVANIZE ALL STEEL AND FASTENERS IN ACCORDANCE WITH SPECIFICATION SECTION 962. GALVANIZE SIGN SUPPORT WELDMENT AFTER FABRICATION. PAINT SUPPORT BRACKETS AND POSTS WHEN SHOWN IN THE PLANS IN ACCORDANCE WITH SPECIFICATION SECTION 649-4.

SUPPORT POST: ASTM A501 5" NPS SCHEDULE 80 STEEL PIPE.

VERTICAL POST: ALUMINUM ASSOCIATION ALLOY 6061-T6 (ASTM B209, B221 OR B308) 5" NPS SCHEDULE 40 ALUMINUM PIPE.

STEEL PLATES: ASTM A36 OR A709 GRADE 36.

ANCHOR RODS: ASTM F1554 GRADE 55 WITH A SINGLE SELF-LOCKING HEX NUT AND WASHERS. INSTALL ANCHOR ROD PERPENDICULAR TO THE BASE PLATES ON BACK OF THE GRAVITY WALL. SEE ANCHORAGE NOTES ON SHEET T-21.

ADHESIVE BONDED ANCHORS: FULLY THREADED ANCHOR RODS WITH TYPE HV ADHESIVE BONDING MATERIAL SYSTEM IN ACCORDANCE WITH SPECIFICATION SECTION 416 & 937. IN LIEU OF THE NUMBER OF ANCHORS SPECIFIED TO BE TESTED IN SPECIFICATION SECTION 416-6, FIELD TEST ALL ADHESIVE BONDED ANCHORS INSTALLED FOR EACH SUPPORT BRACKET.

U-BOLTS: ASTM A449 SIZED FOR THE VERTICAL POST WITH FLAT WASHERS AND LOCKING HEX NUTS.

WELDING: WELD IN ACCORDANCE WITH AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (STEEL), ANSI/AWS D1.1 (CURRENT EDITION). REQUIRED WELD MATERIAL IS E70XX. NONDESTRUCTIVE TESTING IS NOT REQUIRED.

Drawn By : DMH 07-12 Designed By : DMH 07-12
Checked By : CS 07-12 Checked By : CS 07-12

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
7/6/12	⚠ SHEET ADDED		

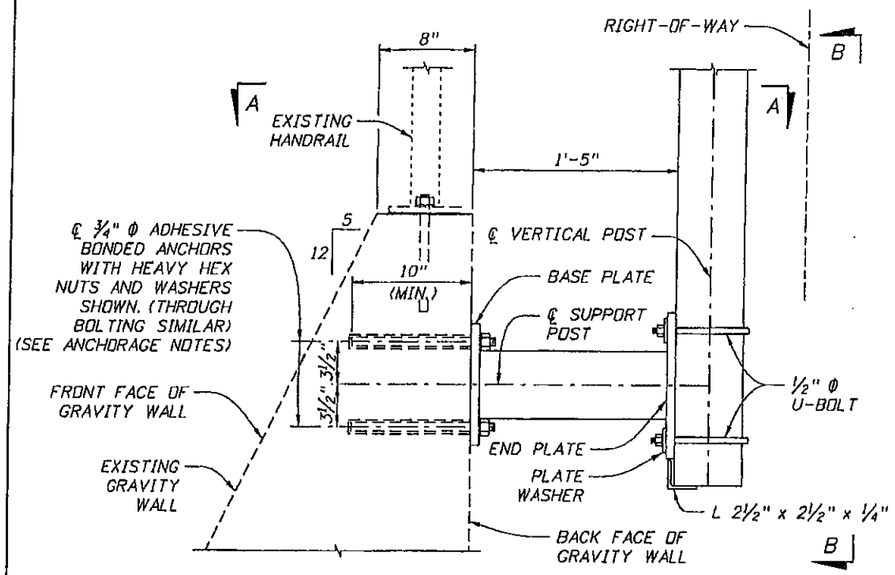
Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

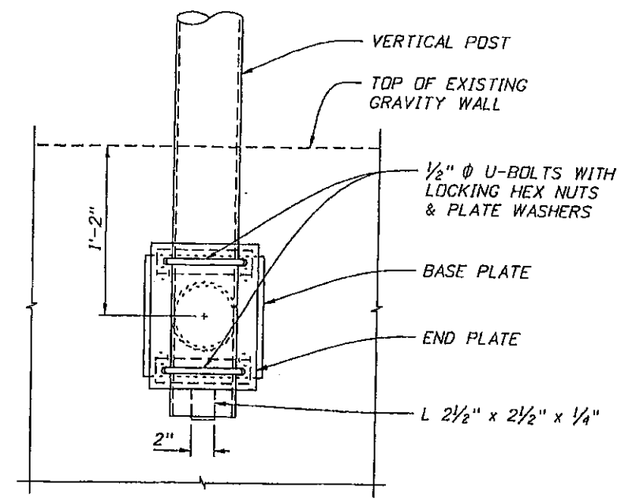
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

GRAVITY WALL MOUNTED SUPPORT BRACKET (1 OF 2)

SHEET NO. T-20



TYPICAL SECTION THROUGH GRAVITY WALL AT SUPPORT BRACKET

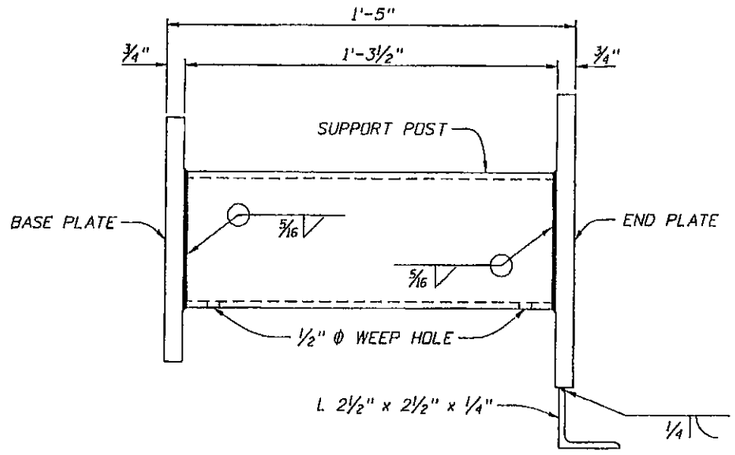


VIEW B-B
(EXISTING HANDRAIL NOT SHOWN FOR CLARITY)

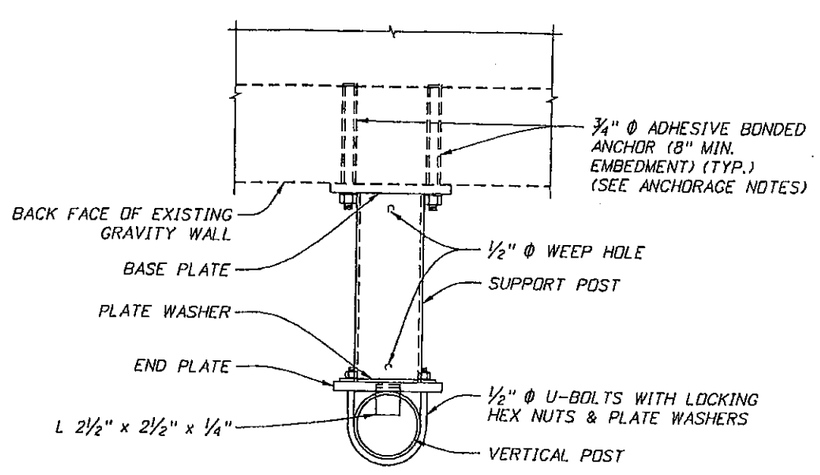
ANCHORAGE NOTES:

1. LOCATE EXISTING REINFORCING STEEL IN GRAVITY WALL. ADJUST PLACEMENT AS NECESSARY. BASE PLATE SHALL BE FLUSH WITH BACK OF GRAVITY WALL. MAINTAIN A MINIMUM COVER OF 2 INCHES FROM THE FRONT FACE OF THE GRAVITY WALL TO THE TIP OF THE ADHESIVE ANCHOR.
2. FOR GRAVITY WALL LOCATIONS LESS THAN 12 INCHES THICK, THROUGH BOLT ¾" HEAVY HEX HEAD BOLTS WITH NUTS AND BEVELED WASHERS IN LIEU OF ADHESIVE BONDED ANCHORS.

Drawn By : DMH 07-12 Designed By : DMH 07-12
Checked By : CS 07-12 Checked By : CS 07-12



SUPPORT POST WELDMENT DETAIL



VIEW A-A
(EXISTING HANDRAIL NOT SHOWN FOR CLARITY)

CROSS REFERENCES:
FOR BASE PLATE, END PLATE & U-BOLT PLATE WASHER DETAILS, SEE SHEET T-20.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
7/6/12	13 SHEET ADDED		

Gerelco Traffic Controls, Inc.
As-Builts

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 862	BROWARD	403984-1-52-01

GRAVITY WALL MOUNTED SUPPORT BRACKET (2 OF 2)

SHEET NO. T-21

Broward County Road Jurisdiction & Functional Classification

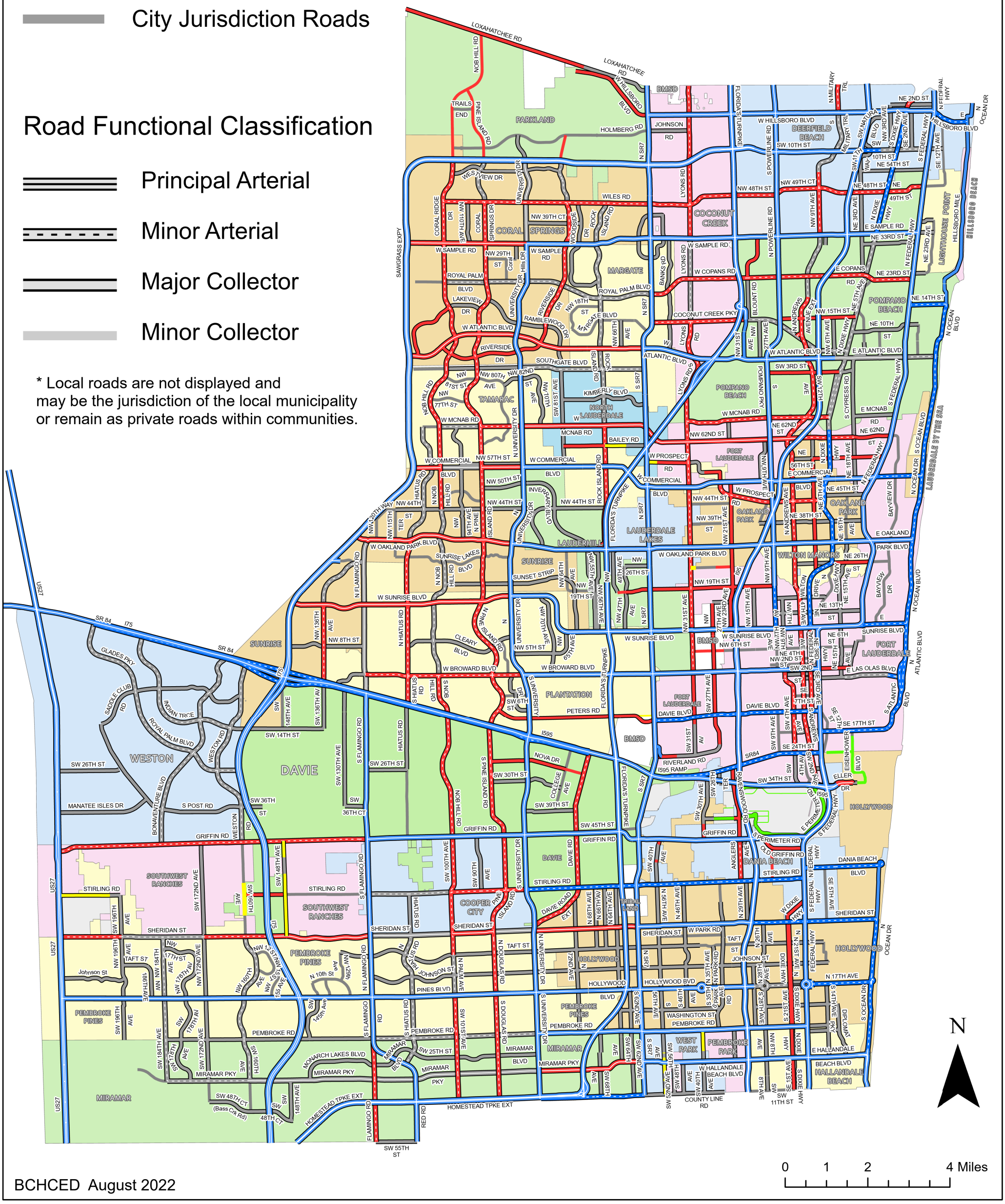
Road Jurisdiction Color Code

- State (FDOT) Jurisdiction Road
- Broward County Jurisdiction Road
- County / City Mixed-Jurisdiction Roads
- County Airport or Port Everglades Maintained Roads
- City Jurisdiction Roads

Road Functional Classification

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

* Local roads are not displayed and
may be the jurisdiction of the local municipality
or remain as private roads within communities.



BCHCED August 2022

Appendix B

2018 Master/Vision Plan Update

Element 1: Existing Conditions Assessment

PORT EVERGLADES MASTER/VISION PLAN 2018 UPDATE

Element 1: Existing Conditions Assessment

Prepared by

Bermello Ajamil & Partners

February, 2020

CONTENTS

1.0 Glossary of Terms

Air Draft
The maximum height of a structure or vessel.

Apron
Area immediately adjacent to the vessel berth where lines, provisioning, gangway and other operations occur.

Anchorage
Location where a vessel may anchor. For cruise, in destinations where docks are not present to accommodate vessel operations, anchorages are used and passengers are shuttled to/from the cruise vessel to a landside location using a small boat (tender). Anchorages are generally only used in ports-of-call. For cargo, an area outside a port where a vessel anchors to await a berth assignment.

Available Passenger Cruise Days (APCD)
The formula cruise lines typically use to assess and compare cruise itineraries from a financial perspective.

Beam
The width of a vessel at its widest part.

Bed (Berth) Nights
A typical cruise industry form of capacity measurement representing the number of lower berths (a bed on a cruise vessel, with the aggregate total generally determining the vessel's nominal passenger capacity) multiplied by nights of operation in a region.

Berth
(1) An anchorage or dock space for a vessel in port.
(2) A bed, generally attached to the deck and/or bulkhead onboard a cruise vessel.

Break-Bulk
General cargo or goods such as steel rebar or pipes that must be loaded/unloaded and handled individually or in pre-determined modular quantities (i.e. pallettes). Break-bulk cargo is not handled in intermodal shipping containers or in bulk quantities as would be the case with petroleum, grain and cement, for example.

Bunker/Bunkering
Marine fuel used for propulsion. The act of delivering marine fuel to a vessel.

Cabotage Laws
Legislation and/or regulation relating to the ability of foreign-flagged vessels to transport goods and passengers between domestic ports. Cabotage Laws are often put into place to protect domestic maritime industries.

Capacity
The number of units (passengers, berths, containers, gallons, tons, etc.) that a given area or space can handle at a given time.

Cruise Brand
Term referring to individual cruise vessel operating companies (i.e. Carnival Cruise Line) to distinguish them from their corporate holding companies (i.e. Carnival Corporation).

Cruise Line
For purposes of this report, cruise line is used to describe a corporate holding company with one or more cruise brand(s) operating under its corporate umbrella (i.e. Carnival Corporation). **Cruise Terminal**

Building where cruise passengers embark and/or debark in a homeport destination.

Daily Cruises
Term applied to vessel service transporting passengers and/or vehicles and/or cargo from point to point. The key difference between daily cruises and multi-day cruises is that daily cruises offer transportation services as their primary business focus, not a travel and leisure experience.

Dockage
Fees levied by a port or destination for the right to dock a vessel.

Draft
The depth of water required by a vessel to float; the measurement in feet (or meters) of the extent to which the vessel projects below the surface of the water.

Dry Bulk
Commodity cargo that is transported in unpackaged, non-standardized, non-liquid granular form, usually in large quantities (i.e. cement, bauxite, coal, etc.).

Emission Control Area (ECA)
Geographic boundaries established through treaties to provide for decreased NOx and SOx emissions in select zones such as North America and Europe.

Gross Tonnage (GT)
A measure of a vessel's enclosed volume. This term has emerged as the standard measure of communicating a vessel's size. A *mega-vessel* generally refers to a vessel of 70,000 GT or larger.

Ground Transportation Area (GTA)
Zone in which vehicles, including buses, taxis and private cars are organized and accessed as part of cruise terminal / destination embarkation and disembarkation activities.

Homeport
A marine facility and destination locality that serves as the base of operations from which a multi-day or daily cruise begins and/or terminates.

Itinerary
Sailing routes and ports visited on a given cruise. Two itinerary types are generally observed. *Open-jaw (OJ) itineraries* refer to those deployments where the cruise begins at one homeport and ends at another. *Roundtrip* (RT) or *Closed-jaw itineraries*—the more common type observed—begin and end from the same homeport.

In Bond

Cargo or baggage that transits directly to and from the port/airport and has a customs approval allowing for a single inspection.

Length Overall (LOA)
Total length of a vessel in feet (or meters), including any incidental structure that may extend this dimension.

Liquid Bulk
Free-flowing liquid cargos, such as gasoline, jet fuel, crude oil, liquefied natural gas, industrial chemicals, etc. that are typically transported in large quantities via tanker vessel and stored in tanks at or near ports for distribution/consumption.

Liquified Natural Gas (LNG)
Liquefied natural gas is natural gas that has been cooled to a liquid state (about -260 degrees Fahrenheit) for shipping and storage. This process makes it possible to transport natural gas to places pipelines do not reach and to use natural gas as a transportation fuel.

Marine Terminal
Facility, including storage yards as well as associated buildings, where cargo handling activity occurs, usually within a physically defined and secure (i.e. gated) area.

Mixed-Use Facility
Refers to a facility or complex with more than one type of real estate or operational use. Mixed-use facilities generally:

(1) are contiguous in nature
(2) are developed within a broader master plan constructed at one time or in phases
(3) provide for a symbiotic relationship to occur among all uses such that the sum of the mixed-use facility from a real estate or operational perspective is greater than its parts. Mixed-use maritime facilities often include cruise, ferry, marina, commercial, residential, recreational and other upland transportation facilities.

Multi-Day Cruises (Cruises)
Leisure-oriented voyages on deep-water, ocean-going cruise vessels of two or more nights often to a variety of destinations, or port-of-calls. Multi-day cruises are offered either by regional or international operators marketing to a variety of consumer sectors and nationalities.

Neo-Panamax
Vessels classified as Neo-Panamax are of the maximum dimensions that will fit through the newest set of locks in operation by the Panama Canal (366 m/1,200 feet long by 49 m/161 feet wide by 15.2 m/50 feet in depth).

Panamax
Vessels classified as Panamax are of the maximum dimensions that will fit through the original locks of the Panama Canal (304 m long by 33.5 m wide by 25.9 m deep). Thus a Panamax vessel will usually have dimension of close to 294 m/965 feet long by 32.3 m/106 feet wide by 12.04 m/39.5 feet in depth.

Passenger Fee (Head Tax)
Port charges assessed against each passenger aboard a cruise vessel. Generally the principal income stream to ports and destinations for accommodating cruise activities.

Peak (or Peaking)
Period of greatest intensity of use or volume. Port Everglades' peak days for cruise activity, for example, are Saturday and Sunday since those are the days that, on average, see the greatest number of cruise ship calls and/or passenger debarkations during the course of a given cruise season.

Penetration Rate
Percentage of the total potential market that is currently accessible. For example, in 2016, North America (including Canada, the United States, Mexico, the Caribbean and Central America) had a penetration rate for cruise of 2.3 percent (13.34 million cruisers/579 million total population).

Port Authority
Governmental or quasi-governmental public authority for a special-purpose district usually formed by a legislative body (or bodies) to oversee and/or operate ports and other maritime, aviation, road and/or rail transportation infrastructure.

Port-of-call (POC)
One of several destinations visited as part of a cruise itinerary. The focus of the port-of-call is on tourism activities adjacent to the cruise arrival area and the transportation of passengers to regional points of interest.

Post-Panamax

Size standard that exceeds the largest vessel dimension capable of transiting the original Panama Canal locks (304 m long by 33.5 m wide by 25.9 m in depth). Generally based on the beam and LOA of the vessel.

Private Island

Island destinations primarily located in the Caribbean and Central America that are owned and/or developed for exclusive or semi-exclusive use by a single cruise company (cruise line) and its proprietary brands.

Revenue Passenger

This generally refers to homeport passengers or in some very limited cases port-of-call passengers (e.g. Vancouver, where all passengers are charged on/off the vessel), whereby passenger counts reflect the Port's passenger wharfage or tariff rate charging policy. For homeport calls the actual number of passengers is doubled to show that the cruise operator is charged by the port for the passenger embarking/debarking the vessel at a set fee.

Ro-Ro

Maritime term for roll-on/roll-off cargo such as passenger vehicles, tractor/trailers, buses, railcars, etc. that are driven on and off a ship under their own power or using a platform vehicle, such as a truck and trailer or self-propelled modular transporter.

Super Post-Panamax

Generally refers to the largest vessels in existence today. These vessels are defined not only by their dimensions, but also their carrying capacity (i.e. 3,000+ passengers for cruise and 12,000-14,000 TEUs for container ships).

Tariff

A schedule of fees charged to port users, especially marine terminal and vessel operators to cover some or all costs associated with port operations and other fiduciary obligations (i.e. infrastructure development and maintenance).

Terminal Operator (TO)

Entity with primary responsibility for managing marine terminal/cruise terminal and related operations on a daily basis, usually under contract to a public port authority or other public or quasi-public ownership interest.

Transit Passenger
By literal definition, the status of cruise passengers during a port-of-call.

Twenty-Foot Equivalent Unit (TEU)
Unit of cargo used to describe the capacity of modular container ships and container terminals. It is based on the volume of a 20-foot-long (6.1 m) intermodal container, which is the historical standard metal container used in container shipping. The majority of containers in use today are Forty-Foot Equivalent Units (FEU); however, TEU remains the standard unit of measurement.

Use Ratio (Utilization Percentage)
The ratio of days that a berth is actually occupied to available berth days (total calls/total available berth days). For example, in a year-round market, a single berth is theoretically available for a total of 365 days. If that berth receives 52 calls (one vessel sailing weekly roundtrip itineraries year-round) then its use ratio is .142, or 14.2 percent (52/365).

All other terms and acronyms are defined within the text below.

1.1 Introduction

- Element 1 of the 2018 Update of the Port Everglades Master/Vision Plan presents an assessment of existing conditions at Port Everglades, and provides context related to the Port Everglades operating environment. Specifically, information pertaining to existing conditions at Port Everglades has been updated as follows:Land ownership and uses
- Facility inventoryProgress on 5-year projects in the 2014 UpdateNeighbors' plans influencing port development
- Containerized and non-containerized cargo berth and yard-capacity analysis
- On-port traffic and parking
- Intermodal transportation network and environmental conditions

The information presented in this element reflects B&A's review of existing documents, as well as one-on-one interviews with Port Everglades tenants and other stakeholders, input from Port Everglades senior staff, and coordination with Broward County, including Fort Lauderdale-Hollywood International Airport (FLL) and the Convention and Visitors Bureau (CVB). All years specific to Port Everglade are fiscal (October-September).

1.2 Master Planning Context

1.2.1 The South Florida Region

Port Everglades is a department of Broward County, and is located at the heart of the tri-county South Florida region (see Figure 1.2.1). According to the U.S. Census Bureau, this region was the 7th largest metropolitan area in the United States as of 2017, with a population of approximately 6.2 million residents.[1] This number accounts for nearly 28 percent of Florida's total population (22.5 million). South Florida is also home to hundreds of thousands of seasonal residents during the winter months. According to the Broward, Miami-Dade, and Palm Beach County CVBs, the region also welcomed some 36.6 million visitors in 2017.

[1] *Source: factfinder.census.gov*

Figure 1.2.1: Tri-County South Florida Region
Source: Florida Department of Motor Vehicles (Base Map)

Looking to the future, the tri-county South Florida population is expected to continue to grow, reaching as many as 8.7 million residents by 2040, according to the University of Florida's Bureau of Economic and Business Research.[2] Seasonal resident and visitor numbers will also almost certainly continue to increase over time.

Not surprisingly, as Florida's largest metropolitan area by population, the tri-county region is also Florida's largest hub of economic activity, including international trade. According to the Florida Seaport Transportation and Economic Development Council (FSTED), waterborne international trade moving through Florida's seaports was valued at $83.2 billion in 2017. The South Florida ports of Port Everglades, Port*Miami*, and Port of Palm Beach combined accounted for $49.3 billion of this total, or 59.3 percent. (See Table 1.2.1.)

Table 1.2.1: Florida Waterborne Cargo Value by Port, 2017
Source: 2018-2022 Five-Year Florida Seaport Mission Plan (flaports.org)

Port	Imports	Exports	Total
Jacksonville	$19,342,315,153	$5,919,848,158	$25,262,163,311
Miami	$14,454,613,396	$9,432,739,329	$23,887,352,725
Port Everglades	$11,080,530,426	$12,079,908,666	$23,160,439,092
Tampa	$1,820,932,122	$1,710,532,852	$3,531,464,974
Panama City	$2,315,627,064	$649,004,733	$2,964,631,797
Palm Beach	$512,834,877	$1,754,756,867	$2,267,591,744
Canaveral	$1,014,752,294	$68,699,646	$1,083,451,940
Manatee	$749,538,074	$87,947,957	$837,486,031
Fernandina	$10,340,317	$138,772,360	$149,112,677
Pensacola	$1,949,292	$12,419,334	$14,368,626
Other	$793,241	$10,550,244	$11,343,485
Fort Pierce	$4,717,366	$4,097,552	$8,814,918
Total	**$51,308,943,622**	**$31,869,277,698**	**$83,178,221,320**

[2] *Source: bebr.ufl.edu*

In terms of volume, the three ports in the tri-county region accounted for 33.2 percent of Florida waterborne tonnage and 74.1 percent of containerized tonnage (61 percent of TEUs).

Table 1.2.2: Florida Waterborne Cargo Tonnage by Type by Port, 2016/2017
Source: 2018-2022 Five-Year Florida Seaport Mission Plan (flaports.org)

Port	Liquid Bulk	Dry Bulk	Break bulk	Containers	Total
Tampa	21,717,106	14,940,325	933,054	511,138	38,101,623
Port Everglades	16,475,787	1,220,147	311,453	7,226,433	25,233,820
Jacksonville	5,034,925	5,728,079	3,910,757	5,070,038	19,743,799
Miami	-	-	2,659	9,159,681	9,162,340
Manatee	5,571,068	1,326,741	536,885	363,195	7,797,889
Canaveral	3,957,363	1,720,757	270,672	41,943	5,990,735
Palm Beach	407,373	593,563	96,530	1,351,573	2,449,039
Panama City	38,612	823,616	710,182	175,977	1,748,387
Fernandina	-	20,006	211,758	53,515	285,279
Pensacola	-	177,294	54,641	-	231,935
Fort Pierce	30,000	-	52,000	-	82,000
Total	**53,232,234**	**26,550,528**	**7,090,591**	**23,953,493**	**110,826,846**

Florida has no petroleum-refining capacity, meaning liquid-bulk activity at Florida's ports. For instance, Port Everglades consists almost entirely of offloading and transferring imported or domestic waterborne gasoline and jet fuel to inland points of consumption, via truck and/or pipeline. Given the size of the Florida population, particularly within the tri-county region, liquid bulk activity at the state's ports (and at Port Everglades specifically) is critical, and literally powers the economy. This level of activity across multiple cargo types has significant positive impacts on the local, regional, and statewide economies.

A recent analysis by the Florida Ports Council estimated that maritime cargo and cruise activities at Florida's ports generate nearly 900,000 direct and indirect jobs, and some $117.6 billion in total economic value per year. This same analysis found that these activities contribute approximately $4.3 billion annually in state and local tax revenues, with a yield of $7 for every $1 of state investment made. United States (U.S.) employment in the seaport industry is also expanding rapidly, with a projected growth rate of 20 percent,

compared to an average for all other occupations of 14 percent.[3] The average annual wage nationally for seaport-related jobs is also one of the highest average wages for a non-advanced degree job, at $52,000 per year.

With regard to international markets served, Florida's largest trade-partner regions are South and Central America and the Caribbean, which is not surprising considering the State's strong cultural ties and geographic proximity to those markets. However, in addition to robust North-South trade, South Florida and the State of Florida overall maintain strong East-West trade ties, and a remarkably well-balanced international, waterborne trade portfolio with Brazil, China, Chile, Japan, Colombia, Mexico, the Dominican Republic, Germany, Honduras, and Argentina, which were all Top 10 partner countries in 2017 (see Table 1.2.3)

Table 1.2.3: Florida's Top Waterborne Trade Partner Regions by Value, 2017
Source: 2018-2022 Five-Year Florida Seaport Mission Plan (flaports.org)

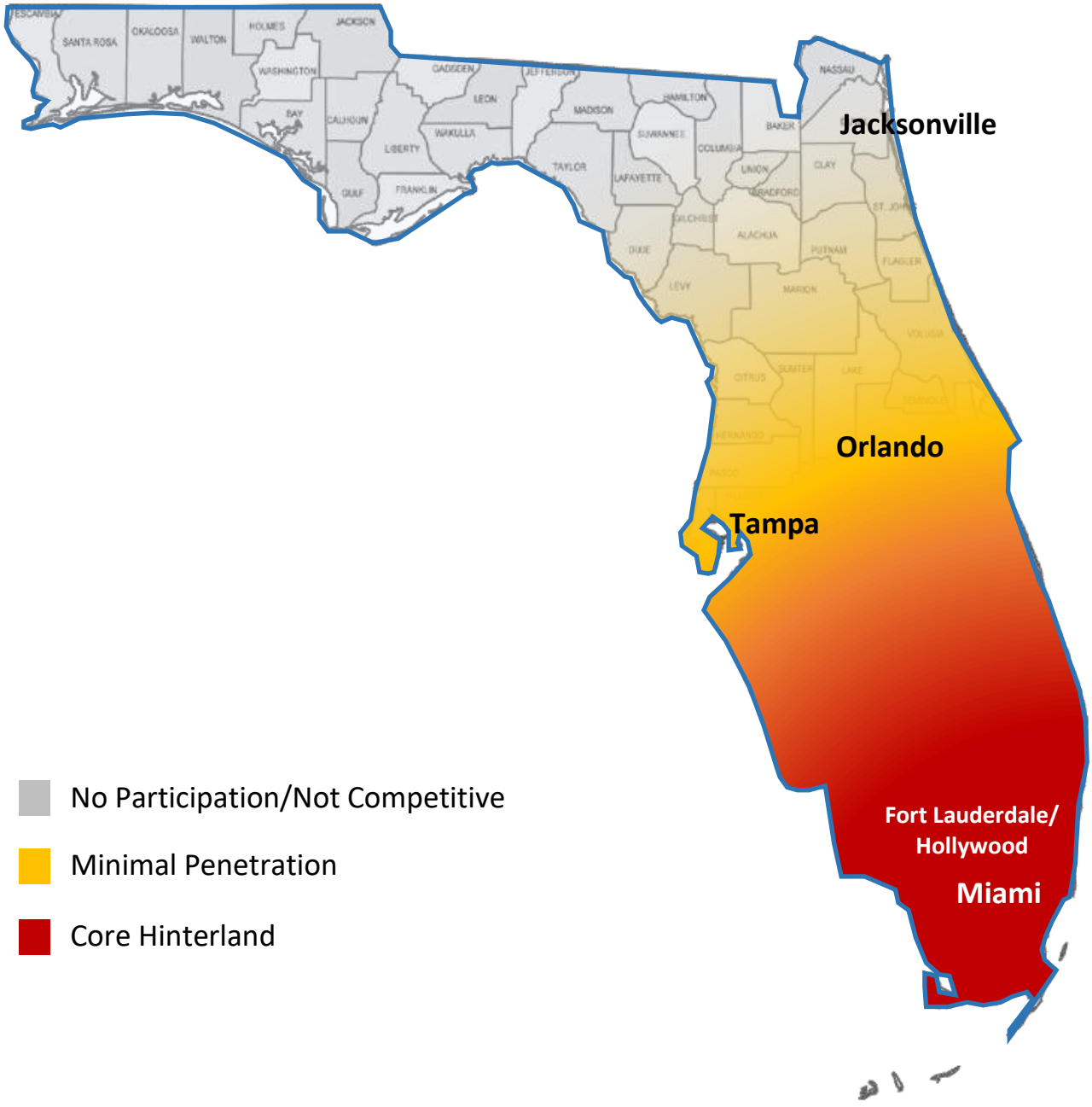
Trade Region	Imports	Exports	Total	% Total
South and Central America/Caribbean	$17,884,000,000	$25,014,000,000	$42,898,100,000	51.6%
Asia/Middle East	$19,104,000,000	$3,756,000,000	$22,860,100,000	27.5%
Europe	$9,923,000,000	$1,614,000,000	$11,537,021,320	13.9%
North America	$3,980,000,000	$835,000,000	$4,815,000,000	5.8%
Africa	$197,000,000	$436,000,000	$632,000,000	0.8%
Australia/Oceania	$221,000,000	$215,000,000	$436,000,000	0.5%
Total*	**$51,308,943,622**	**$31,869,277,698**	**$83,178,221,320**	**100.0%**

**Discrepancies with column totals due to rounding of source data*

[3] *Source: scdn.flaports.org*

Beyond South Florida, all three of the tri-county region's ports have a limited, extended hinterland (see Figure 1.2.2)

Figure 1.2.2: Port Everglades' Florida Market Penetration
Source: Martin Associates; B&A



For some commodities and product types, this extended hinterland consists of a geographic area that extends across multiple counties in the southern and central part of the state. For a limited percentage of cargo, this hinterland extends farther North, with some products having a point of origin/final point of consumption outside Florida (i.e. automobiles manufactured in Alabama and apparel imported from Central America). Generally speaking, however, South Florida's ports serve the local/regional market by truck, and significant market capture beyond central Florida has been historically rare for Port Everglades, Port*Miami*, and Port of Palm Beach – due to competition, more developed trade networks at other ports, and regulatory hurdles related to cold treatment (in the case of perishables). Looking to the future, as Port Everglades expands its role in the international distribution of certain goods (i.e. perishables) and as the production of certain products continues to evolve and shift to new locations (i.e. Central America), there could be increasing potential to further broaden Port Everglades' reach into the domestic import and export market, at least for some product and commodity categories (which is further discussed in Element 2).

Not to be outdone, the global cruise industry, which has been based in South Florida since its inception, generates significant economic activity through its Florida-based operations as well. (See Table 1.2.4.)

Table 1.2.4: Florida Cruise Passenger Activity, 2016/2017
Source: 2018-2022 Five-Year Florida Seaport Mission Plan (flaports.org)

Port	Daily	Multi Day	Total
Miami	25,722	5,314,837	5,340,559
Canaveral	285,684	4,240,942	4,526,626
Port Everglades	125,410	3,738,252	3,863,662
Tampa	-	960,901	960,901
Key West	-	818,866	818,866
Palm Beach	-	432,585	432,585
Jacksonville	-	177,417	177,417
St. Petersburg	2,500	-	2,500
Total	**439,316**	**15,683,800**	**16,123,116**

The tri-county region of South Florida is home to the corporate and administrative offices of the Top 3 global cruise companies – Carnival Corporation, Royal Caribbean Cruises Ltd (RCCL), and Norwegian Cruise Line Holdings (NCLH) – and many others, and is well-known as the cruise capital of the world. Direct cruise line employment totaled 20,676 jobs in Florida in 2016/2017, with the cruise industry being responsible for more than 138,300 jobs in Florida overall. In terms of revenue passengers, the South Florida ports of Port Everglades, Port*Miami*, and Port of Palm Beach together accounted for 59.8 percent of all cruise passenger activity in the state in 2016/2017.

South Florida is home to three significant seaports, each of which competes against the other – as well as ports outside the tri-county region – for business. This competition notwithstanding, Port Everglades, Port*Miami*, and Port of Palm Beach ultimately serve the same, or at least a very similar, core consumer population, geographically. There are therefore many synergies between the region's ports and many mutually beneficial commercial, logistical, and infrastructure assets (i.e. mutual ocean carrier and cruise line customers, regional warehousing, freight forwarding and trucking communities, shared rail infrastructure, etc.). Specific to Port Everglades, there is also a very direct relationship between the liquid-bulk operations in Broward County and the greater South Florida region, since Port Everglades serves as the only import/offloading facility for the petroleum product needs of the tri-county region's 6.2 million residents and 36.6 million annual visitors. Finally, given the prominence of the South Florida ports in the global cruise industry, there is also a great deal of synergy between the region's three seaports, the region's three international airports, and the overall South Florida tourism economy. Each of these economic engines plays a role in supporting the other, and in the future, this interdependence will only increase as South Florida continues to grow.

1.2.2 Broward County

With its 31 municipalities and unincorporated area, Broward County is the State of Florida's second most populous county, following Miami-Dade. According to the U.S. Census Bureau, Broward County's population in 2016 consisted of 1.9 million residents. Other key demographic and socioeconomic information specific to Broward County is presented in Figure 1.2.3.

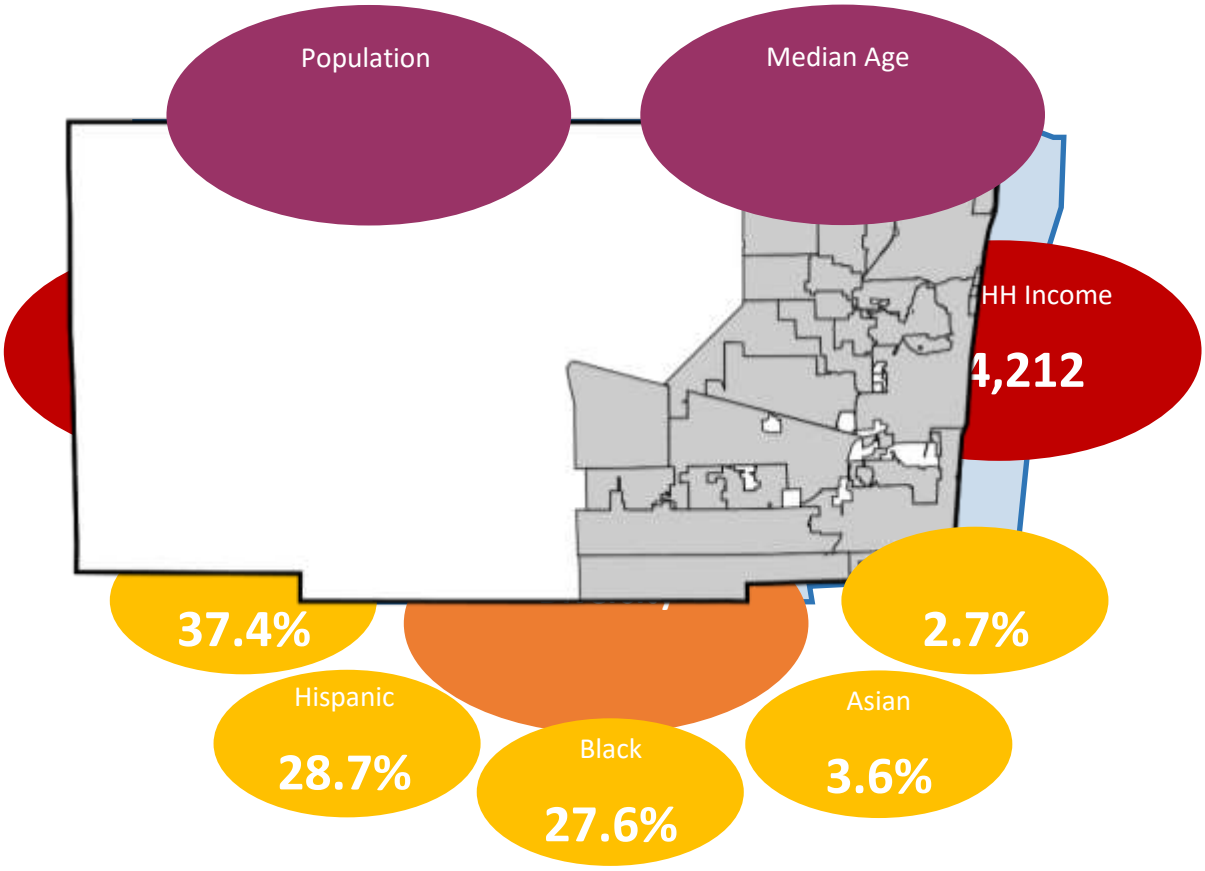
According to the University of Florida's Bureau of Economic and Business Research, Broward County's population is expected to increase to between 2.0 million residents (low-growth scenario) and 2.6 million residents (high-growth scenario) by 2040, which roughly corresponds to the final year of the planning horizon for this Update (2038). With this growth in population will come additional demand for goods and services, including those facilitated by Port Everglades (i.e. international import/export activity, gasoline and jet fuel supply, ferry service, tourism, etc.). While this growth presents a clear opportunity to increase future Port Everglades throughput and economic impacts, it will also undoubtedly result in additional vehicular traffic in and around Broward County, and more specifically, in, around, and within Port Everglades itself.

Planning for the future in a way that maximizes Port Everglades' role in connecting the people and businesses of Broward County and South Florida to people, markets, and

experiences across the globe – while mitigating to the maximum extent possible the challenges that inevitably come with growth – is the ultimate, overarching goal of the 2018 Update of the Port Everglades Master/Vision Plan.

Figure 1.2.3: Select Demographic and Socioeconomic Data for Broward County, 2016

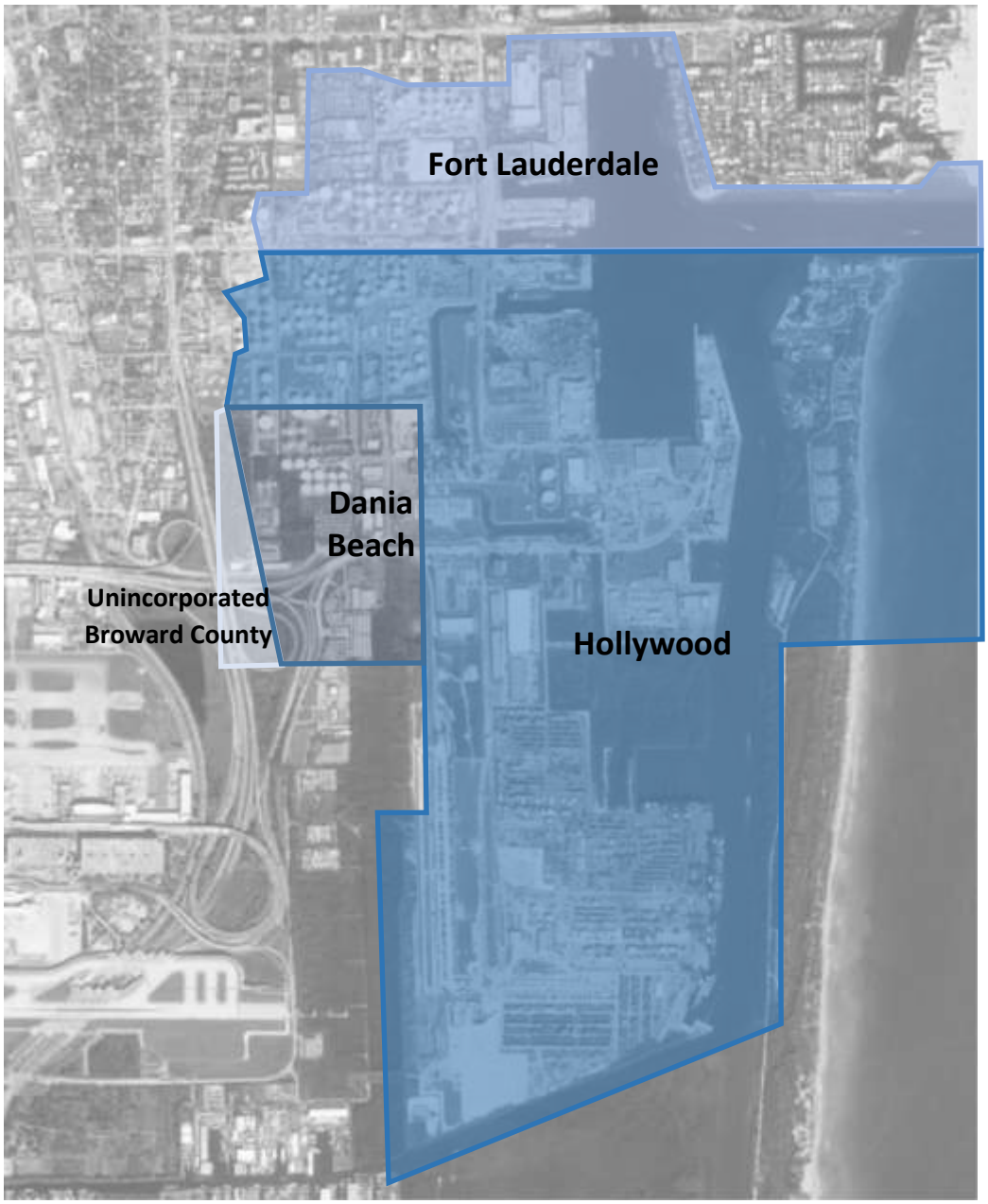
Source: Data USA (datausa.io/profile/geo/broward-county-fl)



1.2.3 Port Everglades

Port Everglades, portions of which are located in the cities of Fort Lauderdale, Hollywood, and Dania Beach, as well as in unincorporated Broward County, encompasses an area of 2,190 acres adjacent to the Intracoastal Waterway (ICW) in Eastern Broward County. The Port Everglades Jurisdictional Area and the surrounding area are shown in Figure 1.2.4

Figure 1.2.4: Port Everglades Jurisdictional Area and Surrounding City Overlap
Source: Google Earth; B&A



Port Everglades is a landlord port, meaning it develops and leases its facilities to private-sector tenants, rather than operating its facilities with county staff. Port Everglades is one of the busiest and most diversified seaports in Florida, ranking second in total tonnage among all Florida ports, and ranking among the state's Top 5 ports in every major business line, including:

- Containerized cargo (#2 in tonnage, #1 in TEUs)
- Liquid bulk (#2)
- Cruise (#3)
- Break-bulk (#5)
- Dry bulk (#5)

As a result of its diverse cruise, cargo, and liquid-bulk operations, Port Everglades generates economic value in excess of $30.4 billion per year, which supports 230,747 Florida jobs, including 13,185 jobs at companies that provide direct services to Port Everglades. These statistics translate to approximately $9.1 billion in personal income, and $1.1 billion in state and local tax revenueFrom a physical-layout perspective, Port Everglades is comprised of three distinct areas:

- Northport
- Midport
- Southport

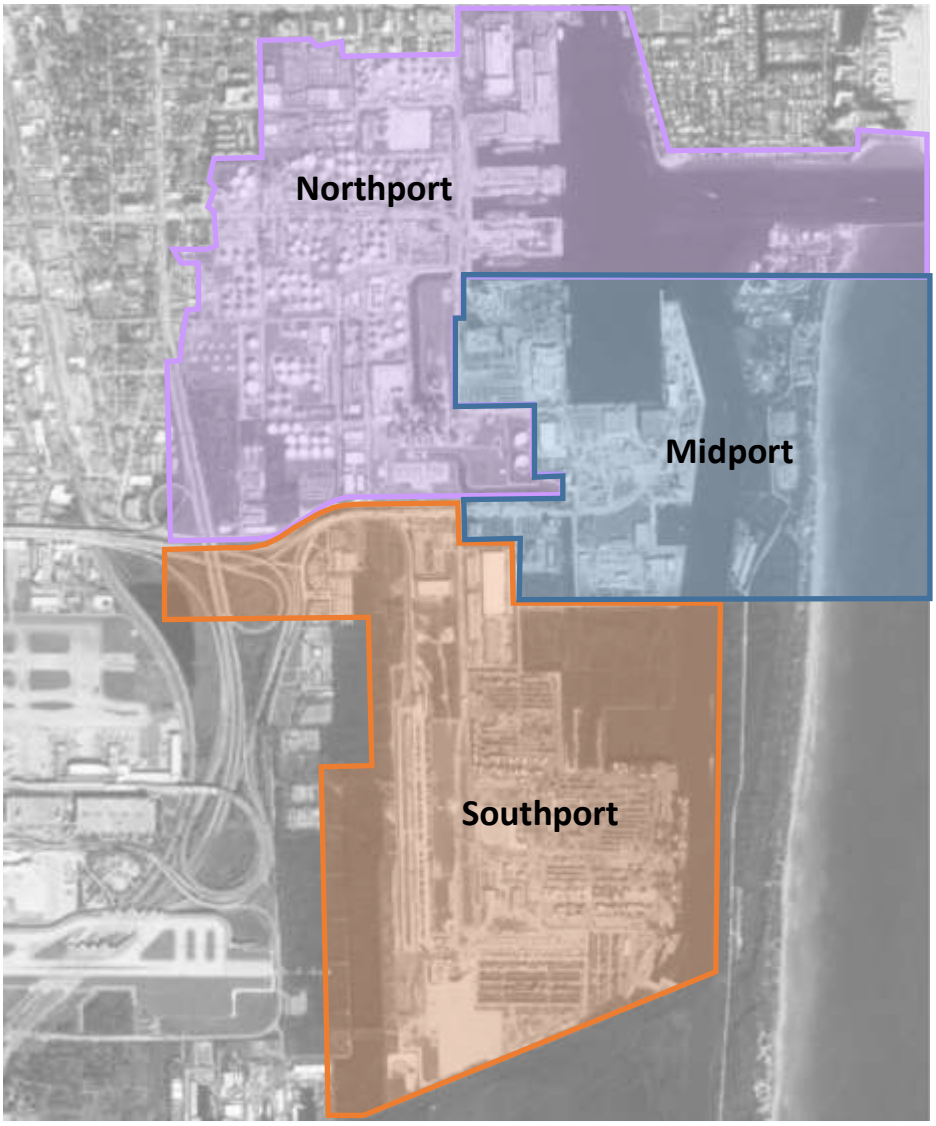
These areas are illustrated in Figure 1.2.5.

The Northport area of Port Everglades includes Berths 1-15, and is loosely bounded by Southeast 17th Street to the North, Miami Road to the West, Spangler Boulevard (SR 84) to the South, and the ICW to the East. Northport includes two of the four main access points to Port Everglades (Eisenhower Boulevard and SR 84), as well as the Broward County Convention Center. Principal business activities in Northport include:

- Cruise (Berths 1-4; Terminals 1, 2, and 4)
- Liquid bulk (Berths 7-13, Berth 11 includes permanent loading arms for propane)
- Dry bulk/break-bulk (Berths 5, 6, and 14-15)

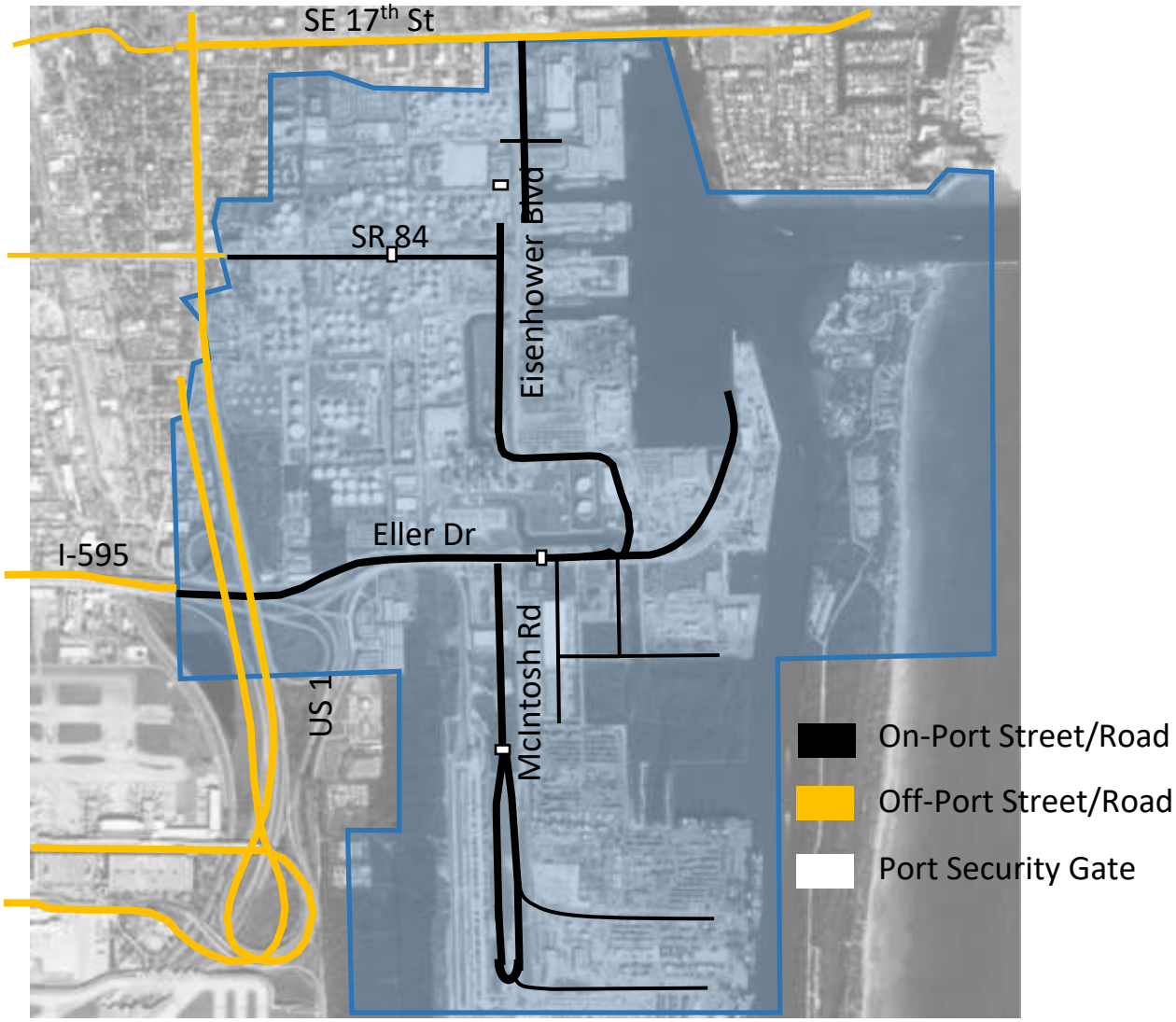
Most non-petroleum berths in Northport are multipurpose, meaning the uses allocated above are generally correct, but may not apply on a given day, depending on the number and mix of vessel types and sizes in port. Northport is home to a number of private liquid-bulk storage facilities. The owners of these facilities – mainly petroleum companies – utilize Port Everglades berths to unload and load their product from/to tanker vessels. However, all of the supporting infrastructure, including pipelines, above- and below-ground storage tanks, and ancillary facilities, is owned by the petroleum companies, on private property.

Figure 1.2.5: Port Everglades - Northport/Midport/Southport
Source: Google Earth; B&A



Midport lies at the geographic center of the Port complex, includes Berths 16-29, and is loosely bounded by Spangler Boulevard to the North, U.S. Highway 1 (US 1) to the West, Eller Drive/Southeast 18th Avenue/Southeast 19th Avenue to the South, and the ICW to the East. Midport includes the third of four access points to Port Everglades (Eller Drive), and lies at the Eastern terminus of I-595, which connects directly to I-95, I-75, and Florida's Turnpike. Midport is home to the Port's Administrative Offices, as well as most of Port Everglades' commercial real estate capacity. Florida Power and Light (FPL) completed a 1.2 Gigawatt (1,200 Megawatt) natural gas-fueled "Clean Energy Center" power station within the Midport area in 2016. Like Northport, most berths in Midport are multipurpose. Also, like Northport, nearly all of the area within Midport to the west of Eisenhower Boulevard is private property, used mainly by petroleum companies for liquid-bulk storage and fueling.

Figure 1.2.6: Port Everglades Access Points and Principal Circulation
Source: Google Earth; B&A



Approximately 50 acres within Midport are allocated to a mix of container, break-bulk, and ro-ro cargo laydown area. However, cruise is the principal activity that occurs in Midport. Six of Port Everglades' eight multiday cruise terminals (Terminals 18, 19, 21, 25, 26, and 29) are located in Midport, and cruise ships always get priority berthing in this area. Midport also contains one small rail-mounted gantry crane as well as a mobile harbor crane.

Southport is home to most Port Everglades containerized cargo activity, and is the closest thing Port Everglades has to a purpose-built, single-use area. Effectively, 100 percent of berths (Berths 30-33) and acreage in Southport is allocated to container or general cargo loading, unloading, storage, and ancillary services, and Southport is one of only two areas within Port Everglades to feature permanent, rail-mounted ship-to-shore (STS) container cranes (currently seven Panamax STS cranes). Southport is loosely bounded by Eller Drive to the north, the Florida East Coast Railway (FEC) Intermodal Container Transfer

Facility (ICTF) to the west, the Dania Cutoff Canal to the south, and the ICW to the east. Southport includes the fourth access points to Port Everglades (McIntosh Road). However, unlike the other three access points, the McIntosh Road access point is a closed loop, meaning all traffic that enters via the McIntosh security gate must also exit via the same gate.

1.2.4 Port Everglades Master/Vision Plan 2018 Update Objectives

As previously stated, the ultimate, overarching goal of the 2018 Update is to develop a plan for the future that maximizes Port Everglades' role in connecting the people and businesses of Broward County and South Florida to individuals, markets, and experiences across the globe, while mitigating to the maximum extent possible the associated challenges. In practical terms, the principal outcome of this 2018 Update is the identification of capital projects that can be implemented within the 5-, 10-, and 20-year planning milestones, to enable Port Everglades to achieve the plan objective and to successfully execute the Port Everglades mission and future vision. Each of the following specific objectives is a factor in achieving the overarching goal of the 2018 Update:

- Expand containerized cargo throughput and optimize infrastructure, to achieve continuous improvement in efficiency and performance against key indicators
- Expand cruise passenger throughput and optimize infrastructure, to achieve continuous improvement in efficiency and performance against key indicatorsImprove traffic conditions across the port complex and enhance intermodal connectivity (road and rail), to facilitate the transportation of goods and people and to provide world-class customer serviceProvide safe, secure, and sufficient liquid-bulk receiving infrastructure to continue powering the South Florida economyGenerate positive net income for all lines of business, in line with financial goals, while maintaining or exceeding minimum debt-coverage ratios and ensuring a diverse portfolio of operationsMaintain high environmental standards while managing Port Everglades' growth

As with previous iterations of this plan, the 2018 Update considers components of the Broward County Comprehensive Plan, and of the comprehensive plans of the Cities of Fort Lauderdale, Hollywood, and Dania Beach, in developing goals, objectives, and policies that are consistent across the board, especially with respect to coastal management, sea-level rise and resiliency, transportation, intergovernmental coordination, and capital improvement planning

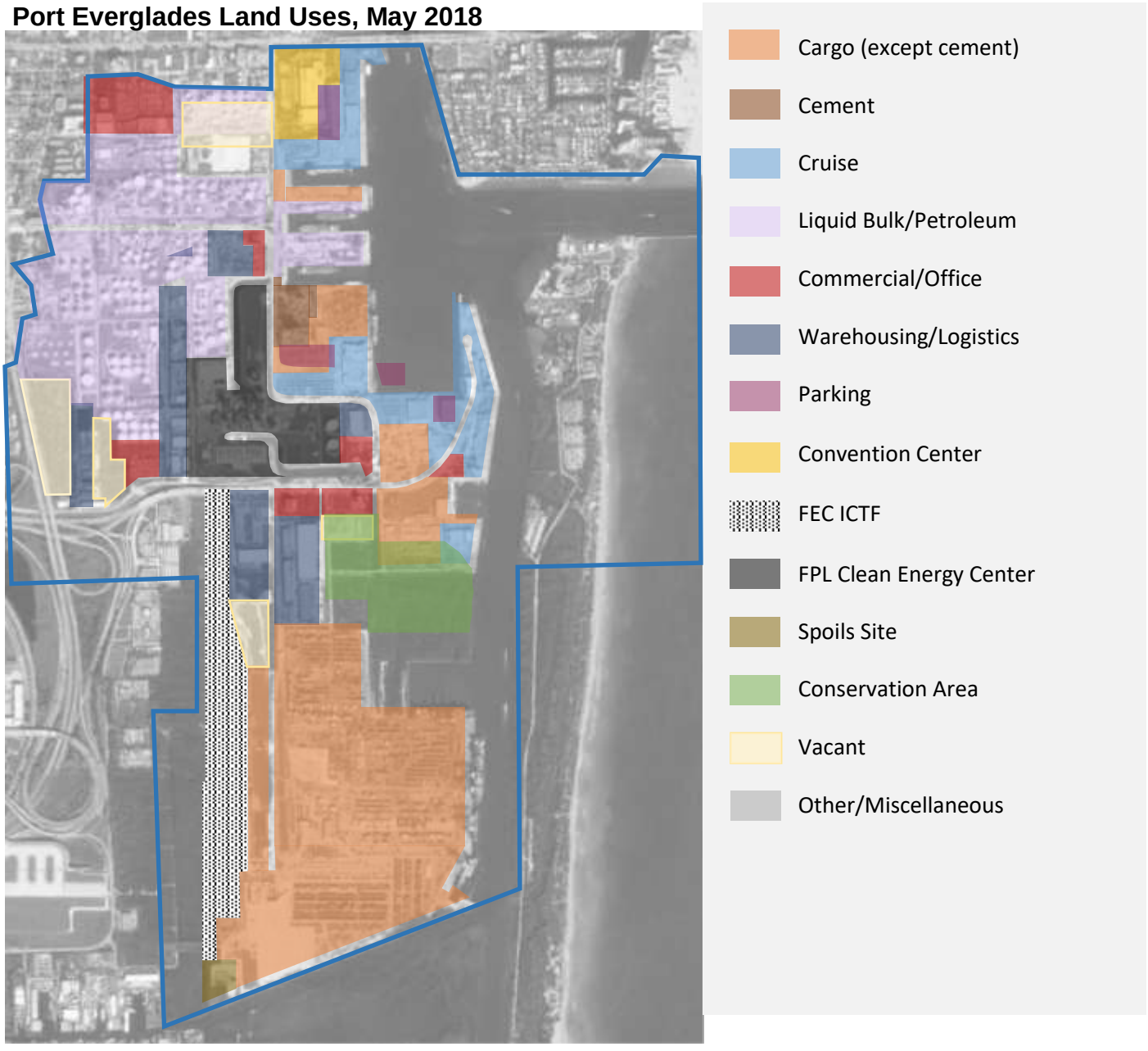
1.3 Land Ownership and Uses

Of the Port's 2,190 acres, 1,742 are upland, and 448 are submerged land. Within the Port Everglades Jurisdictional Area, there is a mix of private and public land, and a large variety of different uses, including commercial and retail uses. The Port is also abutted by residential communities to the west and northeast. Figure 1.3.1 shows approximate allocations of Port Everglades land by type of use. A number of the land uses identified in Figure 1.3.1 will be modified as the projects currently planned (i.e. those in the Port Everglades FY2018-FY2022 capital budget) are implemented, and as new projects proposed in later sections of this 2018 Update come to fruition

1.3.1 Port Everglades Operating Agreements, Land Leases, and Grid Assignments

As a landlord port, Port Everglades generates the majority of its revenue by contracting out its available publicly-owned land and facilities to private operators for uses that are generally water-dependent and/or consistent with the Port Everglades mission. The port uses several different types of contracts to this end. For its liquid-bulk line of business, since liquid-bulk terminals at Port Everglades are privately owned, the port typically charges for the use of its berths and related public property/equipment on a volume-per-call basis (i.e. wharfage, dockage) through 10-year petroleum pipeline license agreements

Figure 1.3.1: Port Everglades Land Uses, May 2018
Source: Google Earth; Port Everglades; B&A



For its cruise line of business, Port Everglades periodically negotiates 10-year or longer operating agreements, which convey certain use rights to individual cruise lines, in exchange for per-passenger fees paid to Port Everglades. These fees are typically bundled as a service to the customer. While specific terminals are named in most of these agreements, the agreements are not land leases per se, and typically are based on preferential, rather than exclusive berth and terminal, assignments.

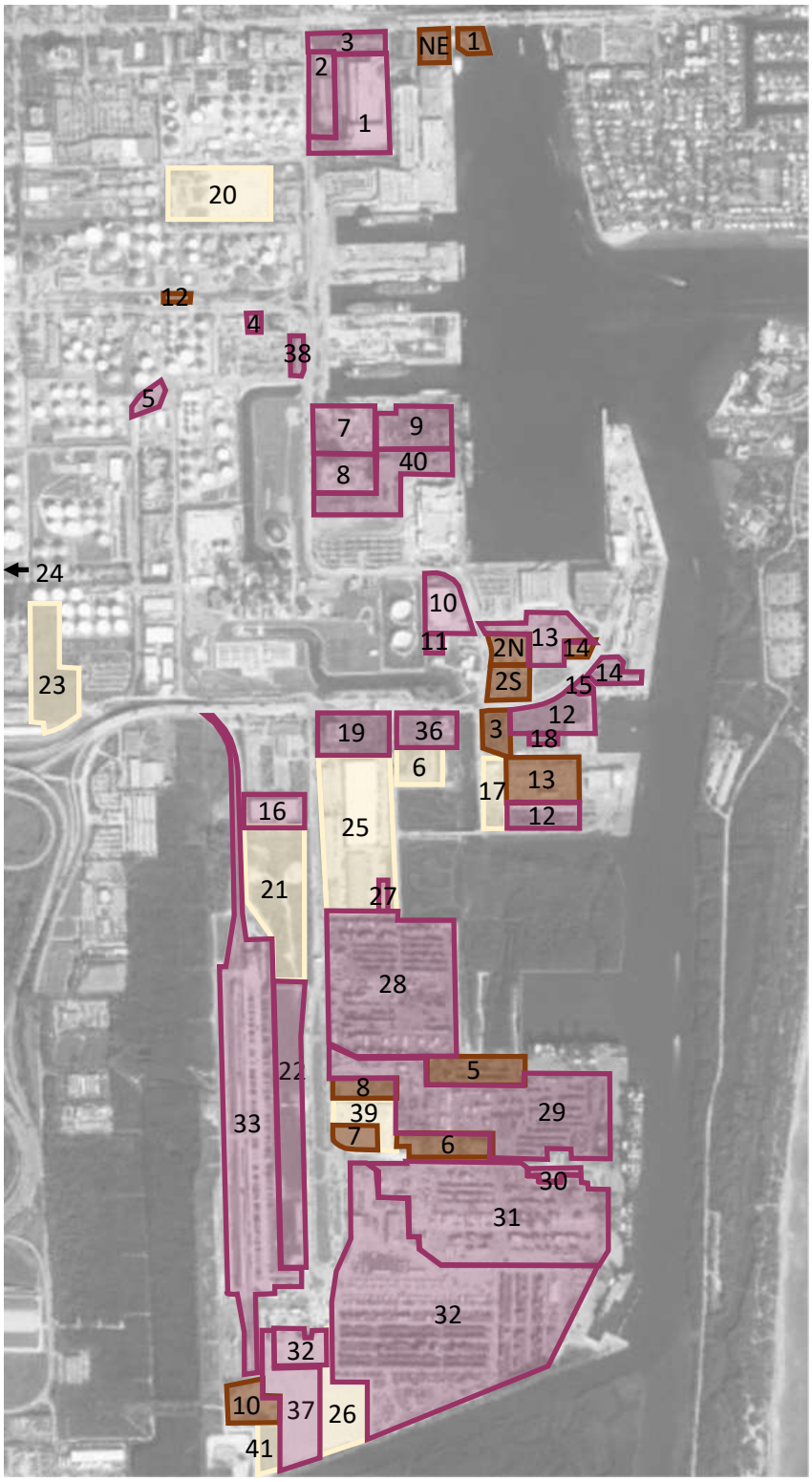
For its cargo line of business, including containerized and non-containerized cargo, Port Everglades typically enters into 10-year or longer land leases with marine terminal operators (MTOs). MTOs are third-party private companies, often locally incorporated, that serve as intermediaries in meeting the logistics needs of the ocean carriers that call Port Everglades. Like the cruise lines, individual MTOs pay the port a variety of fees in exchange for use of Port berths and upland areas. Unlike cruise lines, most MTOs have exclusive rights to their leasehold area, as well as direct responsibility for maintenance. Port Everglades also utilizes a number of grid areas within its jurisdictional area to supplement, or even replace, long-term leases for some customers. Grids consist of open cargo laydown areas that are assigned as requested to port users. Whereas leases are negotiated and can have terms of 20 years or longer; grid space is unilaterally assigned by Port Everglades at a tariff-based rate for a period of time ranging from as long as one year to as short as 10 days. Port Everglades' land leases and grid areas as of May 2018 are shown in Figure 1.3.2.

Apart from its operating areas, Port Everglades has a sizable commercial/office real estate portfolio as well, with tenants ranging from short-term individual office suite renters to long-term lessees of entire buildings and surrounding grounds. Agreements for this line of business are typically standard per-square-foot or similar lease agreements.

1.3.2 Port Everglades Rail Trackage

Figures 1.3.3 and 1.3.4 show active rail trackage within the Port Everglades Jurisdictional Area. Most of the trackage in Northport and Midport has been removed or permanently deactivated, with the exception of the Industry Track, which still handles ethanol by tank car, serving the Motiva terminal. Southport does not have on-dock rail. However, since 2014, Southport marine terminal operators have had access to the adjacent near-dock FEC ICTF. This facility, which cost approximately $53 million to construct, occupies 43 acres, has an annual capacity of 350,000 lifts, and can accommodate unit trains up to 9,000 feet in length on 21,000 total feet of track. The ICTF has both an international gate and a domestic gate. During the first half of fiscal year 2018, approximately 50 percent of all lifts at the ICTF consisted of domestic cargo. Maximizing future utilization of this substantial intermodal asset in Southport for international cargo is key to extending Port Everglades' hinterland.

Figure 1.3.2: Port Everglades Land Leases and Grid Areas, May 2018
Source: Port Everglades; B&A



Land Leases (user: acres)

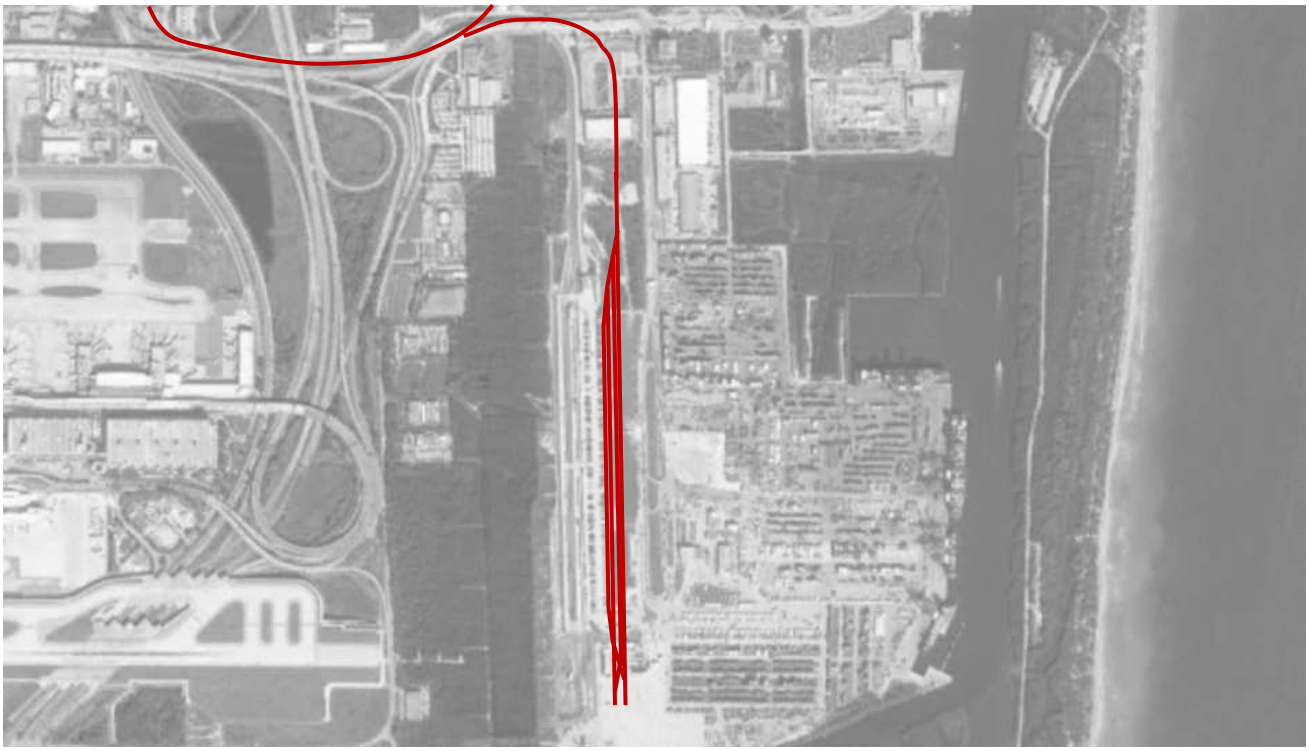
1	Broward County Convention Center: 10.25 CVB
2	offices parking: 4.27
3	Portside Yachting: 3.894
4	Pittville:0.40
5	Penn Tank Lines: 1.15
6	Vacant: 3.57
7	Lehigh Hanson: 4.91
8	CEMEX Construction: 4.61
9	H.T. Shipping: 7.00
10	Colorado Boxed Beef: 5.00
11	Resolve Fire & Hazard Response: 0.59 Horizon
12	Terminals: 8.67
13	Sol Shipping: 5.20
14	Seacor Holdings: 2.10
15	Tugz: 0.15
16	Chiquita ripening facility: 6.00
17	Vacant: 2.00
18	Horizon (warehouse & office): 27,560 sq ft High
19	Woods/Florida Holdings: 5.09
20	Vacant: 13.25
21	Vacant: 16.65 (future PE-ILC)
22	King Ocean Services: 18.40 (container yard 9b)
23	Vacant: 8.54
24	Vacant: 18.55 (off map, "Dynegy property")
25	Existing FTZ (future container yard): 24.67
26	Vacant: 5.06
27	IWS: 0.2328
28	Florida International Terminals: 36.03
29	King Ocean Services: 33.80
30	U.S. Customs & Border Protection: 1.18
31	Mediterranean Shipping Company/PET:
32	39.18 Crowley Liner Services: 78.00
33	FEC ICTF: 43.00
34	AMI Kids Greater Fort Lauderdale: 1.62 (off map)
35	Wildlife Care: 4.11 (off map)
36	Port Everglades Administrative Offices
37	Florida International Terminals: 12.00
38	Amman Building
39	Vacant: 3.75 acres
40	King Ocean Services: 7.00
41	Vacant: 4.00

Grid Areas (acres)

NE	1.50
1	1.14
2N	3.00
2S	2.34
3	2.80
5	5.00
6	4.60
7	2.64
8	3.42
10	3.96
12	0.23
13	6.59
14	1.60

Figure 1.3.3: Port Everglades Northport/Midport Rail Trackage
Source: Port Everglades; B&A

Figure 1.3.4: Port Everglades Southport Rail Trackage and FEC ICTF
Source: Port Everglades; B&A



1.4 Facility Inventory

The inventory of facilities at Port Everglades is continuously modified and updated through an ongoing facilities investment and maintenance plan, as defined by the Port Everglades 5-Year Capital Improvement Plan (CIP). The B&A team will assist in the preparation of the next iteration of the Port Everglades CIP, as part of Phase II of the 2018 Master Plan Update.

In December, 2017, Amman Whitney delivered their 12th Biennial Condition Report of Port Facilities (2017 Biennial Report) to Port Everglades. This report, published in three volumes, documents a comprehensive, months-long visual inspection of Port Everglades facilities, utilities, cranes, and underwater infrastructures. Specific categories inspected include:

- Buildings (52)
- Open areas (56 – consistent with Port Everglades lease and grid areas)
- Lift stations (30)
- Berths (27 – including underwater infrastructure, as well as fenders, concrete cap, bollards, and seawalls)

A total of 3,776 individual items were identified across all categories. Required repairs and estimated costs associated with executing these 3,776 repairs to the 165 facilities (inspected as part of the 2017 Biennial Report) are summarized in Table 1.4.1. These cost estimates are organized according to the following corrective action priority levels:

- Immediate 566 items
- Moderate 2,072 items
- Low 1,138 items

Since December, 2017, Port Everglades staff have addressed many of the items identified in the Amman Whitney report, focusing on the immediate items. As of May 1, 2018 – which is the date of the most recent report available – port staff had completed 103 immediate-priority items, 124 moderate-priority items and 217 low-priority items.

Figure 1.4.1 presents a map of all Port Everglades buildings included in the Amman Whitney report. Table 1.4.1 summarizes the cost estimates from this report by facility type.

Figure 1.4.1: Port Everglades Building Locations
Source: B&A

Building Key

1	100 Crowley Administration Building
2	107 Crowley Marine Operations Building
3	110 Crowley Maintenance Building4 113 Southport Produce Inspection Building
5	4000 Marine
6	4000 McIntosh Road (King Ocean)
7	Building 1
8	Building 2
9	Building 4
10	Building 6
11	Building 18
12	Building 19
13	Building 20 (Midport Garage)
14	Building 20 (Harbormaster Tower)
15	Building 21
16	*Building 21A*
17	*Building 22/24 (Demolished Q1 2018)*
18	Building 25
19	Building 26
20	Building 27
21	Building 28
22	Building 28A (Electrical Shop)
23	Building 29
24	Building 47
25	Building 611 (Amman Building)
26	Building 612
27	Building 64
28	Building 65
29	Building 66
30	Building 67
31	Building 68
32	Building 6933 Cemex Office Building34 Chiquita Warehouse (McIntosh Road)
35	FTZ Building A
36	FTZ Building B
37	FTZ Building C
38	FTZ Building D
39	FTZ Building E
40	FTZ Building F
41	Northport Parking Garage
42	Northport Parking Garage (Administration)
43	U.S. Customs Building
44	OTD Building
45	Port Everglades Administration Building
46	Port Everglades Midport Parking Garage Offices
47	Port Everglades Public Safety Building
48	Port Everglades Public Works Building
49	Restrooms (Berth 8)
50	Restrooms (Berth 12)
51	Restrooms (Berth 13)
52	Southport FPL Vault/Crane Consultant Office

Cargo (except cement)
Warehousing/Logistics
Commercial/Office
Other

Cement
Cruise
Parking

Table 1.4.1: Port Everglades Facility Repair Cost Summary by Priority Level
Source: Amman Whitney 2017 Biennial Report

Priority Level	**Cost**
Immediate	$2,561,329
Moderate	$646,174
Low	$236,369
Total	**$3,443,872**
Open Areas	
Priority Level	**Cost**
Immediate	$7,462
Moderate	$731,151
Low	$72,782
Total	**$811,395**
Lift Stations	
Priority Level	**Cost**
Immediate	$53,600
Low	$18,965
Total	**$260,735**
Berths	
Priority Level	**Cost**
Immediate	$1,663,400
Moderate	$2,301,365
Low	$1,013,295
Total	**$4,978,060**
Roadways	
Priority Level	**Cost**
Immediate	$8,975

Cranes	
Priority Level	**Cost**
Immediate	$403,100
Moderate	$213,400
Low	$1,223,500
Total	**$1,840,000**
Railroad Crossings	
Priority Level	**Cost**
Immediate	n/a
Moderate	n/a
Low	n/a
Total	**n/a**
Security Gates	
Priority Level	**Cost**
Immediate	$4,086
Low	$205
Total	**$18,171**
Utilities	
Priority Level	**Cost**
Immediate	$74,925
Moderate	$38,125
Low	$46,100
Total	**$159,150**
Underwater Infrastructure	
Priority Level	**Cost**
Immediate	$317,000

			Cranes	
Moderate	$45,020		Moderate	$1,171,000
Low	$358,470		Low	$865,000
Total	**$412,465**		**Total**	**$2,353,000**

TOTAL	
Priority Level	**Cost**
Immediate	$5,093,877
Moderate	$5,348,285
Low	$3,834,686
Total	**$14,276,848**

Immediate priority items are treated with most urgency, but many immediate repair items are structural in nature, meaning they must be contracted out to third parties, which explains why immediate items are not always addressed first, despite their comparative importance. In all, some $6.8 million of the approximately $14.3 million in repairs identified in the 2017 Biennial Report will be contracted out to third parties, due to the nature of work involved. Remaining repair costs are categorized by trade/type as follows:

- Carpentry $6,141
- Electrical $17,666
- Fendering $632,940
- Grounds $31,595
- HVAC $12,938
- Painting $8,450
- Plumbing $83,425
- Signage $6,600
- Terminal Worker $80
- Cranes $1,933,155
- Convention Center $17,763
- Administration $2,940,106
- Tenants $326,984

Approximately $1.5 million in repairs identified in the 2017 Biennial Report will not be made, since the repairs recommended are applicable to buildings or infrastructure already scheduled for complete or partial demolition or modification (i.e. the current FTZ buildings). Sanitary and stormwater/sewer water repair costs are currently estimated at $160,000, and are not included in the Amman Whitney estimates.

The B&A team conducted a site visit in late April 2018 to verify the findings of the 2017 Biennial Report. S&F Engineers led the structural assessment. Hammond & Associates led the mechanical, electrical, and plumbing (MEP) assessment. Cordova, Rodriguez & Associates led the civil infrastructure assessment. Table 1.4.2 identifies the Port Everglades buildings with the highest structural repair costs, as estimated by S&F Engineers. Table 1.4.3 presents the three Port Everglades buildings in need of the greatest number of structural repairs, as estimated by S&F Engineers.

Table 1.4.2: Port Everglades Buildings with Highest Structural Repair Costs
Source: S&F Engineers

Building	Cost	Number of Items
Building 19	$11,000	1
Building 20 Midport garage	$87,500	149
FTZ Building F	$9,000	1
Old US Customs Building	$9,000	1
OTD Building	$9,000	6

Table 1.4.3: Port Everglades Buildings Requiring Greatest Number of Structural Repairs
Source: S&F Engineers

Building	Number of Items	Cost
Building 20 (Midport Garage)	149	$87,500
OTD Building	6	$9,000
Port Administration Building	3	$5,750

Table 1.4.4: Buildings Requiring Immediate Attention
Source: S&F Engineers

Building	Immediate Items	Cost
100-Crowley Administration Building	1	$1,500
107-Crowley Marine Operations Building	1	$2,000
Building 1	3	$1,500
Building 20 Midport garage	52	$33,850
Building 26	1	$1,500
Building 29	1	$1,500
FTZ Building A	2	$5,000
PE Administration Building	2	$1,500
PE Public Safety Building	1	$1,500
Southport FPL Vault/Crane Consultant Offices	1	$1,500
Eller Drive Security Gate and Booths	1	$1,500

Hammond & Associates conducted a review of major MEP work completed since the 2014 Update. What follows is a list of the most prominent developments:

Northport

- Terminal 4 (T4) was modernized, becoming the first LEED certified building at Port Everglades; upgrades included a 50,000 square foot expansion, new air conditioning, and 172 parking spaces with solar/wind powered LED light fixturesPort Everglades extended Slip 2, and installed new LED high-mast light fixtures.
- As part of the planned Slip 1 expansion, the overhead power poles currently used by FPL to provide power to Slip 1 will be removed, with the power lines being relocated and rerouted underground. Two new FPL transformers will be provided for the site. The Slip 1 expansion will also include the replacement of the existing metal Halide light fixtures with new high-mast LED light fixtures.

Midport

- Building 21A, which served as the utility vault for cruise Terminals 21, 22, and 24, was demolished in the fall of 2017 as part of the redevelopment of T25. With the demolition of Building 21A, a new FPL vault was constructed (completed mid-2018) at the north side of T21. This vault is dedicated to providing power for T21. A new emergency generator and chiller will also be placed on the roof of T21, to serve both T21 and the Harbormaster Tower.

- The renovation of T25, which is a LEED Certified building, will be complete by the fall of 2018. This new terminal is the first at Port Everglades to use all LED light fixtures for both interior and exterior lighting. T25 will also have a 2 megawatt generator to provide emergency power. T25's baggage handling annex features three 400 ton air-cooled chillers to provide chilled water to the terminal.

Southport

- At Slips 1 and 2 in Northport, Port Everglades has begun the transition from metal halide high-mast lighting to LED high-mast lighting in Southport. A 1,000w metal, halide lamps can be replaced with a 350w LED lamp, which also lasts five times as long. The overall cost and energy savings over time are therefore very substantial, as are the environmental benefitsIn 2016, the Port partnered with Port Everglades Terminal (PET) to install the first electrified Rubber Tire Gantry (RTG) system at Port Everglades. This system features a Conductix RTG electrification rail system. (See Figures 1.4.2 and 1.4.3.)

Figure 1.4.2: Diagram of Conductix Electrified RTG System
Source: Hammond & Associates

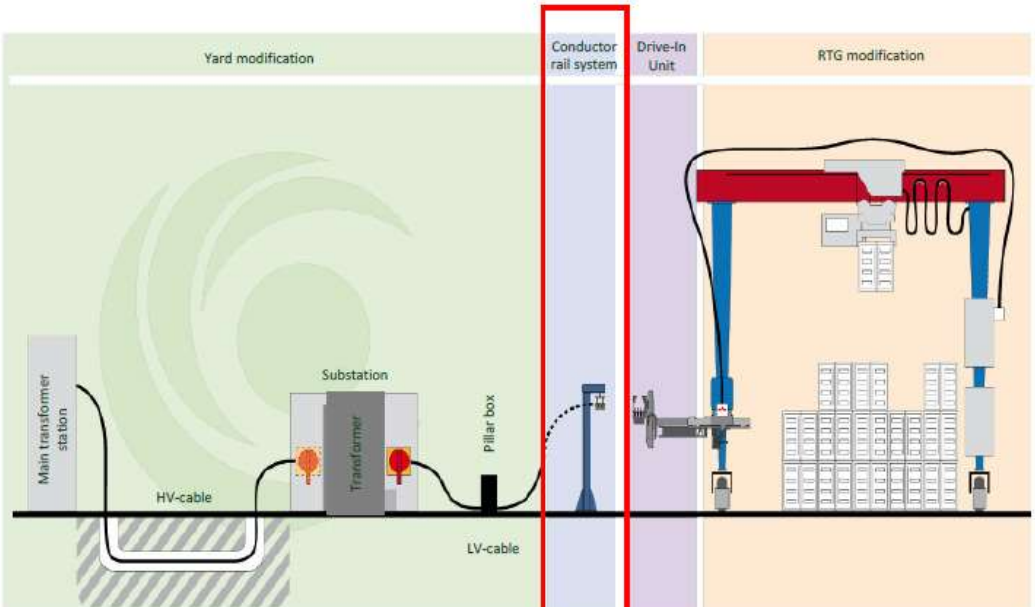


Figure 1.4.3: PET's Electrified RTGs in Service at Port Everglades, May 2018
Source: Hammond & Associates

Port Everglades has three major drainage areas, corresponding to Northport, Midport, and Southport (see Figures 1.4.4-1.4.6). The Port Everglades drainage system includes 80 outfalls that discharge to one of the following bodies of water:

- Dania Cutoff Canal
- Southport Turning Notch
- ICW
- FPL canal
- Northport Turning Basin

Port-wide outfall discharge locations are shown in Figure 1.4.7. Liquid-bulk facilities are not included in the Port Everglades drainage areas, and are not shown.

Prior to discharge to these outfalls, surface water is treated through exfiltration trenches or detention areas for water quality.

Figure 1.4.4: Port Everglades Northport Drainage Area
Source: Port Everglades; Cordova Rodriguez & Associates

The Northport drainage area discharges to the ICW and the turning basin. Recent modifications to this drainage area include the expansion of Slip 2, which was completed in December 2017, where the outfall located at the berth was moved to the new seawall location, and the drainage area contributing to this outfall was reduced. The future Convention Center expansion will require a drainage modification to approximately 40 acres, to accommodate the change in use and drainage patterns. The cruise Terminal 4 parking structure project will also require a change in the flow of the drainage area once surface parking is converted to structured parking, and the adjacent roads get modified.

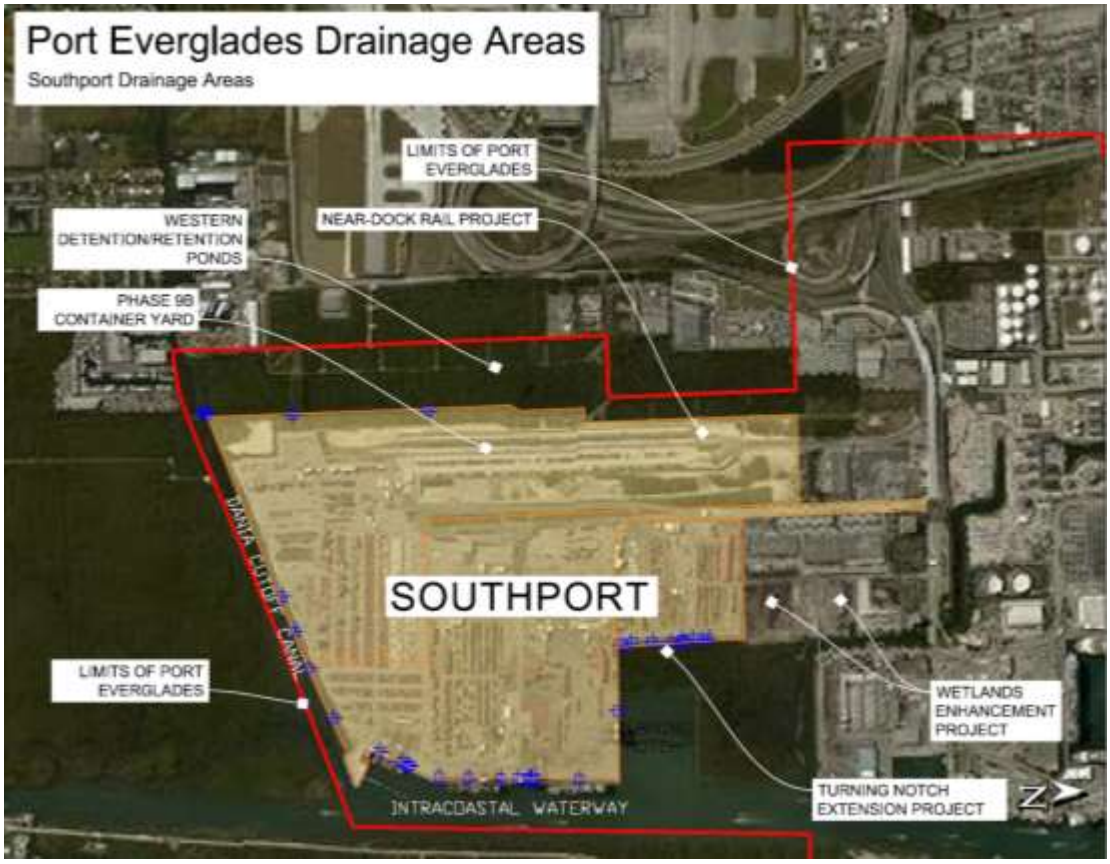
The Midport drainage area consist of outfalls discharging to the FPL Canal, the ICW, and the turning basin. Recent modifications to this drainage area include the Terminal 25 project, scheduled for completion in October 2018. This development included the demolition of cruise Terminals 22 and 24, replacing the areas of these buildings with an extension of Eller Drive and expanded ground transportation area. This project also included an expansion to the Terminal 25 building, and the construction of an annex building completely redefining the sub-basin at this pier and the drainage area that

discharges to the different outfalls at the site. Two sub-basins at the south end of the Midport drainage area were removed as the Wetlands Enhancement project took place.

Figure 1.4.5: Port Everglades Midport Drainage Area
Source: Port Everglades; Cordova Rodriguez & Associates

The Southport drainage area consists of outfalls and retention/detention ponds discharging to the Dania Cutoff Canal and the ICW. The development of the Phase 9b Container Yard and the ICTF project reshaped the Southwest sub-basin within the Southport drainage area. These projects converted over 60 acres of undeveloped land to container yard and railyard, respectively. Further changes to the Southport drainage area will occur as part of the Southport Turning Notch Extension project. This berth expansion will reduce the northeast sub-basin by approximately 26 acres.

Figure 1.4.6: Port Everglades Southport Drainage Area
Source: Port Everglades; Cordova Rodriguez & Associates



New facilities at Port Everglades must be designed to provide water-quality storage equal to one inch over the site, or 2.5 times the percentage of impervious area, whichever is greater. Stormwater management design must also use the new groundwater surface map that includes projected sea level rise in accordance with Broward County Board of Commissioners Ordinance No. 2017-16 amending Section 27-200 (b) (5) a. 3. b) of the Broward County Code of Ordinances (Code). Other regulations related to flood protection and prevention, floodplain and stormwater management, and land development and utilities (including water distribution and sewer) are to be linked to the Port Everglades Master Plan. Stormwater management practices at Port Everglades are discussed in Section 1.10. General considerations include:

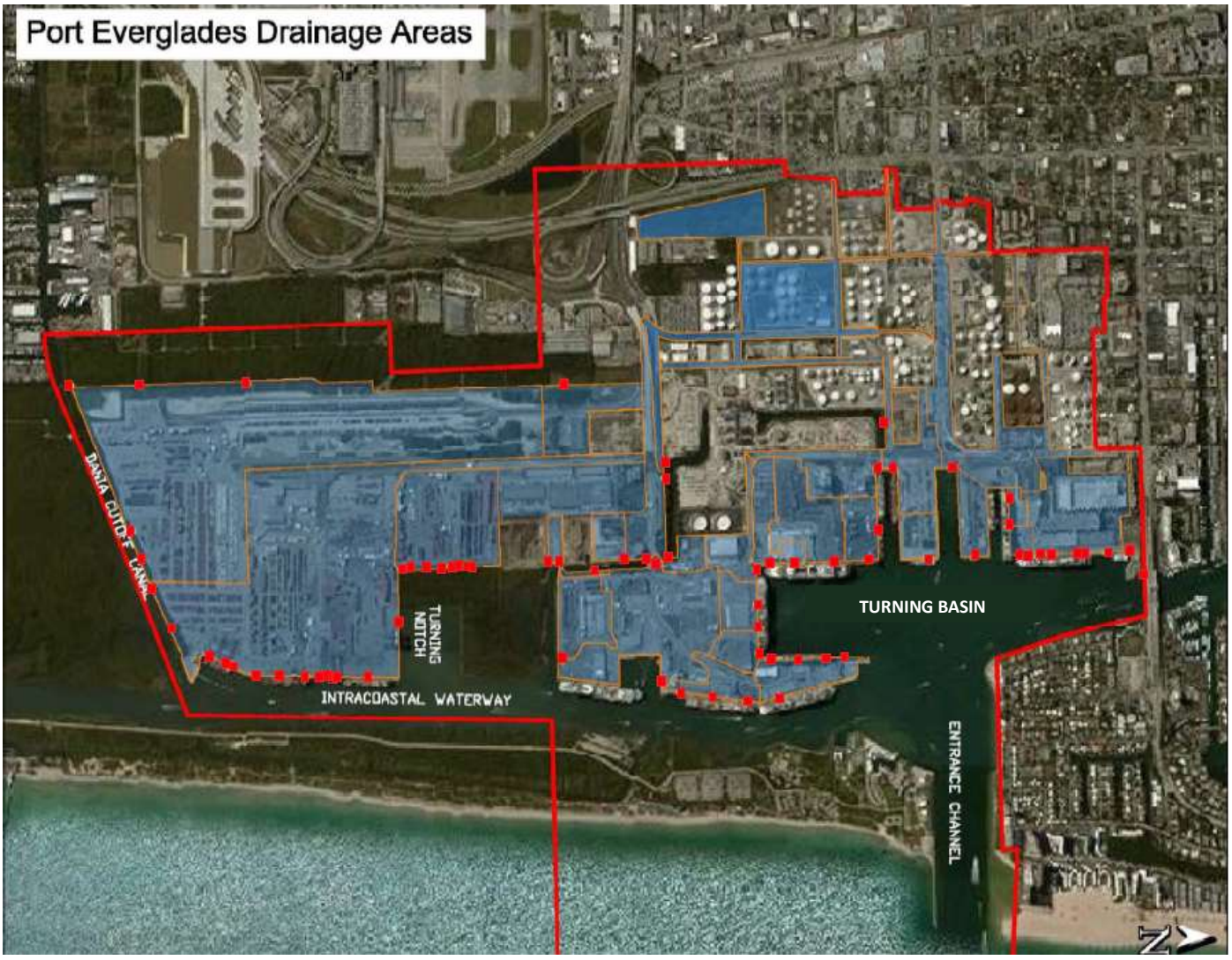
- Water quality
- Water quantity
- Discharge rate

In addition to the stormwater management considerations above, the following facilities at Port Everglades are subject to flood protection standards/guidelines:

- Buildings
- Roadways
- Parking lots

Flood protection standards/guidelines are elaborated in Section 1.10.

Figure 1.4.7: Port Everglades Outfall Discharge Locations
Source: Google Earth; Cordova Rodriguez & Associates



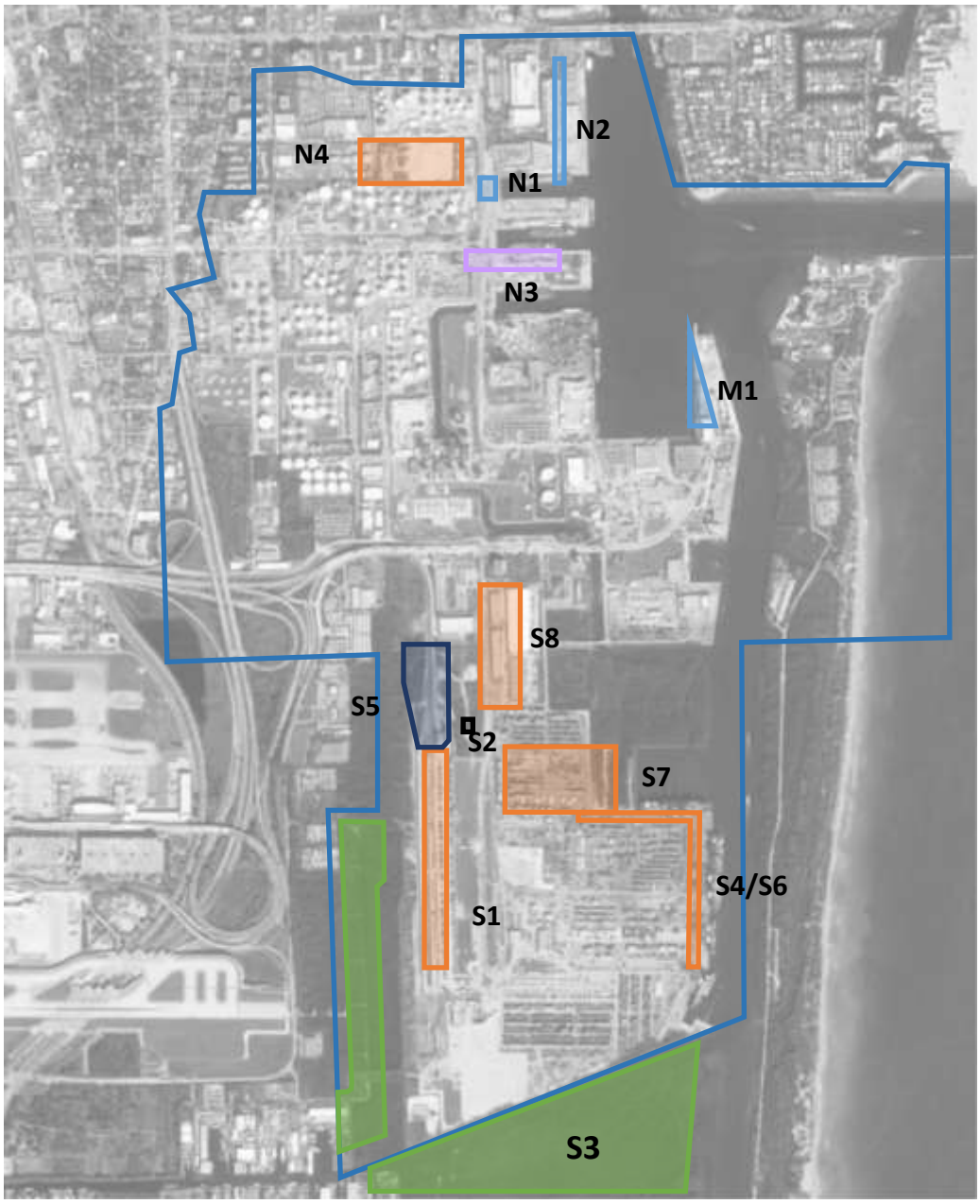
1.5 Progress on 5-Year Projects in the 2014 Update

Port Everglades has implemented, or is in the process of implementing, most of the projects that were identified as five-year priorities within the 2014 Update of the Port Everglades Master/Vision Plan. These projects are listed in Table 1.5.1. The location of each project is shown in Figure 1.5.1. The status of each project is summarized in the pages that follow.

Table 1.5.1: Port Everglades Projects (2015-2019) as Proposed in 2014 Update
Source: 2014 Port Everglades Master/Vision Plan

Port Area	Project ID	Project Name	Status
Northport	N1	Slip 2 Westward Lengthening	Completed (FY2017)
	N2	Berths 1 ,2,and 3 New Bulkheads	Pending (FY2021)
	N3	Slip 1 New Bulkheads and Reconfiguration - Phase 1 (Berths 9/10)	Underway (FY2023)
	N4	Break-Bulk Storage Yard	Pending (TBD)
Midport	M1	T25 Improvements/Expansion	Underway (FY2018)
Southport	S1	Southport Phase 9b Container Yard	Completed (FY2018)
	S2	Southport McIntosh Road Gate Lane Addition	Underway (FY2019)
	S3	Westlake Mitigation (Southport Turning Notch Extension)	Underway (FY2020)
	S4	Super Post-Panamax Cranes (3)	Ordered (FY2020)
	S5	Foreign-Trade Zone (FTZ) Relocation	Underway (FY2020)
	S6	New Crane Rails (Berths 30,31, and 32)	Underway (FY2020)
	S7	Southport Turning Notch Extension	Underway (FY2022)
	S8	Southport Phase 9a Container Yard	In Design (FY2022)
Port-wide	P1	USACE Deepening and Widening Design	PED Underway (FY2023+)

Figure 1.5.1: Port Everglades Projects (2015-2019) as Proposed in 2014 Update (Locations)
Source: B&A



*Note: Project **P1** is detailed in Figure 1.5.6.*

1.5.1 Northport Projects

In mid-2017, the $18 million Slip 2 Westward lengthening project was completed. This project extended the slip adjacent to the recently renovated T4 by 225 feet from the original 900 feet, thereby allowing vessels up to 1,100 feet in length to berth. Carnival Corporation (Carnival) is the primary user of the newly extended berth.

Another cruise-related project in Northport included among the five-year Master Plan priorities identified in the 2014 Update is the replacement of bulkheads along Berths 1, 2, and 3, adjacent to T1 and T2. Port Everglades has numerous bulkheads that are in need of repair or replacement throughout the Port. In order to optimize the process, Port Everglades will implement the work at Berths 1-3 as part of a broader, comprehensive multiyear bulkhead repair and replacement program. A design consultant is expected to be selected by early FY2019 with work proceeding from there, based on priorities set within the five-year CIP, in collaboration with the selected consultant.

Structural bulkhead and marine infrastructure improvements are also planned at Berths 9-10 within Slip 1, which is used primarily for liquid-bulk offloading. This project is now in the design phase, and constitutes Phase 1 of a two-phase project that will widen Slip 1 by 160 linear feet to the South, increasing the total width of Slip 1 from 300 feet to 460 feet. The bulkhead along Berths 9 and 10 is currently 1,200 feet in length, and no additional lengthening is planned. This project includes dredging, consistent with the proposed USACE channel deepening and widening program, and dredge material from this project will be stored at the former molasses tanks site. At the conclusion of Phase 1 of this project, approximately half of Pier 1 will be demolished. All underground liquid-bulk offloading infrastructure, including conveyance pipelines, will also be demolished and rebuilt. During construction, which is expected to begin in FY2019, liquid-bulk vessels that used to be called Berths 9/10 will temporarily be serviced at Berths 14/15, or at Berth 5, using temporary offloading equipment. This project is expected to be completed no later than FY2023.

Beginning in 2015, Port Everglades demolished 10 400-ton steel plate storage tanks, and cleared the site to create a new 13-acre neo-bulk cargo laydown area. Each of the 10 tanks that was demolished was previously used to store up to 1 million gallons of liquid-bulk products. Since 2017, this site has been used as a spoils site for dredge material resulting from the Slip 2 Westward lengthening project. This material will be reused in the upland area of Southport that is currently being developed as part of the Port Everglades International Logistics Center (PE-ILC) project (see page 22). Once the Slip 2 dredge material is removed from the former molasses tank site, however, Port Everglades plans to reuse this site as a spoils site for the dredge material resulting from the Slip 1 reconfiguration. It is not expected that this work will be completed until FY2023. The proposed Port Everglades Port Access Road project will also occupy part of this site, if completed as currently envisioned. Therefore, it is unknown when the former tank site will be available for break-bulk storage.

1.5.2 Midport Projects

The only Midport project identified as a priority within the five-year Master Plan from the 2014 Update is the development of a completely new Cruise Terminal 25 (T25). Demolition, renovation, and expansion of this facility is currently underway, with the new state-of-the-art T25 scheduled to be open for business by the fall of 2018 (see Figure 1.5.2)

Figure 1.5.2: Port Everglades Cruise Terminal 25 (T25)
Source: B&A

Home to the newest addition to the Celebrity Cruises fleet – *Celebrity Edge* – this $100 million terminal includes a new and improved U.S. Customs and Border Protection area, a totally redesigned ground transportation area, a new baggage collection area, new check-in counters, new seating, easier passenger movement, and new passenger loading bridges**1.5.3 Southport Projects.**

Southport is the location of several priority projects designed to enable Port Everglades to compete effectively in the rapidly evolving and ever-changing international trade and logistics business.

In FY2018, Port Everglades converted a 19.9 acre parcel of vacant land adjacent to the ICTF to usable container yard (Container Yard 9b). This project, which cost just over $12

million, added much-needed container yard space in Southport, in anticipation of several years of construction associated with the Southport Turning Notch Extension (STNE) project. Initially, this acreage will be used by King Ocean Services, one of Port Everglades' largest Southport tenants. Container Yard 9a, which is located on the site of the existing FTZ, will also be occupied by King Ocean Services. This separate but related project is expected to be completed in FY2022, once the existing FTZ is demolished and relocated to the site of the new PE-ILC. This site will be developed simultaneously with the STNE project. McIntosh Road currently serves as the sole point of ingress and egress to Port Everglades' Southport area. As such, it handles 100 percent of traffic serving the four Southport container terminals, as well as the international gate for the ICTF, the existing FTZ (and future PE-ILC), and several other sites. The McIntosh Road gate-lane addition seeks to expand the northbound capacity of McIntosh Road, to improve the flow of traffic in this area, and to mitigate delays caused by container out-gate procedures. This critical transportation project, which is expected to be completed in FY2019, will realign and convert the easternmost southbound lane of McIntosh Road to a new northbound lane that will serve as a bypass lane for vehicles not required to comply with out-gate procedures.

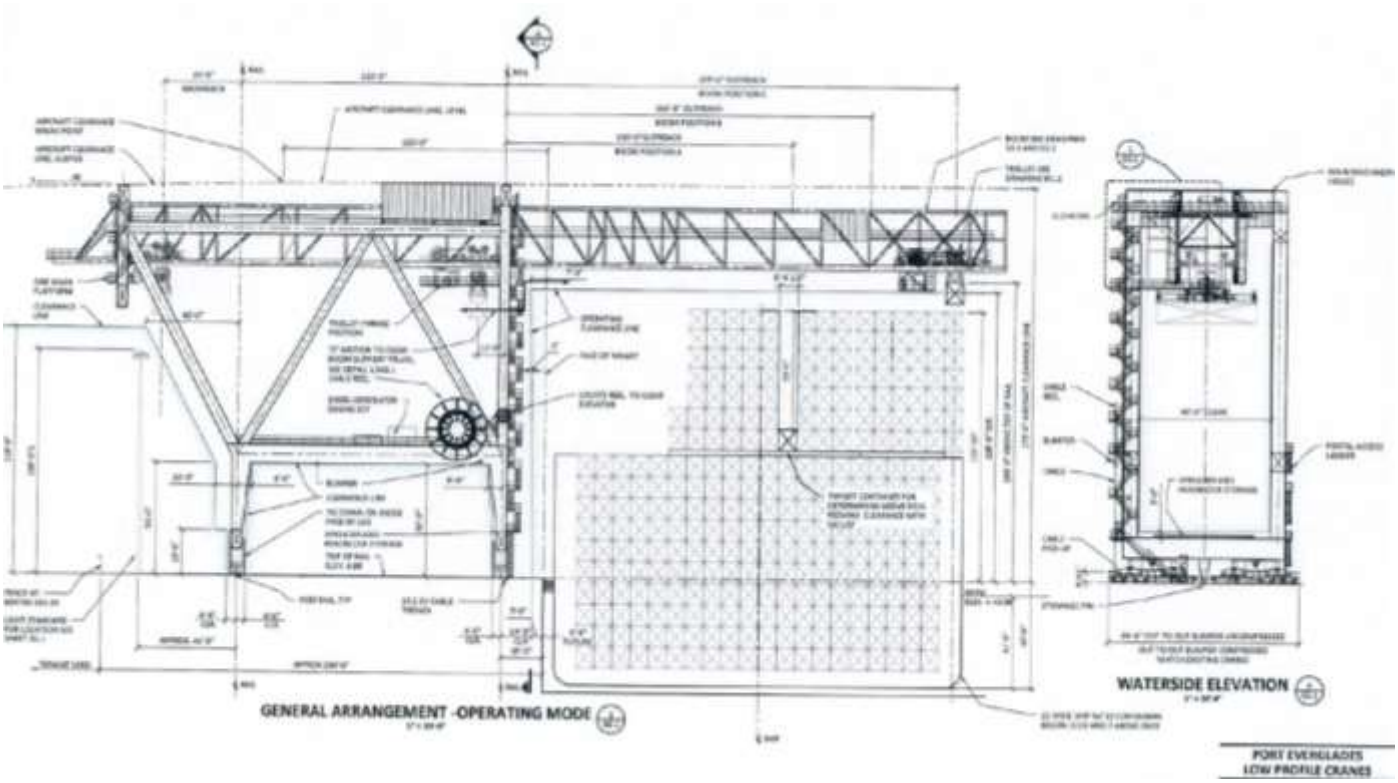
The Port Everglades West Lake Park mitigation project is in the process of county permit modification, and is expected to begin construction in FY2019. This project is a key part of Port Everglades' mitigation plan related to both the STNE and USACE deepening and widening projects, and calls for the restoration of seagrasses and mangroves in West Lake Park, which is located in Hollywood, FL (see Figure 1.5.3), to the South of the PortA separate but related environmental enhancement project, which was completed in FY2017, successfully cultivated 16.5 acres of nursery-grown mangrove and native plants on port property, which was originally dry land intended for other uses. This effort received a "Notification of Trending towards Success" from the Florida Department of Environmental Protection in November 2016, which allowed for the release of 8.7 acres of an existing mangrove conservation easement, adjacent to the area of Southport that will be redeveloped as part of the STNE project. This project received Broward County's GoGreen Seal of Sustainability.

Figure 1.5.3: West Lake Park Wetland Enhancement Project, Hollywood, FL
Source: southfloridafinds.com

One of the key priorities identified for five-year implementation in the 2014 Update was the purchase of new Super Post-Panamax STS cranes capable of working the largest class of container vessel, expected to call Port Everglades by 2035 (~12,000 TEUs). In late 2017, Port Everglades placed its first order of three such cranes from Chinese crane manufacturer ZPMC. The new low-profile Super Post-Panamax cranes are expected to be delivered to the port and put into service by early 2020. Port Everglades' agreement with ZPMC includes an option for up to three more cranes of the same design. New 120-foot-gauge crane rails are in the process of being installed along Berths 30-32 in Southport, to support these new cranes.

This project also includes updates to the seven existing STS cranes in Southport, in order to increase their lift capacity from 46.5 tons to 65 tons. Also included in this project is the construction of a new on-port FPL electric substation to handle the increased power requirements of the additional cranes.

Figure 1.5.4: New Port Everglades Super Post-Panamax Crane Design
Source: Port Everglades



As referenced earlier, a state-of-the-art logistics center (the PE-ILC) will be built through a public-private partnership on 16.7 acres of vacant land in Southport. This new PE-ILC will be located along the northwest edge of McIntosh Road, adjacent to the ICTF, and will maintain its FTZ status. International Warehouse Services, Inc. (IWS), a long-time tenant at Port Everglades, will be the operator of the new facility, which is predicted to open in FY2020

Figure 1.5.5: Southport Turning Notch Extension (STNE) Project
Source: B&A

Last but not least, the STNE project itself, which will lengthen the existing turning notch from about 900 feet to 2,400 feet, received unanimous approval from the Broward County Board of County Commissioners in May 2017. The existing Berth 30 will be extended and dredged to 48 feet, in conjunction with the U.S. Army Corps of Engineers (USACE) deepening and widening project (see below). The new berths created to the west will have a depth alongside of 42 feet. This roughly $500 million expansion project will be one of the most significant capital projects in Port Everglades history. The project is expected to break ground in mid-2018 with an anticipated completion date of mid-2022. See Figure 1.5.5.

1.5.4 Port-wide Projects

The most critical port-wide capital project identified as a near-term priority within the 2014 Update is the USACE deepening and widening project.

Figure 1.5.6: Port Everglades/USACE Harbor Deepening and Widening Project Map
Source: USACE/Port Everglades

This project, which has been in the planning stage for approximately 20 years, calls for deepening the port's navigational channels, and just as importantly, widening the ICW along the Northeast side of the channel to allow larger vessels to access Southport in the future, including while one or more cruise ships are berthed in Midport (T25, T26, and/or

T29). This project is currently in the pre-construction engineering and design phase, after receiving a signed Chief of Engineers Report from the USACE on June 26, 2015, and U.S. Congressional authorization in December 2016In addition to widening the Port Everglades channel, the Project calls for deepening and widening the Outer Entrance Channel from an existing 45-foot project depth over a 500-foot channel width to a 55-foot depth over an 800-foot channel width. The project will also deepen the Inner Entrance Channel and Main Turning Basin from 42 feet to 48 feet (with a 2-foot overdredge allowance), and widen the channels within the Port to increase the margin of safety for ships transiting to berthThe total estimated cost is $400 million, including a $190 million investment by the Port. Widening and deepening the channel is projected to create 4,789 construction jobs in the near term, and 1,491 regional jobs when cargo usage is operating at full capacity (10 years after completion). The completion timeframe for all components of the project range from 2021 to 2024. Phase 1, which includes the relocation of the U.S. Coast Guard station, is scheduled to occur in 2020.

1.6 Neighbors' Plans Influencing Port Development

In addition to the projects that are currently being planned, designed, and implemented by Port Everglades itself, the B&A team evaluated plans by neighbors of the Port that are likely to have an impact on Port Everglades' 5-year Master Plan and 10- and 20-year Vision PlansPort Everglades is a major economic engine for Broward County, and is located in very close proximity – indeed adjacent to – two other Broward County economic engines: the Broward County Convention Center and Fort Lauderdale-Hollywood International Airport (FLL). Given the physical relationship between these three entities and their interconnectivity with regard to the tourism economy, there is natural and significant overlap between their operations, and development of one necessarily impacts the development of the others, to one extent or another.

Figure 1.6.1: Port Everglades Aerial On an 8-Ship Cruise Day
Source: sunny.org

1.6.1 Northport The most important neighboring development planned in the near-term that will affect the Northport area of Port Everglades is the expansion of the Broward County Convention Center. Like Port Everglades, the Convention Center, which is located in the Northport area, is an important asset and economic engine for Broward County. In 2015, the Board of County Commissioners approved moving forward with the expansion project, which includes a proposed 800-room headquarters/hotel, as well as more than 560,000 square feet of additional Convention Center space. The project is expected to cost approximately $550 million to develop. See Figure 1.6.2.

The combined effect of the expansion and new hotel, with public spaces and waterfront amenities, is expected to have an annual economic impact of more than $100 million, by virtue of attracting more Convention Center and trade show business, increasing tourism, and creating additional related jobs.

According to the County, the planned expansion of the Convention Center seeks to take full advantage of its location along the ICW. As such, it will require the demolition of cruise Terminal 1 (T1), which in turn will require the existing user of T1 – Baleária Caribbean (Baleária) – to permanently relocate to another as-yet-unconfirmed location within Port

Everglades, which may or may not be berth-adjacent. Impacts of this relocation to Baleária's operating model and commercial viability are not yet known.

A clearly positive impact of the Convention Center expansion is the development of a new 1,818-space parking structure that will serve T2 and T4 cruise passengers. Additional details related to this planned structure are discussed in Section 1.8

Figure 1.6.2: Proposed Convention Center Expansion and Headquarters Hotel
Source: broward.org/ccexpansion

Another very important non-port project currently under consideration within the Northport area of Port Everglades is the proposed Port Access Road. This project, which could cost as much as $100 million, would connect US 1 to Southeast 17th Street via a newly constructed access road, as shown in Figure 1.6.2. This project has been proposed in the past, and discussion of this project is included in the 2006, 2009, and 2014 iterations of the Port Everglades Master/Vision Plan.

The goal of this proposed new road would be to alleviate traffic on Southeast 17th Street between US 1 and Eisenhower Boulevard, by providing an additional, alternate public route through the Northport area of Port Everglades, thereby bypassing Southeast 17th Street. Currently, the only options for the public to access Southeast 17th Street East of

Eisenhower Boulevard – including the Convention Center and the Fort Lauderdale beach/A1A area, among other destinations – from US 1 Northbound are either: a) to turn right onto Southeast 17th Street from US 1 (or Miami Road); or b) to enter the controlled access area of the Port at Eller Drive or Spangler Boulevard, pass through the Port gate, then continue North onto Eisenhower Boulevard.

With traffic both outside and within Port Everglades intensifying, neither of these current routes is free of congestion during peak periods, particularly when there are multiple cruise ships in port (i.e. Saturdays and Sundays). In February 2014, the county hired Atkins to conduct a traffic study to determine traffic levels associated specifically with the Convention Center at that time, in relation to total traffic volumes within the study area (i.e. the Southeast 17th Street corridor between Eisenhower Boulevard and Federal Highway). As part of the study, traffic volume data was collected at fourteen intersections and along sixteen roadway segments, with raw traffic data adjusted to be representative of average peak-season conditions. Atkins used this data to assess the impact of Convention Center traffic on overall traffic in the area, and ultimately found that Convention Center traffic, as of 2014, had a "minor impact on the overall traffic operations of the SE 17th Street corridor" and that Convention Center traffic resulted in "no change in level of service (LOS) at any of the analyzed intersections."[4]See Figure 1.6.3 for the proposed Port Access Road route.

Figure 1.6.3: Proposed Port Everglades Port Access Road
Source: B&A

[4] *Source: broward.org/CCExpansion/Documents/BrowardCoConvCtrTraffic%20Study*

The Atkins study did not analyze the potential impact of the proposed Port Access Road, and also does not account for new/potential future multifamily residential developments near Southeast 17th Street. An entirely separate but related study, completed in May 2017 and known as the 17th Street Corridor Mobility Plan, was commissioned by the City of Fort Lauderdale and executed by Kittleson & Associates.[5] Among other recommendations, this study recommends "completing" Southeast 20th Street through Port Everglades, in order to create an east-west connection between US 1 and Eisenhower Boulevard to the south of Southeast 17th Street, which would provide alternative access to the harbor shops and Convention Center. Finally, the Florida Department of Transportation (FDOT) completed its own study of Port Everglades traffic in July 2018, focusing on port access and on-port traffic. The initial findings of this FDOT study are summarized in Section 1.9. The FDOT study also did not examine the potential impacts of the proposed bypass road and/or the street completions recommended by Kittleson & Associates.

By all accounts, the recent relocation of the Eisenhower Boulevard gate to the south of Southeast 20th Street provides the main vehicular access to the Convention Center as well as T1 and T2 has been highly successful in reducing bottlenecks at the intersection of Southeast 17th Street and Eisenhower Boulevard. Given the scale of the planned Convention Center expansion and the location of the entire complex in close proximity to the Eisenhower Boulevard gate of Port Everglades, it is possible that the expansion could present future challenges, in terms of traffic impacts, especially on days when a major Convention Center event coincides with cruise vessels berthed at both of the remaining Northport cruise terminals (T2 and T4)It is currently unknown what the exact impact of the proposed Port Access Road would be on traffic in Northport. However, it stands to reason that channeling more vehicular traffic onto Northbound Eisenhower Boulevard south of the Convention Center, and in close proximity to Southeast 20th Street, could create additional congestion in that area. Planning for growth in a way that mitigates, to the maximum extent, possible future traffic congestion in, and immediately adjacent to, Port Everglades is a key objective of this 2018 Update.

Given all of these dynamics and the critical need to maintain efficient traffic flows in and around Port Everglades, a separate traffic capacity and engineering study that looks at multiple future demand and traffic routing scenarios (taking into account the various transportation modes that will need to be accommodated by Port Everglades in the coming 20 years) will be conducted in conjunction with the 2018 Update, as part of Phase 2.

An additional neighboring development that could impact Northport relates to the FLL Master Plan, specifically the proposed intermodal center, commercial center, and automated people mover (APM) system. These proposed developments have the most potential to impact the Midport area of Port Everglades, and are discussed in greater detail in the following section.

[5] *Source: http://www.trbas.com/media/media/acrobat/2017-06/93989235-30153223.pdf*

1.6.2 Midport

The FLL 20-year Master Plan, which is expected to be finalized by the first quarter of 2019, includes three major projects that have a direct bearing on the future of Port Everglades, and could dramatically change the air-sea connections between two of Broward County's most important economic engines.

The first of these projects is the development of an intermodal center to the east of FLL in the area between the circular, elevated FLL access road ramps (Terminal Drive), sometimes referred to as the "donut." This new intermodal center will provide airport-adjacent connections to multiple modes of ground transportation, including transit (i.e. the Brightline) and more traditional vehicular options (e.g. taxis). This development is relevant to Port Everglades, particularly Midport, because it has the potential to serve as a consolidated transportation and logistics hub for cruise passengers, and in so doing, improve the overall experience of cruise passengers who arrive in Broward County via a flight that lands at FLL.

Arriving fly-in cruise passengers currently transit from the FLL terminal, where they arrive either directly to the port to board their cruise, or (if they are enjoying a pre-cruise stay in South Florida) via taxi, rideshare, or courtesy shuttle to their hotel or other accommodation. Once the planned intermodal center is operational, arriving passengers – including cruise passengers – will be routed to their ground transportation options via this new facility. Because the intermodal center will be new and include a significant amount of additional and highly flexible space, new opportunities for air-sea synergies, including remote check-in, security screening, and baggage-drop for cruisers could be feasible.

The second project in the FLL 20-year Master Plan, with the potential to impact Port Everglades, is the development of a new commercial center and hotel in conjunction with the redevelopment of the Palm Garage. Post-cruise, fly-out passengers from Port Everglades usually arrive at FLL long before their scheduled return flight – sometimes up to eight or even 10 hours early – with few options to pass the time. For departing cruise passengers, potential pre-flight shopping and entertainment venues, as well as short-term baggage storage and remote baggage-drops, are expected to be available at the proposed commercial center, so passengers who continue to arrive at FLL far earlier than required to check-in for their flight have additional options for passing the time and a better overall experience.

The addition of an on-airport hotel could also potentially be attractive to certain cruise passengers, such as those arriving late on a flight to FLL the evening prior to their cruise, and/or those scheduled to depart FLL on an early-morning return flight the day following their cruise

Figure 1.6.4: Proposed FLL Intermodal Center
Source: Broward County Aviation Department

The third FLL project that could impact Port Everglades in the long term is the proposed APM. Initially, this APM is proposed as an internal transportation solution, meaning it would only connect FLL terminals and other key on-airport stops (i.e. commercial center, parking structures, rental car center, etc.) to the proposed intermodal center via a closed loop. However, consistent with previous concepts and studies conducted by Broward County and others, both the FLL APM and the intermodal center are currently envisioned to be developed as different phases of a single project, known as SunPort. In other words, they will be designed in such a way that a future extension of the APM to the Midport area of Port Everglades and continuing on to Northport – then terminating at the Convention Center –will be possible. This project is ongoing, and neither the final alignment/path of the APM nor the costs have been finalized.[6] See Figure 1.6.5 for a summary of the most current proposed alignment/path available.

Such a development would fundamentally change the cruise passenger transportation and logistics landscape at Port Everglades, and would create a unique and potentially game-changing air-sea connection that, if properly implemented, could simultaneously address the numerous surface transportation challenges facing Port Everglades, while also improving the cruise passenger experience, all while potentially enhancing security. Historically, the biggest challenge to this concept has been cost, which will remain true.

[6] *Status is per information provided by Port Everglades via email on 07.31.2018.*

Figure 1.6.5: Proposed SunPort Concept, 2008
Source: Broward County

The B&A team is currently unaware of any other major non-Port developments planned in the Midport area that would have direct effect on Port Everglades' infrastructure or operations. The last major non-port project to occur in Midport was the demolition and reconstruction of the Florida Power & Light (FPL) power plant there. Now known as the FPL Port Everglades Clean Energy Center, this project converted a 1960s-era oil-fired power plant to a new, state-of-the-art natural gas power plant. This conversion resulted in

a 90 percent reduction in carbon dioxide (CO_2) emissions, compared to the previous facility.

1.6.3 Southport

The B&A team is currently unaware of any major non-port developments planned in the Southport area that would impact Port Everglades directly. Two major non-port projects were completed in this area since the 2014 Update, however.

The first such project is the new FLL South Runway, which opened to commercial aviation traffic in late 2014 (see Figure 1.6.6). The 2014 Update noted the substantial degree of ongoing cooperation and joint planning with FLL and the Federal Aviation Administration (FAA) required to make the Southport Turning Notch Extension project (STNE) a reality, in light of the air-draft issues associated with the close proximity of FLL and Port Everglades.

While the new South Runway project is complete, the implications of FLL's general proximity to Port Everglades and the impacts that this creates, related to port infrastructure and operations, will continue in perpetuity. The principal impact of this proximity is the resulting restrictions on STS crane locations and heights in Midport and Southport. FLL flight arrival and departure patterns extend over portions of both of these areas of Port Everglades, restricting the height of structures and equipment located beneath them. Determinations from the FAA will allow Port Everglades to position and operate its three recently procured super post-Panamax cranes along existing Berths 30-32. Once the STNE project is completed, these new cranes will also be able to service a portion of the eastern end of the expanded Berth 30. Any future cranes following the same design will similarly be able to operate along any of these three berths.

The western half (approximately) of the STNE will only be allowed to have rail-mounted STS cranes along the southern east-west berth, referred to in this 2018 Update as Berth 30X, and only the Port's existing smaller cranes will be allowed. No STS cranes of any type or size will be allowed along the approximately 700-foot north-south berth at the far western end of the STNE, referred to in this 2018 Update as Berth 30W. The east-west berth on the northern side of the STNE is also not currently envisioned to have STS cranes. As of the writing of this Update, however, there remains a possibility that one or more mobile harbor crane(s) might be able to be positioned there, which will not be known for certain until a later date.

Like the port, FLL will continue to undergo significant facility expansion and renovation in both the near future and into the long term. Once completed, with the exception of the air draft constraints discussed above, these improvements will likely have an overall positive effect on the port, since the new capacity will enhance the synergies between the two facilities, including the creation of new opportunities for both the airport and the port to serve a larger number of fly-in passengers from both domestic and international markets.

The second major non-Port project completed in Southport since the 2014 Update is the opening of the ICTF (see Figure 1.6.7). While this facility is located on Port Everglades property within the Port Everglades Jurisdictional Area and has many synergies with Port operations, it was developed by FEC directly, and is operated independently by FEC. Impacts to Port Everglades associated with the ICTF are also discussed in Section 1.9.

Figure 1.6.6: FLL South Runway
Source: gomaco.com

Figure 1.6.7: FEC ICTF, Port Everglades
Source: penneyvanderbilt.files.wordpress.com

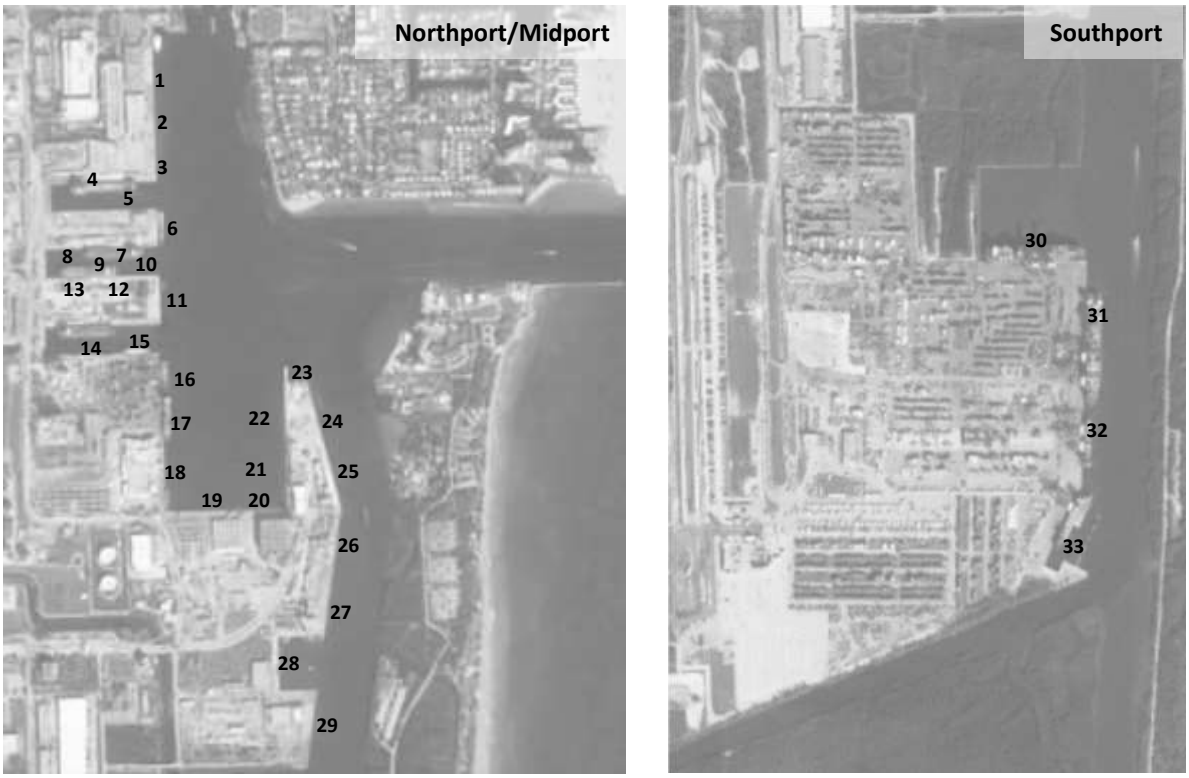
1.7 Cargo Berth and Yard Capacity Analysis

1.7.1 Methodology

A capacity assessment of the existing cargo facilities handling containers, dry-bulk and break-bulk, was performed across the Southport, Midport, and Northport facilities at Port Everglades. The capacity assessment was conducted using a spreadsheet-based model to determine the port's throughput capacity, defined as the amount of cargo a terminal can handle, assuming status quo operating models and practices. For containerized cargo, the capacity has been calculated in TEUs per year (or moves per year, as noted). For dry bulk and break-bulk cargos, the capacity has been calculated in short tons per year.

The cargo capacity has been calculated as the lesser of the overall berth capacity and the overall storage yard capacity of each cargo terminal. These main capacity parameters are dependent on Port Everglades' current and improved physical and operational characteristics and practices. It should be noted that landside cargo transport and logistics have not been factored into this static capacity assessment. A further detailed capacity study would be required to analyze the impacts of traffic movements and circulation across and around different terminals and to/from remote grid and storage yards. See Figure 1.7.1 for a map of Port Everglades' existing berths.

Figure 1.7.1: Map of Port Everglades Berths
Source: B&A



1.7.2 Cargo Types and Berth Assignments

Port Everglades serves a unique cargo market that combines a broad range of vessel sizes and commodities at shared berths and yards across three main cargo handling areas: Southport, Midport, and Northport. The Port's substantial Caribbean market, for example, consists of small vessels making short trips to the Bahamas, Jamaica, and other islands, while the international market consists of much larger vessels coming from Europe, Asia, and other parts of the globe. To capture the wide range of vessel types served at the Port, the capacity at each berth has been calculated using the "berth-foot-hour" metric, which is a measure of the amount of berth resources (time and length) required to move cargo across the berth. A similar methodology has been adopted to assess the berth capacity for dry bulk and break-bulk cargo vessels (berth-foot-hours per ton). Table 1.7.1 summarizes the annual percent availability for container, cement, other dry bulk, and break-bulk cargo, and summarizes other uses for each berth (such as cruise or liquid bulk) and impacts due to cruise seasonality. Berths that do not currently handle these four types of cargo (i.e. the dedicated petroleum operations at Berths 7–10 and 12–13) have not been included.

Table 1.7.1: Summary of Cargo Activity by Berth
Source: Port Everglades; Hatch

Berth ID	Average Annual % Availability by Cargo Type				Other Uses/Notes	Cargo Operations Impacted by Cruise Seasonality?
	Containers	Cement	Other Dry Bulk	Break-bulk		
2-3	10%	10%			Primarily cruise	No; only used by cargo as needed/when available
4	10%	15%	10%		Primarily cruise	Negligible, due to low usage by cargo overall
5		10%	35%	55%	None	No cruise activity
6		25%	75%		None	No cruise activity
14-15	10%	75%	15%		Mostly cement; long stay at berth.	No cruise activity
16-17	75%				Container and bulk	Yes
18	40%				Primarily cruise; long vessels at Berths 16-18 can block cargo	Yes
19-20	45%				Primarily cruise; No adjacent operating cargo yard or equipment	Yes; cruise occupies berths 19-20 2+ days/week (peak) and 1 day/week (off-peak)
26-27	25%				Primarily cruise	No; negligible due to low cargo usage (containerized bananas)

28F					Only liquid bulk and lay-in; no yard	Tie-down area during the cruise peak season
29	10%			35%	Shared container/cruise; break-bulk (steel) as well	Yes; 2+ days cruise occupancy in peak season, none in off-season
30-32	100%				None	No cruise activity
33	100%				Finger piers at 33B/C rarely used, since Crowley is now Lo-Lo	No cruise activity
30X[7]	100%				STNE (South Berth - 1500')	Proposed; no cruise activity
30W[8]	50%				STNE (West Berth - ~700' operable)	Proposed; no cruise activity

Berth assignments at Port Everglades are controlled by the harbormaster, and allocated in accordance with the vessel priority procedure discussed elsewhere in this document. To accurately account for the shared-berth operations at the port (particularly the berths that are shared amongst cruise and conventional cargo activity) a “percent availability for cargo activity” factor has been used at each berth to distribute the berth capacity among the various cargo types, and to account for the reduced capacity for cargo operations, due to berth occupancy by cruise vessels.

[7] *30X is the working designation for the STNE Berth 30 extension since no other formal designation has been given to this expanded berth.*

[8] *30W is the working designation given to the 700 foot North-South berth at the Western end of the STNE since no other formal designation has been given to this new berth.*

Figure 1.7.2: Average Annual Berth Availability by Cargo Type
Source: Port Everglades; Hatch

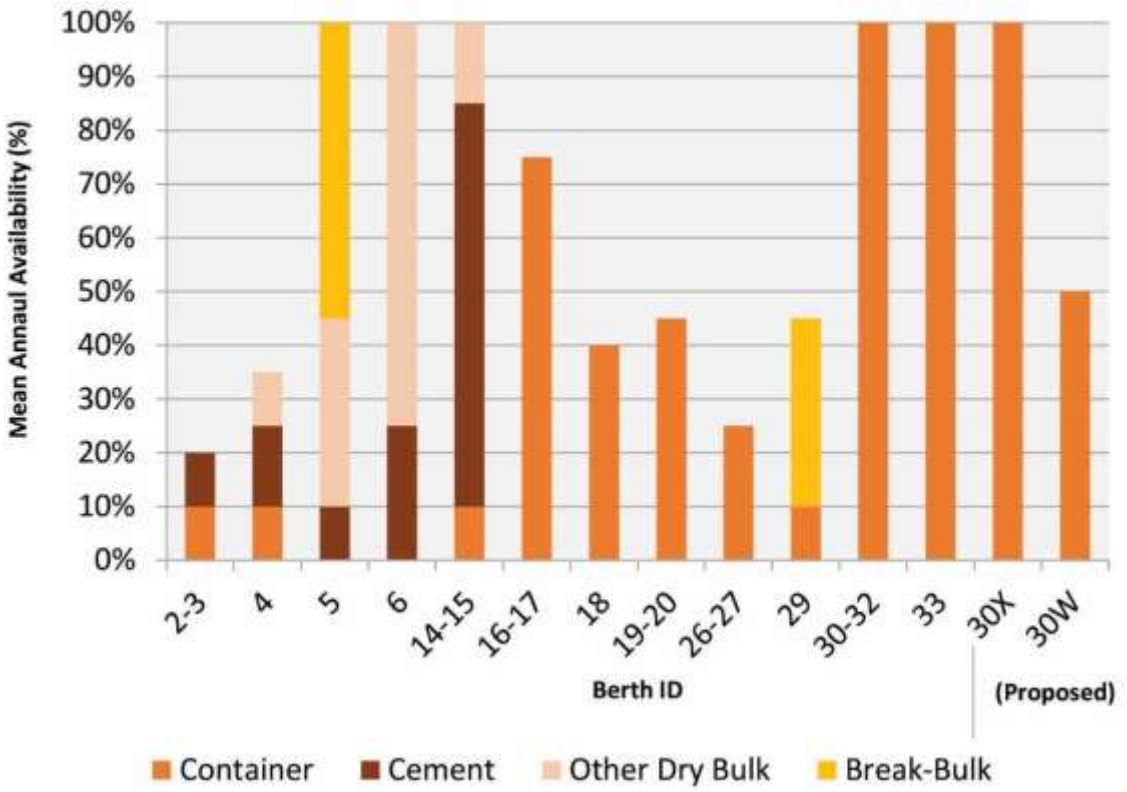


Figure 1.7.1 presents a graphical representation of the average annual percent availability by berth for each cargo sector analyzed within this section. The balance of utilization/activity for berths showing less than 100 percent availability is accounted for by cruise, liquid bulk, and other operations at the port. The capacity for the existing conventional cargo facilities at Port Everglades has been calculated across two six-month windows, generally coinciding with the peak and off-peak cruise seasons. The peak cruise season has been assumed to occur from November to April, and the off-peak cruise season has been assumed to occur from May to October

1.7.3 Container Berth Capacity

At Port Everglades, cargo-handling operations at each terminal vary based on the existing cargo throughput requirements, and available berth and yard space provided by the Port. Because the Port operates the majority of the berths as public berths, any berth can be assigned to any terminal operator, based on the need and availability of resources. Preferential berth assignments are provided in the leases, using scheduled hours of operations and days of the week. The Harbormaster's office is responsible for assigning berth slots throughout the Port.

Port Everglades also uses temporary grid assignments to create short-duration agreements with tenants, which allows the Port to reassign available yard space to new

tenants, based on temporary storage needs and the availability of resources. These flexible-lease arrangements allow the cargo-handling capacity of each berth and storage yard space to vary, based on the respective user's operations.

Berth capacity primarily depends on the following factors:

- Maximum practical berth utilization
- Amount of cargo handled per vessel call
- Dock crane productivity
- Number of cranes assigned per vessel call (if any)

As with all elements of capacity, container berth capacity is not a single fixed number, but a range of plausible values. Higher berth capacity typically results in higher operating costs (increased equipment and labor) and lower levels of service. For example, some vessels may have to queue in anchorage areas during periods of higher berth utilization.

Shipping lines expect a certain level of customer service when calling a terminal, and do not want to queue out at sea for long periods of time, awaiting berth availability. Due to the variable nature of vessel arrivals (i.e. delays at berth, storms, etc.), and the market-driven need to service vessels in a timely manner, the maximum practical berth utilization has been taken as 55 percent for the shared facilities at Midport and Northport, and 65 percent for container facilities at Southport (increased to account for dedicated container operations and equipment upgrades at the Southport berths). This utilization factor is applied to the available time for container-handling operations, noted in Table 1.7.1.

Since operations at Port Everglades vary significantly across the shared berths, and comprise a vast array of ship sizes, meaning berth-foot-hour values from FY2017 have been used to analyze capacity at each berth. This comprehensive metric incorporates STS crane productivity and assignment for berths using STS cranes, as well as the volume of containerized cargo per call. For instance, berths with STS cranes available will generally have lower berth-foot-hour values, indicating they are able to move containers across the berth more rapidly than vessels using ship's gears or truck-mounted cranes. Figure 1.7 2 provides a summary of the mean moves per vessel call at the port over the past 10 years. Overall, this metric – which had been increasing at a rate of approximately 10 moves per call annually – has leveled off at around 300 moves per call. Consignment data from 2013-2017 is estimated, since actual data from those years is not available.

Figure 1.7.3: Historical Mean Container Moves Per Vessel Call
Source: Hatch

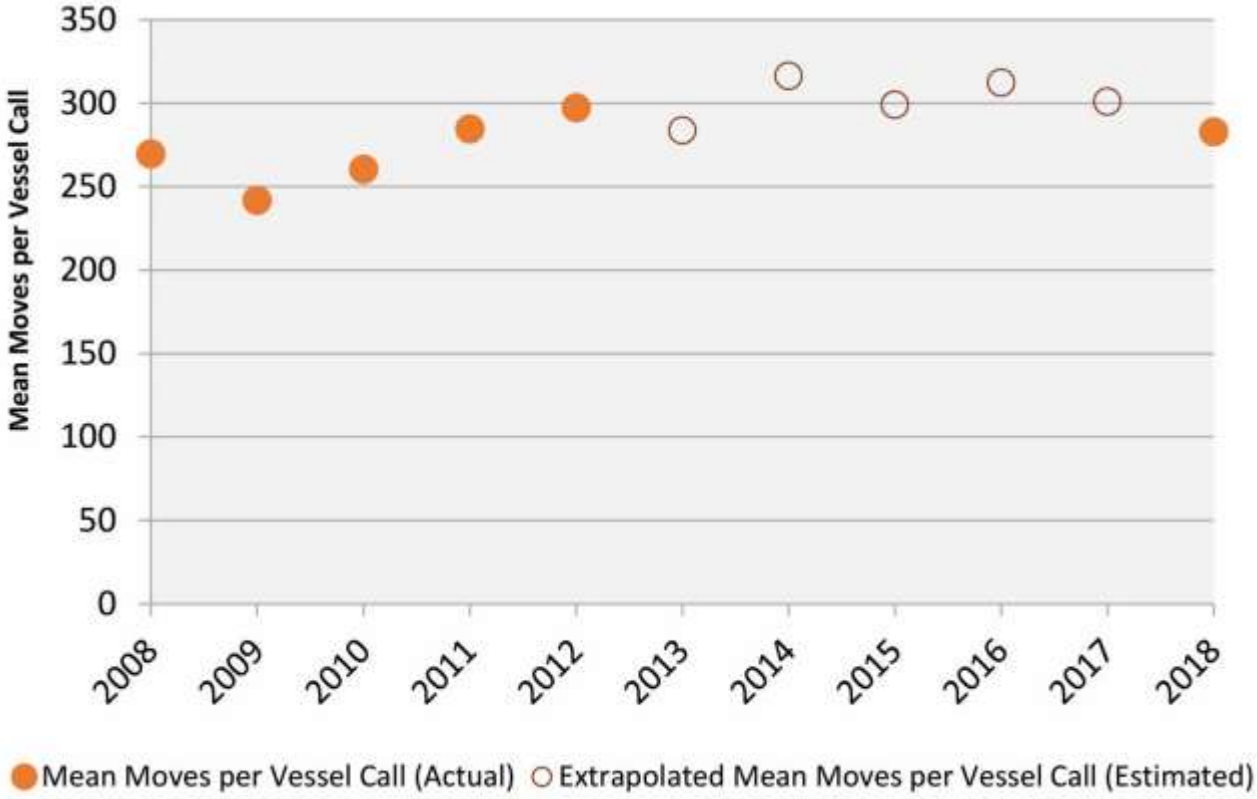
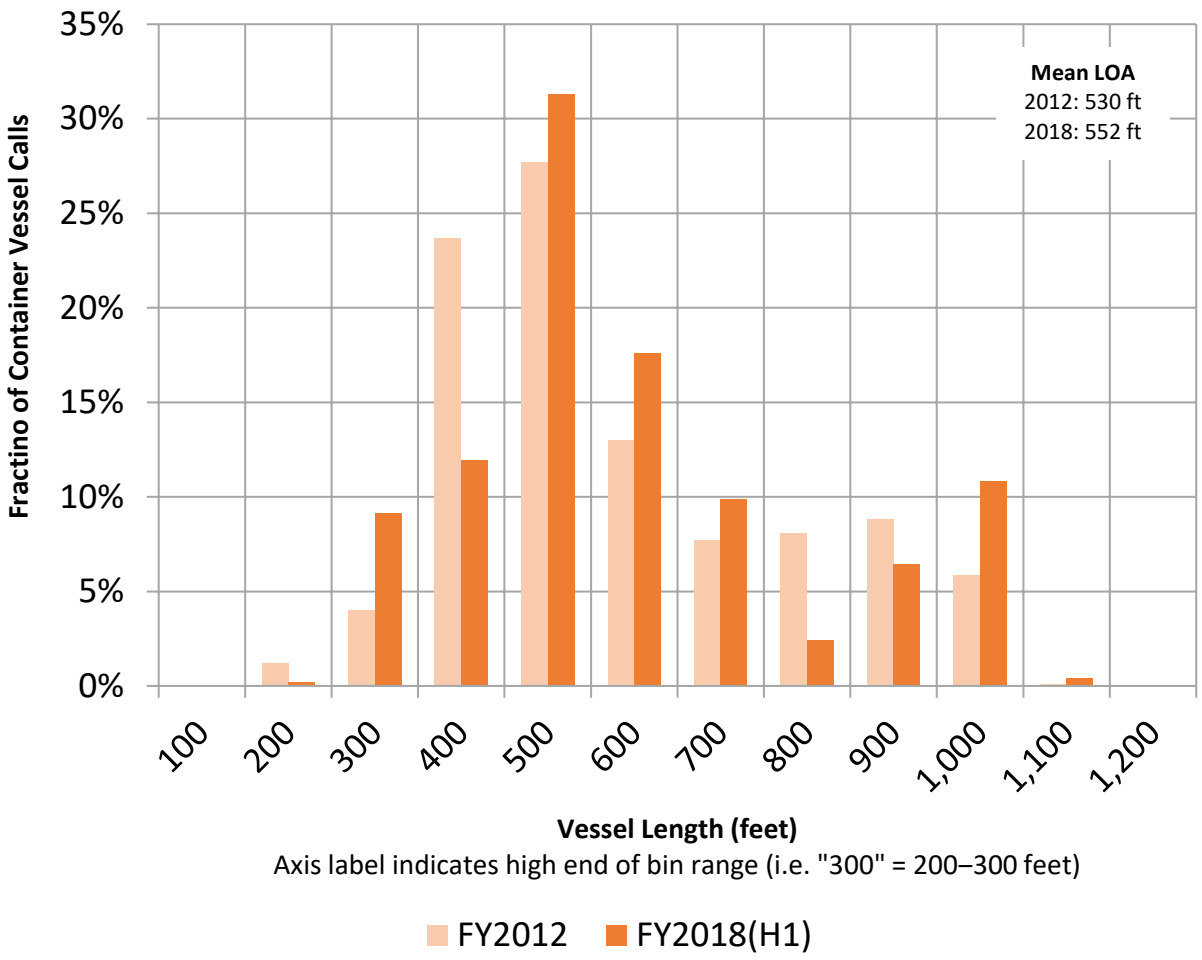


Figure 1.7.3 provides a comparative histogram of containership lengths in FY2012, and for the period from October 2017 to March 2018. As shown, the mean containership length has increased from 530 to 552 feet, a change of almost 5 percent.

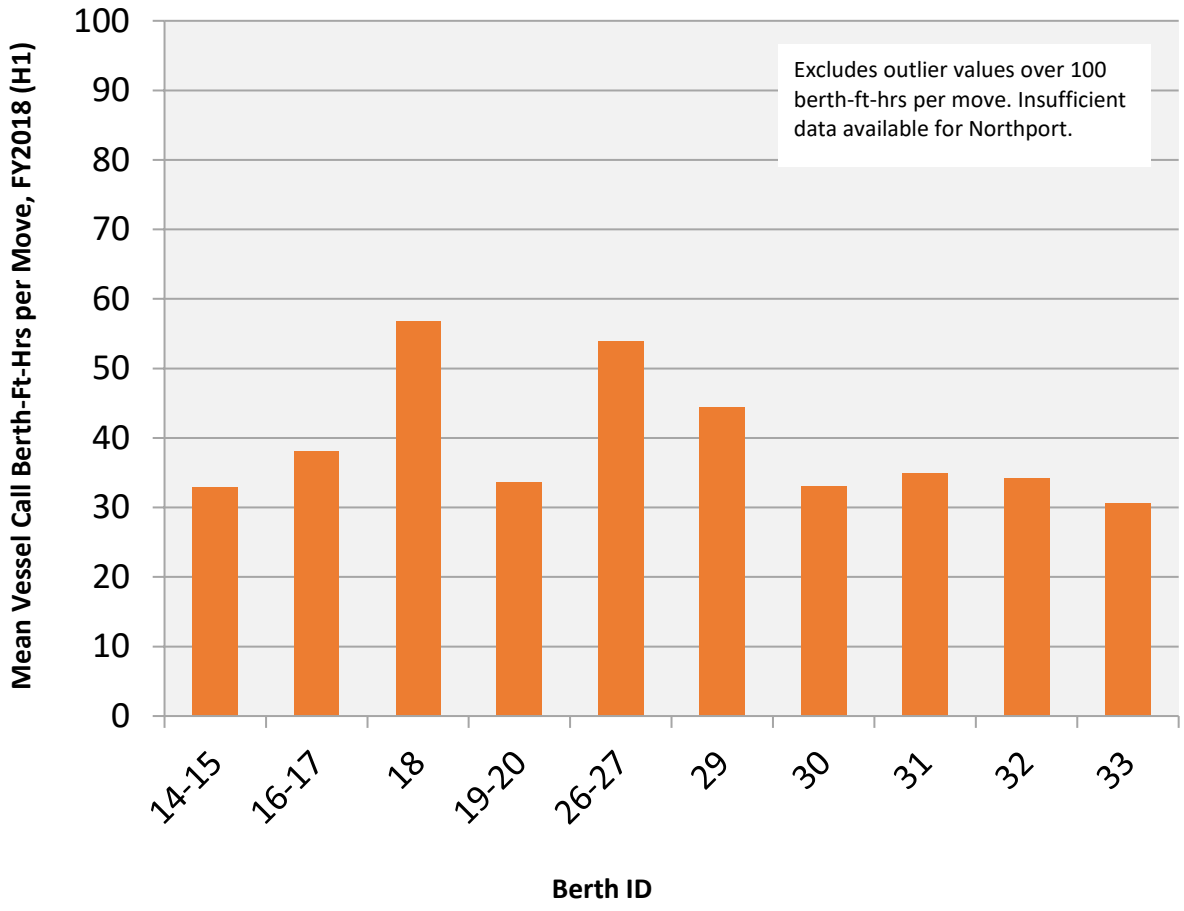
Figure 1.7.4: Container Vessel Length Histogram, 2012 vs. 2018 (H1)
Source: Hatch



The most recent container throughput data available for this analysis covered the period from October 2017 through March 2018. The data provided for the period from January 2017 to October 2017 was insufficient to be used for this analysis, as it did not provide sufficient detail and was not berth-specific. Port-wide, the mean berth-foot-hour per call value in FY2017 was 35.6 vs. 35.4 in FY2012, indicating this metric has remained relatively stable since the 2014 Update. The increase in overall moves per call is similar to the increase in containership length over the study timeframe (approximately 10 percent). As these two factors are the primary contributors to the berth-foot-hour metric, it is reasonable to expect that the port-wide berth-foot-hour metric would remain relatively static over the study timeframe.

There is also significant variation in berth-foot-hour factors by berth, as shown in Figure 1.7.4. The addition of STS cranes and the optimization of productive vessel time at berth (i.e. efficient loading and unloading operations) are the most effective ways to decrease berth-foot-hour factors. Installation of additional STS cranes reduces ship work time, which in turn decreases mean berth-foot-hours per call.

Figure 1.7.5: Mean Berth-Foot-Hours Per Vessel Call
Source: Hatch



Of the berths with significant container throughput, the main Southport Berths (30-33) are shown to have the lowest berth-foot-hour factors, primarily due to larger containership calls and the availability of STS cranes to increase efficiency across the berth. Other berths have smaller vessel calls and less efficient operations, often requiring the use of lower-productivity ship's gears or mobile harbor cranes, which result in longer vessel times at berth per move, and thus higher berth-foot-hour factors per call.

Tables 1.7.2 and 1.7.3 (see pages 37-38) summarize the container berth capacity during the peak and off-peak cruise seasons, respectively, based on current operating conditions. Both tables include a seasonal peaking factor used to represent annual variations in container volumes. This factor, calculated by dividing the peak-month throughput by the mean-month throughput for both the off-peak and peak seasons, was estimated to be the same as in previous years. The mean berth-foot-hours per container were assumed to be consistent for both the peak and off-peak cruise season; values for this factor were calculated from data obtained for the period from October 2017-March 2018Since data from earlier in 2017 was unavailable, actual moves and percentages of capacity are left blank in Table 1.7.2. Insufficient data was also available for Berths 2 through 6, so an

average utilization of 55 percent was applied to these berths in both Table 1.7.2 and Table 1.7.3. Outlier values over 100 berth-foot-hours per move have been ignored. Berths 30X/W (pending STNE berths) are estimated to be equivalent to Berth 33. Figures 1.7.5 and 1.7.6 summarize the annual container berth capacity across the Southport, Midport, and Northport facilities. The charts present the existing conditions (status quo) static-container berth capacity and the container-berth capacity after construction of the STNE is completed.

Details of the individual components of the STNE project, including final berth extension and yard layouts, are provided elsewhere in this document. Figures 1.75 and 1.76 present the distribution of container berth capacity during the peak and off-peak cruise seasons, illustrating the impact of the shared berths and seasonal variations.

Overall, the container berth capacity analysis shows that current container berths at Port Everglades have approximately 1.48 million annual TEUs (approximately 0.82 million annual moves) of container capacity. The dedicated container terminals at Southport (Berths 30–33) contribute the majority of this capacity, with a combined container-berth capacity of 1.03 million annual TEUs under the current operating conditions and terminal configuration (approximately 0.57 million annual moves), assuming 1.80 TEUs per move.

Upon completion, the STNE project will provide an additional 1,500 linear feet of berth directly aligned to Berth 30, plus an additional ~700 linear feet of usable berth perpendicular to Berth 30, resulting in an additional 274,000 moves of annual capacity.

Table 1.7.2: Container Berth Capacity, Peak Cruise Season
Source: Hatch

Berth ID	Length (feet)	Available Container %	Available May-Oct Berth Hours (containers)	Available May-Oct Berth-Foot-Hours (containers)	Maximum Utilization of Available Berth-Foot-Hours	Maximum Container Berth-Foot-Hours (May-Oct)	FY2018 Mean Berth-Foot-Hours/Box	Seasonal Peaking Factor (peak/mean month)	May-Oct Capacity (moves)	May-Oct FY2017 Moves	% Capacity
a	b	c	d = 24*365/2*c	e = b*d	f	g = e*f	h	I	j=g/h/i	k	l=k/j
2-3	1,125	10%	438	492,750	55%	271,013	55.0	107%	4,600		
4	900	10%	438	394,200	55%	216,810	55.0	107%	3,700		
14-15	1,226	10%	438	536,988	55%	295,343	32.9	107%	8,400		
16-17	1,000	75%	3,285	3,285,000	55%	1,806,750	38.1	107%	44,300		
18	648	40%	1,752	1,135,296	55%	624,413	56.8	107%	10,300		
19-20	1,300	55%	2,409	3,131,700	55%	1,722,435	33.6	107%	47,900		
26-27	1,337	30%	1,314	1,756,818	55%	966,250	53.9	107%	16,800		
29	800	10%	438	350,400	55%	192,720	44.4	107%	4,100		
30	900	100%	4,380	3,942,000	65%	2,562,300	33.1	107%	72,300		
31	1,000	100%	4,380	4,380,000	65%	2,847,000	34.9	107%	76,200		
32	1,000	100%	4,380	4,380,000	65%	2,847,000	34.2	107%	77,800		
33	800	100%	4,380	3,504,000	65%	2,277,600	30.5	107%	69,800		
30X	1,500	100%	4,380	6,570,000	65%	4,270,500	30.5	107%	130,900		
30W	700	50%	2,190	1,533,000	65%	996,450	30.5	107%	30,500		
Total (status quo)	**12,036**	**52%**		**27,289,152**	**61%**	**16,629,634**	**35.6**	**107%**	**436,200**		
Total (w/ Berth 30X/W)	**14,236**	**57%**		**35,392,152**	**62%**	**21,896,584**	**34.2**	**107%**	**597,600**		
w/ 3 add'l cranes 31-32	2,000	100%	4,380	8,760,000	65%	5,694,000	24.0	107%	221,700		
Total (w/ 6 new cranes)	**14,236**	**57%**		**35,392,152**	**62%**	**21,896,584**	**31.5**	**107%**	**665,300**		

Table 1.7.3: Container Berth Capacity, Off-Peak Cruise Season
Source: Hatch

Berth ID	Length (feet)	Available Container %	Available Nov-Apr Berth Hours (containers)	Available Nov-Apr Berth-Foot-Hours (containers)	Maximum Utilization of Available Berth-Foot-Hours	Maximum Container Berth-Foot-Hours (Nov-Apr)	FY2018 Mean Berth-Foot-Hours/Box	Seasonal Peaking Factor (peak/mean month)	Nov-Apr Capacity (moves)	Nov-Apr FY2018 Moves	% Capacity
a	b	c	d = 24*365/2*c	e = b*d	f	g = e*f	h	i	j=g/h/i	k	l=k/j
2-3	1,125	10%	438	492,750	55%	271,013	55.0	114%	4,300	<100	0%
4	900	10%	438	394,200	55%	216,810	55.0	114%	3,500	<100	0%
14-15	1,226	10%	438	536,988	55%	295,343	32.9	114%	7,900	2,700	34%
16-17	1,000	75%	3,285	3,285,000	55%	1,806,750	38.1	114%	41,600	34,000	82%
18	648	40%	1,752	1,135,296	55%	624,413	56.8	114%	9,600	500	5%
19-20	1,300	35%	1,533	1,992,900	55%	1,096,095	33.6	114%	28,600	8,500	30%
26-27	1,337	20%	876	1,171,212	55%	644,167	53.9	114%	10,500	1,100	10%
29	800	10%	438	350,400	55%	192,720	44.4	114%	3,800	5,300	139%
30	900	100%	4,380	3,942,000	65%	2,562,300	33.1	114%	67,900	64,400	95%
31	1,000	100%	4,380	4,380,000	65%	2,847,000	34.9	114%	71,600	52,700	74%
32	1,000	100%	4,380	4,380,000	65%	2,847,000	34.2	114%	73,000	64,100	88%
33	800	100%	4,380	3,504,000	65%	2,277,600	30.5	114%	65,500	73,300	112%
30X	1,500	100%	4,380	6,570,000	65%	4,270,500	30.5	114%	122,800		
30W	700	50%	2,190	1,533,000	65%	996,450	30.5	114%	28,700		
Total (Status Quo)	12,036	48%		25,564,746	62%	15,681,210	35.5	114%	387,800	306,600	79%
Total (w/ Berth 30X/W)	14,236	54%		33,667,746	63%	20,948,160	34.1	114%	539,300	306,600	57%
w/ 3 add'l cranes 31-32	2,000	100%	4,380	8,760,000	65%	5,694,000	24.0	114%	208,100	116,800	56%
Total (w/ 6 new cranes)	14,236	54%		33,667,746	63%	20,948,160	31.3	114%	602,800	306,600	51%

Figure 1.7.6: Container Berth Capacity (Status Quo Case)
Source: Hatch

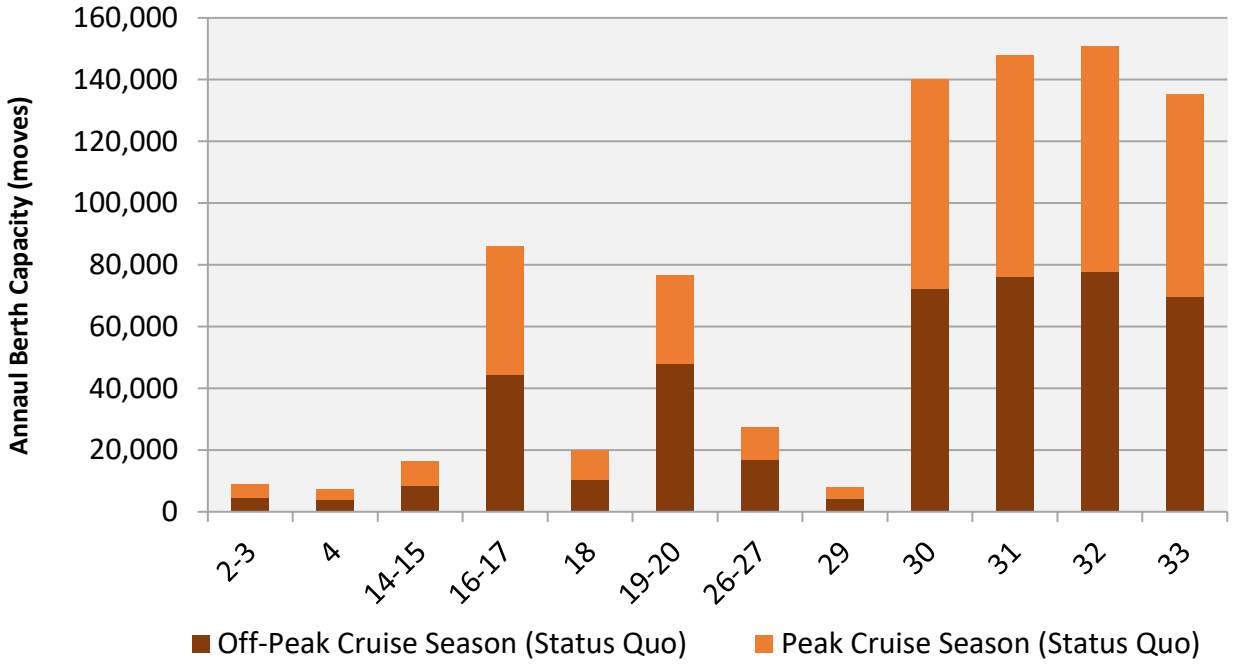
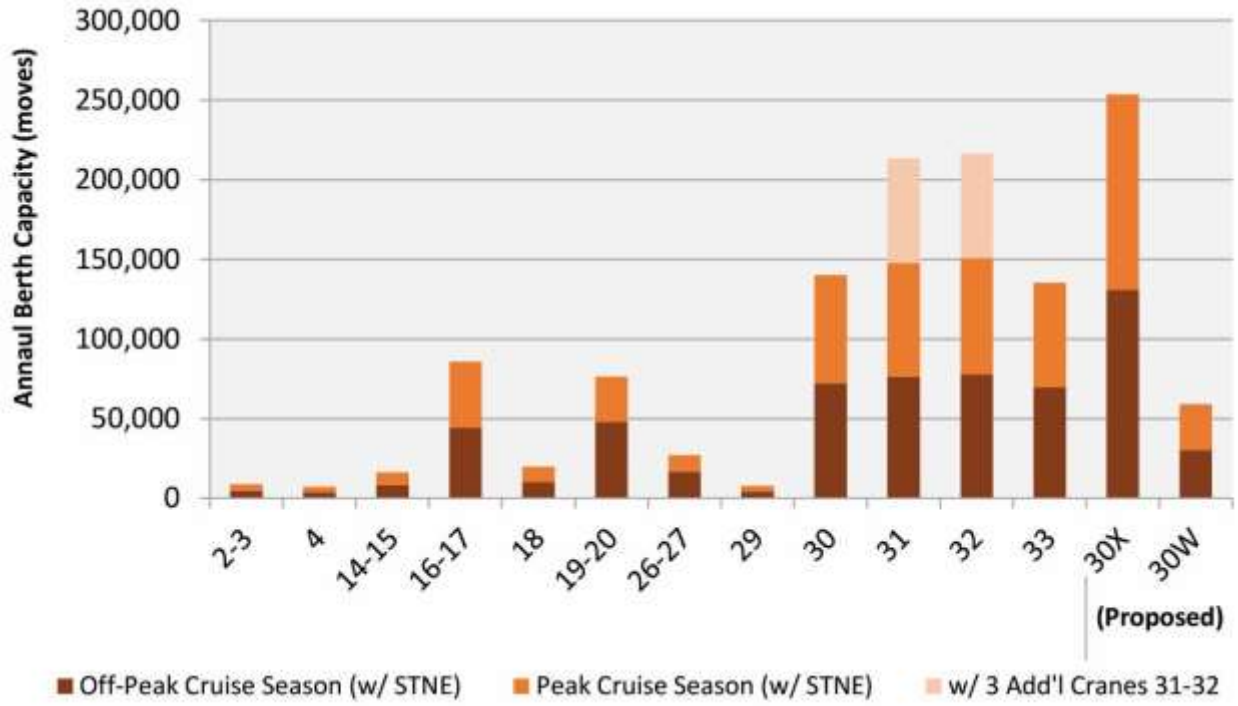


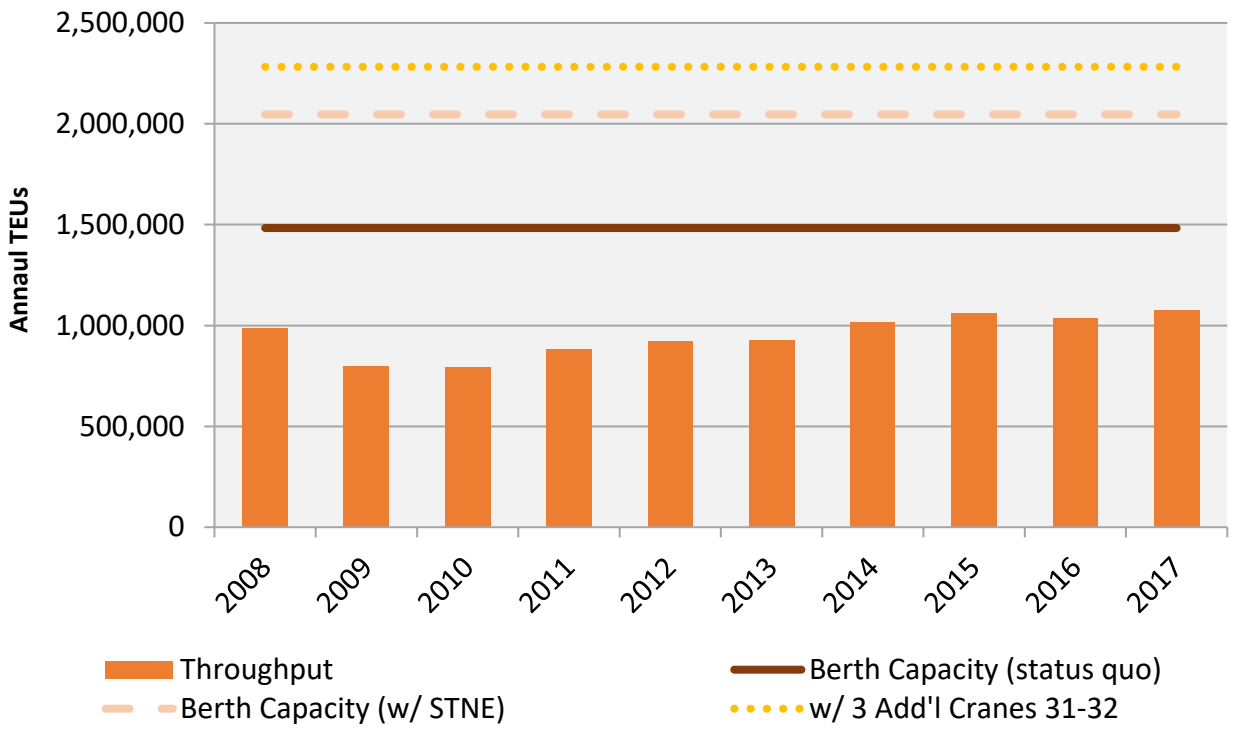
Figure 1.7.7: Container Berth Capacity (Future Case)
Source: Hatch



With the additional berth length provided by the STNE, port-wide berth capacity expands to a total of 2.05 million annual TEUs (1.14 million annual moves). Furthermore, the port is evaluating the purchase and installation of three STS cranes to be used at Southport Berths 30-32. Figure 1.7.7 presents the Port's annual historical throughput against the overall container berth capacity under the current operating conditions (status quo), and after completion of the STNE project – with and without the three additional STS cranes currently under evaluation. With the installation of up to six new STS cranes at the improved Southport area, this analysis has assumed that the upgraded Berths 30-32 will operate at a greater efficiency than the current operations at Berth 33, which had the lowest berth-foot-hour-per-move factor from October 2017 through March 2018. This berth-foot-hour-per-move metric was used to estimate the capacity of the new berths in Tables 1.7.2 and 1.7.3.

Overall, the status quo condition indicates that Port Everglades operated at approximately 79 percent of its total container berth capacity from October 2017 through March 2018. After completion of the STNE, the Port would be operating at approximately 57 percent of its projected berth capacity, without the three additional STS cranes and 51 percent of its projected berth capacity with the additional new cranes.

Figure 1.7.8: Container Berth Capacity vs. Historical Throughput
Source: Hatch



1.7.4 Cement, Other Dry Bulk, and Break-Bulk Berth Capacity

A static capacity assessment of the existing cement, other dry bulk, and break-bulk cargo berths was performed, using a similar methodology that was employed for the containerized cargo capacity assessment (see Section 1.7.1). The assessment utilized the berth-foot-hour metric for the respective cargo volumes (measured in tons), based on available data received from Port Everglades for FY2017As shown above in Table 1.7.1, there are no significant seasonal impacts to the shared bulk/break-bulk and cruise berths. Therefore, the percent availability factors for each cargo type assessed in this section do not differ in the peak and off-peak cruise seasons.

Table 1.7.4: Cement Berth Capacity
Source: *Hatch*

Berth ID	Length (feet)	% Available for Cement	Annual Available Berth Hours (cement)	Annual Available Berth Foot Hours (cement)	Maximum Utilization of Available Berth Foot Hours
a	b	c	d = 12*365*c	e = b*d	f
2-3	1,125	10%	438	492,750	70%
4	900	15%	657	591,300	70%
5	900	10%	438	394,200	70%
6	380	25%	1,095	416,100	70%
14-15	1,226	75%	3,285	4,027,410	70%
Total	**4,531**	**30%**	**5,913**	**5,921,760**	**70%**

Berth ID	Maximum Cement Berth Foot Hours per Year	FY2017 Mean Berth Foot Hours/Ton	Annual Capacity (tons)	FY2017 Tons at Berth	% Capacity
a	g = e*f	h	i = g/h	j	k = j/i
2-3	344,925	2.2	157,000	8,296	5%
4	413,910	2.2	188,000	0	0%
5	275,940	2.2	125,000	13,396	11%
6	291,270	2.2	132,000	3,422	3%
14-15	2,819,187	2.2	1,281,000	657,712	51%
Total	**4,145,232**	**2.2**	**1,883,000**	**682,826**	**36%**

For the primary bulk and break-bulk cargos, an overall port-wide berth-foot-hour factor was used, rather than a berth-specific factor, due to the much smaller overall number of vessel-calls for each cargo type, compared to the large number of vessel calls at the container berths. For reference, the total number of cement vessel calls for FY2017 was approximately 50, with some berths handling only one or two total cement vessel calls annually. As provided in Table 1.7.4, the annual berth capacity for cement products was assessed at each berth used for significant volumes of cement unloading. The berth capacity assessment indicated that the port operated at just under 40 percent of its capacity for bulk cement in FY2017.

Table 1.7.5: Other Dry Bulk (Non-Cement) Berth Capacity
Source: *Hatch*

Berth ID	Length (feet)	% Available for Cement	Annual Available Berth Hours (cement)	Annual Available Berth Foot Hours (cement)	Maximum Utilization of Available Berth Foot Hours
a	b	c	d = 12*365*c	e = b*d	f
4	900	10%	438	394,200	60%
5	900	35%	1,533	1,379,700	60%
6	380	75%	3,285	1,248,300	60%
14-15	1,226	15%	657	805,482	60%
Total	**3,406**	**26%**	**5,913**	**3,827,682**	**60%**

Berth ID	Maximum Cement Berth Foot Hours per Year	FY2017 Mean Berth Foot Hours/Ton	Annual Capacity (tons)	FY2017 Tons at Berth	% Capacity
a	g = e*f	h	i = g/h	j	k = j/i
4	236,520	2.2	108,000	0	0%
5	827,820	2.2	376,000	403,269	107%
6	748,980	2.2	340,000	66,782	20%
14-15	483,289	2.2	220,000	173,432	79%
Total	**2,296,609**	**2.2**	**1,044,000**	**643,483**	**62%**

The primary non-cement dry bulk cargos handled at Port Everglades include aggregate, coal, gypsum, and sand, primarily moved across Berths 4, 5, 6, 14, and 15. Table 1.7.5 summarizes the berth capacity for these dry bulks cargos. Based on FY2017 operating conditions, the Port is operating at more than 80 percent of its non-cement dry bulk capacity.

Break-bulk cargo at Port Everglades consists primarily of steel products, including rebar and steel coil, handled primarily at Berths 5 and 29. Current annual capacities are provided for each berth in Table 1.7.6. The data provided by the port for the study period indicated a dramatic upswing in the movement of break-bulk cargo, primarily steel reinforcement. The port moved over 800,000 tons of steel in FY2017, compared with only 53,055 tons in FY2012, and is significantly over capacity for its current operational model

Table 1.7.6: Break-Bulk Berth Capacity
Source: *Hatch*

Berth ID	Length (feet)	% Available for Cement	Annual Available Berth Hours (cement)	Annual Available Berth Foot Hours (cement)	Maximum Utilization of Available Berth Foot Hours
a	b	c	d = 12*365*c	e = b*d	f
5	900	55%	2,409	2,168,100	70%
29	800	35%	1,533	1,226,400	70%
Other Berths	(varies)	~5%	(as required)	(as required)	—
Total	**1,700**	**46%**	**3,942**	**3,394,500**	**70%**

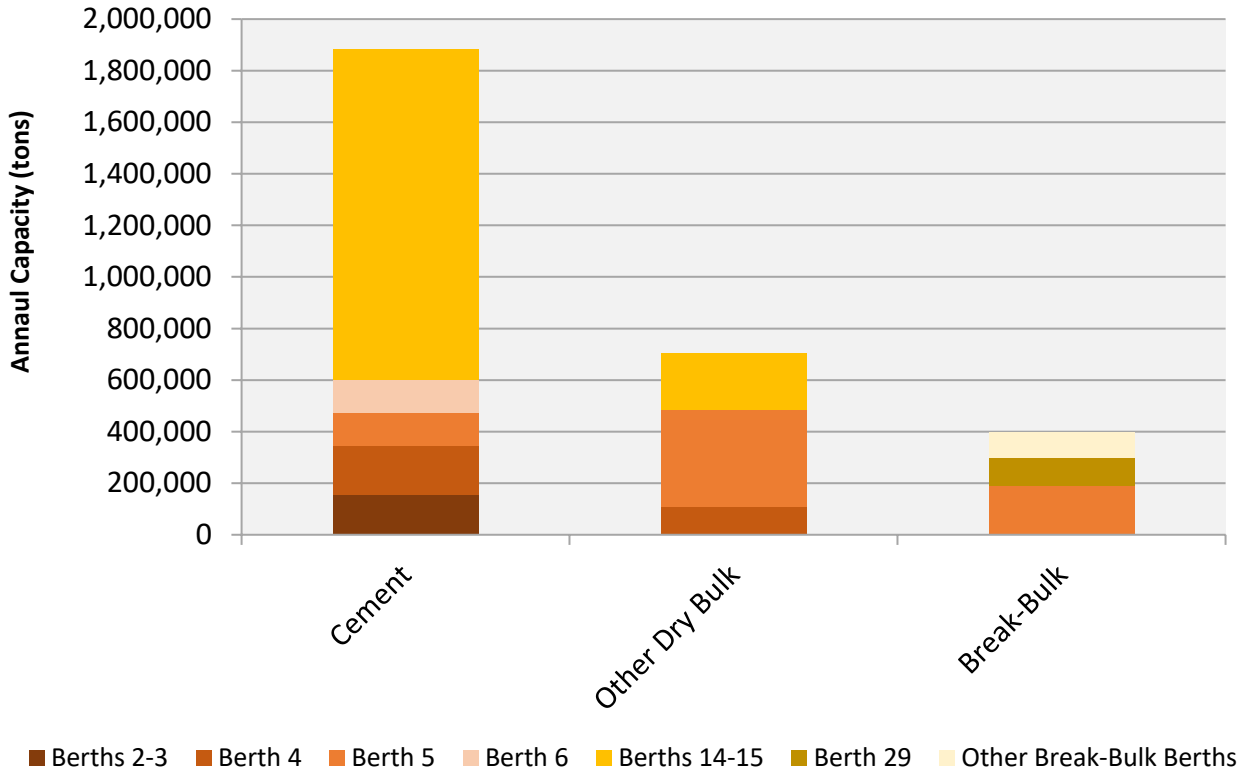
Berth ID	Maximum Cement Berth Foot Hours per Year	FY2017 Mean Berth Foot Hours/Ton	Annual Capacity (tons)	FY2017 Tons at Berth	% Capacity
a	g = e*f	h	i = g/h	j	k = j/i
5	1,517,670	8.0	190,000	250,688	132%
29	858,480	8.0	107,000	625,621	585%
Other Berths	(as required)	~50.0	~100,000	~100,000	~100%
Total	**2,376,150**	**12.3**	**397,000**	**976,309**	**246%**

Additional cargos considered in the break-bulk analysis include yachts, ro-ro, and project cargo. These commodities are moved across numerous berths on an opportunistic basis, and the overall volumes during 2017-2018 were quite minimal, compared to the overall volume of steel break-bulk. To simplify the distribution of yachts, ro-ro, and project cargo across the various berths, these cargos have been combined under a single row in Table 1.7.6.[9]

Overall, as shown in Figure 1.7.8, cement has the highest capacity of any bulk cargo at Port Everglades (at around 1.8 million annual tons), followed by other dry-bulk products at 740,000 annual tons and break-bulk cargos at 400,000 annual tons. It should be noted that the existing berth-sharing arrangements result in a highly dynamic bulk and break-bulk cargo handling operation at the Port, which is capable of shifting capacity amongst the cargo types, based on market demand and vessel frequency

[9] *Multiple berths at the port handle yachts, ro-ro, and project cargo on an as-needed basis. The percent availability and productivity metrics have been taken as an assumed average across all berths utilized for this purpose, understood to be all Midport and Northport berths except for Berth 1, Berths 6–13, and Berth 18.*

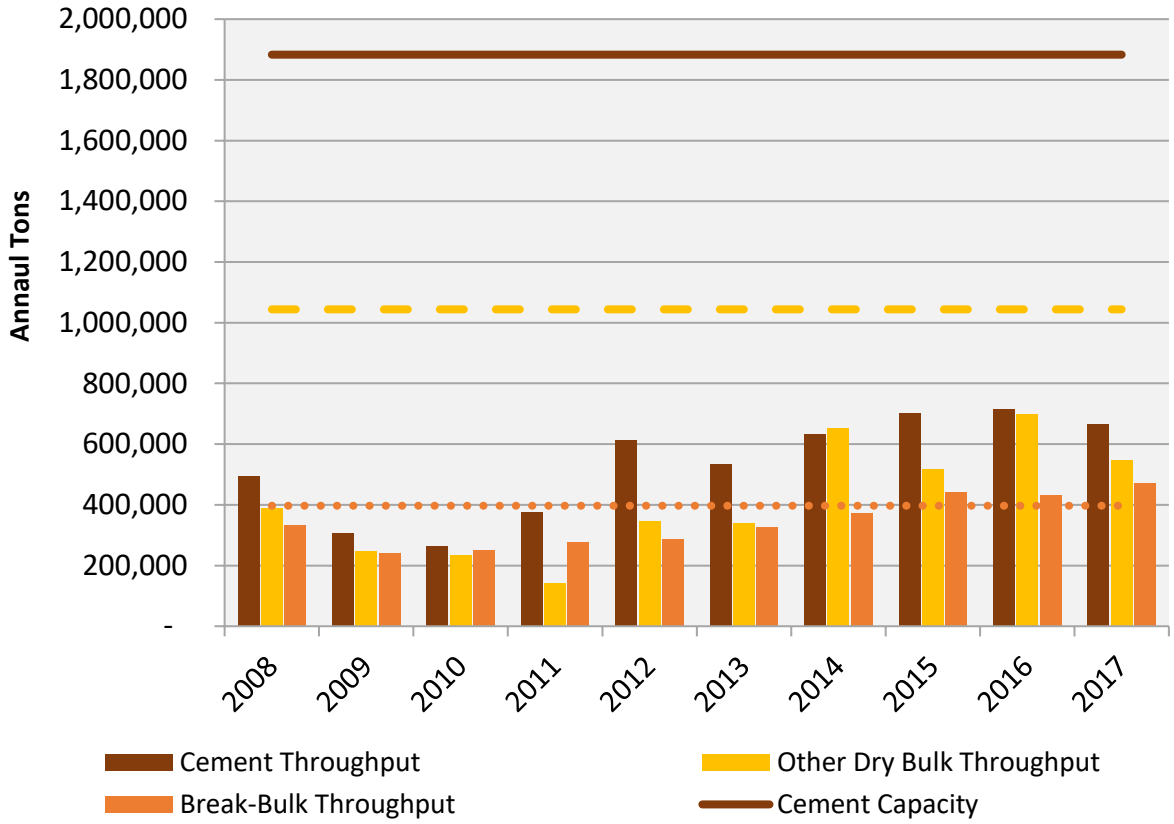
Figure 1.7.9: Berth Capacity by Cargo Type and Berth
Source: *Hatch*



The percent availability factors (see Tables 1.7.4 to 1.7.6) for each type of cargo are highly dependent on market demand. The factors utilized for this assessment are based on current berth usages and sharing arrangements. It should be noted that they can also change significantly over time.

To provide some context about the variability of these cargos, Figure 1.7.9 compares the cement, other dry bulk, and break-bulk cargo berth capacities to the actual throughput volumes at the port over the past 10 years.

Figure 1.7.10: Current Annual Capacity vs. Historical Throughput by Cargo Type
Source: *Hatch*



Capacity estimates by product type, based on FY2017 operating conditions, are higher than actual throughputs used in the development of the previous Master Plan. Current cement and break-bulk capacities are, on average, lower than actual throughputs for 2013 to 2017. This average is primarily due to the fact that Port Everglades makes berths available for each cargo type, as that particular cargo is in demand. Since dry bulk and steel cargos were not in as high demand from 2008 to 2012, the number of physical berths and total berth hours to serve these products was reduced significantly.

Under present operating conditions, there is ample berth capacity for bulk cement, limited berth capacity for the other dry bulk cargos, and no available capacity for break-bulk. Based on the results of the market assessment for the next five years, if Port Everglades intends to continue to accommodate dry bulk and break-bulk cargos on an on-demand, as-needed basis similar to how it has done in the past, then significant capacity may need to be shifted away from cement berths and storage yards to accommodate future need to move and store other dry bulk and break-bulk commodities and products.

1.7.5 Automobile Berth Capacity

Auto cargo handling activity increased significantly at Port Everglades during 2017/2018. Auto cargo is currently primarily handled out of Berth 29 at the Port. Because auto cargos represent a recent and opportunistic market, limited data are available to accurately capture Port Everglades' capacity to handle this cargo. Thus, overall auto berth capacity has not been assessed. As discussed in Section 1.7.3, the market demand for auto cargo in relation to the other shared berth cargos, which is discussed in detail in Element 2, will have a significant effect on future capacity.

1.7.6 Container Terminal Yard Capacity

Yard capacity is defined as the amount of cargo that can be handled in the cargo-storage yard under the given operating parameters. For containerized cargo facilities, yard capacity primarily depends on the following factors:

- Type of cargo-storage operations (i.e. reach stackers, RTGs, RMGs)
- Cargo storage-dwell times and inventory peaking factors
- Container stacking height and width

In North America, the general trend is to operate in the lowest density mode possible, to minimize the labor cost associated with sorting and stacking activities. As market demand increases, operators typically adapt their operations to optimize available acreage and increase the overall storage density in the container yard.

The most effective way to increase storage density is to switch from a wheeled operation to a grounded (stacked) operation. Many U.S. operators choose to handle as many containers on wheels as possible, because no labor costs for gate service are incurred in a wheeled operation. Trucking and logistics companies also favor wheeled operations, because they typically receive faster service than with a grounded operation. Wheeled operations, however, take up a large amount of yard space, compared with grounded operations. Since the 2014 Update, container terminal operations at Port Everglades have all shifted to predominantly grounded operations, as noted in Table 1.7.7.

Remember, Port Everglades tenants are continually upgrading their terminal operations, including the use of rubber-tired gantry (RTG) cranes to handle loaded import and export containers and further increase density of container storage modes in their yards. RTGs are more effective at sorting and selecting individual containers from dense storage piles (see Figure 1.7.10). In the near term, however, it is anticipated that most Port Everglades terminal operators will continue to use top-pick or side-pick handlers for empty containers.

Figure 1.7.11: RTG Operation at Pier T, Port of Long Beach
Source: Business Insider

Container dwell time is another factor that impacts yard capacity. Decreases in container dwell time result in containers moving through the terminal more rapidly, allowing for increased turnover of static storage space and a higher overall container-yard capacity. Ports and terminal operators can reduce container dwell time through demurrage (fees charged for containers that exceed a given dwell time), which discourages excessive dwell-time practices. The capacity assessment methodology used for this analysis utilized a peaking factor, defined as the ratio of peak inventory over mean inventory, to reflect the fluctuations in inventory due to simultaneous ship loading/unloading and gate operations.

A seasonal peaking factor has also been used to reflect changes in cargo flows during peak operating periods. Container dwell times have been assumed to remain the same as in the 2014 Update of the Port Everglades Master/Vision Plan. As Port Everglades terminal operators move to further optimize the primary yard capacity parameters discussed in this section, the dwell times and inventory peaking factors should be revisited to accurately capture the current operational conditions.

Port Everglades is unique in that the container storage areas are segregated by operator, despite the shared-berth model, with each operator determining their own yard storage and equipment methods. Port Everglades Terminal (PET), which is a South Florida based joint venture with Mediterranean Shipping Company, S.A. (MSC), the world's second largest container ocean carrier by capacity, is currently the only terminal utilizing RTGs for

stacking operations, with four RTGs currently utilized within their yard. RTGs provide increased handling efficiencies through the densification of containers within the yard. However, container dwell times are not typically reduced due to the introduction of RTGs and have been shown to increase. Since no specific dwell-time information was provided by the operator, dwell times values from the previous study have been raised for this analysis.

King Ocean Services and Florida International Terminal (FIT) operate top-pick-based terminals with a small number of containers on wheels. Most of these areas consist of large pick stacks for empties and exports, and low-density narrow pick stacks for imports, which require selectivity for gate service. Crowley, the largest Southport tenant, in terms of both acreage and volume, used to operate an entirely wheeled operation. However, it has shifted to a mostly grounded operation since 2014. Still, container density on their terminal is comparatively low (see Table 1.7.10).

The status quo (existing conditions) container yard capacity at Southport has been calculated for each of these individual terminals, based on the parcel sizes provided in Table 1.7.7. The Future Phase container yard capacity has also been calculated, assuming high-density RTG stacking operations are implemented at each of the container handling facilities. It is assumed that the STNE project will result in no net change to container terminal acreages, despite the resulting (temporary) relocation and ultimate reconfiguration of both the King Ocean and FIT terminals.

Midport and Northport container yard capacities have been calculated for basic top-pick/wheeled operations using acreages provided by Port Everglades. These capacities are assumed to remain unchanged in the future, as they are small, discontinuous yards for which top-pick operations are already optimal.

Table 1.7.7 presents the primary input parameters used in the container-yard capacity analysis, including dwell times, stacking heights for grounded containers, the ratio of grounded containers, inventory peaking factors by cargo type for each category of terminal operations, and terminal acreages. Inputs for each current Southport terminal are listed individually, followed by the combination of all terminals to illustrate the combined relevant metrics across the overall Southport area (Southport Current, Overall). The Future Phase condition (Southport, Future Phase w/ RTGs) assumes RTGs are installed at all of the primary container-handling terminals. Metrics for the shared facilities at Midport and Northport are presented next. The net-to-gross ratio used for these terminals is due to their irregular and discontinuous yard layouts.

Table 1.7.7: Port Everglades Container Yard Capacity - Input Parameters
Source: Port Everglades; Hatch

	Crowley	MSC	King Ocean	FIT	Grid	Vacant	Southport Overall	Midport	Northport
Gross Acreage	80	39	34	36	22.5	8.5	**220**	**26**	
Net-to-Gross Ratio	70%	70%	60%	60%	80%	70%	**68%**	**50%**	
Net Acreage	56	27	20	22	18	6	**149**	**13**	
Import Load % Grounded vs. Wheeled	90%	90%	90%	90%	90%	90%	**90%**	**0%**	
Export load % Grounded vs. Wheeled	90%	90%	90%	90%	90%	90%	**90%**	**100%**	
Empty % Grounded vs. Wheeled	100%	100%	100%	100%	100%	100%	**100%**	**100%**	
Import Load Height (mean stack height)	1.5	2.5	2.0	2.0	2.0	2.0	**1.9**	**2.0**	
Export Load Height (mean stack height)	1.5	2.5	2.5	2.5	2.5	2.5	**2.1**	**2.5**	
Empty Height (mean stack height)	3.0	3.5	3.5	3.5	3.5	3.5	**3.3**	**3.5**	
Import Load Dwell Time (days)	4.3	4.3	4.3	4.3	4.3	4.3	**4.3**	**4.3**	
Export Load Dwell Time (days)	4.3	4.3	4.3	4.3	4.3	4.3	**4.3**	**4.3**	
Empty Dwell Time (days)	8.0	8.0	8.0	8.0	8.0	8.0	**8.0**	**8.0**	
Peak/Mean Import Inventory	125%	125%	125%	125%	125%	125%	**125%**	**125%**	
Peak/Mean Export Inventory	115%	115%	115%	115%	115%	115%	**115%**	**115%**	
Peak/Mean Empty Inventory	110%	110%	110%	110%	110%	110%	**110%**	**110%**	

The layout of a container terminal yard can yield different densities, depending on the configuration of the ground slots within the yard. The density of a container yard is captured as the number of twenty-foot ground slots (TGS) per acre of net container yard. Table 1.7.8 presents typical average slot-density assumptions for different storage modes that have been used to estimate TGS values in this assessment.

Table 1.7.8: Container Yard Capacity - Slot Density Assumptions
Source: Hatch

Storage Mode	TGS per Net Acre
Wheeled	50
Pick – Imports	60
Pick – Exports and Empties	115
RTG	100

These TGS assumptions have been used to calculate the total acreage required to handle a nominal throughput (assumed at 1,000 lifts/week for the analysis). A sample breakdown of this analysis is presented in Table 1.7.9. The required acreage has been compared to the actual available acreage at Port Everglades, to obtain total storage capacity, presented for each terminal in Table 1.7.10. It is worth noting that, because grid operations are different from the primary yards in terms of KPIs, TEUs per acre could differ substantially (i.e. if containers only come in for 8 hours, then dwell time would be much lower). Therefore, grid yard capacity may be much higher than a typical yard under lease.

Table 1.7.9: Container Yard Capacity - Required Acreage Calculation Breakdown (Sample)
Source: Hatch

a	Nominal volume to determine ratio of storage required (lifts/peak week)	1,000
b	TEU per container	1.80
c	Import load fraction	35%
d	Import load dwell time (days)	4.3
e a*c*d/7	Mean import population (containers)	215
f=e*b	Mean import TEU	387
g	Peak/mean import inventory	125%
h=f*g	Peak import TEU	484
i	Fraction of imports grounded	90%
j	Mean import grounded height	2.0
k	Max wheeled utilization	90%

l=h/j*i	Local import TGS required (stacked containers)	218
m=h*(1 i)/b/k	Wheeled slots required for imports	30
n	Grounded import TGS per net acre	115
o	Wheeled slots per net acre	50
p = l/n	Net grounded import acres required	1.9
q = m/o	Net wheeled acres required	0.6
r = p+q	**Total import acres required to support nominal volume**	**2.5**

The Port currently has approximately 103,000 TEUs of annual container storage yard capacity outside of Southport. This acreage is not expected to change significantly in the future, unless operating conditions and available acreage change. In Southport, PET runs an RTG operation and has the highest TEU/gross acre at capacity. Crowley Terminal has the highest capacity, due to having the most acreage, but has the smallest TEU/gross acre at capacity, due to its comparatively low-density operations. The remaining Southport facilities have similar densities, due to similar operating modes (small, low-density pick import stacks, large high-density export, and empty pick stacks, and a small percent of containers on wheels). The Southport Future Case shows that, with the same future acreage as the current mode, an RTG operation can increase yard throughput capacity by about 381,000 annual moves, a 42 percent increase.

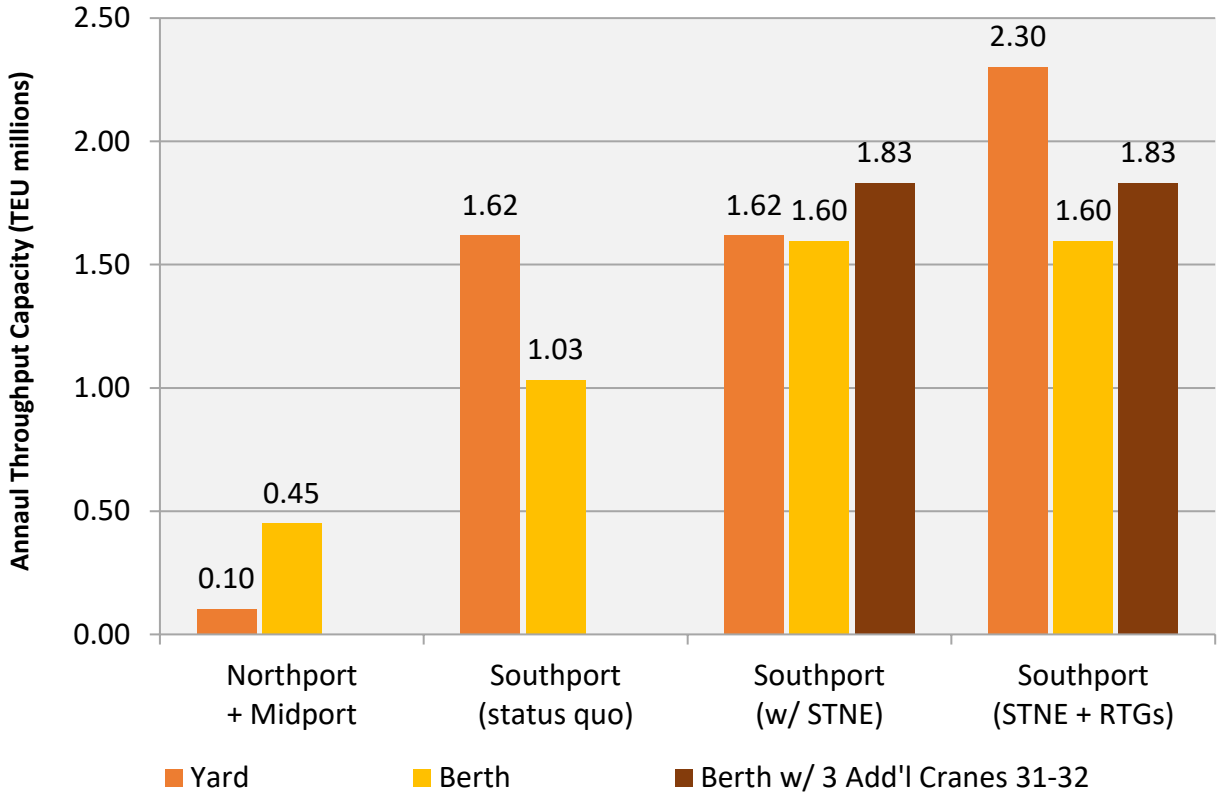
Table 1.7.10: Container Yard Capacity - Status Quo and Future Case
Source: Hatch

	Yard Throughput Capacity (annual moves)	Yard Throughput Capacity (annual TEUs)	TEU/Gross Acre/Year at Yard Capacity
Midport Total	**57,000**	**103,000**	**3,960**
Northport Total	**0**	**0**	**n/a**
Southport			
Crowley	281,000	506,000	6,330
MSC (PET)	189,000	339,000	8,690
King Ocean	133,000	239,000	7,030
FIT	140,000	253,000	7,030
Grid*	117,000	211,000	9,380
Other	39,000	70,000	8,240
Southport (status quo)	**899,000**	**1,618,000**	**7,350**
Southport (w/ RTGs)	**1,280,000**	**2,303,000**	**10,470**

Note: Because grid operations differ from the primary yard in terms of KPIs, TEU/acre could differ substantially (i.e. if containers only come in for 8 hours, dwell time would be much lower). Therefore, grid yard capacity may be much higher than the primary yard capacity provided in the table.

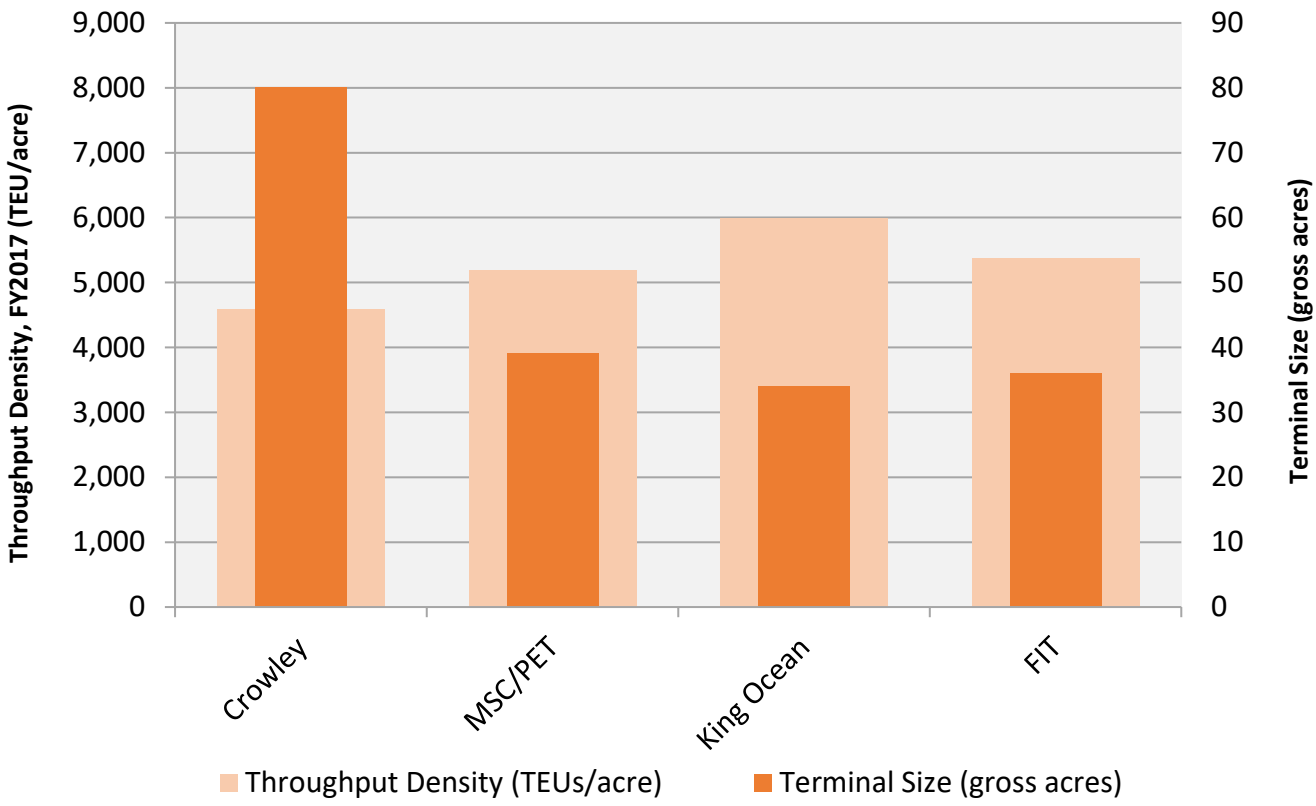
Figure 1.7.11 compares the berth capacity and storage yard capacity for the combined Northport and Midport operations, Southport operations (Status Quo), and Southport Future Case. The overall capacity is taken as the lower of the two.

Figure 1.7.12: Berth Capacity vs. Container Yard Storage Capacity
Source: Hatch



The combined Northport and Midport operations saw a throughput of approximately 71,000 TEUs in FY2017, compared to 103,000 TEUs of available yard capacity. (Berth capacity is higher, at over 200,000 TEUs.) In Southport, container berth capacity is currently the limiting factor. Should the Southport terminals implement RTG operations over time, yard capacity will significantly exceed berth capacity, based on current operating parameters. Berth capacity may be further improved in the Southport area when the new STS cranes come online, resulting in improved ship turn times and overall productivity. The mean berth-foot-hours/box metric included in Tables 1.7.2 and 1.7.3 accounts for the increase in overall productivity anticipated, due to the STS cranes. Overall, port-wide statistics do not apply uniformly to each operator. Southport is divided among four tenants, who each control dedicated parcels of land. The current range of throughput density varies by 50 percent between these terminals, from King Ocean at 6,000 TEUs per acre per year, to Crowley at 4,600 TEUs per acre per year. A breakdown of parcel size and throughput densities for the Southport terminals is presented in Figure 1.7.12.

Figure 1.7.13: Southport Container Yard Size vs. Throughput Density by Terminal
Source: Hatch



One of the major challenges Port Everglades faces is the fact that the container tenants with the largest ambitions to attract new cargo, primarily from Asian markets, do not have the largest terminals, and may have difficulty expanding their container yard capacity in a timely fashion to convince their potential customers that they can accommodate any significant volume of new cargo

1.7.7 Cement, Other Dry Bulk, and Break-Bulk Terminal Storage Capacity

Storage yard capacity was estimated for cement, other dry bulk products, and break-bulk cargo. Storage yard capacity depends primarily on static storage capacity and average cargo dwell time. The average dwell time is the typical amount of time that cargo remains on the terminal waiting to be retrieved for inland delivery or placed upon a vessel for export. The primary function of dwell time is to determine the average number of times the static capacity of the terminal can be used during a given period of time (i.e. over the course of a year), or turned over for additional storage. As the average dwell time increases, the number of times that a terminal is available for cargo storage decreases. Mathematically, this calculation can be summarized using the following formula:

- Static storage turns per year = 365 days per year/average dwell time

Port Everglades has two sets of cement silos, located at Berths 14 and 15. The silos at Berth 14 were reported to have 44,000 tons of static capacity, while the Berth 15 silos were given as 65,000 tons of static capacity. A dwell time of 15 days was used to estimate maximum annual storage throughput. For comparison, the peak cement throughput for the past 10 years of 2.47 million tons in FY 2006 corresponds to a dwell time of 16.1 days, with the current static storage capacity. Port Everglades has more than sufficient cement storage capacity, for current throughputs of less than 1 million annual tons. Table 1.7.11 presents the overall cement storage yard capacity calculations.

Table 1.7.11: Cement Yard Capacity
Source: Hatch

	Bulk Cement	Berth 14	Berth 15	Total
a	Storage type	Silos	Silos	Silos
b	Total static storage capacity (tons)	44,000	65,000	109,000
c	Dwell time (days)	15.0	15.0	15.0
d=365/c	Annual storage turnovers	24.3	24.3	24.3
e=b*d	**Annual cement storage capacity (tons)**	**1,071,000**	**1,582,000**	**2,653,000**

In FY2017, dry bulk cargos other than cement included gypsum, sand, coal, bauxite, ash, and slag. It is noted that the operational model for the non-cement dry bulk cargos relies on vessels unloading directly to trucks. No current upland storage is provided at the Port (see Table 1.7.12).

Table 1.7.13 presents overall annual break-bulk storage capacity. Previous interviews indicated about 35,000 tons of static storage capacity are available over 15 acres on Berth 5; this metric was similarly applied to the upland acreage in use at Berth 29.

Table 1.7.12: Other Dry Bulk (Non-Cement) Yard Capacity
Source: Hatch

Other Dry Bulk		
a	Type of cargo	Various
b	Storage type	n/a
c	Total static storage capacity (tons)	0
d	Dwell time (days)	n/a
e=365/d	Annual storage turnovers	n/a
f=e*c	**Annual dry bulk storage capacity (tons)**	**n/a**

Table 1.7.13: Break-Bulk Yard Capacity
Source: Hatch

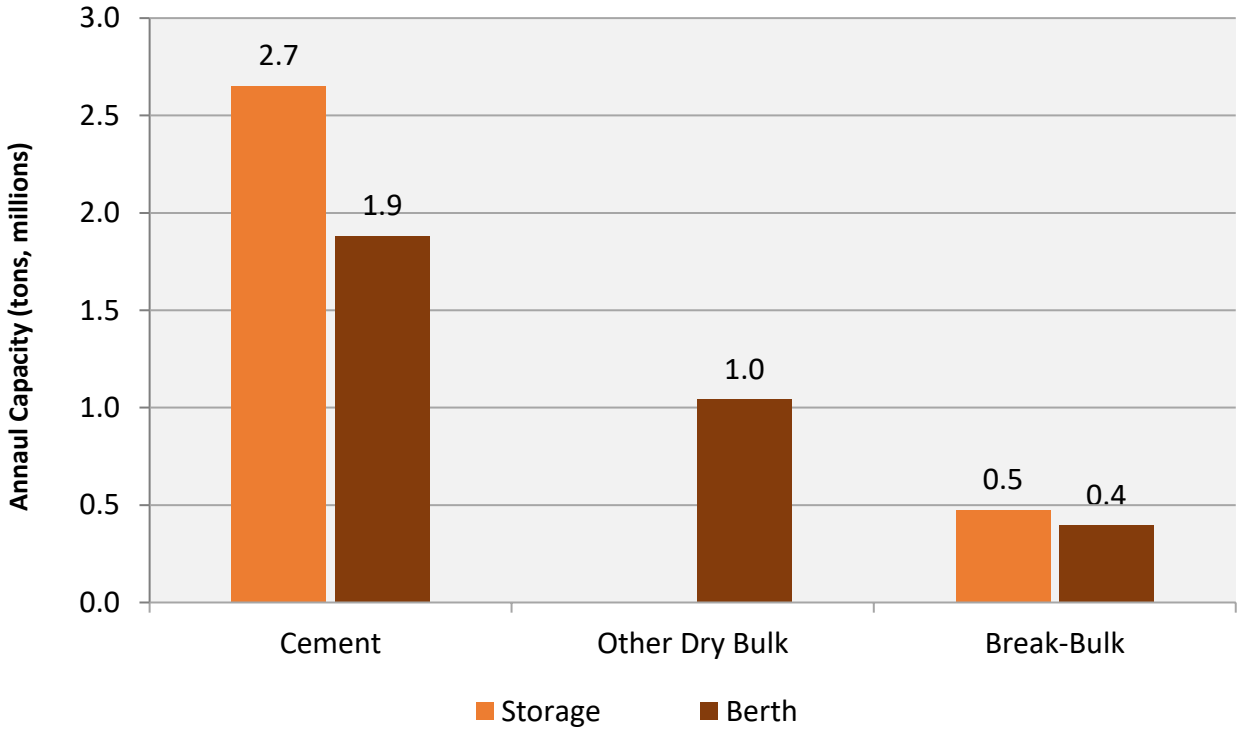
	Break Bulk	Berth 5	Berth 29	Total
a	Type of cargo	Rebar, Coils	Rebar, Coils	Rebar, Coils
b	Terminal acres (acres)	7	6	13
c	Storage type	Outdoor/Decked	Outdoor	Outdoor
d	Total static storage capacity (tons)	21,000	18,000	39,000
e	Dwell time (days)	30.0	30.0	30.0
f=365/e	Annual storage turnovers	12.2	12.2	12.2
g=d*f	**Annual steel storage capacity (tons)**	256,000	219,000	475,000
h=g/b	**Unit throughput capacity (tons/acre)**	36,571	36,500	36,538

Based on Table 1.7.13, Port Everglades has upland storage yard capacity to handle approximately 475,000 annual tons of break-bulk products (primarily rebar and steel coil). The peak break-bulk throughput at Port Everglades over the past 10 years was just over 470,000 tons in FY2017, including yachts, ro-ro, and project cargo. This means that even if berth constraints are removed, break-bulk throughput is already effectively at capacity from an available upland storage perspective.

Figure 1.7.13 compares annual storage capacity to annual berth capacity for cement, other dry bulk, and break-bulk product types. Overall, Port Everglades appears to have adequate upland storage capacity to accommodate the existing cement and other dry bulk cargo volumes, though without much room to accommodate future growth. Break-bulk cargos appear to be severely constrained by yard capacity. While the volumes and vessel calls for yachts, ro-ro, and project cargo are minor in comparison to the steel

break-bulk cargos, the volumes (tonnage) of these cargos have been accounted for in the overall capacity analysis to provide a complete assessment of all current cargos at the Port. As noted in Section 1.7.4, significant capacity may need to be shifted away from the existing Midport and Northport dry-bulk storage yards to accommodate break-bulk commodities and products.

Figure 1.7.14: Bulk/Break-Bulk Berth Capacity vs. Storage Capacity
Source: Hatch



1.7.8 Automobile Storage Yard Capacity

As previously noted, auto cargo handling activity increased significantly in 2017/2018. Similar to the break-bulk cargos, the auto volumes do not appear to fluctuate with the cruise seasons. Insufficient data is available to accurately capture Port Everglades' capacity to handle this cargo, and thus, the overall auto yard capacity has not been assessed.

1.8 On-Port Traffic and Parking

1.8.1 Traffic Counts and Quantitative Assessment

This traffic analysis for the 2018 Update of the Port Everglades Master/Vision Plan consists only of assembling existing data as a basis for the future evaluation of projected roadway/traffic volumes through Port Everglades' security gates for the existing, 5-, 10-, and 20-year milestones. The most current Florida Department of Transportation (FDOT) traffic counts utilized at the time of this analysis were from January 1, 2018, to March 19, 2018. Excerpts from this data is provided in Tables 1.8.1-1.8.4. FDOT completed a draft

transportation study for Port Everglades in early July 2018. Findings from this draft report are also included below**Table 1.8.1: Eller Drive, East of Gate, Q1 2018**
Source: FDOT; HDR

	Entry (Eastbound)	Exit (Westbound)	Total
Average Daily Traffic (ADT)	4,770	3,517	8,287
Truck Percentage	29%	31%	30%
Peak Days (ADT)	5,608	4,223	9,831
AM Peak Hour	10am-11am		
AM Peak Hour Volume	686	479	1,165
PM Peak Hour	12pm-1pm		
PM Peak Hour Volume	514	445	959

Eller Drive is the single busiest point of access at Port Everglades. The Eller Drive data show a significant volume of vehicles passing through the security gate at this location, particularly in the eastbound direction, which is consistent with this road being the primary access point for the Midport area of Port Everglades, which is home to six of Port Everglades' eight multiday cruise terminals. The difference in eastbound and westbound traffic indicates that some vehicles entering Port Everglades via Eller Drive exit the controlled access area of the port via a different gate, most likely Eisenhower Boulevard (see Figure 1.8.2)Saturdays and Sundays are the peak traffic days for the Eller Drive gate, which is consistent with peak cruise vessel activity at Port Everglades, the vast majority of which occurs on Saturdays and Sundays.

Peak daily activity also loosely correlates to typical cruise vessel disembarkation (mid-morning) and embarkation (early afternoon) activity.

Table 1.8.2: Eisenhower Boulevard, South of Southeast 17th Street, Q1 2018
Source: FDOT; HDR

	Entry (Southbound)	Exit (Northbound)	Total
Average Daily Traffic (ADT)	2,551	2,912	5,463
Truck Percentage	35%	8%	21%
Peak Days (ADT)	2,649	4,665	7,314
AM Peak Hour	11am-12pm		
AM Peak Hour Volume	296	711	1,007
PM Peak Hour	1pm-2pm		
PM Peak Hour Volume	284	666	950

Eisenhower Boulevard is the second busiest access point at Port Everglades. Saturdays and Sundays are the peak traffic days at this location. The Eisenhower Boulevard gate data corresponding to the peak days show an unbalanced entry and exit traffic pattern. It appears that a disproportionate percentage of cruise ship traffic exits the port through the Eisenhower Boulevard gate, relative to traffic entering this gate (based on the high percentage of eastbound traffic at the Eller Drive gate vs. the high percentage of northbound traffic at the Eisenhower Boulevard gate). These results may explain in part the low percentage of truck traffic that exits the Eisenhower Boulevard gate, compared to the percentage of trucks entering this gate. If there is heavy vehicle activity in the northbound direction on Eisenhower Boulevard, for example, then trucks will likely seek alternative exit points to avoid traffic delays.

Both Spangler Boulevard and Eller Drive are also likely preferred exit points for trucks, since they provide better access than Eisenhower Boulevard to US 1 and I-595, respectively.

Table 1.8.3: McIntosh Road, South of Eller Drive, Q1 2018
Source: FDOT; HDR

	Entry (Southbound)	Exit (Northbound)	Total
Average Daily Traffic (ADT)	2,887	2,328	5,215
Truck Percentage	43%	53%	48%
Peak Days (ADT)	3,474	3,237	6,711
AM Peak Hour	11am-12pm		
AM Peak Hour Volume	255	256	511
PM Peak Hour	1pm-2pm		
PM Peak Hour Volume	338	300	638

McIntosh Road is currently the only access point to Port Everglades' Southport container terminals and the ICTF. Not surprisingly, the data shows that a high percentage of trucks (48 percent overall) use the McIntosh gate relative to the other three Port Everglades gates.

Fridays are the peak traffic days for the McIntosh Road gate. This calculation is consistent with container vessel activity and marine terminal operating practices and gate hours in Southport, where peak vessel activity typically occurs on Thursdays, Fridays, Saturdays and Sundays, but terminal gates are only normally open during standard workday hours (i.e. 8am-6pm)In terms of daily peaking, peak traffic at the McIntosh Road gate occurs on either side of the lunch hour, which is also consistent with marine terminal operator practices, since gates are often closed during the lunch hour to comply with union work rules.

Table 1.8.4: Spangler Boulevard (SR 84), West of Miami Road, Q1 2018
Source: FDOT; HDR

	Entry (Eastbound)	Exit (Westbound)	Total
Average Daily Traffic (ADT)	2,199	2,165	4,364
Truck Percentage	35%	28%	32%
Peak Days (ADT)	2,620	3,056	5,676
AM Peak Hour	10am-11am		
AM Peak Hour Volume	304	414	718
PM Peak Hour	12pm-1pm		
PM Peak Hour Volume	302	319	621

The Spangler Boulevard data show a more balanced entry and exit traffic pattern. SR 84/Spangler Boulevard is an alternate entrance/exit for cruise terminals located in both Northport and Midport. Saturdays and Sundays are the peak traffic days for the Spangler Boulevard gate, which correlates to peak cruise vessel activity at Port Everglades.

Similar to the Eller Drive gate, peak daily activity loosely correlates to typical cruise vessel disembarkation (mid-morning) and embarkation (early afternoon) activity. Table 1.8.5 summarizes the 24 traffic counts for the four security gates analyzed. During an average 24-hour period, some 23,329 vehicles passed through these security gates during the first quarter of 2018. The Eller Drive gate saw the most traffic.

Table 1.8.5: Summary of Port Everglades Traffic Count Data, Q1 2018
Source: FDOT; HDR

	Entry (Southbound)	Exit (Northbound)	Total
Eller Drive Gate	4,770	3,517	8,287
Eisenhower Boulevard Gate	2,551	2,912	5,463
McIntosh Road gate	2,887	2,328	5,215
Spangler Boulevard Gate	2,199	2,165	4,364
Combined Total	**12,407**	**10,922**	**23,329**

1.8.2 Qualitative Assessment and FDOT Recommendations As discussed above and also briefly in Section 1.6, traffic in and around Port Everglades can be severe during peak periods, making travel conditions suboptimal for port users and members of the surrounding communities. FDOT conducted a Port Everglades Area Traffic Study in early 2018, with the primary objective being to:

> *"…identify specific causes of traffic congestion in the Port Everglades area and develop a range of potential solutions and mitigation strategies to help the Port meet the challenge of simultaneous growth in diverse cargo and passenger operations."*

As part of this study, FDOT (via their consultant CH2M) conducted an online survey of 590 individuals, representing more than 280 public and private stakeholder organizations, and receiving 171 responses. The survey results revealed that approximately 94 percent of respondents experienced or perceived at least some degree of traffic congestion or delays in the vicinity of the port, with 82 percent of respondents reporting that they experience traffic congestion and delays during at least 40 percent of their trips.[10]General site observations and findings are summarized in the FDOT report as follows:

- Extensive queues at the Eller Drive security gate
- Cluttered and inconsistent wayfinding signage
- Operational issues at the intersection of US 1, Spangler Boulevard (SR 84), and Miami Road
- Uncontrolled left-turn ingress/egress into various facilities, particularly along primary arterials
- Pedestrian facilities – lack of connectivity
- Truck queues at some facilities extending into roadways

[10] *Source: FDOT 2018 Port Everglades Area Traffic Study*

- Congestion and gridlock on surrounding roadways resulting from special events and/or heavy cruise traffic
- Taxi queues on Eller Drive restricting the number of available eastbound travel lanes
- Traffic at signalized intersections being directed by Broward County Sheriff's Deputies, rather than relying on traffic control devices

Drainage issues/localized flooding at SE 14th Avenue and SE 28thBased on the findings of the report, FDOT prepared the following table to summarize its recommendations and potential next steps for the Port:

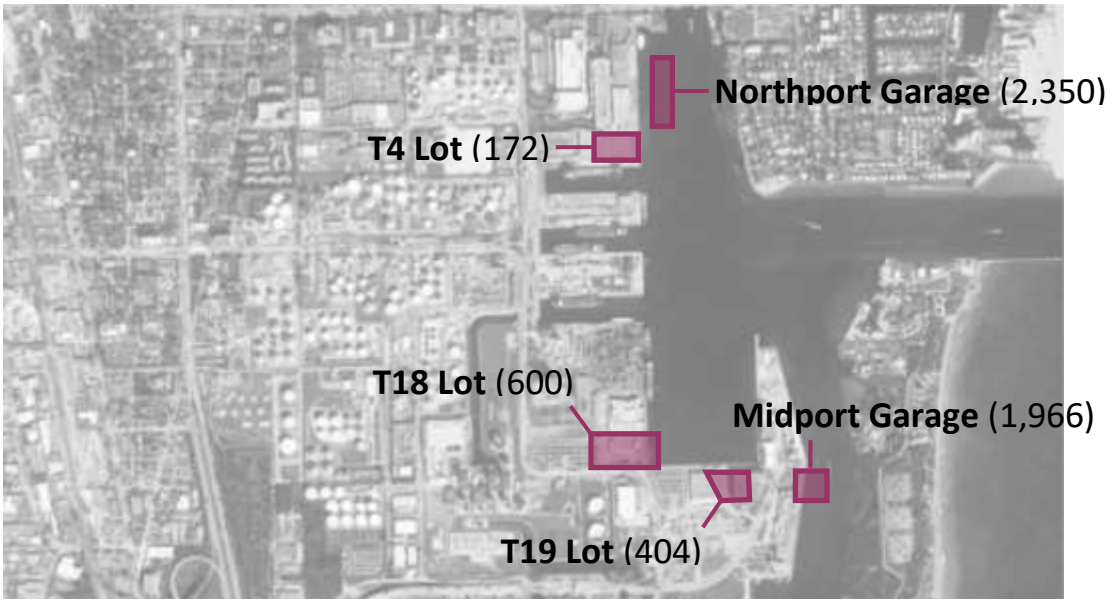
Recommendation	Anticipated Benefit	Next Steps
Port Entry	Reduced delay and queue lengths for vehicles entering the Port	Port Everglades can examine policy, practice, and infrastructure relating to Port ID Only lanes, ingress/egress lane balance, and Automated Vehicles.
Demand Management	Additional revenue, more efficient resource utilization, and mode shift away from POVs	Port Everglades can examine policy relating to congestion charging, convention center event coordination, and transit options.
Pedestrian Infrastructure	Improved pedestrian wayfinding and safety	Port Everglades can identify pedestrian needs through a standalone study or masterplan update.
Wayfinding Signage	Improved directional feedback to ease decisions of drivers, and allow changeable messages to be displayed	Port Everglades is encouraged to continue with the signage upgrade project in process, and examine enhanced pavement markings and pedestrian wayfinding as well.
Miscellaneous Drainage	Reduce localized flooding to maintain state of good repair and port infrastructure resiliency	Port Everglades can create a stormwater masterplan as part of the next Port Masterplan update.
Miami Road	Reduced delay at the Spangler gate resulting from bypassing traffic	Port Everglades can initiate a study in coordination with the maintaining agencies.
Spangler Gate	Diminished frequency of Spangler Gate traffic queues backing-up onto US-1	Port Everglades can include a more detailed study in the next Port Masterplan update.
Roundabouts	Traffic calming, reduced intersection delay, reduced frequency and severity of crashes	Port Everglades can include a more detailed study in the next Port Masterplan update.
Alternate entrance	Reduced delay, greater redundancy, better efficiency accessing the Port	Port Everglades can include a more detailed study in the next Port Masterplan update and coordinate with other maintaining agencies.
Bus circulator	Reduce demand of POV's accessing terminals, proof of concept for planned automated people mover	Port Everglades can include a more detailed study in the next Port Masterplan update.

As also discussed in Section 1.6, a separate traffic capacity and engineering study that looks at multiple future demands and traffic routing scenarios (taking into account the various transportation modes that will need to be accommodated by Port Everglades in the coming 20 years) will be conducted in conjunction with the 2018 Update, as part of Phase 2 (taking into account FDOT's observations and recommendations, among many other factors).

1.8.3 Existing Parking Conditions.

Port Everglades has two parking structures: one within the Northport area, adjacent to the Convention Center, and another in Midport between cruise terminal 19 (T19) and cruise terminal 21 (T21). Port Everglades also has three surface parking areas located adjacent to cruise terminal 4 (T4), cruise terminal 18 (T18), and cruise terminal 19 (T19).

Figure 1.8.1: Port Everglades Public Parking Areas (Spaces)
Source: B&A



The Northport garage, which has a capacity of 2,350 spaces, serves the Broward County Convention Center, as well as cruise terminal 1 (T1), cruise terminal 2 (T2), and T4. In 2015, the Convention Center was "carved out" of the Port Everglades security perimeter when the Eisenhower Boulevard gate was relocated.

A new parking structure is planned for the area west of and immediately adjacent to T4, and will be developed in conjunction with the planned Broward County Convention Center expansion. Once the new parking structure is complete, the existing parking structure in Northport (the northern one-third of which is scheduled to be demolished) will be used primarily by Convention Center visitors and staff. As discussed in Section 1.6, the planned expansion of the Convention Center will require the demolition of T1The new Northport parking structure, design costs for which are included in Port Everglades' FY2018-FY2022 capital budget, is expected to cost approximately $118 million to construct, and will include

1,818 spaces. The new structure will serve T2 and T4, and will link via an elevated moving passenger walkway to T2. Access to this garage is currently being planned, so as to require users to pass through the Eisenhower Boulevard gate prior to entering the garage.

Port Everglades' Midport garage has a capacity of 1,966 spaces, and serves all Midport cruise terminals, including T18, T19, T21, T25, T26, and T29. Cruise Terminal 29 is served via shuttle, given its distance from the Midport garage. The Midport garage is connected to the Port Everglades Harbormaster tower, and is also used by Port operations staff. Port Everglades' surface parking areas are summarized as follows:

- T4 – 172 spaces
- T18 – 600 spaces
- T19 – 404 spaces

Looking to the future, Port Everglades has plans to develop an additional parking structure in Midport as part of a broader multimodal strategy.

1.8.4 Parking Utilization

Port Everglades has provided parking facility utilization information for FY2014 for four locations: Northport garage, Midport garage, T18 surface lot, and T19 surface lot. The utilization of each of these facilities is summarized in Table 1.8.6**Table 1.8.6: Summary of Parking Utilization Data, 2018**
Source: Port Everglades

Parameter	Parking Facility				Total Spaces
	Midport Garage	Northport Garage	T18 Surface Lot	T19 Surface Lot	
Parking Capacity	1,966	2,350	600	404	5,320
Peak Month Overnight	March 2017	November 2016	June 2017	November 2016	December 2016
Average Peak Month Overnight	1490	525	543	199	2567
High Peak Month Overnight	1,899	963	596	361	3042

As noted above, the Northport garage has 2,350 spaces available. 2016/2017 data show increased use during the peak season of mid-November to mid-April. Overall usage of this facility is, however, below 50 percent of available capacity, including during the peak cruise season.

The Midport garage, with 1,966 spaces, is also more heavily utilized during the peak season of mid-November through mid-April. Overall, the garage averaged about 75 percent utilization during the season.

The surface parking West of T18 has a maximum capacity of 600 spaces. Overall, while this surface lot was used up to 100 percent of capacity on some days, it averaged around 85 percent utilization during the peak season, which is still high. The surface lot West of T4, which has 172 spaces, appears to have been minimally used during 2016/2017

1.9 Intermodal Transportation Network

1.9.1 The Strategic Intermodal System in Broward County The Strategic Intermodal System (SIS) is the statewide high-priority transportation network authorized by the Florida Legislature in 2003 and described in Florida Statutes, Sections 339.62, 339.63, and 339.64. The SIS includes corridors such as highways, freight and passenger rail, waterways, hubs (such as seaports, airports, and other terminals) and connectors between the hubs and internal corridors. SIS components relevant to Port Everglades include:

- Highway connectors
  - I-95 to SR 84 to Spangler Boulevard to Port entranceI-595 East straight into the Port entrance (Eller Drive)
- Rail connector
  - FEC spurs from seaport property, including the ICTF in Southport, to FEC lines
- Waterway connector
  - Port Everglades harbor channel and turning basins connecting to the Atlantic Coast shipping lane

Also important to Port Everglades are the SIS connectors to FLL:

- FLL connector
  - SIS corridor (I-595/US 1 interchange) directly to passenger entrance and I-95 to SR 84/SW 24th Street to SW 4th Avenue to Perimeter Road to air cargo entrance

For at least the past decade, strong interest has been expressed in expanding Florida's trade and logistics infrastructure by integrating the essential components, including road, rail, warehouses, distribution centers, and even manufacturing, into one concentrated facility. To reflect this concept, which has taken hold elsewhere in the country as well, the Florida Legislature created a new type of SIS facility in 2012 – the Intermodal Logistics Center (ILC). The goal of the ILC concept is to facilitate goods movement through Florida's seaports and enhance the state's competitiveness.

In South Florida, Palm Beach County has been the location of several proposed ILCs. In Miami-Dade County, Florida East Coast Industries (FECI), a sister company to the FEC, has developed the South Florida Logistics Center, a 400-acre complex built in phases adjacent to Miami International Airport (MIA) and the FEC's Hialeah facility. The project

facilitates freight movements between Port*Miami* (and potentially Port Everglades) on the FEC, complementing the ICTF developments at both seaports. As of 2016, 200 acres of the facility have been built out, including six warehouse structures.

1.9.2 Highway Network

The highway corridor of most consequence to Port Everglades is I-95, which extends from Florida in the South to Maine in the North. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), passed by Congress in 2005, designated a portion of this I-95 spine, the Atlantic Commerce Corridor from Miami to the Georgia border, as High Priority Corridor 49. This designation acknowledged the importance of Florida's I-95 corridor to regional, State, and national commerce. In 2015, the Fixing America's Surface Transportation Act (FAST Act) was signed into law, extending federal highway and transit funding through fiscal year 2020. Despite the importance of the I-95 corridor, however, little funding to improve this critical transportation asset has materialized. Not surprisingly, traffic congestion along I-95 and across the state is expected to get increasingly worse during the coming 20 years (See Figure 1.9.1)

According to FDOT, daily Vehicle Miles Traveled (VMT) across the state will increase from 193.4 million in 2017 to 280.8 million by 2040. As shown in Figure 1.9.2, 64.6 million (23 percent) of all 2040 VMT will occur on highways that are already congested in 2017, with 70.2 million (25 percent) of all 2040 VMT occurring on currently uncongested highways that will become congested. In other words, 17 percent of currently uncongested SIS highways will become congested by 2040To alleviate traffic congestion specific to I-95, FDOT has implemented the 95 Express program, a two-phased congestion management plan designed to improve regional mobility for commuters. In Phase 1, a 6.2-mile section of Northbound I-95, from SR 112 to the Golden Glades Interchange in Miami-Dade County, was restriped to add a new lane, and the original high-occupancy-vehicle (HOV) lane was converted to a managed toll lane, using congestion pricing. Phase 2 construction began in November 2011, and was completed in late 2014. This phase extended the existing express lanes north from the Golden Glades Interchange to Broward Boulevard, for a total of 21 miles of expressway. The existing HOV lanes were converted to two express lanes in each direction, with installation of tolling and intelligent transportation system (ITS) equipment in the median area along I-95.

Figure 1.9.1: Heavily Congested SIS Corridors in Florida, 2017-2040
Source: fdot.gov

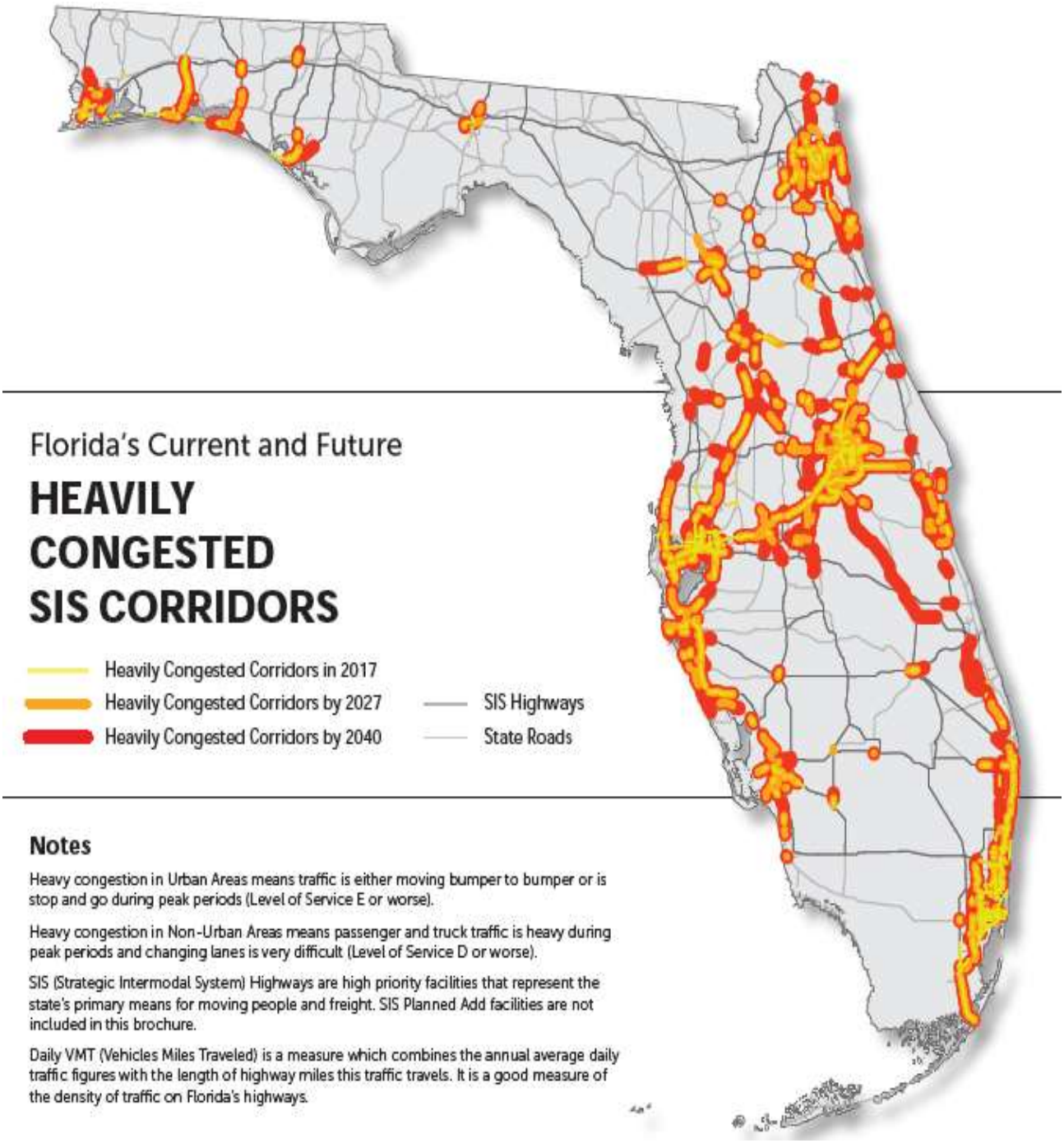
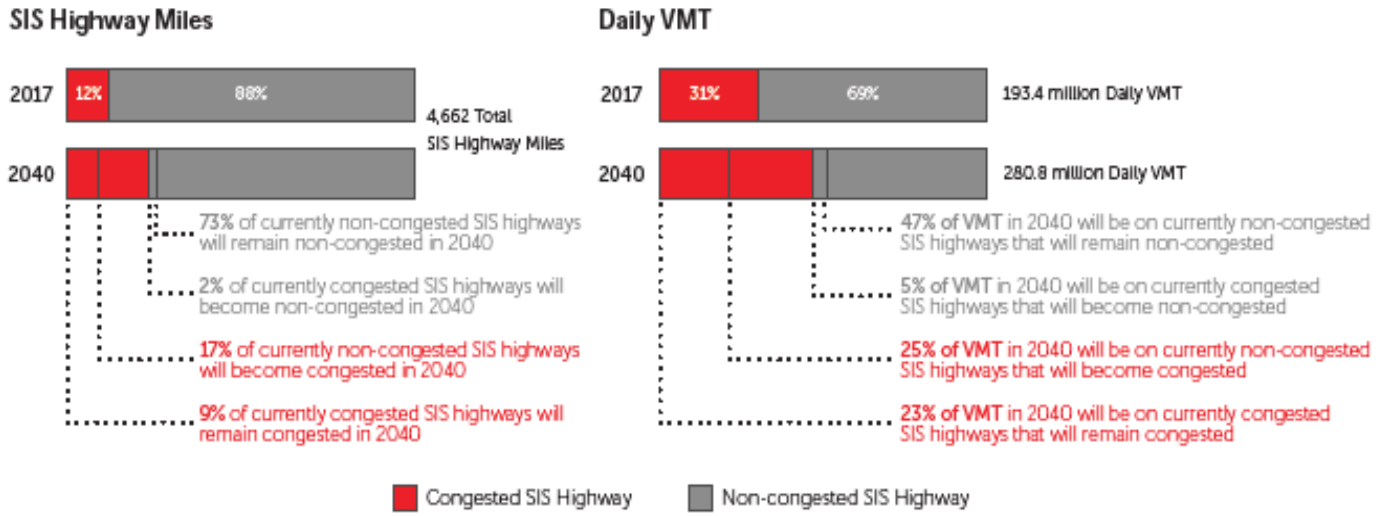


Figure 1.9.2: SIS Highway Miles and daily VMTs, 2017 vs. 2040
Source: fdot.gov



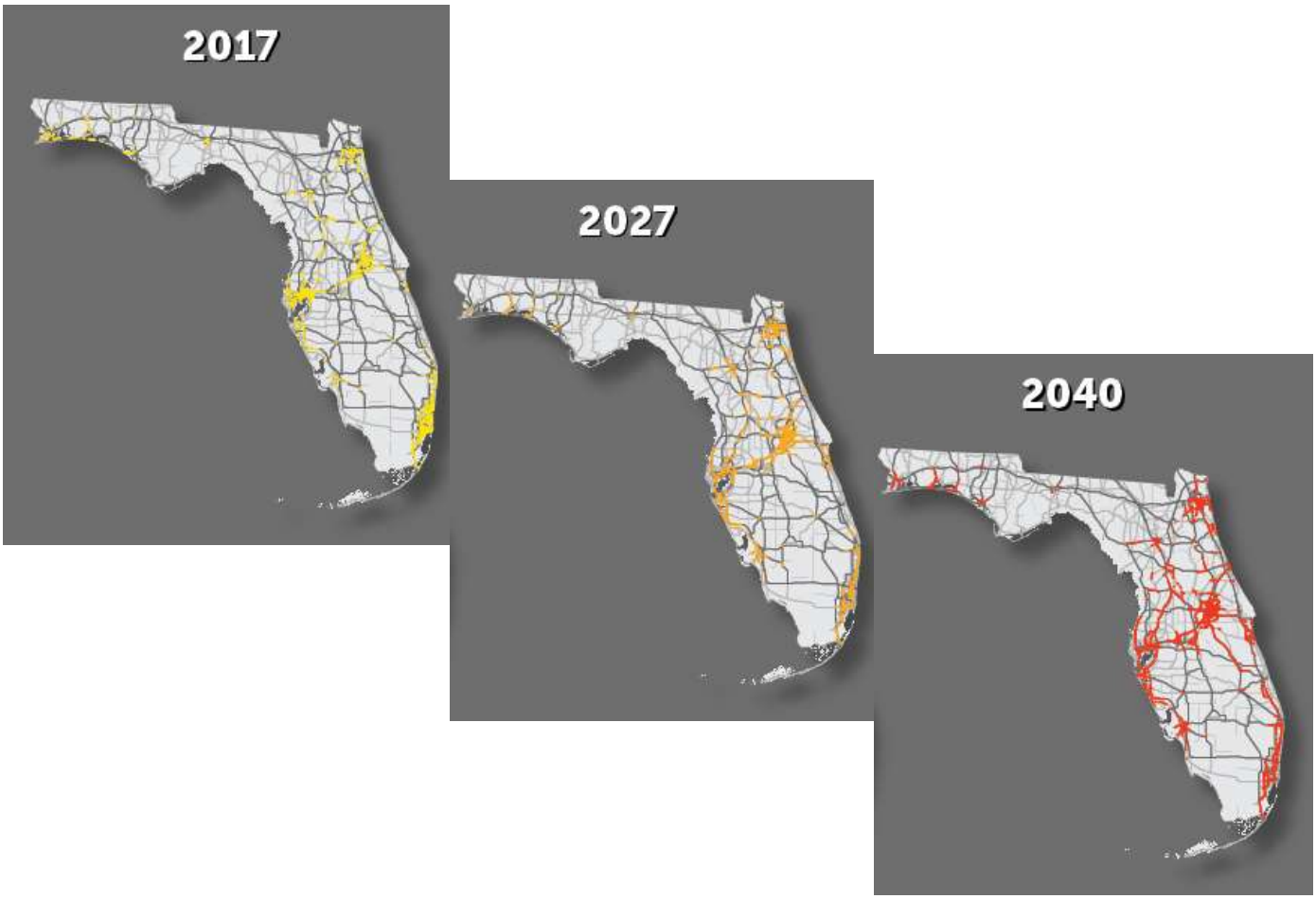


Figure 1.9.3: Congestion in Eastern Broward and Miami-Dade Counties, 2017-2040
Source: fdot.gov

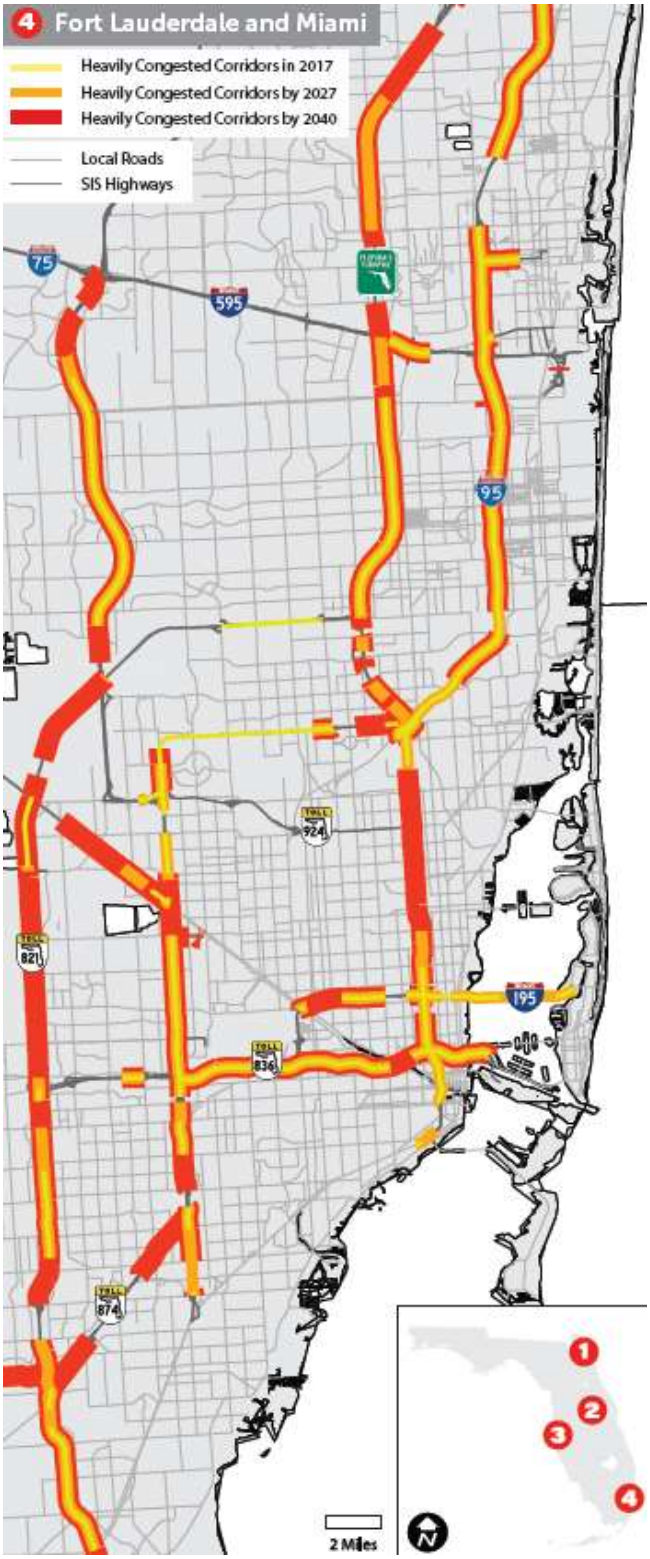


Figure 1.9.3 shows what congestion in Eastern Broward and Miami-Dade Counties is expected to look like by 2040In addition to I-95 itself, facilities within the corridor in Broward County include:

- I-595; I-75; Florida's Turnpike; SR 869 (the Sawgrass Expressway); US 27
- The FEC rail and its freight rail terminal, CSX Transportation (CSXT), and the South Florida Rail Corridor (SFRC)
- The ICW and shipping lanes
- Port Everglades
- FLL

Several major interstate, state, and local roads – including I-595, SR 84, US 1, and I-75 – connect with or approach I-95.

The only significant north-south corridor that complements I-95 is Florida's Turnpike, which parallels it several miles to the west. The turnpike generally traverses residential suburban districts, and supports commuting and general regional access. The turnpike has typically played a relatively small role in regional commerce. As I-95 has become more and more congested throughout the day, however, there is anecdotal evidence that more trucks are using the turnpike for their longer distance journeys.

I-595 has recently undergone significant 10.5 mile reconstruction, which is of particular relevance to efficient transportation access to Port Everglades. It is the key East-West SIS corridor that leads to Eller Drive, the Port's primary access point for both Midport and Southport. I-595 also accommodates traffic between the Port and I-95, Florida's Turnpike, and I-75. I-595 serves more than 180,000 vehicles per day, and that number is expected to grow to over 300,000 by the year 2034In 1994, FDOT initiated a Master Plan Study to develop realistic improvements for I-595, and to address future mobility needs of the corridor (see Figure 1.9.4). As part of a three-phase master-planning process, numerous alternatives were evaluated and presented to the Broward County Metropolitan Planning Organization (MPO) and Federal Highway Administration (FHWA), both of which approved an I-595 Locally Preferred Alternative (LPA) that focuses on improvements between I-75 and I-95.

After several years of study and refining design components for the corridor, a public-private partnership was initiated to proceed with the design and construction of the following roadway improvements:

- Three at-grade reversible express toll lanes to/from the I-75/Sawgrass Expressway from/to East of SR 7; these will be operated as managed lanes with variable tolls, and will reverse directions in peak travel times.
- Continuous connection of the SR 84 frontage road between Davie Road and SR 7.
- Additional auxiliary lanes
- Improvements to the I-595/Florida's Turnpike interchange
- Bus rapid transit in the corridor
- Provisions for future transit options

Construction on these projects began in summer 2009, and was completed in 2014.

Figure 1.9.4: I-595 Project Improvements Map
Source: FDOT

Currently, FDOT is implementing Phase 3 of the I-95 Express Lanes (95 Express). The purpose of the 95 Express is to improve mobility, relieve congestion, provide additional travel options, enhance transit services, accommodate future growth and development in the region, enhance emergency evacuation, and improve system connectivity between key limited access facilities in South Florida. 95 Express is part of a regional network of

express lanes that will provide a safe, efficient, and reliable transportation alternative to drivers traveling throughout South Florida.

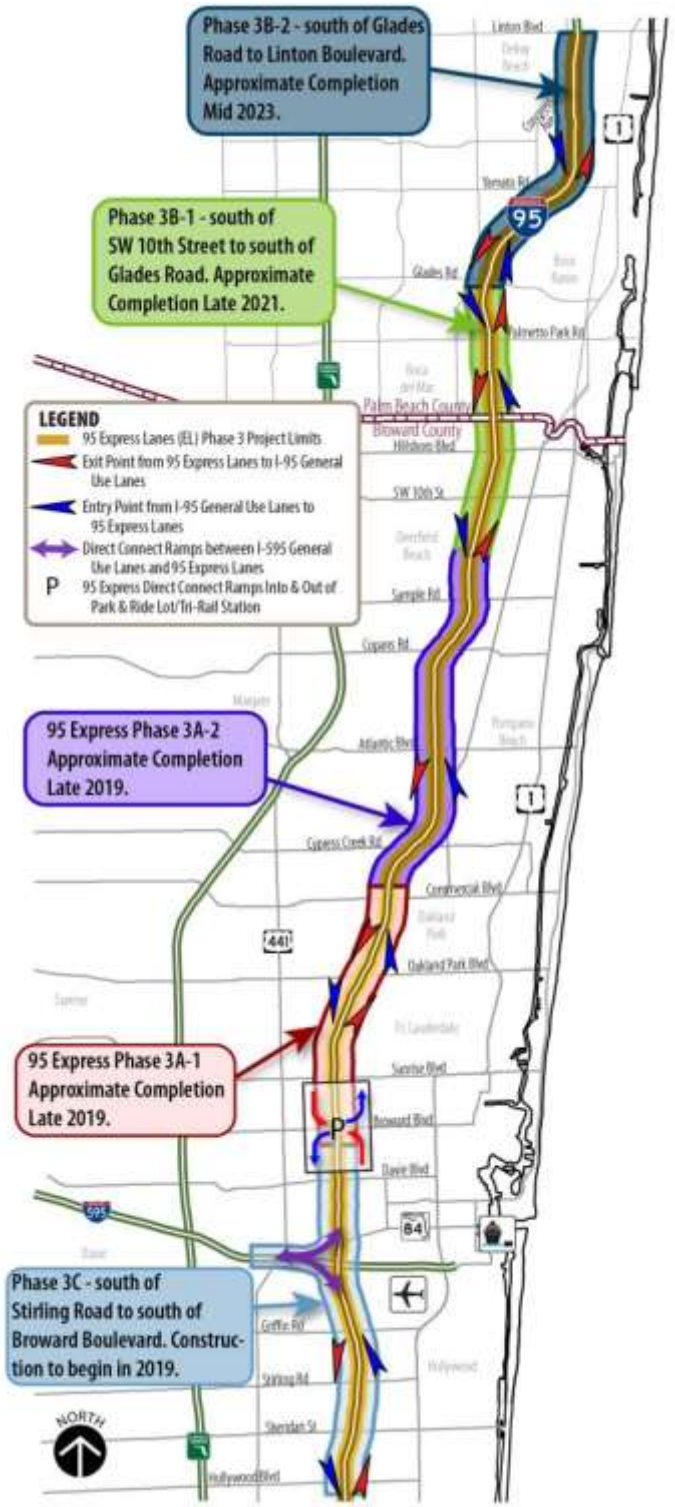
The Phase 3 project limits were evaluated as three individual Project Development and Environment (PD&E) studies. In order to expedite the construction of the 95 express lanes in Southeast Florida, FDOT combined the results of all three studies into Phase 3. The improvements in Phase 3 will be implemented in segments, due to funding limitations.

The first segment (3A-1 from South of Broward Boulevard to North of Commercial Boulevard, and 3A-2 North of Commercial Boulevard to Southwest 10th Street in Broward County) is under construction.

The second segment (3B-1 from South of Southwest 10th Street to South of Glades Road) began construction in early 2018The third segment (3B-2 South of Glades Road to Linton Boulevard) is scheduled for construction in 2020A key component of Phase 3 is a potential direct connection between Northbound and Southbound 95 Express and I-595, to and from the West. This direct connection will be included in the Phase 3C limits of 95 Express Phase 3Segment 3C is the fourth segment with limits from Stirling Road to South of Broward Boulevard on I-95, and along I-595 from SR 7/US 441/Turnpike Interchange to I-95. Phase 3C will begin construction in 2019.[11]Additionally, a continuation of ramp signaling will be included as part of this project up to Linton Boulevard in Palm Beach County. See Figure 1.9.5.

[11] *Source: www.95express.com/pages/related-info/95-express-phase-3*

Figure 1.9.5: FDOT 95 Express Phase 3 Project Map
Source: FDOT



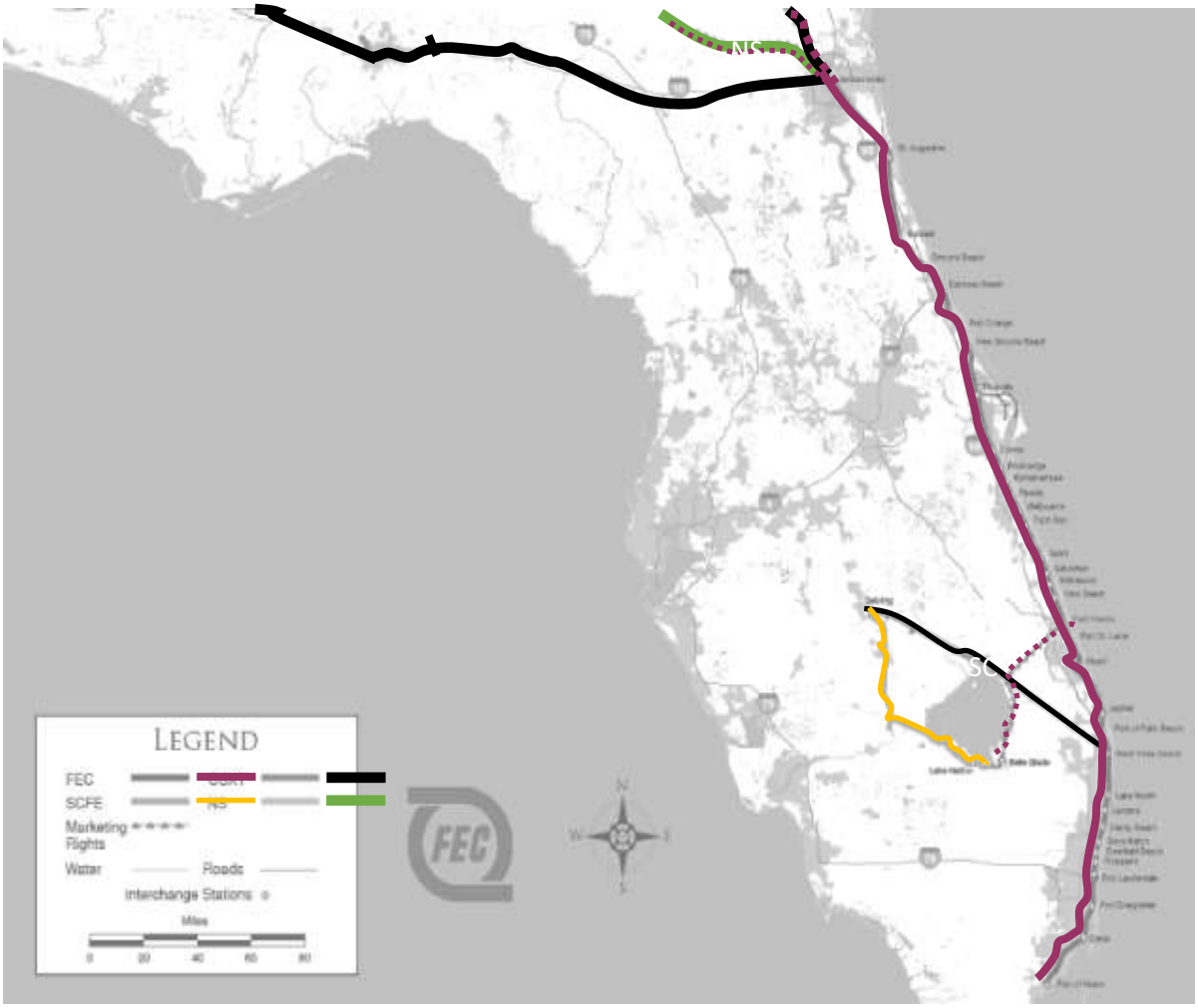
US 27 extends 72 miles on the diagonal from SR 826 (the Palmetto Expressway) in Miami-Dade County to Lake Okeechobee in Palm Beach County, continues through the State and beyond, and is used by commercial, residential, and tourist interests. With the anticipated flourishing of ILCs in Palm Beach County, US 27 has been the subject of several studies. The options investigated in these studies include a highway-only alternative and a highway plus parallel rail alternative, based on estimates of future traffic growth, including the ILCs and anticipated changing trade flows. Since US 27 is one of the highway routes truckers serving Port Everglades use, the expansion of this highway would be beneficial, but the lack of a feasible rail connection between the Port and US 27 limits the benefit the port would derive from adding a parallel rail corridor. Despite the importance of these major roadways within the I-95 corridor, conditions on I-95 itself have the predominant effect on operations at the major transportation hubs in the tri-county region, and on the timeliness of truck movements between Port Everglades and commodity origins and destinations.

1.9.3 Freight Rail Systems

Two rail corridors exist in South Florida. The first is the rail freight corridor owned and operated by the FEC. The second is the shared freight/passenger SFRC – the former 81-mile CSXT right-of-way between (approximately) MIA and West Palm Beach – purchased by FDOT in 1988. The CSXT railroad has operating rights over this corridor, and Amtrak and Tri-Rail operate their passenger services on it.

The FEC was purchased from Fortress Investment Group in 2017 by Grupo Mexico for $2.1 billion, operates between Jacksonville and Miami, over a distance of 351 miles. Paralleling the Atlantic coast for essentially the entire north-south length of the state, the FEC right-of-way provides the most direct rail route between Jacksonville and South Florida, and serves Florida's most densely populated markets (see Figure 1.9.6). From Jacksonville, the FEC provides connecting rail service with two Class I railroads: the Norfolk Southern (NS) and the CSXT. FEC is the sole rail service provider to Port Everglades, Port*Miami*, and the Port of Palm Beach. Freight moves to and from South Florida and within the state, through the FEC's Bowden Yard rail center in Jacksonville. In addition to its short-line rail service linking South Florida with the NS and the CSXT in Jacksonville, the FEC provides connecting branch line service between Fort Pierce (Mile Post 242 on the FEC line) and South Bay on the South Central Florida Express (SCFE) rail line. This branch line service is operated under a lease arrangement with the SCFE, which has a reciprocal Car Haulage Agreement between Fort Pierce and Jacksonville on the FEC system.

Figure 1.9.6: FEC Rail Network Map
Source: fecrwy.com; B&A



Bowden Yard is the northernmost rail service point on the FEC system, and includes a switching yard and the FEC's Jacksonville intermodal transfer facility, located at the north end of the yard. Intermodal trains are initiated and terminated at this location, and all of FEC's interline rail service passes through it. The NS interchanges all interline traffic at Bowden Yard for run-through service between Jacksonville and Miami under a Car Haulage Agreement.[12] The CSXT and FEC maintain an Interline Service Agreement, wherein CSXT makes deliveries and pickups at the Bowden Yard, and FEC reciprocates with deliveries and pickups at CSXT's yard.

The FEC maintains ownership of the rail right-of-way, which includes a 100-foot minimum width the entire length of their mainline system. More recently, segments of double track have been added to increase rail capacity and keep pace with rail traffic growth. As traffic grows, additional double track will be required. Consolidated intermodal trains operate

[12] *"Run-through" refers to traffic that is moved as delivered and not switched or reloaded.*

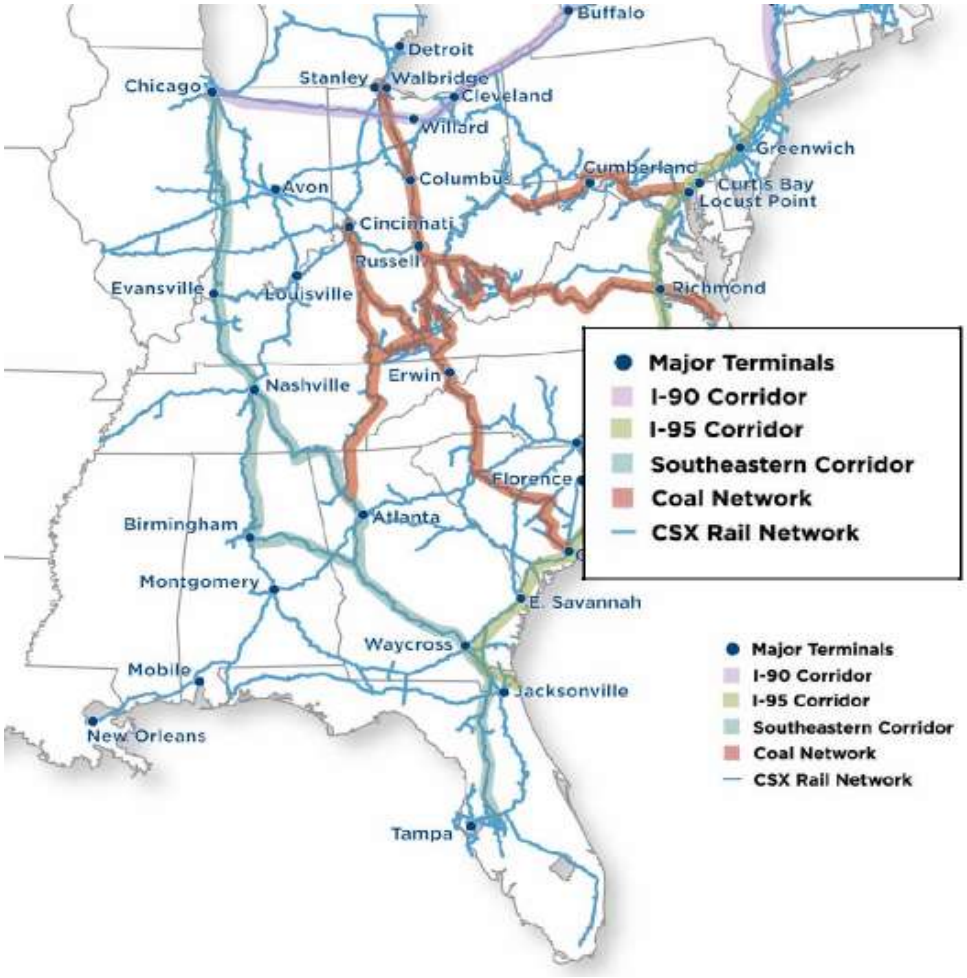
daily between Jacksonville and South Florida points carrying domestic and international traffic. The FEC maintains intermodal facilities in its Hialeah yard in Western Miami-Dade County and at its Andrews Avenue facility in Broward County, in proximity to Port Everglades. Both of these facilities are on the SIS, as is the entire length of the rail lineHere are the diverse commodities the FEC carries in trailers-on-flatcars and containers-on-flatcars as well as in tanker cars and hopper cars:

- Aggregate and cement
- Farm products
- Food and beverages
- Lumber and wood
- Pulp and paper
- Chemicals
- Petroleum products
- Automobiles
- Scrap metals

Since opening in 2014, the FEC ICTF at Port Everglades has handled more international cargo than domestic cargo every single year. In FY2017, the most recent 12-month data available, the ICTF handled 63,142 international moves (113,656 TEUs), compared to 50,030 domestic moves. This data represents 14.5 percent of Port Everglades' FY2017 loaded container throughput, and 10.6 percent of total volume (TEUs). The principal reason that intermodal volume moving via the ICTF at Port Everglades is not higher relates to the size and geographic extent of Port Everglades' current hinterland (see Figure 1.2.2). The time to market and cost-per-unit advantages of intermodal rail vs. over-the-road trucking typically do not manifest within 250 miles of the port for either imports or exports. Since the vast majority of containerized imports and exports that currently move through Port Everglades have a point of origin or final point of consumption within South or Central Florida, rail is not competitive with trucking regarding both time and costs.

As Port Everglades continues to extend its hinterland, the northward rail could become a more important mode of import distribution and export delivery. It may also be the case that rail becomes more attractive, even within the traditional 250-mile modal split radius, as congestion on the major highways around Port Everglades increases, since this congestion will detract from the service level advantages of trucking and help to level the playing field regarding both time and costs. It is hard to imagine a scenario in which rail is ever competitive with trucking within the South Florida market, but there will almost always be a need for "last mile" trucking regardless. Truck drayage in support of intermodal service is provided by affiliates in Atlanta, Jacksonville, and Miami

Figure 1.9.7: CSXT Rail Network Map
Source: csx.com



CSXT – the largest rail network in the Eastern United States – is the core business unit of CSX Corporation. CSXT provides rail freight transportation over a network of more than 23,000 route miles in 23 states, the District of Columbia, and two Canadian provinces (see Figure 1.9.7). From its headquarters in Jacksonville, CSXT maintains an extensive rail network within Florida, which reaches from Jacksonville to Homestead, in Southern Miami-Dade County. This rail network extends south from Jacksonville through Orlando to Tampa.

From a point east of Tampa, the CSXT rail line moves southeastward across the state and into Palm Beach County. Starting in Palm Beach, the CSXT line parallels the FEC right-of-way south through Fort Lauderdale to its terminus in Opa-Locka (known as the CSX Hialeah yard).

Despite the proximity of the CSXT rail line to the FEC line, the CSXT has no rail access rights into the South Florida ports. Also, there is no freight intermodal interchange point between the FEC and CSXT south of Jacksonville. The two railroads do have the capability

for the direct interchange of carload and aggregate traffic in West Palm Beach and Miami. However, existing track structures are not adequate for the interchange of intermodal flatcars.

Between West Palm Beach and Miami, several distinct services operate within the same rail right-of-way, that is, on the SFRC owned by FDOT. The SFRC, which parallels I-95 for most of its length, carries Tri-Rail commuter trains, Amtrak passenger trains, and CSXT freight trains.

A 2013 Federal TIGER grant advanced a project by the State, the FEC, the CSXT, and Tri-Rail to connect the FEC and Tri-Rail in Hialeah and West Palm Beach. The crossovers potentially allow some freight trains leaving Miami to switch to the Tri-Rail tracks, which have a third of the crossings on the FEC tracks. Grade crossings on the SFRC right-of-way that CSXT uses between West Palm Beach and Miami number approximately 75, compared with the 210 identified on the FEC. Presumably, freight from Port Everglades would also be able to use both corridors in the future.

CSXT maintains freight service operating rights over this segment to continue serving customers within the Broward, Miami-Dade, and Palm Beach County markets. The CSXT carries primarily bulk commodities, such as aggregates for the construction industry elsewhere in the state and carloads of consumer goods beyond state borders, using the portions of its track to the north and west of Lake Okeechobee.

The CSXT rail system includes a westerly extension through Tallahassee and into Mobile and New Orleans, where it connects with other western rail carriers. It also extends in a northwesterly direction from the Florida state line through Atlanta to Chicago and Northward along the I-95 highway, with service to markets as far north as New York and New England.

A third rail carrier, NS, operates rail service in Florida, but does not own right-of-way farther south than Jacksonville (see Figure 1.9.8). As noted previously, NS provides direct service to South Florida under its Car Haulage Agreement with the FEC.

Figure 1.9.8: NS Rail Network Map
Source: Norfolk Southern

Jacksonville is the NS's primary market service area in Florida and the location of their rail service interchange point with the FEC. All NS rail interchange service into and out of Florida is classified through their Atlanta rail hub. From this hub, NS connects to its Eastern United States rail network and assembles rail traffic for Westward movement and connection to Western Class I rail carriers.

1.9.4 Passenger Rail Systems

Amtrak is the long-distance passenger rail operator in South Florida. Amtrak operates four long-distance trains through Florida:

- The Auto Train (daily Lorton, VA-Sanford, FL)
- The Silver Meteor (New York-Orlando-Miami)
- The Silver Star (daily New York-Orlando-Tampa-Miami)
- The Sunset Limited (tri-weekly Los Angeles-Orlando via New Orleans, Pensacola and Jacksonville; Sunset Limited service has been suspended East of New Orleans)

According to Amtrak, boardings and alightings from their Fort Lauderdale and Hollywood stations totaled more than 64,600 passengers in 2017 (FY). Also in 2017, the Auto Train

carried over 228,000 passengers, removing over 100,000 vehicles from highways, connecting Florida with the Midatlantic region of the U.S.

Long-term plans for Amtrak service expansion in the region, such as service between West Palm Beach and Jacksonville on the FEC, rather than currently on the CSXT tracks, have been impacted by funding constraints. Independent of the FECI's All Aboard initiative for passenger service between Orlando and Miami, which is discussed later in this section, FDOT has been working with Amtrak to revive passenger service on the FEC. In the past, FDOT set aside $118 million to help pay for infrastructure costs for Amtrak to provide long-distance passenger service between Miami and Jacksonville as a potential match for Federal money, but Federal funding has not materialized. However, the project is still under discussion.

1.9.5 Airports

South Florida has the most concentrated aviation activity in the State. In addition to FLL, MIA, and Palm Beach International Airport (PBI) provide numerous scheduled air carrier services to/from the region. These three major airports, all of which are hubs on the SIS, connect the tri-county region with domestic and international markets. Seaport-airport synergies are essential to the continued success of these operations, because of the significant number of passengers who come from all regions of the U.S. and countries around the globe to cruise from both Port Everglades and Port*Miami*.

The tri-county region of South Florida is, for all intents and purposes, a single tourism market. As such, all three regional airports are important and play a role in the future of Port Everglades. As a fellow department of Broward County (i.e. the Broward County Aviation Department), and considering its physical proximity to Port Everglades, FLL plays an especially important role now and into the future (see Section 1.6).

With more than 353 scheduled departures per day, FLL ranked 19th in the U.S. in total passenger traffic and 13th in domestic origin and destination passengers in 2017 (FY). During the same period, FLL enplaned and deplaned 32.5 million passengers, which represents an increase of 11.3 percent from 2016 (FY). Of this total, domestic traffic accounted for 25.3 million passengers (77.8 percent) – an increase of 9.4 percent from 2016. International passengers accounted for the remaining 22.2 percent, increasing 17.9 percent from 2016These numbers resulted in FLL being the fastest-growing hub in 2017 and ranking 12th for international traffic. Table 1.9.1 compares FLL activity in FY2012, which was the baseline year for the 2014 Port Everglades Master/Vision Plan Update to FY2016, which is the most recent year that complete FLL operating data are available for.

Table 1.9.1: FLL Passenger, Cargo and Aircraft Operations, 2012 (FY) vs. 2016 (FY)
Source: Broward County Aviation Department (BCAD)

Operational Parameter	2012	2016	% Change 2012 2016
Total Passengers	23,569,103	**29,205,002**	23.9%
Cargo (tons)	88,033	**83,683**	-4,9%
Aircraft Operations	262,860	**290,239**	10.4%

Some 26 domestic and foreign-flag airlines serve FLL, offering nonstop service to more than 80 U.S. cities and 60 international destinations in Europe, Central and South America, the Caribbean, and Canada. Looking to the future, according to the FAA's independent passenger forecast, FLL is projected to have the highest passenger growth rate among large hub U.S. airports through 2035FLL contributes more than $2.7 billion in annual economic impact to Broward County, and is the largest employer in the county, with approximately 12,500 jobs at the airport, and 139,920 total airport-related jobs. To serve the forecasted future increase in enplanements at FLL, the Broward County Aviation Department expanded the south runway in 2014 to 8,000 feet. FLL Terminal 1 was expanded in 2017, and FLL Terminal 4 is currently being expanded, with Terminal 1 adding five new gates to Concourse A, and Terminal 4 being enlarged from 10 to 14 gates. Additional near-term capital improvements planned at FLL include:

- Connectors between Terminals 1, 2, and 3
- 5-gate remote concourse to the east of Terminal 4
- New signalized pedestrian crossings
- Exit improvements from the rental car facility
- New surface parking

Figure 1.9.9: Aerial View of Fort Lauderdale-Hollywood International Airport (FLL)
Source: airwaysmag.com

Long-term developments included in the FLL 20-year Master Plan that have the potential to impact Port Everglades directly are discussed in Section 1.6. One possible development that is not included in the FLL 20-year Master Plan, but which could further increase the air-sea synergy between FLL and Port Everglades, is the idea of more shared U.S. Customs and Border Protection (CBP) infrastructure and services (i.e. joint airport/seaport cargo inspection facilities, etc.). Such opportunities are explored in Element 3.

1.9.6 Transit Systems

While transit is not typically a factor in port operations, the expansion of transit systems in Broward County and throughout the region has a role to play in reducing congestion on Port Everglades' major access roads.

As mentioned previously, in May 1988, the State of Florida, through FDOT, purchased the CSXT railroad corridor between West Palm Beach and Miami (the former Seaboard Air Line railroad, built in the 1920s). This corridor, the SFRC, parallels I-95, with abutting rights-of-way in many areas. It extends from West Palm Beach, approximately 76 miles south to the vicinity of the 7th Avenue passenger station in downtown Miami. FDOT's purchase also included approximately five miles of the Homestead line in Miami-Dade County.

The primary purpose of this purchase was to retain this strategic corridor for future transportation uses. CSXT and Amtrak retained rights to operate common carrier freight rail services and long-distance intercity passenger service, respectively.

Tri-Rail – the commuter rail service linking the three South Florida counties over the SFRC – began operations in 1989 between West Palm Beach and Miami, over 66 miles of the 76-mile main line (See Figure 1.9.10)Originally started as a traffic mitigation program during the lengthy reconstruction of I-95, Tri-Rail today, under the jurisdiction of the South Florida Regional Transportation Authority (SFRTA), carries more than 4.2 million passengers annually. Tri-Rail now operates 50 trains per day, stopping at 18 stations over 70.9 miles.

The Tri-Rail system serves as a connecting link with local transit services in South Florida, including Broward County Transit (BCT). BCT operates a countywide network of fixed route bus service with several transit centers across the county, providing connections between routes. BCT also oversees a special transportation service offering mobility to the transportation-disadvantaged. [13]

[13] *Source: sfrta.fl.gov*

Figure 1.9.10: Tri-Rail System Map
Source: tri-rail.com

A more recent initiative to improve transit alternatives within the tri-county South Florida region is the All Aboard Florida program (see Figure 1.9.11).

Figure 1.9.11: All Aboard Florida Program Infographic
Source: cdn.archpaper.com/wp-content/uploads/2018/01/All-Aboard-Florida-Map

This program, known as the Brightline, is an intercity passenger service that operates along the FEC corridor. The route, which is owned, operated, and maintained by FECI, features passenger service along the existing FEC corridor between Miami and Orlando, with intermediate station stops in downtown Fort Lauderdale and West Palm Beach. Phase 1, which was put into service in February 2018, connects West Palm Beach and Fort Lauderdale. In May 2018, the segment from Fort Lauderdale to Miami was put into service. Future expansion intends to utilize the FEC corridor between West Palm Beach and Cocoa, and then build a new 40-mile stretch of track from Cocoa to Orlando International Airport. At present, 16 daily trains from Miami and Orlando are planned. Future plans call for as many as 32 trains per day to run between Miami and Orlando, with stops in Fort Lauderdale and West Palm Beach.

An additional local transit solution managed by FDOT known as the Wave streetcar project was officially abandoned in early May, 2018 when the Broward County Board of County Commissioners (BCBOCC) voted unanimously to end the 14-year planning process for the project

1.9.7 Inland Waterways (Marine Highway Program/Short-Sea Shipping)

A long-discussed alternative to moving freight by road or rail is the concept of short-sea shipping, the coastwise movement of containers or trailers which offers shippers, truckers, and intermodal companies the opportunity to shift intermodal cargo to the waterborne mode. This concept took on new life when the Energy Independence and Security Act of 2007, as amended in Section 405 of the Coast Guard and Maritime Transportation Act of 2012, required the U.S. Secretary of Transportation to establish a short-sea alternative to road or rail transport. Subsequently, the Transportation Secretary designated 18 marine highway corridors – including Corridor M-95 and Corridor M-10, which encompass Florida's Atlantic and Gulf coasts, respectively – and directed more than $110 million toward marine highway projects within those corridors.

Two Florida seaports were able to benefit from project funding through the Marine Highway Program; overall, however, the program has failed to make significant advancements in the nation's coastal shipping network.

Florida's lengthy coastlines and the state's SIS Atlantic and Gulf coast waterways offer particular opportunities to utilize the concept effectively – if and when specific financial and policy issues are resolved, and an appropriate infrastructure gets built. A study sponsored by FDOT's seaport office looked at opportunities for increased cargo transport on the State's commercial intracoastal and navigable waterway system some 15 years ago.[14] This study concluded that scheduled coastal shipping was limited to only a few carriers, but operations in open water that could be characterized as "short-sea" operations, were conducted more regularly. The latter occur particularly in the domestic trade between Florida (the Port of Jacksonville and Port Everglades) and Puerto Rico, as well as between Florida's West Coast ports and Texas.

Constraints to the use of the inland waterways, such as the Atlantic ICW that serves the three South Florida seaports, involve both infrastructure limitations and the appropriateness of specific cargos. Generally speaking, water depths are not adequate in portions of the waterways, and dedicated terminals that complement landside truck or rail operations are lacking. Also, only cargos that are not time-sensitive present a "critical mass," and can be regularly scheduled are suitable for this mode of transport.

As all-water services bring more cargo through the East Coast ports, including Florida, short-sea shipping may become more interesting and commercially viable. FDOT, as it updates its Seaports and Waterways System Plan, may take a fresh look at the

[14] *Source: Wilbur Smith Associates, CH2MHILL, and others, Florida Intracoastal and Inland Waterway Study, May 2003*

opportunities for more productive utilization of the state's resources for marine highway shipping.

1.9.8 Intelligent Transportation Systems (ITS)

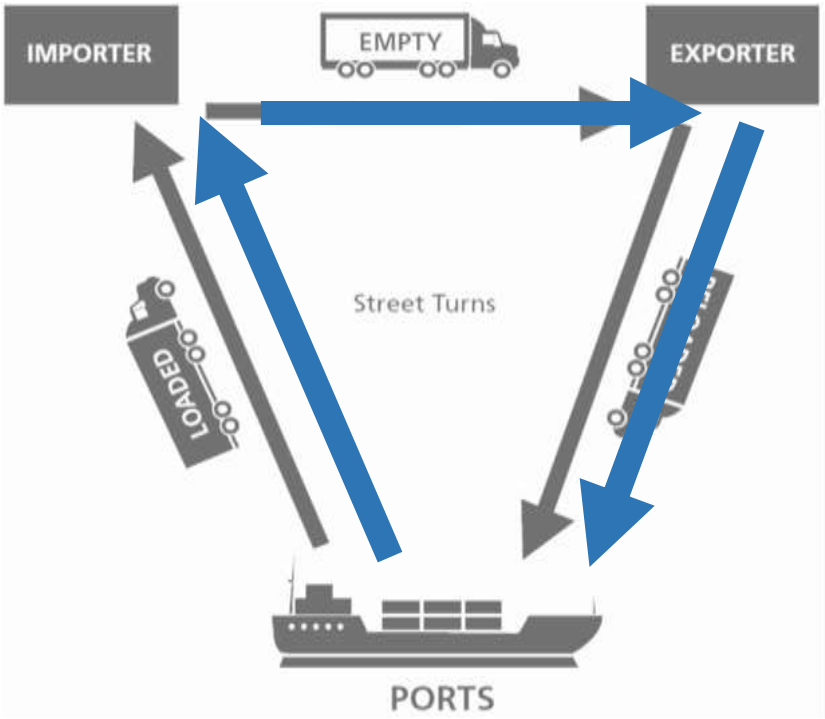
ITS is the application of technology to manage transportation systems more efficiently and safely and provide additional mobility options. In its efforts to alleviate highway congestion and promote more efficient traffic flows, FDOT is partnering with other states, as part of the I-95 Corridor Coalition, to develop innovative ITS solutions to their mutual traffic concerns. South Florida's seaports, which have benefited from on-port and off-port ITS improvements implemented in recent years, are actively collaborating in this exchange of information technology to achieve the faster, better, and cheaper movement of goods. ITS applications for seaports include closed circuit television monitoring, security command centers, electronic gates, computerized access systems, Portal VACIS and STAR gamma ray units to detect stolen vehicles and heavy equipment, dynamic message systems, and the latest in radio-frequency identification (RFID) technology. ITS applications also include operational procedures, ranging from staged provisioning of ships to new inspection methods to detect explosives and other agents.

FDOT District 4 has championed ITS as a key tool for optimizing traffic operations, and has promoted the transportation systems management and operations (TSM&O) program throughout the state. SMART SunGuide is the District's interactive real time ITS to more effectively manage the highways. This system includes closed-circuit television cameras, electronic message signs, traffic detectors, and traveler information services, such as 511. A website (monitored and maintained by I-595 Express, LLC) provides I-95, I-75, and I-595 traveler information for Broward, Palm Beach, Martin, St. Lucie, and Indian River Counties.

FDOT Districts 4 and 6 are expanding the use of other technologies to facilitate freight mobility, productivity, and safety. Among such uses is the virtual freight network (VFN) concept. As described in the South Florida Regional Freight Plan, VFN is an integrated system of public- and private-sector information systems and technologies linked via information-sharing protocols, which are used to improve freight mobility by, for example, providing real-time information about disruptive incidents and alternate routes for a trucker to follow. As it is developed, the VFN will include corridor-specific applications, system-wide applications, and hub-access operations, all of which will benefit operations at Port Everglades, as well as regional and local traffic.[15]

[15] *Source: Kimley-Horn and Associates, Inc, South Florida Regional Freight Plan, March 2010*

Figure 1.9.12: Virtual Container Yard Concept
Source: polb.com



Another ITS application to improve the efficiency of goods movement and reduce environmental impacts is the concept of a virtual container yard (VCY). A VCY is a web-based matching service for empty containers to reduce truck trips and costs associated with empty container repositioning. As the number of web-assisted interchanges (street turns) increases, the volume of empty containers entering a port (in the case of South Florida, multiple ports) decreases, thereby relieving congestion on local/regional roads and reducing gate transactions at port container terminals (see Figure 1.9. 12).

A separate cutting-edge transportation technology that merits serious attention is autonomous vehicles. In a March 2018 paper titled *Automation in the long haul: Challenges and opportunities of autonomous heavy-duty trucking in the United States*, authors Benjamin Sharpe and Peter Slowik looked at the state of autonomous trucking technology, including the benefits and drawbacks of adoption, as well as the impact on fuel use and emissions in the on-road freight sector.[16] A summary of their findings follows.

Sharpe and Slowik found that industry expectations for highly automated trucks range from 4-10 years with commercial feasibility of fully automated trucks ranging from 7-20 years out. Core sensing, communications, and software technologies for autonomous trucking are available today, and enabling the deployment of trucks with basic autonomous features such as driver warning systems, automatic emergency braking, lane keeping assist,

[16] *Source: https://www.theicct.org/publications/automation-long-haul-challenges-and-opportunities-autonomous-heavy-duty-trucking-united*

predictive cruise control, and adaptive cruise control. Yet advancements in sensor technologies and data processing are likely needed to safely deploy trucks with high levels of automation.

Sharpe and Slowik also found that the potential benefits of autonomous trucking are substantial. Major improvements in on-road safety and reductions in fuel consumption and emissions are anticipated. Many fleet owners/operators see value in adopting autonomous trucking technology, which holds the promise of improving operational efficiency and reduced vehicle downtime. In the long term, there is the potential for fleets to minimize labor costs by reducing or eliminating the need for human drivers. Prior to commercialization of fully autonomous trucks, Sharpe and Slowik found that most fleet owner/operators envision autonomous trucking technology having a positive impact on driving conditions by allowing drivers to temporarily disengage, work on logistics, or rest.

Significant drawbacks and uncertainties still remain, however, as the benefits for long-haul fleet owners may not be a win for society at large. For example, fully autonomous trucks could eliminate the jobs of millions of truck drivers. This seismic disruption in the labor market could have significant negative macroeconomic impacts if there are not sufficient policies and programs in place to support the drivers displaced from trucking jobs. In addition, little real-world data exists to validate the prospective safety and fuel consumption benefits that would result from autonomous trucking adoption.

Several autonomous trucking technologies and functions are expected to improve fuel efficiency, including automatic manual transmissions, eco-driving feedback systems, adaptive cruise control, predictive cruise control, and platooning. The fuel benefits of platooning in particular have been a major focus of research and industry R&D efforts to date. Sharpe and Slowik report a magnitude of savings (i.e. the average fuel savings of both the lead and platooned vehicle, ranging from 4-15 percent).

One critical area for additional future research is how increasing levels of truck automation will impact the emergence of zero-emission freight trucks, and vice versa. At present, battery electric, hydrogen fuel cell, and catenary systems are emerging in certain short-haul applications, such as drayage operations near ports. Several companies are investing in prototypes for the long-haul tractor-trailer market, and early commercialization could occur in the next two years (i.e. by 2020). Identifying opportunities to link automation with electrification can maximize environmental benefits.

The Sharpe and Slowik paper concluded that laws governing autonomous vehicles are in their infancy, and current rules could be barriers to technology adoption and operations. Their research further indicates that there is an urgent need for a strong federal regulatory program that provides a framework for vehicle certification, safety requirements, and operating protocols.

In addition, as this new technology gets closer to commercial viability, there will be a need for a public-private education campaign, as well as government funding for real-world demonstration projects. Certain short-haul contexts, such as Port Everglades, whose core hinterland market is largely within the tri-county region of South Florida, could be an ideal market to launch such a demonstration project. Such an initiative is not without risk, but it could position Port Everglades to take advantage of emerging technology and address some of its transportation-related challenges.

1.9.9 Regional and County Perspectives

The urbanized areas encompassing parts of Broward, Miami-Dade and Palm Beach Counties were merged into one MSA in June 2003. Because of the size and complexity of this MSA, the three MPOs in the region retained their individual designation, but tasked themselves with developing and implementing a coordinated planning process to achieve:

- A long-range transportation plan (LRTP) covering the tri-county region
- Regional project prioritization and selection process
- Regional public involvement process
- Performance measures to assess the effectiveness of regional coordination

After several years of preliminary initiatives, the MPOs from the three counties created the Southeast Florida Transportation Council (SEFTC) to serve as a forum for policy coordination and communication. Since its inception and the signing of an interlocal agreement among the three MPOs in 2005, the SEFTC has adopted:

- Regional goals and objectives
- Regional corridors of significance criteria
- Regional Long-Range Transportation Plans (2030 and 2035)
- Lists of priority projects – both funded and unfunded – on the regional transportation network

The defined corridors of regional significance include:

- Interstates and expressways (urban or rural principal arterials operating as interstate and expressway facilities)
- Major regional arterials (urban or rural principal arterials that cross county lines)
- Minor regional arterials (urban or rural principal arterials with two or more connections to the interstate and expressways facilities)

Given the cross-county intermodal connectivity required for Port Everglades to move goods and people efficiently and cost effectively, this regional planning initiative is constructive, and the identified goals are consistent with the Port's vision.

The South Florida Regional Freight Plan, a collaboration among FDOT and Port Everglades, Port*Miami*, and Port of Palm Beach published in March 2010, identifies regional priorities and enhances the region's ability to compete for Federal funding. A key objective of the Regional Freight Plan is to integrate freight planning into the regional planning process as the freight element of the Regional LRTP.

The 2040 Broward County Long-Range Transportation Plan (Commitment 2040) represents a compilation of local plans, and includes only facilities and projects falling on the regional network. Commitment 2040 also includes coordination between the Broward, Miami-Dade, and Palm Beach MPOs (as well as other transportation agencies in the tri¬county area) to create the 2040 Southeast Florida Regional Transportation Plan, which provides travel choices for regional transportation users. The document includes a strong focus on transit, and encourages land uses that encourage transit system development, but it also addresses intermodal freight planning supporting many of the access factors relevant to the efficient movement of goods and people between Port Everglades and various origins and destinations.

The 2040 Southeast Florida Regional Freight Plan (CARGO2040), the development of which was led by the Broward County MPO, focuses on the development of a freight system profile, in order to identify and prioritize freight needs for the region's transportation system and infrastructure – including ports and airports. This plan is currently in development

1.9.10 Warehousing and Distribution Facilities

South Florida, particularly Broward and Miami-Dade Counties, is home to a large number of warehousing, distribution, and other trade-related enterprises. According to the Commercial Industrial Association of South Florida (CIASF), the South Florida Industrial Market is changing, with the following observations being most relevant to Port Everglades and the 2018 Master/Vision Plan Update:

- The supply of quality Class A industrial space has created a divided market, and in most areas, there are now several classes or types of industrial space available.
- While location remains a key aspect in the decision-making process of firms (namely access to ports and labor), tenants who are more flexible can now choose to locate in a number of different submarkets within the region.
- Airport West, Medley, Opa-Locka, Hialeah, and Hialeah Gardens have the most Class A space.
- Location considerations are access to MIA, Port Everglades/Port*Miami*, and major expressways.

- Broker/Tenant representatives have reported little impact from the expansion of the Panama Canal, and in addition, access and proximity to railroad service is not a major consideration in occupancy decisions.
- Higher-value replacement uses are becoming evident along major roads for industrial buildings with exposure to traffic, such uses showrooms, retail spaces, breweries, and classrooms.
- E-commerce is enabling retail and commercial tenants to reduce their occupancy costs by storing inventory and records in offsite industrial properties and reducing their nonindustrial space usage, which has supported the demand for industrial space to meet this need.
- Overall, the South Florida market remains stable, with over 1.5 million square feet proposed for delivery in 2018 in Miami-Dade County alone; most of it is in bays larger than 40,000 square feet, though the highest demand is for space with less than 30,000 square feet.[17]

Like most metropolitan areas, the tri-county region is dependent on trucks for the movement of the majority of its freight. At Port Everglades, these trucks not only transport goods loaded and unloaded from the cargo ships calling at the port, but also carry the diverse commodities needed to provision the port's many cruise ships. For example, as many as 30 to 35 trucks are required to provision one ship, and several trucks are needed to carry the various waste products removed from a ship upon its return from sailing.

Access to the major truck activity centers in Broward County involves the use of the local street network, as well as the major highways. Thus, the connectors between these centers and the state system, which is called "the last mile," need to be included in any effort to expedite the movement of goods within the region. The business connections, between the warehousing and distribution facilities in one county and the seaport in another, contribute to the regional synergies in South Florida and the dynamism of its trade and maritime community.

In support of the regional freight-planning initiatives, FDOT District 4 has taken its freight and goods movement planning one step further, identifying freight activity centers, regional freight mobility corridors, and the freight distribution routes that connect these corridors with limited-access facilities to create a comprehensive freight transportation network. These landside freight mobility initiatives are an essential complement to the visionary waterside cargo planning that Port Everglades is conducting with this 2018 Update of its Master/Vision Plan.

1.10 Environmental Conditions

Port Everglades collaborates with several organizations to achieve its environmental management, restoration, and remediation goals. What follows is an update of existing

[17] *Class "A" industrial buildings are less than 5 years old, typically with clear heights over 24 feet ease of access and adequate parking*

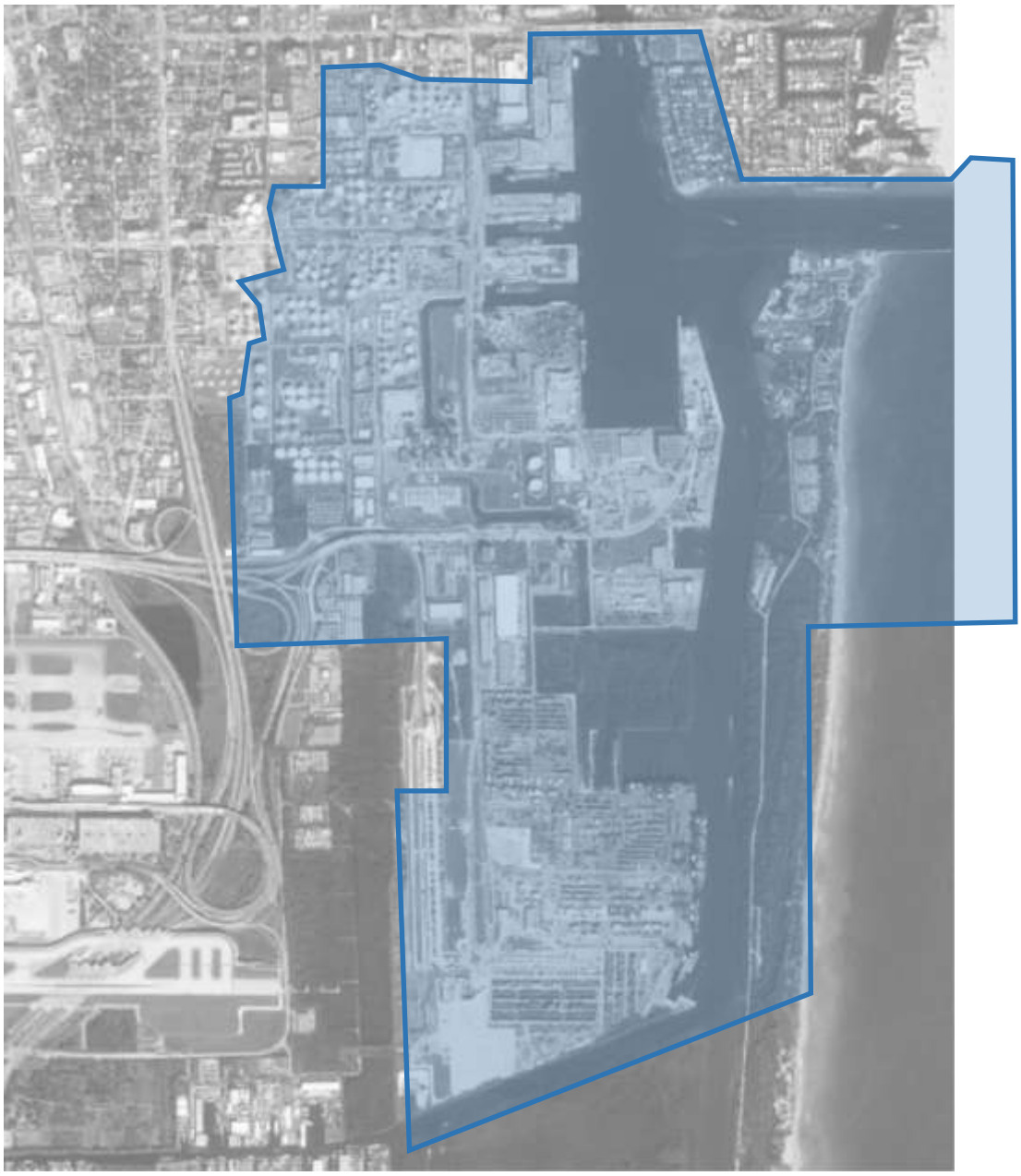
environmental conditions, initiatives, and considerations that are germane to Port Everglades' ongoing operations and future development. Specific areas addressed include:

- Wildlife and habitat
- Mitigation projects
- Contamination issues
- Restoration activities
- Surface water quality
- Air quality
- Climate change, resiliency, and sustainability
- Drinking water management
- Shore power

1.10.1 Wildlife and Habitat

Port Everglades serves as the primary access to the Atlantic Ocean for marine interests in Broward County, including commercial carriers and recreational boaters, and also for several wildlife species (mammals, fish, reptiles, and birds). Figure 1.10.1 shows the current Port Everglades Jurisdictional Area. The port was established in 1928, when a permanent inlet was created between Lake Mabel and the ocean. Prior to the opening of the channel, Lake Mabel was a relatively unused local natural harbor system, which exhibited brackish-tolerant vegetation dominated by maiden cane, saw grass, arrowhead, and pickerel weed (Port Everglades Department of Broward County 2000). The creation of Port Everglades' ocean inlet, together with the completion of the ICW to Miami in 1912, allowed the spread of saltwater along the coastal freshwater marshes and completely transformed Lake Mabel's habitat to its current estuarine wetland environment.

Figure 1.10.1: Port Everglades Jurisdictional Area
Source: Google Earth; B&A



Mangroves
Today, the dominant plant species along the port waterways include salt-tolerant plants such as red mangroves (*Rhizophora mangle*), white mangroves (*Laguncularia racemosa*), and black mangroves (*Avicennia germinans*). These wetland plants serve as important habitats for marine life, such as juvenile and adult manatees, fish, crustaceans, mollusks, bird species, and occasionally American crocodiles. The mangroves surrounding this area provide valuable natural habitat, and are a protected wetland resource in Broward County.

The USACE, the Florida Department of Environmental Protection (FDEP), South Florida Water Management District (SFWMD), and Broward County Environmental Protection & Growth Management Department (EP&GMD) regulate dredging and filling activities within the area. It is the purpose and intent of these agencies to ensure there will be no net loss in the function and value of existing wetland habitats. Therefore, any adverse impacts to existing mangroves are regulated by avoidance and minimization, followed by mitigation to offset unavoidable impacts.

In 2016, Port Everglades received a "Notification of Trending Towards Success" from FDEP for successfully cultivating 16.5 acres of nursery-grown mangrove and native plants on property that was originally dry land, but was intended for other uses. In addition, as mitigation for the approximately 1.16 acres of mangroves expected to be lost at Port Everglades as a result of the STNE project, the Port is planning to construct and implement restorative habitat within West Lake Park in Hollywood (see Section 1.5)As part of ongoing wetland enhancement and restoration efforts at Port Everglades, the Port also created a 25 acre wetland, inclusive of 160,000 red mangroves, at Lloyd-Mizell-Johnson State Park (formerly known as John U. Lloyd Beach State Park). The park was renamed on July 1, 2016.

Seagrass

Seagrass is an important feature of the Port Everglades ecosystem. Seven species of seagrass are found in Florida's marine waters. Three species of seagrass were observed in the marine environment surrounding Port Everglades during a 2009 survey conducted by Dial Cordy and Associates (DC&A), including Johnson's seagrass (*Halophila johnsonni*), paddle grass (*Halophila decipiens*), and shoal grass (*Halodule wrightii*). Johnson's seagrass is a threatened species that was listed under the Federal Endangered Species Act (ESA) on September 14, 1998, and was designated critical habitat by the National Marine Fisheries Service (NMFS) on April 5, 2000.[18] Seagrasses are important benthic resources that provide a food source for threatened West Indian manatees and endangered green sea turtles, and provide shelter and nursery habitat for many other marine species.

Seagrass prefers to grow in shallow-water lagoons in the intertidal zones of coastal habitats, and requires adequate sunlight to survive. Any event that reduces water clarity has the potential to reduce the amount of penetrable light reaching seagrasses, damaging beds or killing the plants. High channel flow, ship prop wash, or storm runoff may contribute particles that reduce water clarity. Also, dissolved nutrients contributed by canals, storm runoff, sewage, or industrial discharges may fuel the growth of algae. High concentrations, or blooms, of phytoplankton (microscopic single-cell algae), particularly, can reduce the amount of light reaching seagrass beds. Phytoplankton blooms driven by nutrient pollution have been a significant factor in the reduction of seagrass beds in Florida coastal waters over the last 50 years. Seagrass beds can also sustain physical damage from boat

[18] *Source: http://www.nmfs.noaa.gov/pr/species/plants/johnsons-seagrass.html*

propeller scarring and dredging.[19]Adverse impacts to seagrasses are regulated in the same manner as mangroves, and other coastal wetland plants, by Federal, State, and County environmental protection agencies. As mitigation for the approximately 4.2 acres of seagrass expected to be lost at Port Everglades as a result of the PENIP project – including about 3.6 acres with some amount of the ESA-threatened Johnson's seagrass – the Port is working to construct and implement a restorative habitat within West Lake Park in Hollywood (see Section 1.5).

Coral Reefs/Hardbottom

Coral reef ecosystems are important for coastline protection, economic revenue, vital marine habitat, and food production. Preferring to grow in well-lit, warm waters, most corals are limited to the shallow depths of subtropical and tropical seas. Corals are slow-growing organisms that typically only grow 0.2-8.0 mm per year. As most mature coral reefs can be thousands of years old, once the coral structure is compromised or destroyed, reef ecosystems and their services typically degrade rather quickly. Ocean acidification, warming sea surface temperatures, land-based sources of pollution, and physical impacts such as ship groundings and anchor and storm damage all pose challenges for shallow-water coral reefs. In Florida, coral restoration practices are being implemented in an attempt to restore reefs damaged by these threats.[20]

Port Everglades' outer entrance channel is comprised of a nearshore ridge complex and an inner, middle, and outer reef system that run parallel to shore. The nearshore hard-bottom (occurring in 0-12 feet of water) acts as habitat for algae, sponges, encrusting octocorals, and hard corals. The three further seaward reefs provide habitat for various hard-bottom communities and exhibit live growth, with turf algae being the most dominant, followed by macro-algae, sponges, octocorals, scleractinia, zonathids, and tunicates. This marine habitat is also regulated by Federal, State, and County environmental protection agencies (see May, 2015 Final EIS).

Two Acropora coral species, staghorn coral (*A. cervicornis*) and elkhorn coral (*A. palmata*) were listed in 2006 as threatened under the Federal Endangered Species Act, and critical habitat was designated in 2008, a part of which includes the outer edge of the Port Everglades entrance channel. Broward County has some of the largest densities of staghorn coral within the U.S., and some recent surveys by the National Coral Reef Institute (2013) have identified 28 new patches that may more than triple the amount of previously documented staghorn. In 2014, The National Oceanic and Atmospheric Administration (NOAA) listed five more Florida Atlantic Coast corals as threatened: *Dendrogyra cylindrus, Mycetophyllia ferox, Orbicella annularis, Orbicella faveolata*, and *Orbicella franksi.*

A total of 9,713 individual coral colonies, comprising an area of 83,584.54 square inches, were documented within the area of the Port Everglades STNE project during a survey

[19] *Source: http://myfwc.com/research/habitat/seagrasses/information/faq/*
[20] *Source: https://www.fisheries.noaa.gov/national/habitat-conservation/shallow-coral-reef-habitat*

completed in 2014. These colonies were comprised of nine different coral species, none of which are federally listed.[21] A total of 19 species of hard corals were observed on the middle and outer reefs adjacent to Port Everglades, during a 2006 survey conducted by DC&A. The 2015 Final EIS ESA Consultation (EIS Sub-Appendix F) identified five species found adjacent to Port Everglades. A 2017 reconnaissance survey and ESA survey performed by DCA, and a report was prepared for the navigation improvement project. However, this report was not final at the time that the 2018 Update was completed. See Table 1.10.1.

Table 1.10.1: Summary Data for Listed Coral Species Adjacent to Port Everglades
Source: Gilliam and Walker, 2011

Species Name	Number of Colonies	Density (colonies/acre)
Acropora cervicornis	823	1.12
Orbicella annularis	262	0.36
Orbicella faveolata	4030	5.48
Orbicella franksi	298	0.41
Mycetophyllia ferox	26	0.04

The recently listed coral species will require an updated NMFS Biological Opinion under Section 7, which will involve conducting a new survey to quantitatively estimate the population of ESA-listed coral species within the Port's vicinity. Coral Restoration and Mitigation efforts related to both the STNE project and the USACE deepening and widening project are further discussed in Sections 1.10.2 below.

Artificial Reefs
Artificial reefs are designed to create new table substrate, to support coral growth and provide habitat for a large number of marine organisms but also to reduce user pressure on the natural reefs. The reefs are made from a variety of materials, including ships, barges, oil rigs, lime stone rock, concrete culverts, and other environmentally suitable artificial reef materials. Since 1982, Broward County has created approximately 200 offshore artificial reefs. Of these reefs, Port Everglades has been a contributor to:

- "Lowrance" – a 430 foot-long freighter deployed in 1984
- "Rebel" – a 150 foot freighter deployed in 1985
- "Lady Luck" – a 324 foot tanker deployed in 2016

[21] *Source: NMFS Coral Relocation Plan, 2016*

In the 1970s, approximately 2 million tires were deployed by others off the coast of Fort Lauderdale as fishing enhancement reefs. This deployment resulted in the dispersal of tires over the seafloor, causing physical damage to nearshore natural reefs. It is estimated that 700,000 tires are spread across 36 acres. Clean up efforts began in 2007, and over a course of three years, divers removed more than 70,000 tires (equivalent to 63 tractor-trailer loads). Port Everglades played a role in this effort by waiving port fees and providing an offloading site for these tires, while FDEP managed the recycling of the waste tires.[22]For the unavoidable loss of approximately 14.62 acres of hard-bottom and coral reef habitat within the outer channel expansion, at least five acres of boulder-based artificial reef will be constructed. The exact location of this site is yet to be determined. The boulder material will come from limestone, as well as blasted and dredged material, from the project's operations.

This artificial boulder reef will be supplemented with corals that will be removed and transplanted from the outer channel expansion's direct dredging impact area. The port also plans to out-plant approximately 103,000 coral colonies among 18 acres of reef to enhance degraded reef systems. These coral outplants will come from local coral nurseries, and will consist of fast- and slow-growing massive, branching, and octocorals.[23]The coral colonies observed within the turning notch that are good candidates for relocation will also be removed and transplanted to a relocation site offshore of Dania Beach. The site consists of existing artificial reef structures that is referred to as the Memphis Reef Balls Array and was designed, permitted, and constructed by Broward County. An estimated 814 colonies will be moved to this site, however, the exact number will ultimately be determined by the removal success, as well as the health and condition of removed colonies. For those coral colonies that were not deemed as good candidates for relocation, mitigation compensation by the means of suitable coral attachment substrate placed at the Dania Beach relocation site is proposed.[24]*Manatees.*

Manatees can be found in shallow, slow-moving rivers, estuaries, saltwater bays, canals, and coastal areas, particularly where seagrass beds or freshwater vegetation flourish. Manatees are a migratory species. Within the U.S., they are concentrated in Florida in the winter. In the summer months, they can be found as far west as Texas, and as far north as Massachusetts, but summer sightings in Alabama, Georgia, and South Carolina are more common. Florida manatees have been known to migrate as far South as Cuba. The West Indian manatee is the species found in the coastal and inland waterways of Central America, and along the Northern coast of South America, although distribution in these areas may be discontinuous.

The waters surrounding Port Everglades serve as a habitat for the Florida manatee (*Trichechus manatus latirostris*), a subspecies of the West Indian manatee (*Trichechus manatus manatus*). Figure 1.10.2 shows the manatees' essential habitat within the Port's Jurisdictional Area. The Florida Manatee Sanctuary Act of 1978 established the entire

[22] *Source: https://www.fws.gov/northflorida/manatee/manatees.htm*
[23] *Sourec: May, 2015 Final EIS*
[24] *Source: NMFS Coral Relocation Plan, 2016*

state of Florida as a “refuge and sanctuary for the manatees,” and allowed for the enforcement of boat-speed regulations in manatee-designated protection zones. The Florida Manatee Recovery Plan was developed as a result of the ESA. The recovery plan is coordinated by the U.S. Fish & Wildlife Service (USFWS), and sets forth a list of tasks geared toward recovering manatees from their current endangered status.

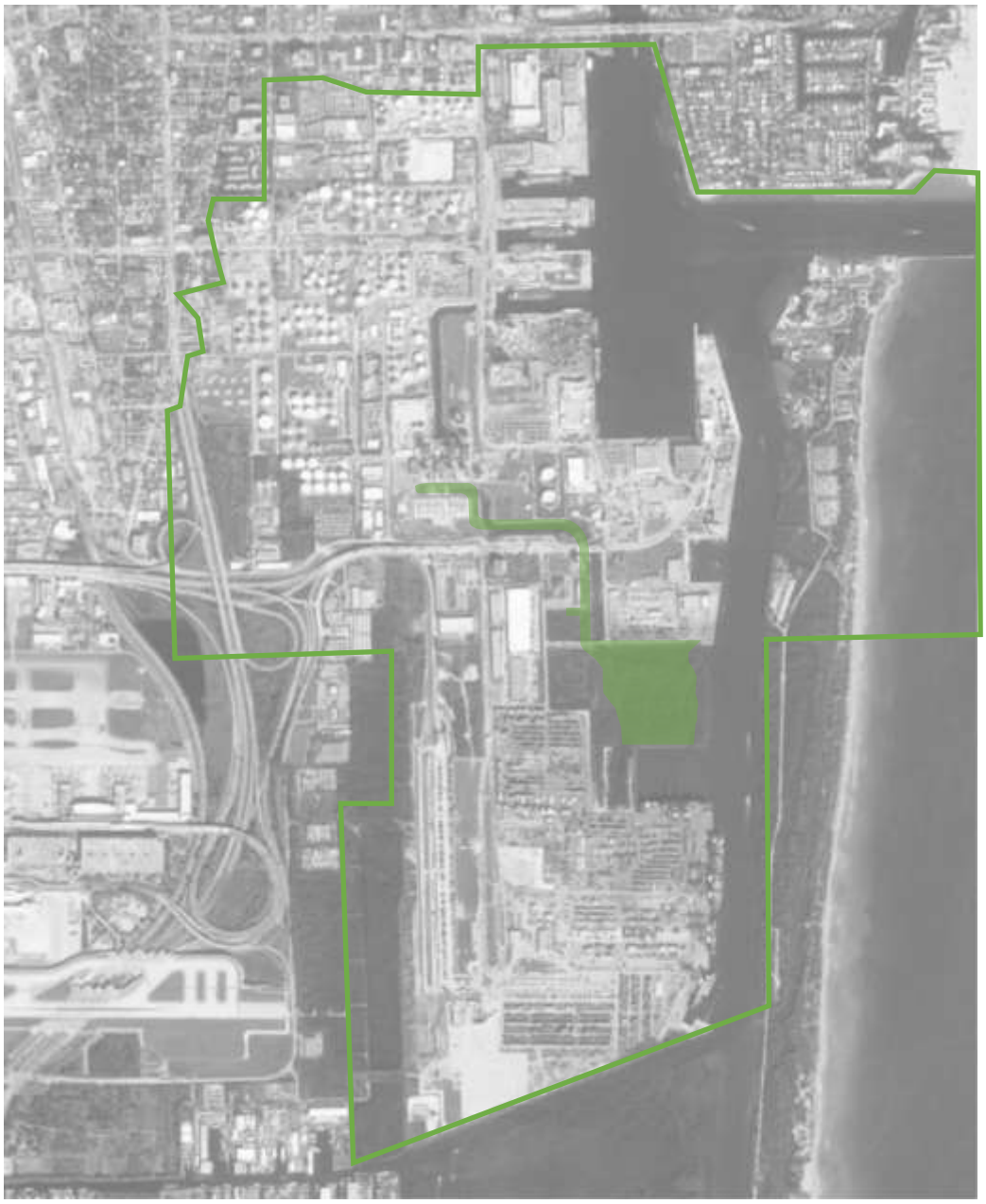
The Florida manatees in the U.S. are protected under federal law by the Marine Mammal Protection Act of 1972, and the ESA of 1973, which make it illegal to harass, hunt, capture, or kill any marine mammal. Florida manatees are also protected by the Florida Manatee Sanctuary Act of 1978. Violations of these federal or state laws can be met with civil or criminal convictions associated with monetary fines and/or imprisonment. In 2016, the Florida manatee was downgraded from endangered to threatened, following a recent population increase.[25]Manatee protection plans have been developed to ensure the long-range protection of the manatee species and their habitat. The Broward County Manatee Protection plan (MPP) implements additional manatee protection measures throughout the county's waterways that are accessible to manatees, including:

- Increased law enforcement
- Manatee monitoring
- Education and awareness

The “manatee season” extends from November 15 through March 31, and marks the primary migratory period for manatees from northern winter waters to the warmer waters along Florida’s Southern coast, to avoid sustained cold fronts.[26]

[25] *Source: https://www.fws.gov/northflorida/manatee/manatees.htm*
[26] *Source: http://www.broward.org/Manatees/Pages/ManateeProtection.aspx*

Figure 1.10.2: Manatee Essential Habitat within Port Everglades
Source: BCEP&GMD, 2013



Port Everglades serves as a corridor route for hundreds of manatees that seek the warm water that comes from the FPL power plant located at the Port; it is one of about two dozen manatee wintering sites designated as manatee protection zones, and is the 2nd largest manatee aggregation area in Broward County (Port Everglades, 2017). To protect the manatees, this area was designated Manatee Essential Habitat.[27] Broward County's Comprehensive Plan prohibits the construction of new marinas or expansion of existing

[27] *Source: Broward County 1989 Comprehensive Plan Volume 4, 13A-42*

marinas, docking facilities, and boat ramps, except those related to law enforcement, within Manatee Essential Habitat Areas.[28]To further protection measures, the port has installed 4-foot standoff manatee fenders to 26,000 linear feet of bulkhead, as required by the Broward County MPP, to reduce the chance of a manatee becoming trapped between large vessels and the bulkhead.

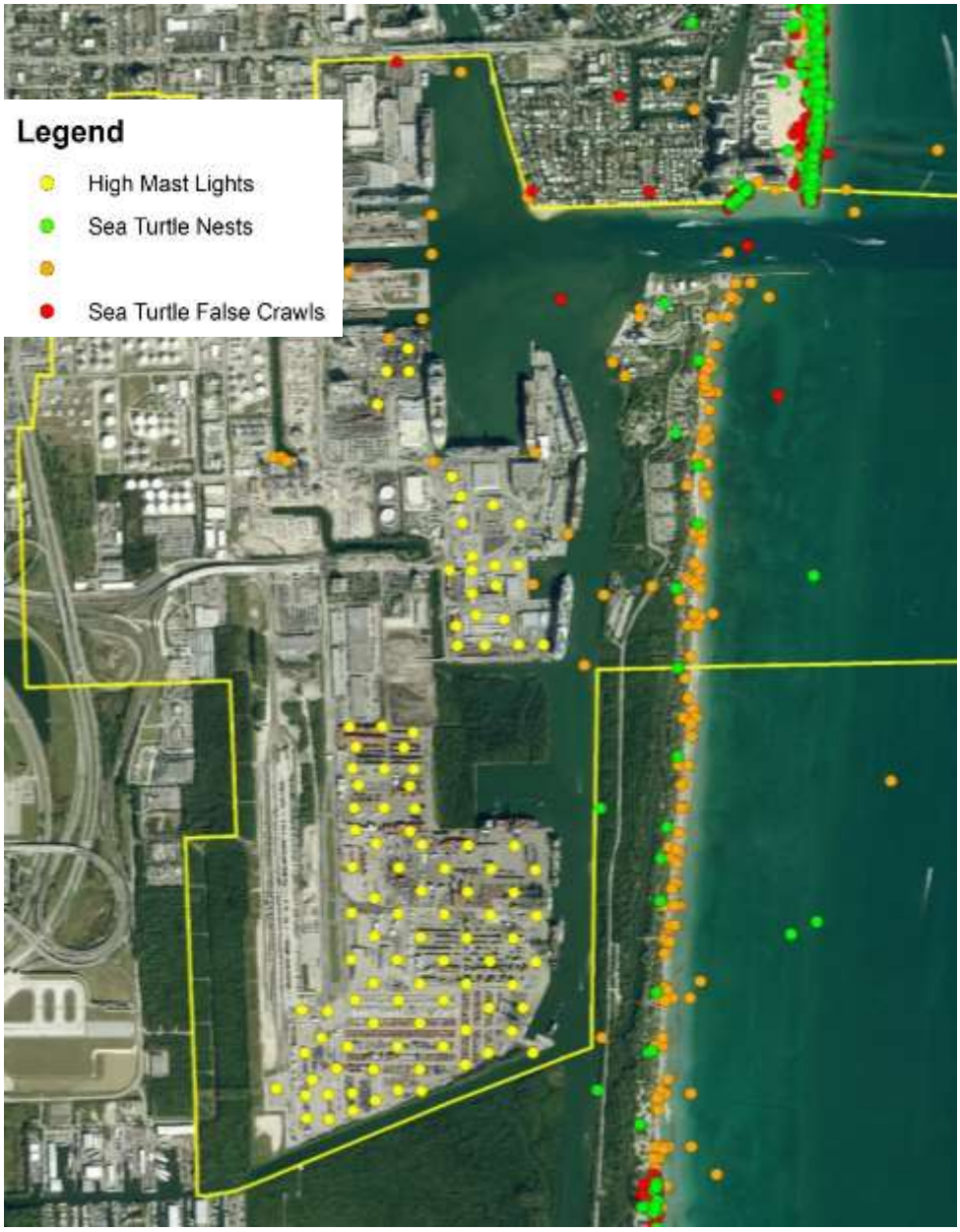
As part of Port Everglades' continued initiatives to protect manatees, the port is conducting an 'in-house' manatee study using Florida Fish and Wildlife Conservation Commission (FWC) and Broward County Environmental Protection and Growth Management Department aerial data will analyze the historic account of manatees utilizing the port and FPL cooling plant.

The Port is also working with Nova Southeastern University (NSU) to tag sharks, in order to determine if there is a long-term association with manatees, and to determine if the same sharks are returning to the port. In addition to tagging sharks, Port Everglades has funded Sea to Shore Alliance satellite telemetry devices for statewide manatee tagging, and is currently involved in a joint effort between the USCG, USFWS, FWC, FPL, Florida International University (FIU), NSU, Miami Seaquarium, and Sea-to-Shore Alliance. The port is reviewing necropsies to determine sources of mortality, to assist with implementing the most appropriate manatee protection practices (Port Everglades, 2017) *Sea Turtles*

Broward County is regularly frequented by three species of sea turtles: loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*). It occasionally sees the hawksbill sea turtle (*Eretmochelys imbricata*) and Kemp's ridley sea turtle (*Lepidochelys kempii*), all of which are protected under the ESA. The loggerhead sea turtle is listed as threatened, while the green sea turtle and Kemp's ridley sea turtle are still endangered. Sea turtles rely on coastal beaches in Florida for nesting, typically between the months of May and October

[28] *Source: Broward County 1997 Comprehensive Plan, Policy 13-A.3.1, Ordinance Number 96-39*

Figure 1.10.3: Sea Turtle Nestings and Strandings, Port Everglades
Source: Port Everglades, 2017



In Broward County, the majority of nesting activity takes place during June, July, and August. Offshore waters serve as breeding habitats prior to nesting. The USFWS has federal jurisdiction of sea turtles on the nesting beaches, while the NMFS takes the lead in federal jurisdiction of sea turtles in the marine environment.

In 2014, critical habitats in offshore waters and on nesting beaches was established by USFWS and NMFS.[29] Sea turtles occasionally enter the port, and as such, the port is

[29] *Source: https://www.fws.gov/northflorida/SeaTurtles/seaturtle-info.htm and May 2015 Final EIS*

working with FWC and USFWS to minimize impacts to adjacent nesting beaches by embarking on a port-wide exterior lighting master plan to include installing shields on garage lights and use of high mast "turtle friendly" LED lighting (see Section 1.4). In addition, the port is reviewing necropsy reports to determine the source of mortality, and is evaluating tree screening, false crawls, and hatchling disorientation. Figure 1.10.3 shows the location of sea turtle nests and strandings relative to the location of high mast lights.

Shorebirds

Migratory shorebirds, such as least tern (*Sterna antillarum*), are seasonally present in Broward CountyThe least tern breeds along beaches up and down the eastern coast of the United States including those of Broward County. Florida populations arrive each year in April, and are present throughout the summer until August. Breeding grounds are usually preferential to open, sandy beaches. However, an increasing number of colonies have been found on artificial surfaces like small-graveled rooftops since 1974. In 1989, a total of 186 observations of rooftop-nesting least terns were reported. Other species of shorebird like the black skimmer (*Rynchops niger*) have also been reported to occasionally nest on rooftops.

Unfortunately, nesting options are being reduced throughout the Florida population's range as the human use of beaches intensifies, and as new technology replaces gravel rooftops. Therefore, the State of Florida listed this species as threatened in 2011.[30]Rooftop nesting specifically has significantly declined within the past few years. FWC records report 106 nests in 2015 and only 2 nests in 2016. No nesting was reported in 2017. These declines may be the effect of practice sessions for the Fort Lauderdale Air and Sea Shows. Nearly 100 percent abandonment of nests during these sessions has been reported. Port Everglades is coordinating with the air show organizers to minimize impacts to the nesting colonies, and is working on creating least tern habitat within the port to accommodate this species. The port is also collaborating with the NUSE Oceanographic Center on a study of alternative shorebird nesting habitat. In an attempt to help protect this species, Port Everglades has provided 4.1 offsite acres to the South Florida Wildlife Center to Rehabilitate Imperiled wildlife.

[30] *Source: FWC, 2011*

Figure 1.10.4: Least Tern Nesting, Broward County, 2014
Source: reflections-on-broward.com

Other Species
Figure 1.10.5 shows the locations of reported listed species sightings in the vicinity of Port Everglades, and Table 1.10.2 provides a comprehensive summary of all listed species reported to occur or likely to occur in the Port Everglades area.

Apart from those species already mentioned, other species of concern that could be present in and around Port Everglades include:

- American alligator (*Alligator mississippiensis*)
- American crocodile (*Crocodylus acutus*)
- American oystercatcher (*Hamaetopus palliates*)
- Brown pelican (*Pelecanus occidentalis*)

Figure 1.10.5: Reported Sightings of Listed Species near Port Everglades
Source: SWC, 2013

Table 1.10.2: Listed Species Potentially Present in the Vicinity of Port Everglades
Source: *SWC, 2013 updated by Cummins Cederberg, 2018*

Species		Designated		Reported Sightings Port Everglades
Common Name	Scientific Name	Federal	State	
FISH				
Smalltooth sawfish	*Pristis pectinata*	E	Prohibited	Yes
REPTILES AND AMPHIBIANS				
American alligator	*Alligator mississippiensis*	T (S/A)	SSC	No
American crocodile	*Crocodylus acutus*	E	T	No
Eastern indigo snake	*Drymarchon corais couperi*	T	T	No
Gopher tortoise	*Gopherus polyphemus*	T	T	No
Green sea turtle	*Chelonia mydas*	E	E	Yes
Hawksbill sea turtle	*Eretmochelys imbricata*	E	E	Yes
Leatherback sea turtle	*Dermochelys coriacea*	E	E	Yes
Loggerhead sea turtle	*Caretta caretta*	T	T	Yes
Kemp's Ridley sea turtle	*Lepidochelys kempii*	E	E	Yes
BIRDS				
American oystercatcher	Hamaetopus palliates	-	T	No
Black skimmer	Rhynchops niger	-	T	No
Florida burrowing owl	Athene cunicularias	-	T	No
Florida sandhill crane	Grus canadensis pratensis	-	T	No
Kirtland's warbler	Dendroica kirtlandii	E	E	No
Least tern	Sterna antillarum	E	T	Yes
Little blue heron	Egretta caerulea	-	T	No
Piping plover	Charadrius melodus	E	T	No
Roseate spoonbill	Ajaia ajaja	-	T	No
Snail kite	Rostrhamus sociabilis	E	E	No
Southeastern American	Falco sparverius paulus	-	T	No
Tricolored heron	Egretta tricolor	-	T	No
Wood stork	Mycteria americana	T	T	Yes
MAMMALS				
West Indian manatee	*Trichechus manatus*	T	T	Yes
INVERTEBRATES				
Boulder star coral	*Orbicella franksi*	T	T	No
Elkhorn coral	*Acropora palmata*	T	FT	No
Lobed star coral	*Orbicella annularis*	T	T	Yes
Mountainous star coral	*Orbicella faveolata*	T	T	No
Pillar coral	Dendrogyra cylindrus	T	T	No
Rough cactus coral	Mycetophyllia ferox	T	T	Yes
Staghorn coral	Acropora cervicornis	T	FT	No

Notes from Table 1.10.2:

A. SSC = Species of Special Concern; T = Threatened; E = Endangered; T(S/A) = listed as Similar in Appearance to a Threatened Taxon (American crocodile); all statuses were verified August 2018 with Federal Register 50 CFR Part 17.11, the 2016-2026 Florida's Imperiled Species Management Plan, the May 2015 Final EIS and Feasibility Report.

B. The smalltooth sawfish is protected by Florida Administrative Code Rule 68B-44.008 as a "prohibited" species.

- Florida burrowing owl (*Athene cunicularias*)
- Florida sandhill crane (*Grus canadensis pratensis*)Gopher tortoise (*Gopherus polyphemus*)
- Gopher frog (*Rana capito*)
- Kirtland's warbler (*Dendroica kirtlandii*)Limpkin (*Aramus guarauna*)Little blue heron (*Egretta caerulea*)Peregrine falcon (*Falco perigrinus*)
- Piping plover (*Charadrius melodus*)
- Roseate spoonbill (*Ajaia ajaja*)
- Smalltooth Sawfish (*Pristis pectinata*)
- Snail kite (*Rostrhamus sociabilis plubeus*)Snowy egret (*Egretta thula*)
- Southeastern American kestrel (*Falco sparverius paulus*)
- Tricolored heron (*Egretta tricolor*)
- Wood stork (*Mycteria americana*)
- White ibis (*Eudocimus albus*)

Beach and Dune Systems

Beach and dune systems provide habitat for various terrestrial vegetation and animal species. The beach and dune systems within the Port Everglades jurisdictional area are limited to Mizell-Eula Johnson State Park, which is situated on the peninsula that separates Port Everglades from the Atlantic Ocean. It consists of maritime hammock, coastal strand, and beach dune systems, the latter of which is used as an active nesting area for sea turtles.

With coastal construction projects, beach and dune erosion can sometimes be an outcome of concern. However, there are no anticipated impacts to beach and dune systems for the Port Everglades STNE or harbor deepening and widening projects. As such, there are no mitigation plans proposed for these resources.[31]

[31] *Source: May, 2015 Final EIS*

Upland Habitat Restoration
Most of Port Everglades' upland landscaping consists of native plants. The Port's facility maintenance staff focuses on removing Florida Exotic Pest Plant Council Categories I-II plants from their property, and optimizing habitat value in available green spaces by planting native Broward County species for replacement landscaping.

1.10.2 Mitigation Projects

Coral reef habitats, hard-bottoms, seagrasses, mangroves, and other wildlife are all critical resources in the South Florida ecosystem that provide a plethora of ecological services. Port Everglades has been required to implement mitigation compensation to offset the ecological services that will be unavoidably lost during Port Everglades' two major pending expansion projects, namely the STNE project and the deepening and widening project. Furthermore, mitigation will be provided as appropriate for detectable, incidental, direct, or indirect impacts reported through pre- and post-construction monitoring.

The following is a review of environmental permits and mitigation associated with these two projects. *STNE Project*

As mentioned previously, mangroves are the dominant wetland plant species at Port Everglades. As also mentioned previously, the Port is in the process of implementing a project to extend the Southport Turning Notch. This STNE project will eliminate 8.7 acres of the mangrove habitat in this area. To compensate for this loss, Port Everglades created 16.5 acres of new mangrove conservation area between the Midport and Southport areas (see Section 1.5 and Figure 1.10.6) – a net increase of 7.8 acres – and deeded this new 56.3 acre area of mangrove-dominated wetland conservation easement to FDEP. This easement is located to the west and north of the existing Southport Turning NotchSee Figure 1.10.6.

Figure 1.10.6: Port Everglades Midland Upland Enhancement Project
Source: Port Everglades

The new mangrove habitat created in July 2017 included the planting of more than 70,000 mangroves and other native plant species. Much of the new mangrove area is contiguous to the existing unaltered portion of the conservation easement, and the rest has been hydrologically connected by way of the FPL discharge canal. In 2017, this newly created and restored habitat and open waters of the discharge canal were combined with the unreleased conservation easement, resulting in a total of approximately 56.3 acres, all of which has been deeded to the State of Florida, consistent with a 2010 agreement between Broward County and FDEP. The conservation easement offset and mitigation activities include:

- Removal of exotic and nuisance vegetation along the northern and eastern shorelines of the discharge canal and conversion to 0.95 acres of mangrove planters with transitional buffers
- Restoration of mangrove habitat and installation of mangrove planters in approximately 0.40 acres at the north side of the unreleased conservation easement
- Restoration of portions of the unreleased conservation easement by removal of exotic and nuisance vegetation along the perimeter, and implementing a five-year maintenance and monitoring program
- Restoration of approximately 0.10 acres within the existing manatee lagoon by removing docks and exotic and nuisance vegetation and creating transitional buffer habitat
- Enhancement of tidal flushing within the unreleased conservation easement, by removing sediment plugs and excavating tidal channels

FDEP Permit #06-03143021-006 for Port Everglades Wetland Enhancement Turning Notch Expansion, was issued on April 16, 2018, with a permit Construction Phase Expiration Date of April 16, 2023 by FDEP.

West Lake Park

As referenced in Section 1.5, Port Everglades, in partnership with the Broward County Parks and Recreation Division and the Broward County Aviation Department, has funded the design and permitting of a comprehensive environmental restoration and enhancement project at West Lake Park, located directly south of the port within the city of Hollywood, to provide mitigation for wetland impacts resulting from improvements to airport and seaport facilities. The project plans include the following elements:

- Installation of culvert connections to increase the flushing of a mangrove forest 1,522.20 acres in size
- Installation of tidal flushing channels
- Construction of a rip-rap/crib structure for shoreline stabilization adjacent to the mangrove edge, along approximately three miles of the ICW, and for approximately 1.5 miles along the Dania Cut-off Canal
- Scraping down and/or removal of exotic vegetation from approximately 63 acres of upland soil to create mangrove, mudflat, tidal flats and pools, seagrass, and maritime hammock habitat, along with exotic removal in smaller areas throughout the park

Figure 1.10.7: West Lake Natural Area Restoration
Source: Port Everglades

The entire project will result in the creation of approximately 24.2 acres of mangrove habitat, 7.0 acres of mud flats/tidal pools, 8.6 acres of tidal channels, 8.0 acres of seagrass habitat, 13.4 acres of marine hammock, 1.9 acres of structural habitat (rip-rap/crib structure), and 2.0 acres of supplemental structural restoration (along the Dania Cut-off Canal). The proposed project will also enhance 32 acres of existing mangroves by way of rip-rap replacement, and preserve 23.3 acres of mangrove habitat throughout parcel acquisition. See Figure 1.10.7Permits for this environmental restoration project have been issued by SFWMD (Permit No. 06-04016-P, issued April 14, 2004), USACE (Permit No. SAJ-2002-00072[IP-LAO] issued March 2, 2006), and the BCEP&GMD (License No. DF03-1117, issued August 12, 2004). An extension of permit 06-04016-P was granted by the SFWMD on February 27, 2015, with an expiration date of June 28, 2020. On February 28, 2016, Broward County also requested a modification to this permit, to provide updated construction documentation that would identify the boundaries of Segment 4 within the park, and includes minor modifications to the original construction plans. Permit 06-04016-P for West Lake Park Mitigation Segment 4 modification is currently pending approval by the SFWMD.

Segment 4 of the West Lake Park Mitigation Plan is located north of Sheridan Street, and extends to just south of the Dania Cutoff Canal in Broward County. Segments 1-3 (see Figure 1.10.7) are located to the South of the current project. There are no permitted surface water management facilities within the project area. The site contains extensive mangroves, salt marshes, Australian pines, and other exotics that will be removed, as well as open water areas within and contiguous to the ICW.

Application of mitigation credits to specific projects that cause wetland impacts will require specific amendments to these permits. The removal of the existing 8.7-acre mangrove area to expand the Turning Notch requires a total compensatory mitigation of approximately 5.38 functional gain units, as assessed utilizing the Uniform Mitigation Assessment Method (UMAM). The FDEP permit for the port's habitat creation and restoration project allocates up to 3.811 onsite mitigation credits, leaving a balance needed of approximately 1.569 credits. According to the current credit table accepted by the USACE, which is the most conservative, the West Lake Park project has 26.91 remaining mangrove mitigation credits available to the port for this project.

USACE Deepening and Widening Project

As discussed in Section 1.5, the USACE, in conjunction with Port Everglades, initiated feasibility and environmental impact studies in 2001 for the deepening and widening of the Port's harbor and entrance channel. On June 28, 2013, the USACE released draft versions of these studies with the objectives of obtaining federal funding and the associated permits for the project. In these documents, the USACE evaluated different alternatives to meet program objectives and address the environmental impacts and costs associated with each alternative.

When evaluating project alternatives, the USACE stated it has made every effort, through an interagency planning process, to first avoid and then minimize environmental impacts while still accomplishing project objectives. The USACE has held a series of coordination meetings with an Interagency Working Group (IWG) that includes the USACE, FDEP, National Marine Fisheries Service (NMFS), U.S. Environmental Protection Agency (EPA), Florida Fish and Wildlife Conservation Commission, U.S. Fish and Wildlife Service, and Broward County, as well as public meetings, to solicit input and provide incremental updates on the progress of their work. The structural measures evaluated were grouped into six different plans, based on structural characteristics, environmental impacts, and economic benefits. A no-action plan was also considered throughout the process

The USACE has had a number of additional meetings with resource agencies to formulate and screen design alternatives. The Tentatively Selected Plan (TSP) presented in the draft USACE documents is Alternative 2E, an optimization of Plan 2 that is focused on container ship constraints, and addresses potential petroleum vessel constraints. The TSP is shown in Figure 1.10.8. Features of the current TSP include:

- Extending the Outer Entrance Channel (OEC) 2,200 feet seaward with an 800-foot width, and deepening the existing 500-foot wide OEC from 45 feet to 55
- Deepening the Inner Entrance Channel (IEC) from 42 feet to 48 feet
- Deepening the Main Turning Basin (MTB) from 42 feet to 48 feet
- Widening the rectangular shoal region southeast of the MTB (Widener) by approximately 300 feet, and deepening it to 48 feet
- Widening the Southport Access Channel (SAC) in the proximity of Berths 23 to 26 (the knuckle) by approximately 250 feet, and relocating the U.S. Coast Guard (USCG) facility, a General Navigation Feature (GNF), Easterly on USCG property
- Shifting the existing 400-foot wide SAC approximately 65 feet to the East near Berth 26 to the south end of Berth 29 to transition from the knuckle area, widening to the existing federal channel limits
- Deepening the SAC from approximately Berth 23 to the south end of Berth 32 from 42 feet to 48 feet
- Deepening the Turning Notch (TN), including a portion of the STNE, from 42 feet to 48 feet, with nearby widening, including (1) widening the eastern edge of the SAC 100 feet along a 1,845 stretch parallel to the SAC and (2) widening the western edge of the SAC for access to the TN from the existing federal channel near the south end of Berth 29 to a width of about 130 feet at the north edge of the TN
- Other General Navigation Features (GNF)
- Environmental mitigation
- The USACE has continued consultation with state and federal agencies and BCEP&GMD, since the release of a feasibility study in June 2013. The Port Everglades Final Feasibility Report dated March 2015 and revised in 2017 and the May 2015 Environmental Impact Statement[32] completed with the signed Record of Decision in January 2016[33] include a number of provisions that reflect information gained from the Miami Harbor Deepening Project. Provisions include implementation of upfront mitigation for indirect impacts to non-ESA listed corals and reef structure, consistent with the Coastal Zone Management Act and refined measures to avoid and minimize impacts to threatened coral species and their critical habitats. The March 2015 Port Everglades report and Biological Opinion (BO) both included a commitment to have the IWG update

[32] *Source: Final Environmental Impact Statement, Port Everglades Harbor Navigation study, March 2015, revised May 2015*

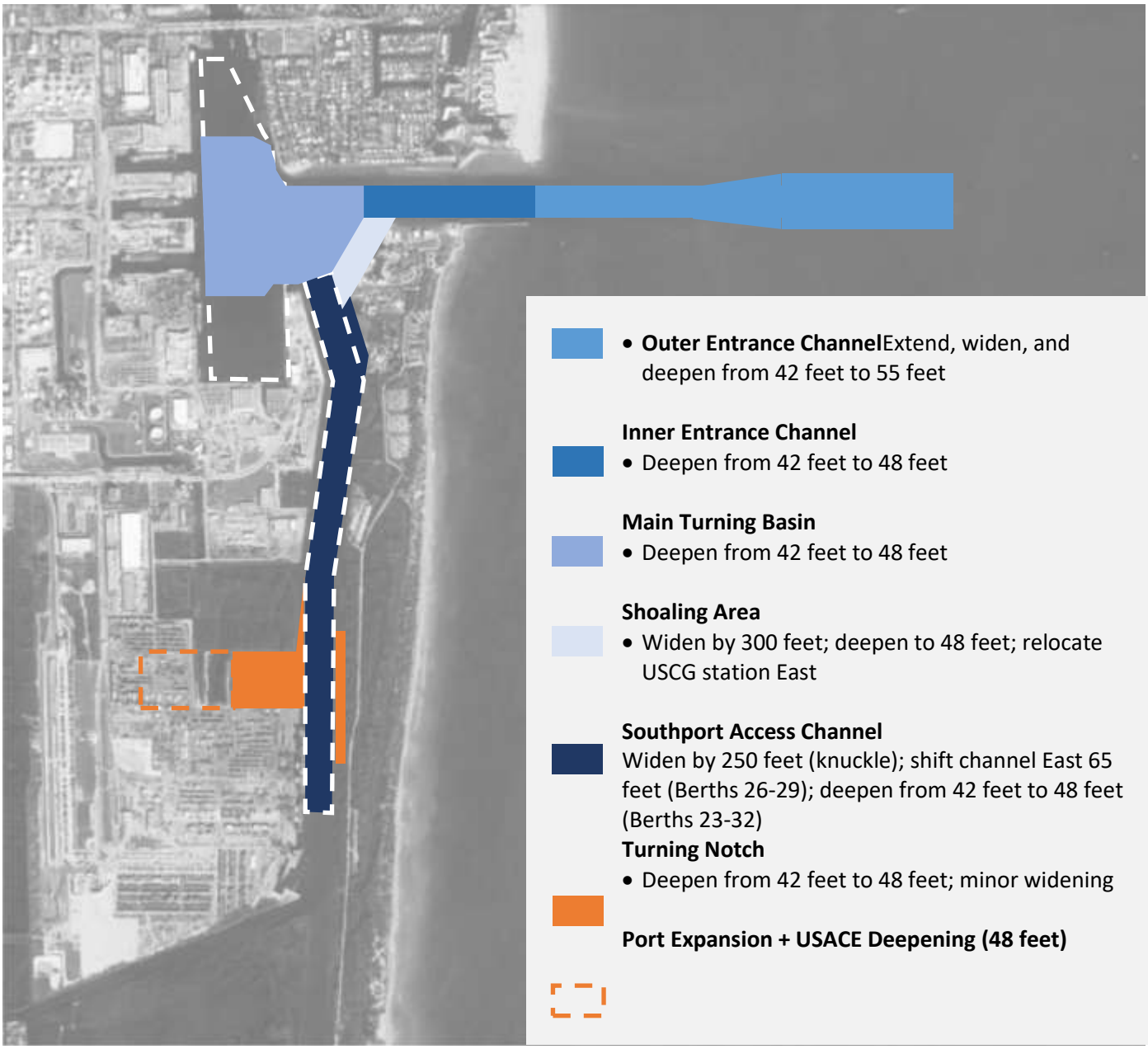
[33] *Source: Record of Decision, Port Everglades Harbor Navigation Study, January 2016*

the environmental monitoring plan. This action represents a shift toward a greater level of interagency cooperation among the USACE and local, state, and federal resource agencies, in development of environmental monitoring measuresThe IWG is making strides as new information becomes available. Since 2015, the USACE has reinitiated consultation with NMFS to amend the existing BO for the Port Everglades project. Factors that contributed to this decision include[34]: In the March 2014 BO, NMFS assessed the potential effects of the Port Everglades project. This BO showed that the project may affect listed species that included staghorn (Acropora spp.) corals, as well as six additional coral species that were proposed for listing at the time of the opinion. Five of the original six species were listed as threatened under the ESA. (The BO determined that the project's direct and indirect effects on those corals species will not likely jeopardize the continued existence of the coral species.)

[34] *Source: USACE Port Everglades Fact Sheet, March 2017*

Figure 1.10.8: Proposed Components of the Various USACE Plans, including the TSP

Source: USACE Final Environmental Impact Statement, 2015



USACE is developing a sedimentation transport model for Port Everglades,designed to identify the effect of different dredging techniques on sedimentation on the nearby benthic habitat. As of August 2018, an independent contractor is completing this effort, which is being administered by Broward County as part of the Port Everglades Navigation Improvements Project. USACE will do more model runs, and it is also working with its partners to conduct post-construction monitoring for the Miami Harbor Deepening Project.

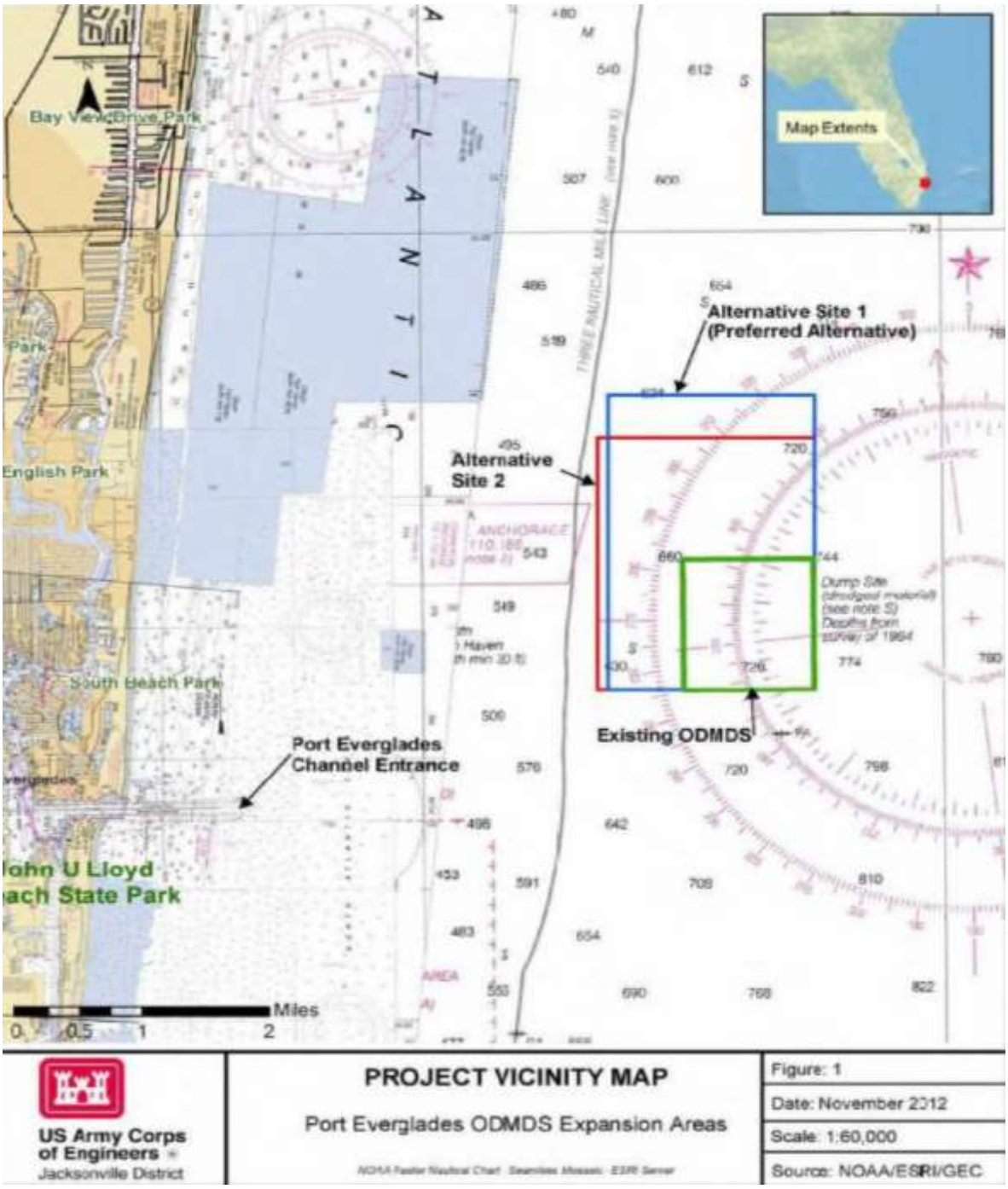
> This study, which is being conducted pursuant to the USACE's Florida Department of Environmental Protection permit, will assess how sedimentation levels have changed over the one-year period since project completion, and determine if there is any long-term effect on coral species. This information will prove valuable for the Port Everglades project.

The listing of the five additional coral species, the results of the modeling, and the information derived from the Miami Harbor Deepening Project constitute "new information" in assessing effects to listed species. This new information led the USACE to reinitiate consultation with NMFS and request an amended or new BO. As part of this process, and to ensure transparency, Jacksonville District will release any new information to the public as part of the National Environmental Policy Act (NEPA) process.

In January 2017, the USACE conducted new environmental studies before starting its planned dredging project to expand Port Everglades. At that time, the USACE agreed to reassess its Port Everglades environmental analysis, because of new environmental information available about the widespread and unanticipated damage incurred during a similar dredging project at nearby Port*Miami*, and new, local coral species recently added to the Federal Endangered Species Act list.

The Port Everglades dredging project, which was planned to begin in 2017, is currently under evaluation and permitting by the USACE. According to a Joint Status Report filed on July 9, 2018, by the Federal Defendants, it has been determined that the biological assessment is expected to be finalized in Summer 2018. The NEPA scoping phase, complete with supplemental NEPA documentation, is also expected to be issued during Summer 2018, and final supplemental NEPA documents and final agency actions are expected by early June 2019. The Endangered Species Act (ESA) consultation is expected to be completed in Winter 2018/2019 with the Pre-Engineering and Design (PED) Phase projected to be complete by Spring 2019. It is expected that the contract award will not occur before March 2020, with construction not commencing before April 2020.

Figure 1.10.9: Existing Offshore Material Disposal Site and Proposed Expansion
Source: EPA Draft Environmental Assessment on the Expansion of the Port Everglades Harbor Ocean Dredged Material Disposal Site (ODMDS), Broward County, FL, 2013



Dredged Material Disposal Areas

The existing ODMDS was designated to accommodate dredged material from periodic maintenance events in the port. However, preliminary results of the modeling conducted in 2009 by the USACE regarding the capacity of the existing ODMDS indicated that it is insufficient in size, to contain the potential volume of dredge material (not to exceed 6.63 million cubic yards) resulting from the proposed Port Everglades expansion (i.e. deepening the entrance channel from -45 feet to -57 feet MLLW, and deepening all other parts of the channel to -50 feet MLLW). USACE and EPA worked cooperatively on the development of an Environmental Assessment (EA), supporting the ODMDS expansion. Figure 1.10.9 shows the location of the two proposed alternatives, the existing ODMDS, and the entrance to Port Everglades, approximately 3.25 nautical miles offshore of Fort Lauderdale.

Additional needs for expansion include disposal area for other federal projects, the Port Everglades Sand Bypass project, and O&M material from dredging events. In 2014, EPA conducted a post-disposal monitoring survey.[35] Based on the data collected in this survey, EPA plans to modify the Site Management and Monitoring Plan to change the release zone for ocean disposal of dredge material within the disposal site, moved approximately 50 meters to the north to ensure that most of the dredge material is contained within the southern boundary of the disposal site. This survey also showed that no chemical concentrations exceeded EPA's marine water quality criteria, and that the benthic community within and around the site is healthy, despite elevated chemical concentrations in the sediment and the presence of a layer of dredge material.

*Critical Habitat and Mitigation for Elkhorn and Staghorn Coral*In May 2006, the NMFS listed Elkhorn (*Acropora palmata*) and Staghorn (*Acropora cervicornis*) coral as "threatened" under the ESA. NMFS designated critical habitat for elkhorn and staghorn corals in November 2008. In December 2012, NMFS proposed reclassifying the elkhorn and staghorn corals as endangered, but determined in September 2014 that they would remain listed as threatened.[36] Staghorn coral occur in back reef and fore reef environments from 0-100 feet (0-30 m) deep. The upper limit is defined by wave forces, and the lower limit is controlled by suspended sediments and light availability. Fore reef zones at intermediate depths of 15-80 feet (5-25 m) were formerly dominated by extensive single-species stands of staghorn coral until the mid-1980s.

Elkhorn coral was formerly the dominant species in shallow water (3-16 feet (1-5 m) deep) throughout the Caribbean and on the Florida Reef Tract, forming extensive, densely aggregated thickets (stands) in areas of heavy surf. Coral colonies prefer exposed reef crest and fore reef environments in depths of less than 20 feet (6 m), although isolated corals may occur to depths of 65 feet (20 m).

[35] *Source: 2014 National Ocean Dumping Site Monitoring Assessment Report issued in April 2017*
[36] *Source: http://www.nmfs.noaa.gov/pr/species/invertebrates/coral/staghorn-coral.html*

The “essential feature” required for the conservation of the species was identified as a substrate of suitable quality and availability, in water depths from the mean high-water line to 30 meters, to support successful larval settlement, recruitment, and reattachment of fragments (50 Federal Register (FR) 73-72210). “Substrate of suitable quality and availability” was defined by the rule as consolidated hard-bottom or dead coral skeleton that is free from fleshy macro-algae cover and sediment cover. As such, all submerged land with suitable substrate around Port Everglades, from the mean high-water line to 30 meters in depth, is designated as critical habitat for Acropora sp. Corals, except for the federally designated and permitted harbor and entrance channel, which is specifically exempted in the rule. Studies described below have found Acropora corals only to the north of the channel.

Figure 1.10.10 shows the harbor and entrance channel, Acropora critical habitat, and the only locations where Acropora corals have been found near the Port.

The port expansion project presented in the USACE Draft Feasibility Study and Environmental Impact Statement would cause impacts to both the exempted area as well as designated critical habitat for these listed Acropora coral species. Therefore, Dial Cordy and Associates Inc. (DC&A), as a consultant to the USACE, conducted a benthic assessment within the proposed project area (direct area of impact) and in the buffer zone (indirect area of impact) to assess existing benthic conditions and the presence of A. cervicornis and A. palmata.

Figure 1.10.11 shows the area and survey points of the DC&A study that include both the delineated direct area of impact (yellow line) and the indirect area of impact (black line). The surveying methods included an integrated towed video survey followed by SCUBA diver investigation where potential Acropora colonies were identified and, for the final survey, SCUBA divers directly assessed if Acropora colonies exist in the identified potential sites.

Figure 1.10.10: Presence of Acropora Coral Critical Habitat near Port Everglades
Sources: SWC, 2009; Olsen Associates, Inc. 2008; NMFS, 2009

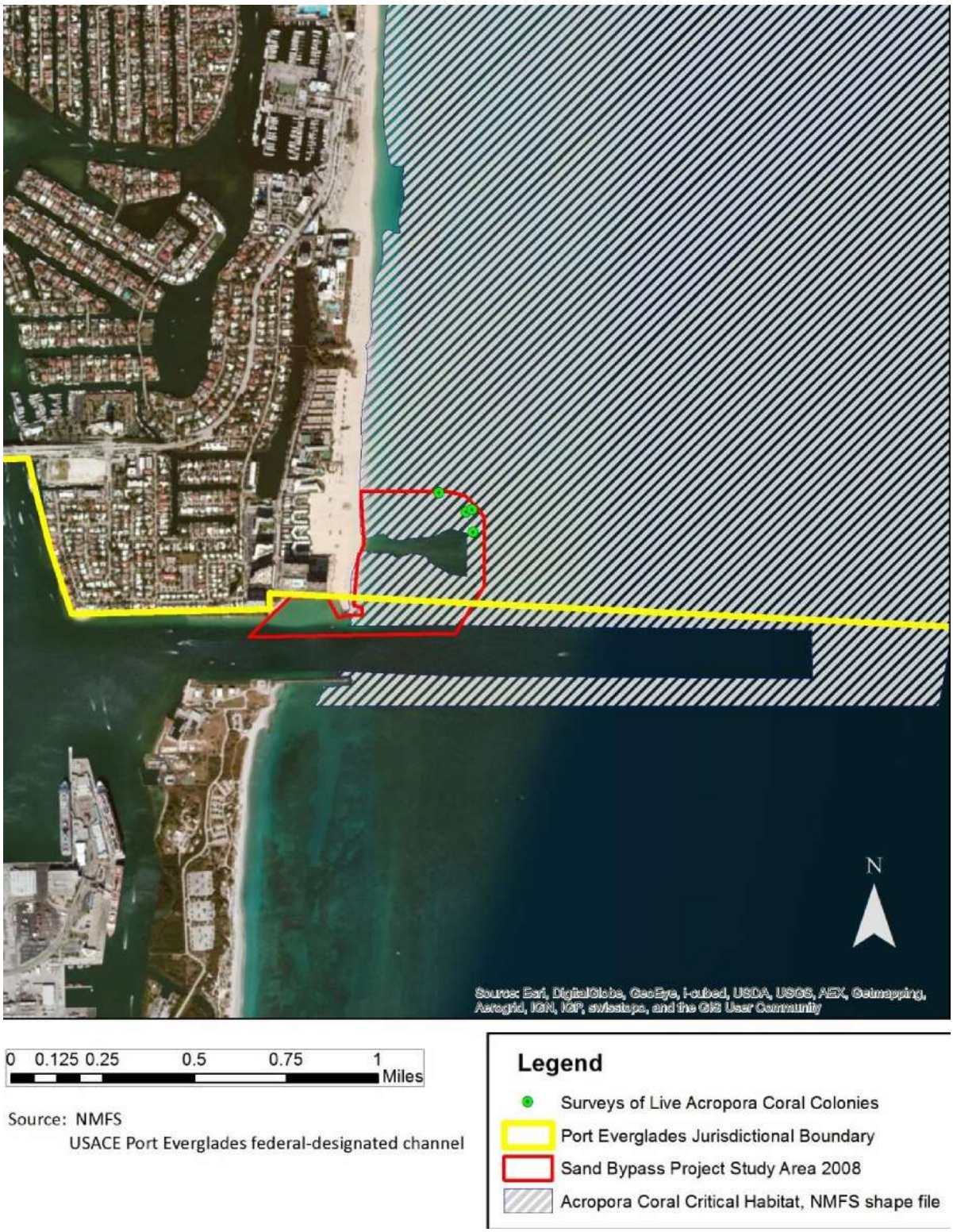
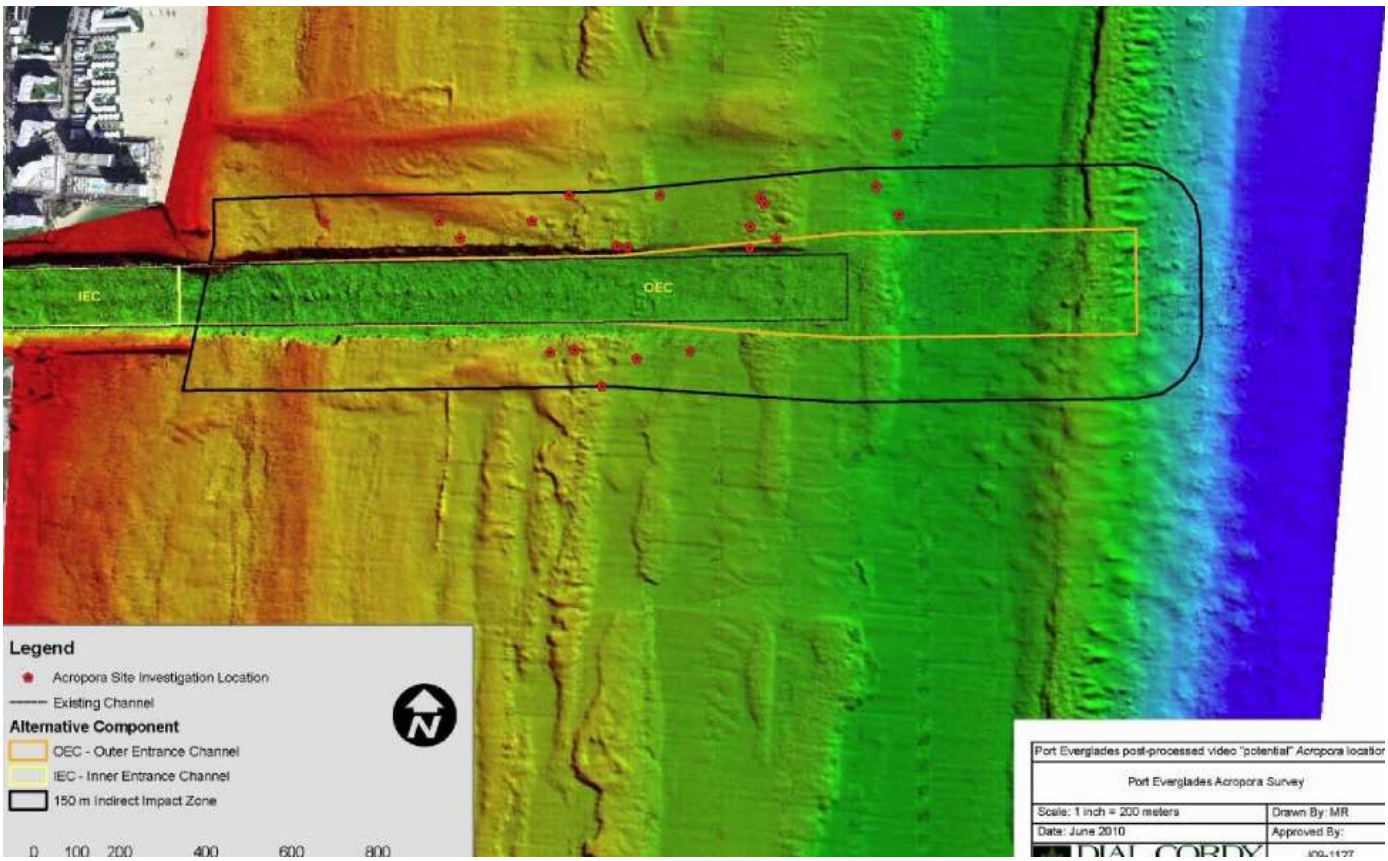


Figure 1.10.11: Port Everglades Acropora Survey
Source: DC&A, 2010



Note: Acropora potential colonies were identified within the survey area through indirect study methods, identified by red dots, and follow up dive surveys conducted at these locations. Ochre line delineates outer entrance channel. Black line delineates indirect impact zone. DC&A resurveyed in 2017, however, this information was not final at the time this 2018 Update was completed.

According to the October 2010 Port Everglades Feasibility Study Acropora Coral Survey Final Report, impacts are projected to the first, second, and third reefs through which the channel bisects. Direct impacts to 15.35 acres and indirect impacts to 91.3 acres of critical habitat were measured. Even though essential features of critical habitat would be affected, no *A. cervicornis* or *A. palmata* colonies were positively identified in either the direct or indirect impact areas.

The closest surveyed Acropora colonies in the vicinity were found in 2008 during a sand bypass study conducted by Olsen Associates, Inc. They were located about 0.25 miles northwest of the entrance channel (see Figure 1.10.10). No further Acropora surveys specific to the Port Everglades project area have been conducted since the 2009 survey, completed by DC&A. Monitoring of the effects from port actions to Acropora corals and

their critical habitat will continue, and every effort made to ensure that these species are protected to the extent practicable.

Seagrass Assessment and Mapping
To assess submerged aquatic vegetation near Port Everglades, Dial Cordy and Associates (DC&A), as a consultant to the USACE, conducted seagrass baseline and impact assessments, and compiled data over a 14-year assessment period (1999-2013; see Table 1.10.3).

According to these surveys, *H. johnsonii* is found in the Dania Cut-off Canal, and is within the footprint of the proposed federal dredging expansion project at Port Everglades. Surveillance studies encompassed 71 transects that were mapped with geographic positioning systems (GPS). SCUBA divers classified the quality of the seagrass beds and the quantity of coverage.

Table 1.10.3: Seagrass Surveys Performed at Port Everglades, 2001-2013
Source: NMFS, 2011; updated by Cummins Cederberg, Inc., 2018

Study Reference	Date of Study	Spatial Scope of Survey
DC&A 2001	1999-2001	Expansion area (except OEC) and surrounding areas
DC&A 2001	2001	Outer Entrance Channel
DC&A 2006	2006	Areas where seagrass was observed in DC&A 2001
FDEP 2008	2008	Project area, except OEC and portions of the SAC
NSU 2008	2008	Portions of the Widener Shoal
Miller Legg 2008	2008-2009	Dania Cutoff Canal
DC&A 2009	2009	Expansion area, except Outer Entrance Channel
DC&A 2013	2013	Between the nearshore hard-bottom and middle reef

Note: DC&A resurveyed in 2017, however, this information was not final at the time this 2018 Update was completed.

Figure 1.10.12: 2009 Seagrass Distribution within Port Everglades Harbor
Source: DC&A, 2009

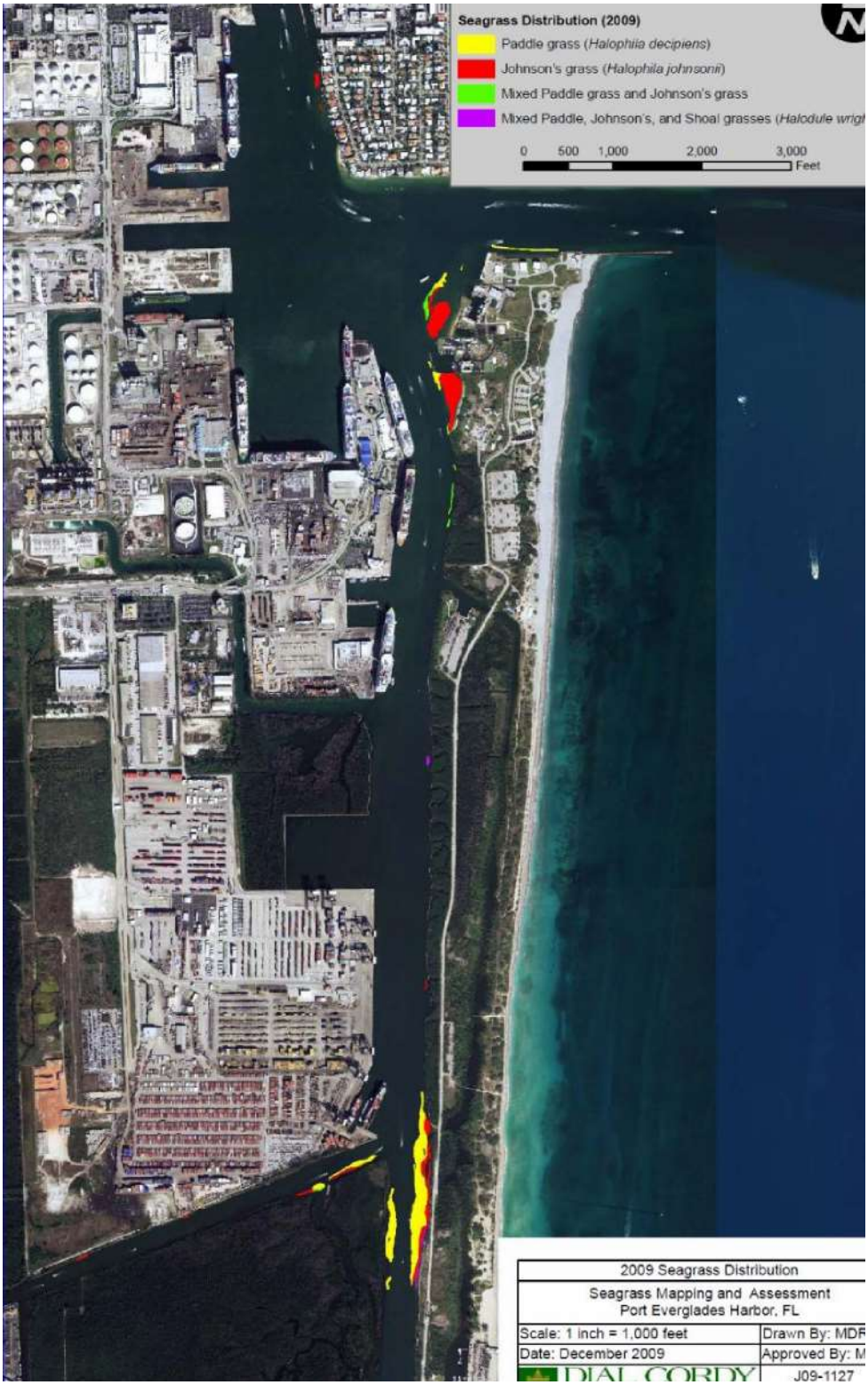
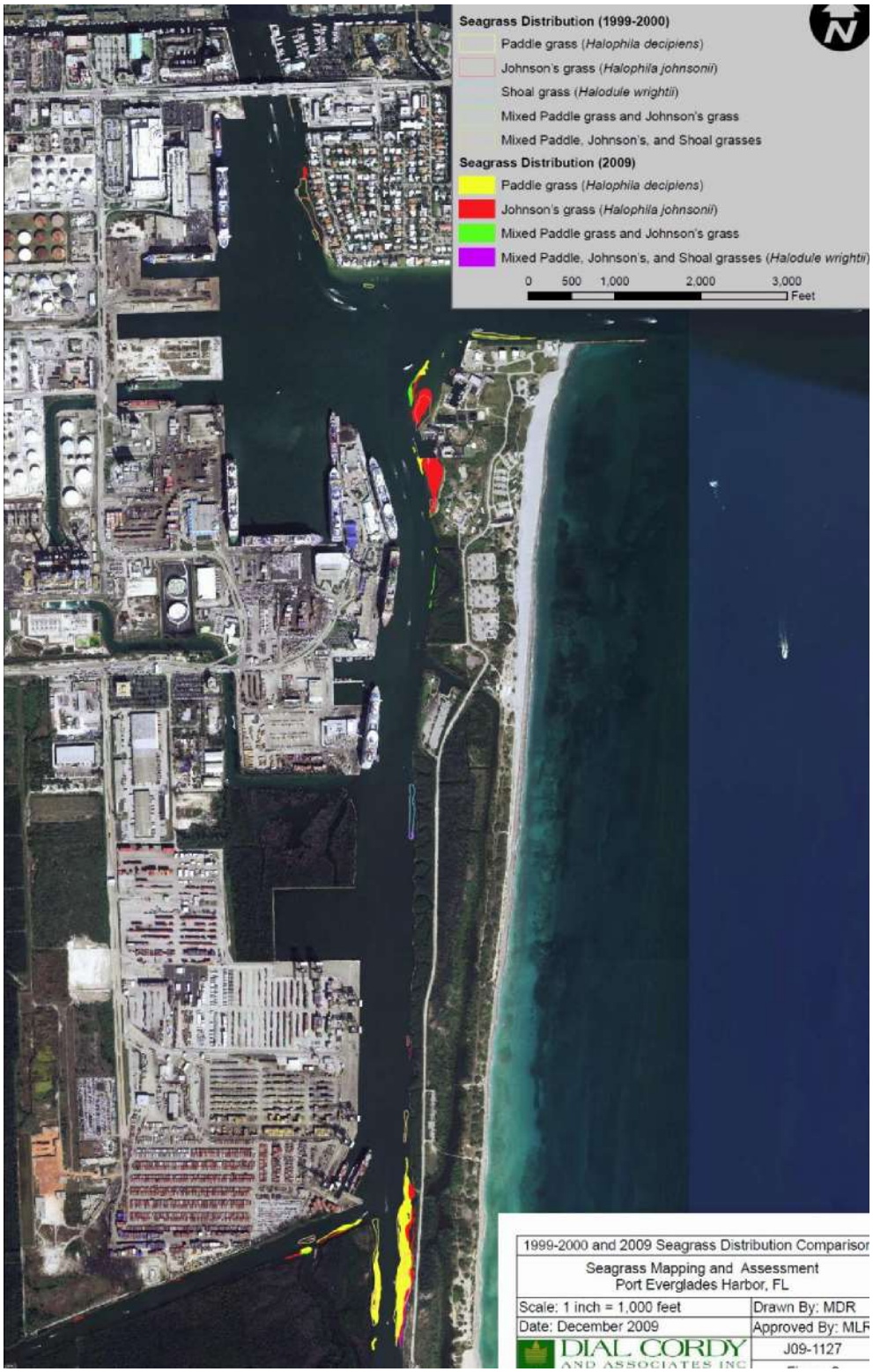


Figure 1.10.13: 1999-2000 Seagrass Distribution within Port Everglades Harbor
Source: DC&A, 2009



The seagrass assessments found three seagrass species – *H. decipiens, H. johnsonii*, and *H. wrightii*. The 2009 seagrass distribution in and near Port Everglades is shown in Figure 1.10.12, and the 1999-2000 distribution is shown in Figure 1.10.13. The 2013 assessment focused solely on the south side of the outer entrance channel, and only reported *H. decipiens*. In their 2009 report titled Seagrass Mapping and Assessment Port Everglades Harbor Final Report, DC&A drew conclusions by comparing the data from the different survey years (1999, 2000, 2006, and 2009). DC&A conducted a July 2016 seagrass survey to study seagrass distribution within Port Everglades. However, this information was not available at the time this 2018 Update was completed.

DC&A conclusions were as follows:

- During the nine-year period, northernmost seagrass beds experienced reduction in coverage area, while the seagrass beds south of the channel increased in density and coverage areaSeagrass species distribution remained the same, yet *H. wrightii* cover have diminished since 1999 and 2000.
- The dominant species in this area over time has been *H. johnsonii.*
- Overall, *H. johnsonii* is found in shallower water, followed by mixed beds of *H. johnsonii* and *H. decipiens*, to deeper zones where beds of *H. decipiens* is found.
- Seagrass mixed beds have decreased since 1999, while monospecific seagrass beds of *H. decipiens* and *H. johnsonii* have increased in size within the study area.
- Overall, seagrass coverage has increased by more than three acres over nine years.

Table 1.10.4: Comparison of Seagrass Acreage by Species, 1999-2000, 2006, 2009 and 2013
Source: DC&A, 2009; updated by Cummins Cederberg, Inc., 2018

Bed Type	1999 2000 Acres	2006 Acres	2009 Acres	2013 Acres
H. decipiens	3.29	4.47	6.58	1.03
H. johnsonii	2.85	2.80	4.68	0.00
H. wrightii	0.61	0.00	0.00	0.00
Mixed *H. johnsonii/H. decipiens*	0.00	1.08	0.46	0.00
Mixed *H.decipiens/H.johnsonii/H. wrightii*	1.96	0.09	0.26	0.00
Totals	**8.71**	**8.44**	**11.98**	**1.03**

1.10.3 Landfill and Petroleum Storage

Landfill
An on-port landfill area utilized for clean fill and brush disposal is currently utilized as container storage yards. This landfill was closed and deemed inactive by the BCEP&GMD, and a no-further-action order was issued on the basis that no construction is to be done on the site. Therefore, it would not be rezoned or redeveloped for high-population density use. The closure letter, dated October 28, 1992, indicates that soil contamination still existed, which could not be attributed to saltwater intrusion, consisting of manganese, biochemical oxygen demand (BOD), ammonia, and phosphorus. More recent monitoring found little to no remaining contamination. All monitoring wells have either been locked to prevent vandalism or properly abandoned. The entire former landfill area is within the land planned for removal, as part of the STNE project. As part of this extension, all contaminated soil will be removed and disposed of at a facility appropriately licensed by the State of Florida*Petroleum Storage*
As the top petroleum storage port in Florida, Port Everglades is aware of the importance of recording and monitoring any information regarding fuel storage tanks in their facilities, and is currently working to implement an inventory and remedial action plan to protect surface water and protected species. As noted in the Water Quality section under permit FLR05B255, Port Everglades is charged with implementing a comprehensive Stormwater Management Program (SMP) that includes the implementation of a Stormwater Pollution Prevention Plan (SWPPP), with pollution prevention measures, discharge containment, and treatment or removal techniques for petroleum remediation from fuel farms.

1.10.4 Environmental Initiatives

Beyond mitigation for development projects, Port Everglades is engaged in numerous mandated and voluntary environmental initiatives to reduce environmental impacts associated with day-to-day operations, both now and in the future. Major aspects addressed by these initiatives include water quality/stormwater management, air quality, habitat preservation, and wildlife protection. Habitat and wildlife are discussed above. What follows is a description of Port Everglades water quality/stormwater management and air quality initiatives. *Water Quality/Stormwater Management*

The Port's mission relative to water resources is to protect the quality of the waters within the areas surrounding Port Everglades. Stormwater pollution prevention is vital, given the fragile ecosystem surrounding Port Everglades. All new development at Port Everglades has the potential to alter current stormwater conditions (such as increasing the amount of impervious area), which are subject to review and approval by the three regulatory agencies with jurisdiction over surface water management activities at Port Everglades, namely: Florida Department of Environmental Protection (FDEP), South Florida Water Management District (SFWMD), and Broward County's Environmental Protection and Growth Management Department (BCEP&GMD) Planning and Environmental Regulation Division.

Table 1.10.5: FDEP Permits Issued at Port Everglades since 2012
Source: Cordova Rodriguez

Permitting Authority	License #	License Type	Recent Issue Date	Status	Project Name
County	SWM1991-103-0	Surface Water	26-Feb-13	Renewal	PEV Pier No 7 Extension
State	06-0167478-009	Environmental Resource	23-Oct-13	Renewal	Terminal 4 Improvement Modification
State	06-0172079-018	Environmental Resource	22-Jul-13	Construction	FEC ICTF
County	SWM2000-191-3	Surface Water	20-May-16	Renewal	Southport Phase VIIA and VIII
County	SWM2000-191-6	Surface Water	29-May-14	New	FEC Port Everglades ICTF
County	SWM2013-027-0	Surface Water	22-May-13	Construction	Spangler Blvd Bypass Rd Phase 1
State	06-0172079-016	Environmental Resource	20-Jan-12	New	McIntosh Rd Improvements
County	SWM2000-191-0	Surface Water	23-Jan-13	Renewal	Southport Master Plan & Phase VI & VIA
State	06-0172079-022	Environmental Resource	15-Nov-16	Modification	Southport Terminal Yard-Modification (Crain Rails)
County	SWM1996-135-0	Surface Water	11-Feb-12	Renewal	Southport Terminal Yard Ph V
County	SWM2000-204-2	Surface Water	16-Sep-13	Operation	PEV Terminal 4 Improvements
County	SWM2005-058-6	Surface Water	30-Jun-14	Operation	Vecenergy Logistics – Vapor Recovery Unit
County	SWM2015-043-0	Surface Water	3-Jun-15	Operation	PEV Slip 2 Extension
County	SWM2000-191-7	Surface Water	21-Oct-16	Construction	PEV Southport Phase 9b
County	SWM1991-074-2	Surface Water	6-Feb-18	Construction	PEV Terminal 25
County	SWM2000-191-8	Surface Water	16-Feb-18	Construction	FPL Eller Substation

Generally speaking, new developments that may impact existing stormwater conditions need to be discussed with FDEP, BCEP&GMD, and/or SFWMD, as applicable, via a pre-application meeting to establish project-specific design criteria and ensure conformance to Broward County ordinance No. 2017-16, enacted in May 2017. Prior to new development/construction, a permit for stormwater discharge throughout the entire duration of construction activities must be obtained from FDEP. The requirements associated with this permit include providing and adhering to best management practices

to prevent pollutant discharge to nearby water bodies downstream from the project site. A list of permits issued since the 2014 Update is presented in Table 1.10.5. Table 1.10.6 presents a list of permits and licenses for diesel and gasoline tanks at Port Everglades.

Table 1.10.6: Broward County EPGMD Permits for Gasoline and Diesel Tanks
Source: Broward County; B&A

FDEP_ID	Gallons	Address	Facility	EPGMD_ID	Gasoline	Diesel
069814858	1000	1901 Eller Drive	Public Safety Department	HS-01491		7,100
N/A	110	2020 Eller Drive	Harbormaster Office (Midport Garage 6th Floor)	HS-03434		781
N/A	250	2020 Eller Drive	Midport Garage	HS-03434		1,775
N/A	253	1800 SE 20 Street	Terminal 4	HM-15723		1,796
N/A	330	1901 Eller Drive	Security Operations Center	HS-01491		2,343
068942977	4000	1850 Eller Drive	Administration Building	ST-02303		28,400
069600380	15000	Near 3600 McIntosh Road	Southport Container (at Crane Shop)	HM-04851		106,500

Surface Water Quality

Pursuant to Section 403.0885, Florida Statutes, the Florida Department of Environmental Protection (FDEP) has authorized the use of a Multi Sector Generic Permit (MSGP) NPDES permit to address stormwater management within Port Everglades. Under permit FLR05B255, Port Everglades is charged with implementing a comprehensive Stormwater Management Program (SMP) in accordance with USEPA guidance. This program includes the implementation of a Stormwater Pollution Prevention Plan (SWPPP) with pollution prevention measures, treatment or removal techniques, stormwater monitoring, best management practices, and other appropriate means to control the quality of stormwater discharged from the NPDES. Under this permit, the port is also required to retain records for monthly inspection and visual examination reports, to conduct required monitoring for Total Nitrogen, Total Phosphorus, Total Suspended Solids, BOD-5, zinc, and copper on years 2 and 4 of the five-year permitting process. Port Everglades is in the process of updating the overall Port Everglades Stormwater Pollution Protection Plan, and preparing the documentation for this permit (due for renewal by November 2, 2018). Port Everglades is also preparing a database of all National Pollutant Discharge Elimination System (NPDES) authorizations within the Port Everglades jurisdictional area, as most tenants manage their own stormwater systems and permits.

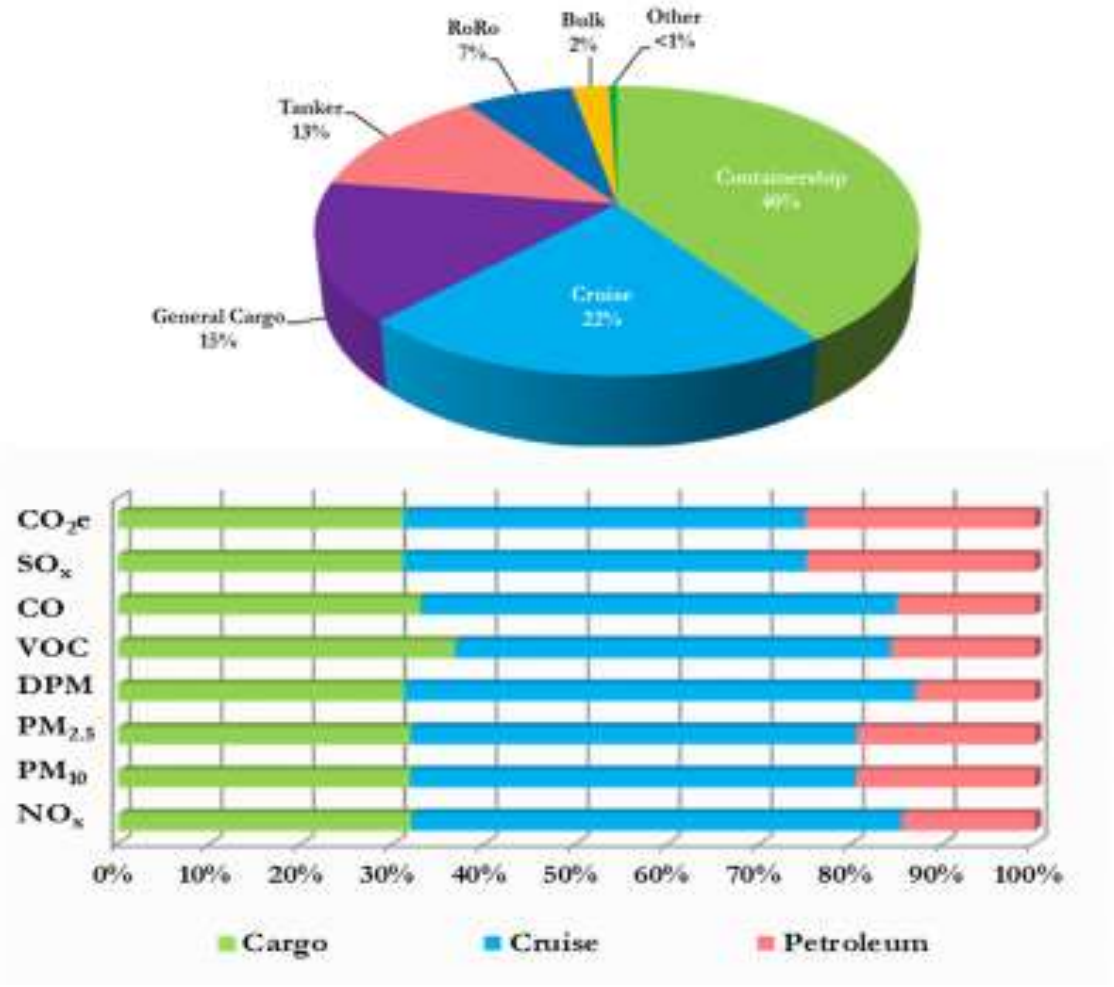
This database will provide a framework for tracking the different water-quality monitoring projects taking place, and ensuring that all protection measures are fully and correctly implemented. In addition, the updated plan will involve a full update of all best management practices (BMPs) including:

- Requirement of dock inspections and spill kits
- Use of sediment traps where applicable, to prevent clogging of drains with debris and other materials that may prevent efficient movement of stormwater
- Monitoring of water quality discharges at port maintenance facilities
- Regular patrolling by port personnel of docks for cleanliness before/after ship arrivals, to prevent liquid and solid substances from entering the water. If procedures are not followed, cleanup is the responsibility of the vessel operator.
- A requirement that spill containment kits are available dockside and onboard, which include absorbents, absorbent booms, a dustpan, and a bag designed to collect oil and other absorbent materials in the event of a spill
- Utilization of a series of BMPs to pre-treat and protect the quality of the water before it is discharged from the dock area
- Continued monitoring of water quality discharges at its maintenance facilities and other areas are required. These areas are typically monitored monthly, with quarterly sampling during a qualifying rain event, and are assessed annually, based on the results from each quarter.

Air Quality

Port Everglades has an air quality program that represents its commitment to reducing the amount of air emissions from port, tenant, and other user operations. Figure 1.10.14 presents baseline air emissions for Port Everglades.

Figure 1.10.14: Port Everglades Air Emissions Baseline Inventory, 2017
Source: Port Everglades



Initiatives include exchanging vehicles and other operating equipment that are highly dependent on diesel fuel for more dependable and less polluting fuel sources, improving ground transportation and rail capabilities, implementing procedures for improving the Port's energy efficiency and performance, actively participating in air quality legislation related to the Port industry, and providing incentives for container terminal operations to install shore power plugs for refrigerated containers, and replacing diesel-powered generator sets.

Table 1.10.7: Voluntary Air Quality Improvement Strategies Considered at Port Everglades
Source: Port Everglades

Sector	Strategy Description
Ocean Going Vessels	Reduce hoteling time by 5% or 10%
	Alternative control technology at berths (e.g. capture and treat)
	Use of lower-sulfur and alternative (e.g. LNG) fuels
	Application of shore power to reduce engine operations while dockside
Harbor Craft	Engine and vessel replacement
Cargo Handling Equipment	Engine and equipment electrification
	Diesel particulate filters and oxidation catalysts
On-Road Vehicles	Truck replacement to Model Year 2010+
	Battery electric vehicles (BEVs)
	Reduction of truck idling times
Rail	Increase modal shift of cargo from truck to rail

Following EPA's 2016 *National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases*, Port Everglades, in cooperation with U.S. Ports Office of Transportation Air Quality issued a report titled *EPA and Port Everglades Partnership: Emission Inventories and Reduction Strategies* (the Port Everglades Report), with the objective of establishing a framework for stakeholders to evaluate and implement air pollution emission-reduction initiatives.

The Port Everglades Report recognizes the importance of the ports "day-to-day basis" operation, and examines available methods to estimate port-related air emissions. The report also focuses on port-related air emission reductions, due to engine and fuel regulations, along with the emergence of new commercially available technologies, and addresses a list of other voluntary strategies that could reduce emissions even further and/or sooner, as noted in Table 1.10.6 and Figure 1.10.14The port continues to actively

participate in state and federal organizations concerned with air quality and research on alternative fuel sources. The port also participates in legislation, and makes policy recommendations as a department of the Broward County government, as well as a member of the American Association of Port Authorities (AAPA).

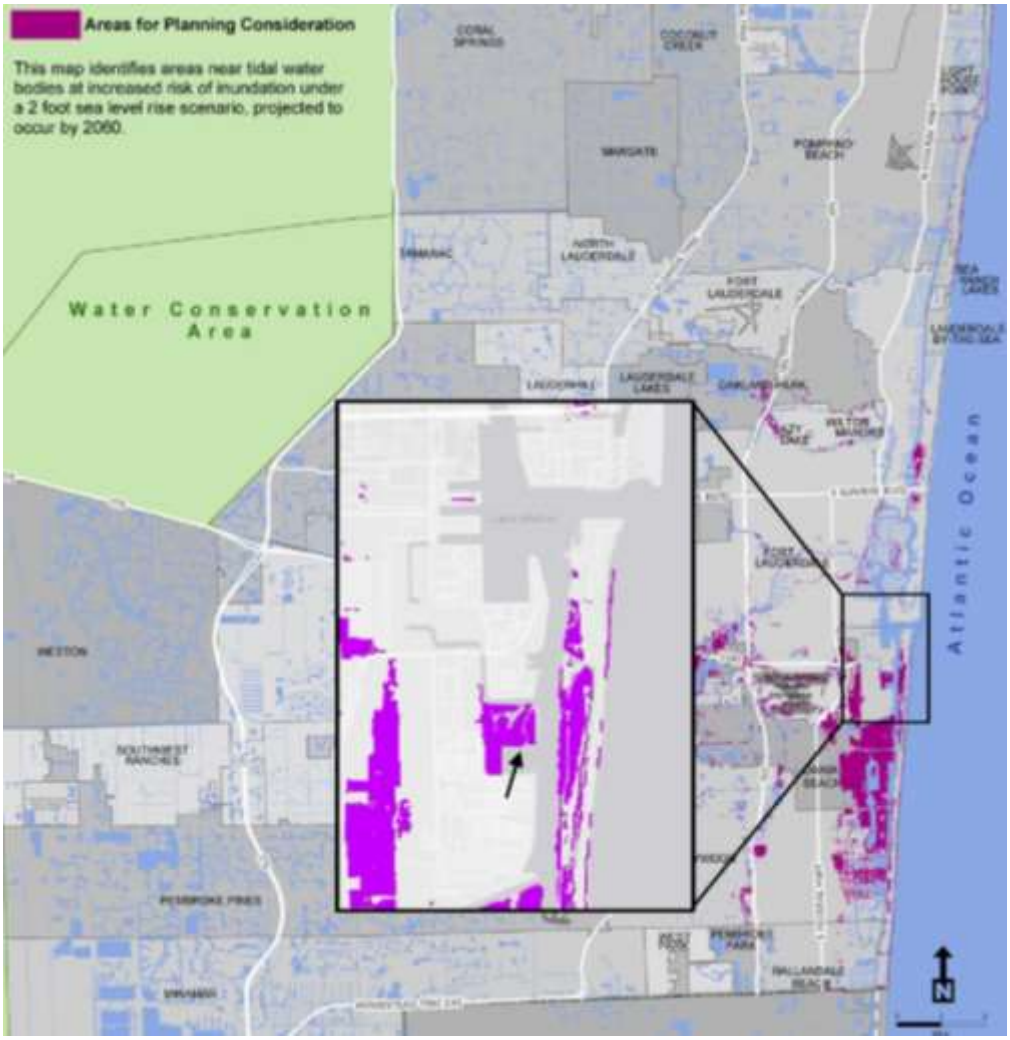
1.10.5 Climate Change Initiatives, Resiliency, and Sustainability

As indicated in Section 1.10.4, the following FDEP, SFWMD, and BCEP&GMD flood protection standards/guidelines, including the latest new groundwater surface maps regarding climate change and sea-level rise, apply to Port Everglades:

- **Buildings**
  The minimum elevation of a new building floor must be above the 100-year flood elevation determined in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map and the 100- year, 72-hour storm event. In 2019, Broward County will update its guidelines to encourage or require buildings to be constructed with increased resiliency and adaption for sea level rise and climate change impacts in mind.
- **Roadways**
  At a minimum, the elevation of new roadways shall be determined by the 10-year 24-hour storm event
- **Parking Lots**
  At minimum, the elevation of a new parking lot area shall be determined by the 5-year, 24-hour or 5-year, 1-hour storm event (if exfiltration trench systems will be utilized), unless otherwise noted by the permitting agency.

To proactively address climate change and sea level rise, BCEP&GMD has identified priority areas for planning consideration, where two feet of sea level rise could occur as soon as 2060 (see Figure 1.10.15). The Port is also addressing climate change through initiatives to decrease carbon emissions and reduce use of fossil fuels through transportation improvements, including greater utilization of rail transport. In addition, the Port has been actively involved in the SE Florida Regional Compact Climate Change Action Plan, and in the preparation of the Broward County Climate Change Element drafted by BCEP&GMD. This latter document is currently being updated, and along with other elements, will be incorporated into the latest Broward County Comprehensive Plan, and will comply with all required planning activities.

Figure 1.10.15: Broward County Priority Planning Areas for Sea Level Rise
Source: BCEP&GMD; modified by SWC, 2013



During several meetings between BCEPD&WMD and Port Everglades staff, 28 items in the Broward County Action Plan document were identified that impact and/or relate to port operations and infrastructure. Key Action Plan recommendations include:

- Adoption of an adaptation management plan
- Development of habitat buffer zones
- Encouragement of green infrastructure
- Increased planting of native vegetation
- Development of alternative water supplies (i.e. reclaimed water)
- Reduction of carbon footprint
- Increase of rooftop solar projects
- Education of staff and other stakeholders on climate change
- Encouragement of climate resilient construction

On June 8, 2018, the National Oceanic and Atmospheric Administration (NOAA) installed an advanced sensor device to continuously monitor real-time tides, water levels, and other metrological information at Broward County's Port Everglades. The newly installed device developed by NOAA listed as the Port Everglades Physical Oceanographic Real-Time System (PORTS®) is available on the Port's website at porteverglades.net (top of the homepage under "Tides & Currents") or via phone at 866-213-5269.

PORTS® is a support tool that improves the safety and efficiency of maritime commerce and coastal resource management through the integration of real-time environmental observations, forecasts, and other geospatial information. PORTS® measures and disseminates observations and predictions of water levels, currents, salinity, and meteorological parameters (i.e. wind, waves, visibility, atmospheric pressure, air and water temperatures) that mariners need to navigate safely. The information will give the public live information on incoming storms, rising tides, climate changes, and overall sea-level rise.

The installation includes a microwave water level sensor (MWWL) that is a non-contact highly accurate sensor used to measure distance, and can be used to monitor long-term sea level changes. The backup water level sensor is a pressure-based sensor that measures water levels. The meteorological station has been located on the roof of the port's Harbormaster Tower, and is outfitted with primary backup wind sensors that provide wind speed and direction.

Resiliency

In addition to the above-mentioned initiatives, Port Everglades is aware of the importance of critical infrastructure resiliency, and is also currently working on an internal critical infrastructure resiliency study. As part of this study, Port Everglades held a meeting with representatives from each applicable port division to determine which infrastructure components are most sensitive to higher water levels, then determined which of those components were at the lowest elevation. Based on this analysis, Port Everglades started surveying elevations of the manhole openings for the security data cable junctions. By August 2018, data collection is approximately 75% complete. When full data is gathered, Port Everglades will be able to determine the sea level rise elevation, from storm surge or other effects, for which Port Everglades need to adapt first. Following the study, Port Everglades plan survey the other infrastructure components that are sensitive to higher water levels, and develop a component-specific adaptation plan for additional sea level rise at 6" increments. Port Everglades is also considering sea level rise in the Slip 1 expansion and other capital improvement projects.

Sustainability
In the past years, Port Everglades has implemented and completed several sustainable initiatives and projects, including:

- $4.4 million in energy-efficiency building upgrades
- U.S. Green Building Council LEED certification (T4 recognized with LEED certification in September, 2015)
- Broward County “GoGreen Seal of sustainability”
- “Green Supply Chain” award
- Green Marine certification
- Vehicle and boat engine energy-efficiency retrofits
- Florida recycling partnership with a 75 percent recycling goal

1.10.6 Drinking Water Management

Port Everglades receives potable water as a wholesale customer of the City of Fort Lauderdale. On July 21, 2016, the results of drinking water samples taken at Port Everglades showed that 90th percentile samples exceeded the lead action level of 0.015 mg/L at the 1850 Eller Drive Port Administration building (constructed in 1985) and 2101 Eisenhower Boulevard Public Works building (constructed in 1985). As a result, on August 8, 2016, the Florida Department of Health (FDOH) in Broward County issued the Lead and Copper Action Level Exceedance letter, which outlined required actions to be completed in response to the exceedance. Table 1.10.8 presents the recommendations of the corrosion control evaluation report and current implementation status.

Table 1.10.8: Corrosion Control Evaluation Report Recommendations
Source: B&A

ID	Project Title	Description	Status
1A	Distribution System Operations and Maintenance Manual	Prepare a distribution system operations and maintenance manual, including logs to document compliance with Florida Administrative Code 62-555 requirements	In progress, by PE staff
1B	Water Quality Analysis	Prepare routine monthly port distribution system water quality sampling plan to identify the occurrence of nitrification within the port	In progress, by PE staff
1C	Unidirectional Flushing (UDF) Twice per Year	Perform UDF twice per year concurrent, with Fort Lauderdale free chlorination to control nitrification within the port	Ongoing
1D	Nitrification Control Plan	Prepare a nitrification control plan that describes the port's response to the occurrence of potential nitrification	In progress, by Team
1E	Update the Port's Distribution System Hydraulic Model	Update the port's hydraulic model prepared in 2011	In progress, by Team
1F	LCR Standard Operating Procedure	Prepare LCR sample collection standard operating procedures for the port	In progress, by PE staff
2A	Point-of-Use Filters and Signage	Install point-of-use filters and signs at drinking fountains and kitchen sinks within buildings that have measured above the lead action level.	In progress

Soon after the lead action level exceedance, the port initiated unidirectional flushing (UDF) of its water system. The port continues to implement UDF twice per year. Figure 1.10.16 illustrates the 90th percentile lead results from ongoing LCR sampling.

On May 9, 2018, the Port was notified by the FDOH that due to the consecutive samples with 90th percentile lead levels below the action level, it could reduce sampling frequency to once per year. Port Everglades is planning to complete Alternatives 1D and 1E to complete a nitrification control, and to update and calibrate the existing hydraulic model of the distribution system, including water quality simulations and future demands and their impact in the water distribution system, including water age in the pipes.

Figure 1.10.16: LCR Sampling Results at Port Everglades
Source: B&A; Hazen and Sawyer

1.10.7 Shore Power

This 2018 Update does not include a comprehensive assessment of the benefits and costs of shore power, either in general or specific to Port Everglades. What follows is an overview of the current status of shore power vis-à-vis other technologies/practices as a means to reduce air emissions generated by oceangoing vessels while they are in port. The purpose of this discussion is to identify current trends in the port industry related to shore power and other air emission reduction practices and technologies, so that Port Everglades has a clearer picture of how the industry is evolving in this regard, and how Port Everglades should approach potential investment in shore power going forward.

Generally speaking, the combination of cost, power supply, and overall lack of market demand for shore power due to the prevalence of other technological solutions that already surpass shore power as a more cost-effective means of reducing overall emissions has made shore power a nearly obsolete emissions reduction strategy except in specific markets for reasons specific to those markets.

Ports are the main gateways for U.S. trade, and are essential to the economies of many cities and regions across the U.S. and throughout the world. The environmental footprint of ports is increasingly important in this context. In particular, as discussed above, impacts to habitat and wildlife, as well as water and air quality, are being scrutinized more than in the past, as a means of ensuring that economic benefits are achieved in balance with environmental and social benefits. More and more, ports – including Port Everglades – are exploring ways to reduce the air emissions generated by activity within their jurisdictional areas through operational changes but even more so through technology. The terms of the North America Emission Control Area (ECA) require all oceangoing vessels to either: a) use low sulfur marine gas oil (MGO), in lieu of heavy

fuel oil (HFP) to achieve sulfur emission reduction mandates at all times while within the ECA; or b) to achieve these same sulfur reductions via alternative means. In addition, most major cruise lines have adopted sustainability policies that include emission reduction targets.

One technology that has been explored and selectively implemented during the past two decades to achieve emission reductions is shore power, also referred to as cold-ironing. Shore power allows vessels to plug into landside electrical power sources. Turning off vessel auxiliary engines at berth can significantly reduce diesel emissions compared to burning standard bunker fuel, in some cases. However, the benefits and desirability of shore power depend on several factors unique to individual ports. These include, but are not limited to:

- Geography
- Infrastructure (including upland electrical generation and distribution/transmission infrastructure in addition to berth delivery infrastructure)
- Availability and source of landside electricity (i.e. fuel oil vs. LNG vs. hydroelectric vs. other renewable sources)
- Prevailing rates for electricity delivery
- Existing regulations on vessel fuel type and/or emissions (i.e. ECAs)

Other factors:

Figure 1.10.17 shows active shore power installations at U.S. ports as of 2017. A brief history of shore power use in the U.S. is summarized below:

- **2001**
  First commercially implemented shore power (cruise vessels only) installed in Juneau, Alaska; installation was 100 percent funded by Princess Cruises at their own dedicated berth

- **2003**
  EPA adopted standards for Category 3 marine diesel engines to reduce emissions levels from future (new) ocean-going vessels.

- **2004**
  First commercially implemented shore power (container vessels) installed at Port of Los Angeles; installed to address California Air Resources Board (CARB) air emissions goals for Southern California

- **2007**
  CARB required the use of shore power or equivalent emissions reductions for vessels at all California ports, with target goals as follows:
  - 50 percent by 2014
  - 70 percent by 2017
  - 90 percent by 2020
- **2008**
  International Maritime Organization (IMO) adopted standards for marine diesel engines & fuels (i.e. low sulfur fuels)

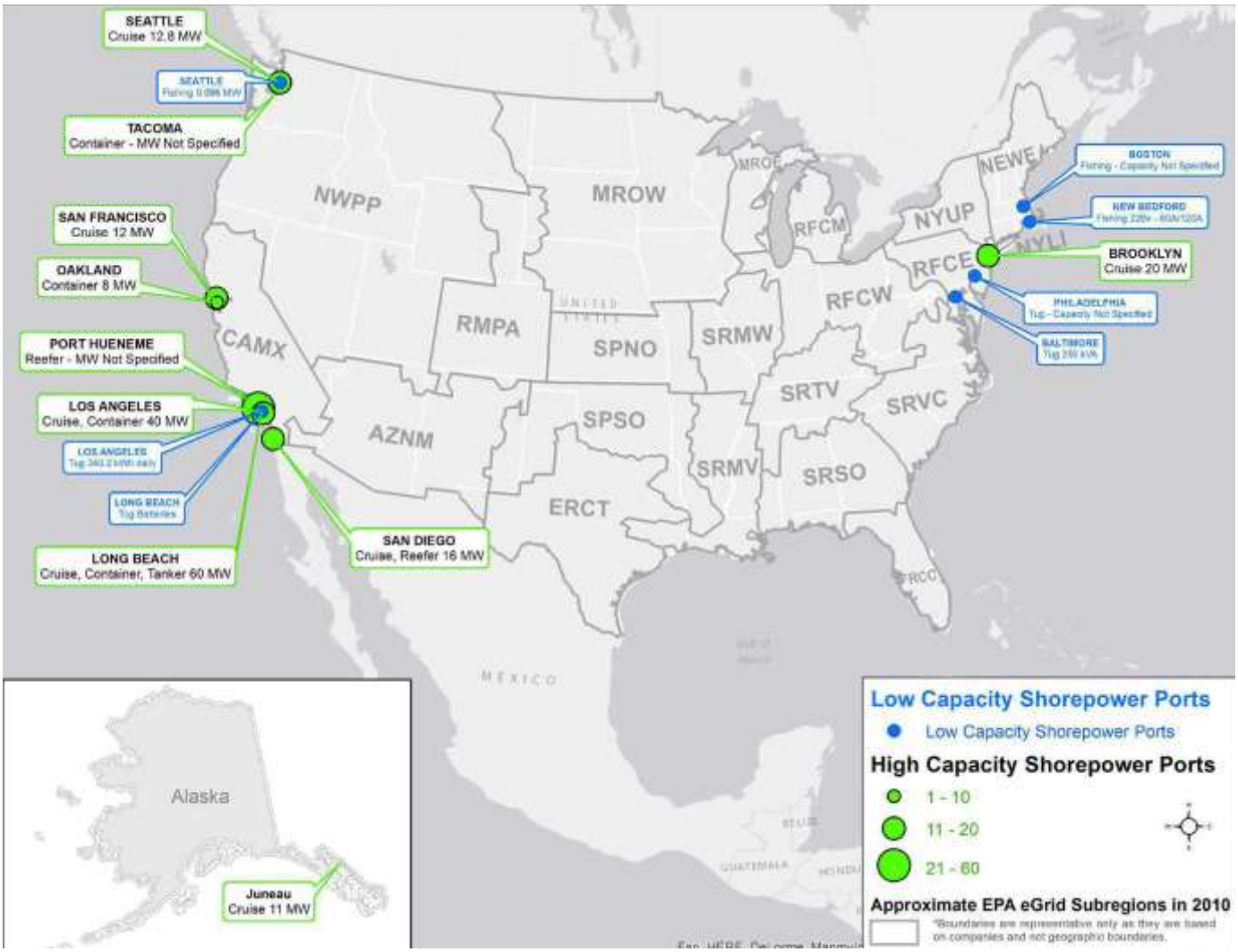
- **2014**
  Port of New York/New Jersey and New York City Economic Development Corporation (NYCEDC) installed shore power at a single berth for cruise operations, which did not become fully operational until 2017.

Air Emissions Reductions

The basis for emissions reduction claims when using shore power stems from the potential to produce the electricity ships needed to power their ancillary systems with fewer polluting emissions from landside electricity power sources (i.e. power plants), as compared to onboard diesel-powered auxiliary engines. Potential emissions savings associated with shore power therefore depend very directly on the type and grade of fuel being used by a given vessel at berth, as compared to the type and grade of fuel being used to generate electricity at the upland power plant serving that berth.[37]The emphasis for Port Everglades is cruise vessels, as opposed to liquid bulk, container, or bulk vessels for two reasons. First, cruise vessels have greater potential for emissions reductions at the port, given their far more substantial hoteling energy needs, compared to other vessel types. Second, cruise vessel call activity is far more predictable than that of other vessel types, meaning the logistics of supplying landside electrical power to cruise ships while at berth is more technically, though not necessarily economically, feasible.

[37] *Source: https://www.epa.gov/sites/production/files/2017-05/documents/420r17004-2017-update.pdf*

Figure 1.10.17: Shore Power Installations at U.S. Ports, 2017
Source: U.S. EPA



Typically, shore power systems are supplied by the regional electricity grid. In the case of Port Everglades, this would be FPL. Thus, the emissions associated with producing electricity for shore power will vary, depending on the relative shares of zero/low-emission sources (i.e. wind, solar, hydroelectric, etc.) and higher emission sources (i.e. coal, fuel oil, natural gas, etc.). The relative shares of fuel sources can change over time (and even vary hour-to-hour, depending on electricity demand). Shore power proponents note that as the electricity grid becomes cleaner and more efficient, the potential emissions reductions, compared to auxiliary engines, will grow. However, the cost of shore power electric generation and delivery, for both the vessels and the terminal, can be substantial.

The emissions reduction benefits of shore power have been estimated or reported by a number of organizations and researchers. For example, in 2007, CARB estimated that their at-berth regulations applicable to California ports would reduce localized emissions

of particulate matter (PM) by 75 percent and oxides of nitrogen (NOx) by 74 percent by 2020. These emissions reductions are expected to be achieved in one of two ways. First, fleet operators can use the "limited engine use" compliance approach by shutting off auxiliary engines (except for three or five hours of total operation), during 80 percent of port visits in 2020, and connect to grid-supplied shore power instead. Second, fleet operators can use the "emissions reduction option" compliance approach by reducing their fleet auxiliary engine emissions at berth by 80 percent; this implies that auxiliary power would come from other, lower emission sources (i.e. fuel cells) or through the use of emissions control technologies (i.e. scrubbers, or the Advanced Maritime Emissions Control System).[38] CARB compliance requirements were 70 percent in 2017, and will move to 80 percent in 2020It is important to note that the North America ECA had not yet been established at the time the CARB emission reduction estimates above were projected. The ECA for North America entered into force in 2012, and has resulted in the use of cleaner, low-sulfur fuels in commercial marine vessels, which in turn has substantially reduced NOx, SOx and Diesel PM emissions from engines on newer vessels within 200 nautical miles of the U.S. coast. Under the ECA, fuel sulfur content was limited to 1.00 percent when the ECA entered into force in August 2012, and was further limited to 0.10 percent in January 2015. Additionally, marine engines installed on vessels built on or after January 1, 2016, and operating within the ECA are subject to stringent Tier III NOx standards. These standards reduced NOx emissions by 80 percent, compared to Tier I standards.

For U.S. ships, auxiliary engines are also subject to the Federal Clean Air Act (FCAA) program. Ship auxiliary engines typically fall under Category 1 (< 5L displacement per cylinder) or Category 2 (5L to 30L displacement per cylinder), as classified by the U.S. EPA. Tiers 3 and 4 exhaust emission standards put forward by EPA require Categories 1 and 2 engine manufacturers to reduce NOx, hydrocarbon, and particulate PM emissions in newer engines for US-flagged vessels.[39]The combination of the ECA NOx emission requirements and the FCAA standards for engines on U.S. ships means that auxiliary engines are getting consistently cleaner. Therefore, the expected and observed emissions reductions from shore power vary, depending on the fuel mix of the landside electricity source and may or may not be material.

Ultimately, the studies examined by the U.S. EPA in its 2017 *Shore Power Technology Assessment* suggest that shore power could be an effective way to reduce port-related emissions of air pollution, particularly in non-attainment areas, but it is not the only means to that end. It is also the case that Port Everglades is an attainment area.

[38] *Source: https://www.epa.gov/sites/production/files/2017-05/documents/420r17004-2017-update.pdf*
[39] *Port Everglades does not currently feature a significant mix of U.S. flag vessels.*

The principal challenges with implementing shore power specific to Port Everglades include:

- Availability of electricity
- Cost
- Competitive landscape/industry trends

Availability of Electricity
Apart from cost, which is discussed below, the biggest challenge with implementing shore power on a multiple berth basis is sourcing sufficient electricity to service the loads required, particularly during peak periods (i.e. Saturdays and Sundays from November-April). A single midsized cruise ship (i.e. *Queen Mary 2*) requires electrical demand roughly equal to that of a midsized airport, such as FLL (13 megawatts) during the course of a 10-hour homeport operation. On an eight-ship cruise day – or in the future, possibly a 10-ship day – total demand at Port Everglades just for cruise-related shore power activity could range from 104-130 megawatts. To put this amount in perspective, it is equivalent to approximately 10 percent of the total output capability of the new FPL Clean Energy Center located at Port Everglades. This demand can also be erratic.
Given the loads involved, substantial power grid improvements would be required to support 1-2 high-utilization berths at Port Everglades, let alone eight or more (i.e. all cruise berths). Extensive underground transmission infrastructure would also need to be developed to connect each berth at Port Everglades to the grid.

Cost
Shore power can be expensive, particularly for ports that do not have low-cost access to renewable power (i.e. hydroelectric). Shore power becomes more economically attractive when bunker prices are high, since the cost of landside electricity must be compared directly with the cost of burning fuel onboard while at berth. In this sense, cost-effectiveness of shore power depends very directly on the cost of powering a given vessel at berth, using landside electricity vs. running the vessel's engines during the same amount of time.

In 2014, the most recent year in which the feasibility of shore power specific to Port Everglades was studied, it was determined that the cost to power a single cruise vessel at Port Everglades using shore power exceeded the cost of powering the same vessel, using onboard engines by 17 percent to 23 percent.[40] This very significant premium has major potential competitive implications for Port Everglades, which is discussed below. However, the head-to-head comparison of variable costs associated with powering a vessel at berth – particularly a cruise vessel – is only part of the equation, since fixed capital costs associated with generating and transmitting electricity to berths is substantial and must also be considered.

In 2008, FPL estimated the cost to develop shoreside infrastructure for shore power at a single berth to be $7.5 million. More recently, based on 2016 cost estimates from the Massachusetts Port Authority (Massport), shore power installation at a single berth was

[40] *Source: Port Everglades and FPL cost estimates, 2014*

estimated to cost as much as $10 million (shoreside infrastructure only). The sole existing high-capacity shore power installation on the U.S. East Coast, the single-berth Brooklyn Cruise Terminal (BCT) shore power installation in Brooklyn, New York (see Figure 1.10.17), cost approximately $20 million to develop (shoreside infrastructure only)In addition to shoreside infrastructure costs, there are usually major costs associated with expanding power generation capability to meet the large electrical demands associated with shore power, particularly during the peak season and on peak days. Port Everglades is no different. FPL estimated in 2014 that the cost of a single substation capable of powering a single cruise berth was $17.5 million.

Altogether, then, the cost per berth to develop shore power infrastructure at Port Everglades is in the range of $25 million. To power all eight of Port Everglades' existing cruise berths would likely cost as much as $200 million. Should the Port wish to install shore power at its Southport container terminal berths, additional per-berth costs would obviously factor in.

Competitive Landscape/Industry Trends

Separate but related to cost is the competitive factor. As shown in Figure 1.10.17, Brooklyn Cruise Terminal (BCT) is the only port on the U.S. East Coast to have implemented high-capacity shore power (cruise only), and shore power has not been implemented at any port on the U.S. East or Gulf Coast for containerized or non-containerized cargo vessels. The sole East Coast port (New York/New Jersey) to have installed shore power did so at just one berth.

Within Florida, the B&A team is unaware of a single port that is seriously contemplating installation of shore power. The primary reasons are cost and other feasibility issues as discussed above, but also lack of market demand, due to other technological solutions that are already surpassing shore power as a more cost-effective means of reducing overall emissions, including while at berth/in port.

The industry has made huge progress in recent years toward addressing air emissions using onboard solutions, including scrubbers and alternative fuels, primarily LNG. As of the end of 2017, onboard scrubbers had been installed on at least 137 cruise vessels as follows:

- Carnival 85
- MSC 4
- NCLH 8
- RCCL 20

Given that Carnival and RCCL accounted for 99.9 percent of Port Everglades' 2017 cruise passenger volume, the vast majority – indeed almost all – cruise vessels that regularly call Port Everglades now have scrubbers installed, either as a retrofit or as an original design component.

Looking to the future, in light of additional IMO regulations set to take effect on January 1, 2020, as well as long-term economic factors, the global cruise industry has clearly initiated

a shift toward LNG as a fuel source. LNG produces zero emissions of sulfur dioxides, and compared to marine diesel oil, has a 95 to 100 percent reduction in particulate matter, an 85 percent reduction in nitrogen oxides, and a 25 percent reduction in carbon emissions.[41] As of May, 2018, the cruise newbuild orderbook included 19 LNG-powered vessels as follows:

- AIDA 3
- Carnival Cruise Line (CCL) 2
- Costa 3
- Disney 3
- MSC 4
- P&O 2
- Ponant 1
- RCI 1

Converting to LNG offers numerous advantages. In terms of emissions, as noted above, using LNG as a primary fuel source allows cruise vessel operators to meet or exceed ECA requirements – not just while in port and not just within 200 nautical miles of the coast, but continuously; therefore, it reduces the overall impact of the global cruise fleet, including its carbon footprint. In terms of economics, the cost differential between LNG and HFO varies, but can be as much as 40 percent, and between LNG and MGO can be as much as 65 percent. Therefore, using LNG as a primary fuel source in the future could save the industry billions of dollars annually in fuel costs, assuming the majority of the global fleet eventually adopts this technology.[42]By comparison, there are currently 32 cruise vessels in the fleets of the major global cruise brands that are shore-power capable

[41] *Source: Carnival Corporation & Plc's LNG Vision*

[42] *Comparative fuel rates sourced from shipandbunker.com; aggregate fuel savings calculation based on percentage savings applied to total fleets of major cruise brands.*

Table 1.10.9: Shore Power Capable Cruise Vessels, Major Brands, 2018
Source: Massport2016 Shore Power Study

Cruise Brand	# of Vessels	Vessel Name
CCL	5	Imagination
		Inspiration
		Miracle
		Panorama
		Splendor
Cunard	1	QM2
HAL	6	Amsterdam
		Noordam
		Oosterdam
		Veendam
		Westerdam
		Zuiderdam
Princess	16	Caribbean Princess
		Coral Princess
		Crown Princess
		Dawn Princess
		Diamond Princess
		Emerald Princess
		Golden Princess
		Grand Princess
		Island Princess
		Royal Princess
		Regal Princess
		Ruby Princess
		Sapphire Princess
		Sea Princess
		Star Princess
		Sun Princess
Celebrity	1	Celebrity Eclipse
NCL	1	Norwegian Epic
Disney	2	Disney Dream
		Disney Wonder
TOTAL	**32**	

In the absence of a regulation that mandates local use of shore power, onboard emission reduction methods are strongly preferred from the perspectives of both a port and a vessel operator. For ports, onboard solutions reduce the capital burden for the port by transferring the cost of emission reduction to the rightful bearer of the cost (the vessel operator). For vessel operators, since cruise ships are inherently mobile assets that move and change locations constantly, onboard solutions allow for more flexibility in meeting different

requirements at different ports in different regions around the world; they give cruise lines more control over vessel design criteria and operating parameters, since onboard solutions can be designed and integrated to meet the specific performance targets of the vessel operator fleet-wide, as opposed to on a ship-by-ship basis, depending on the region/port in which the vessel is deployed at any given time. From an overall public benefit perspective, onboard solutions also address emissions – not just locally, but more broadly, and not merely for 8-10 hours while the vessel is berthed, but continuously throughout the vessel's global, year-round operations.

Given all of the above information related to the current status of shore power, a fair assessment would seem to be that shore power represents a past solution to reducing air emissions, with scrubbers representing the predominant interim solution and LNG being the most viable long-term solution currently envisioned. A statewide regulatory mandate for all ports in Florida to implement shore power would theoretically level the playing field between Florida ports, and would almost certainly be strongly resisted by the industry, in light of the major investments being made in scrubbers, and especially LNG going forward. Therefore, doing so uniquely at Port Everglades would not only provide a competitive advantage, but would almost certainly serve as a major competitive disadvantage for two reasons.

First, if sustained over time, the differential in cost between powering a given cruise vessel using shore power vs. doing so using ships' engines as the current practice would serve as a business deterrent, since it would effectively increase the cost of calling Port Everglades by imposing a shore power premium that Port Everglades' principal competitors – Port*Miami* and Port Canaveral – do not impose.

Second, the high costs associated with developing shore power infrastructure at Port Everglades would add as much as $200 million to the port's long-term capital program, and would create a very large opportunity cost. Since a $200 million increase in capital expenditures for shore power would most likely have to be offset by a $200 million reduction in other capital expenditures, other projects that are far more urgent in nature would need to be postponed or canceled to accommodate shore power, and such postponement or cancellation would very likely have negative commercial implications and potentially impact Port Everglades future volumes and revenue.

In summary, shore power does not appear to be feasible at Port Everglades. However, the global cruise industry and international regulatory bodies have made, and continue to make, major strides related to emission reduction policies and onboard emission reduction solutions. In other words, vessel-generated air emissions are likely to continue to decline long term, even without shore power being implemented.

Appendix C
VISSIM Model Inputs

	INPUT↓
Passenger Cars	40%
Heavy Vehicles	60%
Project Area Roadway Type	Interstate
Sum Check	100%

Vissim

Initial	Description	Revised %
Car		
12.9%	1001: Car - Honda Accord	5.2%
6.0%	1002: Car - Nissan Altima	2.4%
6.4%	1003: Car - Nissan Quest	2.6%
5.5%	1004: Car - Plymouth Voyager	2.2%
13.5%	1005: Car - Toyota Avensis	5.4%
10.6%	1006: SUV - Ford Explorer	4.2%
5.0%	1007: SUV - GMC Yukon	2.0%
5.8%	8: SUV - Jeep Grand Cherokee	2.3%
19.2%	12: LtTruck - Ford F150	7.7%
15.1%	11: LtTruck - Chevrolet Silverado	6.0%
100%		
HGV		
10.5%	1021: HGV - US AASHTO WB-40	6.7%
48.0%	22: HGV - US AASHTO WB-50	30.7%
4.5%	23: HGV - US AASHTO WB-65	2.9%
4.5%	24: HGV - US AASHTO WB-67	2.9%
5.0%	25: HGV - Flatbed	2.6%
27.5%	26: HGV - EU 04	14.2%
100%		
		100%

Note: draft version. Inputs for percentage of passenger and truck vehicles will be updated whenever TMCs data was collected.

Appendix D
VISSIM Model Results

Weekday AM

$MOVEME	TIMEINT	MOVEMENT		QLEN	QLENMAX	VEHS(ALL)	PERS(ALL)	LOS(ALL)	LOSVAL(ALL)	VEHDELAY(ALL)	PERSDELAY(ALL)	STOPDELA	STOPS(ALL	EMISSIONSCO	EMISSIONS	EMISSIONSVOC	FUELCONSUMPTION
AVG	900-1800	1-1@217.9-6@202.9		35.04	160.69	13	13	5	84.76	84.76	75.33	1	27.611	5.372	6.399	0.395	
AVG	900-1800	1-1@217.9-7@285.4		6.31	118.34	124	124	2	19.3	19.3	1.28	0.91	147.128	28.626	34.098	2.105	
AVG	900-1800	1-1@217.9-9: Eller Dr@307.6		29.02	270.47	139	139	2	17.91	17.91	9.67	0.59	151.513	29.479	35.115	2.168	
AVG	900-1800	1-5: Eller Dr@547.5-7@285.4		12.67	67.37	8	8	5	74.55	74.55	66.89	0.94	14.68	2.856	3.402	0.21	
AVG	900-1800	1-5: Eller Dr@547.5-9: Eller Dr@307.6		29.88	134.53	21	21	5	58.71	58.71	50.85	1	37.376	7.272	8.662	0.535	
AVG	900-1800	1-5: Eller Dr@547.5-13@308.0		0.35	29.43	2	2	1	5.87	5.87	1.22	1.25	3.572	0.695	0.828	0.051	
AVG	900-1800	1-20: McIntoch Rd@1425.8-6@202.9		7.31	64.27	4	4	5	54.83	54.83	47.12	0.92	7.037	1.369	1.631	0.101	
AVG	900-1800	1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0	0	5	5	3	18.65	18.65	12.7	1.11	5.636	1.097	1.306	0.081	
AVG	900-1800	1-20: McIntoch Rd@1425.8-13@308.0		63.36	214.09	31	31	5	61.45	61.45	51.82	0.83	64.885	12.624	15.038	0.928	
AVG	900-1800	1-29@295.9-7@285.4		9.2	77.37	4	4	5	67.31	67.31	61.73	0.88	8.125	1.581	1.883	0.116	
AVG	900-1800	1-32@358.1-13@308.0		20.28	158.89	88	88	2	13.56	13.56	10.86	0.4	91.11	17.727	21.116	1.303	
AVG	900-1800	1-10012@19.2-6@202.9		30.14	165.06	82	82	2	10.83	10.83	1.01	1.43	101.061	19.663	23.422	1.446	
AVG	900-1800		1	20.3	302.99	521	521	3	23.78	23.78	13.77	0.83	666.318	129.641	154.426	9.532	
AVG	1800-2700	1-1@217.9-6@202.9		29.92	126.5	13	13	5	73.72	73.72	64.33	0.94	25.485	4.958	5.906	0.365	
AVG	1800-2700	1-1@217.9-7@285.4		17.71	245.21	128	128	3	24.01	24.01	2.16	1.21	176.586	34.357	40.926	2.526	
AVG	1800-2700	1-1@217.9-9: Eller Dr@307.6		35	266.81	140	140	3	23.8	23.8	12.68	0.94	186.768	36.338	43.285	2.672	
AVG	1800-2700	1-5: Eller Dr@547.5-7@285.4		9.05	54.71	6	6	5	69.48	69.48	61.88	0.97	12.023	2.339	2.786	0.172	
AVG	1800-2700	1-5: Eller Dr@547.5-9: Eller Dr@307.6		34.1	140.37	22	22	5	73.62	73.62	61.4	1.57	49.258	9.584	11.416	0.705	
AVG	1800-2700	1-5: Eller Dr@547.5-13@308.0		0.29	33.32	2	2	1	5.62	5.62	0.67	1.3	3.813	0.742	0.884	0.055	
AVG	1800-2700	1-20: McIntoch Rd@1425.8-6@202.9		8.43	67.42	4	4	5	72.14	72.14	63.49	1	7.571	1.473	1.755	0.108	
AVG	1800-2700	1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0.08	3.32	5	5	3	23.56	23.56	15.69	1.31	7.101	1.382	1.646	0.102	
AVG	1800-2700	1-20: McIntoch Rd@1425.8-13@308.0		71.69	245.72	34	34	5	60.4	60.4	50.48	0.83	70.734	13.762	16.393	1.012	
AVG	1800-2700	1-29@295.9-7@285.4		8.78	48.32	5	5	5	75.26	75.26	70.24	0.85	9.148	1.78	2.12	0.131	
AVG	1800-2700	1-32@358.1-13@308.0		20.42	151.62	88	88	2	12.41	12.41	9.85	0.38	88.066	17.134	20.41	1.26	
AVG	1800-2700	1-10012@19.2-6@202.9		27.06	167.52	80	80	2	10.06	10.06	1.16	1.37	96.035	18.685	22.257	1.374	
AVG	1800-2700		1	21.88	342.59	528	528	3	26.98	26.98	15.14	1.01	748.449	145.621	173.46	10.707	
AVG	2700-3600	1-1@217.9-6@202.9		29.64	123.3	13	13	5	71.7	71.7	62.05	0.92	25.21	4.905	5.843	0.361	
AVG	2700-3600	1-1@217.9-7@285.4		18.07	229.01	131	131	3	24.59	24.59	2.82	1.22	181.755	35.363	42.124	2.6	
AVG	2700-3600	1-1@217.9-9: Eller Dr@307.6		35.82	320.88	145	145	3	38.88	38.88	21.06	1.88	278.694	54.224	64.59	3.987	
AVG	2700-3600	1-5: Eller Dr@547.5-7@285.4		11.47	59.88	7	7	5	75.82	75.82	68.02	1.03	13.884	2.701	3.218	0.199	
AVG	2700-3600	1-5: Eller Dr@547.5-9: Eller Dr@307.6		32.68	155.94	22	22	5	75.89	75.89	62.09	1.74	49.203	9.573	11.403	0.704	
AVG	2700-3600	1-5: Eller Dr@547.5-13@308.0		0.34	37.52	2	2	1	6.83	6.83	1.39	1.33	3.793	0.738	0.879	0.054	
AVG	2700-3600	1-20: McIntoch Rd@1425.8-6@202.9		14.19	112.17	5	5	5	67.67	67.67	59.42	0.93	8.538	1.661	1.979	0.122	
AVG	2700-3600	1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0.46	12.6	6	6	4	42.68	42.68	32.21	1.64	11.574	2.252	2.682	0.166	
AVG	2700-3600	1-20: McIntoch Rd@1425.8-13@308.0		67.35	243.66	34	34	5	58.9	58.9	49.24	0.8	69.202	13.464	16.038	0.99	
AVG	2700-3600	1-29@295.9-7@285.4		9.08	43.17	4	4	5	83.38	83.38	77.5	0.98	10.485	2.04	2.43	0.15	
AVG	2700-3600	1-32@358.1-13@308.0		22.95	166.65	88	88	2	13.06	13.06	10.42	0.4	90.496	17.607	20.973	1.295	
AVG	2700-3600	1-10012@19.2-6@202.9		35.34	202.55	84	84	2	12.33	12.33	0.94	1.56	109.862	21.375	25.462	1.572	
AVG	2700-3600		1	23.11	398.49	540	540	3	31.73	31.73	17.66	1.3	881.038	171.418	204.189	12.604	
AVG	3600-4500	1-1@217.9-6@202.9		33.87	147.45	15	15	5	73.73	73.73	63.57	0.99	30.054	5.847	6.965	0.43	
AVG	3600-4500	1-1@217.9-7@285.4		10.69	141.56	123	123	2	21.5	21.5	1.97	1.04	155.814	30.316	36.111	2.229	
AVG	3600-4500	1-1@217.9-9: Eller Dr@307.6		31.36	272.74	145	145	3	31.59	31.59	17.25	1.4	233.818	45.493	54.19	3.345	
AVG	3600-4500	1-5: Eller Dr@547.5-7@285.4		12.51	69.02	10	10	5	62.12	62.12	54.07	1.06	17.63	3.43	4.086	0.252	
AVG	3600-4500	1-5: Eller Dr@547.5-9: Eller Dr@307.6		37.35	168.19	22	22	6	87.72	87.72	72.82	2.03	56.318	10.957	13.052	0.806	
AVG	3600-4500	1-5: Eller Dr@547.5-13@308.0		0.22	26.32	2	2	1	6.09	6.09	0.97	1.27	3.331	0.648	0.772	0.048	
AVG	3600-4500	1-20: McIntoch Rd@1425.8-6@202.9		13.15	87.02	5	5	5	67.53	67.53	59.02	1.07	10.528	2.048	2.44	0.151	
AVG	3600-4500	1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0	0	8	8	3	27.81	27.81	20.28	1.28	12.656	2.462	2.933	0.181	
AVG	3600-4500	1-20: McIntoch Rd@1425.8-13@308.0		64.65	234.54	35	35	4	54.3	54.3	44.69	0.78	68.644	13.356	15.909	0.982	
AVG	3600-4500	1-29@295.9-7@285.4		5.81	42.96	4	4	4	56.51	56.51	51.24	0.98	6.484	1.262	1.503	0.093	
AVG	3600-4500	1-32@358.1-13@308.0		26.95	202.55	90	90	2	15.43	15.43	12.46	0.44	98.356	19.137	22.795	1.407	
AVG	3600-4500	1-10012@19.2-6@202.9		31.34	166.7	83	83	2	11.17	11.17	1.16	1.47	104.179	20.269	24.144	1.49	
AVG	3600-4500		1	22.33	322.61	540	540	3	29.49	29.49	17.19	1.13	818.388	159.229	189.669	11.708	
AVG	4500-5400	1-1@217.9-6@202.9		31.39	129.29	13	13	5	81.25	81.25	71.47	0.97	26.737	5.202	6.197	0.383	
AVG	4500-5400	1-1@217.9-7@285.4		8.47	130.36	127	127	3	21.72	21.72	1.83	1.04	161.499	31.422	37.429	2.31	
AVG	4500-5400	1-1@217.9-9: Eller Dr@307.6		43.57	285.69	142	142	3	31.51	31.51	17.87	1.32	231.016	44.947	53.54	3.305	
AVG	4500-5400	1-5: Eller Dr@547.5-7@285.4		13.72	87.83	8	8	5	70.61	70.61	62.61	1.02	16.578	3.226	3.842	0.237	
AVG	4500-5400	1-5: Eller Dr@547.5-9: Eller Dr@307.6		30.9	155.72	22	22	5	87.64	87.64	68.76	2.8	58.767	11.434	13.62	0.841	
AVG	4500-5400	1-5: Eller Dr@547.5-13@308.0		0.18	24.07	1	1	1	5.05	5.05	0.56	1.06	1.954	0.38	0.453	0.028	

AVG	4500-5400 1-20: McIntoch Rd@1425.8-6@202.9		7.01	80.03	4	4	4	54.26	54.26	46.25	0.96	6.957	1.353	1.612	0.1
AVG	4500-5400 1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0.33	13.08	5	5	3	19.54	19.54	14.31	1.07	6.204	1.207	1.438	0.089
AVG	4500-5400 1-20: McIntoch Rd@1425.8-13@308.0		68.88	267.08	36	36	5	55.38	55.38	44.95	0.81	70.835	13.782	16.417	1.013
AVG	4500-5400 1-29@295.9-7@285.4		12.88	74.75	6	6	6	84.8	84.8	78.75	1.04	12.218	2.377	2.832	0.175
AVG	4500-5400 1-32@358.1-13@308.0		25.83	176.82	92	92	2	15.74	15.74	12.7	0.46	103.213	20.082	23.921	1.477
AVG	4500-5400 1-10012@19.2-6@202.9		31.66	160.43	82	82	2	11.19	11.19	1.16	1.44	103.554	20.148	24	1.481
AVG	4500-5400	1	22.9	320.02	537	537	3	29.79	29.79	17.32	1.14	818.618	159.273	189.723	11.711
AVG	5400-6300 1-1@217.9-6@202.9		35.11	160.66	14	14	5	78.42	78.42	68.81	0.99	29.397	5.72	6.813	0.421
AVG	5400-6300 1-1@217.9-7@285.4		12.91	172.57	128	128	3	23.86	23.86	1.99	1.17	174.228	33.898	40.379	2.493
AVG	5400-6300 1-1@217.9-9: Eller Dr@307.6		36.95	275.15	139	139	3	32.93	32.93	19.23	1.31	229.411	44.635	53.168	3.282
AVG	5400-6300 1-5: Eller Dr@547.5-7@285.4		14.79	75.3	8	8	5	78.86	78.86	71.16	0.98	16.164	3.145	3.746	0.231
AVG	5400-6300 1-5: Eller Dr@547.5-9: Eller Dr@307.6		32.63	149.72	24	24	5	81.71	81.71	66.58	2.12	64.049	12.462	14.844	0.916
AVG	5400-6300 1-5: Eller Dr@547.5-13@308.0		0.27	29.49	2	2	1	8.27	8.27	2.39	1.31	3.857	0.75	0.894	0.055
AVG	5400-6300 1-20: McIntoch Rd@1425.8-6@202.9		8.35	66.71	5	5	5	63.13	63.13	54.88	0.98	8.518	1.657	1.974	0.122
AVG	5400-6300 1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0	0	5	5	2	19.56	19.56	14.49	1.03	6.13	1.193	1.421	0.088
AVG	5400-6300 1-20: McIntoch Rd@1425.8-13@308.0		65.71	246.77	34	34	5	57.84	57.84	48.14	0.8	68.183	13.266	15.802	0.975
AVG	5400-6300 1-29@295.9-7@285.4		4.75	30.61	3	3	5	81.11	81.11	75.98	0.99	5.926	1.153	1.373	0.085
AVG	5400-6300 1-32@358.1-13@308.0		22.46	171.39	92	92	2	14.31	14.31	11.6	0.42	98.327	19.131	22.788	1.407
AVG	5400-6300 1-10012@19.2-6@202.9		33.7	162.6	84	84	2	11.77	11.77	1.46	1.47	106.068	20.637	24.582	1.517
AVG	5400-6300	1	22.3	326.15	537	537	3	30.56	30.56	17.72	1.15	832.839	162.04	193.019	11.915
AVG	6300-7200 1-1@217.9-6@202.9		29.87	147.19	12	12	5	72.31	72.31	62.72	0.95	22.657	4.408	5.251	0.324
AVG	6300-7200 1-1@217.9-7@285.4		8.7	150.3	126	126	3	21.25	21.25	1.69	1.04	159.233	30.981	36.904	2.278
AVG	6300-7200 1-1@217.9-9: Eller Dr@307.6		33.65	285.55	142	142	3	21.51	21.51	11.64	0.78	173.131	33.685	40.125	2.477
AVG	6300-7200 1-5: Eller Dr@547.5-7@285.4		14.57	88.63	8	8	6	80.68	80.68	72.44	1.05	15.862	3.086	3.676	0.227
AVG	6300-7200 1-5: Eller Dr@547.5-9: Eller Dr@307.6		31.81	158.06	21	21	5	72.71	72.71	59.94	1.66	47.488	9.239	11.006	0.679
AVG	6300-7200 1-5: Eller Dr@547.5-13@308.0		0.37	36.24	2	2	2	16.54	16.54	9.69	1.54	3.9	0.759	0.904	0.056
AVG	6300-7200 1-20: McIntoch Rd@1425.8-6@202.9		7.83	73.95	4	4	5	66.25	66.25	58.01	1.01	7.525	1.464	1.744	0.108
AVG	6300-7200 1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0	0	7	7	3	24.55	24.55	16.97	1.31	8.433	1.641	1.954	0.121
AVG	6300-7200 1-20: McIntoch Rd@1425.8-13@308.0		70.86	246.4	36	36	5	61.52	61.52	51.4	0.84	74.85	14.563	17.347	1.071
AVG	6300-7200 1-29@295.9-7@285.4		9.36	53	5	5	5	76.04	76.04	70.78	0.96	9.747	1.896	2.259	0.139
AVG	6300-7200 1-32@358.1-13@308.0		22.07	166.73	92	92	2	13.14	13.14	10.39	0.42	95.771	18.634	22.196	1.37
AVG	6300-7200 1-10012@19.2-6@202.9		25.93	161.02	82	82	1	9.5	9.5	0.75	1.33	96.105	18.698	22.273	1.375
AVG	6300-7200	1	21.25	316.39	536	536	3	25.66	25.66	14.84	0.92	724.788	141.017	167.977	10.369
AVG	7200-8100 1-1@217.9-6@202.9		38.46	187.01	14	14	6	80.48	80.48	70.36	0.96	29.988	5.835	6.95	0.429
AVG	7200-8100 1-1@217.9-7@285.4		20.36	243.59	130	130	3	24.56	24.56	2.2	1.17	176.447	34.33	40.893	2.524
AVG	7200-8100 1-1@217.9-9: Eller Dr@307.6		47.38	338.34	129	129	2	18.38	18.38	9.76	0.61	141.907	27.61	32.888	2.03
AVG	7200-8100 1-5: Eller Dr@547.5-7@285.4		13.02	75.68	8	8	5	78.91	78.91	71.32	1.02	15.322	2.981	3.551	0.219
AVG	7200-8100 1-5: Eller Dr@547.5-9: Eller Dr@307.6		30.98	163.88	22	22	5	59.38	59.38	51.7	0.99	38.836	7.556	9.001	0.556
AVG	7200-8100 1-5: Eller Dr@547.5-13@308.0		0.32	25.58	2	2	1	6.28	6.28	0.76	1.17	3.871	0.753	0.897	0.055
AVG	7200-8100 1-20: McIntoch Rd@1425.8-6@202.9		10.65	87.39	4	4	5	73.43	73.43	64.34	1	8.605	1.674	1.994	0.123
AVG	7200-8100 1-20: McIntoch Rd@1425.8-9: Eller Dr@307.6		0.39	12.25	6	6	3	22.6	22.6	16.52	1.09	7.619	1.482	1.766	0.109
AVG	7200-8100 1-20: McIntoch Rd@1425.8-13@308.0		70.95	264.9	35	35	5	62.51	62.51	51.99	0.87	74.593	14.513	17.288	1.067
AVG	7200-8100 1-29@295.9-7@285.4		8.82	50.52	4	4	5	78.36	78.36	73.17	0.92	8.75	1.702	2.028	0.125
AVG	7200-8100 1-32@358.1-13@308.0		23.24	174.97	88	88	2	14.29	14.29	11.47	0.43	93.547	18.201	21.681	1.338
AVG	7200-8100 1-10012@19.2-6@202.9		34.62	170.19	82	82	2	11.69	11.69	1.08	1.51	105.992	20.622	24.565	1.516
AVG	7200-8100	1	24.93	438.42	524	524	3	26.42	26.42	14.92	0.92	714.546	139.025	165.603	10.222

Weekday MD
$VISION

$MOVEME	TIMEINT	MOVEMENT		QLEN	QLENMAX	VEHS(ALL)	PERS(ALL)	LOS(ALL)	LOSVAL(ALL)	VEHDELAY	PERSDELAY(ALL)	STOPDELA'	STOPS(ALL)	EMISSIONSCO	EMISSIONSNOX	EMISSIONSVOC	FUELCONSUMPTION
AVG	900-1800	1-1@217.9-6@179.5		15.27	79.9	8	8		5	76.18	76.18	67.8	0.93	14.373	2.796	3.331	0.206
AVG	900-1800	1-1@217.9-7@256.2		0.08	11.52	44	44		1	7.17	7.17	0.36	0.47	34.98	6.806	8.107	0.5
AVG	900-1800	1-1@217.9-9: Eller Dr@304.9		29.16	238.84	160	160		2	19.66	19.66	11.09	0.69	185.199	36.033	42.922	2.649
AVG	900-1800	1-5: Eller Dr@570.2-7@256.2		5.7	38.81	4	4		5	73.26	73.26	64.89	1.03	7.373	1.434	1.709	0.105
AVG	900-1800	1-5: Eller Dr@570.2-9: Eller Dr@304.9		21.59	127.45	12	12		5	66.62	66.62	57.31	1.19	24.8	4.825	5.748	0.355
AVG	900-1800	1-5: Eller Dr@570.2-13@308.0		0.51	52.57	3	3		1	6.46	6.46	0.9	1.22	4.231	0.823	0.98	0.061
AVG	900-1800	1-20: McIntoch Rd@1455.0-6@179.5		38.7	183.5	16	16		5	63.94	63.94	54.33	0.98	28.819	5.607	6.679	0.412
AVG	900-1800	1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		3.08	79.46	9	9		4	41.71	41.71	32.7	1.25	14.521	2.825	3.365	0.208
AVG	900-1800	1-20: McIntoch Rd@1455.0-13@308.0		94.45	328.36	50	50		5	60.26	60.26	49.71	0.85	104.197	20.273	24.149	1.491
AVG	900-1800	1-29@298.0-7@256.2		14.53	88.69	5	5		5	82.83	82.83	76.88	0.97	10.626	2.067	2.463	0.152
AVG	900-1800	1-32@359.9-13@308.0		13.15	140.86	54	54		2	11.29	11.29	8.68	0.38	52.522	10.219	12.173	0.751
AVG	900-1800	1-10012@20.9-6@179.5		22.65	165.16	60	60		1	9.74	9.74	0.93	1.37	70.657	13.747	16.375	1.011
AVG	900-1800		1	21.57	338.78	422	422		3	26.36	26.36	18.37	0.8	551.693	107.339	127.86	7.893
AVG	1800-2700	1-1@217.9-6@179.5		12.22	76.55	6	6		5	73.81	73.81	65.68	0.97	12.386	2.41	2.871	0.177
AVG	1800-2700	1-1@217.9-7@256.2		2.1	67.14	48	48		1	8.5	8.5	0.39	0.47	39.842	7.752	9.234	0.57
AVG	1800-2700	1-1@217.9-9: Eller Dr@304.9		42.94	279.25	165	165		3	39.55	39.55	22.66	1.82	318.17	61.904	73.739	4.552
AVG	1800-2700	1-5: Eller Dr@570.2-7@256.2		5.38	34.58	3	3		5	84.73	84.73	77.33	0.98	5.965	1.161	1.382	0.085
AVG	1800-2700	1-5: Eller Dr@570.2-9: Eller Dr@304.9		21.47	92.75	12	12		5	81.74	81.74	69.56	1.49	26.094	5.077	6.048	0.373
AVG	1800-2700	1-5: Eller Dr@570.2-13@308.0		0.43	38.81	3	3		1	7.62	7.62	2.42	1.28	5.087	0.99	1.179	0.073
AVG	1800-2700	1-20: McIntoch Rd@1455.0-6@179.5		34.77	211.55	13	13		5	68.22	68.22	59.09	0.96	24.987	4.862	5.791	0.357
AVG	1800-2700	1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		1.22	56.52	10	10		5	57.3	57.3	41.88	1.99	20.167	3.924	4.674	0.289
AVG	1800-2700	1-20: McIntoch Rd@1455.0-13@308.0		89.02	315.18	55	55		5	57.97	57.97	47.22	0.86	112.291	21.848	26.025	1.606
AVG	1800-2700	1-29@298.0-7@256.2		10.96	70.09	6	6		5	79.68	79.68	73.97	0.99	12.262	2.386	2.842	0.175
AVG	1800-2700	1-32@359.9-13@308.0		13.27	130.63	58	58		2	10.86	10.86	8.56	0.35	55.432	10.785	12.847	0.793
AVG	1800-2700	1-10012@20.9-6@179.5		20.92	164.99	58	58		1	9.27	9.27	0.77	1.32	66.97	13.03	15.521	0.958
AVG	1800-2700		1	21.23	342.24	437	437		3	34.22	34.22	22.83	1.24	719.104	139.912	166.659	10.288
AVG	2700-3600	1-1@217.9-6@179.5		11.78	77.05	7	7		5	79.16	79.16	64.84	1.71	15.628	3.041	3.622	0.224
AVG	2700-3600	1-1@217.9-7@256.2		67.52	166.47	49	49		1	7.18	7.18	0.26	0.43	38.459	7.483	8.913	0.55
AVG	2700-3600	1-1@217.9-9: Eller Dr@304.9		127.44	356.2	165	165		4	62.18	62.18	34.95	3.2	461.269	89.746	106.903	6.599
AVG	2700-3600	1-5: Eller Dr@570.2-7@256.2		5.38	39.41	4	4		5	70.96	70.96	63.66	0.96	6.812	1.325	1.579	0.097
AVG	2700-3600	1-5: Eller Dr@570.2-9: Eller Dr@304.9		19	103.24	12	12		5	86.95	86.95	70.13	2.22	32.056	6.237	7.429	0.459
AVG	2700-3600	1-5: Eller Dr@570.2-13@308.0		0.51	41.05	4	4		1	8.98	8.98	3.36	1.3	5.907	1.149	1.369	0.085
AVG	2700-3600	1-20: McIntoch Rd@1455.0-6@179.5		43.27	269.66	15	15		5	66.6	66.6	56.21	1.02	28.536	5.552	6.614	0.408
AVG	2700-3600	1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		6.16	109.12	13	13		5	65.72	65.72	44.74	2.65	31.592	6.147	7.322	0.452
AVG	2700-3600	1-20: McIntoch Rd@1455.0-13@308.0		104.05	358.34	56	56		5	62.86	62.86	52.03	0.9	121.458	23.631	28.149	1.738
AVG	2700-3600	1-29@298.0-7@256.2		14.5	90.86	6	6		6	84.98	84.98	78.75	0.97	12.656	2.462	2.933	0.181
AVG	2700-3600	1-32@359.9-13@308.0		12.28	115.85	56	56		2	10.45	10.45	8.03	0.35	53.051	10.322	12.295	0.759
AVG	2700-3600	1-10012@20.9-6@179.5		18.4	145.63	57	57		1	8.31	8.31	0.74	1.28	63.777	12.409	14.781	0.912
AVG	2700-3600		1	35.86	479.54	442	442		4	44.22	44.22	28.66	1.81	916.585	178.334	212.428	13.113
AVG	3600-4500	1-1@217.9-6@179.5		15.2	85.99	7	7		5	93.75	93.75	80.21	1.69	16.903	3.289	3.917	0.242
AVG	3600-4500	1-1@217.9-7@256.2		63.14	167.11	45	45		1	6.35	6.35	0.32	0.37	33.738	6.564	7.819	0.483
AVG	3600-4500	1-1@217.9-9: Eller Dr@304.9		125.66	399.58	167	167		5	74.94	74.94	42.15	3.96	556.914	108.355	129.07	7.967
AVG	3600-4500	1-5: Eller Dr@570.2-7@256.2		3.8	29.59	3	3		5	62.77	62.77	55.85	0.95	4.854	0.944	1.125	0.069
AVG	3600-4500	1-5: Eller Dr@570.2-9: Eller Dr@304.9		19.8	99.79	12	12		6	109.38	109.38	84.33	3.54	40.232	7.828	9.324	0.576
AVG	3600-4500	1-5: Eller Dr@570.2-13@308.0		0.29	32.1	2	2		1	4.74	4.74	0.29	1.09	3.723	0.724	0.863	0.053
AVG	3600-4500	1-20: McIntoch Rd@1455.0-6@179.5		27.41	156.48	13	13		5	64.04	64.04	54.84	1	24.038	4.677	5.571	0.344
AVG	3600-4500	1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		5.61	114.57	10	10		5	70.98	70.98	46.63	3.2	29.671	5.773	6.877	0.424
AVG	3600-4500	1-20: McIntoch Rd@1455.0-13@308.0		104.24	370.48	58	58		5	62.17	62.17	50.8	0.88	123.454	24.02	28.612	1.766
AVG	3600-4500	1-29@298.0-7@256.2		8.52	67.81	5	5		5	69.34	69.34	63.92	0.97	8.923	1.736	2.068	0.128
AVG	3600-4500	1-32@359.9-13@308.0		12.18	121.73	53	53		2	10.7	10.7	8.19	0.36	51.213	9.964	11.869	0.733
AVG	3600-4500	1-10012@20.9-6@179.5		18.36	148.74	57	57		1	8.77	8.77	0.74	1.31	64.945	12.636	15.052	0.929
AVG	3600-4500		1	33.68	492.63	431	431		4	49.94	49.94	31.7	2.17	1018.227	198.11	235.984	14.567
AVG	4500-5400	1-1@217.9-6@179.5		16.53	87.66	9	9		5	87.06	87.06	75.24	1.37	21.658	4.214	5.019	0.31
AVG	4500-5400	1-1@217.9-7@256.2		29.55	181.39	45	45		1	7.73	7.73	0.3	0.43	36.325	7.067	8.419	0.52
AVG	4500-5400	1-1@217.9-9: Eller Dr@304.9		112.32	395.99	171	171		5	94.84	94.84	55.42	4.87	675.54	131.435	156.563	9.664
AVG	4500-5400	1-5: Eller Dr@570.2-7@256.2		6.07	50.4	4	4		5	75.19	75.19	68.04	0.95	7.395	1.439	1.714	0.106
AVG	4500-5400	1-5: Eller Dr@570.2-9: Eller Dr@304.9		23.12	94.41	11	11		6	132.54	132.54	102.17	4.29	44.576	8.673	10.331	0.638

AVG	4500-5400 1-5: Eller Dr@570.2-13@308.0		0.37	33	3	3	1	9.38	9.38	3.06	1.41	5.301	1.031	1.229	0.076
AVG	4500-5400 1-20: McIntoch Rd@1455.0-6@179.5		29.66	162.04	12	12	5	63.45	63.45	54.22	0.93	21.805	4.243	5.054	0.312
AVG	4500-5400 1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		3.77	89.71	10	10	5	88.76	88.76	58.35	4.14	34.141	6.643	7.913	0.488
AVG	4500-5400 1-20: McIntoch Rd@1455.0-13@308.0		98.08	338.61	57	57	5	60.52	60.52	49.93	0.83	118.267	23.01	27.409	1.692
AVG	4500-5400 1-29@298.0-7@256.2		11.96	71.12	6	6	5	64.09	64.09	58.44	0.98	11.715	2.279	2.715	0.168
AVG	4500-5400 1-32@359.9-13@308.0		15.46	143.59	56	56	2	11.39	11.39	8.87	0.35	54.304	10.566	12.585	0.777
AVG	4500-5400 1-10012@20.9-6@179.5		26.92	188.84	61	61	2	10.59	10.59	0.87	1.39	74.476	14.49	17.261	1.065
AVG	4500-5400	1	31.15	497.05	446	446	4	57.74	57.74	36.82	2.52	1186.05	230.762	274.879	16.968
AVG	5400-6300 1-1@217.9-6@179.5		16.32	78.43	9	9	5	86.07	86.07	74.55	1.39	20.513	3.991	4.754	0.293
AVG	5400-6300 1-1@217.9-7@256.2		56	234.62	45	45	1	8.05	8.05	0.44	0.45	36.993	7.197	8.573	0.529
AVG	5400-6300 1-1@217.9-9: Eller Dr@304.9		147.66	479.17	166	166	5	111.23	111.23	67.72	5.46	736.583	143.312	170.71	10.538
AVG	5400-6300 1-5: Eller Dr@570.2-7@256.2		6.84	42.76	4	4	5	73.75	73.75	66.33	1.01	8.425	1.639	1.952	0.121
AVG	5400-6300 1-5: Eller Dr@570.2-9: Eller Dr@304.9		23.4	100.15	12	12	6	146.82	146.82	113.62	4.96	61.362	11.939	14.221	0.878
AVG	5400-6300 1-5: Eller Dr@570.2-13@308.0		0.51	43.1	3	3	1	8.9	8.9	2.72	1.46	5.714	1.112	1.324	0.082
AVG	5400-6300 1-20: McIntoch Rd@1455.0-6@179.5		35.6	167.01	14	14	5	64.77	64.77	55.09	0.97	25.892	5.038	6.001	0.37
AVG	5400-6300 1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		5.73	88.74	11	11	6	98.77	98.77	66	4.48	43.06	8.378	9.98	0.616
AVG	5400-6300 1-20: McIntoch Rd@1455.0-13@308.0		99.63	344.84	58	58	5	60.01	60.01	49.09	0.87	121.109	23.563	28.068	1.733
AVG	5400-6300 1-29@298.0-7@256.2		10.57	63.32	5	5	5	76.25	76.25	70.77	0.93	10.365	2.017	2.402	0.148
AVG	5400-6300 1-32@359.9-13@308.0		11.53	115.32	54	54	2	11.02	11.02	8.79	0.34	51.392	9.999	11.911	0.735
AVG	5400-6300 1-10012@20.9-6@179.5		22.56	189.89	59	59	1	9.76	9.76	0.95	1.39	70.019	13.623	16.227	1.002
AVG	5400-6300	1	36.36	567.53	440	440	5	65.9	65.9	43.13	2.82	1279.222	248.89	296.472	18.301
AVG	6300-7200 1-1@217.9-6@179.5		16.13	81.68	7	7	5	87.79	87.79	74.97	1.46	18.584	3.616	4.307	0.266
AVG	6300-7200 1-1@217.9-7@256.2		42.97	219.61	44	44	1	8.26	8.26	0.86	0.44	36.18	7.039	8.385	0.518
AVG	6300-7200 1-1@217.9-9: Eller Dr@304.9		161.53	462.82	164	164	5	113.78	113.78	68.01	5.78	764.819	148.806	177.254	10.942
AVG	6300-7200 1-5: Eller Dr@570.2-7@256.2		6.01	55.32	4	4	5	62.65	62.65	54.72	1.03	7.811	1.52	1.81	0.112
AVG	6300-7200 1-5: Eller Dr@570.2-9: Eller Dr@304.9		26.83	143.42	15	15	6	135.29	135.29	103	4.89	62.731	12.205	14.539	0.897
AVG	6300-7200 1-5: Eller Dr@570.2-13@308.0		0.66	45.11	4	4	1	10.69	10.69	4.03	1.44	7.733	1.505	1.792	0.111
AVG	6300-7200 1-20: McIntoch Rd@1455.0-6@179.5		35.29	202.92	13	13	5	69.19	69.19	57.91	1.28	26.139	5.086	6.058	0.374
AVG	6300-7200 1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		3	79.29	9	9	5	87.61	87.61	59.14	3.77	30.037	5.844	6.961	0.43
AVG	6300-7200 1-20: McIntoch Rd@1455.0-13@308.0		96.81	342.69	59	59	5	60.06	60.06	49.4	0.87	123.404	24.01	28.6	1.765
AVG	6300-7200 1-29@298.0-7@256.2		16.45	81.58	6	6	5	77.59	77.59	72.1	0.95	13.261	2.58	3.073	0.19
AVG	6300-7200 1-32@359.9-13@308.0		12.7	123.55	57	57	2	10.71	10.71	8.29	0.35	53.918	10.491	12.496	0.771
AVG	6300-7200 1-10012@20.9-6@179.5		20.34	159.82	58	58	1	8.87	8.87	0.79	1.31	66.03	12.847	15.303	0.945
AVG	6300-7200	1	36.56	536.95	439	439	5	66.44	66.44	43.04	2.92	1308.09	254.507	303.163	18.714
AVG	7200-8100 1-1@217.9-6@179.5		15.01	81.28	7	7	6	83.94	83.94	72.91	1.19	15.43	3.002	3.576	0.221
AVG	7200-8100 1-1@217.9-7@256.2		54.3	268.9	51	51	2	10.87	10.87	1.1	0.56	46.372	9.022	10.747	0.663
AVG	7200-8100 1-1@217.9-9: Eller Dr@304.9		175.45	525.39	168	168	5	116.66	116.66	68.27	6.07	796.847	155.038	184.677	11.4
AVG	7200-8100 1-5: Eller Dr@570.2-7@256.2		8.28	50.33	5	5	5	80.5	80.5	73.13	1	10.18	1.981	2.359	0.146
AVG	7200-8100 1-5: Eller Dr@570.2-9: Eller Dr@304.9		16.93	83.16	10	10	6	110.5	110.5	83.78	3.81	39.415	7.669	9.135	0.564
AVG	7200-8100 1-5: Eller Dr@570.2-13@308.0		0.31	33.46	2	2	1	5.6	5.6	0.87	1.19	3.627	0.706	0.841	0.052
AVG	7200-8100 1-20: McIntoch Rd@1455.0-6@179.5		29.42	168.79	14	14	5	62.37	62.37	53.7	0.93	24.955	4.855	5.784	0.357
AVG	7200-8100 1-20: McIntoch Rd@1455.0-9: Eller Dr@304.9		2.79	69.89	10	10	5	95.42	95.42	61.38	4.59	35.433	6.894	8.212	0.507
AVG	7200-8100 1-20: McIntoch Rd@1455.0-13@308.0		97.28	319.2	57	57	5	61.54	61.54	50.77	0.86	120.04	23.355	27.82	1.717
AVG	7200-8100 1-29@298.0-7@256.2		17.11	82.31	6	6	5	78.45	78.45	72.56	0.99	12.607	2.453	2.922	0.18
AVG	7200-8100 1-32@359.9-13@308.0		13.53	133.51	57	57	2	11.61	11.61	9.15	0.36	54.566	10.617	12.646	0.781
AVG	7200-8100 1-10012@20.9-6@179.5		20.35	158.28	60	60	1	9.08	9.08	0.77	1.34	69.358	13.495	16.074	0.992
AVG	7200-8100	1	37.56	555.72	446	446	5	65.36	65.36	41.2	2.95	1324.024	257.607	306.855	18.942

Weekday PM

$MOVEME	TIMEINT	MOVEMENT		QLEN	QLENMAX	VEHS(ALL)	PERS(ALL)	LOS(ALL)	LOSVAL(ALL)	VEHDELAY(ALL)	PERSDELAY(ALL)	STOPDELAY(ALL)	STOPS(ALL)	EMISSIONSCO	EMISSIONSNOX	EMISSIONSVOC	FUELCONSUMPTION
AVG	900-1800	1-1@243.9-6@194.9		8.44	55.42	5	5		5	73.12	73.12	65.68	1	9.115	1.773	2.112	0.13
AVG	900-1800	1-1@243.9-7@249.6		3.7	113.33	30	30		1	3.67	3.67	0.05	0.32	20.535	3.995	4.759	0.294
AVG	900-1800	1-1@243.9-9: Eller Dr@266.5		5.79	82.04	21	21		2	11.62	11.62	6.29	0.32	17.591	3.423	4.077	0.252
AVG	900-1800	1-5: Eller Dr@554.9-7@249.6		12.32	76.61	3	3		5	78.99	78.99	71.81	1	6.93	1.348	1.606	0.099
AVG	900-1800	1-5: Eller Dr@554.9-9: Eller Dr@266.5		10.79	68.83	6	6		5	71.03	71.03	64.55	0.93	11.025	2.145	2.555	0.158
AVG	900-1800	1-5: Eller Dr@554.9-13@282.0		0.95	67.55	4	4		1	6.45	6.45	1.16	1.27	5.55	1.08	1.286	0.079
AVG	900-1800	1-20: McIntoch Rd@1456.3-6@194.9		13.78	89.97	9	9		5	61.74	61.74	53.79	0.96	15.612	3.038	3.618	0.223
AVG	900-1800	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		14.02	90.71	3	3		3	31.8	31.8	25.22	1.03	4.021	0.782	0.932	0.058
AVG	900-1800	1-20: McIntoch Rd@1456.3-13@282.0		94.2	297.93	55	55		5	66.63	66.63	55.89	0.9	120.95	23.532	28.031	1.73
AVG	900-1800	1-29@334.8-7@249.6		19.68	134.51	6	6		5	68	68	61.46	0.95	11.526	2.243	2.671	0.165
AVG	900-1800	1-32@396.6-13@282.0		10.01	115.62	68	68		1	8.08	8.08	6.13	0.3	56.992	11.089	13.208	0.815
AVG	900-1800	1-10012@57.0-6@194.9		0.07	15.38	13	13		1	5.12	5.12	0.22	1.01	12.738	2.478	2.952	0.182
AVG	900-1800		1	16.15	298.5	222	222		3	30.22	30.22	24.56	0.6	288.496	56.131	66.862	4.127
AVG	1800-2700	1-1@243.9-6@194.9		9.03	51.5	5	5		5	71.94	71.94	64.46	0.97	9.549	1.858	2.213	0.137
AVG	1800-2700	1-1@243.9-7@249.6		7.55	158.45	33	33		1	5.71	5.71	0.17	0.44	25.574	4.976	5.927	0.366
AVG	1800-2700	1-1@243.9-9: Eller Dr@266.5		7.54	91.45	23	23		2	13.43	13.43	8.18	0.33	19.847	3.861	4.6	0.284
AVG	1800-2700	1-5: Eller Dr@554.9-7@249.6		17.82	143.82	5	5		5	74.88	74.88	66.82	1.06	9.592	1.866	2.223	0.137
AVG	1800-2700	1-5: Eller Dr@554.9-9: Eller Dr@266.5		10.16	71.73	5	5		5	62.04	62.04	54.98	0.97	9.907	1.928	2.296	0.142
AVG	1800-2700	1-5: Eller Dr@554.9-13@282.0		1.55	76.46	6	6		2	11.96	11.96	4.99	1.46	11.225	2.184	2.602	0.161
AVG	1800-2700	1-20: McIntoch Rd@1456.3-6@194.9		11.33	81.14	8	8		4	51.11	51.11	43.54	0.85	13.158	2.56	3.049	0.188
AVG	1800-2700	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		11.51	81.89	3	3		3	25.85	25.85	19.98	0.93	4.488	0.873	1.04	0.064
AVG	1800-2700	1-20: McIntoch Rd@1456.3-13@282.0		98.81	324.4	60	60		5	66.82	66.82	55.76	0.9	132.596	25.798	30.73	1.897
AVG	1800-2700	1-29@334.8-7@249.6		26.43	154.95	8	8		5	74.67	74.67	67.85	0.97	15.787	3.072	3.659	0.226
AVG	1800-2700	1-32@396.6-13@282.0		13.13	126.45	76	76		2	9.51	9.51	7.45	0.31	66.111	12.863	15.322	0.946
AVG	1800-2700	1-10012@57.0-6@194.9		0.05	8.92	13	13		1	5.12	5.12	0.37	0.95	12.448	2.422	2.885	0.178
AVG	1800-2700		1	17.91	328.58	246	246		3	30.83	30.83	24.76	0.63	326.036	63.435	75.562	4.664
AVG	2700-3600	1-1@243.9-6@194.9		9.05	62.26	5	5		5	75.5	75.5	68.03	0.9	9.051	1.761	2.098	0.129
AVG	2700-3600	1-1@243.9-7@249.6		10.63	224.13	35	35		1	6.65	6.65	0.3	0.47	27.356	5.323	6.34	0.391
AVG	2700-3600	1-1@243.9-9: Eller Dr@266.5		7.48	100.7	22	22		2	11.58	11.58	6.87	0.26	18.121	3.526	4.2	0.259
AVG	2700-3600	1-5: Eller Dr@554.9-7@249.6		22.51	124.55	5	5		6	87.11	87.11	79.63	1	11.392	2.216	2.64	0.163
AVG	2700-3600	1-5: Eller Dr@554.9-9: Eller Dr@266.5		10.44	63.47	5	5		5	73.12	73.12	65.32	1.07	10.428	2.029	2.417	0.149
AVG	2700-3600	1-5: Eller Dr@554.9-13@282.0		1.66	73.65	7	7		1	9.57	9.57	3.62	1.35	11.653	2.267	2.701	0.167
AVG	2700-3600	1-20: McIntoch Rd@1456.3-6@194.9		15.63	100.14	10	10		4	48.38	48.38	41.06	0.75	16.121	3.137	3.736	0.231
AVG	2700-3600	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		15.87	100.89	5	5		3	27.68	27.68	21.26	1.06	5.968	1.161	1.383	0.085
AVG	2700-3600	1-20: McIntoch Rd@1456.3-13@282.0		96.54	290.32	59	59		5	65.56	65.56	54.63	0.88	128.647	25.03	29.815	1.84
AVG	2700-3600	1-29@334.8-7@249.6		22.48	134.9	7	7		5	70.27	70.27	63.7	0.94	14.059	2.735	3.258	0.201
AVG	2700-3600	1-32@396.6-13@282.0		11.63	120.87	74	74		1	8.73	8.73	6.7	0.3	63.397	12.335	14.693	0.907
AVG	2700-3600	1-10012@57.0-6@194.9		0.09	12.11	13	13		1	5.51	5.51	0.36	1.03	12.243	2.382	2.837	0.175
AVG	2700-3600		1	18.67	311.2	247	247		3	30.52	30.52	24.42	0.62	324.699	63.175	75.252	4.645
AVG	3600-4500	1-1@243.9-6@194.9		8.26	49.33	5	5		6	80.72	80.72	73.34	0.98	9.94	1.934	2.304	0.142
AVG	3600-4500	1-1@243.9-7@249.6		5.86	140.51	35	35		1	5.03	5.03	0.15	0.34	25.113	4.886	5.82	0.359
AVG	3600-4500	1-1@243.9-9: Eller Dr@266.5		5.95	89.35	24	24		2	10.79	10.79	6.03	0.27	19.205	3.737	4.451	0.275
AVG	3600-4500	1-5: Eller Dr@554.9-7@249.6		16.05	119.28	4	4		5	77.03	77.03	69.37	0.99	8.165	1.589	1.892	0.117
AVG	3600-4500	1-5: Eller Dr@554.9-9: Eller Dr@266.5		14.83	90.46	6	6		5	80.99	80.99	73.32	1.03	12.704	2.472	2.944	0.182
AVG	3600-4500	1-5: Eller Dr@554.9-13@282.0		1.45	62.42	6	6		1	9.91	9.91	3.95	1.38	10.152	1.975	2.353	0.145
AVG	3600-4500	1-20: McIntoch Rd@1456.3-6@194.9		11.96	94.02	8	8		5	56.61	56.61	48.27	0.94	13.598	2.646	3.151	0.195
AVG	3600-4500	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		12.18	94.76	5	5		3	28.1	28.1	21.43	1.01	6.169	1.2	1.43	0.088
AVG	3600-4500	1-20: McIntoch Rd@1456.3-13@282.0		102.85	325.57	62	62		5	67.71	67.71	56.42	0.92	137.862	26.823	31.951	1.972
AVG	3600-4500	1-29@334.8-7@249.6		22.77	122.02	7	7		5	78.09	78.09	71.41	0.99	13.438	2.615	3.114	0.192
AVG	3600-4500	1-32@396.6-13@282.0		13.45	140.64	73	73		1	9.68	9.68	7.47	0.34	65.583	12.76	15.199	0.938
AVG	3600-4500	1-10012@57.0-6@194.9		0.04	8.56	13	13		1	5.25	5.25	0.37	0.99	12.409	2.414	2.876	0.178
AVG	3600-4500		1	17.97	325.57	247	247		3	31.2	31.2	25.1	0.63	328.246	63.865	76.074	4.696
AVG	4500-5400	1-1@243.9-6@194.9		5.79	47.1	4	4		5	60.27	60.27	52.71	1	6.447	1.254	1.494	0.092
AVG	4500-5400	1-1@243.9-7@249.6		5.54	149.51	31	31		1	5.15	5.15	0.23	0.4	22.61	4.399	5.24	0.323
AVG	4500-5400	1-1@243.9-9: Eller Dr@266.5		5.61	87.64	20	20		2	11.75	11.75	6.77	0.27	16.788	3.266	3.891	0.24
AVG	4500-5400	1-5: Eller Dr@554.9-7@249.6		25.42	139.19	5	5		6	81.83	81.83	73.83	1	11.327	2.204	2.625	0.162
AVG	4500-5400	1-5: Eller Dr@554.9-9: Eller Dr@266.5		13.3	80.46	6	6		6	96.11	96.11	88.18	1.07	11.934	2.322	2.766	0.171
AVG	4500-5400	1-5: Eller Dr@554.9-13@282.0		2.2	79.01	6	6		2	12.26	12.26	5.47	1.39	10.061	1.957	2.332	0.144
AVG	4500-5400	1-20: McIntoch Rd@1456.3-6@194.9		13.44	90.95	8	8		4	54.91	54.91	46.78	0.89	13.993	2.723	3.243	0.2
AVG	4500-5400	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		13.69	91.69	4	4		3	31.49	31.49	25.58	0.85	5.267	1.025	1.221	0.075
AVG	4500-5400	1-20: McIntoch Rd@1456.3-13@282.0		111.96	340.96	61	61		5	70.86	70.86	59.27	0.92	139.741	27.189	32.386	1.999

AVG	4500-5400	1-29@334.8-7@249.6		23.04	119.41	7	7	5	71.62	71.62	65.27	0.96	13.994	2.723	3.243	0.2
AVG	4500-5400	1-32@396.6-13@282.0		10.91	113.62	64	64	1	8.59	8.59	6.56	0.31	55.134	10.727	12.778	0.789
AVG	4500-5400	1-10012@57.0-6@194.9		0.15	15.94	14	14	1	5.4	5.4	0.26	1.06	13.974	2.719	3.239	0.2
AVG	4500-5400		1	19.26	341.04	230	230	3	33.38	33.38	27.05	0.65	316.509	61.581	73.354	4.528
AVG	5400-6300	1-1@243.9-6@194.9		10.48	62.02	5	5	6	87.31	87.31	79.52	0.98	11.338	2.206	2.628	0.162
AVG	5400-6300	1-1@243.9-7@249.6		4.37	121.64	32	32	1	4.2	4.2	0.17	0.31	22.034	4.287	5.107	0.315
AVG	5400-6300	1-1@243.9-9: Eller Dr@266.5		5.33	92.63	24	24	2	10.71	10.71	5.87	0.27	19.493	3.793	4.518	0.279
AVG	5400-6300	1-5: Eller Dr@554.9-7@249.6		16.42	91.58	4	4	5	81.93	81.93	73.95	1.02	8.503	1.654	1.971	0.122
AVG	5400-6300	1-5: Eller Dr@554.9-9: Eller Dr@266.5		14.38	82.61	6	6	5	71.75	71.75	65.03	0.95	10.682	2.078	2.476	0.153
AVG	5400-6300	1-5: Eller Dr@554.9-13@282.0		2.54	81.1	7	7	2	11.71	11.71	4.75	1.52	12.566	2.445	2.912	0.18
AVG	5400-6300	1-20: McIntoch Rd@1456.3-6@194.9		13.25	90.99	7	7	5	60.59	60.59	52.52	0.89	12.09	2.352	2.802	0.173
AVG	5400-6300	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		13.46	91.73	5	5	4	36.54	36.54	29.02	1	6.963	1.355	1.614	0.1
AVG	5400-6300	1-20: McIntoch Rd@1456.3-13@282.0		106.54	321.53	62	62	5	69.47	69.47	58.06	0.92	140.031	27.245	32.453	2.003
AVG	5400-6300	1-29@334.8-7@249.6		23.16	124.28	6	6	5	76.83	76.83	70	1.01	13.105	2.55	3.037	0.187
AVG	5400-6300	1-32@396.6-13@282.0		12.69	134.93	71	71	2	9.84	9.84	7.71	0.32	62.845	12.227	14.565	0.899
AVG	5400-6300	1-10012@57.0-6@194.9		0.14	24.17	14	14	1	5.35	5.35	0.24	1.04	13.623	2.651	3.157	0.195
AVG	5400-6300		1	18.56	321.53	243	243	3	32.47	32.47	26.36	0.63	327.029	63.628	75.792	4.679
AVG	6300-7200	1-1@243.9-6@194.9		9.59	62.92	5	5	5	83.68	83.68	75.67	0.96	10.442	2.032	2.42	0.149
AVG	6300-7200	1-1@243.9-7@249.6		5.94	127.93	35	35	1	5.01	5.01	0.09	0.39	25.156	4.894	5.83	0.36
AVG	6300-7200	1-1@243.9-9: Eller Dr@266.5		8.09	96.78	25	25	2	13.43	13.43	8.01	0.31	21.571	4.197	4.999	0.309
AVG	6300-7200	1-5: Eller Dr@554.9-7@249.6		16.22	116.28	4	4	5	74.46	74.46	66.92	0.97	7.881	1.533	1.826	0.113
AVG	6300-7200	1-5: Eller Dr@554.9-9: Eller Dr@266.5		12.76	83.88	7	7	5	71.46	71.46	65.02	0.97	12.83	2.496	2.973	0.184
AVG	6300-7200	1-5: Eller Dr@554.9-13@282.0		1.92	71.92	7	7	2	13.6	13.6	6.28	1.51	12.587	2.449	2.917	0.18
AVG	6300-7200	1-20: McIntoch Rd@1456.3-6@194.9		11.23	84.96	8	8	5	58.78	58.78	50.86	0.93	13.4	2.607	3.106	0.192
AVG	6300-7200	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		11.46	85.77	2	2	2	19.21	19.21	14.04	0.76	2.89	0.562	0.67	0.041
AVG	6300-7200	1-20: McIntoch Rd@1456.3-13@282.0		103.18	300.49	66	66	5	67.09	67.09	55.92	0.92	146.086	28.423	33.857	2.09
AVG	6300-7200	1-29@334.8-7@249.6		28.94	168.15	9	9	5	71.98	71.98	65.16	0.96	16.527	3.216	3.83	0.236
AVG	6300-7200	1-32@396.6-13@282.0		12.8	133.73	72	72	2	9.4	9.4	7.32	0.31	62.73	12.205	14.538	0.897
AVG	6300-7200	1-10012@57.0-6@194.9		0.1	21.85	13	13	1	5.14	5.14	0.26	1.01	12.544	2.441	2.907	0.179
AVG	6300-7200		1	18.52	303.52	251	251	3	31.96	31.96	25.77	0.63	338.451	65.85	78.439	4.842
AVG	7200-8100	1-1@243.9-6@194.9		9.97	54.28	5	5	6	83.61	83.61	75.99	1	10.914	2.123	2.529	0.156
AVG	7200-8100	1-1@243.9-7@249.6		7.36	159.57	33	33	1	5.41	5.41	0.14	0.37	23.557	4.583	5.46	0.337
AVG	7200-8100	1-1@243.9-9: Eller Dr@266.5		7.68	91.99	24	24	2	11.94	11.94	7.02	0.31	20.072	3.905	4.652	0.287
AVG	7200-8100	1-5: Eller Dr@554.9-7@249.6		20.79	136.78	4	4	5	66.28	66.28	58.79	1.01	8.835	1.719	2.048	0.126
AVG	7200-8100	1-5: Eller Dr@554.9-9: Eller Dr@266.5		13.78	87.77	5	5	6	93.8	93.8	86.01	1.07	11.734	2.283	2.72	0.168
AVG	7200-8100	1-5: Eller Dr@554.9-13@282.0		1.81	70.06	6	6	1	9.45	9.45	2.98	1.41	9.852	1.917	2.283	0.141
AVG	7200-8100	1-20: McIntoch Rd@1456.3-6@194.9		14.95	90.49	8	8	5	58.21	58.21	50.17	0.87	13.715	2.669	3.179	0.196
AVG	7200-8100	1-20: McIntoch Rd@1456.3-9: Eller Dr@266.5		15.2	91.24	5	5	3	26.72	26.72	20.72	0.94	6.347	1.235	1.471	0.091
AVG	7200-8100	1-20: McIntoch Rd@1456.3-13@282.0		98.99	321.42	58	58	5	67.95	67.95	56.78	0.91	129.821	25.258	30.087	1.857
AVG	7200-8100	1-29@334.8-7@249.6		38.03	175.04	9	9	6	89.7	89.7	82.53	1	20.154	3.921	4.671	0.288
AVG	7200-8100	1-32@396.6-13@282.0		12.82	116.71	76	76	1	9.09	9.09	7.1	0.3	64.442	12.538	14.935	0.922
AVG	7200-8100	1-10012@57.0-6@194.9		0.15	19.72	13	13	1	5.34	5.34	0.24	1.01	12.42	2.417	2.879	0.178
AVG	7200-8100		1	20.13	325.39	246	246	3	32.15	32.15	26.16	0.62	327.915	63.8	75.998	4.691

Weekend AM

$MOVEME	TIMEINT	MOVEMENT		QLEN	QLENMAX	VEHS(ALL)	PERS(ALL)	LOS(ALL)	LOSVAL(ALL)	VEHDELAY(ALL)	PERSDELAY(ALL)	STOPDELAY(ALL)	STOPS(ALL)	EMISSIONSCO	EMISSIONSNOX	EMISSIONSVOC	FUELCONSUMPTION
AVG	900-1800	1-1@217.9-6@222.0		9.53	50.45	6	6		5	72.95	72.95	65.75	0.9	12.416	2.416	2.878	0.178
AVG	900-1800	1-1@217.9-7@256.2		0.03	7.75	87	87		1	5.08	5.08	0.2	0.33	62.882	12.235	14.574	0.9
AVG	900-1800	1-1@217.9-9: Eller Dr@313.6		13.08	147.8	124	124		1	10.64	10.64	5.81	0.37	110.017	21.405	25.497	1.574
AVG	900-1800	1-5: Eller Dr@528.0-7@256.2		11.67	81.28	7	7		5	57.96	57.96	51.52	0.82	11.693	2.275	2.71	0.167
AVG	900-1800	1-5: Eller Dr@528.0-9: Eller Dr@313.6		36.64	161.47	23	23		5	64.48	64.48	56.61	0.99	43.581	8.479	10.1	0.623
AVG	900-1800	1-5: Eller Dr@528.0-13@308.0		0.59	51.74	2	2		1	6.66	6.66	1.66	1.31	2.745	0.534	0.636	0.039
AVG	900-1800	1-20: McIntoch Rd@1455.0-6@222.0		8.05	58.04	4	4		5	74.66	74.66	67.27	0.97	7.774	1.512	1.802	0.111
AVG	900-1800	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	4	4		3	23.79	23.79	19.02	1.01	5.039	0.98	1.168	0.072
AVG	900-1800	1-20: McIntoch Rd@1455.0-13@308.0		16.17	91.68	6	6		5	60.73	60.73	53.76	0.89	13.599	2.646	3.152	0.195
AVG	900-1800	1-29@290.1-7@256.2		4.7	32.75	3	3		6	90.54	90.54	85.4	1	5.847	1.138	1.355	0.084
AVG	900-1800	1-32@352.4-13@308.0		15.96	147.72	119	119		1	9.2	9.2	7.08	0.33	108.435	21.097	25.131	1.551
AVG	900-1800	1-10012@13.6-6@222.0		81.43	265.33	114	114		3	20.02	20.02	1.09	2.21	194.387	37.821	45.051	2.781
AVG	900-1800		1	16.49	274.94	498	498		2	17.22	17.22	9.49	0.84	595.965	115.953	138.121	8.526
AVG	1800-2700	1-1@217.9-6@222.0		9.54	48	6	6		5	77.28	77.28	69.77	0.99	12.354	2.404	2.863	0.177
AVG	1800-2700	1-1@217.9-7@256.2		0.05	12.01	87	87		1	4.94	4.94	0.2	0.37	63.397	12.335	14.693	0.907
AVG	1800-2700	1-1@217.9-9: Eller Dr@313.6		15.29	174.74	128	128		2	9.88	9.88	5.38	0.3	108.654	21.14	25.182	1.554
AVG	1800-2700	1-5: Eller Dr@528.0-7@256.2		7.81	57.69	5	5		5	62.4	62.4	54.78	0.98	9.254	1.801	2.145	0.132
AVG	1800-2700	1-5: Eller Dr@528.0-9: Eller Dr@313.6		41.75	180.45	25	25		5	67.7	67.7	59.73	0.96	46.432	9.034	10.761	0.664
AVG	1800-2700	1-5: Eller Dr@528.0-13@308.0		0.37	45.79	2	2		1	7.79	7.79	2.06	1.28	3.887	0.756	0.901	0.056
AVG	1800-2700	1-20: McIntoch Rd@1455.0-6@222.0		7.7	59.41	4	4		5	76.28	76.28	68.36	1.01	8.064	1.569	1.869	0.115
AVG	1800-2700	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	4	4		3	19.62	19.62	14.62	1.06	5.224	1.016	1.211	0.075
AVG	1800-2700	1-20: McIntoch Rd@1455.0-13@308.0		19.59	99.54	7	7		5	68.22	68.22	60.78	0.86	14.31	2.784	3.317	0.205
AVG	1800-2700	1-29@290.1-7@256.2		4.58	32.3	3	3		5	74.49	74.49	69.47	0.97	6.096	1.186	1.413	0.087
AVG	1800-2700	1-32@352.4-13@308.0		14.9	133.56	111	111		1	9.37	9.37	7.11	0.34	103.353	20.109	23.953	1.479
AVG	1800-2700	1-10012@13.6-6@222.0		144.17	386.32	120	120		3	33.7	33.7	1.62	3.53	295.843	57.56	68.565	4.232
AVG	1800-2700		1	22.15	397.16	501	501		3	20.67	20.67	9.55	1.19	707.515	137.657	163.973	10.122
AVG	2700-3600	1-1@217.9-6@222.0		12.07	74.04	6	6		5	73.95	73.95	65.99	1.01	12.923	2.514	2.995	0.185
AVG	2700-3600	1-1@217.9-7@256.2		0.04	11.21	87	87		1	5.65	5.65	0.24	0.43	66.902	13.017	15.505	0.957
AVG	2700-3600	1-1@217.9-9: Eller Dr@313.6		16.8	148.65	122	122		2	11.71	11.71	6.43	0.4	111.937	21.779	25.943	1.601
AVG	2700-3600	1-5: Eller Dr@528.0-7@256.2		10.16	95.97	5	5		5	59.75	59.75	52.17	0.9	8.879	1.728	2.058	0.127
AVG	2700-3600	1-5: Eller Dr@528.0-9: Eller Dr@313.6		35.81	164.44	25	25		5	63.59	63.59	55.36	1.02	46.519	9.051	10.781	0.666
AVG	2700-3600	1-5: Eller Dr@528.0-13@308.0		0.33	38.51	1	1		1	8.03	8.03	2.86	1.19	4.003	0.779	0.928	0.057
AVG	2700-3600	1-20: McIntoch Rd@1455.0-6@222.0		12.58	82.02	5	5		6	78.57	78.57	70.51	0.97	10.022	1.95	2.323	0.143
AVG	2700-3600	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	5	5		3	37.34	37.34	30.27	1.25	7.05	1.372	1.634	0.101
AVG	2700-3600	1-20: McIntoch Rd@1455.0-13@308.0		18.28	100	7	7		5	63.32	63.32	56.26	0.83	14.239	2.77	3.3	0.204
AVG	2700-3600	1-29@290.1-7@256.2		3.93	32.01	3	3		5	68.25	68.25	63.09	0.95	6.197	1.206	1.436	0.089
AVG	2700-3600	1-32@352.4-13@308.0		16.67	151.17	116	116		1	9.65	9.65	7.21	0.36	110.653	21.529	25.645	1.583
AVG	2700-3600	1-10012@13.6-6@222.0		192.52	424.02	121	121		4	42.73	42.73	2.16	4.48	368.427	71.683	85.387	5.271
AVG	2700-3600		1	26.6	430.39	503	503		3	23.65	23.65	10.05	1.46	810.907	157.773	187.936	11.601
AVG	3600-4500	1-1@217.9-6@222.0		11.28	63.63	8	8		5	71.74	71.74	64.4	0.94	14.756	2.871	3.42	0.211
AVG	3600-4500	1-1@217.9-7@256.2		0.08	8.97	88	88		1	6.12	6.12	0.31	0.41	67.902	13.211	15.737	0.971
AVG	3600-4500	1-1@217.9-9: Eller Dr@313.6		15.42	171.41	129	129		2	11.18	11.18	6.18	0.36	115.572	22.486	26.785	1.653
AVG	3600-4500	1-5: Eller Dr@528.0-7@256.2		12.31	100.42	8	8		5	65.25	65.25	57.6	0.98	14.405	2.803	3.338	0.206
AVG	3600-4500	1-5: Eller Dr@528.0-9: Eller Dr@313.6		34.74	159.12	24	24		5	63.86	63.86	56.08	1.02	45.457	8.844	10.535	0.65
AVG	3600-4500	1-5: Eller Dr@528.0-13@308.0		0.13	27.61	1	1		1	4.3	4.3	0.22	1.06	1.721	0.335	0.399	0.025
AVG	3600-4500	1-20: McIntoch Rd@1455.0-6@222.0		12.97	79.54	7	7		5	73.87	73.87	66.09	0.99	12.924	2.515	2.995	0.185
AVG	3600-4500	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	6	6		3	27.4	27.4	21.94	1.09	8.161	1.588	1.891	0.117
AVG	3600-4500	1-20: McIntoch Rd@1455.0-13@308.0		24.54	132.12	8	8		5	62.95	62.95	55.43	0.82	16.486	3.208	3.821	0.236
AVG	3600-4500	1-29@290.1-7@256.2		4.7	32.48	3	3		5	70.44	70.44	65.31	1	6.715	1.307	1.556	0.096
AVG	3600-4500	1-32@352.4-13@308.0		18.46	158.54	121	121		2	10.41	10.41	8.09	0.35	115.112	22.397	26.678	1.647
AVG	3600-4500	1-10012@13.6-6@222.0		209.93	421.37	121	121		3	41.3	41.3	2.36	4.42	364.195	70.859	84.406	5.21
AVG	3600-4500		1	28.71	423.09	523	523		3	23.64	23.64	10.72	1.41	827.016	160.907	191.669	11.831
AVG	4500-5400	1-1@217.9-6@222.0		12.42	65.61	8	8		5	78.96	78.96	71.4	0.96	15.646	3.044	3.626	0.224
AVG	4500-5400	1-1@217.9-7@256.2		0.01	4.06	80	80		1	5.58	5.58	0.26	0.47	63.247	12.306	14.658	0.905
AVG	4500-5400	1-1@217.9-9: Eller Dr@313.6		15.61	175.1	124	124		2	11.35	11.35	6.31	0.36	111.932	21.778	25.941	1.601
AVG	4500-5400	1-5: Eller Dr@528.0-7@256.2		12.06	98.74	6	6		5	67.68	67.68	59.77	1.01	11.396	2.217	2.641	0.163
AVG	4500-5400	1-5: Eller Dr@528.0-9: Eller Dr@313.6		36.14	170.19	26	26		5	59.37	59.37	51.84	0.94	45.224	8.799	10.481	0.647
AVG	4500-5400	1-5: Eller Dr@528.0-13@308.0		0.19	21.6	1	1		1	5.26	5.26	0.72	1.19	3.216	0.626	0.745	0.046
AVG	4500-5400	1-20: McIntoch Rd@1455.0-6@222.0		9.19	61.2	4	4		5	71.74	71.74	64.38	0.95	8.029	1.562	1.861	0.115
AVG	4500-5400	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	4	4		2	17.97	17.97	13.56	0.9	4.842	0.942	1.122	0.069
AVG	4500-5400	1-20: McIntoch Rd@1455.0-13@308.0		17.29	97.99	7	7		5	62.64	62.64	55.35	0.83	14.613	2.843	3.387	0.209

AVG	4500-5400	1-29@290.1-7@256.2		5.84	34.34	3	3	5	89.24	89.24	84.26	0.98	8.105	1.577	1.878	0.116
AVG	4500-5400	1-32@352.4-13@308.0		16.03	133.65	116	116	2	10.19	10.19	7.72	0.35	109.502	21.305	25.378	1.567
AVG	4500-5400	1-10012@13.6-6@222.0		241.96	487.94	122	122	4	48.48	48.48	2.91	5.14	417.015	81.136	96.647	5.966
AVG	4500-5400		1	30.56	496.65	500	500	3	25.47	25.47	10.54	1.64	862.187	167.75	199.82	12.335
AVG	5400-6300	1-1@217.9-6@222.0		7.99	42.96	5	5	5	76.21	76.21	69.22	0.87	10.278	2	2.382	0.147
AVG	5400-6300	1-1@217.9-7@256.2		0.07	6.92	85	85	1	5.88	5.88	0.34	0.45	65.705	12.784	15.228	0.94
AVG	5400-6300	1-1@217.9-9: Eller Dr@313.6		18.51	195.6	126	126	2	11.72	11.72	6.34	0.38	115.526	22.477	26.774	1.653
AVG	5400-6300	1-5: Eller Dr@528.0-7@256.2		12.18	97.7	7	7	5	72.22	72.22	64.33	1.05	14.387	2.799	3.334	0.206
AVG	5400-6300	1-5: Eller Dr@528.0-9: Eller Dr@313.6		40.94	194.69	25	25	5	64.5	64.5	56.81	0.95	47.032	9.151	10.9	0.673
AVG	5400-6300	1-5: Eller Dr@528.0-13@308.0		0.59	56.01	2	2	1	8.97	8.97	2.72	1.44	3.71	0.722	0.86	0.053
AVG	5400-6300	1-20: McIntoch Rd@1455.0-6@222.0		9.15	69.12	5	5	5	64.65	64.65	57.18	0.97	9.95	1.936	2.306	0.142
AVG	5400-6300	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	3	3	3	27.1	27.1	21.98	1.04	5.237	1.019	1.214	0.075
AVG	5400-6300	1-20: McIntoch Rd@1455.0-13@308.0		23.86	129.29	9	9	5	67.89	67.89	60.6	0.85	18.251	3.551	4.23	0.261
AVG	5400-6300	1-29@290.1-7@256.2		5.9	32.09	4	4	5	77.21	77.21	72.33	0.93	7.482	1.456	1.734	0.107
AVG	5400-6300	1-32@352.4-13@308.0		16.35	154.47	111	111	1	9.39	9.39	7.15	0.33	102.369	19.917	23.725	1.465
AVG	5400-6300	1-10012@13.6-6@222.0		219.52	417.11	118	118	3	48.98	48.98	2.53	5.32	422.591	82.221	97.94	6.046
AVG	5400-6300		1	29.59	441.16	500	500	3	26.11	26.11	10.79	1.7	874.284	170.104	202.624	12.508
AVG	6300-7200	1-1@217.9-6@222.0		13.7	72.2	7	7	6	83.75	83.75	75.93	0.94	14.586	2.838	3.381	0.209
AVG	6300-7200	1-1@217.9-7@256.2		0.2	30.82	90	90	1	7.15	7.15	0.3	0.44	71.44	13.9	16.557	1.022
AVG	6300-7200	1-1@217.9-9: Eller Dr@313.6		15.36	152.04	117	117	2	11.23	11.23	6.23	0.34	103.791	20.194	24.054	1.485
AVG	6300-7200	1-5: Eller Dr@528.0-7@256.2		10.38	79.16	8	8	5	69.95	69.95	62.03	1.02	14.244	2.771	3.301	0.204
AVG	6300-7200	1-5: Eller Dr@528.0-9: Eller Dr@313.6		33.07	155.07	22	22	5	62.22	62.22	54.27	1.03	42.115	8.194	9.76	0.602
AVG	6300-7200	1-5: Eller Dr@528.0-13@308.0		0.3	32.22	1	1	1	7.62	7.62	2	1.39	3.118	0.607	0.723	0.045
AVG	6300-7200	1-20: McIntoch Rd@1455.0-6@222.0		9.64	79.1	5	5	5	69.03	69.03	61.39	0.97	9.288	1.807	2.153	0.133
AVG	6300-7200	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	6	6	3	24.18	24.18	17.84	1.17	8.043	1.565	1.864	0.115
AVG	6300-7200	1-20: McIntoch Rd@1455.0-13@308.0		21.42	101.23	7	7	5	67.82	67.82	60.48	0.91	16.374	3.186	3.795	0.234
AVG	6300-7200	1-29@290.1-7@256.2		5.14	39.36	4	4	5	62.06	62.06	56.9	1	6.83	1.329	1.583	0.098
AVG	6300-7200	1-32@352.4-13@308.0		16.23	128.44	111	111	2	10.34	10.34	8.02	0.35	106.119	20.647	24.594	1.518
AVG	6300-7200	1-10012@13.6-6@222.0		209.35	446.34	122	122	4	45.68	45.68	2.37	4.72	388.648	75.617	90.073	5.56
AVG	6300-7200		1	27.9	446.34	499	499	3	24.98	24.98	10.45	1.52	832.939	162.06	193.042	11.916
AVG	7200-8100	1-1@217.9-6@222.0		8.04	52.52	5	5	5	82.35	82.35	74.7	0.99	10.029	1.951	2.324	0.143
AVG	7200-8100	1-1@217.9-7@256.2		0.14	19.24	87	87	1	5.92	5.92	0.24	0.41	66.189	12.878	15.34	0.947
AVG	7200-8100	1-1@217.9-9: Eller Dr@313.6		17.34	164.75	128	128	2	10.63	10.63	5.99	0.3	110.852	21.568	25.691	1.586
AVG	7200-8100	1-5: Eller Dr@528.0-7@256.2		11.44	91.15	7	7	5	72.09	72.09	64.3	0.95	13.355	2.598	3.095	0.191
AVG	7200-8100	1-5: Eller Dr@528.0-9: Eller Dr@313.6		37.45	195.12	24	24	5	61.57	61.57	54.05	0.94	43.684	8.499	10.124	0.625
AVG	7200-8100	1-5: Eller Dr@528.0-13@308.0		0.21	28.64	1	1	1	7.06	7.06	1.91	1.14	2.184	0.425	0.506	0.031
AVG	7200-8100	1-20: McIntoch Rd@1455.0-6@222.0		12.14	77.86	5	5	5	75.98	75.98	68.05	0.95	9.703	1.888	2.249	0.139
AVG	7200-8100	1-20: McIntoch Rd@1455.0-9: Eller Dr@313.6		0	0	4	4	2	21.38	21.38	16.41	0.99	5.638	1.097	1.307	0.081
AVG	7200-8100	1-20: McIntoch Rd@1455.0-13@308.0		20.98	143.2	8	8	5	66.12	66.12	57.93	0.93	18.898	3.677	4.38	0.27
AVG	7200-8100	1-29@290.1-7@256.2		4.85	30.08	3	3	5	78.2	78.2	73.18	0.97	7.719	1.502	1.789	0.11
AVG	7200-8100	1-32@352.4-13@308.0		15.5	152.45	112	112	1	9.53	9.53	7.18	0.35	105.211	20.47	24.384	1.505
AVG	7200-8100	1-10012@13.6-6@222.0		193.78	449.51	118	118	4	44.22	44.22	2.33	4.67	373.656	72.7	86.598	5.346
AVG	7200-8100		1	26.82	451	502	502	3	23.72	23.72	10.11	1.46	810.482	157.69	187.837	11.595

Weekend MD

$MOVEME	TIMEINT	MOVEMENT	QLEN	QLENMAX	VEHS(ALL)	PERS(ALL)	LOS(ALL)	LOSVAL(ALL)	VEHDELAY(ALL)	PERSDELAY(ALL)	STOPDELAY(ALL)	STOPS(ALL)	EMISSIONSCO	EMISSIONSNOX	EMISSIONSVOC	FUELCONSUMPTION
AVG	900-1800	1-1@217.9-6@222.0	12.26	67.88	7	7	5	69.46	69.46	61.9	0.93	14.131	2.749	3.275	0.202
AVG	900-1800	1-1@217.9-7@256.2	0	0	16	16	1	2.9	2.9	0.07	0.24	10.459	2.035	2.424	0.15
AVG	900-1800	1-1@217.9-9: Eller Dr@323.6	12.72	169.65	164	164	1	9.45	9.45	4.42	0.36	144.547	28.124	33.5	2.068
AVG	900-1800	1-5: Eller Dr@528.0-7@256.2	1.34	16.56	0	0	5	93.39	93.39	85.93	1	2.27	0.442	0.526	0.032
AVG	900-1800	1-5: Eller Dr@528.0-9: Eller Dr@323.6	12.58	62.24	7	7	5	78.27	78.27	71.18	1.04	14.416	2.805	3.341	0.206
AVG	900-1800	1-5: Eller Dr@528.0-13@308.0	0.68	60.74	2	2	1	5.79	5.79	0.86	1.2	3.435	0.668	0.796	0.049
AVG	900-1800	1-20: McIntoch Rd@1455.0-6@222.0	11.44	82.19	6	6	5	65.76	65.76	58.35	0.96	11.691	2.275	2.709	0.167
AVG	900-1800	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6	0	0	6	6	3	28.66	28.66	19.84	1.42	9.049	1.761	2.097	0.129
AVG	900-1800	1-20: McIntoch Rd@1455.0-13@308.0	25.74	131.1	12	12	5	62.65	62.65	54.54	0.9	26.178	5.093	6.067	0.375
AVG	900-1800	1-29@279.9-7@256.2	5.17	47.29	4	4	5	63.35	63.35	58.29	0.91	6.694	1.302	1.551	0.096
AVG	900-1800	1-32@342.2-13@308.0	7.6	104.71	77	77	1	5.73	5.73	4.21	0.23	60.581	11.787	14.04	0.867
AVG	900-1800	1-10012@3.5-6@222.0	12.34	104.05	58	58	1	6.62	6.62	0.34	1.17	63.271	12.31	14.664	0.905
AVG	900-1800	1	8.49	180.75	361	361	2	14.18	14.18	9.49	0.54	367.503	71.503	85.172	5.258
AVG	1800-2700	1-1@217.9-6@222.0	10	62.21	7	7	5	67.69	67.69	60.24	0.97	12.719	2.475	2.948	0.182
AVG	1800-2700	1-1@217.9-7@256.2	0	0	15	15	1	2.17	2.17	0.08	0.27	9.792	1.905	2.269	0.14
AVG	1800-2700	1-1@217.9-9: Eller Dr@323.6	14.32	175.21	165	165	2	20.54	20.54	10.95	0.99	216.669	42.156	50.215	3.1
AVG	1800-2700	1-5: Eller Dr@528.0-7@256.2	0.25	4.27	0	0	6	92.1	92.1	83.92	1	2.266	0.441	0.525	0.032
AVG	1800-2700	1-5: Eller Dr@528.0-9: Eller Dr@323.6	13.2	70.59	8	8	5	80.93	80.93	70.04	1.48	17.96	3.494	4.162	0.257
AVG	1800-2700	1-5: Eller Dr@528.0-13@308.0	0.61	52.38	3	3	1	4.46	4.46	0.25	1.07	4.256	0.828	0.986	0.061
AVG	1800-2700	1-20: McIntoch Rd@1455.0-6@222.0	17.02	88.78	6	6	5	77.49	77.49	69.69	0.98	12.114	2.357	2.807	0.173
AVG	1800-2700	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6	0	0	6	6	4	49.05	49.05	36.67	1.87	12.98	2.525	3.008	0.186
AVG	1800-2700	1-20: McIntoch Rd@1455.0-13@308.0	31.23	126.85	15	15	5	69.01	69.01	61.02	0.89	32.485	6.32	7.529	0.465
AVG	1800-2700	1-29@279.9-7@256.2	7.75	40.94	4	4	5	71.73	71.73	66.7	0.86	9.994	1.944	2.316	0.143
AVG	1800-2700	1-32@342.2-13@308.0	8.52	111.86	83	83	1	6.08	6.08	4.55	0.23	65.226	12.691	15.117	0.933
AVG	1800-2700	1-10012@3.5-6@222.0	11.22	112.24	58	58	1	6.36	6.36	0.33	1.13	61.006	11.869	14.139	0.873
AVG	1800-2700	1	9.51	192.44	369	369	3	20.5	20.5	13.63	0.84	467.786	91.014	108.414	6.692
AVG	2700-3600	1-1@217.9-6@222.0	11.4	50.48	7	7	5	76.17	76.17	68.78	0.93	13.469	2.621	3.122	0.193
AVG	2700-3600	1-1@217.9-7@256.2	1.16	15.23	14	14	1	2.48	2.48	0.1	0.3	9.221	1.794	2.137	0.132
AVG	2700-3600	1-1@217.9-9: Eller Dr@323.6	34.57	199.2	174	174	3	32	32	16.64	1.71	304.018	59.151	70.459	4.349
AVG	2700-3600	1-5: Eller Dr@528.0-7@256.2	1.09	16.08	1	1	4	59.6	59.6	52.43	1	2.624	0.511	0.608	0.038
AVG	2700-3600	1-5: Eller Dr@528.0-9: Eller Dr@323.6	14.01	71.08	9	9	5	84.01	84.01	71.76	1.73	21.106	4.106	4.891	0.302
AVG	2700-3600	1-5: Eller Dr@528.0-13@308.0	0.42	55.41	2	2	1	6.42	6.42	1.52	1.22	2.967	0.577	0.688	0.042
AVG	2700-3600	1-20: McIntoch Rd@1455.0-6@222.0	17.17	112.59	8	8	5	68.97	68.97	60.9	0.97	14.704	2.861	3.408	0.21
AVG	2700-3600	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6	0	0	9	9	4	44.12	44.12	30.08	2.07	17.801	3.463	4.126	0.255
AVG	2700-3600	1-20: McIntoch Rd@1455.0-13@308.0	29.66	123.12	14	14	5	61.66	61.66	53.57	0.9	29.746	5.787	6.894	0.426
AVG	2700-3600	1-29@279.9-7@256.2	6.48	37.65	4	4	5	63.32	63.32	58.22	0.98	9.152	1.781	2.121	0.131
AVG	2700-3600	1-32@342.2-13@308.0	7.8	90.88	74	74	1	5.97	5.97	4.44	0.24	58.482	11.378	13.554	0.837
AVG	2700-3600	1-10012@3.5-6@222.0	12.28	106.2	58	58	1	6.54	6.54	0.32	1.16	62.377	12.136	14.457	0.892
AVG	2700-3600	1	11.34	204.6	372	372	3	26.42	26.42	16.51	1.22	567.823	110.478	131.598	8.123
AVG	3600-4500	1-1@217.9-6@222.0	11.88	57.8	7	7	5	71.96	71.96	63.57	1.06	15.296	2.976	3.545	0.219
AVG	3600-4500	1-1@217.9-7@256.2	3.51	27.79	14	14	1	1.94	1.94	0.05	0.26	8.966	1.744	2.078	0.128
AVG	3600-4500	1-1@217.9-9: Eller Dr@323.6	28.59	203.1	167	167	3	32.92	32.92	18.27	1.66	294.146	57.23	68.171	4.208
AVG	3600-4500	1-5: Eller Dr@528.0-7@256.2	1.35	19.02	1	1	4	66.73	66.73	59.33	1	3.507	0.682	0.813	0.05
AVG	3600-4500	1-5: Eller Dr@528.0-9: Eller Dr@323.6	15.54	89.83	9	9	5	95.12	95.12	80.51	2.09	24.389	4.745	5.652	0.349
AVG	3600-4500	1-5: Eller Dr@528.0-13@308.0	0.68	57.42	2	2	1	5.25	5.25	0.85	1.07	3.963	0.771	0.919	0.057
AVG	3600-4500	1-20: McIntoch Rd@1455.0-6@222.0	14.01	86.04	6	6	5	70.87	70.87	63.56	0.9	11.681	2.273	2.707	0.167
AVG	3600-4500	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6	0	0	5	5	3	36.15	36.15	28.5	1.3	7.728	1.504	1.791	0.111
AVG	3600-4500	1-20: McIntoch Rd@1455.0-13@308.0	34.14	136	17	17	5	67.75	67.75	59.45	0.89	36.85	7.17	8.54	0.527
AVG	3600-4500	1-29@279.9-7@256.2	7.04	40.44	4	4	5	66.86	66.86	61.7	0.98	9.221	1.794	2.137	0.132
AVG	3600-4500	1-32@342.2-13@308.0	8.39	97.93	81	81	1	6.05	6.05	4.42	0.24	64.456	12.541	14.938	0.922
AVG	3600-4500	1-10012@3.5-6@222.0	15.17	117.65	61	61	1	7.38	7.38	0.42	1.25	68.73	13.372	15.929	0.983
AVG	3600-4500	1	11.69	216.45	373	373	3	26.73	26.73	17.38	1.17	572.359	111.36	132.65	8.188
AVG	4500-5400	1-1@217.9-6@222.0	13.55	70.64	9	9	5	70.71	70.71	63.31	0.92	16.296	3.171	3.777	0.233
AVG	4500-5400	1-1@217.9-7@256.2	0	0	15	15	1	3.27	3.27	0.17	0.34	9.918	1.93	2.299	0.142
AVG	4500-5400	1-1@217.9-9: Eller Dr@323.6	15.37	167.19	169	169	3	32.51	32.51	18.6	1.64	299.274	58.228	69.36	4.281
AVG	4500-5400	1-5: Eller Dr@528.0-7@256.2	0.87	17.28	1	1	3	49.36	49.36	42.03	1	1.626	0.316	0.377	0.023
AVG	4500-5400	1-5: Eller Dr@528.0-9: Eller Dr@323.6	12.67	64.31	8	8	6	112.98	112.98	92.26	3.12	29.185	5.678	6.764	0.418
AVG	4500-5400	1-5: Eller Dr@528.0-13@308.0	0.51	45.55	2	2	1	7.71	7.71	3.07	1.28	2.707	0.527	0.627	0.039
AVG	4500-5400	1-20: McIntoch Rd@1455.0-6@222.0	14.28	102.08	6	6	5	67.95	67.95	60.2	0.95	11.773	2.291	2.729	0.168
AVG	4500-5400	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6	0	0	8	8	4	34.82	34.82	25.23	1.55	12.492	2.431	2.895	0.179
AVG	4500-5400	1-20: McIntoch Rd@1455.0-13@308.0	31.11	145.22	16	16	5	65.47	65.47	57.35	0.88	34.865	6.783	8.08	0.499

AVG	4500-5400	1-29@279.9-7@256.2		8.76	48.65	5	5	5	72.47	72.47	67.38	0.97	10.355	2.015	2.4	0.148
AVG	4500-5400	1-32@342.2-13@308.0		9.65	103.44	80	80	1	6.99	6.99	5.28	0.26	66.639	12.966	15.444	0.953
AVG	4500-5400	1-10012@3.5-6@222.0		11.63	98.67	58	58	1	6.51	6.51	0.36	1.13	62.428	12.146	14.468	0.893
AVG	4500-5400		1	9.87	182.03	375	375	3	27.32	27.32	18.1	1.19	582.41	113.316	134.979	8.332
AVG	5400-6300	1-1@217.9-6@222.0		12.86	67.13	8	8	5	71.01	71.01	63.4	0.95	15.502	3.016	3.593	0.222
AVG	5400-6300	1-1@217.9-7@256.2		0	0	13	13	1	2.25	2.25	0.05	0.28	8.32	1.619	1.928	0.119
AVG	5400-6300	1-1@217.9-9: Eller Dr@323.6		13.88	162.87	164	164	3	25.2	25.2	14.35	1.16	237.376	46.185	55.014	3.396
AVG	5400-6300	1-5: Eller Dr@528.0-7@256.2		0.87	16.78	1	1	4	46.27	46.27	37.03	0.93	3.166	0.616	0.734	0.045
AVG	5400-6300	1-5: Eller Dr@528.0-9: Eller Dr@323.6		11.93	58.86	8	8	5	79.89	79.89	68.27	1.51	17.894	3.481	4.147	0.256
AVG	5400-6300	1-5: Eller Dr@528.0-13@308.0		1.25	71.04	3	3	1	6.51	6.51	1.31	1.26	5.559	1.082	1.288	0.08
AVG	5400-6300	1-20: McIntoch Rd@1455.0-6@222.0		17.23	111.71	6	6	5	76.24	76.24	68.28	0.99	12.975	2.524	3.007	0.186
AVG	5400-6300	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6		0	0	8	8	4	50.09	50.09	36.57	2.14	17.451	3.395	4.044	0.25
AVG	5400-6300	1-20: McIntoch Rd@1455.0-13@308.0		35.85	140.24	17	17	5	63.64	63.64	55.27	0.88	36.036	7.011	8.352	0.516
AVG	5400-6300	1-29@279.9-7@256.2		8.39	50.13	5	5	5	76.16	76.16	70.99	0.98	9.507	1.85	2.203	0.136
AVG	5400-6300	1-32@342.2-13@308.0		8.54	117.83	81	81	1	6.24	6.24	4.58	0.25	65.36	12.717	15.148	0.935
AVG	5400-6300	1-10012@3.5-6@222.0		12.05	114.21	58	58	1	6.6	6.6	0.35	1.16	62.056	12.074	14.382	0.888
AVG	5400-6300		1	10.24	177.56	371	371	2	23.17	23.17	15.62	0.93	505.32	98.317	117.113	7.229
AVG	6300-7200	1-1@217.9-6@222.0		11.75	63.38	6	6	6	89.13	89.13	81.72	0.95	13.494	2.625	3.127	0.193
AVG	6300-7200	1-1@217.9-7@256.2		0	0	15	15	1	1.79	1.79	0.06	0.21	9.046	1.76	2.097	0.129
AVG	6300-7200	1-1@217.9-9: Eller Dr@323.6		14.55	169.78	164	164	3	26.87	26.87	14.85	1.3	246.224	47.906	57.065	3.523
AVG	6300-7200	1-5: Eller Dr@528.0-7@256.2		0.96	18.7	0	0	4	53.43	53.43	46.09	1	1.688	0.328	0.391	0.024
AVG	6300-7200	1-5: Eller Dr@528.0-9: Eller Dr@323.6		14.71	80.17	10	10	5	70.25	70.25	61.57	1.15	19.153	3.726	4.439	0.274
AVG	6300-7200	1-5: Eller Dr@528.0-13@308.0		0.85	61.32	3	3	1	5.6	5.6	0.94	1.17	4.689	0.912	1.087	0.067
AVG	6300-7200	1-20: McIntoch Rd@1455.0-6@222.0		14	95.9	7	7	5	70.5	70.5	62.8	0.95	12.533	2.438	2.905	0.179
AVG	6300-7200	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6		0	0	8	8	4	53.64	53.64	37.05	2.66	20.551	3.999	4.763	0.294
AVG	6300-7200	1-20: McIntoch Rd@1455.0-13@308.0		31.71	129.29	15	15	5	61.78	61.78	53.5	0.86	32.286	6.282	7.483	0.462
AVG	6300-7200	1-29@279.9-7@256.2		7.09	48.93	4	4	6	87.54	87.54	82.39	1	8.048	1.566	1.865	0.115
AVG	6300-7200	1-32@342.2-13@308.0		8.16	108.27	85	85	1	5.82	5.82	4.32	0.23	66.896	13.015	15.504	0.957
AVG	6300-7200	1-10012@3.5-6@222.0		13.51	122.59	60	60	1	6.78	6.78	0.38	1.17	65.59	12.761	15.201	0.938
AVG	6300-7200		1	9.77	186.28	376	376	3	23.19	23.19	15.24	0.99	519.618	101.099	120.426	7.434
AVG	7200-8100	1-1@217.9-6@222.0		12.42	62.44	7	7	6	82.05	82.05	74.47	0.98	13.975	2.719	3.239	0.2
AVG	7200-8100	1-1@217.9-7@256.2		0	0	15	15	1	2.91	2.91	0.11	0.25	10.134	1.972	2.349	0.145
AVG	7200-8100	1-1@217.9-9: Eller Dr@323.6		12.68	155.63	167	167	3	29.09	29.09	16.12	1.48	271.498	52.824	62.922	3.884
AVG	7200-8100	1-5: Eller Dr@528.0-7@256.2		0.4	8.09	0	0	4	51.92	51.92	43.23	1	1.676	0.326	0.389	0.024
AVG	7200-8100	1-5: Eller Dr@528.0-9: Eller Dr@323.6		12.47	64.61	7	7	6	92.46	92.46	81.35	1.56	16.457	3.202	3.814	0.235
AVG	7200-8100	1-5: Eller Dr@528.0-13@308.0		0.8	67.6	2	2	1	6.65	6.65	1.23	1.29	3.447	0.671	0.799	0.049
AVG	7200-8100	1-20: McIntoch Rd@1455.0-6@222.0		13.14	88.66	6	6	5	61.47	61.47	54.29	0.95	11.16	2.171	2.586	0.16
AVG	7200-8100	1-20: McIntoch Rd@1455.0-9: Eller Dr@323.6		0	0	6	6	4	52.78	52.78	38.19	2.12	13.737	2.673	3.184	0.197
AVG	7200-8100	1-20: McIntoch Rd@1455.0-13@308.0		31.76	126.63	15	15	5	64.57	64.57	56.38	0.91	32.854	6.392	7.614	0.47
AVG	7200-8100	1-29@279.9-7@256.2		7.06	45.78	4	4	5	78.51	78.51	73.55	0.97	8.086	1.573	1.874	0.116
AVG	7200-8100	1-32@342.2-13@308.0		7.75	91.72	80	80	1	5.85	5.85	4.33	0.24	63.611	12.376	14.742	0.91
AVG	7200-8100	1-10012@3.5-6@222.0		11.27	101	58	58	1	6.24	6.24	0.34	1.13	61.235	11.914	14.192	0.876
AVG	7200-8100		1	9.15	165.72	367	367	3	24.19	24.19	15.74	1.07	527.415	102.616	122.234	7.545

Weekend PM

$MOVEME	TIMEINT	MOVEMENT		QLEN	QLENMAX	VEHS(ALL)	PERS(ALL)	LOS(ALL)	LOSVAL(ALL)	VEHDELAY(ALL)	PERSDELAY(ALL)	STOPDELAY(ALL)	STOPS(ALL)	EMISSIONSCO	EMISSIONSNOX	EMISSIONSVOC	FUELCONSUMPTION
AVG	900-1800	1-1@217.9-6@222.0		3.91	27.65	2	2	5	71.72	71.72	64.55	0.95	5.216	1.015	1.209	0.075
AVG	900-1800	1-1@217.9-7@256.2		0	0	4	4	1	1.52	1.52	0.04	0.24	2.875	0.559	0.666	0.041
AVG	900-1800	1-1@217.9-9: Eller Dr@307.4		0.66	41.04	19	19	1	2.24	2.24	0.71	0.07	12.351	2.403	2.862	0.177
AVG	900-1800	1-5: Eller Dr@528.0-7@256.2		0.43	4.94	0	0	6	149.72	149.72	143.53	1	3.024	0.588	0.701	0.043
AVG	900-1800	1-5: Eller Dr@528.0-9: Eller Dr@307.4		7.01	52.42	3	3	5	81.39	81.39	74.96	0.91	6.075	1.182	1.408	0.087
AVG	900-1800	1-5: Eller Dr@528.0-13@308.0		1.23	71.42	6	6	1	5.49	5.49	0.46	1.12	9.137	1.778	2.118	0.131
AVG	900-1800	1-20: McIntoch Rd@1455.0-6@222.0		7.55	51.72	4	4	5	82.07	82.07	74.7	1	8.501	1.654	1.97	0.122
AVG	900-1800	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	1	1	3	27.3	27.3	23.11	0.88	2.304	0.448	0.534	0.033
AVG	900-1800	1-20: McIntoch Rd@1455.0-13@308.0		14.26	69.35	12	12	5	67.27	67.27	60.66	0.91	25.778	5.015	5.974	0.369
AVG	900-1800	1-29@296.5-7@256.2		2.39	30.69	2	2	4	51.32	51.32	46.23	1	3.549	0.691	0.823	0.051
AVG	900-1800	1-32@358.8-13@308.0		1.53	46.82	31	31	1	2.62	2.62	1.62	0.15	20.471	3.983	4.744	0.293
AVG	900-1800	1-10012@19.9-6@222.0		0.55	37.32	5	5	1	3.92	3.92	0.18	0.97	4.598	0.895	1.066	0.066
AVG	900-1800		1	3.29	90.25	90	90	3	20.38	20.38	17.33	0.46	97.434	18.957	22.581	1.394
AVG	1800-2700	1-1@217.9-6@222.0		3.53	36.26	3	3	4	52.59	52.59	45.14	0.98	5.499	1.07	1.275	0.079
AVG	1800-2700	1-1@217.9-7@256.2		0	0	4	4	1	1.21	1.21	0.02	0.11	2.467	0.48	0.572	0.035
AVG	1800-2700	1-1@217.9-9: Eller Dr@307.4		1.44	63.9	21	21	1	4	4	1.56	0.14	14.62	2.845	3.388	0.209
AVG	1800-2700	1-5: Eller Dr@528.0-7@256.2		0.57	7.7	0	0	4	60.24	60.24	52.81	1	2.685	0.522	0.622	0.038
AVG	1800-2700	1-5: Eller Dr@528.0-9: Eller Dr@307.4		4.26	40.66	3	3	5	65.37	65.37	58.33	0.97	6.49	1.263	1.504	0.093
AVG	1800-2700	1-5: Eller Dr@528.0-13@308.0		1.14	62.59	8	8	1	4.88	4.88	0.32	1.1	11.681	2.273	2.707	0.167
AVG	1800-2700	1-20: McIntoch Rd@1455.0-6@222.0		7.81	47.23	5	5	5	72.34	72.34	65.64	0.88	9.745	1.896	2.259	0.139
AVG	1800-2700	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	1	1	2	10.32	10.32	7.08	0.86	1.458	0.284	0.338	0.021
AVG	1800-2700	1-20: McIntoch Rd@1455.0-13@308.0		13.52	63.15	10	10	5	71.45	71.45	64.7	0.95	22.413	4.361	5.194	0.321
AVG	1800-2700	1-29@296.5-7@256.2		6.12	44.03	2	2	6	85.34	85.34	80.03	0.94	5.567	1.083	1.29	0.08
AVG	1800-2700	1-32@358.8-13@308.0		2.24	57.68	30	30	1	3.41	3.41	2.32	0.15	20.712	4.03	4.8	0.296
AVG	1800-2700	1-10012@19.9-6@222.0		0.59	36.15	5	5	1	4.11	4.11	0.22	1.04	5.043	0.981	1.169	0.072
AVG	1800-2700		1	3.44	82.25	93	93	3	20.03	20.03	16.75	0.49	102.071	19.859	23.656	1.46
AVG	2700-3600	1-1@217.9-6@222.0		3.59	28.35	2	2	5	70.59	70.59	63.33	1	4.675	0.91	1.083	0.067
AVG	2700-3600	1-1@217.9-7@256.2		0	0	4	4	1	1.32	1.32	0.03	0.19	2.642	0.514	0.612	0.038
AVG	2700-3600	1-1@217.9-9: Eller Dr@307.4		1.08	46.63	21	21	1	2.83	2.83	0.91	0.1	13.867	2.698	3.214	0.198
AVG	2700-3600	1-5: Eller Dr@528.0-7@256.2		0.16	2.68	0	0									
AVG	2700-3600	1-5: Eller Dr@528.0-9: Eller Dr@307.4		5.65	50.09	3	3	5	72.61	72.61	66.35	1	6.324	1.23	1.466	0.09
AVG	2700-3600	1-5: Eller Dr@528.0-13@308.0		1.38	63.59	8	8	1	5.98	5.98	0.48	1.19	12.985	2.527	3.01	0.186
AVG	2700-3600	1-20: McIntoch Rd@1455.0-6@222.0		10.17	73.33	6	6	5	67.3	67.3	60.33	0.89	11.135	2.166	2.581	0.159
AVG	2700-3600	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	2	2	3	28.54	28.54	23.76	0.96	2.87	0.558	0.665	0.041
AVG	2700-3600	1-20: McIntoch Rd@1455.0-13@308.0		16.9	75.38	14	14	5	66.59	66.59	59.78	0.91	29.932	5.824	6.937	0.428
AVG	2700-3600	1-29@296.5-7@256.2		3.93	28.48	1	1	5	82.55	82.55	77.12	1	3.851	0.749	0.893	0.055
AVG	2700-3600	1-32@358.8-13@308.0		1.59	42.36	33	33	1	2.97	2.97	2.02	0.15	21.993	4.279	5.097	0.315
AVG	2700-3600	1-10012@19.9-6@222.0		0.84	40.68	7	7	1	4.15	4.15	0.16	1.02	6.773	1.318	1.57	0.097
AVG	2700-3600		1	3.77	100.98	102	102	3	20.38	20.38	17.05	0.5	113.324	22.049	26.264	1.621
AVG	3600-4500	1-1@217.9-6@222.0		4.08	32.51	3	3	5	71.57	71.57	64.37	0.95	4.987	0.97	1.156	0.071
AVG	3600-4500	1-1@217.9-7@256.2		0	0	3	3	1	1.05	1.05	0.02	0.12	2.147	0.418	0.497	0.031
AVG	3600-4500	1-1@217.9-9: Eller Dr@307.4		1.34	55.29	19	19	1	4.04	4.04	1.66	0.14	13.311	2.59	3.085	0.19
AVG	3600-4500	1-5: Eller Dr@528.0-7@256.2		0.39	5.17	0	0	6	105.82	105.82	98.21	1	2.432	0.473	0.564	0.035
AVG	3600-4500	1-5: Eller Dr@528.0-9: Eller Dr@307.4		6.32	43.14	3	3	5	68.76	68.76	62.78	0.85	6.56	1.276	1.52	0.094
AVG	3600-4500	1-5: Eller Dr@528.0-13@308.0		1.33	64.16	8	8	1	4.84	4.84	0.26	1.11	12.376	2.408	2.868	0.177
AVG	3600-4500	1-20: McIntoch Rd@1455.0-6@222.0		5.27	43.68	4	4	5	66.62	66.62	59.23	0.97	6.691	1.302	1.551	0.096
AVG	3600-4500	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	1	1	2	13.15	13.15	9.02	1	1.632	0.318	0.378	0.023
AVG	3600-4500	1-20: McIntoch Rd@1455.0-13@308.0		16.13	73.99	11	11	5	66.18	66.18	59.72	0.89	25.301	4.923	5.864	0.362
AVG	3600-4500	1-29@296.5-7@256.2		5.51	43.99	4	4	5	63.3	63.3	58.07	0.97	6.723	1.308	1.558	0.096
AVG	3600-4500	1-32@358.8-13@308.0		1.89	47.89	34	34	1	2.8	2.8	1.78	0.15	22.548	4.387	5.226	0.323
AVG	3600-4500	1-10012@19.9-6@222.0		0.6	38.09	5	5	1	4	4	0.15	1.01	5.073	0.987	1.176	0.073
AVG	3600-4500		1	3.57	93.36	95	95	3	20.21	20.21	17.03	0.49	104.971	20.424	24.328	1.502
AVG	4500-5400	1-1@217.9-6@222.0		4.01	32.79	2	2	5	84.44	84.44	77.21	0.98	4.753	0.925	1.102	0.068
AVG	4500-5400	1-1@217.9-7@256.2		0	0	4	4	1	1.41	1.41	0.04	0.2	2.195	0.427	0.509	0.031
AVG	4500-5400	1-1@217.9-9: Eller Dr@307.4		1.33	53.6	22	22	1	3.34	3.34	1.29	0.11	14.76	2.872	3.421	0.211
AVG	4500-5400	1-5: Eller Dr@528.0-7@256.2		0.32	4.54	0	0	5	55.01	55.01	48.95	0.75	2.303	0.448	0.534	0.033
AVG	4500-5400	1-5: Eller Dr@528.0-9: Eller Dr@307.4		4.41	36.73	2	2	5	66.54	66.54	60.6	0.97	5.868	1.142	1.36	0.084
AVG	4500-5400	1-5: Eller Dr@528.0-13@308.0		1.14	57.68	8	8	1	5.58	5.58	0.46	1.15	11.898	2.315	2.758	0.17
AVG	4500-5400	1-20: McIntoch Rd@1455.0-6@222.0		8.65	55.69	5	5	5	73.32	73.32	66.01	0.99	9.59	1.866	2.223	0.137
AVG	4500-5400	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	2	2	3	29.88	29.88	25.01	0.94	2.635	0.513	0.611	0.038
AVG	4500-5400	1-20: McIntoch Rd@1455.0-13@308.0		17.51	82.5	13	13	5	65.42	65.42	58.66	0.93	29.51	5.742	6.839	0.422

AVG	4500-5400	1-29@296.5-7@256.2		3.65	31.2	2	2	5	66.03	66.03	61.27	0.94	4.894	0.952	1.134	0.07
AVG	4500-5400	1-32@358.8-13@308.0		2.49	60.96	35	35	1	3.14	3.14	2.04	0.17	24.115	4.692	5.589	0.345
AVG	4500-5400	1-10012@19.9-6@222.0		0.72	39.15	6	6	1	3.99	3.99	0.14	1	5.697	1.108	1.32	0.081
AVG	4500-5400		1	3.68	104.49	101	101	2	19.89	19.89	16.65	0.49	111.754	21.743	25.9	1.599
AVG	5400-6300	1-1@217.9-6@222.0		5.43	33.74	3	3	5	89.18	89.18	81.78	1	6.046	1.176	1.401	0.086
AVG	5400-6300	1-1@217.9-7@256.2		0	0	4	4	1	1.47	1.47	0.03	0.23	2.549	0.496	0.591	0.036
AVG	5400-6300	1-1@217.9-9: Eller Dr@307.4		1.11	48.5	19	19	1	3.02	3.02	1.31	0.12	12.756	2.482	2.956	0.182
AVG	5400-6300	1-5: Eller Dr@528.0-7@256.2		0.25	2.24	0	0	6	121.97	121.97	114.7	1	2.652	0.516	0.615	0.038
AVG	5400-6300	1-5: Eller Dr@528.0-9: Eller Dr@307.4		5.56	47.62	3	3	5	67.15	67.15	60.51	0.96	5.722	1.113	1.326	0.082
AVG	5400-6300	1-5: Eller Dr@528.0-13@308.0		1.9	83.1	9	9	1	6.04	6.04	0.55	1.22	14.385	2.799	3.334	0.206
AVG	5400-6300	1-20: McIntoch Rd@1455.0-6@222.0		7.47	58.45	4	4	5	66.9	66.9	60.07	0.93	8.26	1.607	1.914	0.118
AVG	5400-6300	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	1	1	2	15.2	15.2	11.17	1	1.672	0.325	0.388	0.024
AVG	5400-6300	1-20: McIntoch Rd@1455.0-13@308.0		16.8	77.68	13	13	5	69.68	69.68	62.84	0.93	29.312	5.703	6.793	0.419
AVG	5400-6300	1-29@296.5-7@256.2		5.03	38.29	2	2	5	67.34	67.34	62.2	0.97	5.718	1.112	1.325	0.082
AVG	5400-6300	1-32@358.8-13@308.0		1.76	64.55	33	33	1	2.39	2.39	1.44	0.13	21.076	4.101	4.885	0.302
AVG	5400-6300	1-10012@19.9-6@222.0		0.49	35.81	5	5	1	3.83	3.83	0.15	1	4.427	0.861	1.026	0.063
AVG	5400-6300		1	3.82	104.55	96	96	3	21.05	21.05	17.81	0.5	108.664	21.142	25.184	1.555
AVG	6300-7200	1-1@217.9-6@222.0		4.89	29.64	3	3	5	74.98	74.98	67.96	0.95	5.957	1.159	1.381	0.085
AVG	6300-7200	1-1@217.9-7@256.2		0	0	4	4	1	1.19	1.19	0.02	0.16	2.45	0.477	0.568	0.035
AVG	6300-7200	1-1@217.9-9: Eller Dr@307.4		1.68	66.1	24	24	1	3.34	3.34	1.36	0.13	16.039	3.121	3.717	0.229
AVG	6300-7200	1-5: Eller Dr@528.0-7@256.2		0.47	4.5	0	0	6	110.33	110.33	103.59	1	2.485	0.484	0.576	0.036
AVG	6300-7200	1-5: Eller Dr@528.0-9: Eller Dr@307.4		7.95	61.05	4	4	5	69.06	69.06	62.49	0.96	8.13	1.582	1.884	0.116
AVG	6300-7200	1-5: Eller Dr@528.0-13@308.0		1.28	62.1	8	8	1	5.19	5.19	0.34	1.15	12.357	2.404	2.864	0.177
AVG	6300-7200	1-20: McIntoch Rd@1455.0-6@222.0		9.95	59.65	6	6	5	65.63	65.63	58.71	0.91	10.59	2.061	2.454	0.152
AVG	6300-7200	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	3	3	3	25.88	25.88	21.18	1	3.788	0.737	0.878	0.054
AVG	6300-7200	1-20: McIntoch Rd@1455.0-13@308.0		14.42	69.05	11	11	5	66.06	66.06	59.71	0.88	23.491	4.571	5.444	0.336
AVG	6300-7200	1-29@296.5-7@256.2		3.5	40.47	3	3	4	62.74	62.74	57.37	0.97	4.617	0.898	1.07	0.066
AVG	6300-7200	1-32@358.8-13@308.0		1.64	45.17	34	34	1	2.59	2.59	1.65	0.14	22.626	4.402	5.244	0.324
AVG	6300-7200	1-10012@19.9-6@222.0		0.62	37.5	5	5	1	3.86	3.86	0.15	1	5.213	1.014	1.208	0.075
AVG	6300-7200		1	3.87	91.56	105	105	3	19.86	19.86	16.7	0.48	114.438	22.266	26.522	1.637
AVG	7200-8100	1-1@217.9-6@222.0		4.54	38.86	3	3	5	77.62	77.62	70.29	0.99	5.422	1.055	1.257	0.078
AVG	7200-8100	1-1@217.9-7@256.2		0	0	3	3	1	1.26	1.26	0.03	0.17	1.697	0.33	0.393	0.024
AVG	7200-8100	1-1@217.9-9: Eller Dr@307.4		1.17	56.67	20	20	1	3.42	3.42	1.16	0.14	13.876	2.7	3.216	0.199
AVG	7200-8100	1-5: Eller Dr@528.0-7@256.2		0	0	0	0									
AVG	7200-8100	1-5: Eller Dr@528.0-9: Eller Dr@307.4		2.93	37.88	2	2	4	51.35	51.35	45.39	0.92	4.316	0.84	1	0.062
AVG	7200-8100	1-5: Eller Dr@528.0-13@308.0		1.3	72.09	6	6	1	5.82	5.82	0.61	1.25	9.851	1.917	2.283	0.141
AVG	7200-8100	1-20: McIntoch Rd@1455.0-6@222.0		7.81	55.93	4	4	5	69.69	69.69	62.39	0.98	8.637	1.68	2.002	0.124
AVG	7200-8100	1-20: McIntoch Rd@1455.0-9: Eller Dr@307.4		0	0	2	2	2	18.7	18.7	14.51	0.74	2.793	0.543	0.647	0.04
AVG	7200-8100	1-20: McIntoch Rd@1455.0-13@308.0		16.18	71	13	13	5	68.53	68.53	61.79	0.92	28.411	5.528	6.585	0.406
AVG	7200-8100	1-29@296.5-7@256.2		3.31	31	3	3	4	60.44	60.44	55.38	0.97	4.957	0.964	1.149	0.071
AVG	7200-8100	1-32@358.8-13@308.0		1.66	49.54	34	34	1	2.9	2.9	1.84	0.16	22.954	4.466	5.32	0.328
AVG	7200-8100	1-10012@19.9-6@222.0		0.63	42.73	5	5	1	4.26	4.26	0.16	1.03	4.921	0.957	1.14	0.07
AVG	7200-8100		1	3.29	94.78	95	95	3	20.18	20.18	16.92	0.49	104.492	20.33	24.217	1.495

Appendix E
Trend Analysis and TM Tool Analysis

Average Weekly (Sun-Sat) Truck Trips (based on traffic counts)	Actual (FDOT 2018)		Model		
	Sun-Sat	Sun-Sat	Sun-Sat	Sun-Sat	
Average Weekly Total Trucks (from 2018 Traffic Counts Sun-Sat)	**48,405**	**48,405**	**48,213**	**48,213**	
McIntosh Road Gate Weekly Total Trucks	33%	16,115	33%	15,977	(138)
Eller Drive Gate Weekly Total Trucks	39%	19,100	39%	19,031	(69)
Spangler Boulevard Gate Weekly Total Trucks	24%	11,525	24%	11,693	168
Eisenhower Boulevard Gate Weekly Total Trucks	3%	1,665	3%	1,511	(154)

Containerized Cargo Forecast (TEUs)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Low	1,108,465	851,342	859,856	868,454	877,139	885,910	894,769	903,717	912,754	921,882	931,100	940,411	949,815	959,314	968,907	978,596	988,382	998,266	1,008,248	1,018,331	1,028,514	-0.4%
Medium	1,108,465	1,214,904	1,281,545	1,348,628	1,416,067	1,483,688	1,551,428	1,619,187	1,686,928	1,754,655	1,822,549	1,890,912	1,959,936	2,018,100	2,076,416	2,134,847	2,193,504	2,252,452	2,311,759	2,371,325	2,431,334	3.8%
High	1,108,465	1,233,904	1,322,082	1,411,836	1,502,958	1,595,145	1,688,216	1,781,945	1,856,399	1,930,572	2,004,666	2,079,028	2,153,874	2,217,736	2,281,620	2,345,476	2,409,432	2,473,560	2,537,935	2,602,434	2,667,269	4.3%
Likely	**1,108,465**	**1,100,050**	**1,154,494**	**1,209,639**	**1,265,388**	**1,321,581**	**1,378,137**	**1,434,949**	**1,485,360**	**1,535,703**	**1,586,105**	**1,636,784**	**1,687,875**	**1,731,717**	**1,775,648**	**1,819,640**	**1,863,773**	**1,908,093**	**1,952,647**	**1,997,363**	**2,042,372**	**3.0%**
2018 Loaded	830,082																					-100.00%
2018 Empty	278,382																					-100.00%
CALLS	**2,120**																					-100.00%
TEUs/Call	523																					-100.00%
Containers (TEU/Container Conversion = 1.8/1.0)	615,814	611,139	641,386	672,022	702,993	734,212	765,632	797,194	825,200	853,168	881,170	909,324	937,708	962,065	986,471	1,010,911	1,035,429	1,060,051	1,084,804	1,109,646	1,134,651	2.95%
Intermodal Rail TEUs	87,568	113,656	113,656	113,656	113,656	130,923	136,302	141,720	146,126	150,522	154,918	159,333	163,779	167,650	171,528	175,408	179,300	183,205	187,129	191,065	195,023	3.89%
Intermodal Containers (TEU/Container Conversion = 1.8/1.0)	48,649	63,142	63,142	63,142	63,142	72,735	75,723	78,733	81,181	83,623	86,066	88,518	90,988	93,139	95,293	97,449	99,611	101,781	103,961	106,147	108,346	3.89%
Annual Truck Trips (Loads/Empties)	567,165	547,997	578,243	608,880	639,851	661,477	689,909	718,461	744,019	769,545	795,104	820,806	846,720	868,926	891,178	913,462	935,818	958,271	980,843	1,003,499	1,026,305	2.86%
One-Way Trip Factor (80%)	453,732	438,397	462,595	487,104	511,881	529,181	551,927	574,769	595,215	615,636	636,083	656,645	677,376	695,141	712,942	730,770	748,655	766,617	784,675	802,799	821,044	2.86%
Intraport Factor (20%)	113,433	109,599	115,649	121,776	127,970	132,295	137,982	143,692	148,804	153,909	159,021	164,161	169,344	173,785	178,236	182,692	187,164	191,654	196,169	200,700	205,261	2.86%
Total Annual Truck Trips	1,134,330	1,095,993	1,156,487	1,217,759	1,279,702	1,322,953	1,379,817	1,436,922	1,488,038	1,539,090	1,590,208	1,641,612	1,693,440	1,737,852	1,782,355	1,826,924	1,871,636	1,916,542	1,961,687	2,006,998	2,052,610	2.86%
Average Weekly Truck Trips	**21,814**	**21,077**	**22,240**	**23,418**	**24,610**	**25,441**	**26,535**	**27,633**	**28,616**	**29,598**	**30,581**	**31,569**	**32,566**	**33,420**	**34,276**	**35,133**	**35,993**	**36,857**	**37,725**	**38,596**	**39,473**	**2.86%**
Estimated Weekly Truck Trips_McIntosh Road Gate	15,876	14,556	15,326	16,102	16,881	17,403	18,103	18,802	19,415	20,023	20,628	21,231	21,835	22,338	22,919	23,501	24,085	24,672	25,261	25,853	26,449	2.46%
Estimated Weekly Truck Trips_Eller Drive Gate	4,648	5,406	5,704	6,006	6,312	6,525	6,806	7,087	7,340	7,591	7,843	8,097	8,353	8,572	8,791	9,011	9,232	9,453	9,676	9,899	10,124	3.78%
Estimated Weekly Truck Trips_Spangler Blvd. Gate	727	753	847	948	1,055	1,151	1,264	1,382	1,499	1,621	1,747	1,879	2,016	2,148	2,203	2,259	2,314	2,369	2,425	2,481	2,538	6.13%
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	563	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	-2.07%
	21,814	21,077	22,240	23,418	24,610	25,441	26,535	27,633	28,616	29,598	30,581	31,569	32,566	33,420	34,276	35,133	35,993	36,857	37,725	38,596	39,473	

Dry Bulk Cargo Forecast (Short Tons)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Low (Likely)	**1,499,589**	**1,565,307**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**1,700,000**	**0.6%**
High	1,499,589	1,565,307	2,700,000	2,728,114	2,757,018	2,786,735	2,817,287	2,848,698	2,880,993	2,914,195	2,948,331	2,983,426	3,019,508	3,056,604	3,094,744	3,133,955	3,174,269	3,215,717	3,258,329	3,302,140	3,347,182	3.9%
Total Annual Truck Trips	166,621	173,923	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	188,889	0.6%
Average Weekly Truck Trips	**3,204**	**3,345**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**3,632**	**0.6%**
Estimated Weekly Truck Trips_McIntosh Road Gate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#DIV/0!
Estimated Weekly Truck Trips_Eller Drive Gate	2,060	2,150	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	0.60%
Estimated Weekly Truck Trips_Spangler Blvd. Gate	1,144	1,195	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	1,297	0.60%
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#DIV/0!
	3,204	3,345	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	3,632	

Used Ro-Ro + Yacht Cargo Forecast (Short Tons)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Low (Likely)	**107,208**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**104,757**	**-0.1%**
High	107,208	114,187	117,499	120,907	124,413	128,021	131,734	135,555	139,486	143,532	147,695	151,978	156,386	160,922	165,589	170,391	175,333	180,418	185,651	191,035	196,576	2.9%
Total Annual Truck Trips	14,294	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	13,968	-0.1%
Average Weekly Truck Trips	**275**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**269**	**-0.1%**
Estimated Weekly Truck Trips_McIntosh Road Gate	101	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	-0.1%
Estimated Weekly Truck Trips_Eller Drive Gate	108	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	-0.1%
Estimated Weekly Truck Trips_Spangler Blvd. Gate	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	-0.1%
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	-0.1%
	275	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	269	

New Automobile Cargo Forecast (CEUs)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Low	28,975	16,829	17,262	17,709	18,170	18,645	19,134	19,640	20,161	20,698	21,252	21,824	22,414	22,869	23,334	23,809	24,294	24,790	25,297	25,815	26,344	-0.5%
Medium	28,975	16,829	17,262	21,709	22,226	22,757	23,305	23,868	24,449	25,046	25,661	26,295	26,948	27,466	27,995	28,535	29,087	29,650	30,225	30,811	31,411	0.4%
High (Likely)	**28,975**	**16,829**	**17,262**	**25,709**	**26,282**	**26,870**	**27,475**	**28,097**	**28,737**	**29,394**	**30,070**	**30,765**	**31,481**	**32,063**	**32,656**	**33,262**	**33,879**	**34,509**	**35,152**	**35,808**	**36,477**	**1.1%**
Export CEUs	14,488	8,603	8,921	9,251	9,594	9,949	10,317	10,698	11,094	11,505	11,930	12,372	12,830	13,150	13,479	13,816	14,162	14,516	14,878	15,250	15,632	0.4%
Intermodal Rail CEUs (80% of exports)	11,590	6,882	7,137	7,401	7,675	7,959	8,253	8,559	8,875	9,204	9,544	9,897	10,264	10,520	10,783	11,053	11,329	11,612	11,903	12,200	12,505	0.4%
Annual Truck Trips - Loads (CEU/Truck Trip Conversion = 7.0/1.0)	2,484	1,421	1,446	2,615	2,658	2,702	2,746	2,791	2,837	2,884	2,932	2,981	3,031	3,077	3,125	3,173	3,221	3,271	3,321	3,373	3,425	1.5%
One-Way Trip Factor (80%)	1,987	1,137	1,157	2,092	2,126	2,161	2,197	2,233	2,270	2,307	2,346	2,385	2,425	2,462	2,500	2,538	2,577	2,617	2,657	2,698	2,740	1.5%
Total Annual Truck Trips	4,470	2,558	2,604	4,708	4,785	4,863	4,943	5,024	5,107	5,192	5,278	5,366	5,456	5,539	5,624	5,711	5,799	5,888	5,978	6,071	6,164	1.54%
Average Weekly Truck Trips	**86**	**49**	**50**	**91**	**92**	**94**	**95**	**97**	**98**	**100**	**102**	**103**	**105**	**107**	**108**	**110**	**112**	**113**	**115**	**117**	**119**	**1.5%**
Estimated Weekly Truck Trips_McIntosh Road Gate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#DIV/0!
Estimated Weekly Truck Trips_Eller Drive Gate	63	36	36	66	67	68	69	70	71	73	74	75	76	77	79	80	81	82	84	85	86	1.54%
Estimated Weekly Truck Trips_Spangler Blvd. Gate	20	12	12	22	22	22	23	23	23	24	24	25	25	25	26	26	27	27	27	28	28	1.54%
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	3	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	1.54%
	86	49	50	91	92	94	95	97	98	100	102	103	105	107	108	110	112	113	115	117	119	

Break-bulk Cargo Forecast (Short Tons)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Low (Likely)	**255,849**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**-4.4%**
Medium	255,849	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	-0.6%
High	255,849	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	1.5%
Total Annual Truck Trips	34,113	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	13,333	-4.37%
Average Weekly Truck Trips	**656**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**256**	**-4.4%**
Estimated Weekly Truck Trips_McIntosh Road Gate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-5.8%
Estimated Weekly Truck Trips_Eller Drive Gate	477	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187	-4.4%
Estimated Weekly Truck Trips_Spangler Blvd. Gate	156	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	-4.4%
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	23	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	-4.4%
	656	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	

Liquid Bulk Cargo Forecast (Thousand Barrels per Day/CALLS)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Total	338	**345**	**344**	**343**	**342**	**340**	**338**	**336**	**335**	**336**	**336**	**337**	**338**	**339**	**341**	**342**	**344**	**347**	**349**	**352**	**355**	***0.2%***
Light Product	309	316	316	315	315	313	312	310	310	310	310	311	311	312	314	315	317	319	321	324	326	*0.3%*
Gasoline	174	177	174	172	168	165	161	157	154	151	149	146	144	143	141	140	138	137	137	136	135	*-1.2%*
Jet Fuel	91	94	96	99	101	103	105	108	110	113	116	119	122	125	128	130	133	136	139	142	145	*2.2%*
Diesel	43	44	45	44	44	45	45	45	45	45	45	45	45	45	44	44	44	45	45	45	45	*0.2%*
Fuel Oil	6	5	4	4	3	2	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	*-100.0%*
Asphalt	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	*1.0%*
Crude Oil	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	*1.0%*
Propane	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	*1.0%*
Avgas	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	*1.0%*
Bio-Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*1.0%*
Ethanol	19	19	19	20	20	20	20	21	21	21	21	21	22	22	22	22	22	23	23	23	23	*1.0%*
TANKER CALLS	366	417	416	415	413	411	409	406	406	406	407	408	409	410	412	414	417	419	423	426	429	*0.8%*
BARGE CALLS	206	222	222	221	222	221	219	218	218	219	219	220	220	221	222	223	225	227	228	230	232	*0.6%*
TOTAL CALLS	**572**	**639**	**639**	**636**	**635**	**632**	**628**	**624**	**624**	**625**	**625**	**628**	**629**	**632**	**635**	**638**	**641**	**646**	**650**	**656**	**661**	***0.7%***
Total Annual Truck Trips	1,112,383	1,125,919	1,113,206	1,092,681	1,074,634	1,054,571	1,032,397	1,009,515	994,568	981,131	968,842	957,493	947,376	938,558	930,866	923,842	918,275	913,917	911,810	909,672	908,684	*-1.0%*
Average Weekly Truck Trips	**21,392**	**21,652**	**21,408**	**21,013**	**20,666**	**20,280**	**19,854**	**19,414**	**19,126**	**18,868**	**18,632**	**18,413**	**18,219**	**18,049**	**17,901**	**17,766**	**17,659**	**17,575**	**17,535**	**17,494**	**17,475**	***-1.0%***
Estimated Weekly Truck Trips_McIntosh Road Gate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*#DIV/0!*
Estimated Weekly Truck Trips_Eller Drive Gate	11,131	11,267	11,140	10,934	10,754	10,553	10,331	10,102	9,952	9,818	9,695	9,581	9,480	9,392	9,315	9,245	9,189	9,145	9,124	9,103	9,093	*-1.0%*
Estimated Weekly Truck Trips_Spangler Blvd. Gate	9,525	9,641	9,532	9,356	9,202	9,030	8,840	8,644	8,516	8,401	8,296	8,199	8,112	8,036	7,971	7,910	7,863	7,825	7,807	7,789	7,781	*-1.0%*
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	736	745	736	723	711	698	683	668	658	649	641	633	627	621	616	611	607	605	603	602	601	*-1.0%*
	21,392	21,652	21,408	21,013	20,666	20,280	19,854	19,414	19,126	18,868	18,632	18,413	18,219	18,049	17,901	17,766	17,659	17,575	17,535	17,494	17,475	

Multi-Day Cruise Forecast (Revenue Passengers/CALLS)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Low	3,741,408	3,689,669	3,904,914	4,001,743	4,105,329	4,216,522	4,332,367	4,453,051	4,578,771	4,709,728	4,846,134	4,988,208	5,136,178	5,290,282	5,450,766	5,617,887	5,791,913	5,973,120	6,161,798	6,358,247	6,562,543	*2.7%*
CALLS	596	690	719	722	726	731	737	742	748	755	761	768	776	783	791	799	808	817	826	836	846	*1.7%*
Medium (Likely)	**3,741,408**	**3,700,467**	**3,965,357**	**4,151,594**	**4,311,249**	**4,449,040**	**4,579,873**	**4,767,754**	**5,073,452**	**5,352,381**	**5,571,636**	**5,701,003**	**5,991,254**	**6,136,719**	**6,283,901**	**6,477,595**	**6,607,565**	**6,758,499**	**6,933,238**	**7,045,000**	**7,162,197**	***3.1%***
CALLS	596	690	774	785	805	818	831	852	883	931	945	959	973	988	1,003	1,027	1,038	1,053	1,069	1,077	1,084	*2.9%*
High	3,741,408	3,689,669	3,720,822	4,094,445	4,378,951	4,587,493	4,768,055	5,112,397	5,802,552	6,404,488	6,819,198	6,955,737	7,566,115	7,732,996	7,895,551	8,187,821	8,278,728	8,421,967	8,625,671	8,629,087	8,637,300	*4.1%*
CALLS	596	690	816	846	903	934	966	1,025	1,110	1,247	1,280	1,314	1,348	1,383	1,418	1,480	1,502	1,538	1,575	1,586	1,597	*4.8%*
Total Annual Truck Trips	35,760	41,400	46,417	47,092	48,323	49,074	49,841	51,143	52,980	55,872	56,700	57,543	58,402	59,276	60,166	61,592	62,254	63,193	64,147	64,598	65,064	*2.9%*
Average Weekly Truck Trips	**688**	**796**	**893**	**906**	**929**	**944**	**958**	**984**	**1,019**	**1,074**	**1,090**	**1,107**	**1,123**	**1,140**	**1,157**	**1,184**	**1,197**	**1,215**	**1,234**	**1,242**	**1,251**	***2.9%***
Estimated Weekly Truck Trips_McIntosh Road Gate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*#DIV/0!*
Estimated Weekly Truck Trips_Eller Drive Gate	528	612	686	696	714	725	737	756	783	826	838	850	863	876	889	910	920	934	948	955	962	*2.9%*
Estimated Weekly Truck Trips_Spangler Blvd. Gate	41	47	53	54	55	56	57	59	61	64	65	66	67	68	69	71	71	72	73	74	74	*2.9%*
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	118	137	154	156	160	162	165	169	175	185	188	190	193	196	199	204	206	209	212	214	215	*2.9%*
	688	796	893	906	929	944	958	984	1,019	1,074	1,090	1,107	1,123	1,140	1,157	1,184	1,197	1,215	1,234	1,242	1,251	
Average Multi-Day Revenue PAX per Vessel	*6,278*	*5,353*	*5,021*	*5,205*	*5,256*	*5,336*	*5,399*	*5,471*	*5,638*	*5,615*	*5,771*	*5,801*	*6,035*	*6,074*	*6,111*	*6,136*	*6,177*	*6,206*	*6,259*	*6,298*	*6,340*	

Daily Cruise Forecast (Revenue Passengers/CALLS)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	CAGR
Low	128,934	134,113	135,454	136,809	138,177	139,558	140,954	142,363	143,787	145,225	146,677	148,144	149,625	151,122	152,633	154,159	155,701	157,258	158,830	160,419	162,023	*1.1%*
CALLS	262	292	289	287	284	282	279	277	275	272	270	268	266	265	263	261	260	258	257	255	254	*-0.1%*
Medium	128,934	136,769	140,872	145,098	149,451	153,934	158,552	163,309	168,208	173,254	178,452	183,805	189,320	194,999	200,849	206,875	213,081	219,473	226,058	232,839	239,824	*3.0%*
CALLS	262	298	301	304	307	311	314	318	321	325	329	333	337	341	346	351	355	360	365	370	376	*1.7%*
High	128,934	139,424	146,395	153,715	161,401	169,471	177,945	186,842	196,184	205,993	216,293	227,107	238,463	250,386	262,905	276,050	289,853	304,346	319,563	335,541	352,318	*4.9%*
CALLS	262	304	313	322	332	342	352	363	375	386	399	411	425	438	453	468	483	499	516	534	552	*3.6%*
Likely	**128,934**	**134,113**	**135,454**	**136,809**	**138,177**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	***-100.0%***
CALLS	262	292	289	287	284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*-100.0%*
Total Annual Truck Trips	5,096	5,301	5,354	5,407	5,461	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*-100.0%*
Average Weekly Truck Trips	**98**	**102**	**103**	**104**	**105**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***-100.0%***
Estimated Weekly Truck Trips_McIntosh Road Gate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*#VALUE!*
Estimated Weekly Truck Trips_Eller Drive Gate	15	16	17	18	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*#VALUE!*
Estimated Weekly Truck Trips_Spangler Blvd. Gate	47	48	48	47	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*#VALUE!*
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	36	37	38	38	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*#VALUE!*
	98	102	103	104	105																	
Average Daily Revenue PAX per Vessel	*492*	*459*	*468*	*477*	*486*																	
TOTAL TRUCK TRIPS (DIFFERENTIATED GROWTH DISTRIBUTION)	**48,213**	**47,546**	**48,851**	**49,689**	**50,560**	**50,916**	**51,600**	**52,284**	**53,017**	**53,798**	**54,562**	**55,350**	**56,170**	**56,873**	**57,600**	**58,351**	**59,118**	**59,918**	**60,766**	**61,606**	**62,475**	*1.24%*
Estimated Weekly Truck Trips_McIntosh Road Gate	**15,977**	**14,655**	**15,425**	**16,201**	**16,980**	**17,502**	**18,202**	**18,901**	**19,514**	**20,122**	**20,727**	**21,330**	**21,934**	**22,437**	**23,018**	**23,600**	**24,184**	**24,771**	**25,360**	**25,952**	**26,548**	*2.45%*
Estimated Weekly Truck Trips_Eller Drive Gate	**19,031**	**19,779**	**20,211**	**20,348**	**20,494**	**20,499**	**20,570**	**20,643**	**20,774**	**20,935**	**21,078**	**21,232**	**21,400**	**21,545**	**21,702**	**21,873**	**22,049**	**22,242**	**22,459**	**22,669**	**22,893**	*0.88%*
Estimated Weekly Truck Trips_Spangler Blvd. Gate	**11,693**	**11,788**	**11,882**	**11,817**	**11,771**	**11,650**	**11,574**	**11,498**	**11,489**	**11,500**	**11,523**	**11,559**	**11,610**	**11,668**	**11,659**	**11,656**	**11,665**	**11,684**	**11,724**	**11,762**	**11,811**	*0.05%*
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	**1,511**	**1,324**	**1,332**	**1,323**	**1,315**	**1,266**	**1,254**	**1,243**	**1,239**	**1,240**	**1,235**	**1,230**	**1,226**	**1,223**	**1,221**	**1,222**	**1,220**	**1,220**	**1,222**	**1,222**	**1,223**	*-1.00%*
TOTAL TRUCK TRIPS (STATUS QUO DISTRIBUTION)	**48,405**	**47,546**	**48,851**	**49,689**	**50,560**	**50,916**	**51,600**	**52,284**	**53,017**	**53,798**	**54,562**	**55,350**	**56,170**	**56,873**	**57,600**	**58,351**	**59,118**	**59,918**	**60,766**	**61,606**	**62,475**	*1.22%*
Estimated Weekly Truck Trips_McIntosh Road Gate	**16,115**	**15,829**	**16,264**	**16,543**	**16,832**	**16,951**	**17,179**	**17,407**	**17,650**	**17,910**	**18,165**	**18,427**	**18,700**	**18,934**	**19,176**	**19,426**	**19,682**	**19,948**	**20,230**	**20,510**	**20,799**	*1.22%*
Estimated Weekly Truck Trips_Eller Drive Gate	**19,100**	**18,761**	**19,276**	**19,607**	**19,950**	**20,091**	**20,361**	**20,631**	**20,920**	**21,228**	**21,529**	**21,840**	**22,164**	**22,442**	**22,728**	**23,025**	**23,327**	**23,643**	**23,977**	**24,309**	**24,652**	*1.22%*
Estimated Weekly Truck Trips_Spangler Blvd. Gate	**11,525**	**11,320**	**11,631**	**11,831**	**12,038**	**12,123**	**12,286**	**12,449**	**12,623**	**12,809**	**12,991**	**13,179**	**13,374**	**13,541**	**13,714**	**13,893**	**14,076**	**14,266**	**14,468**	**14,668**	**14,875**	*1.22%*
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	**1,665**	**1,635**	**1,680**	**1,709**	**1,739**	**1,751**	**1,775**	**1,798**	**1,824**	**1,850**	**1,877**	**1,904**	**1,932**	**1,956**	**1,981**	**2,007**	**2,034**	**2,061**	**2,090**	**2,119**	**2,149**	*1.22%*

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	*CAGR*
Estimated Weekly Truck Trips_McIntosh Road Gate	33%	31%	32%	33%	34%	34%	35%	36%	37%	37%	38%	39%	39%	39%	40%	40%	41%	41%	42%	42%	42%	
Estimated Weekly Truck Trips_Eller Drive Gate	39%	42%	41%	41%	41%	40%	40%	39%	39%	39%	39%	38%	38%	38%	38%	37%	37%	37%	37%	37%	37%	
Estimated Weekly Truck Trips_Spangler Blvd. Gate	24%	25%	24%	24%	23%	23%	22%	22%	22%	21%	21%	21%	21%	21%	20%	20%	20%	20%	19%	19%	19%	
Estimated Weekly Truck Trips_Eisenhower Blvd. Gate	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	

Reconciliation

	Sun-Sat	Sun-Sat
Average Weekly Total Trucks (from 2018 Traffic Counts Sun-Sat)	**48,213**	**48,213**
McIntosh Road Gate Weekly Total Trucks	33%	15,977
Eller Drive Gate Weekly Total Trucks	39%	19,031
Spangler Boulevard Gate Weekly Total Trucks	24%	11,693
Eisenhower Boulevard Gate Weekly Total Trucks	3%	1,511
	100%	48,213

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Total Calls	**270**	**257**	**276**	**278**	**278**	**278**	**278**	**278**	**278**	**278**	**278**	**278**	**278**	**278**	**279**	**279**	**279**	**279**	**279**	**279**	**279**
Dry Bulk	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	37.0%	38.9%	36.2%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	35.8%	35.8%	35.8%	35.8%	35.8%	35.8%	35.8%
Used Ro-Ro + Yacht	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
	26.3%	27.6%	25.7%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.4%	25.4%	25.4%	25.4%	25.4%	25.4%	25.4%
Automobiles	**57**	**52**	**71**	**73**	**73**	**73**	**73**	**73**	**73**	**73**	**73**	**73**	**73**	**73**	**74**	**74**	**74**	**74**	**74**	**74**	**74**
	21.1%	**20.2%**	**25.7%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.3%**	**26.5%**	**26.5%**	**26.5%**	**26.5%**	**26.5%**	**26.5%**	**26.5%**
Break-bulk	42	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
	15.6%	13.2%	12.3%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%

Traffic Trends - V03.a

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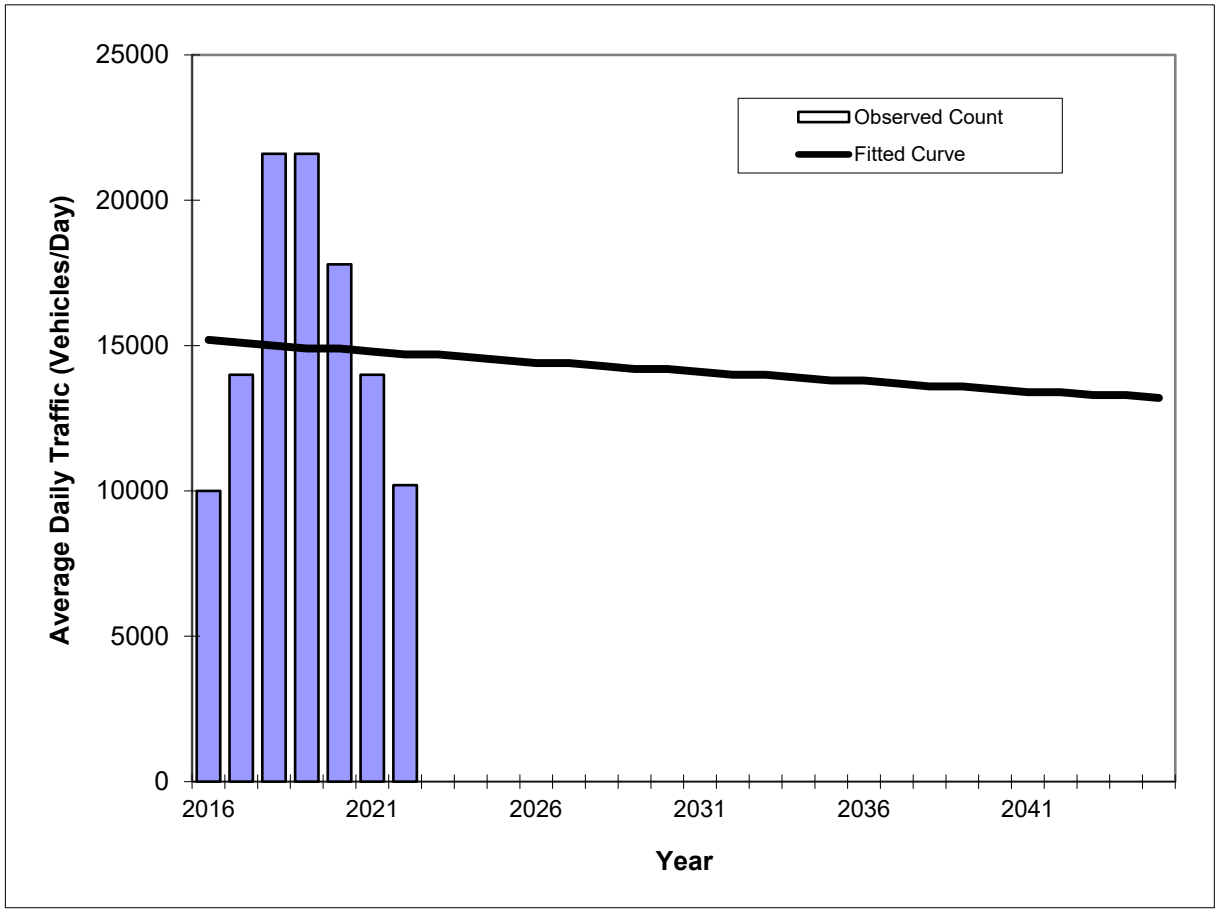
FIN#	0
Location	1

County:	Broward (86)
Station #:	6201
Roadway:	Eller Drive



Year	Traffic (ADT/AADT) Count*	Trend**
2016	10000	15200
2017	14000	15100
2018	21600	15000
2019	21600	14900
2020	17800	14900
2021	14000	14800
2022	10200	14700
2028 Opening Year Trend		
2028	N/A	14300
2044 Mid-Year Trend		
2044	N/A	13300
2045 Design Year Trend		
2045	N/A	13200
TRANPLAN Forecasts/Trends		

Trend R-squared:	0.10%
Compounded Annual Historic Growth Rate:	-0.56%
Compounded Growth Rate (2022 to Design Year):	-0.47%
Printed:	22-Feb-24

Exponential Growth Option

***Axle-Adjusted**

Traffic Trends - V03.a

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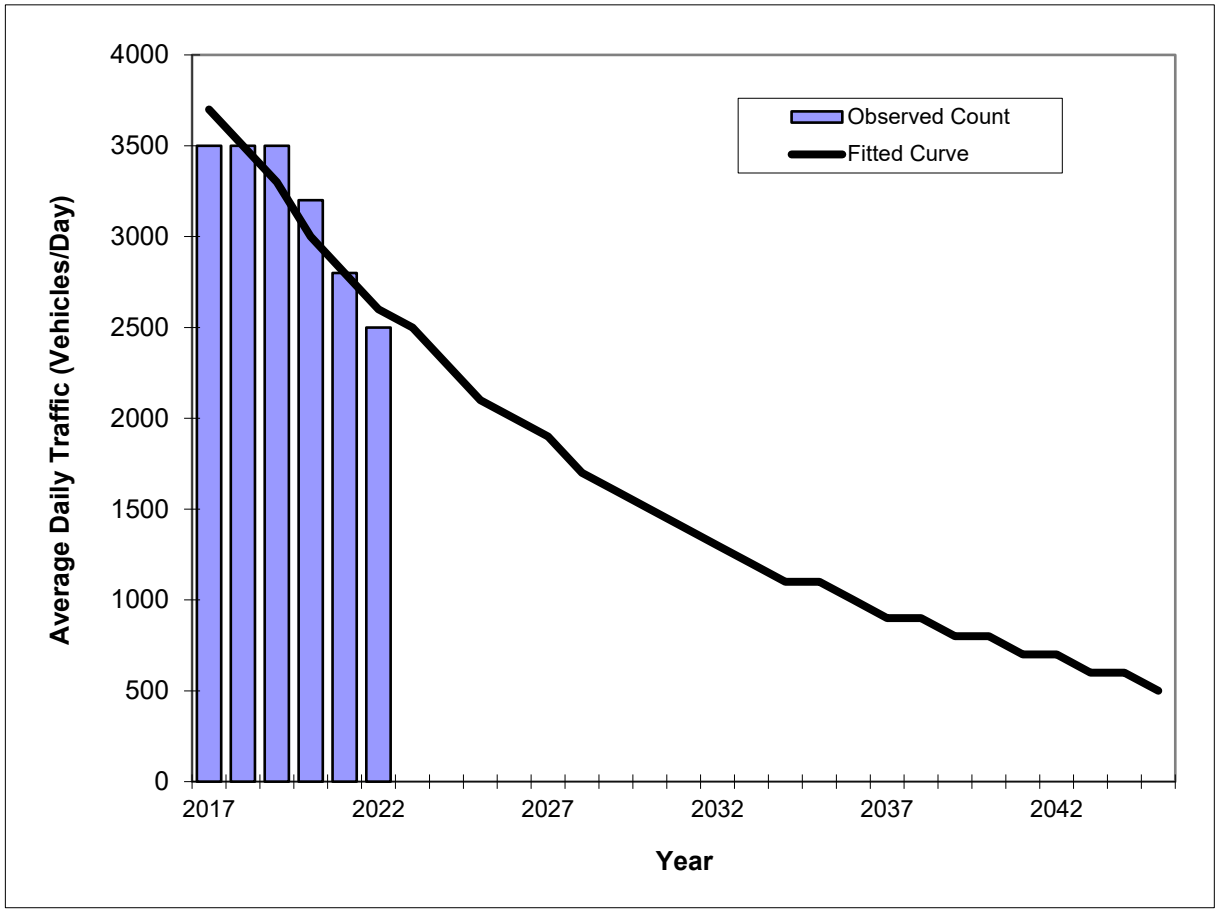
FIN#	0
Location	1

County:	Broward (86)
Station #:	9002
Roadway:	Eller Drive N of Intersection



Year	Traffic (ADT/AADT) Count*	Trend**
2017	3500	3700
2018	3500	3500
2019	3500	3300
2020	3200	3000
2021	2800	2800
2022	2500	2600
2028 Opening Year Trend		
2028	N/A	1700
2044 Mid-Year Trend		
2044	N/A	600
2045 Design Year Trend		
2045	N/A	500
TRANPLAN Forecasts/Trends		

Trend R-squared:	84.48%
Compounded Annual Historic Growth Rate:	-6.81%
Compounded Growth Rate (2022 to Design Year):	-6.92%
Printed:	22-Feb-24

Exponential Growth Option

***Axle-Adjusted**

Traffic Trends - V03.a

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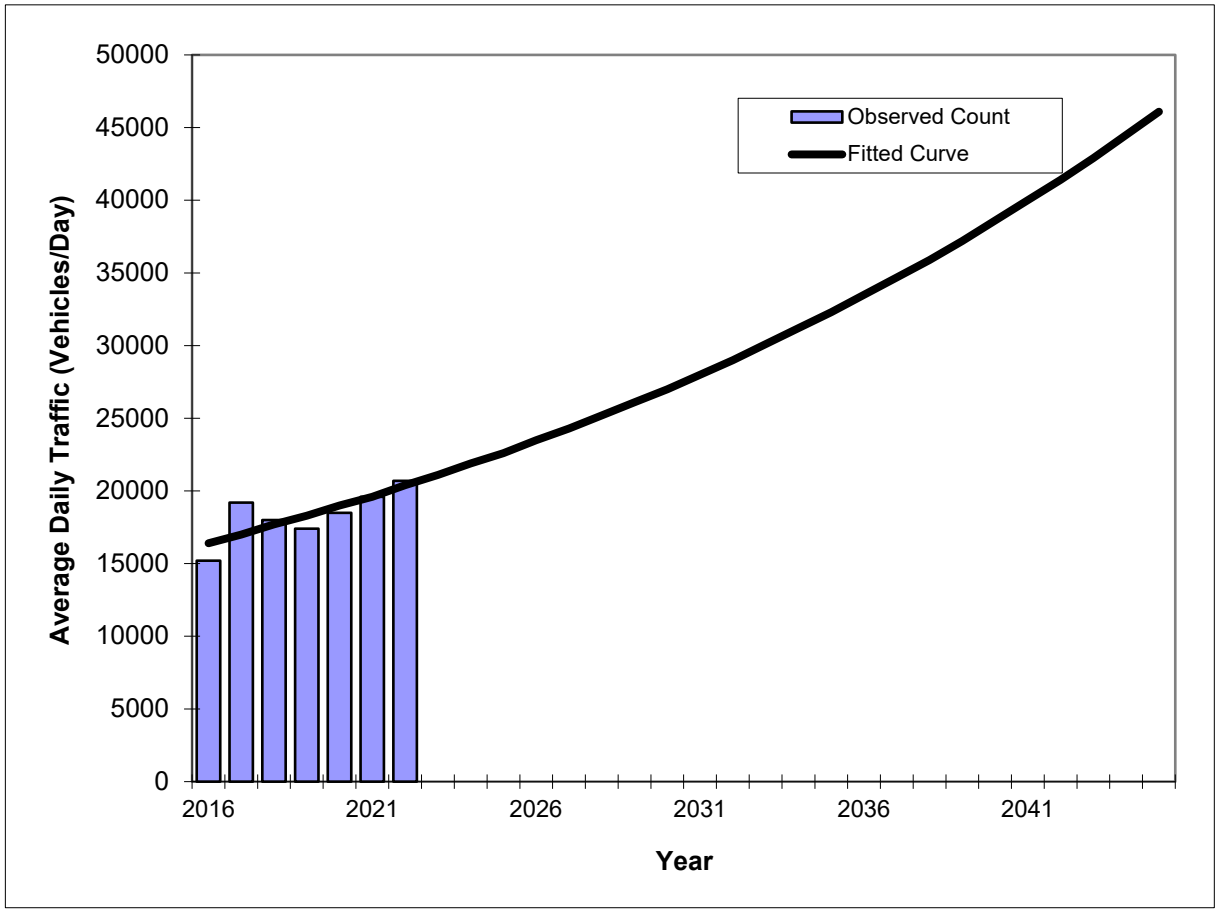
FIN#	0
Location	1

County:	Broward (86)
Station #:	0
Roadway:	I-595 West of Intersection



Year	Traffic (ADT/AADT) Count*	Trend**
2016	15200	16400
2017	19200	17000
2018	18000	17700
2019	17400	18300
2020	18500	19000
2021	19600	19600
2022	20700	20400
2028 Opening Year Trend		
2028	N/A	25200
2044 Mid-Year Trend		
2044	N/A	44500
2045 Design Year Trend		
2045	N/A	46100
TRANPLAN Forecasts/Trends		

Trend R-squared:	59.36%
Compounded Annual Historic Growth Rate:	3.70%
Compounded Growth Rate (2022 to Design Year):	3.61%
Printed:	22-Feb-24

Exponential Growth Option

***Axle-Adjusted**

Traffic Trends - V03.a

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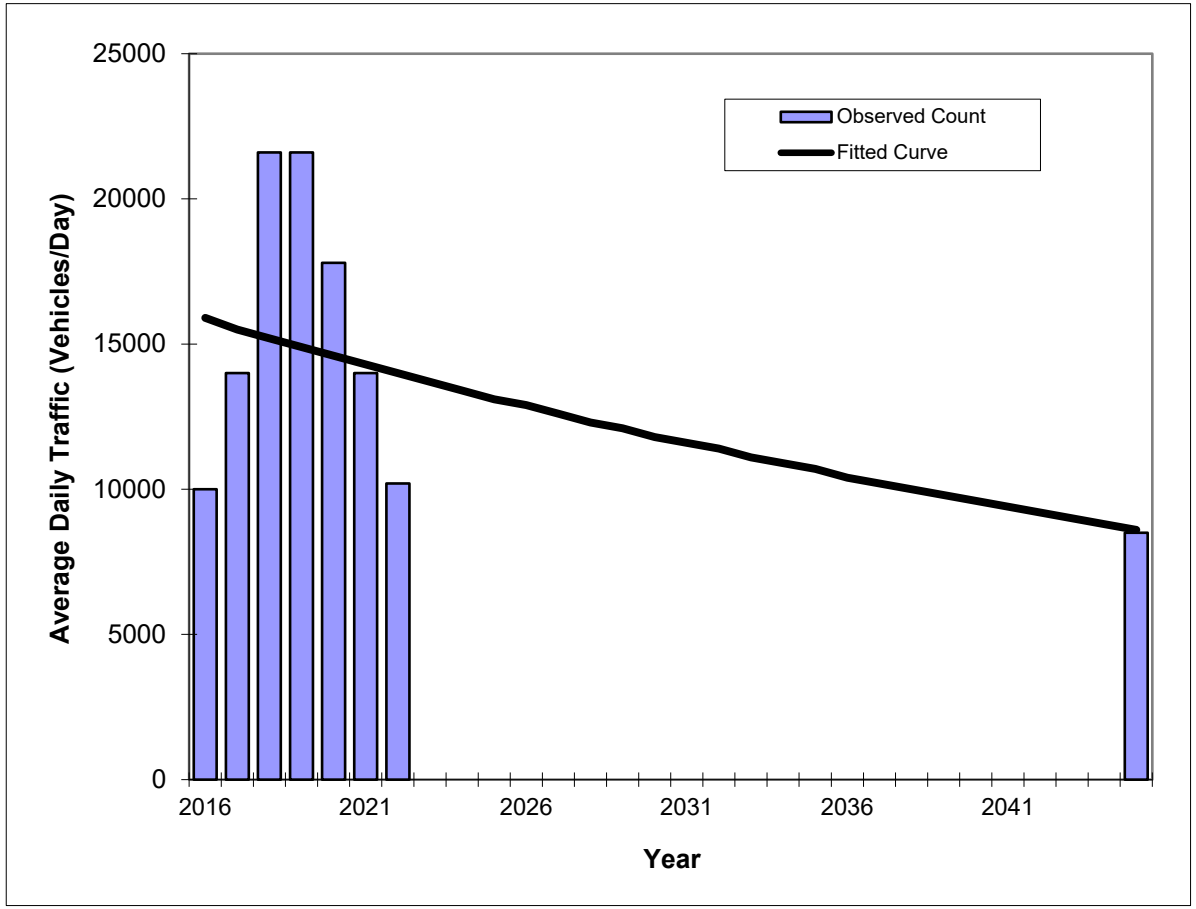
FIN#	0
Location	1

County:	Broward (86)
Station #:	6201
Roadway:	Eller Drive



Year	Traffic (ADT/AADT) Count*	Trend**
2016	10000	15900
2017	14000	15500
2018	21600	15200
2019	21600	14900
2020	17800	14600
2021	14000	14300
2022	10200	14000
2028 Opening Year Trend		
2028	N/A	12300
2044 Mid-Year Trend		
2044	N/A	8800
2045 Design Year Trend		
2045	N/A	8600
TRANPLAN Forecasts/Trends		
2045	8501	8600

Trend R-squared:	30.27%
Compounded Annual Historic Growth Rate:	-2.10%
Compounded Growth Rate (2022 to Design Year):	-2.10%
Printed:	23-Feb-24

Exponential Growth Option

***Axle-Adjusted**

Traffic Trends - V03.a

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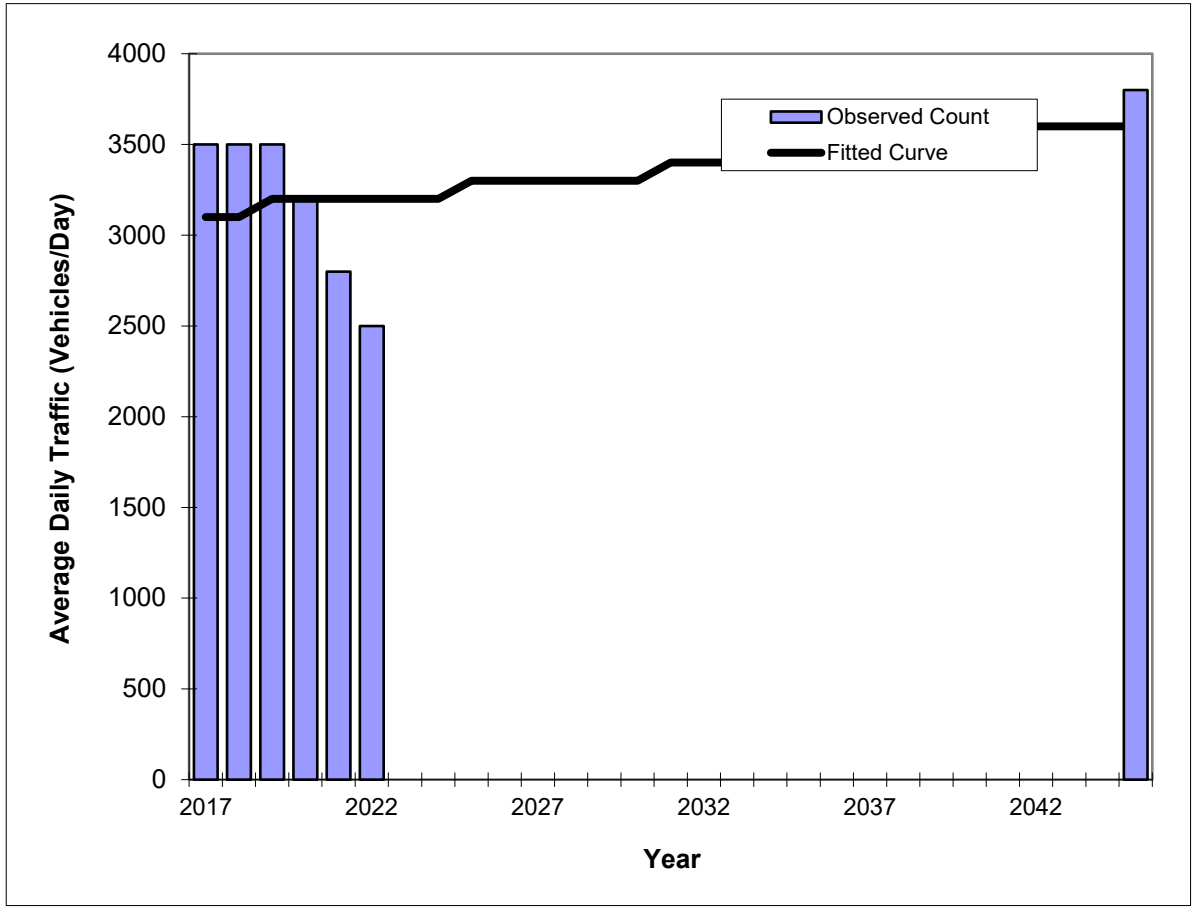
FIN#	0
Location	1

County:	Broward (86)
Station #:	9002
Roadway:	Eller Drive N of Intersection



Year	Traffic (ADT/AADT) Count*	Trend**
2017	3500	3100
2018	3500	3100
2019	3500	3200
2020	3200	3200
2021	2800	3200
2022	2500	3200
2028 Opening Year Trend		
2028	N/A	3300
2044 Mid-Year Trend		
2044	N/A	3600
2045 Design Year Trend		
2045	N/A	3600
TRANPLAN Forecasts/Trends		
2045	3752	3600

*Axle-Adjusted

Trend R-squared:	11.42%
Compounded Annual Historic Growth Rate:	0.64%
Compounded Growth Rate (2022 to Design Year):	0.51%
Printed:	23-Feb-24

Exponential Growth Option

Traffic Trends - V03.a

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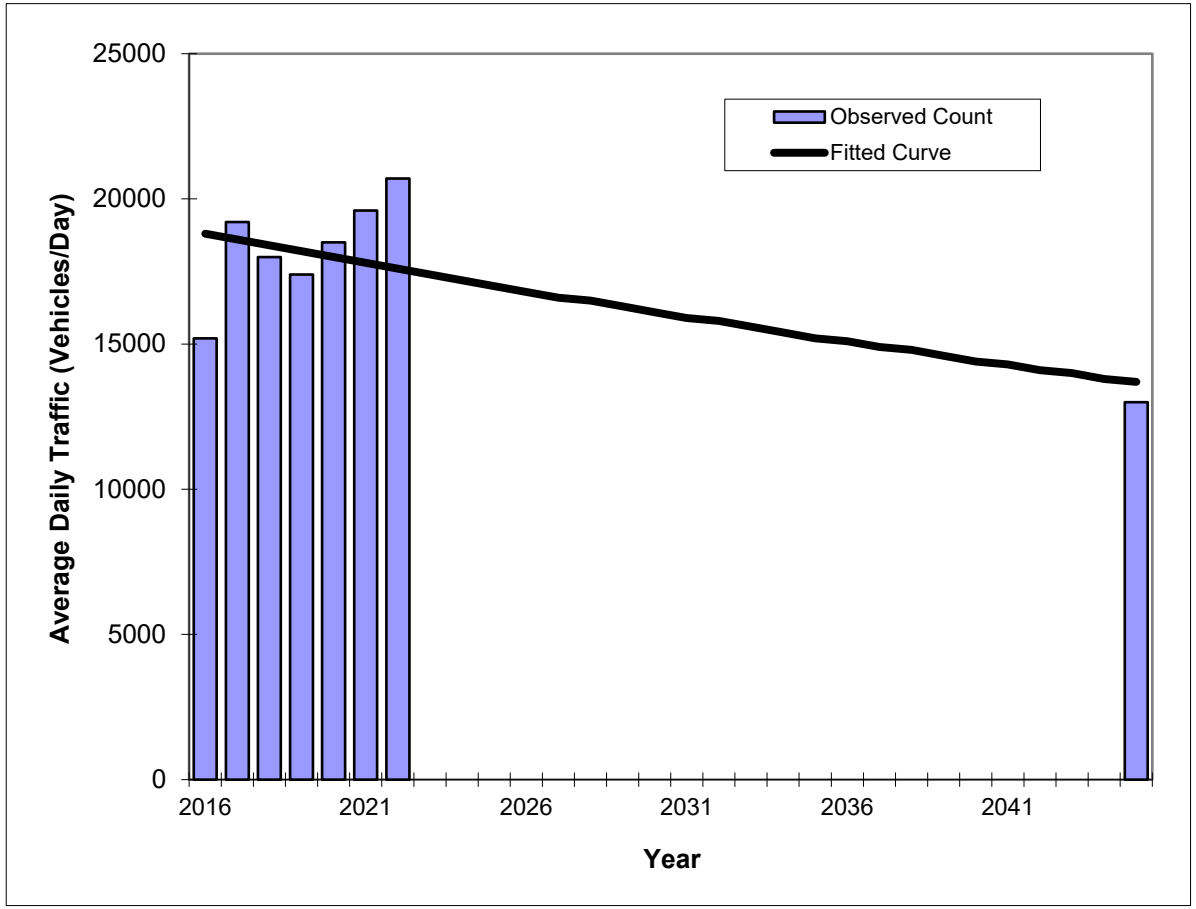
FIN#	0
Location	1

County:	Broward (86)
Station #:	0
Roadway:	I-595 West of Intersection



Year	Traffic (ADT/AADT) Count*	Trend**
2016	15200	18800
2017	19200	18600
2018	18000	18400
2019	17400	18200
2020	18500	18000
2021	19600	17800
2022	20700	17600
2028 Opening Year Trend		
2028	N/A	16500
2044 Mid-Year Trend		
2044	N/A	13800
2045 Design Year Trend		
2045	N/A	13700
TRANPLAN Forecasts/Trends		
2045	13010	13700

Trend R-squared:	45.85%
Compounded Annual Historic Growth Rate:	-1.09%
Compounded Growth Rate (2022 to Design Year):	-1.08%
Printed:	23-Feb-24

Exponential Growth Option

***Axle-Adjusted**

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	11/30/2023
DESIGN YEAR:	2045	MID-DAY PEAK HOUR:	Included
INTERSECTION:	Intersection of Eller Drive and McIntosh Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
	2017	3,500	14,000	1,671	19,150
	2018	3,500	21,550	1,692	17,950
	2019	3,500	21,550	1,713	17,400
	2022	2,500	10,200	1,778	20,700
Model Volume:	2045	3,752	8,501	2,360	13,010

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.01%	CGR	0.01%	CGR	1.24%	CGR	3.70%	CGR
Historic + Model Trend GR =	0.64%	CGR	0.01%	CGR	0.22%	CGR	0.01%	CGR
Base Year Model to Future Year Model GR =	1.00%	CGR	1.00%	CGR	1.00%	CGR	1.00%	CGR
Recommended Growth Rate:	**1.00%**	**CGR**	**1.00%**	**CGR**	**1.00%**	**CGR**	**1.00%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

			NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
			1		1		1		1	
		YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
		2023		4,432		13,918		7,412		17,214
NO. YEARS	2	2025	1.020	4,500	1.020	14,200	1.020	7,600	1.020	17,600
NO. YEARS	12	2035	1.127	5,000	1.127	15,700	1.127	8,400	1.127	19,400
NO. YEARS	22	2045	1.245	5,500	1.245	17,300	1.245	9,200	1.245	21,400

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL
A.M.	2-Way Pk Hr Vol:	522				1,362			731			1,613		
7/20/2014		7	29	87	325	350	19	23	18	136	506	558	56	2,114
% TURNS:		6%	24%	71%	47%	50%	3%	13%	10%	77%	45%	50%	5%	
MID-DAY	2-Way Pk Hr Vol:	342				1,197			574			1,361		
7/20/2014		16	13	47	189	242	41	38	48	229	205	640	29	1,737
% TURNS:		21%	17%	62%	40%	51%	9%	12%	15%	73%	23%	73%	3%	
P.M.	2-Way Pk Hr Vol:	168				491			462			783		
7/20/2014		25	18	22	52	281	30	16	31	239	128	90	20	952
% TURNS:		38%	28%	34%	14%	77%	8%	6%	11%	84%	54%	38%	8%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2023	6%	24%	71%	47%	50%	3%	13%	10%	77%	45%	50%	5%
2025	10%	23%	67%	44%	51%	5%	16%	10%	74%	44%	50%	6%
2035	11%	23%	66%	43%	52%	6%	16%	10%	73%	43%	50%	7%
2045	12%	23%	65%	42%	52%	7%	17%	11%	72%	42%	51%	7%
MID-DAY												
2023	21%	17%	62%	40%	51%	9%	12%	15%	73%	23%	73%	3%
2025	23%	17%	59%	38%	52%	10%	15%	15%	70%	24%	71%	5%
2035	24%	17%	59%	37%	52%	11%	15%	15%	70%	24%	71%	5%
2045	25%	17%	58%	36%	53%	11%	17%	15%	69%	24%	70%	6%
P.M.												
2023	38%	28%	34%	14%	77%	8%	6%	11%	84%	54%	38%	8%
2025	39%	27%	34%	14%	76%	10%	9%	11%	80%	51%	39%	9%
2035	39%	27%	34%	14%	75%	10%	10%	11%	79%	51%	40%	10%
2045	39%	26%	34%	14%	74%	11%	11%	11%	78%	50%	41%	10%

K & D FACTORS:

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	AM	MID	PM	AM	MID	PM	AM	MID	PM	AM	MID	PM
K FACTOR												
2023	11.8%	7.7%	3.8%	9.8%	8.6%	3.5%	9.9%	7.7%	6.2%	9.4%	7.9%	4.5%
2025	11.8%	7.7%	3.8%	9.8%	8.6%	3.5%	9.9%	7.7%	6.2%	9.4%	7.9%	4.5%
2035	11.8%	7.7%	3.8%	9.8%	8.6%	3.5%	9.9%	7.7%	6.2%	9.4%	7.9%	4.5%
2045	11.8%	7.7%	3.8%	9.8%	8.6%	3.5%	9.9%	7.7%	6.2%	9.4%	7.9%	4.5%
D FACTOR												
2023	23.6%	22.2%	38.7%	51.0%	39.4%	73.9%	24.2%	54.9%	61.9%	69.4%	64.2%	30.4%
2025	23.6%	22.2%	38.7%	51.0%	39.4%	73.9%	24.2%	54.9%	61.9%	69.4%	64.2%	30.4%
2035	23.6%	22.2%	38.7%	51.0%	39.4%	73.9%	24.2%	54.9%	61.9%	69.4%	64.2%	30.4%
2045	23.6%	22.2%	38.7%	51.0%	39.4%	73.9%	24.2%	54.9%	61.9%	69.4%	64.2%	30.4%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: 2045
INTERSECTION: Intersection of Eller Drive and McIntosh Road
PREPARED BY:
FILE:

DATE: 11/30/2023
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2023	4,432	13,918	7,412	17,214
24 HR EST. AADT	2025	4,500	14,200	7,600	17,600
24 HR EST. AADT	2035	5,000	15,700	8,400	19,400
24 HR EST. AADT	2045	5,500	17,300	9,200	21,400

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
2023 2-WAY ADT		4,432			13,918			7,412			17,214	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	17,214	7,412	13,918	4,432	17,214	7,412	13,918	4,432	17,214	7,412	13,918	4,432
	45%	19%	36%	15%	59%	26%	39%	12%	48%	29%	54%	17%
2025 2-WAY ADT		4,500			14,200			7,600			17,600	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	17,600	7,600	14,200	4,500	17,600	7,600	14,200	4,500	17,600	7,600	14,200	4,500
	45%	19%	36%	15%	59%	26%	39%	12%	48%	29%	54%	17%
2035 2-WAY ADT		5,000			15,700			8,400			19,400	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	19,400	8,400	15,700	5,000	19,400	8,400	15,700	5,000	19,400	8,400	15,700	5,000
	45%	19%	36%	15%	59%	26%	39%	12%	48%	29%	54%	17%
2045 2-WAY ADT		5,500			17,300			9,200			21,400	
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	21,400	9,200	17,300	5,500	21,400	9,200	17,300	5,500	21,400	9,200	17,300	5,500
	45%	19%	36%	15%	59%	25%	39%	12%	48%	29%	54%	17%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2023	EST. TURNS	7	29	87	324	348	19	23	18	135	505	556	55
2025	EST. TURNS	12	30	88	328	359	36	28	19	137	513	570	72
2035	EST. TURNS	14	33	92	345	397	45	33	22	147	552	632	84
2045	EST. TURNS	19	36	98	370	440	56	37	24	159	598	691	103
MID-DAY DESIGN HR. TURNS													
2023	EST. TURNS	16	13	47	188	242	41	38	48	228	202	642	29
2025	EST. TURNS	18	14	48	190	251	48	48	49	231	206	644	42
2035	EST. TURNS	21	15	51	200	278	55	56	54	247	224	710	50
2045	EST. TURNS	23	17	55	210	313	62	66	56	267	242	782	60
P.M. DESIGN HR. TURNS													
2023	EST. TURNS	25	18	22	53	279	29	16	32	238	127	89	21
2025	EST. TURNS	29	19	23	54	287	33	21	33	241	129	90	24
2035	EST. TURNS	32	20	25	55	315	38	24	34	265	140	96	28
2045	EST. TURNS	37	21	26	60	348	43	30	37	289	152	107	32

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		123	397	520	694	666	1,360	177	553	730	1,120	490	1,610
2023	TURN SUMMARY	123	397	520	691	666	1,357	176	553	729	1,116	490	1,606
CONTROL LINK VOLUMES		125	405	530	708	682	1,390	181	569	750	1,145	505	1,650
2025	TURN SUMMARY	130	420	550	724	686	1,410	184	579	763	1,155	508	1,663
CONTROL LINK VOLUMES		139	451	590	783	757	1,540	201	629	830	1,262	558	1,820
2035	TURN SUMMARY	140	451	591	786	757	1,543	202	629	831	1,268	558	1,826
CONTROL LINK VOLUMES		153	497	650	863	827	1,690	220	690	910	1,392	618	2,010
2045	TURN SUMMARY	153	497	650	866	827	1,693	221	690	911	1,392	618	2,010
DESIGN HOUR MID-DAY:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		76	264	340	472	728	1,200	315	255	570	874	486	1,360
0	TURN SUMMARY	76	264	340	471	886	1,357	314	255	569	873	486	1,359
CONTROL LINK VOLUMES		77	273	350	482	738	1,220	323	267	590	894	496	1,390
0	TURN SUMMARY	80	282	362	490	894	1,383	329	268	597	893	501	1,394
CONTROL LINK VOLUMES		86	304	390	532	818	1,350	357	293	650	985	545	1,530
0	TURN SUMMARY	87	304	391	532	978	1,510	357	294	651	985	545	1,530
CONTROL LINK VOLUMES		94	326	420	587	903	1,490	391	319	710	1,087	603	1,690
0	TURN SUMMARY	96	326	422	585	1,072	1,656	389	321	710	1,083	603	1,686
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		65	105	170	363	127	490	286	174	460	238	542	780
2023	TURN SUMMARY	65	105	170	362	127	489	285	174	459	237	542	779
CONTROL LINK VOLUMES		66	104	170	370	130	500	293	177	470	243	557	800
2025	TURN SUMMARY	70	111	181	374	134	508	296	181	477	243	557	800
CONTROL LINK VOLUMES		73	117	190	409	141	550	324	196	520	268	612	880
2035	TURN SUMMARY	77	117	194	408	145	553	323	197	520	263	612	875
CONTROL LINK VOLUMES		81	129	210	451	159	610	355	215	570	296	674	970
2045	TURN SUMMARY	84	129	213	451	162	613	355	216	571	291	674	965

Note: Boxed number indicates manual adjustment.

Passenger

Weekday		SB NORTH LEG RIGHT	SB NORTH LEG THRU	SB NORTH LEG LEFT	WB EAST LEG RIGHT	WB EAST LEG THRU	WB EAST LEG LEFT	NB SOUTH LEG RIGHT	NB SOUTH LEG THRU	NB SOUTH LEG LEFT	EB WEST LEG RIGHT	EB WEST LEG THRU	EB WEST LEG LEFT
AM													
2023		6	29	86	324	306	17	19	15	18	384	477	42
	Total		121			647			52			903	
2028		13	31	88	311	346	36	9	6	41	428	480	62
	Total		131			693			56			970	
2045		19	35	97	345	411	52	11	7	47	488	564	84
	Total		151			808			65			1136	
MD													
2023		11	12	47	181	177	17	27	46	80	49	563	24
			70			375			153			636	
2028		17	13	45	154	207	40	24	25	115	151	475	32
	Total		76			401			164			658	
2045		22	16	51	167	250	50	32	27	130	173	559	43
	Total		88			467			189			775	
PM													
2023		13	5	18	49	238	11	12	28	118	4	40	19
			36			298			158			63	
2028		16	11	13	45	243	28	12	18	137	39	27	7
	Total		40			316			168			74	
2045		21	12	14	49	286	35	16	20	160	45	32	10
	Total		47			371			196			87	

Truck

Weekday		SB NORTH LEG RIGHT	SB NORTH LEG THRU	SB NORTH LEG LEFT	WB EAST LEG RIGHT	WB EAST LEG THRU	WB EAST LEG LEFT	NB SOUTH LEG RIGHT	NB SOUTH LEG THRU	NB SOUTH LEG LEFT	EB WEST LEG RIGHT	EB WEST LEG THRU	EB WEST LEG LEFT
AM													
2023		1	0	1	1	44	2	4	3	118	122	81	14
			2			47			125			217	
2028		0	0	1	22	25	3	21	14	99	97	108	14
	Total		2			50			134			219	
2045		0	1	2	25	29	4	26	17	112	110	127	19
	Total		2			58			156			256	
MD													
2023		5	1	0	8	65	24	11	2	149	156	77	5
			6			97			162			238	
2028		1	1	4	39	52	10	26	26	121	60	189	13
	Total		6			101			173			262	
2045		2	1	4	42	63	13	34	29	137	69	223	17
	Total		7			117			200			309	
PM													
2023		12	13	4	3	43	19	4	3	121	124	50	1
			29			65			128			175	
2028		13	9	10	10	52	6	10	15	111	93	64	18
	Total		32			68			136			175	
2045		17	10	12	11	62	8	13	16	129	106	75	23
	Total		38			80			159			204	

Total

Weekday		SB NORTH LEG RIGHT	SB NORTH LEG THRU	SB NORTH LEG LEFT	WB EAST LEG RIGHT	WB EAST LEG THRU	WB EAST LEG LEFT	NB SOUTH LEG RIGHT	NB SOUTH LEG THRU	NB SOUTH LEG LEFT	EB WEST LEG RIGHT	EB WEST LEG THRU	EB WEST LEG LEFT
AM													
2023		7	29	87	325	350	19	23	18	136	506	558	56
	Total		123			694			177			1120	
2025		12	30	88	328	359	36	28	19	137	513	570	72
2035		14	33	92	345	397	45	33	22	147	552	632	84
2028		13	31	89	333	371	38	30	20	140	524	588	76
	Total		133			742			189			1189	
2045		19	36	98	370	440	56	37	24	159	598	691	103
	Total		153			866			221			1392	
MD													
2023		16	13	47	189	242	41	38	48	229	205	640	29
	Total		76			472			315			874	
2025		18	14	48	190	251	48	48	49	231	206	644	42
2035		21	15	51	200	278	55	56	54	247	224	710	50
2028		19	14	49	193	259	50	50	51	236	212	664	45
	Total		82			502			337			920	
2045		23	17	55	210	313	62	66	56	267	242	782	60
	Total		96			585			389			1083	
PM													
2023		25	18	22	52	281	30	16	31	239	128	90	20
	Total		65			363			286			238	
2025		29	19	23	54	287	33	21	33	241	129	90	24
2035		32	20	25	55	315	38	24	34	265	140	96	28
2028		30	19	23	54	295	34	22	33	248	132	92	25
			72			384			304			249	
2045		37	21	26	60	348	43	30	37	289	152	107	32
	Total		84			451			355			291	

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	
FM NO.:		FILE:	
PROJECT LIMITS:		DATE:	12/2/2023
DESIGN YEAR:	2045	MID-DAY PEAK HOUR:	Included
INTERSECTION:	Intersection of Eller Drive and McIntosh Road		

NOTES:

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT
	2017	3,500	14,000	1,671	19,150
	2018	3,500	21,550	1,692	17,950
	2019	3,500	21,550	1,713	17,400
	2022	2,500	10,200	1,778	20,700
Model Volume:	2045	3,752	8,501	2,360	13,010

Growth Rates:

	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG	
Historic Trend GR =	0.01%	CGR	0.01%	CGR	1.24%	CGR	3.70%	CGR
Historic + Model Trend GR =	0.64%	CGR	0.01%	CGR	0.22%	CGR	0.01%	CGR
Base Year Model to Future Year Model GR =	1.00%	CGR	1.00%	CGR	1.00%	CGR	1.00%	CGR
Recommended Growth Rate:	**1.00%**	**CGR**	**1.00%**	**CGR**	**1.00%**	**CGR**	**1.00%**	**CGR**

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
2 = Linear Growth Throughout All Years
3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

		YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
		2023		3,881		12,266		3,181		11,788
NO. YEARS	2	2025	1.020	4,000	1.020	12,500	1.020	3,200	1.020	12,000
NO. YEARS	12	2035	1.127	4,400	1.127	13,800	1.127	3,600	1.127	13,300
NO. YEARS	22	2045	1.245	4,800	1.245	15,300	1.245	4,000	1.245	14,700

Percent Turns Calculated From Base Year TMCs:

TURN STUDY		FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M.	2-Way Pk Hr Vol:	657				1,554			452			1,357		
7/20/2014		6	25	97	481	456	13	17	20	32	345	490	28	2,010
% TURNS:		5%	20%	76%	51%	48%	1%	25%	29%	46%	40%	57%	3%	
MID-DAY	2-Way Pk Hr Vol:	335				1,282			196			1,137		
7/20/2014		11	2	33	233	312	18	26	26	63	61	660	30	1,475
% TURNS:		24%	4%	72%	41%	55%	3%	23%	23%	55%	8%	88%	4%	
P.M.	2-Way Pk Hr Vol:	95				261			98			322		
7/20/2014		33	1	13	21	129	9	6	16	51	15	83	11	388
% TURNS:		70%	2%	28%	13%	81%	6%	8%	22%	70%	14%	76%	10%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.													
	2023	5%	20%	76%	51%	48%	1%	25%	29%	46%	40%	57%	3%
	2025	9%	19%	73%	48%	49%	3%	27%	27%	46%	38%	57%	5%
	2035	10%	19%	72%	47%	50%	3%	27%	27%	46%	37%	58%	5%
	2045	11%	18%	71%	46%	50%	4%	28%	26%	46%	36%	58%	6%
MID-DAY													
	2023	24%	4%	72%	41%	55%	3%	23%	23%	55%	8%	88%	4%
	2025	26%	5%	69%	39%	56%	5%	25%	22%	54%	9%	85%	6%
	2035	26%	5%	68%	39%	56%	5%	25%	22%	53%	9%	85%	6%
	2045	27%	6%	67%	38%	57%	6%	26%	21%	53%	10%	84%	7%
P.M.													
	2023	70%	2%	28%	13%	81%	6%	8%	22%	70%	14%	76%	10%
	2025	68%	3%	29%	14%	79%	7%	12%	21%	67%	14%	75%	11%
	2035	67%	3%	30%	14%	79%	7%	13%	21%	66%	14%	75%	11%
	2045	66%	4%	31%	14%	78%	8%	14%	21%	65%	14%	74%	12%

K & D FACTORS:

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	AM	MID	PM	AM	MID	PM	AM	MID	PM	AM	MID	PM
K FACTOR												
2023	16.9%	8.6%	2.4%	12.7%	10.5%	2.1%	14.2%	6.2%	3.1%	11.5%	9.6%	2.7%
2025	16.9%	8.6%	2.4%	12.7%	10.5%	2.1%	14.2%	6.2%	3.1%	11.5%	9.6%	2.7%
2035	16.9%	8.6%	2.4%	12.7%	10.5%	2.1%	14.2%	6.2%	3.1%	11.5%	9.6%	2.7%
2045	16.9%	8.6%	2.4%	12.7%	10.5%	2.1%	14.2%	6.2%	3.1%	11.5%	9.6%	2.7%
D FACTOR												
2023	19.5%	13.7%	49.5%	61.1%	43.9%	60.9%	15.3%	58.7%	74.5%	63.6%	66.1%	33.9%
2025	19.5%	13.7%	49.5%	61.1%	43.9%	60.9%	15.3%	58.7%	74.5%	63.6%	66.1%	33.9%
2035	19.5%	13.7%	49.5%	61.1%	43.9%	60.9%	15.3%	58.7%	74.5%	63.6%	66.1%	33.9%
2045	19.5%	13.7%	49.5%	61.1%	43.9%	60.9%	15.3%	58.7%	74.5%	63.6%	66.1%	33.9%

TMTOOL "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: 0
FM NO.: 0
PROJECT LIMITS: 0
DESIGN YEAR: 2045
INTERSECTION: Intersection of Eller Drive and McIntosh Road
PREPARED BY:
FILE:

DATE: 12/2/2023
NOTES:

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
24 HR EST. AADT	2023	3,881	12,266	3,181	11,788
24 HR EST. AADT	2025	4,000	12,500	3,200	12,000
24 HR EST. AADT	2035	4,400	13,800	3,600	13,300
24 HR EST. AADT	2045	4,800	15,300	4,000	14,700

Percent Turns Calculated From Base Year AADTs:

JKTURNS		FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	2023 2-WAY ADT		3,881			12,266			3,181			11,788	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		11,788	3,181	12,266	3,881	11,788	3,181	12,266	3,881	11,788	3,181	12,266	3,881
		43%	12%	45%	21%	63%	17%	44%	14%	42%	16%	63%	20%
	2025 2-WAY ADT		4,000			12,500			3,200			12,000	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		12,000	3,200	12,500	4,000	12,000	3,200	12,500	4,000	12,000	3,200	12,500	4,000
		43%	12%	45%	21%	63%	17%	44%	14%	42%	16%	63%	20%
	2035 2-WAY ADT		4,400			13,800			3,600			13,300	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		13,300	3,600	13,800	4,400	13,300	3,600	13,800	4,400	13,300	3,600	13,800	4,400
		43%	12%	45%	21%	62%	17%	44%	14%	42%	17%	63%	20%
	2045 2-WAY ADT		4,800			15,300			4,000			14,700	
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
		14,700	4,000	15,300	4,800	14,700	4,000	15,300	4,800	14,700	4,000	15,300	4,800
		43%	12%	45%	20%	63%	17%	44%	14%	42%	17%	63%	20%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2023	EST. TURNS	6	25	96	483	458	13	17	20	32	344	487	29
2025	EST. TURNS	11	26	97	489	459	27	18	21	33	348	499	46
2035	EST. TURNS	13	28	104	520	509	37	21	22	34	367	555	53
2045	EST. TURNS	16	30	113	564	561	52	25	24	37	401	617	64
MID-DAY DESIGN HR. TURNS													
2023	EST. TURNS	11	2	33	236	314	19	26	27	64	64	659	31
2025	EST. TURNS	12	3	34	238	322	23	30	28	65	65	672	43
2035	EST. TURNS	13	4	37	250	353	26	34	29	67	67	736	50
2045	EST. TURNS	14	6	40	266	396	33	42	30	73	70	816	57
P.M. DESIGN HR. TURNS													
2023	EST. TURNS	33	1	13	23	128	10	6	18	50	16	82	12
2025	EST. TURNS	34	2	14	24	134	11	8	19	51	18	86	13
2035	EST. TURNS	37	4	15	25	143	12	9	21	56	19	89	16
2045	EST. TURNS	40	5	17	27	161	13	12	23	62	20	103	17

LINK VOLUME CHECK		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
DESIGN HOUR A.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		128	532	660	950	600	1,550	69	381	450	863	497	1,360
2023	TURN SUMMARY	128	532	660	954	600	1,554	69	381	450	860	497	1,357
CONTROL LINK VOLUMES		132	548	680	968	612	1,580	69	381	450	879	501	1,380
2025	TURN SUMMARY	134	557	691	976	614	1,590	72	401	473	893	503	1,396
CONTROL LINK VOLUMES		145	595	740	1,069	681	1,750	78	432	510	974	556	1,530
2035	TURN SUMMARY	145	595	740	1,066	681	1,747	78	432	510	975	556	1,531
CONTROL LINK VOLUMES		158	652	810	1,185	755	1,940	87	483	570	1,076	614	1,690
2045	TURN SUMMARY	159	652	811	1,177	755	1,932	87	483	570	1,082	614	1,696
DESIGN HOUR MID-DAY:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		46	294	340	563	717	1,280	115	85	200	751	389	1,140
0	TURN SUMMARY	46	294	340	568	734	1,302	116	85	201	754	389	1,143
CONTROL LINK VOLUMES		47	303	350	574	736	1,310	116	84	200	765	395	1,160
0	TURN SUMMARY	49	309	358	583	750	1,332	123	91	214	781	399	1,180
CONTROL LINK VOLUMES		52	328	380	633	807	1,440	130	90	220	847	433	1,280
0	TURN SUMMARY	54	329	383	629	816	1,445	130	97	227	853	433	1,286
CONTROL LINK VOLUMES		57	353	410	702	898	1,600	145	105	250	937	483	1,420
0	TURN SUMMARY	60	353	413	695	904	1,598	144	108	252	943	483	1,426
DESIGN HOUR P.M.:		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES		47	53	100	159	101	260	73	27	100	109	211	320
2023	TURN SUMMARY	47	53	100	161	101	262	74	27	101	110	211	321
CONTROL LINK VOLUMES		48	52	100	162	108	270	73	27	100	111	219	330
2025	TURN SUMMARY	51	56	107	169	108	277	78	32	110	117	219	336
CONTROL LINK VOLUMES		53	57	110	179	111	290	83	27	110	123	237	360
2035	TURN SUMMARY	56	62	118	181	112	293	86	35	121	123	237	360
CONTROL LINK VOLUMES		58	62	120	198	132	330	92	28	120	136	264	400
2045	TURN SUMMARY	61	67	128	202	132	334	98	37	135	140	264	404

Note: Boxed number indicates manual adjustment.

Passenger

Weekday		SB NORTH LEG RIGHT	SB NORTH LEG THRU	SB NORTH LEG LEFT	WB EAST LEG RIGHT	WB EAST LEG THRU	WB EAST LEG LEFT	NB SOUTH LEG RIGHT	NB SOUTH LEG THRU	NB SOUTH LEG LEFT	EB WEST LEG RIGHT	EB WEST LEG THRU	EB WEST LEG LEFT
AM													
2023		6	29	86	324	306	17	19	15	18	384	477	42
	Total		121			647			52			903	
2028		11	25	94	494	469	30	14	16	25	327	476	45
	Total		130			993			56			848	
2045		15	29	106	559	555	51	19	18	28	370	570	59
	Total		150			1165			65			999	
MD													
2023		11	12	47	181	177	17	27	46	80	49	563	24
			70			375			153			636	
2028		10	3	27	230	316	23	21	19	45	61	645	42
	Total		39			568			85			749	
2045		11	4	32	254	377	31	28	20	50	65	761	53
	Total		47			662			98			880	
PM													
2023		13	5	18	49	238	11	12	28	118	4	40	19
			36			298			158			63	
2028		28	2	11	21	120	10	8	19	52	13	60	10
	Total		41			151			80			83	
2045		32	4	13	24	142	11	12	23	62	14	72	12
	Total		48			177			96			97	

Truck

Weekday		SB NORTH LEG RIGHT	SB NORTH LEG THRU	SB NORTH LEG LEFT	WB EAST LEG RIGHT	WB EAST LEG THRU	WB EAST LEG LEFT	NB SOUTH LEG RIGHT	NB SOUTH LEG THRU	NB SOUTH LEG LEFT	EB WEST LEG RIGHT	EB WEST LEG THRU	EB WEST LEG LEFT
AM													
2023		1	0	1	1	44	2	4	3	118	122	81	14
			2			47			125			217	
2028		1	1	5	5	5	0	5	5	8	27	39	4
	Total		8			10			18			70	
2045		1	2	6	6	6	1	6	6	9	30	47	5
	Total		9			12			21			82	
MD													
2023		5	1	0	8	65	24	11	2	149	156	77	5
			6			97			162			238	
2028		3	1	7	11	16	1	10	9	21	4	46	3
	Total		11			28			40			54	
2045		3	1	9	13	19	2	13	10	24	5	55	4
	Total		13			33			46			63	
PM													
2023		12	13	4	3	43	19	4	3	121	124	50	1
			29			65			128			175	
2028		7	1	3	3	17	1	0	0	1	6	26	4
	Total		11			21			1			36	
2045		9	1	4	3	20	2	0	0	1	6	31	5
	Total		13			25			1			42	

Total

Weekend		SB NORTH LEG RIGHT	SB NORTH LEG THRU	SB NORTH LEG LEFT	WB EAST LEG RIGHT	WB EAST LEG THRU	WB EAST LEG LEFT	NB SOUTH LEG RIGHT	NB SOUTH LEG THRU	NB SOUTH LEG LEFT	EB WEST LEG RIGHT	EB WEST LEG THRU	EB WEST LEG LEFT
AM													
2023		6	25	97	481	456	13	17	20	32	345	490	28
			128			950			69			863	
2025		11	26	97	489	459	27	18	21	33	348	499	46
2035		13	28	104	520	509	37	21	22	34	367	555	53
2028		12	26	99	499	474	30	19	21	33	354	516	48
	Total		138			1003			74			918	
2045		16	30	113	564	561	52	25	24	37	401	617	64
	Total		159			1177			87			1082	
MD													
2023		11	2	33	233	312	18	26	26	63	61	660	30
			46			563			115			751	
2025		12	3	34	238	322	23	30	28	65	65	672	43
2035		13	4	37	250	353	26	34	29	67	67	736	50
2028		12	3	35	241	331	24	31	28	66	66	692	45
	Total		50			596			125			802	
2045		14	6	40	266	396	33	42	30	73	70	816	57
	Total		60			695			144			943	
PM													
2023		33	1	13	21	129	9	6	16	51	15	83	11
			47			159			73			109	
2025		34	2	14	24	134	11	8	19	51	18	86	13
2035		37	4	15	25	143	12	9	21	56	19	89	16
2028		35	3	14	24	137	11	9	19	53	18	86	14
	Total		52			173			81			119	
2045		40	5	17	27	161	13	12	23	62	20	103	17
	Total		61			202			98			140	